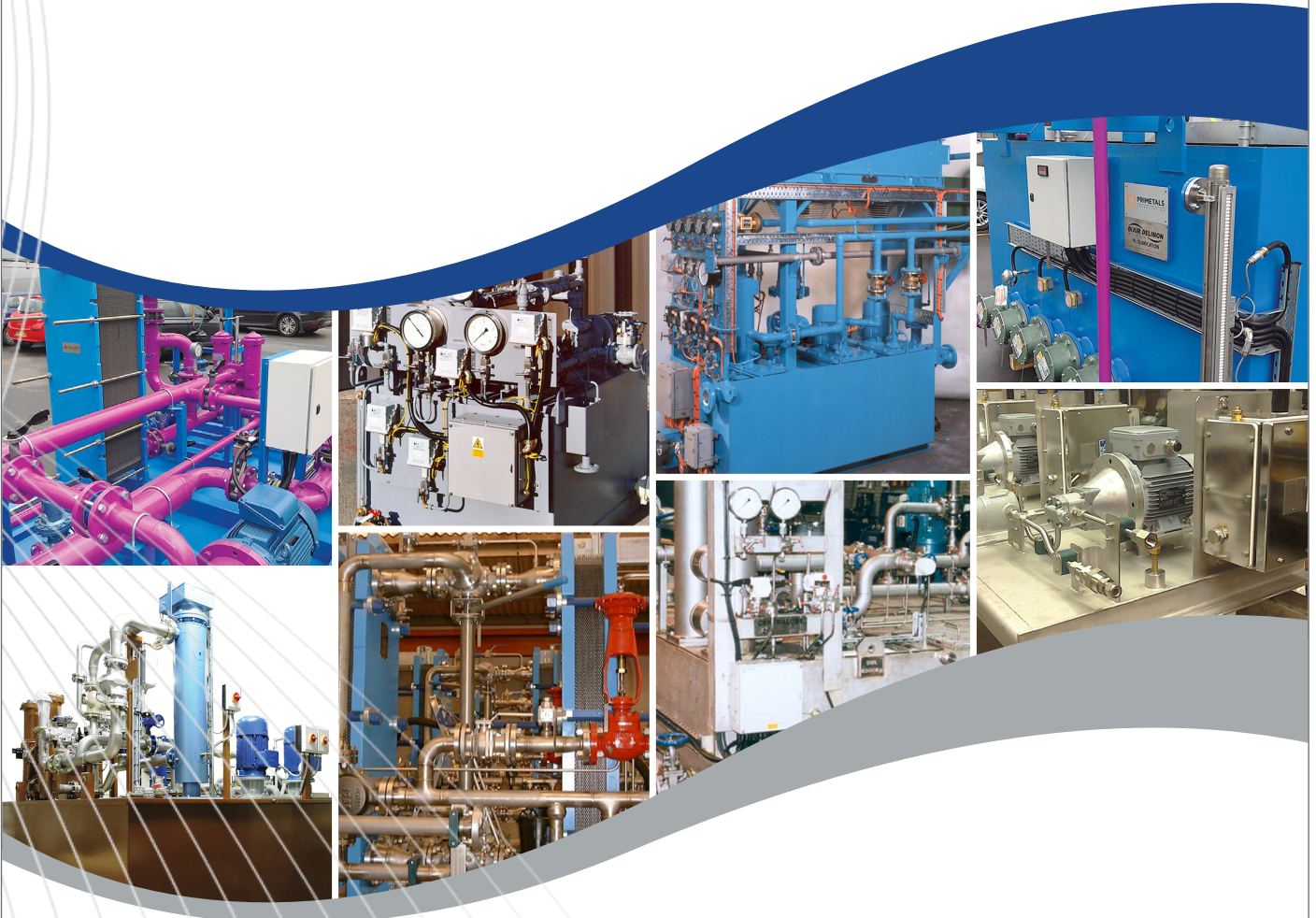


An IMCI Company

BIJUR DELIMON[®]
INTERNATIONAL



Oil Recirculation Systems

Lubrication, cooling & filtration
for optimum utilisation of machinery & equipment

OVERVIEW BROCHURE

Rev0: 11/2017

Complete Design, Engineered & Manufactured Solutions



Bijur Delimon International (Denco Lubrication Ltd) is well established as one of the leading companies in the supply of Oil Recirculation Systems and equipment for the optimum lubrication of bearings and gear trains.

