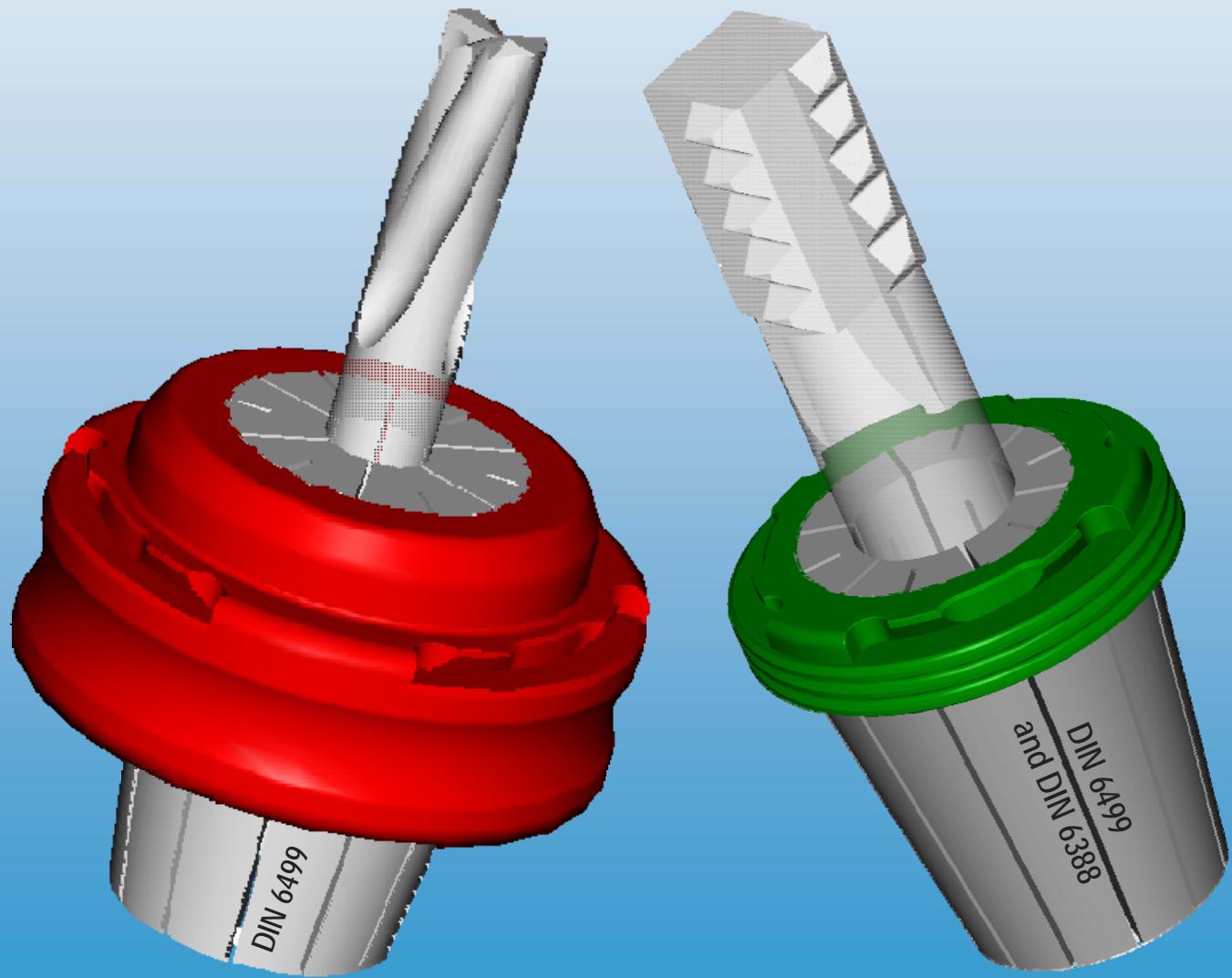




The Tooling Company

THE NEW ER 

# SAFETY COLLET CLAMPING SYSTEM



*The Safest and Best way to clamp your tooling!*

# INNOVATION

## Zeta safety clamping system for collets DIN6499 and DIN6388

The New Zeta Collet Clamping Systems offers a lot of advantages.

Everyone in the machine industry is aware of different collet systems like ER - DIN6499, OZ - DIN6388, and various others.

All these systems have problems with the proper application of torque by using spanner wrenches in most cases. The New Zeta collet clamping system offers the market a much better advantage to solve most collet clamping problems.

Collets are used in a lot of different variations such as; static and rotating tools, multi-spindle heads, Swiss-turn lathes, angle-heads in different sectors like automotive ,aircraft, various metal, medical, wood and plastic manufacturers.

In each of these fields no one offers, until today, an absolutely safe collet clamping system with the addition of the possibility to lock the collets with extremely high torque moments, also in very complicated applications with limited space around and between the spindles in multi-spindle machines.

Exactly for this purpose Zollmann GmbH developed a solution with the New Zeta collet nut system.

