

B&R ENCLOSURES

WATER SOLUTIONS

brenclosures.com.au

Capabilities

B&R’s unrivalled knowlege across the range of applications within the water industry puts us in an unique position to meet the needs of our customers.

Capabilities

As a 100% Australian, family-owned business, B&R champions the virtues of quality, service and value. As the largest manufacturer of enclosures in Australia, B&R Enclosures offers an unrivalled breadth of knowledge in the utilities market.

With a detailed understanding of utility project requirements, standards and specifications, B&R manufacture and supply a range of enclosures and electrical equipment suitable for the utilities market including treatment plants, purification plants, pump stations and desalination plants.



PROJECT SEGMENTS -

WATER PURIFICATION

DESALINATION

PUMP STATIONS

Australia’s water infrastructure is important and we help to secure it through:

Designing and manufacturing the highest quality enclosure solutions to supply into water infrastructure projects.

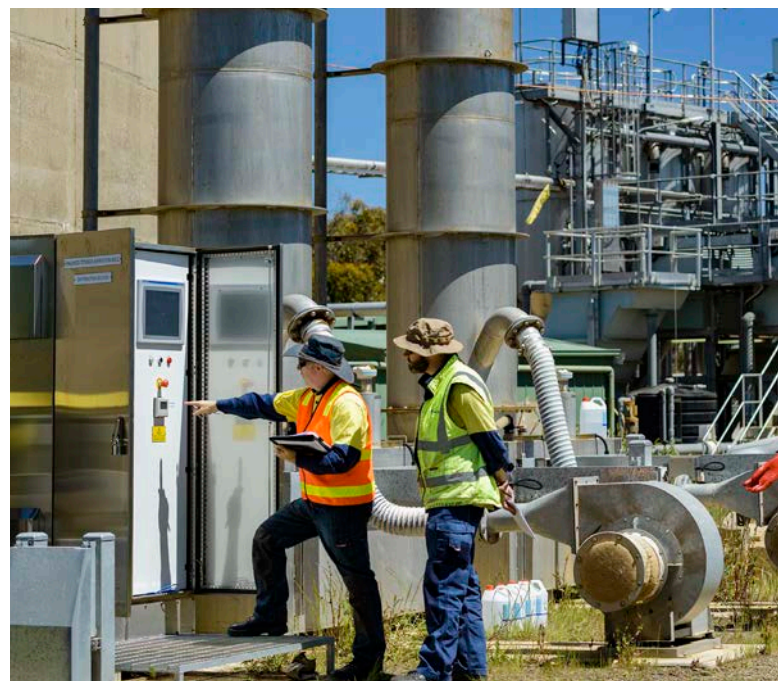
- Custom-made or standard enclosures and electrical fit-out for a total solution.
- Procurement and integration of all equipment to a customer’s specification.

Delivering seamless end-to-end solutions, from planning through to delivery in a diverse variety of water applications.

- Project tenders including quotation estimates for drawings.
- Engineering and drafting (i.e. GA drawings, technical submissions).
- Project scheduling, document control, weekly progress and project review reports.

Offering continued expertise and knowledge in greenfield projects and brownfield expansions or upgrades to maximise operational efficiency.

- Project documentation – installation and operating manuals, material certifications, ITP.
- Quality Assurance including prototyping, factory acceptance testing and standards compliance testing.



TREATMENT PLANTS

Ensuring shared learning amongst project stakeholders to grow knowledge and expertise in global water infrastructure best practice.

- Nation-wide operation with warehouse and sales facilities in every state.
- Leading engagement with numerous industry bodies on global best practice.

Proven Experience

B&R have integrated infrastructure solutions to secure water supply, with proven experience in the water utilities market in Australia and internationally.



B&R Enclosures fosters longstanding partnerships with our clients, ensuring that we understand their evolving needs and business drivers. Flexible and scalable in our approach, B&R have a proven track record of delivering on time, on budget and safely.

As a learning organisation, B&R Enclosures prides itself on continually searching for the best and most innovative solutions. We believe creative collaboration is one of the most important assets we can offer to our customers. This is demonstrated by our ability to draw upon multi-disciplinary, in-house resources to assist in planning, designing and manufacturing custom project solutions or supplying standard, off-the-shelf product.

