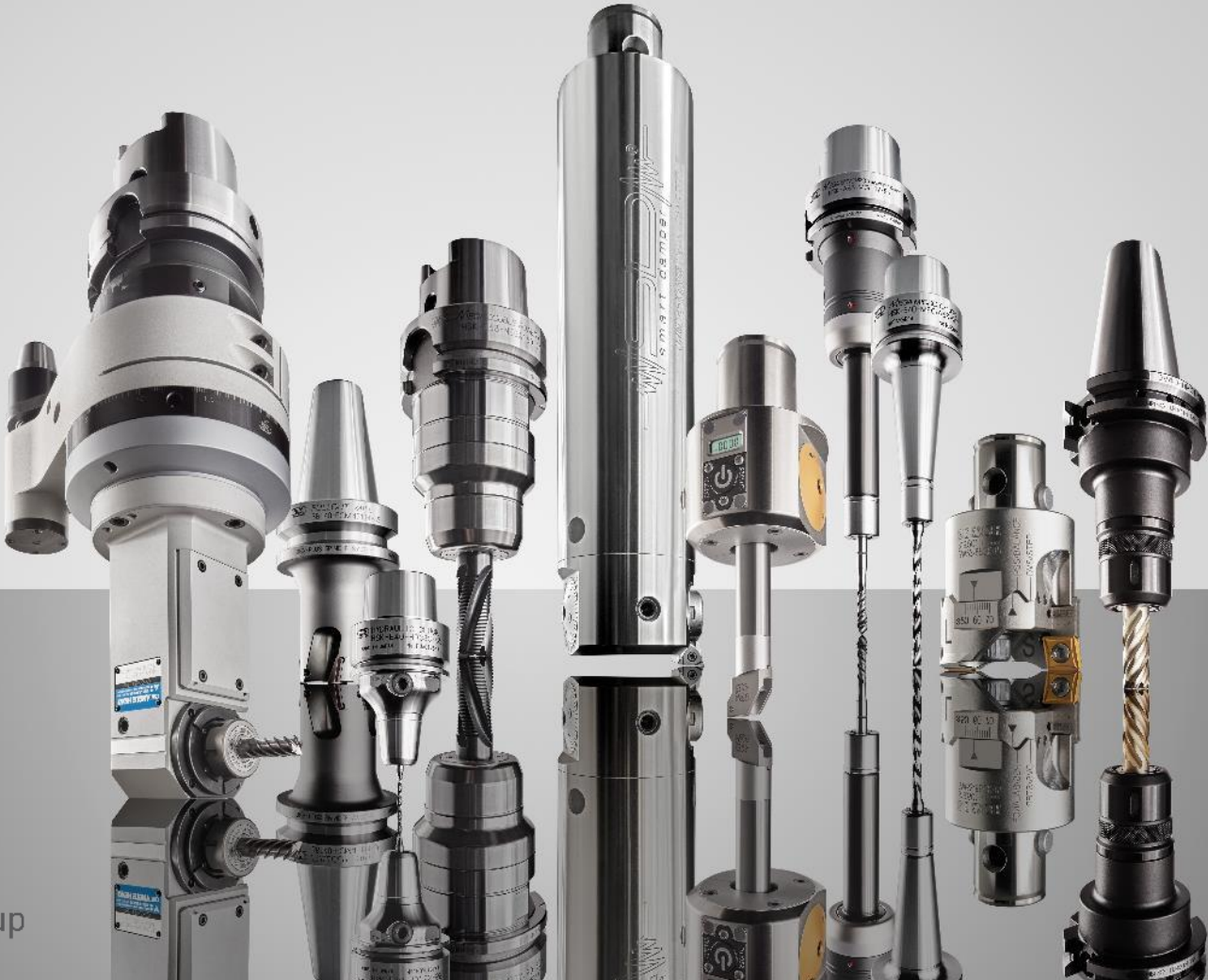


# Runout influence on the surface quality and life time of the cutting tool

**BIG KAISER**



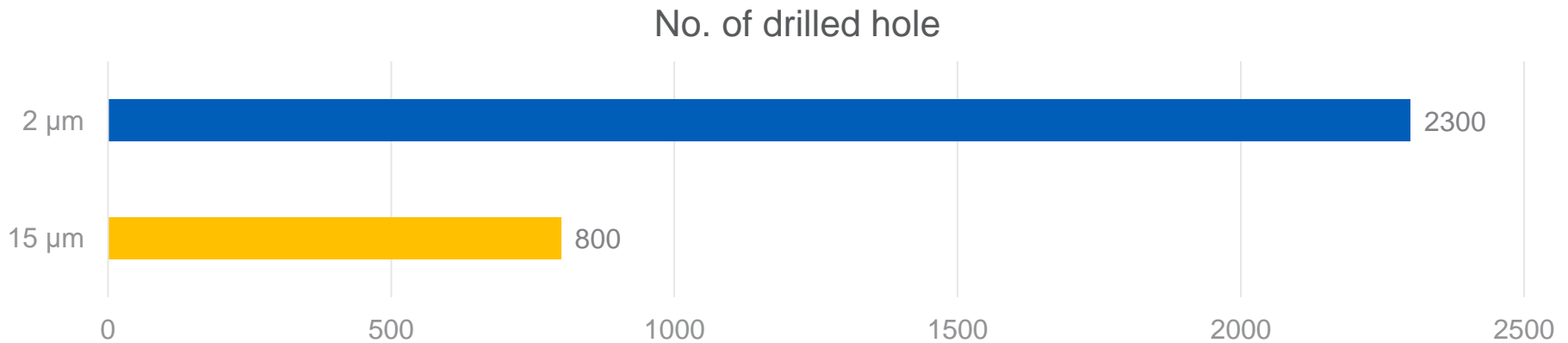
A Member of the  
BIG DAISHOWA Group

# Runout Influence

Comparing the Life time of  $\phi$ 3mm carbide drill 1



|               |                          |                         |
|---------------|--------------------------|-------------------------|
| Tool holder   | 2 $\mu$ m rouout at 4D   | 15 $\mu$ m runout at 4D |
| Tool          | $\Phi$ 3mm Carbide drill |                         |
| Work material | C55 (DIN)                |                         |
| Cutting speed | 75 m/min                 |                         |
| Feed rate     | 0.1mm/rev                |                         |
| Feed          | 800 mm/min               |                         |
| Hole depth    | 12 mm (4D Blind)         |                         |