The New Zeta system provides a lot of unique and unexpected possibilities that never have been offered before by other popular collet clamping systems. The New Zeta system is completely exchangeable with all spindles in single situations, aggregates, multi-spindle heads, and Swiss turn lathes which use

ER-DIN6499 or OZ-DIN6388 collet systems.

The unique operating tools that this new system offers, gives the machinist a choice of what tools best suits their preference. We offer standardized tool connectors in 1/2, 3/8, and 1/4 inch sizes and various hexagons.

The enormous torque power of this system has been optimized by a new unique security profile that eliminates slipping out while clamping your tools.

We suggest you improve working quality and ease of operation by upgrading and updating your old worn collet nuts.

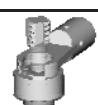
The proper use of torque wrenches together with the correct specified torque moments is a must in the future and should be applied to all successful working machinery facilities in the world.

The multiple possibilities of the new clamping system, gives the customer a lot of variations for all kinds of spindle situations.

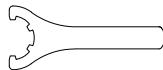
Additionally the Zeta system can also be used with popular sealing disc systems currently used for internally cooled cutting tools.

The Zeta system is patent pending.

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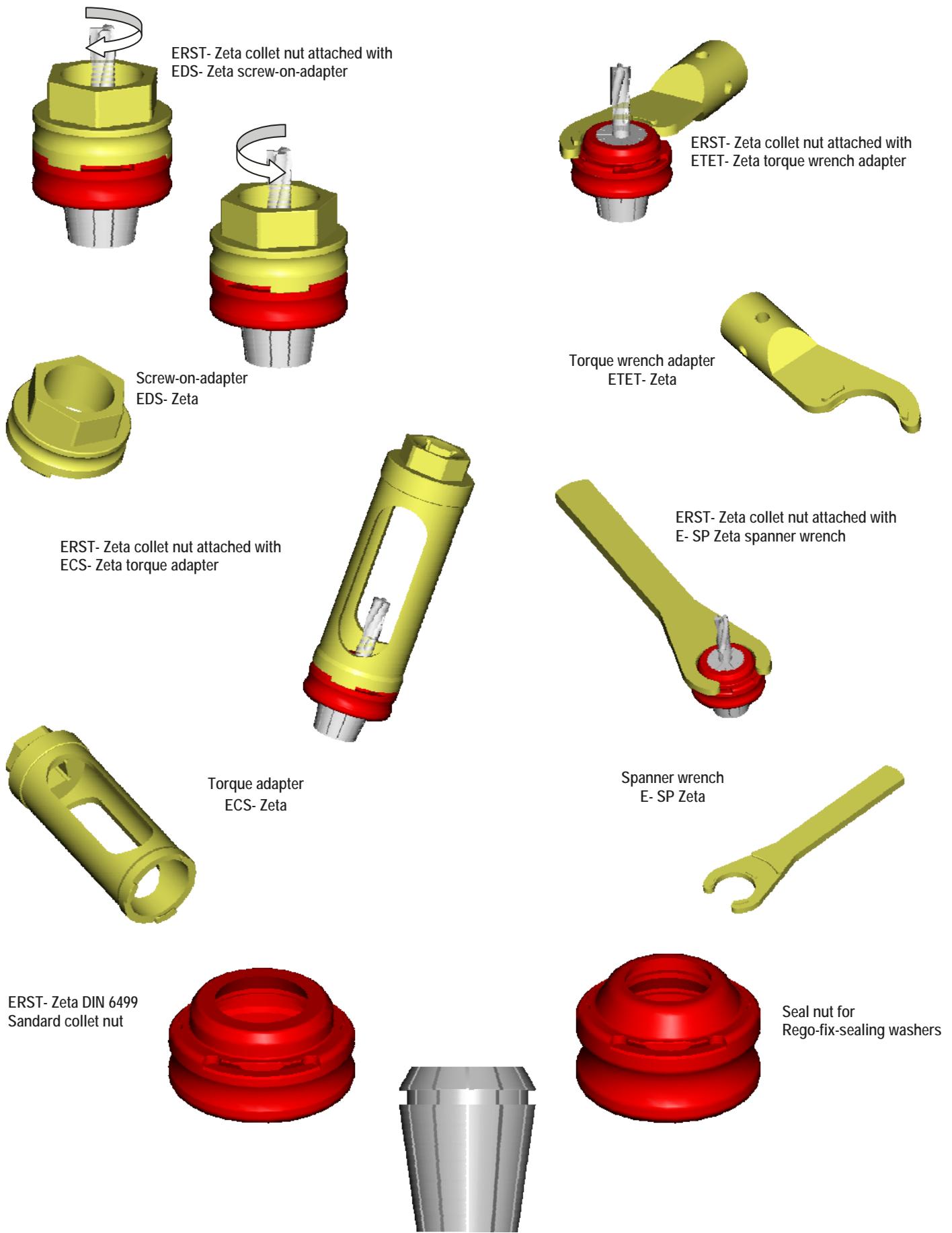
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# Your advantages with the new zeta® safety clamping system

