CHARLES AUSTEN
PUMPS LTD

PRODUCT OVERVIEW

CONTACT US: +44 (0)1932 355 277 WWW.CHARLESAUSTEN.COM INFO@CHARLESAUSTEN.COM

ABOUT US

CHARLES AUSTEN
PUMPS LTD

For almost 70 years, Charles Austen Pumps has worked hard to earn the trust and respect of pump buyers within various industries across the world. Our founder, Charles Austen, is widely believed to have invented the first ever diaphragm pump using the leather from left-over army boots following the first world war. Charles later went on to found the company which in the 1940s, became the first manufacturer to put pumps in the laboratory, where the equiment was used to create vaccines for diseases such as Diphtheria, Smallpox and Polio.

Since then Charles Austen Pumps has been involved in a number of huge advancements in recent human history, from the conception of Dolly the Sheep (the first ever cloned mammal) to our own world-changing innovation in the form of patented rotary diaphragm technology. Even to this day Charles Austen is revolutionizing pumping principals in a wide span of different markets. We champion in vending technology, environmental equipment and life-changing medical apparatus.

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ADDRESS
ROYSTON ROAD
BYFLEET, SURREY,
KT14 7NY

DIVISIONS

Charles Austen Pumps is a leading manufacturer of OEM pumps, both vacuum and compressors for use with air, gas and liquids.

In addition to off the shelf units, a range of components and materials are available to adapt standard products to meet a variety of applications.

Charles Austen pumps offer the ability to design and manufacture bespoke pumps to fit your requirements perfectly. In fact it's our speciality and what sets us apart from the wider one-trick pony market.

With everything from tool making to assembly carried out in house we have total control over every aspect of the process ensuring outstanding quality and product reliability.

All of our pumps listed in the Hydroponic range are CE registered and can be purchased with UK, EU or US plugs, with selected pumps UL certified.

They're a great way to keep your Hydroponic garden healthy, clean and fruitful.

All of our pumps listed in the Aquatic range are CE registered and can be purchased with UK, EU or US plugs, with selected pumps UL certified.

They're a great way to keep koi ponds aerated and clean without hampering costs.

Linear diaphragm air pumps from Charles Austen are designed for use in sewage aeration applications. Our pumps are crucial in the treatment of wastewater. Having a supply of oxygen is essential in allowing aerobic bacteria to decompose matter, leaving the water clean.

As an international supplier of condensate removal pumps and accessories, BLUEDIAMOND® ensures that the installer and end user is always at the forefront of their focus. Continued in house product development and manufacturing allows BLUEDIAMOND® to not only keep up with demand but to develop a range of condensate removal pumps that resolves a list of common failings and weaknesses faced by engineers on a regular basis.

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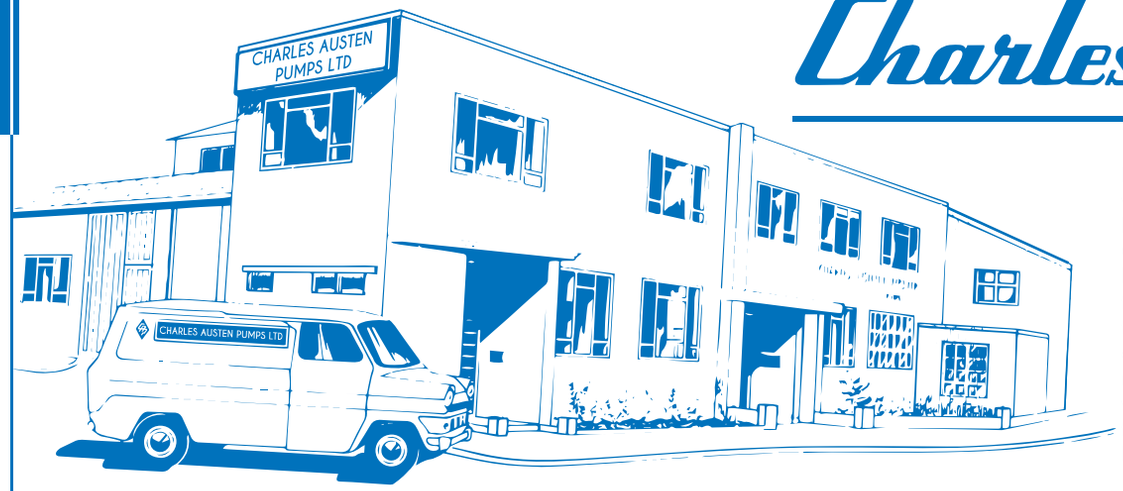
HISTORY OF Charles Austen Ltd



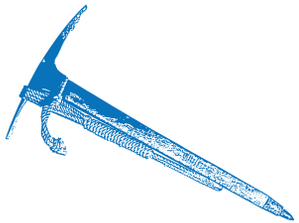
For almost 75 years, Charles Austen Pumps has worked hard to earn the trust and respect of pump buyers within various industries across the world. Our founder, Charles Austen, is widely believed to have invented the first ever diaphragm pump using the leather from left-over army boots following the first world war. Charles later went on to found the company which in the 1940s, became the first manufacturer to put pumps in the laboratory, where the equipment was used to create vaccines for diseases such as Diphtheria, Smallpox and Polio.

1918 | POST WAR INNOVATION

It is common belief that the company's original founder 'Charles Austen' invented the first ever compact diaphragm pump following the first world war, using leftover army boot leather as the diaphragm material. This obviously spawned an industry that the company continues to innovate consistently today.

1950 | POLIO VACCINE

In the 1950s Charles Austen Pumps became the first manufacturer to put pumps in the laboratory. Our Pumps helped John Enders to develop the polio vaccine and have since gone on to aid the development of numerous vaccines saving the lives of hundreds of millions.



1953 | EVEREST EXPERIMENTS

In 1953 Sir Edmund Hillary and Tenzing Norgay reach the summit of mount Everest. They took one of our pumps with them to complete crucial high altitude experiments.

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1971 | APOLLO 15 TESTING

In 1971 the American space program was still firing on all cylinders. Apollo 15, an audacious mission was put in place to put a 'buggy' on the moon. Our pumps were chosen to test the buggy components by creating an ultimate vacuum, alike to the atmosphere of space.

1984 | IVF CONCEPTION

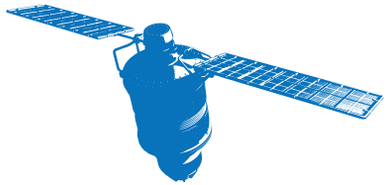
We were the first to manufacture a pump for the IVD conception process. In 1984, Louise Brown, the first IVF baby was born through the method that utilized a Charles Austen Pump.

1996 | DOLLY THE SHEEP

The birth of Dolly the sheep in 1996 shocked the world into the notion that the science-fiction concept of cloning was now a reality. Dolly's existence opened the floodgates for stem cell experiments that has since caused huge breakthroughs in cancer research.

2001 | ATM MACHINES

The ATM marked a huge step for banking convenience around the world. Charles Austen Pumps supplied a pump to every ATM machine in the United Kingdom.



2016 | ANTI-TERROR SATELLITE

In 2016 our pumps were specified to defrost the lens of a counter-terrorist satellite network. Our pumps allow the satellites to monitor early in the morning, something that was previously impossible. These satellites also act as an early warning system for rocket launches and meteorites.

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CAPABILITIES

R&D

The Process begins in our state of the art Research and Development department. Using an array of high-tech equipment alongside the old fashioned proven methods we can accurately gauge the performance and reliability of our pumps, ensuring we are staying at the top of our game.

ASSEMBLY

With 20,000 square foot of manufacturing lines Charles Austen Pumps efficiently constructs our pumps primarily by hand. Pumps are then tested to secure that each of them leave the factory as reliable as we designed them to be, following the ISO 9001 quality standard.

