

Hydraulic Chucks Reducer Sleeves
with SAFE-λOCK® Smart Coolant
ADVANCES 2016

WIDIA ™

Hydraulic Chucks

Primary Application

SAFE-λOCK® Smart Coolant reducer sleeves are specially designed for high precision and secure clamping of **SAFE-λOCK** 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 real 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 dampening 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-λOCK** with Smart Coolant feature in the high torque hydraulic chuck portfolio.



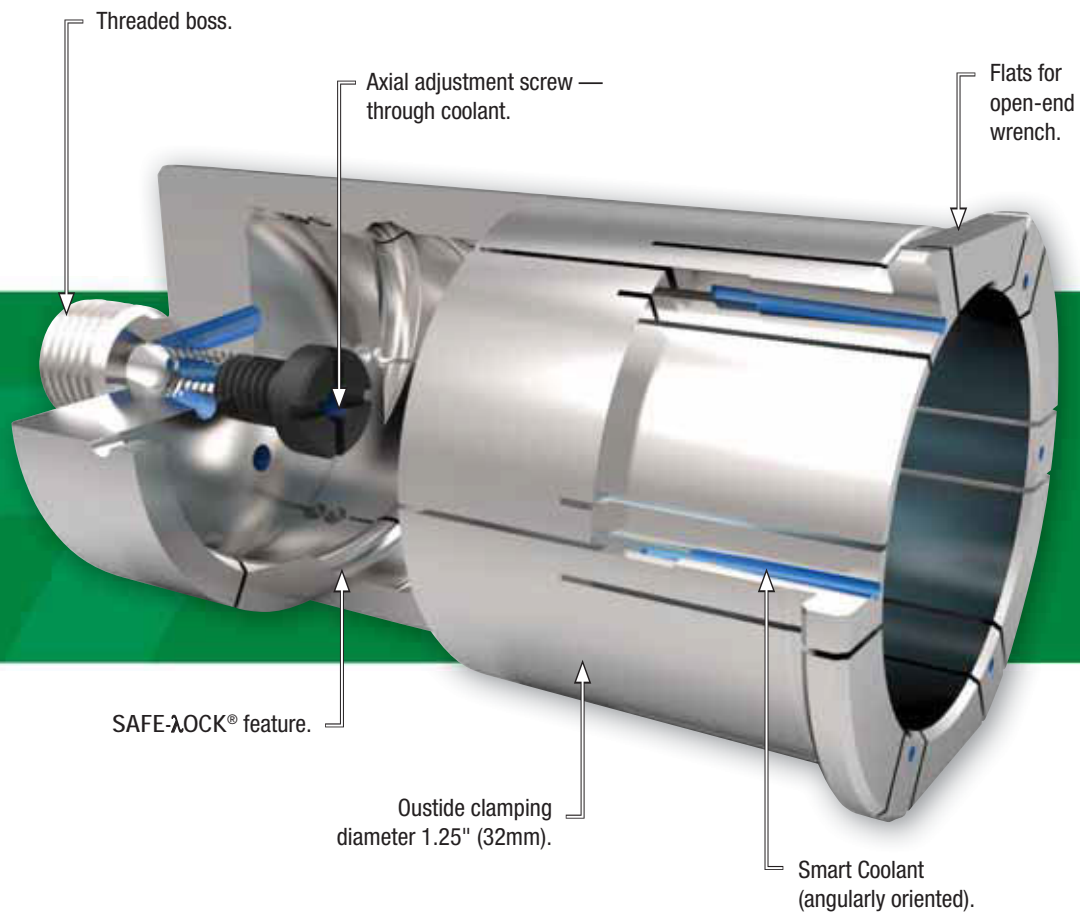
Features and Benefits

Stay Safe with **SAFE-λOCK** Smart Coolant

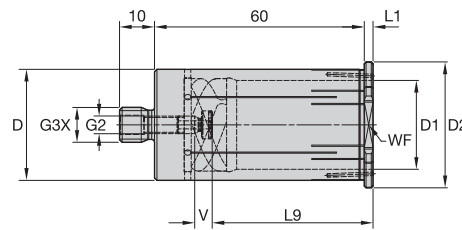
- For High-Performance Cutting (HPC).
- Highly accurate clamping due to hydraulic technology.
- High torque due to form-closed clamping.
- Highest stiffness by robust construction of HydroForce™.
- No loss of accuracy.
- No pullout of the tool.
- No spinning of the tool.
- No damage on workpiece or machine.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

Reducer Sleeves

with SAFE-LOCK® 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.

