nepros

What is topology optimization?

A structural optimization method that automatically finds the optimal shape and form of a structure based on mechanical and mathematical concepts to reduce weight without sacrificing strength.
Nepros is at the forefront of topology optimization and we believe others will follow our lead.

Prof. Shinji Nishiwaki,
Graduate School of Engineering, Kyoto University.

SPECIAL CONTENTS

KTC × Kyoto University
Behind-the-scenes story of NBR390X

*Japanese version only

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neXT

3/8"sq. nepros neXT RATCHET HANDLE
NBR390X

The world's **finest tools**

×

The **finest optimization**

The Fusion of Strength Beauty and Ergonomics

The world's finest ratchet handle

Introducing the new “NBR390X” ratchet handle.
Using the advanced design technique,
“topology optimization,” nepros, the maker of “the world’ s finest tools”
has brought functional beauty to a new level.

Reliable technology inherited from nepros.

Same 90 Tooth and 8 step paw design as our traditional ratchets

R-shape force distribution

Precision paw with 8 steps

“X” structure combines strength with unapparelled feather light design

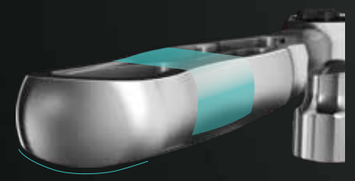
Unique “X” structure design, developed through “topology optimization” is the optimal ratchet design.
By distributing the load evenly across the entire ratchet, the tool is exceptionally lightweight without sacrificing durability and strength.

Load is spread across the handle

Optimized shape for more comfort and control

By eliminating the hard edges from the entire ratchet, the “X” ratchet is easier on hands for extended use.

Flattening the sides of the head and neck allows for stable and fast rotation.



The round handle is easier to grip and dissipates force over a larger area of your hand to allow greater torque for final tightening.

Finish provides strength and long-lasting beauty

Shot peening, where ceramic beads strike the surface at high speed, increases surface hardness and strength.
The surface is scratch and corrosion resistant for long life.

Scratch-resistant
Beautiful texture

REPAIR KIT FOR 3/8"sq. nepros neXT RATCHET HANDLE

No.	Drive size	Contents	Weight (g)
NBR390X-K	3/8"sq.	Drive gear, paw, pin×2, Spring×2, Lever, cover, flat head screw×2	40

・Application : NBR390X

3/8"sq. nepros neXT RATCHET HANDLE

No.	Feed angle	B	ϕ	T	L	Weight (g)
NBR390X	4°	25.5	23	14	180	210

・nepros neXT ratchet handle has been optimized, while maintaining the strength and durability of our current 3/8” ratchet, the NBR390A
・Surface shot peened for increased hardness and wear resistance
・Eco-friendly packaging using recycled cork and non-plastic packaging materials.

CAUTION ・Switching lever must be set completely to avoid breakage.