## Your advantages at a glance

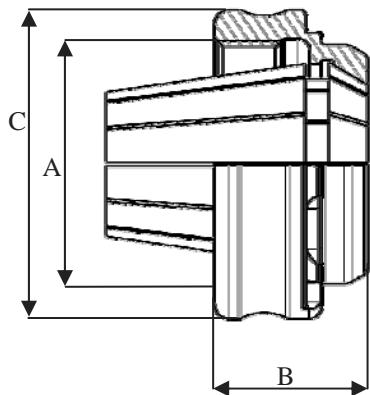
- ✓ Increased torque over all other collet clamping systems, because the torque is transferred thru the new ZETA profile by means of the screw-on torque nut or adapter.
- ✓ Proper torque settings can be achieved by using a torque wrench in combination with our zeta screw-on torque nut or adapter.  
This takes out the guess work.
- ✓ No more slipping of cutting tools inside the collet.
- ✓ Standard wrenches with 1/2", 3/8", or 1/4" can be used as well for clamping the collet nut with our adapters allowing for easy radial and axial clamping.
- ✓ By using our torque nut adapters in an axial position you can be assured of proper clamping of your collets.
- ✓ The unique patented zeta profile eliminates the possibility of slipping away from the collet nuts during clamping operations which reduces accidental tool breakage an more importantly machinist injuries.
- ✓ Safe and simple clamping of collet nuts of type ER 8 to ER 50 (DIN6499) and OZ25/RDO35 (DIN6388).
- ✓ Zeta collet nuts are available with internal or external thread as well as ER Mini. Available in ER an OZ/RDO standard versions, too.
- ✓ The diameter of our clamping tools are always the same size or smaller in diameter then the collet nuts, which allow for ease of access between spindles that are very close together or for tight areas in the machine.
- ✓ Zeta sealing nuts are compatible with RegoFix sealing discs.
- ✓ Zeta collet nuts allow for flush seating of the collet without any space in between that could be contaminated with chips and therefor interfering with the cooling fluid coming thru the collet.
- ✓ The new zeta safety collet clamping system is the clear choice for safe and proper mounting of your tooling.

# ERST Zeta Safety Clamping System



## ERST Zeta System Variations

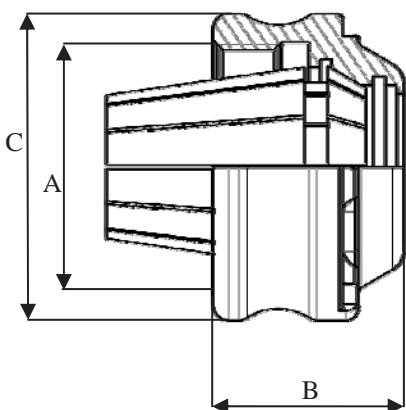
**Collet nut after DIN 6499 type ER / ESX**



type	part number	A	B	C
ERST 16 Zeta	SPAMUERST16Zeta	28	17,5	M22x1,5
ERST 20 Zeta	SPAMUERST20Zeta	34	19	M25x1,5
ERST 25 Zeta	SPAMUERST25Zeta	42	20	M32x1,5
ERST 32 Zeta	SPAMUERST32Zeta	50	23	M40x1,5
ERST 40 Zeta	SPAMUERST40Zeta	63	25	M50x1,5

## ERST Zeta System Variations for sealing nuts

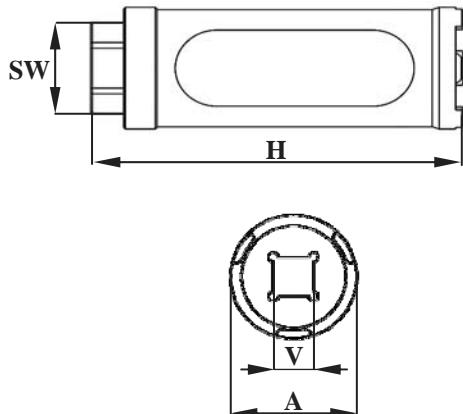
**Sealing nut after DIN 6499 ( Rego-Fix sealing system ) standard**



type	part number	A	B	C
ERSD 16 Zeta	SPAMUERSD16Zeta	28	22,5	M22x1,5
ERSD 20 Zeta	SPAMUERSD20Zeta	34	24	M25x1,5
ERSD 25 Zeta	SPAMUERSD25Zeta	40	25	M32x1,5
ERSD 32 Zeta	SPAMUERSD32Zeta	50	27,5	M40x1,5
ERSD 40 Zeta	SPAMUERSD40Zeta	63	30,5	M50x1,5