TOOLMAKING

With 10 members of staff dedicated solely to toolmaking, Charles Austen is proud to boast an impressive 'Tool Room' complete with a labyrinth of imposing machinery. This allows us to efficiently and precisely create the tooling we require to continue revolutionizing the pump industry.

WAREHOUSING

With 5 dedicated buildings on site for warehousing, Charles Austen Pumps have the capacity to hold huge orders in waiting. We utilise double shifts to ensure that stock items are despatched within 24 hours.

MOULDING

Charles Austen employs modern CNC moulding machines to mould components all in-house. As a company we have invested heavily in our moulding capability to ensure high fidelity components.

FREIGHTING/ SHIPPING

With a team of 5 shipping specialists, Charles Austen strives to meet your time requirements . Our team ensure that your orders are delivered as accurately and swiftly as possible.

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TECHNOLOGIES

DIAPHRAGM

The major advantage of the diaphragm pump is that the pumping chamber is totally sealed and, therefore, does not require a sliding seal between moving parts. Vacuum and pressure are produced by the flexing of the diaphragm back and forth in the chamber.

ROTARY DIAPHRAGM

The patented rotary diaphragm technology is a revolutionary pumping principle. The flow of liquid is initiated by an eccentrically mounted bearing on a drive shaft which revolves within a flexible diaphragm. As the shaft rotates, the bearing flexes the diaphragm, squeezing liquid through the pump.

LINEAR

This simple yet efficient pumping principle uses a magnetically operated diaphragm. This works by flexing a diaphragm at one, or both ends of the connecting rod within a totally sealed pumping chamber. This eliminates sliding parts keeping wear, tear and power consumption to a minimum.

ROCKING PISTON

Rocking piston pumps combine the higher performance of a piston pump with the simplicity of a diaphragm pump in a small economic unit. The piston is fixed rigidly to the top of the connecting rod. The pumps are capable of operating continuously with a minimum of maintenance and offer high performance, particularly pressure, within a compact package.

CENTRIFUGAL

Centrifugal pumps incorporate a rotary impeller which draws the liquid into the inlet. The centrifugal action forces the fluid to the extremities of the chamber and through the outlet at pressure. Due to their valveless design the output from these pumps is completely smooth and gives good flow performance from a compact unit.

GYROK™

The patented GyRok pumping principle employs a elastomeric conical diaphragm displaced by a number of legs positioned annularly around a nutating drive element. The legs provide control of almost the entire diaphragm, giving outstanding self-priming characteristics. This results in a pump that is whisper quiet, able to tolerate extended periods of dry-running and can be mounted in any orientation in a number of locations.

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DIAPHRAGM PUMPS

DESIGNED FOR: GAS, AIR & LIQUID

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DIAPHRAGM

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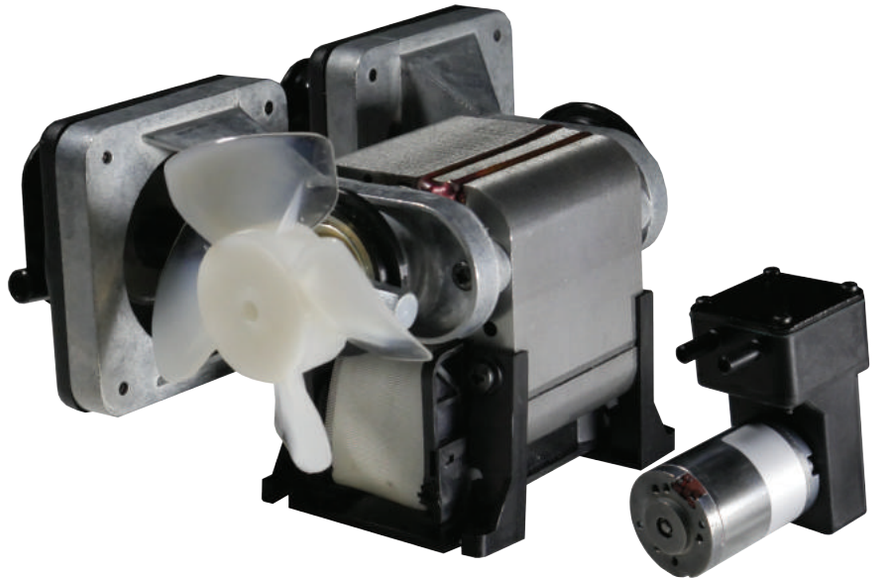

- 0.4 - 56.0 L/MIN
- VACUUM: DOWN TO 8 MBAR ABS
- PRESSURE: UP TO 2.5 BAR

WHY CHOOSE DIAPHRAGM TECHNOLOGY?

- Contamination free pumping.
- Long life, continuous duty.
- Low maintenance.
- Chemical resistant options.
- Pressure / vacuum from the same unit.

APPLICATIONS INCLUDE

- BEVERAGE DISPENSERS
- ENVIRONMENTAL MONITORING
- GAS SAMPLING
- TOURNIQUETS
- INK JET PRINTING
- INSTRUMENT ACTUATION DEVICES
- WOUND THERAPY
- BUBBLE TUBES
- PARTICLE SAMPLERS

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ROTARY DIAPHRAGM PUMPS

DESIGNED FOR: GAS, AIR & LIQUID

ROTARY DIAPHRAGM

The patented rotary diaphragm technology has a revolutionary pumping principle. The flow of liquid is initiated by an eccentrically mounted bearing on a drive shaft which revolves within a flexible diaphragm. As the shaft rotates, the bearing flexes the diaphragm, squeezing liquid through the pump.

- 0.14 - 5.0 L/MIN
- VACUUM: DOWN TO 200 MBAR ABS (DRY)
- VACUUM: DOWN TO <100 MBAR ABS (WET)
- PRESSURE: UP TO 2 BAR

WHY CHOOSE ROTARY DIAPHRAGM TECHNOLOGY?

- Patented Charles Austen technology.
- Compact design.
- High vacuum capability.
- No valves, non-clogging.
- AC or DC motor options available.

APPLICATIONS INCLUDE

- BEVERAGE DISPENSERS
- CONDENSATE REMOVAL
- IVD ANALYSERS
- REFRIGERATION
- LASER COOLING

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LINEAR DIAPHRAGM PUMPS

DESIGNED FOR: GAS & AIR

LINEAR

This simple yet efficient pumping principle uses a magnetically operated diaphragm. This works by flexing a diaphragm at one, or both ends of the connecting rod within a totally sealed pumping chamber. This eliminates sliding parts keeping wear, tear and power consumption to a minimum.

- 8 - 60 L/MIN
- VACUUM: DOWN TO 800 MBAR ABS
- PRESSURE: UP TO 0.3 BAR

WHY CHOOSE LINEAR DIAPHRAGM TECHNOLOGY?

- Exceptionally long life.
- Continuous duty.
- Whisper quiet, minimal vibration.
- Low power consumption.
- Maintenance free.

