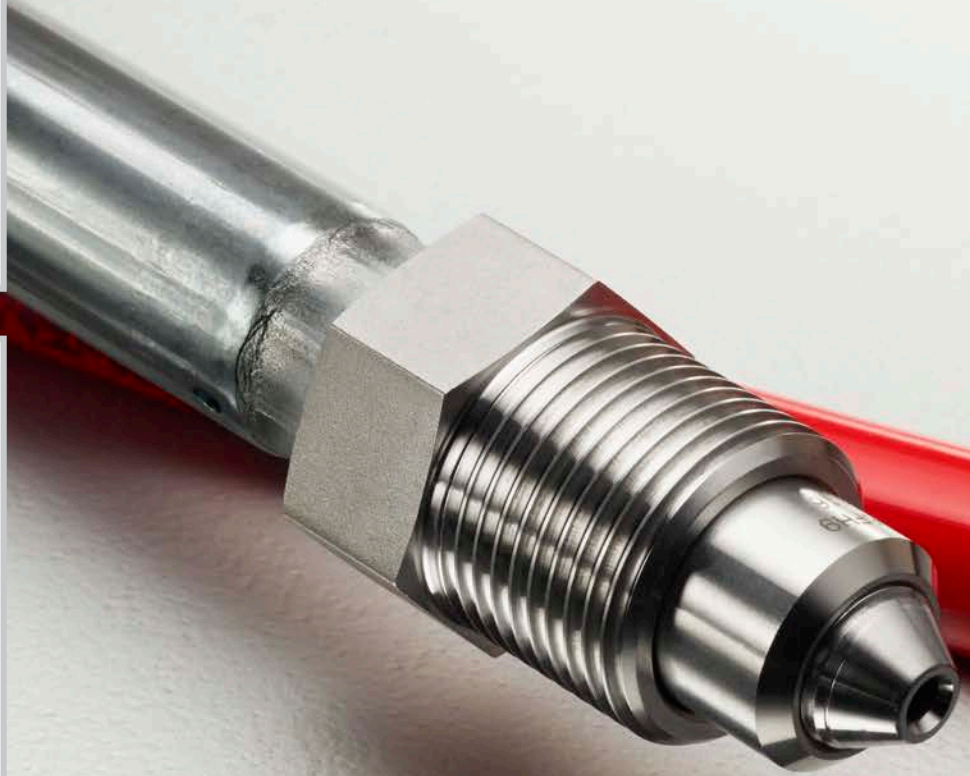




FLUID TRANSFER TECHNOLOGY

# CAPABILITY STATEMENT





# ABOUT ABDEX

**A family owned and run business established in 1974. Abdex has evolved into a global leading manufacturer of specialist hose assemblies.**

With branch offices in Western Australia, Victoria, Queensland, and United Kingdom we are able to service the marine and offshore, defence, manufacturing, pharmaceutical and mining industries.

Our facilities are equipped with state of the art assembly, testing and servicing equipment providing our clients with specific hose assembly solutions.

Abdex offers low, medium, high and ultra high-pressure fluid transfer solutions up to 60,000 psi (4,135 bar). With an extensive variety of fittings, valves and instrumentation components, pressure test systems and hose manufacturing machinery.

## QUALITY COMMITMENT

- NATA Accredited Laboratory for Pressure Testing to 5,000 bar (72,500 psi).
- Exclusive Parker Polyflex Certification in Oil and Gas, Water Jetting and Hydraulic to 4,135 bar (60,000 psi).
- API Q1 & 7K Certification.
- Approved DNV GL Hose Assemblies.
- ISO 9000:1.

**All our testing and processes guarantee Abdex products meet the performance and safety standards in today's industry.**

## MEMBERSHIPS

- British Fluid Power Association (BFPA).
- Water Jetting Association (WJA).
- Australasian High-Pressure Water Jetting Association (AUSJET).
- Subsea Energy Australia (SEA).
- Australian Industry and Defence Network, Western Australia (AIDN – WA).
- Australian Petroleum Production and Exploration Association (APPEA).



# PRODUCT OVERVIEW

We supply Hoses, Fittings, Valves and Pressure Systems from Low to Ultra High Pressure (Gravity feed to 4,135 bar (60,000 psi) working pressure).

