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TOOLHOLDERS

HYDRONUT

REFROIDISSEMENT HAUTE PERFORMANCE



SCHAUBLIN

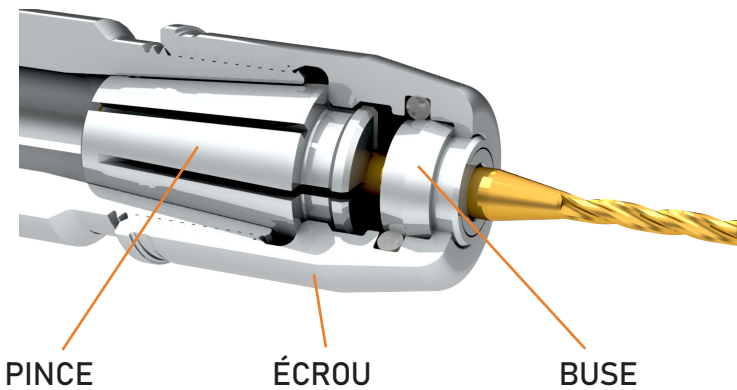
HYDRONUT

PATENT PENDING

La nouvelle solution de SCHAUBLIN pour amener **efficacement le liquide d'arrosage sur les arêtes de coupe**.

L'écrou est équipé d'une buse qui **accélère et dirige** le liquide de refroidissement, créant un flux concentrique et stable.

Par rapport aux solutions existantes:

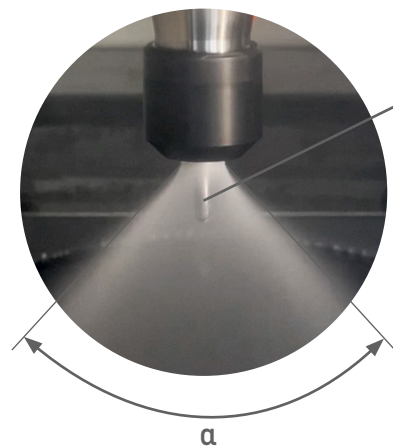


NON-HYDRONUT

Angle de dispersion élevé (α)

Une vitesse de rotation élevée augmente la dispersion du liquide de refroidissement. L'effet de refroidissement est loin de la zone de coupe.

» MAUVAISE EVACUATION DES COPEAUX



Concentration à faible débit

La densité de flux est faible, seules quelques gouttes sont dirigées vers les arêtes de coupe. Beaucoup de chaleur pénètre dans l'outil.

» REFROIDISSEMENT INEFFICACE

Ce que la nouvelle technologie HydroNut peut réaliser:

Aucun angle de dispersion

» Le fluide ne se disperse qu'après le contact avec l'outil.

Concentration à haut débit

» L'outil n'est jamais visible à travers le jet de refroidissement.

Durée de vie de l'outil jusqu'à 2x prolongée



10'000 t/min



25'000 t/min



40'000 t/min

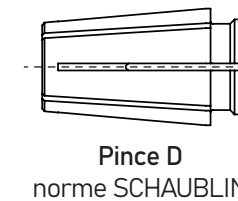
Pression: 40 bars; 580 PSI

SOLUTION MODULAIRE

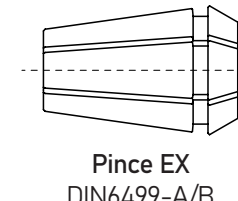
Adapté aux outils **avec arrosage par le centre** ou aux outils **standards**.