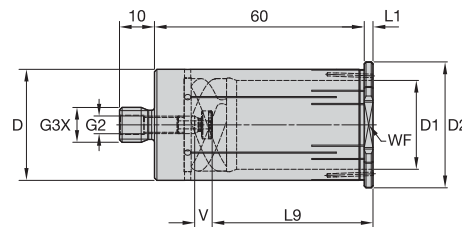


■ MHCSFC • Metric

order number	catalog number	D1	D2	D	L1	L9	V	G3X	G2	WF
5998607	32MHCSFC120M	12	36	32	2,5	41	4	M12	M6	32
5998608	32MHCSFC140M	14	36	32	2,5	41	4	M12	M6	32
5998609	32MHCSFC160M	16	36	32	2,5	44	4	M12	M6	32
5998610	32MHCSFC200M	20	36	32	2,5	46	4	M12	M6	32
5998751	32MHCSFC250M	25	36	32	2,5	47	4	M12	M6	32

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.

- 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.



■ HCSFC • Inch

order number	catalog number	D1	D2	D	L1	L9	V	G3X	G2	WF
5998754	12HCSFC0500	.500	1.417	1.250	.098	1.614	.154	M12	M6	1.260
5998755	12HCSFC0625	.625	1.417	1.250	.098	1.732	.154	M12	M6	1.260
5998756	12HCSFC0750	.750	1.417	1.250	.098	1.811	.154	M12	M6	1.260
5998757	12HCSFC1000	1.000	1.417	1.250	.098	1.850	.154	M12	M6	1.260

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.

■ **SAFE-LOCK® Smart Coolant**

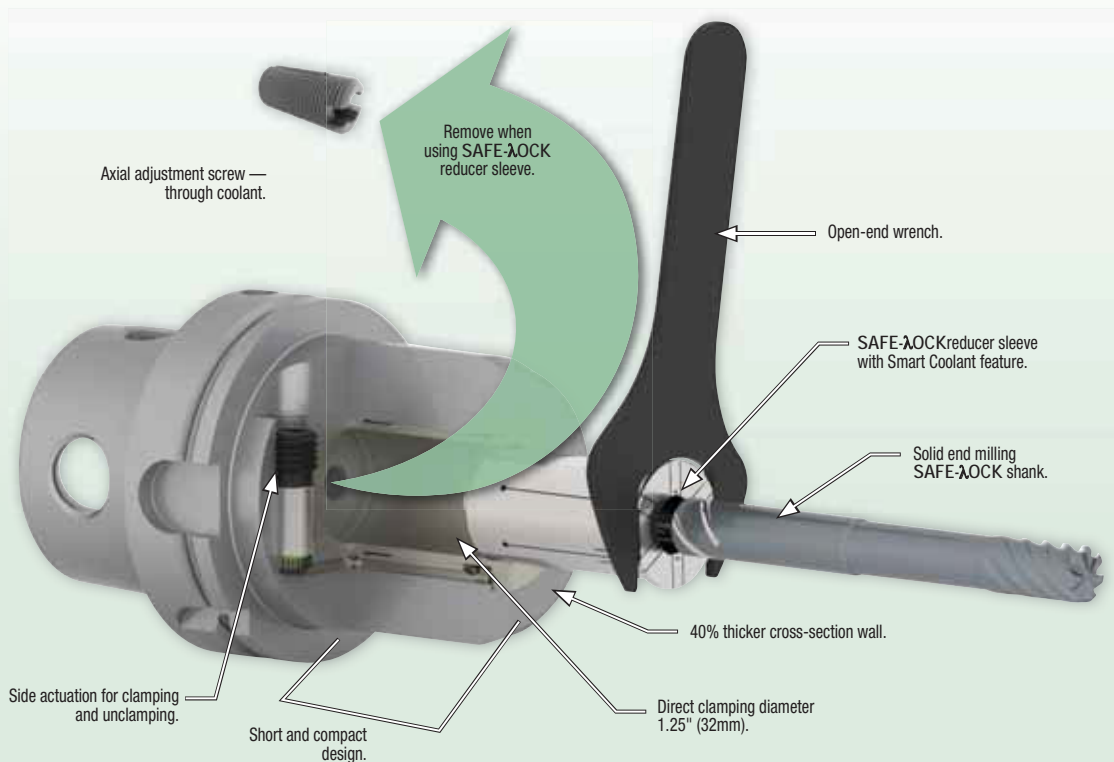
The SAFE-LOCK Smart Coolant feature is a pullout protection system with an effective cooling feature for high-performance machining, in particular for heavy-duty machining. This is achieved by helical grooves that are ground into the tool shank. These, in combination with the drive feature in a SAFE-LOCK 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.