## THERMOPLASTIC HOSE ASSEMBLIES

We are a fully certified Hydraulic, Water Jetting, Oil and Gas hose assembler to 4,135 bar (60,000 psi) working pressure.

- Water Jetting, Blasting and Cutting.
- Hydrotesting.
- Hydraulic Lifting, Bolting, Torquing and Rescue Tools.
- Food grade and Industrial Gas transfer.
- Flame Retardant Mining.
- Antistatic.
- Non-Conductive.

## OIL & GAS HOSE ASSEMBLIES

We supply a vast range of quality hose assemblies, fittings and valves to the Oil and Gas industry and are the only company in Australasia to assemble, test and certify the Parker Black Eagle range of multi-spiral wire-reinforced thermoplastic hoses specifically designed for Oil Industry applications.

- Well Intervention.
- Black Eagle Hoses to 3", 15,000 psi.
- Chemical Injection.
- Cementing up to 2" 10,000 psi.
- Umbilicals and Jumpers.
- Nitrogen Pressure Testing.
- 2" and 3" Slim Hole Rotary Hoses up to 5,000 psi.
- 2"- 4" API7K 5,000 psi Assemblies.
- BOP API16D 5,000 psi BOP Hose and Couplers.
- API Hammer Unions and Iron Components.
- Shell Approved, Iron Pipe Restraints.

## RUBBER HOSE ASSEMBLIES

Our Rubber Hose assemblies are made using premium hose brands including Parker, Gates and Continental and are pressure tested and certified to international standards at all of our facilities. Also available from stock are a wide range of matched fittings.

- Hydraulic Tools.
- Water Jetting and Blasting.
- DNV approved assemblies for Defence.
- MSHA and FRAS Hydraulic Mining.
- Jacking.
- Isobaric range of hose.

## INDUSTRIAL HOSE ASSEMBLIES

With a wide range of industrial rubber hoses using premium brand hose products from Continental and Gates. We also offer composite and metal corrugated hose assemblies and can crimp hose up to 8" inside diameter.

- Gates Oilfield Range.
- LPG, Petrol and Diesel.
- Air and Multipurpose.
- Water Suction and Discharge.
- Petroleum and Chemical Transfer.
- Vacuum.
- Food and drink.
- Air Brake.



# PRODUCT OVERVIEW

## HIGH PRESSURE FITTINGS & VALVES, GENERAL INSTRUMENTATION

Quality Fitok, Alco Valves and Parker engineered components make up our complete range of instrumentation fittings, valves and tubing for high and ultra high applications. Each part is marked with pressure rating and the material number.

### Valves

- Ball up to 20,000 psi.
- Needle up to 60,000 psi.
- Check.
- Metering.
- Relief.
- Filters.
- Tubing.

### Tube Fitting

- Twin Ferrule and 37° Flared.

### Threaded Pipe Fittings

- 10,000 and 15,000 psi.
- Adapters and Couplings.

### Fittings and Tubing

- 20,000 and 60,000 psi.
- Tooling.