BIG KAISER collet chuck with 2 $\mu$ m runout drilled 2'300holes, which is **2.9 times more** than the tool with 15 $\mu$ m.

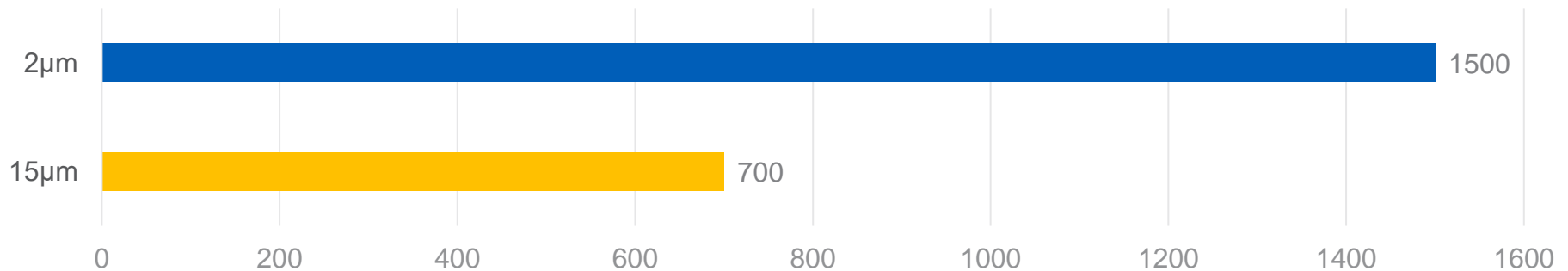
# Runout Influence

Comparing the Life time of  $\phi 3\text{mm}$  carbide drill 2



|               |                              |                               |
|---------------|------------------------------|-------------------------------|
| Tool holder   | 2 $\mu\text{m}$ rouout at 4D | 15 $\mu\text{m}$ runout at 4D |
| Tool          | $\Phi 3\text{mm}$ HSS drill  |                               |
| Work material | C55 (DIN)                    |                               |
| Cutting speed | 26 m/min                     |                               |
| Feed rate     | 0.1 mm/rev                   |                               |
| Feed          | 280 mm/min                   |                               |
| Hole depth    | 9 mm (3D Blind)              |                               |