APPLICATIONS INCLUDE

- AIR BEDS
- CUFF INFLATION
- FOOT SPA'S
- ODOUR NEUTRALISERS
- FUEL CELL MANUFACTURE
- AIR SAMPLING

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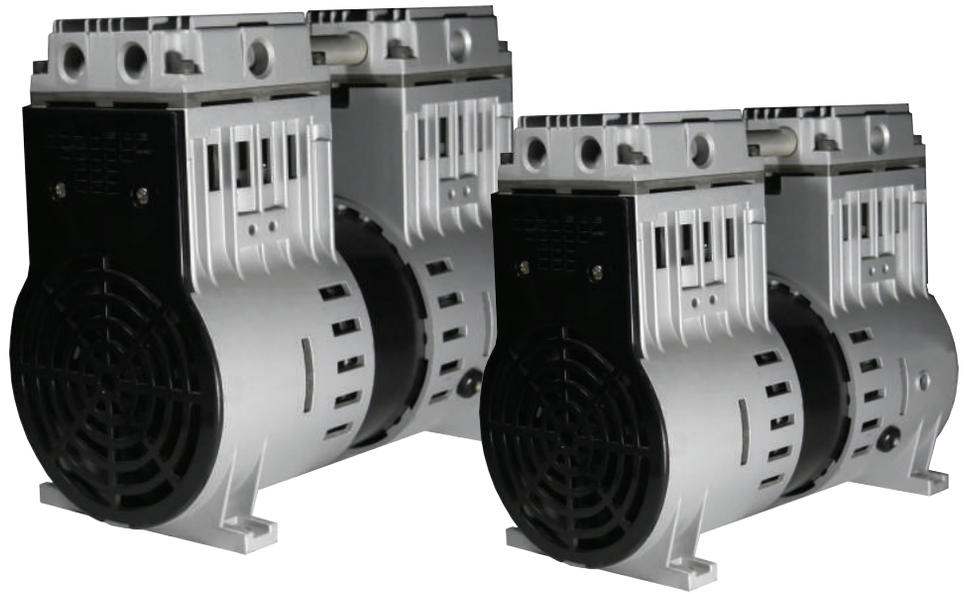
ROCKING PISTON PUMPS

DESIGNED FOR: GAS & AIR

ROCKING PISTON

Rocking piston pumps combine the higher performance of a piston pump with the simplicity of a diaphragm pump in a small economic unit. The piston is fixed rigidly to the top of the connecting rod. The pumps are capable of operating continuously with a minimum of maintenance and offer high performance, particularly pressure, within a compact package.

- 10 - 100 L/MIN
- VACUUM: DOWN TO 30 MBAR ABS
- PRESSURE: UP TO 8 BAR



WHY CHOOSE ROCKING PISTON TECHNOLOGY?

- Oil free pumping.
- High pressure output.
- Suitable for continuous duty.
- Can operate in any installed position.
- Robust construction.

APPLICATIONS INCLUDE

- PAINT SPRAYING
- EXERCISE EQUIPMENT
- HUMIDIFIERS
- ROBOTICS
- SANDBLAST EQUIPMENT
- BREATHING AIR SYSTEMS
- INK-JET PRINTING
- PNEUMATICS
- MEDICAL CUFF INFLATION

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CENTRIFUGAL PUMPS

DESIGNED FOR: LIQUID

CENTRIFUGAL

Centrifugal pumps incorporate a rotary impeller which draws the liquid into the inlet. The centrifugal action forces the fluid to the extremities of the chamber and through the outlet at pressure. Due to their valveless design the output from these pumps is completely smooth and gives good flow performance from a compact unit.

- 50 L/MIN
- VACUUM: N/A NOT SELF PRIMING
- PRESSURE: UP TO 0.8 BAR

WHY CHOOSE CENTRIFUGAL PUMPS TECHNOLOGY?

- Smooth pulse free output.
- Low cost solution to OEM liquid.
- No valves, non-clogging.
- 24V DC pump with integrated bracket.

APPLICATIONS INCLUDE

- PAINT SPRAYING
- EXERCISE EQUIPMENT
- HUMIDIFIERS
- ROBOTICS

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GYROK™ PUMPS

DESIGNED FOR: LIQUID

GYROK™

The patented GyRok pumping principle employs a elastomeric conical diaphragm displaced by a number of legs positioned annularly around a nutating drive element. The legs provide control of almost the entire diaphragm, giving outstanding self-priming characteristics. This results in a pump that is whisper quiet, able to tolerate extended periods of dry-running and can be mounted in any orientation in a number of locations.

- 5 L/MIN
- HEAD: 5 METRES
- LIFT: 2 METRES

COMING SOON

WHY CHOOSE GYROK™ TECHNOLOGY?

- Silent running.
- Can pump dry without the need for siphoning devices.
- High performance from a small unit.
- Designed with integrated bracket for easy use.
- Dual voltage.

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LABORATORY PUMPS

DESIGNED FOR: GAS & AIR

LABORATORY

Utilizing the tried and tested diaphragm pumping principal, our lab pump range provides a clean oil-free vacuum/pressure source. Rated for continuous operation, the Dymax Series is whisper quiet and ruggedly reliable, while encased within a clean, tough and compact polycarbonate case which conforms to IEC 1010 for safety.

- 5-14 L/MIN
- VACUUM: DOWN TO 240 MBAR ABS
- PRESSURE: UP TO 2.0 BAR

WHY CHOOSE DIAPHRAGM TECHNOLOGY?

- Contamination free pumping.
- Long life, continuous duty.
- Low maintenance.
- Chemical resistant options.
- Pressure / vacuum from the same unit.

APPLICATIONS INCLUDE

- ASPIRATION
- GENTLE FUME EXTRACTION
- PICK & PLACE
- DOCUMENT ARTWORK/ RESTORATION

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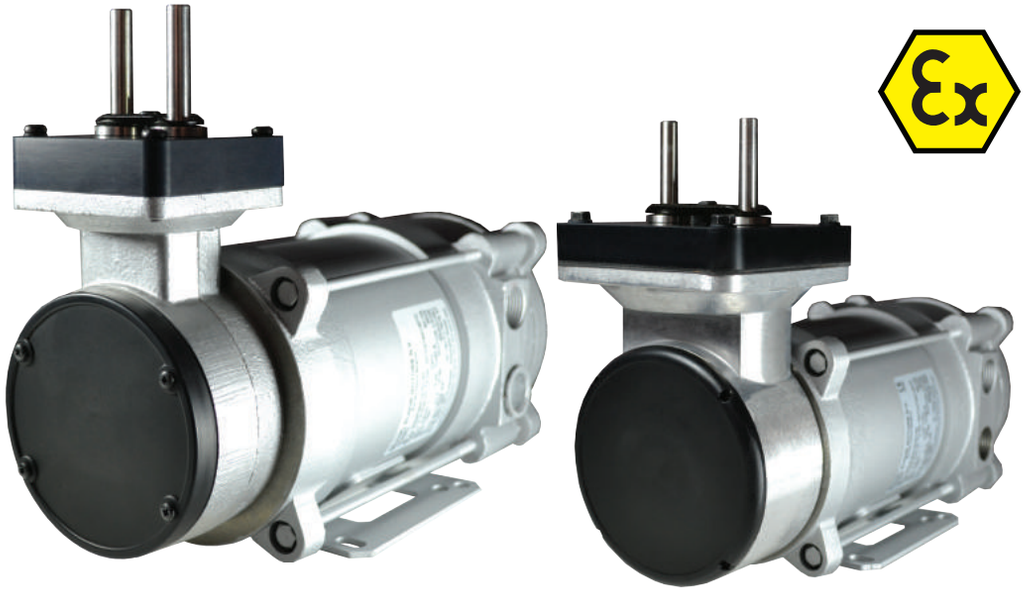
EXPLOSION PROOF PUMPS

DESIGNED FOR: GAS & AIR

EXPLOSION PROOF

Utilizing the tried and tested diaphragm pumping principal, our explosion proof range is ATEX approved. This means that it can be used in workplaces that produce explosive or potentially explosive atmospheres, such as paint spraying, flour handling and the petrochemical industry. The pumps provide a clean oil free vacuum and pressure source that thanks to its robust construction and long life is suitable for continuous duty.

- 7 - 17 L/MIN
- VACUUM: DOWN TO 430 MBAR ABS
- PRESSURE: UP TO 2.0 BAR



WHY CHOOSE EXPLOSION PROOFS TECHNOLOGY?

- Contamination free pumping.
- Long life, continuous duty.
- Low maintenance.
- Chemical resistant options.
- Pressure / vacuum from the same unit.

