Hydraulic Chuck Reducer Sleeves

with ERICKSON™ SAFE-Lock® Smart Coolant

Primary Application

ERICKSON™ Safe-Lock™ Smart Coolant reducer sleeves are specially designed for high-precision and secure clamping of Safe-Lock™ tool shanks. The special drive feature in the reducer sleeve and grooves in the tool shank prevent the end mill from spinning and pullout during extreme machining conditions. The Smart Coolant feature enhances efficient cooling and easy chip evacuation, which leads to increased tool life. In addition, the rear locking feature, which engages with a basic holder, provides bonus security for reducer sleeves against slippage and pullout.

Low vibration, in combination with pullout protection, excellent runout accuracy, and the hydraulic system’s dampering property, results in very efficient machining with reduced and uniform tool wear. Due to the increased cutting depths and feeds, the metal removal rates can be increased up to the maximum limits of the tool and machine.

We are the first in the market to introduce the Safe-Lock™ with Smart Coolant feature in the high torque hydraulic chuck portfolio.

Features and Benefits

Stay Safe with Safe-Lock™ Smart Coolant

- For High-Performance Cutting (HPC).
- Highly accurate clamping due to hydraulic technology.
- High torque due to form-closed clamping.
- Highest stiffness by robust construction of HydroForce™.
- No loss of accuracy.
- No pullout of the tool.
- No spinning of the tool.
- No damage on workpiece or machine.
- Easy and quick clamping and unclamping cycles.
- Safe-Lock™ Smart Coolant reducer sleeves are available for shank diameters 12, 14, 16, 20, and 25mm (.5, .625, .75, and 1").
Axial adjustment screw — through coolant.

Flats for open-end wrench.

Safe-Lock™ feature.

Threaded boss.

Oustide clamping diameter 32mm (1.25").

Smart Coolant (angularly oriented).
Collets and Sleeves
HC Hydraulic Chuck Sleeves with Safe-Lock™ and Smart Coolant

- One-piece design with slot configuration to seal coolant.
- Cutting tool must be cylindrical and have the Safe-Lock™ grooves on the shank.
- Sleeve must be screwed completely into the hydraulic chuck until shoulder mates against the hydraulic chuck front face.
- Cutting tool shank holding requirement at least to L9 dimension.

**ERICKSON**

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**Note:** Inserting the cutting tool less than the gripping length (L9) of the sleeve can permanently damage the sleeve and hydraulic chuck. Recommended to clean coolant holes periodically with air.

**MHCSFC • Metric**

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The Safe-Lock™ Smart Coolant feature is a pullout protection system with an effective cooling feature for high-performance machining, in particular for heavy-duty machining. This is achieved by helical grooves that are ground into the tool shank. These, in combination with the drive feature in a Safe-Lock™ Smart Coolant reducer sleeve, prevent the tool from being pulled out during extreme machining conditions. In addition, the rear-locking feature, which engages with a basic holder, provides bonus security for reducer sleeves against slippage and pullout. By locking the cutting tool in the Safe-Lock™ Smart Coolant reducer sleeve, the pullout security ensures optimum process reliability in conjunction with the HydroForce™ HT, which has benefits such as runout accuracy, excellent torque, and a unique dampening property. This makes for longer tool life, higher productivity, and excellent part accuracy for our customers.

- Optimum process reliability and security.
- Higher productivity.
- Greater cutting depths and higher feed rates.
- Time-saving and longer cutting tool life.
- Less vibration.
- Optimises the cutting edge technology.
- Able to fully utilise potential of machine tool.
- Minimises potential scrap.

HydroForce — Conversion from Standard to Safe-Lock™

Axial adjustment screw — through coolant.
Remove when using Safe-Lock™ reducer sleeve.
Open-end wrench.
Safe-Lock™ reducer sleeve with Smart Coolant feature.
Solid end milling Safe-Lock™ shank.
40% thicker cross-section wall.
Direct clamping diameter 32mm (1.25").

Safe-Lock™ reducer sleeve with Smart Coolant feature.
Product Construction and Assembly

- Safe-Lock™ feature in the sleeve.
- Safe-Lock™ spiral grooves ground in cutting tool shank.
- Axial adjustment screw through coolant.
- Threaded boss for bonus security.
Clamping Combinations with HydroForce™

Direct Clamping
HydroForce + Tool

Reductive Clamping
HydroForce + Reduction Sleeve + Tool

HydroForce with Safe-Lock™ Clamping
HydroForce + Safe-Lock™ Reduction Sleeve + Tool