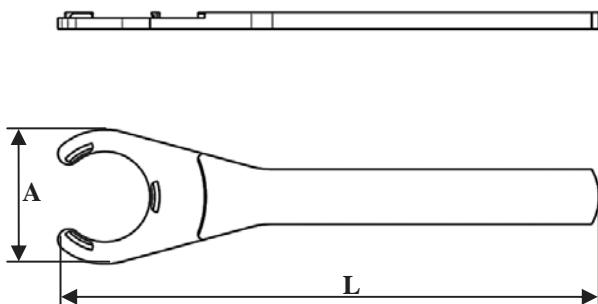
# ERST Zeta Operating Tools

## Torque Adapter - Standard



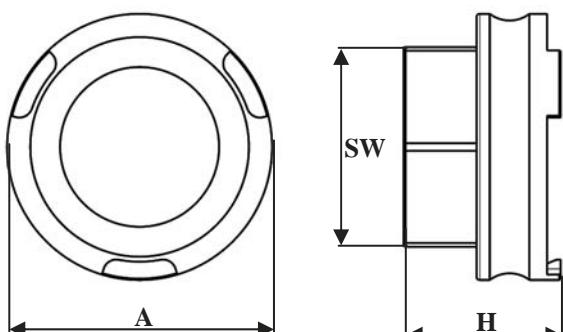
type	part number	A	H	SW	V
ECS 16 Zeta	STECS16Zeta	Ø28	85	19	3/8"
ECS 20 Zeta	STECS20Zeta	Ø34	102	27	1/2"
ECS 25 Zeta	STECS25Zeta	Ø40	112	27	1/2"
ECS 32 Zeta	STECS32Zeta	Ø50	122	27	1/2"
ECS 40 Zeta	STECS40Zeta	Ø63	140	32	1/2"

## Spanner wrench for nut type Zeta



type	part number	A	L
E-SP 16 Zeta	SCHESP16Zeta	Ø21	180
E-SP 20 Zeta	SCHESP20Zeta	Ø26	180
E-SP 25 Zeta	SCHESP25Zeta	Ø30	200
E-SP 32 Zeta	SCHESP32Zeta	Ø37	215
E-SP 40 Zeta	SCHESP40Zeta	Ø47	240

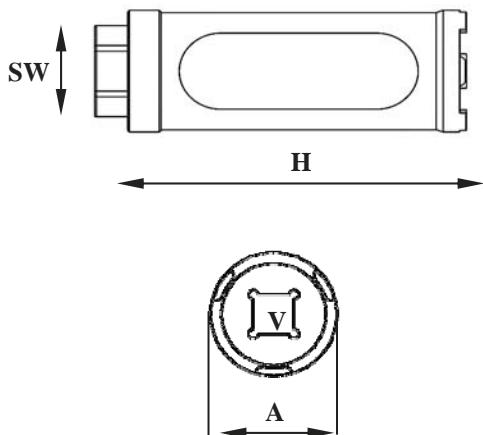
## Screw-on-adapter



type	part number	A	SW	H
EDS 16 Zeta	SCHEDS16Zeta	22	19	18
EDS 20 Zeta	SCHEDS20Zeta	27	22	19
EDS 25 Zeta	SCHEDS25Zeta	30	27	20
EDS 32 Zeta	SCHEDS32Zeta	36	30	21
EDS 40 Zeta	SCHEDS40Zeta	46	36	24

## Torque Adapter - Mini

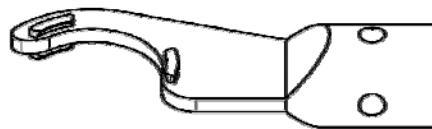
*NEW*



type	part number	A	H	SW	V
ECSM 16 Zeta	STECSM16Zeta	Ø28	50	19	3/8"
ECSM 20 Zeta	STECSM20Zeta	Ø34	65	27	1/2"
ECSM 25 Zeta	STECSM25Zeta	Ø40	68	27	1/2"
ECSM 32 Zeta	STECSM32Zeta	Ø50	70	27	1/2"
ECSM 40 Zeta	STECSM40Zeta	Ø63	75	32	1/2"

## Torque wrenches and adapters

type	part number	type	part number
Torque Wrench	300TH 45-220Lbf.ft	To adapter ETET 16 Zeta	THETET16
Torque Wrench	200TH 30-150Lbf.ft	To adapter ETET 20 Zeta	THETET20
Torque Wrench	60TH5-45Lbf.ft 18-60 Nm	To adapter ETET 25 Zeta	THETET25
		To adapter ETET 32 Zeta	THETET32
		To adapter ETET 40 Zeta	THETET40

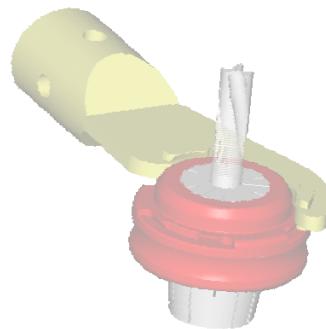


## Technical data

## Torque Specifications

type	Nm	Lbf.ft
------	----	--------

ERST / ERSD 16	60	44
ERST / ERSD 20	75	56
ERST / ERSD 25	100	74
ERST / ERSD 32	130	96
ERST / ERSD 40	150	110



# INFORMATION

Dear  **USER**

In order to get the optimal performance out of our new  system.  
we recommend that you follow the following points as intended by the developers of this system.

One of the main reasons why the  system has big advantages over other clamping systems is the combination between the collet nut and the operating tools.

