

# GOING UNDEGROUND – NOV MONO HELPS KEEP RAIL TUNNEL PROJECT ON TRACK



Outstanding build quality, reliable performance and an ability to resist wear in demanding applications have helped five E Range pumps from NOV Mono to be selected for difficult mine dewatering duties in Hong Kong. They have replaced the original submersible pumps that were being used on dewatering and waste water transfer operations, which were expensive to operate and subject to frequent damage.

The Mono™ high pressure pumps are being used to aid the construction of two new express rail tunnels, Shek Yam and Pat Heung, which will eventually form part of the Hong Kong's Mass Transit Railway system. They were chosen for their ability to withstand the high volume of drill cuttings, mud and concrete found in the fluids they are pumping. In the eighteen months since they were installed, the pumps have run for more than 4,800 hours without the need to change any parts. The pumps on the sludge transfer duties have operated for 24 hours per day without any problem, since they were first installed.

“The Mono pumps run at 10 bar pressure and handle an average of 20 litres per sec of fluid,” says Derrin Cikoja of the tunnel construction site management team, who worked closely with the Mechanical Superintendent, Paddy Gallagher. “They are providing us with a high dollar-to-dewater ratio and that is helping to reduce their whole-life costs. We would definitely look at using more Mono pumps on future projects.”

Mono's E Range progressing cavity pumps are a well proven solution for this type of aggressive industrial application where reliable operation and a high resistance to abrasion and wear are required. They feature Mono's unique Flexishaft™ drive transmission with a 10-year warranty, which provides a single component link between the rotary motion of the drive shaft and the eccentric motion of the helical rotor. The reduced number of moving parts in the drive train eliminates wear and makes lubrication unnecessary.

Despite their high pressure capabilities – which eliminate the need for a series of pumps when pumping over long distances or with high head requirements - their low running speed and gentle pumping action minimizes wear on the rotor and stator, which are both available in a choice of materials to suit different requirements.

The E Range offers capacities up to 420m<sup>3</sup>/h and pressures up to 48 bar, all with a variety of sealing options. Higher pressure versions are also available.

Pump:	5 off CE103 pumps
Product:	Tunnel dewatering
Capacity:	20 litres per second
Pressure:	10 bar
Pump speed:	310 rpm
Prime mover:	30kW AC motor



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**NOV Mono**

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