

# Race-Tec Motorsport Crankshaft Seal Technology

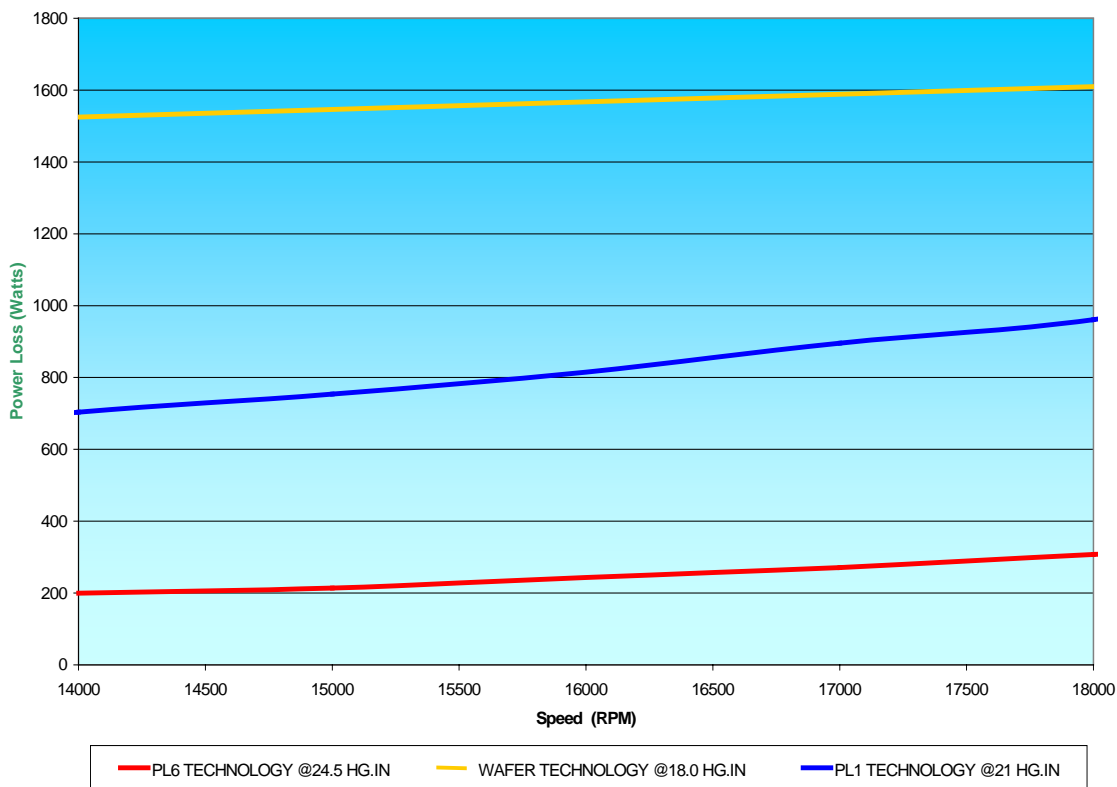
- Low friction
- Excellent vacuum retention
- Spring loaded Teflon Lip
- Springless designs



Race-Tec NAK specialises in low friction, high performance seals that have been developed for use in both non-scavenged and high vacuum race engines. The seal range for crankshafts, includes the reliable PL1 Seal, together with the latest PL6 Seal (spring less), & duplex PL7 Seals which have PTFE liners on both sealing lips.

Race-Tec PL6 and PL7 Seals have been tested to 24.5" Hg vacuum and designs are tested to reliably maintain the highest scavenged crankcase levels.

## Friction Test Results



**Race-Tec Motorsport** race proven custom sealing

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Issue	D
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## Performance Features

### Materials

The elastomer selected may be any of the common compounds, Nitrile (NBR), Hydrogenated Nitrile (HNBR), Silicone (VMQ) or Fluoroelastomers (FKM & FFKM).

The PTFE grade selected may be basic “virgin” PTFE through a range of filled and specially-developed grades, which are designed and selected according to the specific application requirements.

### Technical Features

The PL1, PL6 & PL7 Seals offer much lower running friction (consistently measuring 40-80% lower power loss than most other PTFE seal types), create less shaft wear and can also accept greater levels of shaft dynamics without loss of performance.

In-house rig tests extended to 25,000 rpm (surface speed 100 m/s) while maintaining full vacuum thus exceeding the highest requirements of our customers.

The PL7 Seal design has two opposed PTFE-Lined lips, one controlling the oil sealing function whilst the second lip offers both dust protection and vacuum control. The PL7 Seal is available as a one-piece construction or two-piece split seal for particular US crankshaft designs.



### Applications

Race-Tec NAK seals are used in all forms of top motorsport i.e. F1, F3000, F3, Nascar, Champ Car, IRL, BTCC, WTCC, DTM, LMES, ALMS, Sportcars, WRC, GP1, GP3, GP500 etc, where the seals are custom designed to meet the performance demands of the application, whether it be ultra-low friction qualifying, High vacuum retention, dirt exclusion, etc.

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