## MACHINES FOR PRODUCING HOSE ASSEMBLIES

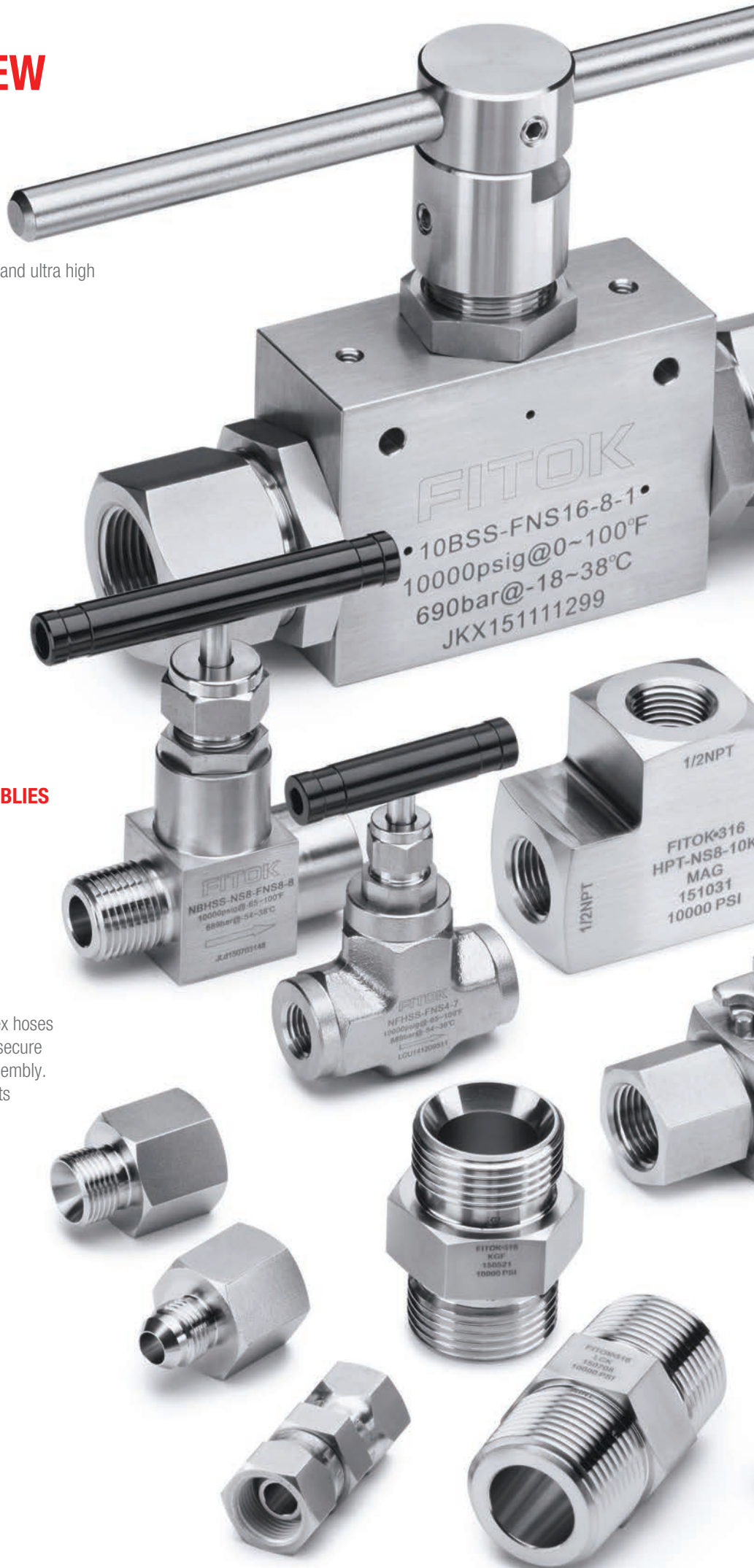
- Hose Crimping Machines.
- Pressure Test Rigs.
- Hose Cutters.
- Marking Machines.
- Skiving Machines.
- Assembling.
- Cleaning and Flushing.

## COUPLINGS & ACCESSORIES

A diverse range of quick connect couplers for Abdex hoses supported by various accessories, provides a safe secure connection and a long working life for the hose assembly. The hose protection and burst containment products come in a wide range of materials, from nylon and galvanised steel to stainless steel and aramid fibre.

### Couplings

- ISO A and ISO B.
- Flat Face.
- 700, 1,000 and 1,500 bar.
- Rogan Series.
- Polyflex Lok – UHP Quick Connect Couplers.
- Adapters.



# INDUSTRIES WE WORK IN

## WATER JETTING

Our water jetting hoses are used in the construction, shipbuilding, power generation and general cleaning industries. We supply high pressure Thermoplastic and Rubber water jetting hose assemblies from 200 bar to 4,000 bar working pressures. We offer a complete retest and hose management service with this product range.

## OIL & GAS

Abdex has supplied the oil and gas industry for more than 20 years with hose assemblies, fittings and valves. Covering a vast array of applications including High Pressure Fluid Injection, Cementing, BOP Control Lines, Jumpers, Well Intervention, Abandonment, and Pipeline Testing. The oil and gas sector demands the very best in reliability, durability and consistent high performance to which Abdex provides specialised solutions to meet these demands.

Abdex is the only certified company in Australasia to supply the complete Black Eagle range of thermoplastic hoses, as well as being Australia's only certified API Q1 & 7K manufacturer. This showcases our dedication to meet strict industry standards ensuring that our products not only meet but exceed many industry benchmarks.

## INDUSTRIAL

With over 50 years' experience in manufacturing industrial hose assemblies, our Industrial hoses cover a wide range of applications in the industrial sector including air and water, automotive, petrochemical, offshore, material handling, vacuum, food and drink, mining, agriculture and shipbuilding.