Reliability has been the key to our success, achieved by utilising proven design techniques, coupled with product quality and competitive pricing.

OVERVIEW OF SERVICES

- + Design of Systems
- + Engineering
- + Manufacture
- + Supply & Installation
- + Commissioning
- + Flushing Facilities
- + The Full Spectrum
- + Service & Spares.



For further information about Oil Recirculation Systems please contact: +44 (0)1432 365000 or email: info@bijurdelimon.co.uk

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HR2 6LR

ORS/BDI-OB-0246-RO - 11/17

Design of Systems

Time served experience and innovation



Bijur Delimon has recognised that the reliability and efficiency of a successful Oil Recirculation System requires it to fulfil the following key functions:

Lubrication

Supplying the appropriate quantity of lubricant at the required viscosity, temperature and pressure to a bearing or gear train to prevent failure.

Cooling

By maintaining the system oil temperature and flow rate at the required parameters, the heat generated by the motion and load of bearings and gear trains is removed, ensuring that lubrication is provided at the optimum performance level.

Filtration

It is critical to remove contaminants such as dust, wear particles, water and other extraneous materials that build up during the operation of bearings and gear trains. The lubricant needs to be continually filtered to the correct cleanliness level prior to being recirculated.

Bijur Delimon 'Design and Support Teams' work closely with customers, component suppliers and lubricant manufacturers to ensure our Oil Recirculation Systems achieve the system performance levels required.

Complete Design Solutions

We pride ourselves on our ability to deliver the complete engineered design solution. Using the latest CAD technology our innovative design team work together to bring your specifications to life. Through the use of technical

drawings, 2D and 3D modelling, our designers ensure all specifications are met with precision without ever compromising the systems efficiency or the manufacturing process. With over 70 years commercial experience our dedicated team can cater for any set up requirements and will guide you every step of the way from concept through to completion.

Typical System Parameters

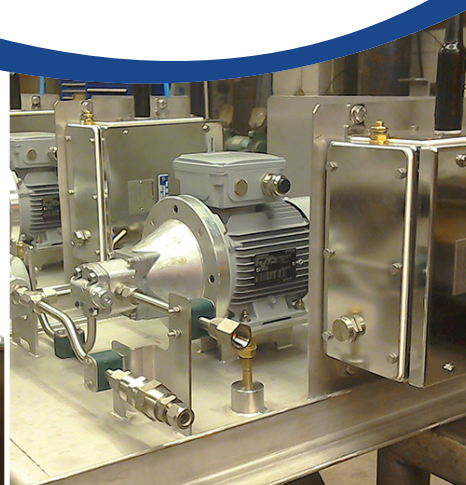
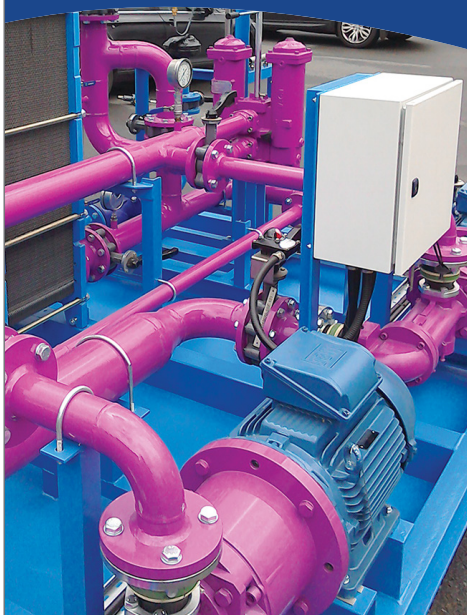
Suitable for Mineral Oil