APPLICATIONS INCLUDE

- ENVIRONMENTAL MONITORING
- HAZARDOUS AREA SAMPLING
- CHEMICAL PROCESSING

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CUSTOM

If none of the pumps in our standard range of products are applicable for you, Charles Austen pumps offer the ability to design and manufacture bespoke pumps to fit your requirements perfectly. In fact it's our specialty and what sets us apart from the wider one-trick pony market.

With everything from tool making to assembly carried out in house we have total control over every aspect of the process ensuring outstanding quality and product reliability. We have developed over 10,000 different pumps and their variations in recent years for almost every application imaginable.

A wide range of material options are also available for both bespoke and existing products so when it comes to conceiving a pump for you, the sky is the limit.

If you tell us more about your application we will be able to help find you a suitable pump for what you need.

To help you most accurately, please let us know the following:

- Medium being pumped: Gas/Air or Liquid
- Voltage required
- Flow rate required
- Vacuum required
- Pressure required
- Wetted material requirements
- Quantity of pumps required – This could affect the pricing structure.

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CASE STUDIES

D5 PUMPS FOR CONCENTRATED OZONE

Ozone is a powerfull naturally occurring oxidant that doesn't produce allergen affects or resistant strains of bacteria.

As a result it is used in a wide range of applications including medical and dental therapies, water treatment and disinfectant devices.

Despite its wide range of uses Ozone is highly corrosive especially when wet or concentrated. As a result all wetted materials in contact need to be made from extremely resistant materials such as PTFE and stainless steel to ensure reliable operation.

For applications with a vacuum or pressure pump requirement Charles Austen are able to offer our D5 range of pumps with all PTFE / PVDF / FFKM wetted parts for the most demanding of corrosive gas applications.

These can be specified with a range of AC / DC motor options including long life BLDC motors with low current draw and EMC.

Charles Austen Pumps have been producing pumps in the UK for over 60 years and are able to offer all of our pumps in a range of chemically resistant materials.

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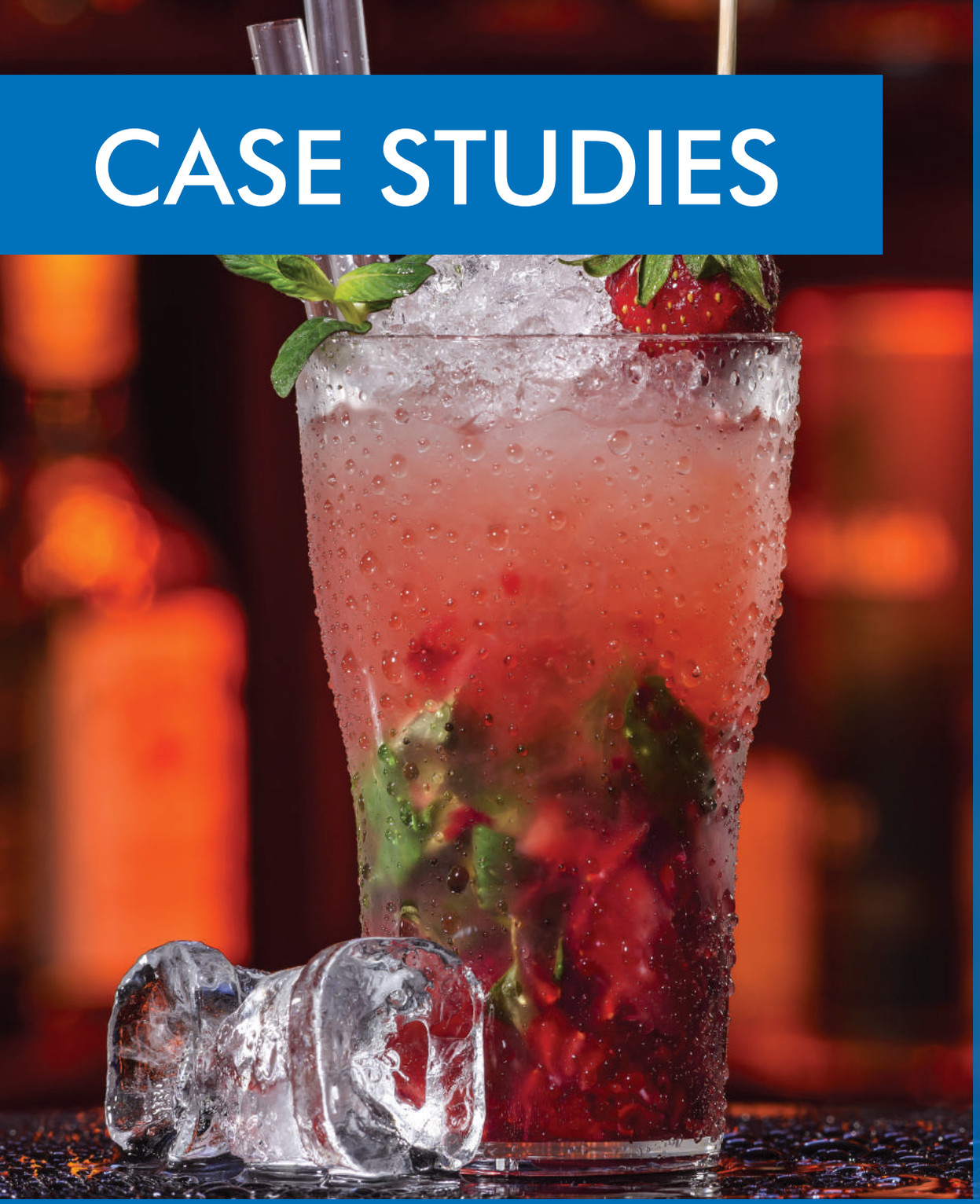
CASE STUDIES



RD1 PROVIDES SOLUTION FOR COCKTAIL DRINKS VENDING

The RD1 pump has successfully solved a number of technical challenges faced during the design of an automated cocktail dispenser. The dispensor, designed for commercial applications, uses the unique rotary diaphragm technology offered only by Charles Austen Pumps.

Previous designs using a diaphragm pump had failed as the valves could not cope with the fruit pith and seeds found in high quality smoothie mix which resulted in unreliability and frustrated customers.

Switching to rotary diaphragm technology solved this problem while allowing the same pumps to be used to dispense concentrated syrup and bag in box soft drink mix.

The RD1 pump has a range of options for OEM vending applications including BLDC and Stepper motor options and food grade materials suitable for European or NSF approvals.

