



35 bar Pressure Reducing Valve Station

Customer: Anglo American – Moranbah North Coal Mine

Location: Moranbah, QLD

Case Study ID: CS-57

Date: July 2017

Overview

Dowdens Pumping & Water Treatment's Mackay branch was engaged by long standing customer Anglo American (Moranbah North Coal Mine Site) to deliver an innovative valve system that could help maintain the safe and reliable delivery of general-purpose and fire water services to their ever-expanding underground mining operations. With the growing demand for reliable water flow & pressures at ever-increasing operating depths, Dowdens decided it was time to design & produce a new generation 35 bar Dual Pressure Control Station, expanding our range of standardised pressure reducing valve stations.

The Problem

At the inception of this project, Dowdens visited the site to examine and document the specific operating requirements. After initial observations it was concluded that a wider operating range would be required for effective control of both the High and Low Flow demands and a higher adjustment range – meaning

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the standard Dowdens 25 bar Pressure Reducing Valve Station needed to be modified to suit this application. This higher pressure is not normally encountered with Queensland underground mine water supply systems so unique and customised hydraulic control layouts, pilots and hardware were seamlessly incorporated into the build by the Dowdens Mackay Workshop and Project Engineers.



Our Solution

Dowdens Pumping & Water Treatment fabricate and fit out a range of standardised pressure reducing valve stations, but this station required a higher pressure rating not available with our standard off the shelf systems that are available in 16/25 bar (35/40 bar rated systems are built to order). Dowdens have manufactured these products for many years to help our resource industry customers arrest any water pressure spikes and/or surges in pipe systems and to aid these mines operating within and remaining fully compliant with Queensland Government Mine Site Compliance legislation, standards & guidelines.

This new Dual Pressure Control Station has been built to optimise plant reaction speeds, allow for greater operating ranges from between 2 – 35 bar and is manufactured with high-quality, reliable and readily available components. The design needs for the new Dual Pressure Control Station were borne primarily from Dowdens detailed underground observations of hydraulic occurrences within the mines existing water network. Working closely with the mines water infrastructure operators Dowdens were able to engineer, manufacture and deliver a product that increased the reliability of their mine water supply systems and assisted with premeditated preventative maintenance routines.

All design, fabrication, installation and commissioning of the 35 bar Pressure Reducing Valve Station was undertaken by Dowdens Mackay's in-house Engineering, Fabrication & Workshop Departments. With a history of successful installations over the past 20 years throughout the Queensland Mining Sector Dowdens Pumping & Water Treatment have the ability to expertly design/manufacture/install and commission specialised pumping and water treatment solutions that are built primarily in-house & onsite to our client's specific unique requirements.

Dowdens dedicated departments of industry trained engineers, draftsmen, project managers, sales staff and tradespeople including fitters, mechanics, poly welders, machinists, plumbers, electricians and boilermakers enable us to offer an unmatched range of world-class engineering solutions for any type of

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fluid handling project. We truly are Queensland's premier one-stop-shop for pumping and water treatment systems.

This project's entire design, manufacture, installation & commissioning process was completed on budget and within a tight timeline of 4 weeks set by the Customer.

Key Components

- BERMAD WW720 PN35 Heavy Body Control & Relief Valves
- Hardy Spicer Hydraulic Hoses & Fittings
- Custom in-house design & drafting by Dowdens Mackay Projects Engineering team
- Custom in-house fabrication of all steel pipework

Brands used in this project



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