La même configuration pince + écrou peut être équipée d'un disque étanche ou d'une buse :

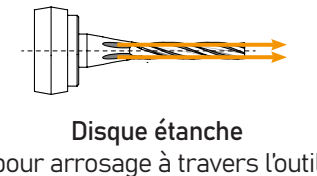
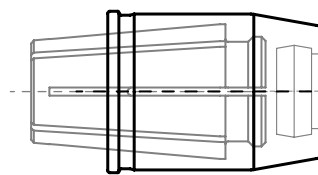
- **DISQUE ÉTANCHE** » arrosage à travers l'outil pour outils avec trous intérieurs
- **BUSE** » arrosage périphérique pour outils standards



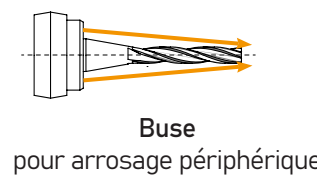
Pince D
norme SCHAUBLIN



Pince EX
DIN6499-A/B



Disque étanche
pour arrosage à travers l'outil



Buse
pour arrosage périphérique

Type	PINCE		ÉCROU		DISQUE		Clé	Tête	Clé dynamométrique
	Art.	Ø-serrage [mm]	Art.	Filet	Étanche Art.	Buse Art.			
D10	74-10000	0.5 - 6.0	68-10850	M12x0.75	68-10791	89-96010	68-99089	68-99199	68-99207 ^{*1}
D12	74-12000	0.5 - 7.0	68-12850	M15x0.75	68-12791	89-96012	68-99092	68-99201	68-99207 ^{*1}
D14	74-14000	0.5 - 9.0	68-14850	M17x1	68-14791	89-96014	68-99092	68-99201	68-99207 ^{*1}
D16	74-16000	0.5 - 10.0	68-16850	M20x1	68-16791	89-96016	68-99094	68-99202	68-99208 ^{*2}
D20	74-20000	0.5 - 12.7	68-20850	M24x1	68-20791	89-96020	68-99095	68-99203	68-99208 ^{*2}
D24	74-24000	0.5 - 16.0	68-24790	M28x1	68-24791	-	-	-	-
D29	74-29000	1.0 - 20.0	68-29790	M34x1	68-29791	-	-	-	-
EX12	75-12200	0.5 - 7.0	61-12850	M14x0.75	68-12791	89-96012	68-99091	68-99205	68-99207 ^{*1}
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*2 Art. HOFFMANN: 656055 60

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HYDRONUT

HOCHWIRKSAME KÜHLUNG



SCHAUBLIN

HYDRONUT

PATENT PENDING

Die neuesten Produkte von SCHAUBLIN für eine **effiziente Zuführung des Kühlschmierstoffes** an die Werkzeugschneide.

Die Mutter ist ausgestattet mit einer Düse, welche den Kühlschmierstoff in einem konzentrierten Strahl **beschleunigt** und **orientiert**.

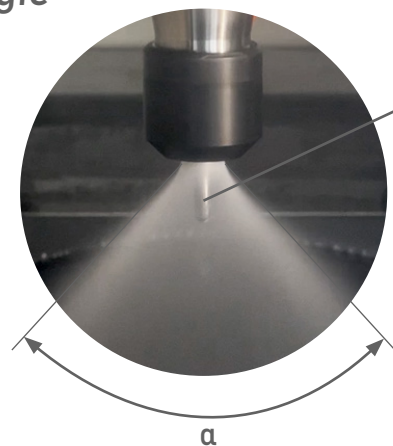
Vergleich mit herkömmlichen Lösungen:

OHNE HYDRONUT Technologie

Grosser Streuwinkel (α)

Eine hohe Drehgeschwindigkeit versprüht den Kühlschmierstoff. Der Kühleffekt verfehlt seine direkte Wirkung in der Bearbeitungszone.

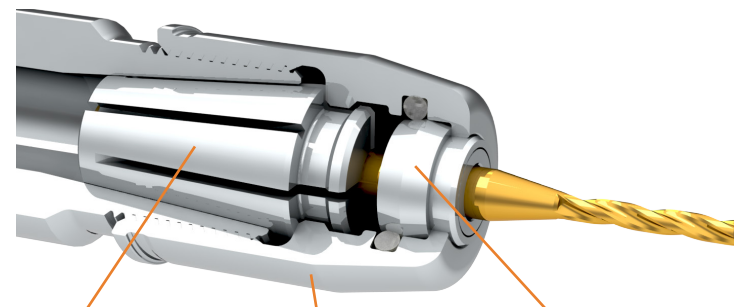
» SCHLECHTE SPANABFUHR



Strömung mit geringer Dichte

Nur wenige, kleinste Tröpfchen finden den direkten Weg zur Bearbeitungszone. Die Bearbeitungswärme fliesst somit hauptsächlich ins Werkzeug.