## ONSHORE DRILLING

Our scope of specialised drilling and Industrial hoses include certified API 7K and 16D hose assemblies, cater for all sectors of the drilling industry: mineral, exploration, production, workover and drill and blast.

## DEFENCE

As a supplier to the defence industry we understand the specialist requirements of defence equipment and can meet the demands of defence applications. We supply new and replacement hydraulic components for defence equipment and have specialist experience of hydraulic systems.



# INDUSTRIES WE WORK IN

## INSTRUMENTATION

A comprehensive range of high pressure instrumentation, including high pressure fittings, needle valves, ball valves, check valves, metering valves, line filters, nipples and tubing. We are a specialist distributor of the A-Lok and CPI range of Parker Instrumentation twin ferrule fittings and valves, high pressure Fitok fittings and valves to 60,000 psi working pressure.

## AUTOMOTIVE

Abdex has been a leading supplier to European OEM commercial vehicle and trailer manufacturers for over 50 years and are a major distributor for the Continental rubber hose range.

## PHARMACEUTICAL

Abdex provide a wide variety of hose and accessories to meet and exceed the demands of pharmaceutical applications.

## BEVERAGE & MEDICAL GAS DISPENSE

We manufacture a wide range of high pressure CO<sub>2</sub> and mixed gas hose assemblies. All assemblies are manufactured using grease free crimp technology and approved material to relevant FDA standards.

## MINING

Our hydraulic hoses and fittings are available to use across the entire range of mobile mining equipment, processing plant and transporters. With our global reach of locations we are committed to supporting mining operations all over the world.



# SERVICES

## ABDEX A-TRACK SYSTEM

Our Hose Management System uses state-of-the-art RFID technology for tracking our products. The RFID microchip located on our hose assemblies is attached during assembly providing the customer with full product and test data recording from point of manufacture.

### Benefits

- ✓ Details certification information and maintenance information available instantly.
- ✓ System alerts customer when hose is due for re-test and re-inspection.
- ✓ View hose assembly history and records online 24/7.
- ✓ Free A-Track mobile app downloadable from Android and Apple store.
- ✓ Scan chip or enter serial number to quickly find information from Abdex database.



## HOSE ASSEMBLIES

Our comprehensive hose assembly and testing service includes – External Inspection, Internal Boroscope Inspection, High Pressure testing and Recertification. We can do this at our location or mobilise to your own. NATA accreditation provides assurance of our technical competence and capability to conduct testing, inspection and calibration in line with Australian and International standards.

- Machines capable of crimping up to 10" flexible industrial hose and 2" 10,000 psi well intervention hoses.
- Facilities for hose bundling (umbilicals).
- High Pressure and High Flow Flushing to NAS 6.
- High Pressure Gas Testing to 500 bar.

**We are the only certified workshop in Asia Pacific to assemble and test the Black Eagle hose family of products from stock.**

## TRAINING

Training and installation is offered on our Uniflex hose making machine and custom build sales. Located at customers venue or a training facility, our dedicated training coordinator will take care of every aspect of the customers' requirements.

The training includes basic usage of the machines, software, production programming, service / data transfer and maintenance.

## CUSTOM BUILDS

- Test Rigs.
- Control Panels.
- Hydrotest Units.

## SERVICE & CALIBRATION

We offer complete peace of mind through a comprehensive and transparent calibration program.

- Dedicated service team.
- Annual machine calibration.
- Online service tool.





# PROJECTS



## WOODSIDE GREATER DEVELOPMENT

The development of six subsea production wells and six water injection wells integrating subsea multi-phase booster pumps. The Abdex Hose Bundle as part of the SID (Subsea Intervention Device) was used as a light weight intervention package for an inspection and repair of a subsea gas well. The Hose bundle completed hydraulic communication between subsea components of the SID. This exposed hoses to one of three fluids, glycol control fluid, bio-grease or hydrocarbon / seawater mix.

The 20 core umbilical consisted of various bore sizes and pressures, specifically: 1/4" and 3/8" in 5,000 and 10,000 psi, as well as 10K in 1/2" and 1".

Hoses were compliant to ISO13628-5 and for ease of handling a high tensile wire was installed. Flushing was performed to NAS6 with HW443.



