

## Tunnel Distribution Assembly, 400A



Part No. A7193466 - Tunnel Distribution Assembly, Rated at 400A, Fitted with Multiple Socket Outlets

Tunnel Boring Machines allow very long tunnels to be bored at an incredible pace, tirelessly working, day in, day out. When it comes to creating cross passages and underground “boxes” to accommodate ticket halls and rail crossovers, there is a much higher level of human activity, albeit supported by an array of plant such as road headers, drilling machines and shotcrete rigs. On a recent project, to support this type of activity, the Blakley team developed a heavy duty Tunnel Distribution Assembly complete with an array of sockets ranging from a 250A mining outlet, through to industrial 400V sockets rated at 125A, 63A and 32A, as well as 110V sockets rated at 16A and 32A to supply task lighting and power tools.

The 250A, 125A and 63A sockets were all provided with overcurrent, RCD and monitored earth (ME) protection. The ME protection provides an electrical interlock, which ensures all connectors are mated prior to the circuit being energised. Once the connectors are mated, pressing an external push switch adjacent to each socket closes a contactor, which energises the circuit. If a connector becomes disconnected, or if the pilot-earth loop impedance rises above a pre-set figure (signifying a deteriorating earth) the Earth Continuity Monitor causes the contactor to drop out. The incorporation of external ON / OFF controls allows trained operatives to use the sockets without the need to open doors to gain access to switchgear. The 32A and 16A sockets are individually protected by MCBs and RCDs (including 110V outlets). Hard wired lighting glands, fed at 110V, are also provided, to supply semi-permanent lighting. The assembly incorporates an integral 7.5kVA three-phase 400:110V transformer, which provides a Reduced Low Voltage supply.

The complete assembly is housed within a crash frame, which can stand on the ground or can be wall mounted. The crash frame extends on both sides to provide physical protection for plugs and trailing leads. The crash frame also incorporates swivel eyebolts to enable the assembly to be lifted safely into place, as well as fork lift pockets, which are located at the top of the frame. The incoming supply enters at the top of the assembly and can either be via a gland or the gland plate can be replaced by a 350A Victor mining connector, allowing the whole assembly to be plug-in.

Thanks to our experience in producing tunnel distribution assemblies over the last 30 years we were able to turn this relatively complex assembly from concept to reality within the space of a few months. The comprehensive specification will allow a very wide range of plant and machinery to be supplied in a planned, professional manner, avoiding the need for makeshift solutions when the pressure is on.

If you would like to discuss specialist tunnel distribution assemblies, the Blakley team would be pleased to assist.