An extensive history in the Australian market has allowed us unrivalled knowledge about maintaining system and product integrity in the most demanding Australian landscapes. Our clients have come to rely on our breadth of knowledge to ensure safety, longevity and optimum performance.

Since 1955 we have been protecting people and equipment and continue to do so through:

350+ employees across three specialised Australian design and manufacturing facilities producing communications and electrical hardware for defence, hazardous, industrial, data/ICT as well as commercial and residential applications. Our national foot-print provides easy access to defence sites across Australia.

- **Modern machinery** - automated sheet metal panel benders, punching and shearing centres, electrical equipment integration lines, press brakes, powder coat lines, fabrication cells and assembly lines help deliver outcomes from prototypes through to ready to use, as-specified, solutions.
- **Suitability** – Production in a variety of substrates and high quality finishes including stainless steel, powder coated, zinc and even painted to suit even the most demanding application.
- **Continuously Improving** - Environmental testing facility for ongoing research into enclosure climate control including cooling solutions for protection of equipment exposed to high ambient temperatures and solar radiation for the harshest environments.
- **Strong Partnerships** - Existing supply agreements with leading OEMs and major raw products distributors supporting loyal and valued relationships.



B&R Enclosures not only manufacture and supply a range of products, but we can create build to print solutions, ready for installation including:

- Electrical technology integration
 - Advanced manufacturing
 - Electrical integration
 - Design & engineering
 - Testing & validation
 - Supply chain management
 - Project management
- Documentation & quality management

B&R's research and development team ensure we remain leaders in supplying fit-for-purpose enclosures by utilising:

- Environmental testing facility for ongoing research into climate control of enclosures including cooling solutions for protection of equipment exposed to high ambient temperatures and solar radiation.
- Rigorous in-house testing of enclosure products including temperature rise, impact, IP, type testing, static load, seismic, wind load, salt spray, line inspection and more.
- NATA Certification of all enclosure products to various protection levels including IP66 and IP67.
- IECEx Certification in-house and external testing for hazardous area electrical equipment.
- Enhanced durability of enclosures by the addition of a powdercoat finish involving a multi-stage pre-treatment, epoxy based primer and final powdercoat application.
- Compliance to AS/NZS 61439



Our Customers

Sydney Water
 South Australia Water
 South-East Queensland Water
 Hunter Water Corporation
 NSW Water Solutions
 ACTEW AGL
 WA Department of Water
 Lower Murray Water
 City of Gold Coast
 Ballina Shire Council
 Mid Coast Water
 Bankstown Water
 Balicera Water Pumping Station
 Power and Water Corporation
 Wide Bay Water
 Southern Water
 Sun Water
 Coliban Water
 Coffs Harbour City Council
 Central Coast Water Corporation



Treatment Plants



**Universal NI –
Stainless Steel IP66**

The stainless steel Universal NI enclosures are particularly relevant in more aggressive environments where enclosure corrosion is a concern. Typically these can be coastal locations and areas of high salinity.



**Connector TEMF –
Stainless Steel IP66**

A flexible system for mounting electrical equipment which can be done via a mounting pan or DIN rail. The renowned flat face gutter system ensures a reliable and long-lasting seal regardless of the application.



**Monarch IP –
Stainless Steel IP66**

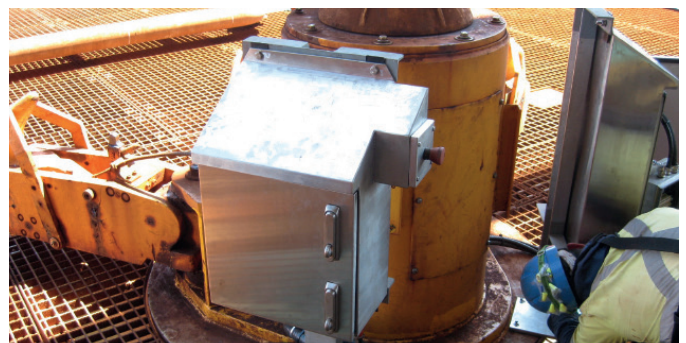
Designed to be the ultimate in flexibility the Monarch IP system is suitable for small motor control applications, lighting, CT metering and small switchboards (to form 2). Manufactured from 316 stainless steel, it can withstand a wide variety of severe environmental conditions.