» INEFFIZIENTE KÜHLWIRKUNG



SPANNZANGE SPANNMUTTER DÜSENSCHEIBE

Mit der neuen HYDRONUT Technologie:

Kein Streuwinkel

» Keine Streuung des Kühlschmiermittels bis zum Kontakt mit dem Werkzeug, auch bei hoher Drehzahl.

Hohe Strömungsdichte

» Das Werkzeug bleibt unter dem dichten Kühlmittelstrahl unsichtbar.

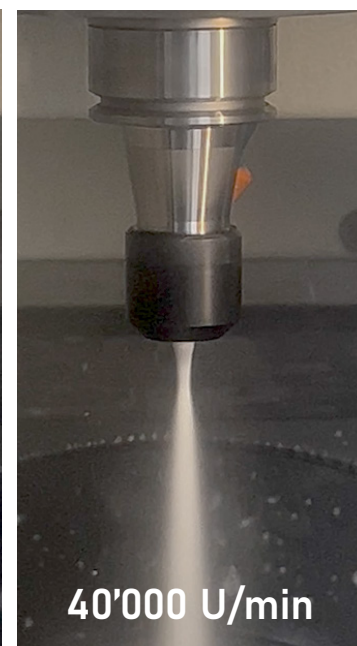
Bis zu 2x höhere Werkzeugstandzeit



10'000 U/min



25'000 U/min



40'000 U/min

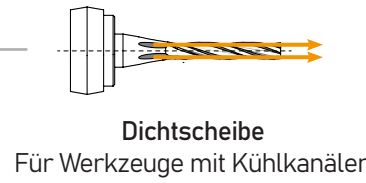
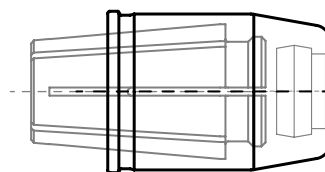
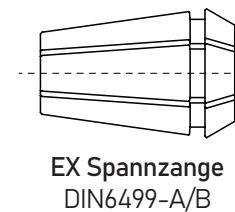
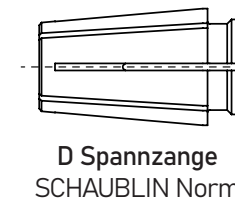
Druck: 40 bars; 580 PSI

MODULARES SYSTEM

Wahlweise für Werkzeuge mit **Kühlkanälen** oder **Standardwerkzeuge**.

Dieselbe Spannzange und Mutter können wahlweise mit einer Dichtscheibe oder einer Düsenplatte verwendet werden:

- **DICHTSCHEIBE** » Innenkühlung für Werkzeuge mit Kühlkanälen
- **DÜSENSCHEIBE** » Aussenkühlung mit Standardwerkzeugen



Typ	SPANNZANGE		MUTTER		SCHEIBE		Schlüssel	Einsatz	Drehmoment-schlüssel
	Art.	Ø-Bereich [mm]	Art.	Gewinde	Dichtung Art.	Düse Art.			
D10	74-10000	0.5 - 6.0	68-10850	M12x0.75	68-10791	89-96010	68-99089	68-99199	68-99207 ^{*1}
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D29	74-29000	1.0 - 20.0	68-29790	M34x1	68-29791	-	-	-	-
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EX20	75-20200	1.0 - 13.0	61-20850	M25x1.5	68-20791	89-96020	68-99095	68-99203	68-99208 ^{*2}