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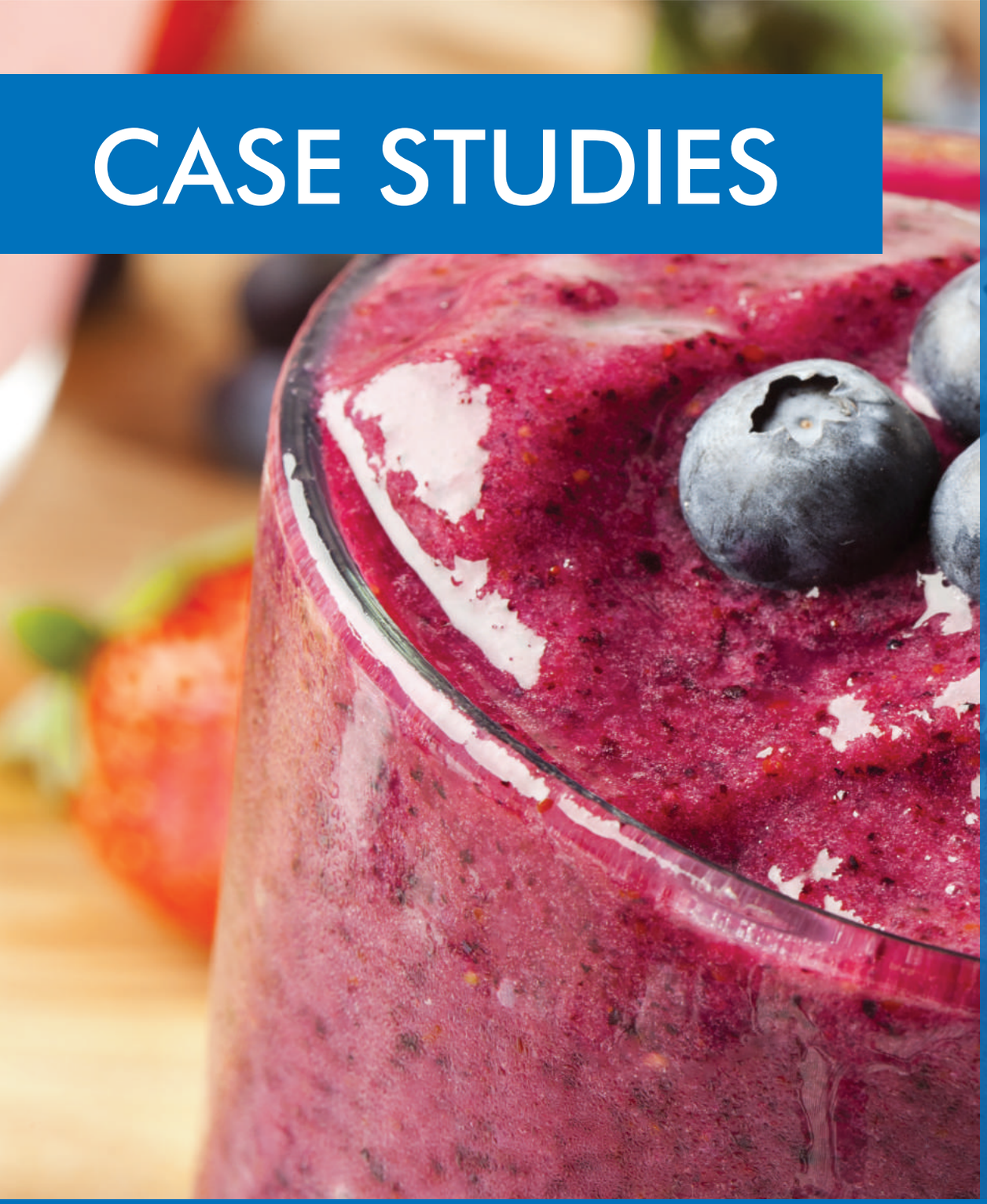
CASE STUDIES



RD PUMPS PROVIDE IDEAL SOLUTION FOR JUICE DISPENSE

Charles Austen Pump's patented rotary diaphragm pump, coupled with a DC Motor, is now being used to pump juice concentrate (syrup) from bag in box and deliver to a dispense font. The syrup is mixed with cold water drawn from a mains supply and dispensed as a post-mix fruit drink. The number of flavours offered by the drinks dispenser determines the number of pumps used.

Different flavours require different mix ratios, so the RD5 pump technology combined with DC drive allows the flow rate of the juice concentrate to be easily controlled by varying the DC input voltage.

The manufacturer of the juice dispenser chose the Charles Austen Pumps RD5 for their reliability and superiority over other pumping technologies such as peristaltic, air driven, and standard diaphragm due to their ability to draw the more viscous concentrates over longer distances. The RD5 has excellent self priming capabilities and an ability to move cold or hot liquids of varying viscosities which have made it suitable for this type of application.

The RD5 with DC motor pump has only two wetted parts; santoprene and polypropylene, both of which can be supplied in food grade. Therefore, the pump is also suitable for moving hot liquids which has led to its use in workplace brewers for hot and cold drinks dispense applications.

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CASE STUDIES

GAS AND AIR PUMPS FOR IVD URINALYSIS

Many manual laboratory procedures are being replaced by automated or semi-automated analysers to increase the speed and accuracy of results. To achieve this manual counting, techniques are being replaced with new methods such as flow cell digital imaging.

The successful design of these analysers needs to take into account all stages of the manual process being replaced.

For example automated analysers for flow cytometry applications, such as IVD Urinalysis Analysers, need a well mixed sample to prevent false readings as a result of sedimentation.

A well proven solution to this problem is to use a small compressed air to tank agitate sample before aspiration and to re-suspend the cells.

The Charles Austen 12 or 24V DC Air diaphragm pumps are ideally suited for these applications as they prove a quiet and reliable source of compressed air and gas for fully automated analysers including in vitro diagnostic (IVD) equipment.

To aid compliance with EMC requirement of EN/ UL 61010 Suppression is fitted to all of our pumps as standard and we offer BLDC options for continuous duty applications.

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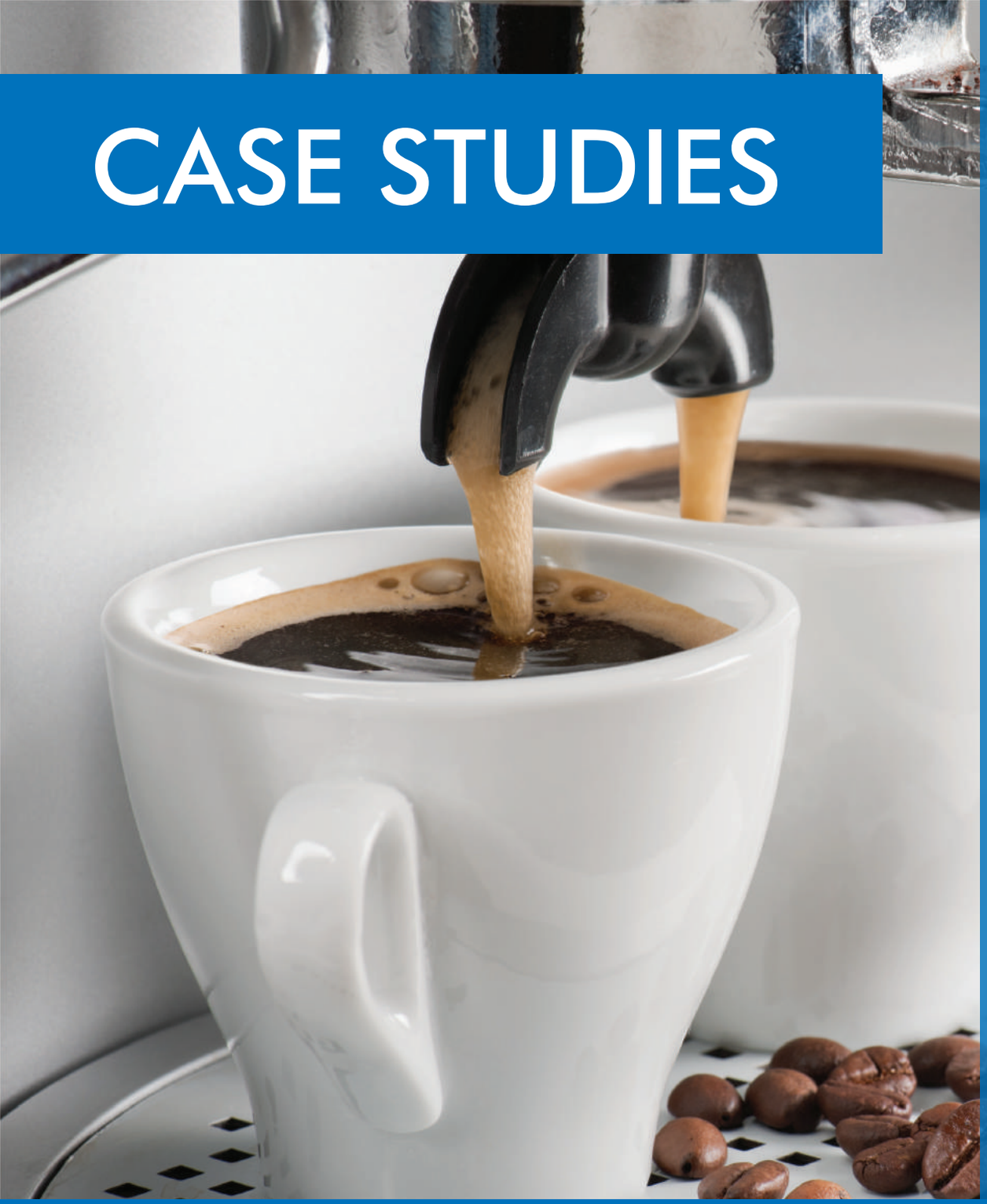
CASE STUDIES



RD PUMPS BRING KEY ADVANTAGES TO BEVERAGE DISPENSE

Drinks vending is a market where pump selection is critical in order to avoid costly service call-outs, messy leaks and expensive downtime. The technology used to pump the beverage is key to how reliable the entire machine will be in service and the reputation of the manufacturer.

