



The original weeping O ring and the latest of the bellows seals



Bulgin switched on to DP Seals' innovative solutions

Over the past 17 years, DP Seals has developed a highly productive partnership with Bulgin, manufacturers of world-class sealed circular connectors and electronic components.

The relationship began when Bulgin needed an innovative custom o-ring seal for their MPI illuminated, vandal-proof switches and since then, we've also produced custom rubber bellows for the same range.

The challenge

Made from stainless steel, Bulgin's extensive range of push-button security switches are used in lifts, control barriers and door entry systems – and acting as panic buttons, they're consciously designed to have high resistance to wear and tear, corrosion and harsh use in potentially hostile environments. As a result, components must operate extremely reliably, particularly in emergency applications.

In line with this, the seals and bellows DP Seals designed were required to:

- operate to temperatures between -30°C to $+70^{\circ}\text{C}$
- stop dust and water ingress
- enable illumination in the dot and ring LED indication designs
- eliminate problems of sticking and unreliability
- retain the seal whilst the switch is actuated

Innovative and illuminating solutions

Our designs took the humble o-ring to a whole new level by creating a custom translucent silicon nitrile material overdosed with a low molecular weight secondary silicon polymer. The latter leeches to the surface wherever it is dry, creating a highly innovative 'weeping' O-Ring. Once installed the seal lubricates the internal moving parts, solving any problems of sticking and ensuring continuous, reliable operation well

beyond the expected life of the component.

IP66 & RoHS Compliance

The O-ring and bellow designs have enabled Bulgin to achieve all requirements and most importantly RoHS and IP66 compliance.

Richard Harris, Group Head of Procurement at Bulgin, says 'DP Seals have proved to be an extremely reliable supplier. The strong relationship we have built over nearly 17 years is a testament to the high levels of quality, innovation and competitive pricing they've consistently delivered throughout this time.

Andrew Piper, Managing Director at DP Seals comments, 'It's really satisfying to have developed such a lasting partnership with Bulgin – and it's a great reflection of our innovative approach to solving challenging problems and delivering reliable, consistent service that builds customers trust.'