The stepless continuous rotation with this system is only made possible by using the screw in adaptors or the torque-nut as shown below on the right.

This ease of rotary motion is not possible with the standard spanner wrench.  
We recommend using the spanner wrench only for the following situations:

Clamping oversized drills, endmills, or wire brushes, for example.

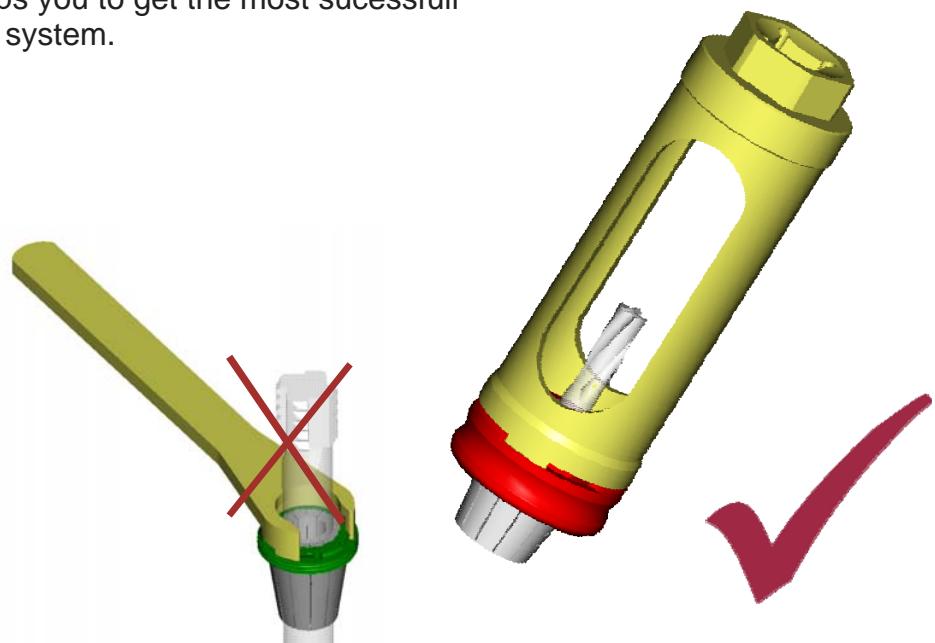
In addition the standard spanner wrench is not useable with torque wrenches or ratched tools like the Zeta screw-in adapters and Torque adapters

We hope this information helps you to get the most sucessfull use out of our unique  system.

Let us know what you think?

Best Regards,

The Zeta Team



# ER Zeta

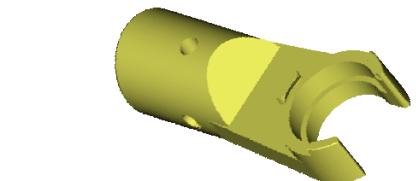
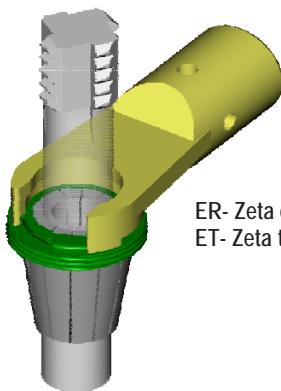
## Safety Clamping System



ER-Zeta collet nut attached with  
ED-Zeta screw-on-adapter



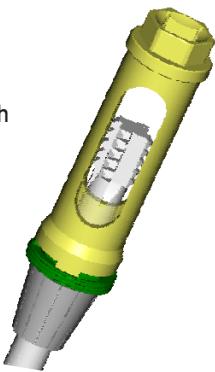
ER-Zeta collet nut attached with  
ET-Zeta torque wrench adapter