Applications	Industrial & API
Oil Viscosities	Up to and incl. 680 cSt @ 40°C
Oil Flows	1 to 2000+ LPM
Maximum Pressure	20 Bar+
Motor Power	Up to 75 kW
Voltage	380 / 400 / 440 / 460 / 480 V
Phase	Single & 3 Phase
Frequency	50 Hz / 60 Hz
Filtration	Simplex & Duplex: 3, 6, 10, 16 & 25 Micron - absolute and nominal ranges
Oil Coolers	Shell & Tube and Plate
Monitoring	Level, flow, pressure, temperature switches, transmitters and visual

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ENGINEERING

Oil Recirculation Systems



OVERVIEW

In providing the key functions of an Oil Recirculation System, the system is built from primary equipment as illustrated above.

Reservoirs or Tanks

To allow for settlement, de-aeration and heating with the ability to facilitate a change of lubricant at the appropriate interval. Tank materials are typically carbon steel or stainless steel, and sized based on the system flow rate and application.

Pumps

Normally gear or screw type, motor driven to ensure the correct amount of lubricant is delivered to the friction points. In many cases, standby pumps are provided as part of the integrated design. These can be electrical or shaft driven, dependent on the application.

Heaters and Coolers

To ensure the lubricant reaches the points of application at the required viscosity. The heaters can be tank mounted electric, steam or inline. The coolers can be plate type or shell and tube with the medium being water or water / glycol. Air can also be utilised for cooling using a fan and radiator.

Filtration and Straining Equipment

To maintain the system cleanliness. Typical oil filters will be either simplex or duplex type in the delivery line, suction line strainers, return line strainers and tank breather / filters.

Jacking Oil Panels

Jacking Oil Panels produce a small flow rate of oil at high pressure to lift the shaft of a bearing before it starts to rotate. Typical applications are large generators, cement kilns and ball mills.



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ENGINEERING

Optional System Components



OVERVIEW

In addition to the main primary equipment, a number of optional system components can be included, depending on the customer specification and technical requirements:

Reservoir Level Monitoring

Visual indicators, electrical switches and/or transmitters to alert the operator of low or high oil level, and protect the pump and tank immersion heater(s) from operating when the oil level is too low.

Pressure Monitoring

Visual gauges, electrical switches and/or transmitters to alert the operator of low or high pressures in the oil system delivery circuit, and similar pressure differential instruments to monitor the pressure drop across the main supply filter.

Temperature Monitoring

Visual gauges, electrical switches and/or transmitters to monitor the reservoir and delivery line oil temperatures.

Flow Monitoring

Visual indicators, electric switches and/or transmitters to monitor the oil flow to the friction point(s), oil return to the reservoir and cooling water supply. To support this BDI have developed the DS405 iPM Lubrication Monitor; a highly configurable product that can be used on Oil Recirculation Systems and Total Loss Oil or Grease systems respectively for real-time monitoring of the flow rate of oil, typically through an oval gear flowmeter.

Control Valves

Pump relief valves to protect the pump against excessive back pressure, system pressure control valves to control the flow and pressure of the lubricant to the friction point(s), and temperature control valve to either modulate the water flow to the water/oil cooler or by-pass the cooler when fitted in the oil supply line when the oil does not require cooling.

Isolation Valves / Check Valves

To isolate the oil or water supply, and prevent the oil from returning to the reservoir.

Air Pressure Vessels

Used in large systems to ensure sufficient pressure exists in the system to provide lubrication to all application points during operation and run down of the parent machine in the event of a power cut.

Run Down Tanks

To provide lubrication to all application points during run down of the parent machine in the event of a power cut.