Until recently, beverage dispense relied on just a few pump technologies; mainly peristaltic and gas driven. Both methods of pumping have their disadvantages. Peristaltic pumps will eventually suffer from tubing splits or gearbox failure. The tubing has no memory, so the amount of liquid being dispensed at the start of it's life is unlikely to be the same after a few thousand vends. Air driven pumps by definition require an air or CO2 supply, rather than being directly driven. For smaller bench top machines which may be located away from compressors or bottled CO2, this presents an expensive and lengthy installation process.

Charles Austen Pumps introduced the patented Rotary Diaphragm Liquid pump into the market over 15 years ago, primarily for workplace brewers where the ability to pump both hot or cold liquids was required, along with a tolerance of lime-scale or other particulates.

Since then it has been used for many drinks dispense applications where a reliable food grade pump is needed.

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CASE STUDIES

LD PUMPS HELPING TO CREATE NEW LEARNING EXPERIENCES

Alton Towers Resort opened their new CBeebies Land in July 2017. The interactive new land, designed to inspire learning through play features some of CBeebies' most popular character and shows.

Featuring within the new attraction is Nina's Science Lab; here children are shown how Neurons control your five senses. They are given the opportunity to learn about their bodies and what they do in a hands-on scientific interactive experience.

Making up the display at Nina's Science Lab are colour changing bubbling columns of water, with an LD15 pump within these columns. The LD15 was the ideal pump for the job due to it being designed for continuous duty, whilst maintaining a small footprint. It also has exceptional output offering low power consumption. The simple yet efficient pumping principle uses an electro magnetically operated diaphragm, which eliminates sliding parts keeping wear and tear minimal.

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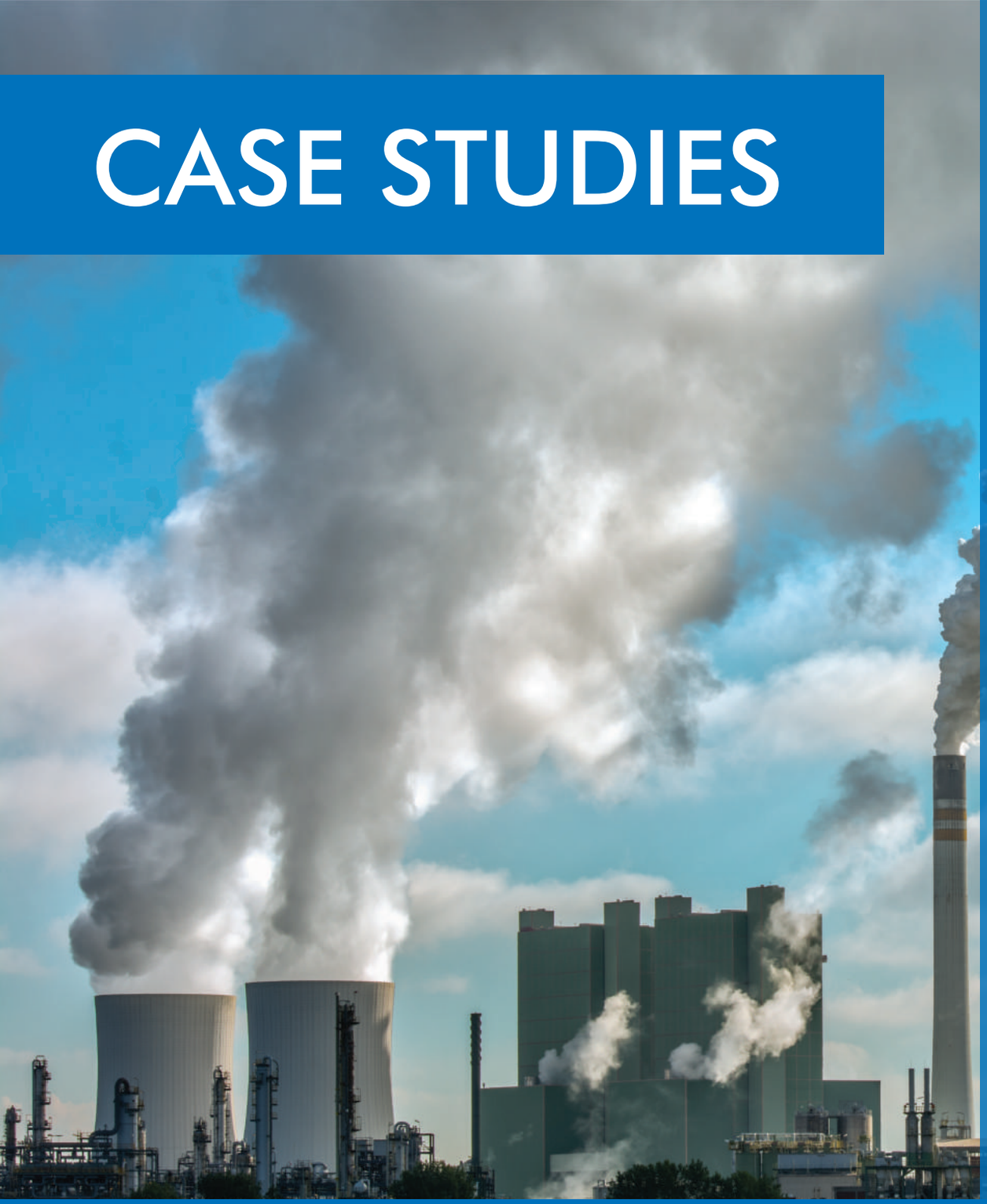
CASE STUDIES



PUMPS FOR DUST AND POLLUTION MEASUREMENT OR IAQM

Charles Austen Pumps have been designing pumps for air quality monitoring since the practice began with the national survey in the 1960's as a response to the infamous London 'pea souper' smogs.

Since then the impact of airborne pollution on health and well-being has become clearer, meaning the use of volumetric or Isokinetic air sampling has become more necessary, including the sampling of PM 2.5- PM10 particulate levels in the air as well as traditional concerns such as asbestos.

This has led to a demand for more flexible sampling pumps that can be easily adjusted to meet a range of worldwide sampling standards including EN12919, ISO-9096, EN13284, EN 16911 & EPA 201A.

Charles Austen Pumps have continued to develop our pump range to help our customers meet these challenges thanks to the addition of the CAPEX V2 Duplex Pump to our CAPEX range.

All CAPEX pumps include an exhaust port for connection to a flow rate/mass sensor which allows downstream control of the flow rate via a sampling filter. This helps to maintain much-needed accuracy in sampling results.

