

EA-50LT Electric Handpiece (Project 04-25) (3/05)



The A-dec EA-50LT electric handpiece system is designed for integration with the A-dec 500 series delivery unit. The system consists of a control module, micromotor/cord, and a variety of Synea attachments, manufactured by W&H in Austria. A-dec states the system is compatible with KaVo, Sirona, and Bien-Air attachments. The EA-50LT electric handpiece can occupy any one of the four handpiece positions on the bracket head, alongside a choice of high-speed air turbine or low-speed air motor handpieces. The brushless, autoclavable EA-50LT micromotor weighs 79 gms, measures 47 mm, and has a speed range of 300 40,000 RPM. With various interchangeable attachments, bur-speeds in the range of 3 to 200,000 RPM can be reached. The system uses glass-rod fiberoptics and Synea attachments can be purchased with or without fiberoptics. All contra-angles have push-button chucks, 3-port water spray, and are available in gear ratios of 1:5, 1:1, 1.5:1, 2:1, 10:1, and 128:1. The straight attachment is 1:1. A-dec states the system

delivers 62 watts of power and 3 Newton/cm torque. Its electrical requirements are 24 VAC/ 60 Hz.

Manufacturer:
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Item	Part #	Retail Price	Govt. Price
EA-50LT integrated electric micromotor kit (does not include micromotor or attachments)	54.0167.00	\$2,800.00	\$1,446.96
EA-50LT micromotor	54.0160.00	\$1,250.00	\$750.00
WA-99LT (1:5) attachment (contra-angle)	0.10239930	\$1,405.00	\$726.06
WA-56LT (1:1) attachment (contra-angle)	0.10235630	\$1,075.00	\$555.53
WA-57LT (1.5:1) attachment (contra-angle)	0.10235730	\$1,120.00	\$578.78
WA-66LT (2:1) attachment (contra-angle)	0.10236630	\$1,120.00	\$578.78

WA-86LT (10:1) attachment (contra- angle)	0.10238630	\$1,185.00	\$612.37
HA-43A (1:1) attachment (straight)	0.10134331	\$580.00	\$299.73
WP-64M (4:1) prophy angle	0.10216433	\$380.00	\$196.37
WD-74M (128:1) endodontic attachment	0.10217432	\$770.00	\$397.91
W&H service oil(F1 spray can)	0.10940011	\$41.00	\$23.12

* LT fiberoptics, A no fiberoptics

ADVANTAGES:

- + Conveniently integrated with A-dec 500 series delivery unit
- + Adequate power, torque, and cutting ability
- + Consistent, reliable performance during this project
- + Low noise/vibration level compared to air-turbine handpiece
- + Excellent fiberoptics
- + Autoclavable micromotor and attachments
- + Attachments competitively-priced

DISADVANTAGES:

- Steep learning curve if no prior experience with electric handpieces
- Handpiece larger and heavier than typical air-turbines
- More expensive than air-turbines
- Large handpiece-head may inhibit visibility and access
- Limited handpiece swivel ability

SUMMARY AND CONCLUSIONS:

The A-dec EA-50LT electric handpiece can be conveniently mounted on the bracket-head of the A-dec 500 series delivery system, alongside air-turbine high-speed and air motor low-speed handpieces. Three contra-angles (gear ratios of 1:5, 1:1, and 2:1) were evaluated with the system. Evaluators found the fiberoptics to be excellent and appreciated the reduced noise and vibration levels, compared to air-turbines. Most evaluators felt the power and torque was adequate, but preferred to use the air-turbine. The system proved reliable throughout the project and there were no observed deleterious effects due to autoclaving the micromotor and attachments. Most evaluators felt the micromotor/handpiece combination was bulky and some felt the interchangeable attachments and programming requirements were cumbersome, however, these are common criticisms of electric handpieces. Some felt the Synea electric handpiece head-size was large and seemed to impair visibility more than the Synea air-turbine handpiece-head. There was a steep learning curve for most of the clinical evaluators, as it was their first time using an electric handpiece for restorative dentistry. Much of the evaluators critical feedback was directed at electric handpieces in general, rather than to the A-dec EA-50LT system specifically. Upon completion of the evaluation, it was the opinion of most evaluators that electric handpieces could be used to augment air-turbine handpieces, but not to replace them. Evaluators were split when asked if they would recommend purchase of the integrated EA-50LT system. When asked to give an overall recommendation, most rated the system as Good. The A-dec EA-50LT electric handpiece may compare very favorably to other systems, however, when compared to air-turbine handpieces, the **A-dec EA-50LT electric handpiece** is rated **Acceptable** for use in Air Force dental facilities.