Signature SE – IP55

A type tested, certified solution for any commercial or industrial electrical installations. Whether fixed or demountable modules are needed, this enclosure provides quality and performance with standard parts. Makes assembly of busbars and electrical equipment easy.

Desalination Plants



Bowen Series – Stainless Steel IP66

Features a 40° sloping roof, lifting lugs and a 40mm roof overhang for reduced material build up. The Bowen series is perfect for harsh environments where increased mechanical protection is required, and is also well suited to applications that require front and side mounted equipment.



Universal Double Door – Stainless Steel IP55

As it has no centre mullion, the Universal DD is extremely easy to access all equipment mounted on the mounting pan. The 316 stainless steel construction ensures that the enclosure will stand up to the most arduous of conditions. Typical applications include industrial automation and process control.



Incline SR – Stainless Steel IP66

Featuring a 30° sloping roof designed to prevent solids from building up on the surface, the Incline SR is ideal for dusty environments. Rated IP66, typical applications include local control stations, mini control consoles or motor isolation control stations.



Pilbara SP – Stainless Steel IP66

The Pilbara SP range has been designed in sizes suitable for the most common mining, mineral processing and infrastructure projects. Typically used in local control stations, mini control consoles or motor isolation control stations. Available with sunshades.

Pump Stations



Tallawarra Dam Pump Station, New South Wales



**Control Box –
Stainless Steel IP65/66**

Suitable for use in hazardous areas with the most demanding conditions. The 40° sloping roof minimises the build up of solids on the roof of the enclosure. The 40mm overhang ensures material that slides off the roof is directed away from the top of the door.



**Control Stations –
Stainless Steel IP66**

Control stations are manufactured from 316 stainless steel. These control stations are available pre-configured or custom-built for ease of installation, from one to six operators.



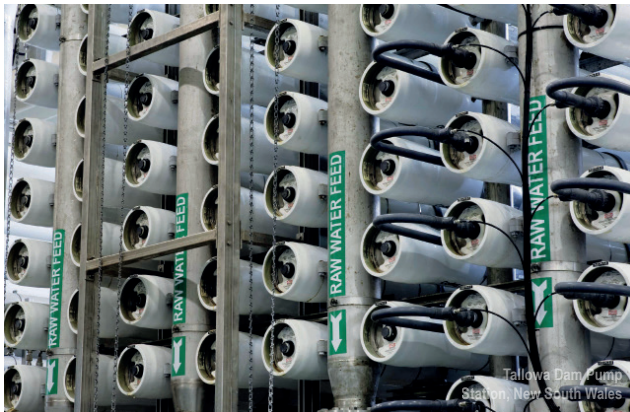
**iLINQ –
Zinc Coated Steel IP55**

The iLINQ enclosure system has been developed in conjunction with a wide variety of industry experts to ensure it suits a wide variety of industry specifications and applications including industrial automation, 19 inch racking, networking infrastructure and telecommunications.



**Fluorescent Light –
Stainless Steel IP66/67**

The stainless steel fluorescent lights are manufactured from 316 stainless steel and are suitable for Zones 1 and 2 applications. The stainless steel body allows the fixture to be utilised in the most arduous environments including chemical and petrochemical applications.



**Ausrack IP –
Stainless Steel IP66**

An IP66 rated, 19" cabinet system designed to protect sensitive network equipment from harsh environments where equipment may be exposed to dust or water.



**Polynova PD –
GRP IP65**

A plastic, double insulated, hinged door enclosure. The enclosures are manufactured from self extinguishing glass reinforced polyester (fibreglass), for superior mechanical protection. Insulated mounting pans are supplied as standard for easy installation of equipment.



**Polynova PN –
Polyester IP66**

A hinged, non-metallic enclosure, with an easy-to-use latch assembly that makes access easy. This feature makes it ideal for systems that require regular access or maintenance. Constructed from polyester, the Polynova PN is suitable for indoor and outdoor use and is available with transparent or opaque lid.

Project Profile

Techsys Corporation Cloudbreak Christmas Creek, WA

FMG contracted Techsys Corporation to design and build a solution for the controlled re-injection of ground water back into ground water systems at Christmas Creek.