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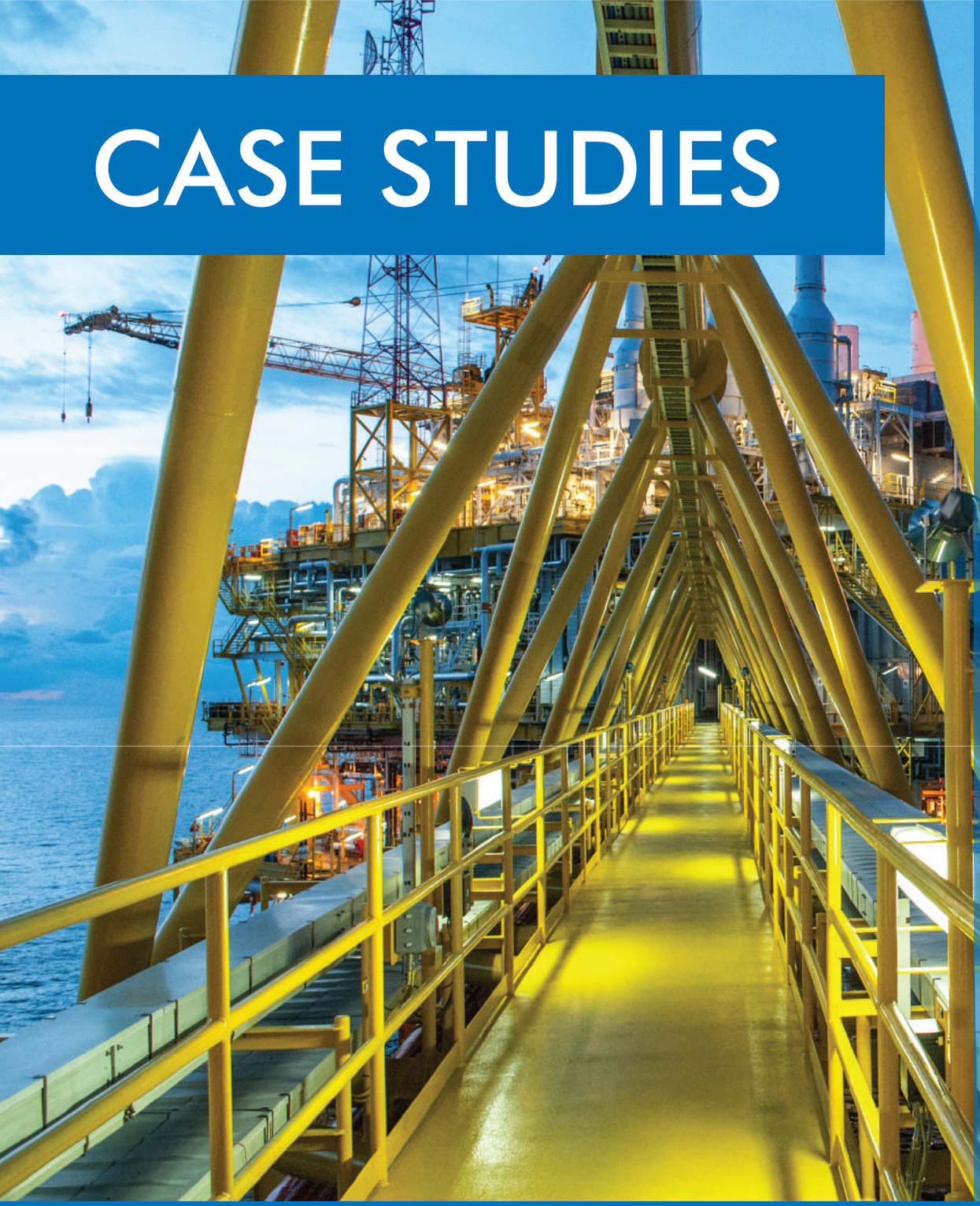
CASE STUDIES



EX30 EXPLOSION PROOF SERIES

Increasing demand in the sampling and process control markets has led to the development of the new explosion proof EX30 pump which is certified to the enclosure group class IIC thus allowing the pump to be used in Hydrogen atmospheres. As an OEM pump it is ideal for monitoring hazardous atmospheres including the ingress of flammable gas and smoke into HVAC ducts.

These robust continuously rated pumps are available with a large choice of materials enabling them to handle air and a wide range of corrosive and flammable gases. They are quiet and easy to maintain, with long life sealed motor bearings.

With a standard performance of 17 l/min flow, 2.0 bar pressure and, 540 mmHg vacuum the standard pump will far exceed most sampling requirements. The flexibility of the design enables the pump performance to be increased or decreased by the use of optional components to satisfy more demanding applications.

At Charles Austen Pumps we identify flexibility as the key to the future development of our business. Combined with the expertise of R & D, we offer the most innovative and cost effective solutions to meet every individual customer application. We employ engineers, not salesmen and they will welcome the opportunity to discuss any new projects with you.

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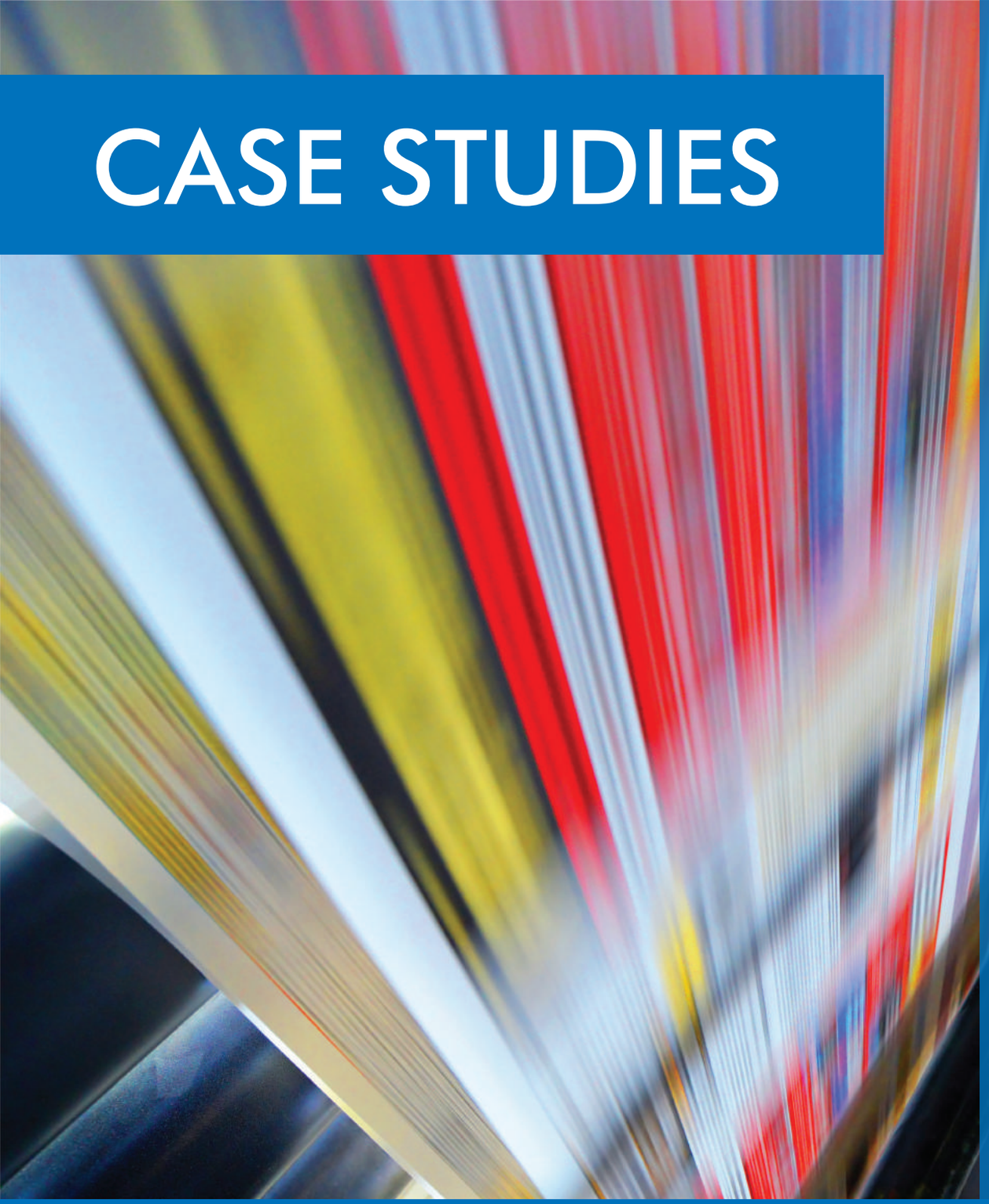
CASE STUDIES



D SERIES USED TO REVOLUTIONIZE PRINTING

The process of rapidly and accurately marking substrates such as cartons, envelopes, bottles and even eggshells is the domain of the ink-jet printer. Different techniques are used by the major manufacturers but they broadly fall into two categories; CIJ (continuous ink-jet) and DOD (drop on demand) - both require pumps as an integral part of the design.

