

THE E-S4 SKATE SHARPENING SYSTEM

The ELITE E-S4 Skate Sharpener is a revolutionary machine that has redesigned and re-engineered the critical materials, practices and processes of skate sharpening to deliver blade performance like no other system in use today. It is the most precise, the most efficient, and the only skate sharpening system capable of preserving the profile of the blade throughout its useful life.

Key Features & Benefits

- ✓ Computer algorithms maintain blade shape
- ✓ Steel wheels provide precision and consistency
- ✓ Self-centering clamp ensures edge symmetry
- ✓ Easy to use
- ✓ Saves time
- ✓ Hands free operation
- ✓ Clean technology
- ✓ Available in custom colours



Blade Profile Integrity

Unlike other sharpening machines on the market today, the E-S4 sharpener's revolutionary technology maintains the integrity of the blade profile and its performance characteristics from one sharpening to the next, for the life of the blade.

"Consistency. That's what we've all been looking for. To have that player go out and feel the same thing every single time. And now, with this system, there's no better way. I mean this is what I've been looking for, for years."

MIKE ALDRICH
Head Equipment Manager
San Jose Sharks

Preserving the blade profile requires a precision and adaptability that constant-pressure mechanical systems (spring-loaded or counterweighted) simply cannot provide. It is also impossible to achieve consistently by traditional hand sharpening, no matter how experienced the operator.

Equipped with the latest Siemens digital drives and servo motors, the E-S4 uses a sophisticated computer program to digitally choreograph the sharpening process.

Prior to sharpening, the E-S4 scans and registers the blade shape. The system detects changes in blade angle and position at every millimeter and as it sharpens it adjusts speed and pressure to remove precisely the same amount of material along the length of the blade.



ELITE BLADE PERFORMANCE TECHNOLOGY

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In real time, the E-S4 system uses sophisticated algorithms to react to hundreds of data points to accurately reproduce the existing blade profile throughout the sharpening process.

The ELITE sharpening system is the only machine on the market today that can maintain blade profile integrity with precision and consistency. Every time.

Material Innovation

Steel Wheels

Unlike traditional resin-stone sharpening wheels in common use, ELITE wheels are made of an advanced steel alloy with a “synthetic diamond” CBN crystal coating. The steel core maintains dimensional accuracy and stability, while the coating provides superior durability and cutting power.



Durable

In traditional sharpening systems, the familiar sparks flying off the blade are in fact fragments of the resin-stone grinding wheel disintegrating and burning as it comes into contact with the higher density steel blade. With each sharpening pass, the integrity of the resin wheel is degraded, leading to inconsistent radius hollows and ultimately compromised results.

By contrast, ELITE’s synthetic diamond coated wheels are harder than steel blades, and not subject to the performance degradation typical of resin-stone wheels.

Drawing from manufacturing standards used in the aerospace and other high technology industries, the durability and precision of the ELITE diamond coated wheels represent a dramatic advancement in the science of skate blade performance.

Quick and Easy

With the E-S4 there is never a need to “dress” the wheel. Each ELITE wheel is factory-formed to hollow radiuses ranging from ¼” to 1¼”. Operators simply select the desired radius wheels and installation is quick and easy.

Clean Technology

The E-S4 does not produce the offensive resin-stone debris and airborne particles typical of traditional sharpeners’ work environment. The small amount of residual material produced by the E-S4 is managed by an integrated vacuum system.



Precise Blade-to-Wheel Positioning

The importance of blade-to-wheel positioning cannot be overstated. Inaccurate blade-to-wheel positioning can result in a serious compromise of blade performance. Even a few thousandths of an inch offset can result in a perceptible difference on the ice.

ELITE’s innovative sharpener overcomes this common problem of traditional systems automatically and instantly. ELITE has developed a self-centering mount system that ensures the exact center of the blade meets the exact apex of the grinding wheel, every time.



Center Mount Clamp

The E-S4 clamping mechanism uses two symmetrical plates, which move in parallel to each other, to center the blade over the wheel. The E-S4 ensures the blade is fixed into the optimal position regardless of variations in blade width.

The centering mount clamp exerts corresponding symmetrical inward pressure of more than 8,000 psi, which helps straighten any blade which might have become a little curved through hard use.

The accuracy of the self-centering clamping mechanism, combined with the precision of the steel alloy wheels, means the E-S4 delivers a perfect hollow every time.

NEW: Radio Frequency ID

In 2022 ELITE added a Radio Frequency ID (RFID) option to the E-S4, which allows operators to track and monitor their wheel use to optimize the useful life of the grinding wheels.

"I figure this system saves me 40-50% of the time I spend sharpening skates. That makes me more available to respond to the needs of our players."

ERIC LEVESQUE
Head Equipment Manager
Laval Rocket

Time Saving

The E-S4 is by far the most efficient system available today. Sharpening two skates at a time, the hands-free system quickly puts a perfect edge on the blades while allowing the operator to perform other tasks.

Sharpening times can vary, but on average the E-S4 can sharpen a pair of skates in approximately two minutes. Over the course of many pairs, this efficiency adds up to huge time savings.

Custom Colours

The E-S4 is now available in custom team colours and logos, so you can rock the look in your dressing room. Send us your pantone colours and logo assets and we'll deliver your custom machine.