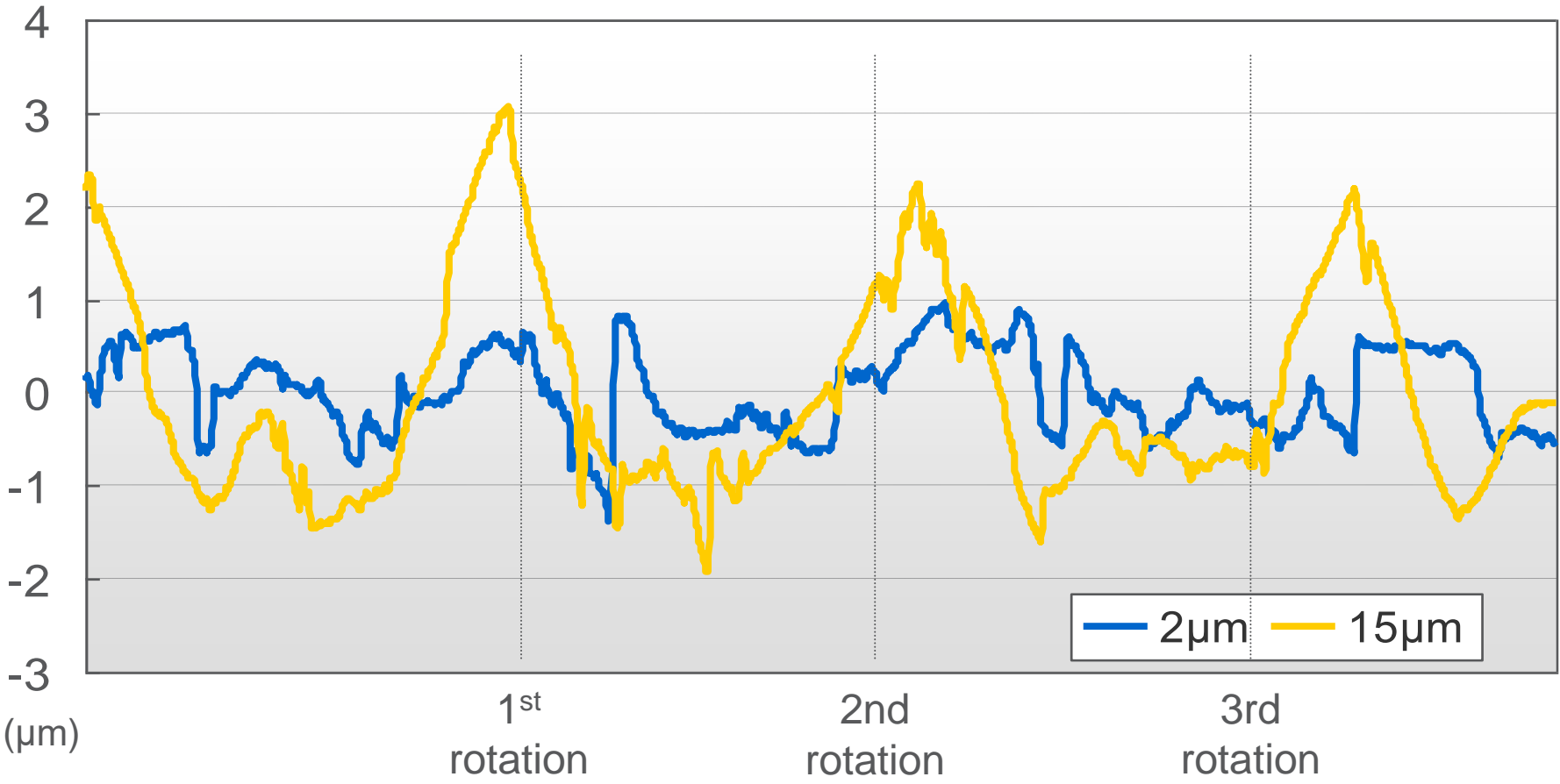
No. of the drilled hole



BIG KAISER collet chuck with 2 $\mu\text{m}$  runout drilled 1'500holes, which is **2.1 times more** than the tool with 15 $\mu\text{m}$ .