In order to prime the print head, a pump capable of handling chemically aggressive inks is needed to draw the ink from a reservoir and feed ink to either the print head or to an intermediate accumulator tank. A diaphragm pump such as the Charles Austen model DL04 can provide the necessary performance; self priming, flow rates up to 0.4 l/min, chemically resistant wetted parts and a choice of 12 or 24 V DC drive, in brushed and brush-less variants.

Some systems rely on a return or “scavenging” pump. Unused ink is collected and then drawn back into a reservoir under vacuum. This ink can then be reused as part of recycling loop. The pump must be able to run dry, have the necessary chemical resistance and be capable of continuous operation. Charles Austen Pumps offer the model D3 oil-free diaphragm vacuum for these arduous liquid scavenging applications. Again with brush-less DC drive and a highly efficient reed valve design, the D3 can operate continuously to provide the necessary vacuum and flow when pumping gas/liquid mixtures.

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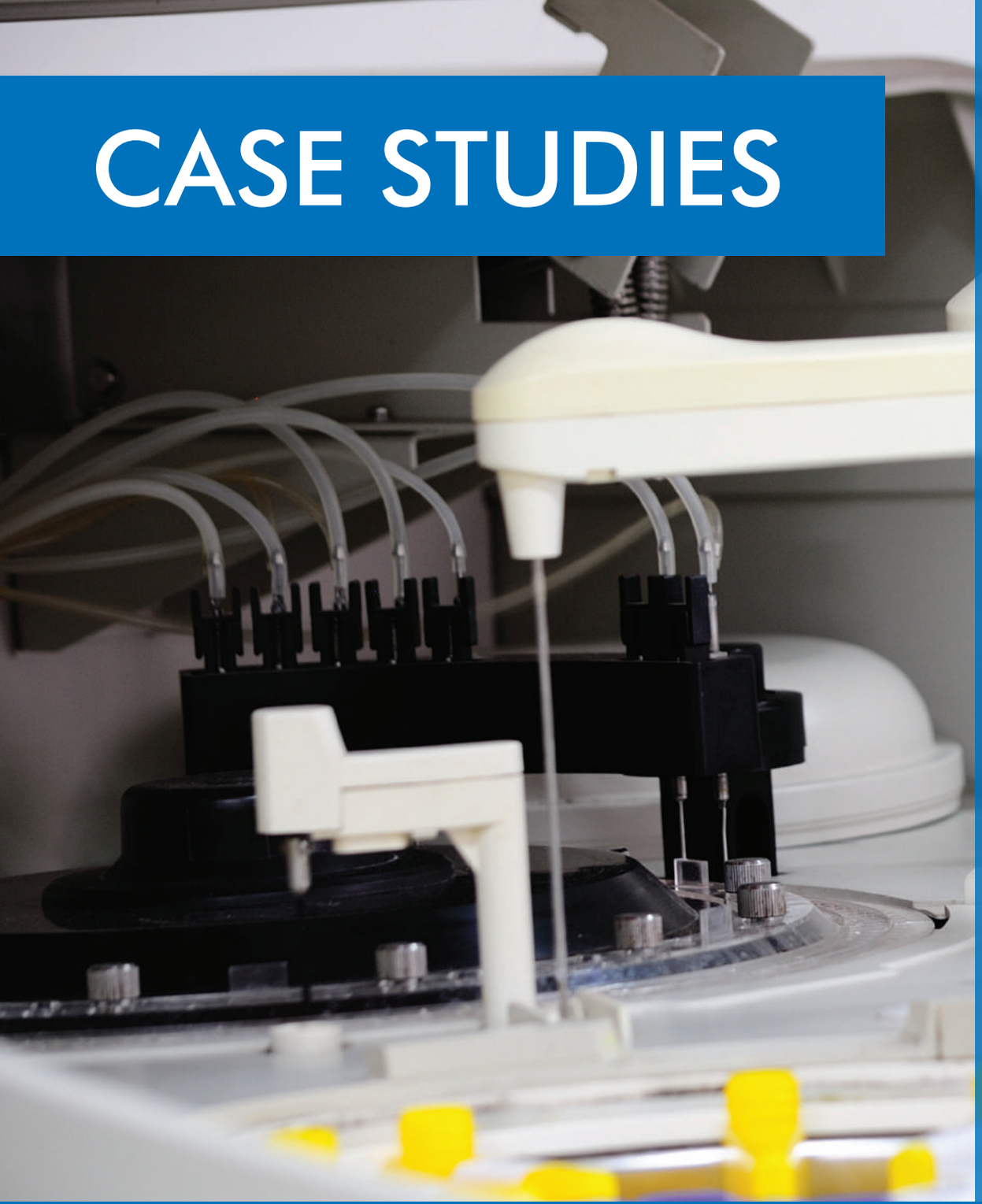
CASE STUDIES



RD PUMPS USED FOR IVD ANALYSIS

The RD1 Pump helps a leading IVD manufacturer improve their device. The previous design of analysers relied on a syringe pump to generate a vacuum to aspirate the sample through the analyser and to drain waste from the fluidic circuit. However the syringe pumps are unable to simultaneously generate vacuum and drain waste from the previous sample reducing the number of samples per hour that could be processed. By using an RD1 pump these actions could happen simultaneously reducing the cycle time of the analyser. Our rotary diaphragm technology has a range of valuable features for designers of fluidic systems such as those used in IVD analysers. They include:

- Higher levels of vacuum than conventional liquid diaphragm pumps.
- Maintenance free operation with no tubes to split.
- Simultaneous vacuum and drain operation.
- Valveless design unaffected by clotted samples and debris.
- BLDC Options available for long life.
- Integrated EMC suppression.

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CASE STUDIES

RP PUMPS USED FOR ON-BOARD PNEUMATICS

There are a huge array of manufacturing, processing, storage and testing machines which rely on a source of clean, compressed air in order to drive their pneumatic systems. Many production line or off-line machines incorporate valves, pneumatic door seals or locking mechanisms which are actuated by pressure – usually provided by a factory or laboratory air-line. However, many manufacturers have sought to improve their equipment by incorporating a small oil-free compressor within the machine itself, thus avoiding reliance on external compressors. The result is a more independent system which can be easily relocated or installed where no air-line is available. Simply a single phase mains supply is sufficient.

Charles Austen Pumps offer a range of oil-free compressors including the miniature RP12 - capable of 6 bar pressure and small enough to be fitted integrally in most systems. The RP12 is available in a variety of voltages including 24v DC enabling it to be easily integrated into an electronically operated system. The pump is oil-free, maintenance free and can also be used for vacuum where required. It can be used to directly actuate pneumatics, or with a pressure switch in conjunction with a receiver.

CHARLES AUSTEN
PUMPS LTD

Charles Austen Pumps continuously delivers products that are at the forefront of technical development. Driven by a desire to provide innovative pumps to a number of markets, Charles Austen pumps are designed with the consumer in mind, to ensure consistent benefits are delivered in a range of applications.

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