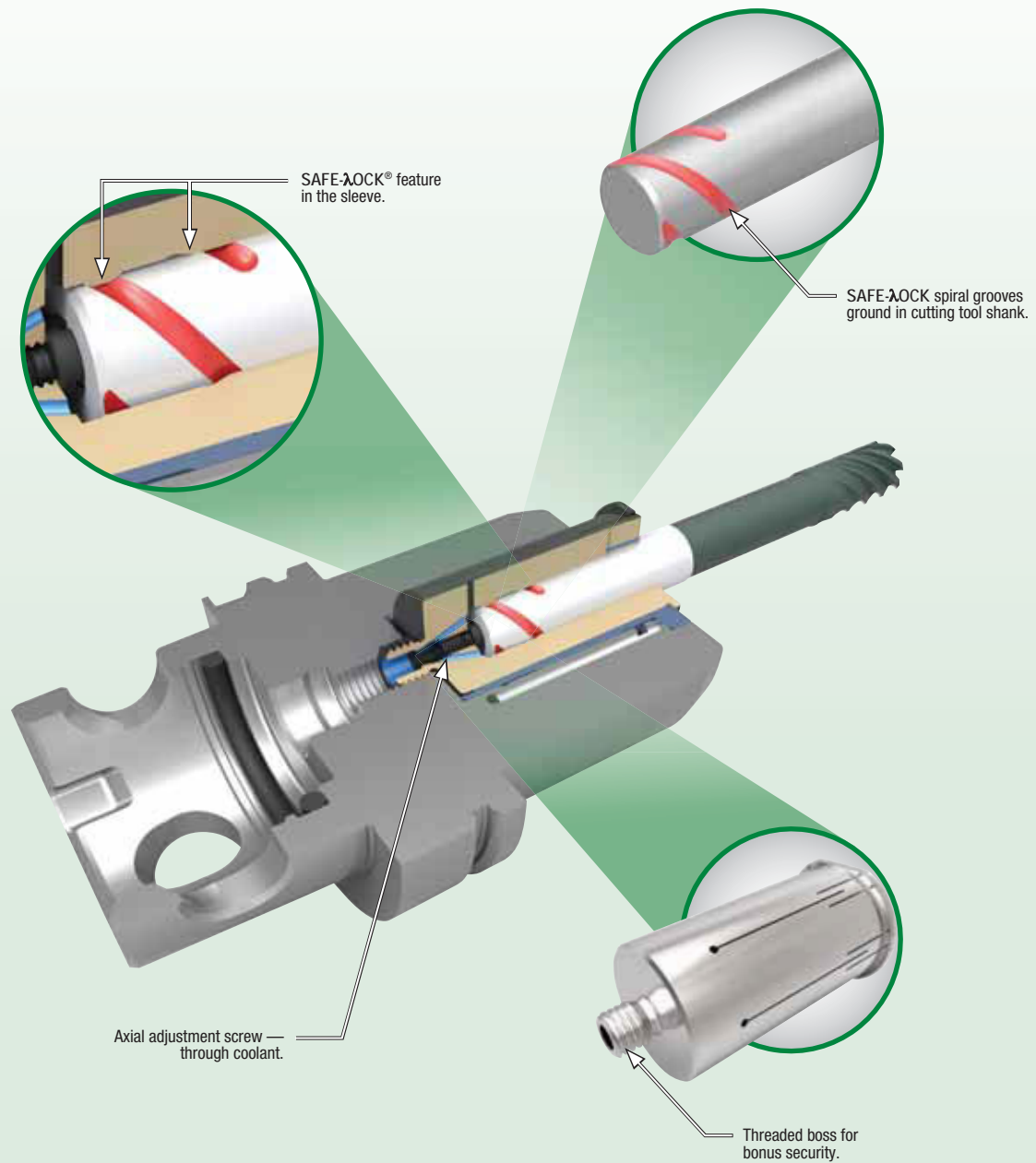
By locking the cutting tool in the SAFE-LOCK Smart Coolant reducer sleeve, the pullout security ensures optimum process reliability in conjunction with the HydroForce™ HT, which has benefits such as runout accuracy, excellent torque, and a unique dampening property. This makes for longer tool life, higher 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.
- Optimizes the cutting edge technology.
- Able to fully utilize potential of machine tool.
- Minimizes potential scrap.
- High accuracy clamping.
- Excellent runout.
- Helical grooves.
- Adjustable clamping length.
- No need to change NC program after regrinding.