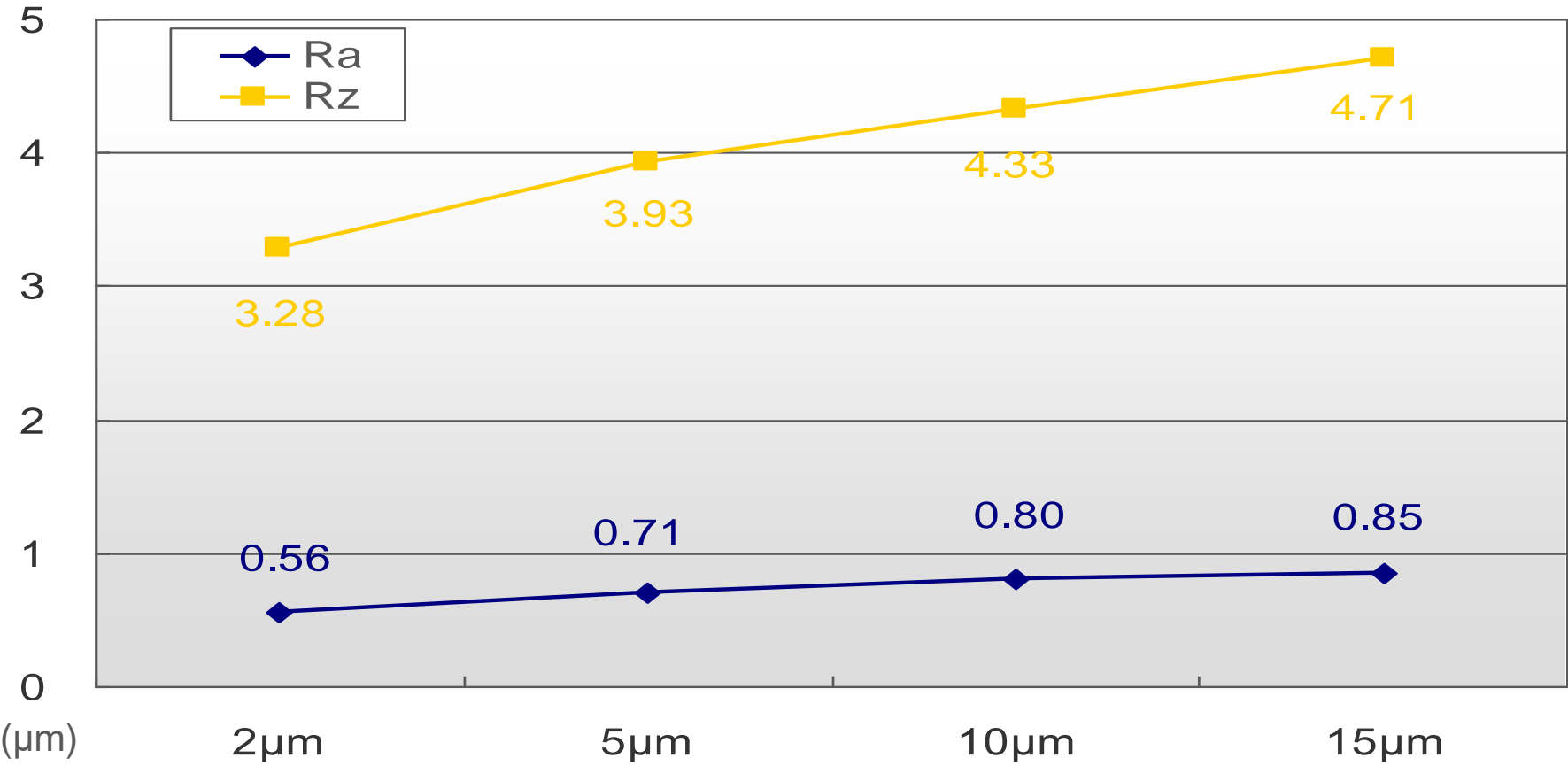
# Runout Influence

Surface roughness pattern by runout



# Runout Influence

Surface roughness by runout



Better runout tools result better surface quality because of the stable cutting edge contact.

**BIG KAISER**