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HYDRONUT

HIGH PERFORMANCE COOLING



SCHAUBLIN

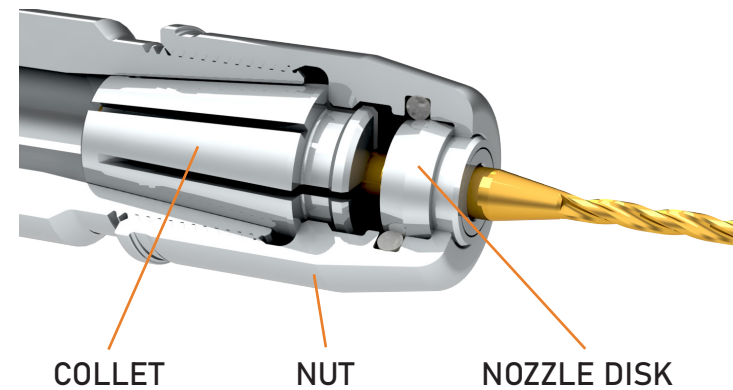
HYDRONUT

PATENT PENDING

The newest solution by SCHAUBLIN to **efficiently bring fluid** to the cutting edge.

The nut is equipped with nozzle, which **accelerates** and **directs** the coolant, creating a concentric and stable flow.

Compared to existing solutions:

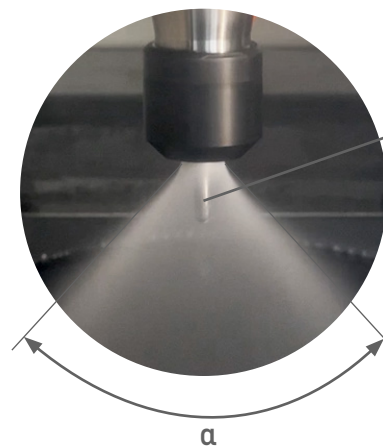


NON-HYDRONUT

High dispersion angle (α)

High rotational speed increases the dispersion of the coolant. The cooling effect is lost far away from the cutting area.

» BAD CHIP EVACUATION



Low flow concentration

The density of the flow is weak, only few droplets are directed to the cutting edge. A lot of heat penetrates into the tool.

» INEFFICIENT COOLING

The new technology of HydroNut can achieve:

No dispersion angle

» The fluid disperses only after the contact with the tool.

High flow concentration

» The tool is never visible through the cooling jet.

Up to 2x extended tool-life



10'000 rpm



25'000 rpm



40'000 rpm

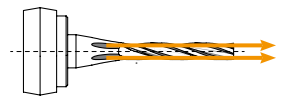
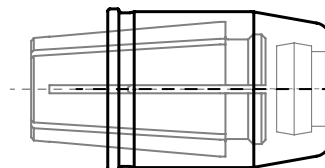
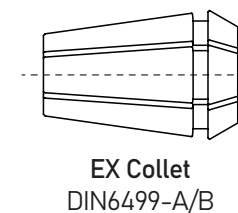
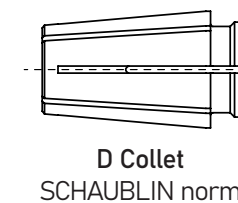
Pressure: 40 bar, 580 PSI

MODULAR SOLUTION

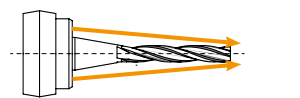
Suitable for **through-coolant** or **standard** tools.

The same collet + nut configuration can be equipped with sealing or nozzle disk:

- **SEALING DISK** » through cooling for tools with inner holes
- **NOZZLE DISK** » peripheral cooling for standard tools



Sealing disk
for through-coolant tools



Nozzle disk
for peripheral cooling

Type	COLLET		NUT		DISK		 Wrench	 Head	 Torque wrench
	Art.	Ø range [mm]	Art.	Thread	Sealing Art.	Nozzle Art.			
D10	74-10000	0.5 - 6.0	68-10850	M12x0.75	68-10791	89-96010	68-99089	68-99199	68-99207 ^{*1}
D12	74-12000	0.5 - 7.0	68-12850	M15x0.75	68-12791	89-96012	68-99092	68-99201	68-99207 ^{*1}
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D29	74-29000	1.0 - 20.0	68-29790	M34x1	68-29791	-	-	-	-
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