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MANUFACTURE

Total turnkey solutions under one roof



OVERVIEW

- + Dedicated workshop (2000 m²) for the fabrication and assembly of bespoke systems.
- + Qualified welders approved to ASME IX and BS EN287-1 standards are capable of producing stainless & carbon steel systems to exacting requirements such as those of API 610 and 614.
- + Three dedicated test bays allow systems to be pressure tested up to 600 bar with both 50 and 60Hz AC electrical input as well as DC up to 120v.

Welding

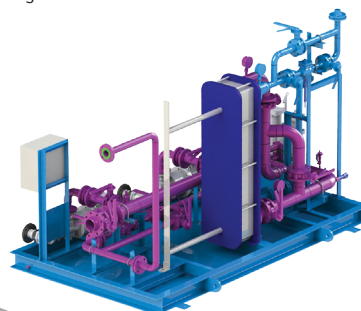
- | | |
|-------------------------|------------------|
| + On and Off site | + MIG |
| + Ferrous & Non Ferrous | + Synergic Pulse |
| + ASME IX & BS EN287-1 | + MMA |
| + TIG | + In-house NDT. |

Electrical Control Panel Assembly

Our in-house electrical engineering team are able to provide bespoke solutions for electrical installation. As part of our installation package, we can offer a full electrical design service from power supply to control panel and beyond.

As standard, our systems are pre-wired from our Hereford factory, but where required, site wiring and electrical installation of equipment is carried out, including connection to BMS systems, remote cooler wiring and on site sensors.

All installations are carried out in accordance with local regulation and to the highest standards by professional, qualified engineers.



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SUPPLY & INSTALLATION

Dependable service for years to come



OVERVIEW

All Bijur Delimon projects are available with total turnkey installation.

Pipework specification is supplied in a wide variety of materials including stainless and carbon steels, copper and ABS. We are able to take care of siting equipment, pipework, electrical installation and commissioning. Major installation contracts are carried out in all industries including steel works, power stations, cement works, paper mills, automotive plants etc.

We can also supply engineers to oversee systems installation and commissioning outside the United Kingdom, where local fitters are used.

Installations are carried out with the following capabilities:

- + Employer's Liability Insurance to £10m, Public and Product Liability to £5m
- + In house Safety Advisors qualified to NEBOSH and IOSH standards
- + Qualified Welders to ASME IX and BS EN287-1
- + ISO 9001 Accreditation

- + Client Contractors National Safety Group - CCNSG
- + MEWP operator trained
- + PASMA trained for mobile scaffolding
- + Asbestos removal & risk assessment for CAF gaskets
- + Confined space trained
- + Safe Contractor Accreditation
- + Pacific Industrial Contractor Screening - PICS
- + Achilles Accreditation.



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Denco Lubrication Ltd: Oil Recirculation Systems 2017

COMMISSIONING

On site trained engineers



OVERVIEW

When correctly installed, commissioned and maintained at the specified intervals, a Bijur Delimon system will give dependable service for many years to come.

Using our trained technicians, under the supervision of an experienced installation and service engineer, guarantees the correct installation and commissioning of the system.

We can also supply engineers to oversee system installation and commissioning outside the United Kingdom where local teams are used.



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FLUSHING FACILITIES

Flushing Rig Hire



OVERVIEW

When large amounts of contaminants are introduced to a machine the need to flush and clean the system is of paramount importance.

Our flushing rig is available for hire on a daily or weekly basis at competitive rates and our service team is on hand to install and remove at your site. Alternatively you can install/remove by fork lift or crane at your convenience.

In addition to this we also offer design and supply of interconnecting flushing valves, piping and hoses if required.

- + 25 micron to 3 micron feed and return filter
- + Pneumatic scavenge pump option available
- + Bespoke control panel for intelligent control / monitoring and system alarms.

