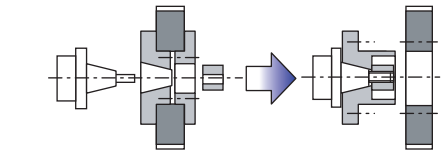
Vitrified Bonded CBN Wheel for Normal Speed (45 m/s) Cylindrical Grinder

The application of vitrified bonded CBN wheels has spread throughout the manufacturing industry together with high-speed grinders for workpieces which require high-efficiency grinding such as cam shafts and crank shafts.

TOYODA VAN MOPPES LTD. has developed an "e-Wheel" and "e-Flange" with higher productivity compared with conventional wheels in response to market needs of reducing the amount of energy and power consumed by normal speed (45 m/s) cylindrical grinders and improving productivity.

Features

1. e-Wheel (vitrified bonded CBN wheel for 45 m/s grinders)
   - The low-grinding resistance vitrified bond CBN wheel specifications suited to a wheel speed of 45 m/s means that wheel wear is extremely minimal compared with conventional wheels, and as such, there is hardly any change in wheel diameter.
2. e-Flange
   - The e-Wheel can be mounted on the grinder easily and with high accuracy
   - The wheel can be replaced in isolation with the e-Flange still mounted on the machine
   - By using the e-Flange together with the e-Wheel, even higher performance is possible

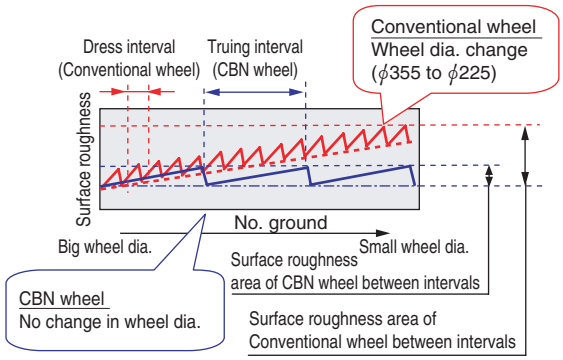


Performance

1. e-Wheel

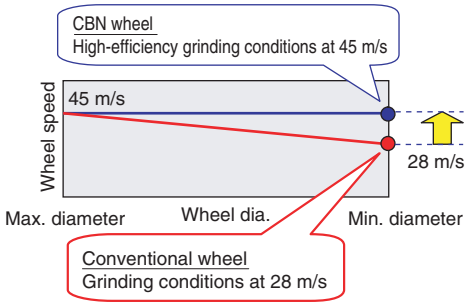
(1) Stable grinding accuracy

In the case of normal wheels, surface roughness increases as the wheel diameter decreases however, with CBN wheels, surface roughness does not change because there is close to no change in the wheel diameter, allowing for stable grinding accuracy.



(2) Reduced grinding time

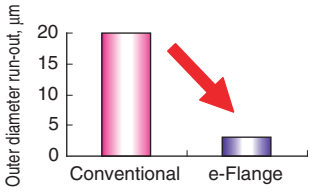
Grinding conditions were set to the smallest wheel diameter, however, there was hardly any change in the CBN wheel diameter, meaning that settings were easy and grinding time could be reduced.



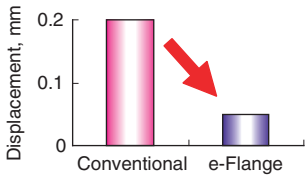
TOYODA VAN MOPPES LTD.

2. e-Flange

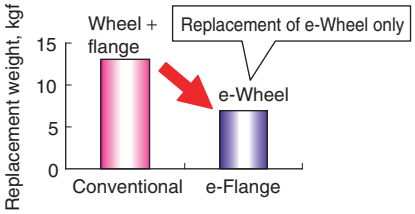
(1) High wheel outer diameter run-out accuracy after mounting.



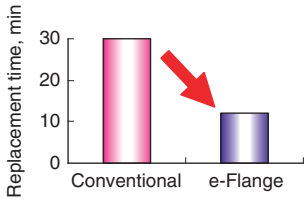
(2) Wheel mounting endface position is stable



(3) Reduced weight at wheel replacement



(4) Reduced wheel set-up changeover time



Benefits

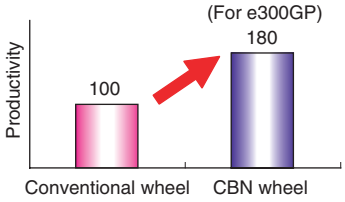
The below benefits are gained by combining the e-Wheel and e-Flange

(1) Reduced grinding time

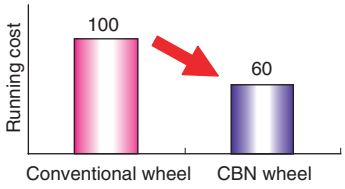
(2) Reduced machine downtime

(3) Reduced man-hours

• Improved productivity



• Reduced running cost



TOYODA VAN MOPPES LTD.