FMG contracted Techsys Corporation to design and build a solution for the controlled re-injection of ground water back into ground water systems at Christmas Creek, WA. The process, known as MAR (Managed Aquifer Re-injection) takes water from one section of the underground aquifer to allow ore extraction and moves the water to another, non-related aquifer. Techsys were employed to balance the amount of water being put back to the groundwater or aquifer system to maintain water levels to within the capacity of the natural system.

“B&R provide us with a level of service above our expectations which also extends into other projects and products.”

With a longstanding partnership, Techsys contracted B&R to help in the design and manufacture of an enclosure solution that was fit to protect equipment in temperatures ranging from -10 to +50 degrees, direct sunlight, frequent lightning strikes, dust, rain, cyclones, saline water and consequently, corrosion. Furthermore, the solution needed to have high integrity to be left unattended for long periods of time and be able to accommodate growth as the FMG mine site grows.

As one of the largest in the world, each MAR control panel is self-contained, with remote SCADA access and telemetry monitoring. Flow rate, level and pressure are also monitored. Collaboratively, the Techsys and B&R professionals were able to design a solution that holistically addressed and solved the challenges at hand. Each panel is mounted onto a concrete base with solar cells for operation and battery charging. Critical investigation into heat management

by B&R resulted in the panels having heat shields on the outside to markedly reduce the internal temperature and protect the electrical and electronic components. Dust and rain were handled by the rugged, powdercoated, 2mm aluminium enclosure with an IP66 rating.

Fundamentally important to the ongoing management and performance of the mine, the project is deemed to be a success in managing large scale water transfer between underground aquifers with zero discharge into the adjacent creeks that feed into the wetland system of Fortescue Marsh.

- Successful transfer of large scale water between aquifers without seepage into adjacent wetland systems.
- High level of communication between all project stakeholders to ensure project deliverables were met.
- Integrated approach to the use of technologies and surrounding environmental factors.

Project Profile

Peninsula ECO Project, Mornington Peninsula Victoria



The Peninsula ECO Project required construction of 15.4km of transfer main and pump station as part of the Southern Mornington Peninsula Backlog Sewerage Scheme.



Also known as the Peninsula Early Connection Offer (Peninsula ECO) Transfer System, the system will transfer sewage from Rye, Blairgowrie, Sorrento and Portsea to Boneo Sewage Treatment Plant (STP).

B&R were contracted to supply the enclosures used to provide mechanical protection to above ground air valves and carbon canisters.

The demand to provide sewerage connections to more than 16,000 properties was driven by evidence of waste from failing household septic tanks along the Peninsula. In turn, polluting groundwater, waterways and the environment.

To support the infrastructure, B&R's design solution required high integrity to withstand potential vandalism, adequate ventilation and aesthetics to suit the high visibility location.

“B&R's ability to provide design advice in the early phases of quoting and flexibility in project delivery provided unsurpassed value to the customer.”

After close communication on the specified drawings, B&R's custom design included single, double and four door 3mm marine grade aluminium cabinets. The cabinets were also required to be within SEW "Eucalyptus green" paint requirements for cabinets. Fitted with padlockable swing handles and stainless steel fittings, the design prioritised security and quality.

A particular point of difference in the B&R offer was the capability to design and manufacture using marine grade aluminium. A growing demand for aluminium as a preferred material has seen B&R design standard and custom aluminium cabinets to the likes of Ansaldo, Coffs Harbour, Fremantle Ports and Victoria Roads.

The Peninsula ECO Project specified the use of 3mm marine grade aluminium. The advantages of using aluminium as an alternative to stainless steel or zinc coated steel include improved corrosion resistance in marine atmospheres and low density and excellent thermal conductivity for high exposure environments. The use of aluminium also lends to decreased costs in freight and general installation due to its lighter make-up.

Building on an existing relationship with SEW, whom B&R have previously supplied to, B&R became the preferred supplier over local competitors for the FHDB partnership. With extensive experience in the water utilities market, B&R's ability to not only provide design advice in the early phases of quoting but also provide flexibility in project delivery including trading terms and order delivery – provided unsurpassed value to the client.

The provision for a single, reliable point of contact from B&R who shepherded the project from start to finish enabled a seamless negotiation process to fulfill all stakeholder needs.

Overall, the execution of the Peninsula ECO Project was successful with custom cabinets designed to the specification and delivered in accordance with the delivery schedule to the site yard.

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