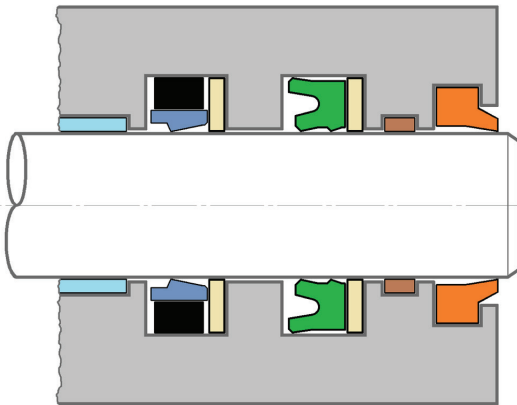


HSA supplies glass-filled nylon guide rings with very close tolerances on the cross-section which eliminates as much radial movement as possible - crucial for preserving the seals and the first critical step to ensuring high performance.



## DRILL RIGS



Drilling holes in rock is not for the faint-hearted. Reliability is the key to success so the hydraulic cylinders must perform faultlessly for hour upon hour, week in, week out.

Environmental spills are not tolerated, so the sealing systems in the cylinders must be more than capable of performing thousands of hours of work without leaking.

Whilst all the cylinders are critical, from the stabilisers to the tilt cylinders, the pulldown cylinder is the one that drives the drill into the ground and lifts it back out again. Pulldown cylinders are very long (often more than 10 metres) and these long-stroke applications provide challenges for the hydraulic sealing system if there is any side to side movement. Guiding the piston and rods within the cylinder is important to prevent radial movement.



**HSA HAS THE EXPERIENCE AND ABILITY TO PROVIDE CUSTOMISED SEALING SOLUTIONS FOR ALL TYPES OF DRILL RIGS THAT CAN MINIMISE DOWNTIME AND INCREASE PRODUCTIVITY.**

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To control any leakage, pulldown cylinders have two rod seals in each gland. This can create problems because if the first seal operates correctly, the second seal runs dry. HSA designs and manufactures special primary rod seals for this purpose. These allow any fluid trapped between the two seals to 'backpump' into the cylinder.

The sealing system must tolerate severe vibration caused by the drilling process. Vibration is detrimental to elastomers, as it deforms the sealing lip and causes the seal to 'pump' even when the cylinder is not extending or retracting. The pumping action can severely reduce the microfilm of oil between the seal and the rod, and between the piston seal and the cylinder bore, causing rapid seal wear.

HSA uses self-lubricated elastomers to provide the longest possible life in this critical application. It is vital to prevent the ingress of dust, dirt and water contaminants into the cylinder, so very effective rod wipers are employed, with a special anti-ingresson ring fitted below the rod wiper.

At HSA we know the intricacies of drilling and the numerous applications. We will find the solution for you each and every time.

**[hsa.com.au](http://hsa.com.au)**

  
Hydraulic Seals Australia