## PHARMACEUTICAL CONTROL UNIT, UNITED KINGDOM

A single use disposable sheath and tube set that attaches to a laparoscope, a fibre-optic instrument inserted through the abdominal wall to view the organs in the abdomen or permit small-scale surgery. The Disposable is connected to the Control Unit that directs carbon dioxide (CO<sub>2</sub>) and saline into the sheath and across the tip of the laparoscope using the standard gas supply. Abdex ensured the high pressure CO<sub>2</sub> gas was safely transferred from gas bottle to the Control Unit.



## MONASH UNIVERSITY, CONTROL PANEL, VICTORIA

Abdex completed a Control System for Monash University Civil Engineering Department on site at their cutting-edge engineering facilities. The panels are designed to provide isolation, flow regulation and status monitoring. They control the general processes involving the high-pressure testing in a test chamber of the Tri-axial Reactor Unit. The maximum pressure inside the reactor was 4000 bar and the maximum temperature 800°F.

# PROJECTS



## AUSTRALIAN GOVERNMENT, DEPARTMENT OF DEFENCE

Abdex provided the Department of Defence with hose making equipment and training for 10 army bullet proof customised container workshops. The containers are fully equipped for hose assembling wherever the army are based and include hose crimpers, cutters, pellet launchers and pressure test rigs to allow on-site manufacture of up to 1/14" hydraulic multi spiral hose assemblies.



## AUSTRALIAN ROYAL NAVY

Abdex supplied hydraulic hose assemblies for installation on the Davit of the Canberra class LHD (Amphibious Assault Ship). These 27,000 tonne ships are able to land over 1,000 military personnel by helicopter and water craft, along with all their weapons, ammunition, vehicles and stores. The hoses were high pressure hydraulic rubber assemblies with matched 316 stainless steel end fittings, type approved through Lloyds Register. This ensures the highest quality hose and fittings are used and they are matched and designed to be used together. Abdex hold Type Approval in their own right with DNV GL to CP-0183.



## RAILWAY INFRASTRUCTURE

Abdex worked closely with rail engineers to specify and supply 1800 bar Parker Polyflex hoses with a special protective cover to increase the life of the hoses by avoiding direct abrasion. Three hoses are used on each vehicle to loosen, clean and jet away the "Teflon" coating formed by leaves on the track. Abdex worked with the engineers to optimise the pressure of the jet and the distance / angle of the hoses from the track to ensure the optimum speed for the cleaning vehicles. The rail engineers were trained on Abdex A-Track asset management which allows the customer to monitor the life of the hoses and help implement strict planned maintenance.

# PROJECTS



## **MONASH UNIVERSITY, CONTROL PANEL**

Abdex successfully executed the design and implementation of a Control System for the Civil Engineering Department at Monash University, which was installed on site at the university's state-of-the-art engineering facilities. The system is composed of control panels that facilitate isolation, flow regulation, and status monitoring. It was utilized to conduct tests on rock samples, replicating conditions at depths of 2,000 metres below the Earth's surface.

The Control System oversees the processes involved in high-pressure testing within a test chamber, specifically in the Tri-axial Reactor Unit. The system was capable of managing maximum pressures of up to 4,000 bar and temperatures up to 800°F.



## **BARRY BEACH BASS STRAIT**

Abdex supplied 2x continuous 400-metre, 2-inch, 5,000 PSI Black Eagle Hose Assemblies to SO for the purpose of decommissioning a subsea well located in Bass Strait, Victoria, Australia. The presence of sour gas (H<sub>2</sub>S) in the well necessitated the use of hoses that were chemically compatible for the application. The core tube of the Black Eagle Hoses was ideal for this purpose, as it was suitable for use with sour gas and featured long continuous lengths for deep-sea applications, as well as high collapse resistance. These attributes made the Black Eagle Hoses the perfect product for the application.



## **UHP JETTING WITH ABDEX HOSES 24/7**

The hoses in the picture are 1,600 bar working pressure hoses supplied by Abdex. Work being carried out is hydro demolition to concrete repair areas on a busy town centre car park deck, so that new concrete could be poured once completed. Three 20m hose lengths were run to the work area from the jetting unit, which was parked outside the car park, and connected to a 3m leader hose attached to the gun. Working between 110-1,400 bar Abdex / Parker Polyflex hoses get the job done in the fastest possible time.



FLUID TRANSFER TECHNOLOGY

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