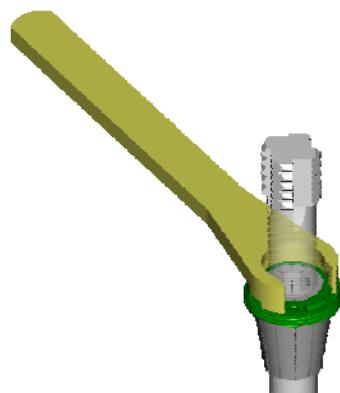
Screw-on-adapter  
ED-Zeta

Torque wrench adapter  
ET-Zeta

ER-Zeta collet nut attached with  
EC-Zeta torque adapter



Torque adapter  
EC-Zeta



ER-Zeta collet nut attached with  
E-Zeta spanner wrench

Spanner wrench E-Zeta



ER-Zeta standard collet nut



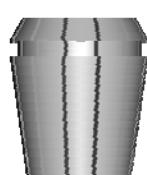
Seal nut for  
Rego-Fix-sealing washers



Seal nut for  
Zollmann-sealing washers



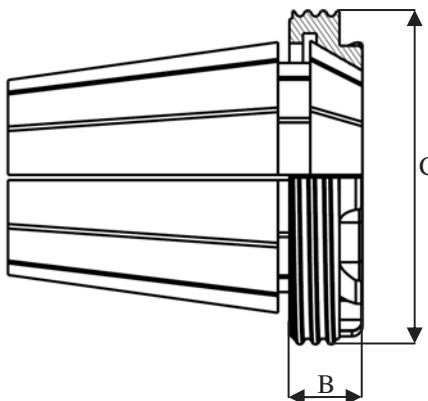
DIN 6388 Compatible



DIN 6499 Compatible

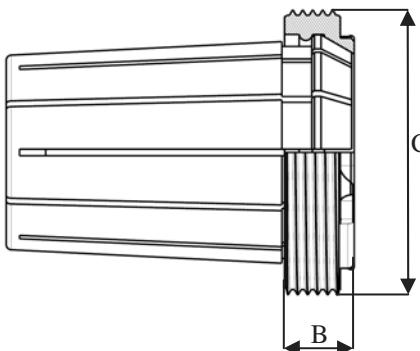
# ER Zeta System Variations

## Collet nut after DIN 6499 with external thread

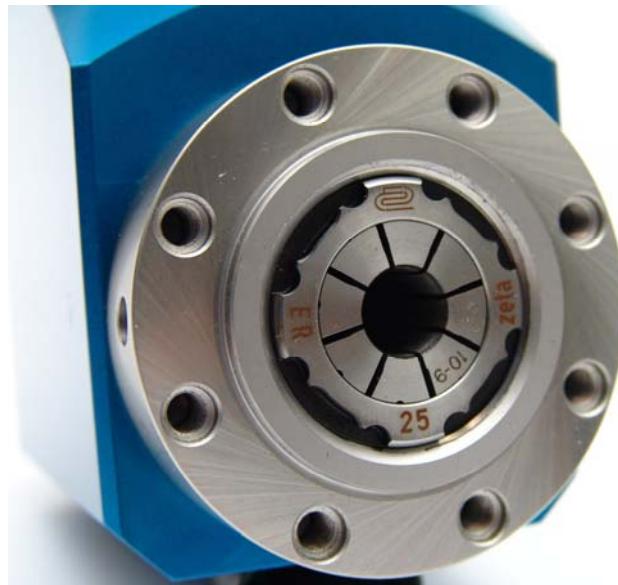


type	part number	B	C
ER 11 Zeta	SPAMUER11Zeta	4	M18x1
ER 16 Zeta	SPAMUER16Zeta	6	M24x1
ER 20 Zeta	SPAMUER20Zeta	6,5	M28x1,5
ER 25 Zeta	SPAMUER25Zeta	7	M32x1,5
ER 32 Zeta	SPAMUER32Zeta	7,5	M40x1,5
ER 40 Zeta	SPAMUER40Zeta	10	M50x1,5
ER 50 Zeta	SPAMUER50KMZeta	15	M68x1,5

## Collet nut after DIN 6388 with external thread



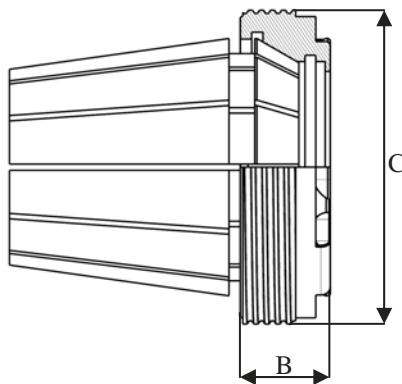
type	part number	B	C
OZ 25 Zeta	SPAMUOZ25Zeta	10,5	M43x1,5



# ER Zeta

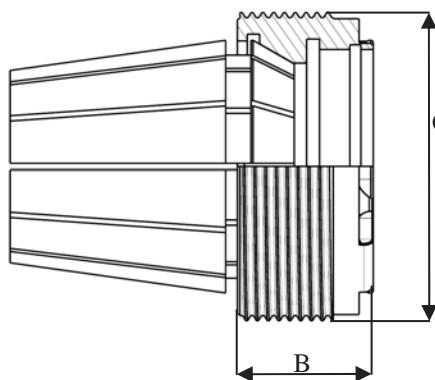
## System Variations for sealing nuts

Sealing nut after DIN 6499 ( Rego-Fix Sealing system) with external thread



type	part number	B	C
ERAXC 16 Zeta	SPAMUERAXC16Zeta	10	M24x1
ERAXC 20 Zeta	SPAMUERAXC20Zeta	11	M28x1,5
ERAXC 25 Zeta	SPAMUERAXC25Zeta	11,5	M32x1,5
ERAXC 32 Zeta	SPAMUERAXC32Zeta	12,5	M40x1,5
ERAXC 40 Zeta	SPAMUERAXC40Zeta	14	M50x1,5