Features

- + Flow rates up to 350 LPM
- + Nas Class 25 to Nas Class 3 cleanliness
- + ISO 4406: 1999 - 17/15/12
- + On-board automatic optical Particle Counter
- + 2.6 kW Heater to reduce viscosity of oil resulting in a more effective process

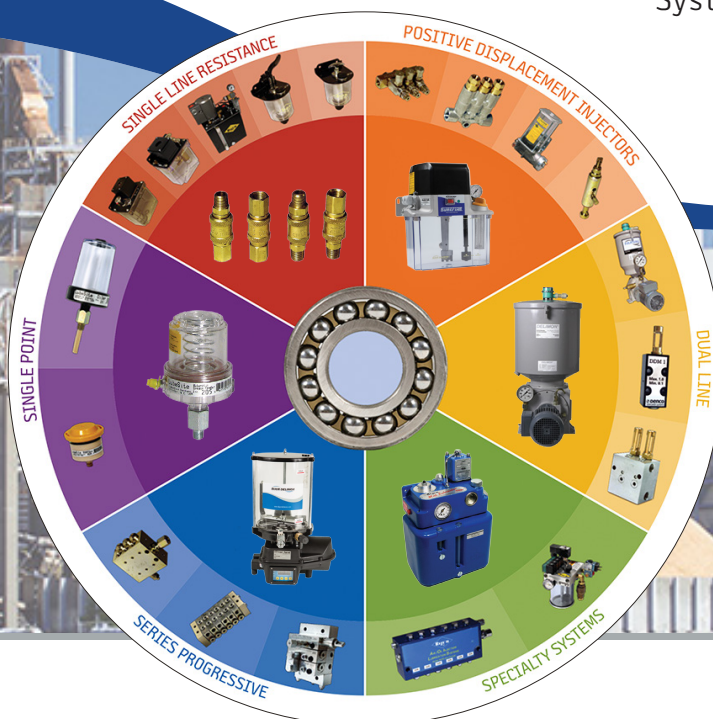








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THE FULL SPECTRUM

Systems at a glance



SYSTEM TYPE	DESCRIPTION
 POSITIVE DISPLACEMENT INJECTORS	Precise outputs and flexible design for oil and fluid grease systems to support a wide variety of industrial and mobile machinery.
 DUAL LINE	The most respected name in the industry for dual line divider valves, now featuring high-pressure central pumping stations.
 SPECIALITY	Air/Oil, spray mist and fluid recovery systems give you total control over your lubrication requirements.
 SERIES PROGRESSIVE	Positive displacement non-adjusting divider valves with fail-safe monitoring and robust lubricators to support oil and grease applications.
 SINGLE POINT	Tough polycarbonate reservoirs and spring-driven greasers, along with wick oilers for individual bearing lubrication.
 SINGLE LINE RESISTANCE	Low-prices, small-sized / compact, low pressure oil systems for use with meter and control units on small to medium sized machinery.



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SERVICE & SPARES

Maintaining systems throughout their lifetime



OVERVIEW

Bijur Delimon, either on a fixed contract or call-out basis, can maintain systems throughout their lifetime.

Our Service Department also operate contracts to provide labour to maintain plant in their client's works including system repairs, filling automatic grease systems, manual grease systems, manual greasing and checking/filling oil reservoirs, gerboxes etc.

● **Head Office:**
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Hereford. HR2 6LR, UK.

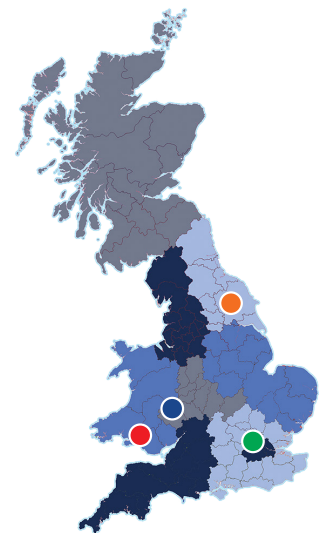
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Innovators of engineered lubrication technology since 1923.

Bijur Delimon International is accredited to ISO 9001 having quality certified manufacturing facilities around the world, so your centralised lubrication system meets the highest industry quality standards. It's all part of our commitment to quality and customer service.

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