

## MPS1 DRILLS - NEW 10~40 X D FLUTE LENGTH

MPS1 drills have been designed with the aim of double performance - use the very highest cutting parameters or obtain extra long tool life. This has been achieved by combining the best of proven existing features together with the very latest state of the art technology. The series has now been expanded with the addition of a superlong type, from 10 up to 40xD lengths that are now available as standard.

### Optimum Cutting Edge Design

MPS1 drills use a newly designed straighter cutting edge in flute lengths LD3 ~ 8 and a specially optimised curved cutting edge for the new, longer LD10 ~ 40 types. These 2 different designs were found to offer a smoother cutting action for improved penetration at the depths required. The cutting edges and innovative Z-thinning point geometry requires lower thrust and work effectively in tandem with the new Miracle Sigma based coating and provide excellent tool life.

### Proven Features

The reworked double margin flute is part of the proven existing technology that provides the highest hole accuracy; especially when used with a pilot drill, efficient chip evacuation and smooth surface finishes. The coolant holes are optimised for MQL and have also shown to greatly improve coolant flow where it matters most, at the cutting point of the drill. Extensive flow dynamics research revealed not just the benefits of extra volume, but also the way in which the coolant flowed more efficiently from the hole. It was found that by optimising the shape, more than double the amount of coolant is discharged and at greater speeds than with conventional round type through coolant holes. It is this combination of extra flow and improved delivery to the cutting point that is critical for effectively removing chips. The efficient removal of chips enables continuous high performance across a wide range of work materials and applications.

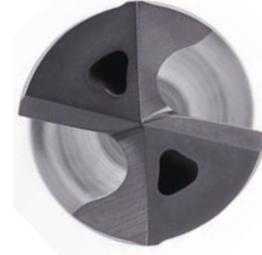
### MIRACLE SIGMA Coating

The new MIRACLE SIGMA based PVD accumulated Al-Ti-Cr-N coating provides the protection needed to ensure longer tool life, especially at the higher cutting speeds and feeds that are demanded by today's modern production environment. Additionally the polished Zero- $\mu$  surface of the coating provides several important assets such as excellent resistance to welding and a very low coefficient of friction for a sharper but reliable cutting action. The smooth surface also helps greatly towards efficient chip evacuation, an important aspect of overall performance considering the extra material generated by higher feeds and speeds. The all important carbide substrate provides the toughness and hardness required to complement the performance of the new coating.

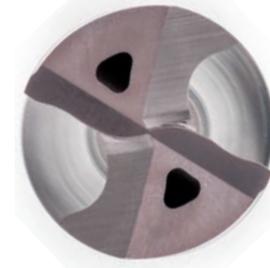


Cutting Edge Design

L/D3 ~ 8



L/D10 ~ 40



Available

- Ø3.0 - Ø20 l/d x 3 ~5
- Ø3.0 - Ø14 l/d x 8 ~20
- Ø3.0 - Ø10 l/d x 25~35
- Ø3.0 - Ø9 l/d x 40

