55-15 KaVo 640B High-Speed Fiberoptic Handpiece (Project 96-48) (10/98)

The KaVo 640B fiberoptic high-speed handpiece has a large turbine head with triple spray cooling. It is designed for use in practices with a significant amount of heavy cutting. The 640B is connected to the dental unit handpiece hose by either the KaVo Multiflex Lux 465 LRN or the Kavo Multiflex Lux 1390 Coupler. Both couplers provide easy handpiece interchangeability, anti-retraction valves and 360-degree swivel. In addition, the Multiflex Lux 465 LRN Coupler contains the fiberoptic bulb and water spray adjustment. The Kavo Multiflex Lux 1390 Coupler allows connection of the handpiece to 5-hole fiberoptic handpiece hoses that provide the fiberoptic light with a bulb at the end of the hose or from a remote source. The handpiece has a push-button auto-chuck and can be heat sterilized in either an autoclave or chemiclave. The free running speed is reported to be 350,000 RPM @ 33 psi which was confirmed by DIS testing. The handpiece contains an automatic air regulator valve to sense line air pressure and automatically reduces the air pressure to the correct 33 psi. This allows all handpiece hose pressures to be set at the higher air pressures required for slow-speed handpieces without damaging the high-speed handpiece. The turbine is field replaceable to reduce handpiece down time but Kavo recommends returning the handpiece to them for servicing. The KaVo 640B handpiece (including coupler) measures 14 cm in length and weighs 2.9 ounces. The handpiece head diameter and length measure 12.5 mm and 15.1 mm respectively. The distance from the back of the handpiece to the tip of a standard 19 mm bur (interocclusal clearance) is 22.7 mm. The handpiece is warranted against defects in materials and workmanship for six months.

Manufacturer:
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Suggested Retail Prices:
640B High-Speed Handpiece $875.00
Replacement Turbine Cartridge $300.00
Multiflex Lux 465 LRN Coupler $245.00
Multiflex Lux 1390 Coupler $205.00

Government Prices:
640B High-Speed Handpiece $399.00
Replacement Turbine Cartridge $167.30
Multiflex Lux 465 LRN Coupler $147.00
Multiflex Lux 1390 Coupler $98.00

ADVANTAGES:
+ 83% of test handpieces were operating at 1000 simulated clinical use/sterilizations.
+ Highest power (15 watts) of any model evaluated.
+ Automatic air pressure regulator.
+ 360-degree swivel coupler.
+ Excellent concentricity.
+ Push-button bur release.
+ Turbine is field replaceable.
+ Requires lubrication before sterilization only.
DISADVANTAGES:
- Coupler easily damaged if dropped or misused.
- Cellular fiberoptics can break if dropped.
- Large head diameter reduces visibility.

SUMMARY AND CONCLUSIONS:
The KaVo 640B highspeed handpiece performed much better than average for most of the parameters evaluated and performed the best in concentricity and power. The 640B maintained only 58% of its fiberoptic intensity over 1000 simulated clinical use/sterilization cycles, but significantly improved to 81% after the fiberoptic lenses were polished. The noise level of the 640B was measured at 72 decibels. The noise level of all handpieces evaluated ranged from 69 decibels to 77 decibels. One hundred percent of the test handpieces functioned over 750 uses and 83% were functioning after 1000 cycles. The KaVo 640B is rated Recommended for use by the federal dental services.