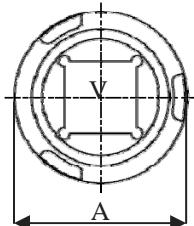
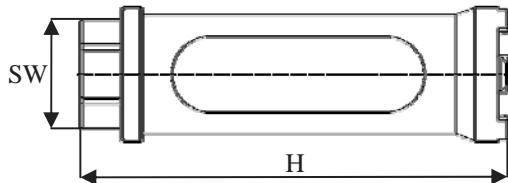
Sealing nut after DIN 6499 ( Zollmann Sealing system) with external thread



type	part number	B	C
ERZD 32 Zeta	SPAMUERZD 32 Zeta	18	M40x1,5
ERZD 40 Zeta	SPAMUERZD 40 Zeta	22	M50x1,5
ERZD 50 Zeta	SPAMUERZD 50 Zeta	24	M68x1,5

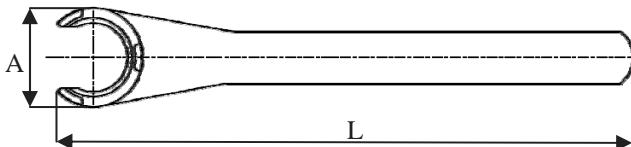
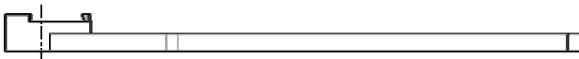
# ER Zeta Operating Tools

## Torque Adapter - Standard



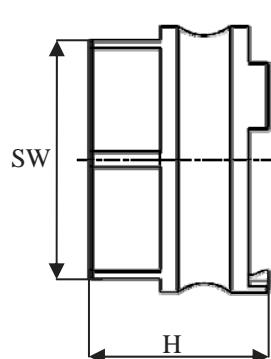
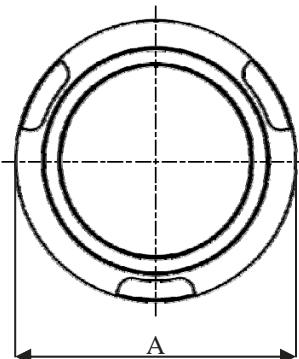
type	part number	A	H	SW	V
EC 11-12 Zeta	STEC11-12Zeta	16	75	13	1/4"
EC 16 Zeta	STEC16Zeta	22	85	17	3/8"
EC 20 Zeta	STEC20Zeta	26	90	19	3/8"
EC 25 Zeta	STEC25Zeta	30	96	22	1/2"
EC 32 Zeta	STEC32Zeta	38	96	27	1/2"
EC 40 Zeta	STEC40Zeta	48	110	27	1/2"
EC 50 Zeta	STEC50Zeta	66	120	27	1/2"
OC 25 Zeta	STOC25Zeta	41	110	27	1/2"

## Spanner wrench for nut type Zeta



type	part number	A	L
E 11-12 Zeta	SCHE11-12Zeta	Ø16	150
E 16 Zeta	SCHE16Zeta	Ø21	180
E 20 Zeta	SCHE20Zeta	Ø26	180
E 25 Zeta	SCHE25Zeta	Ø30	200
E 32 Zeta	SCHE32Zeta	Ø37	215
E 40 Zeta	SCHE40Zeta	Ø47	240
E 50 Zeta	SCHE50Zeta	Ø66	260
O 25 Zeta	SCHO25Zeta	Ø40	215

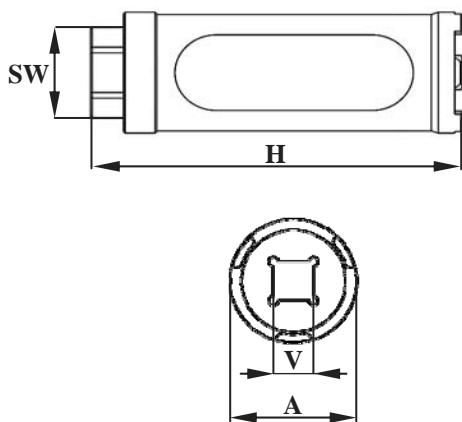
## Screw-on-adapter



type	part number	A	SW	H
ED 11-12 Zeta	SCHED11-12Zeta	16	13	16
ED 16 Zeta	SCHED16Zeta	22	19	18
ED 20 Zeta	SCHED20Zeta	26	22	19
ED 25 Zeta	SCHED25Zeta	30	27	20
ED 32 Zeta	SCHED32Zeta	38	30	21
ED 40 Zeta	SCHED40Zeta	48	36	24
ED 50 Zeta	SCHED50Zeta	66	46	30
OD 25 Zeta	SCHOD25Zeta	41	36	24

## Torque Adapter - Mini

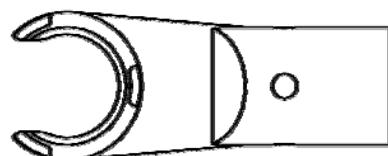
*NEW*



type	part number	A	H	SW	V
ECM 11-12 Zeta	STECM11-12Zeta	Ø16	40	13	1/4"
ECM 16 Zeta	STECM16Zeta	Ø22	49	17	3/8"
ECM 20 Zeta	STECM20Zeta	Ø26	54	19	1/2"
ECM 25 Zeta	STECM25Zeta	Ø30	60	22	1/2"
ECM 32 Zeta	STECM32Zeta	Ø38	70	27	1/2"
ECM 40 Zeta	STECM40Zeta	Ø48	80	27	1/2"

