

Berendsen Develop Hydraulic Power System for Metso Minerals

Berendsen Fluid Power's Sydney Branch recently completed a Hydraulic Power System to operate the Bluescope Steel (previously BHP Steel) Dewatering Plant at Port Kembla for Metso Minerals, who constructed the plant. The project required the total design, manufacture, installation and commission of the hydraulic Power System.

Bluescope Steel required an economical method of re-cycling waste-by-product used in the steel making process. This was achieved through the combination of Metso high technology presses and a Berendsen hydraulic power system. This combination resulted in material previously considered waste being economically recycled, resulting in a higher metal yield and reduced storage volume for Bluescope Steel.

Berendsen liaised with Metso Mineral engineers to ensure that an optimum hydraulic power system was developed for the plant. The role of the hydraulic system was to drive a bank of cylinders that compresses a recycled slurry compound that is mixed with a molasses base, to form a high density briquette "biscuit". These "biscuits" are then re-introduced into Bluescope's steel making process.

In completing this project, Berendsen designed and project managed a hydraulic power system that met the following requirements:

- 350 litre reservoir
- 30 KW, 4 pole, TEFC, IP55 motor
- High performance Variable Displacement Piston pump rated at 66 litre/min @ max 250 bar continuous integrated with a gear-pump for the off-line, thermostatically-controlled cooling system
- 12 electrically controlled CETOP 5 valve banks to individually sequence the 12 press units
- Low profile design
- 360 degree open service access
- Full operation protection consisting of two stage high temperature limits and two low oil level sensors with "auto-fill"
- Interface into De-watering Plant's PLC management system
- 316 marine grade stainless steel fittings and pipework
- Over 300 metres of single and dual braid hose assemblies manufactured to suit the application
- Over 300 man-hours of on-site installation and commissioning
- The production of a full Operation and Maintenance Manual, complete with multi-task test and commissioning procedures

With the support of their internal Engineering and Design department, Berendsen successfully provided a high quality hydraulic system and installation support that met all of Metso Mineral's needs.