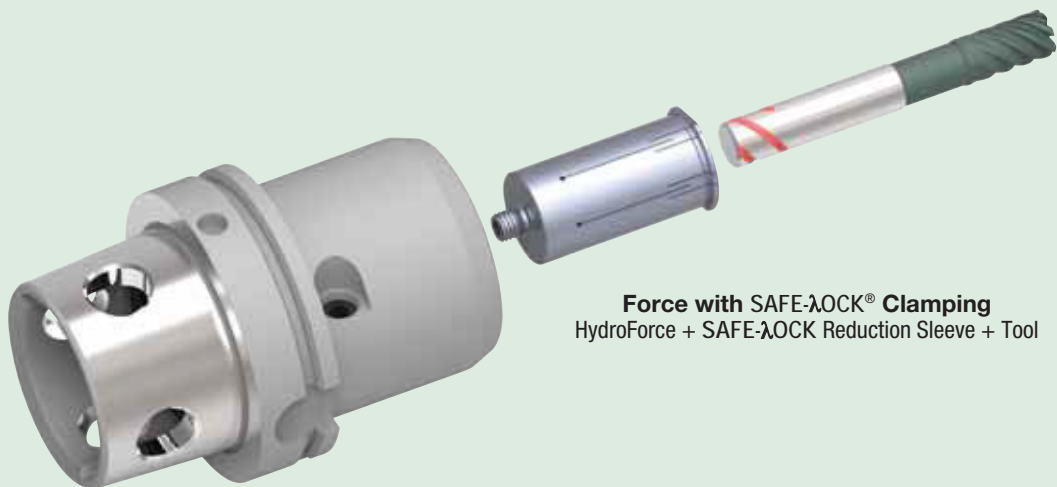
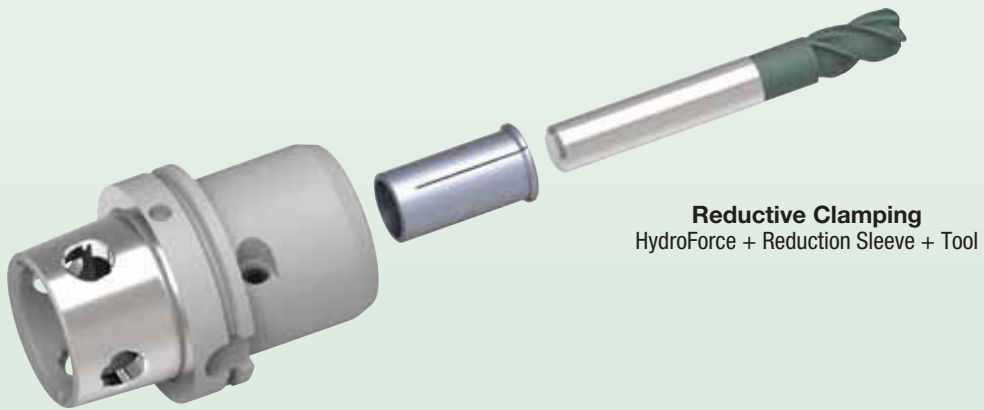
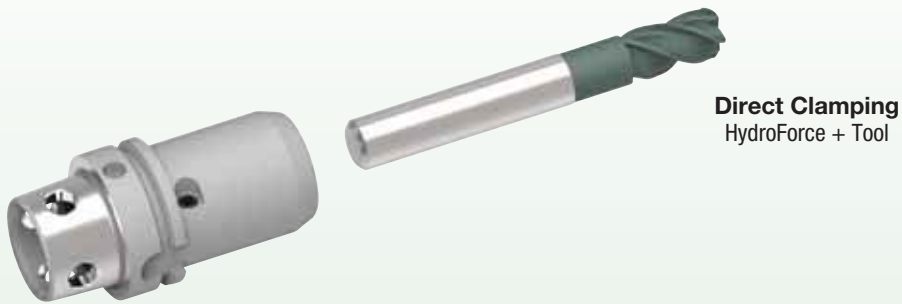
■ **HydroForce — Conversion from Standard to SAFE-LOCK**



■ Product Construction and Assembly



■ Clamping Combinations with HydroForce™



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