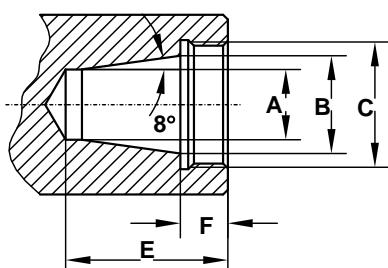
## Torque wrenches and adapters

type	part number	type	part number
Torque Wrench	200TH30-150Lbf.ft 40-200 Nm	To adapter ET 11-12 Zeta	THET11-12
Torque Wrench	100TH15-80Lbf.ft 20-100 Nm	To adapter ET 16 Zeta	THET16
Torque Wrench	60TH5-45Lbf.ft 8-60 Nm	To adapter ET 20 Zeta	THET20
		To adapter ET 25 Zeta	THET25
		To adapter ET 32 Zeta	THET32
		To adapter ET 40 Zeta	THET40
		To adapter ET 50 Zeta	THET50
		To adapter OT 25 Zeta	THOT25



## Technical Data

### Design dimensions for collet locations on machining spindles



type	A	B	C	E	F
ER 11 Zeta	7,5	11	M18x1,0	23,5	6,5
ER 16 Zeta	10,5	16	M24x1,0	32	10
ER 20 Zeta	13,5	20	M28x1,5	37,5	11
ER 25 Zeta	18,0	25	M32x1,5	41	12
ER 32 Zeta	23,5	32	M40x1,5	46,5	12,5
ER 40 Zeta	30,5	40	M50x1,5	53	15
ER 50 Zeta	38	50	M68x1,5	72	24
OZ 25 Zeta	29,5	32,9	M43x1,5	57	16

# IN COMPARISON



**In this picture you can see a typical example of a 3-spindle head from a Swiss turning lathe with standard ER-Mini collet nuts.**

You can easily see that the clamping operation is extremely dangerous and difficult.

The operator does not have enough room to properly operate the spanner wrench and effectively clamp the collet nuts.

The operator has to take extreme care on clamping the collet nuts and not injure his hand or break expensive cutting tool bits!

The operator cannot achieve proper torque settings using these type of spanner wrenches in this manner.

The bottom line is that it is not operator friendly, proper torque cannot be achieved in this manner, and most importantly not a safe operation.

## **In this picture we illustrate the new Zeta collet nut system!**

The operator (machinist) has a choice of what tools best suits their preference for safe clamping operations.

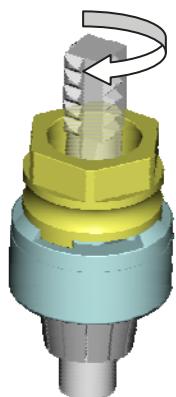
In this case the operator uses a combination of a ratchet tool together with our Zeta torque adapter, a Torque wrench with ratchet function could also be used.

These tools together with the torque nut shows an effective quick clamping operation without any danger to the operator's hands. This operation practically eliminates operator injury!

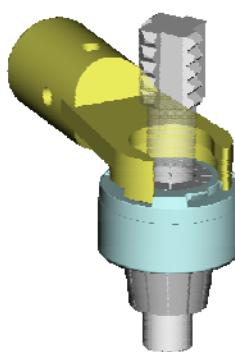
The bottom line is that this is an absolute easier and safer way to clamp your collet nuts. The operator tools allow for proper high torque settings and virtually eliminate the potential of injury! Using the Zeta collet system is the only way to install tooling effectively, see for yourself and order today!



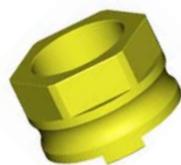
# ERM Zeta Mini Safety Clamping System



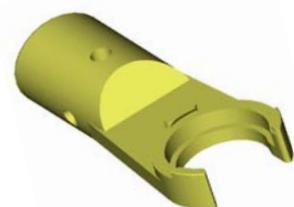
ERM- Zeta collet nut attached with  
EDS- Zeta screw-on-adapter



ERM- Zeta collet nut attached with  
ETET- Zeta torque wrench adapter

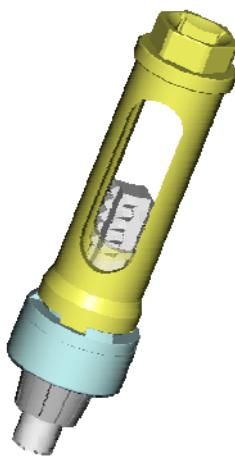


Screw-on-adapter  
EDS- Zeta

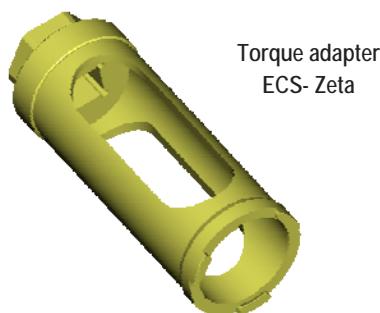
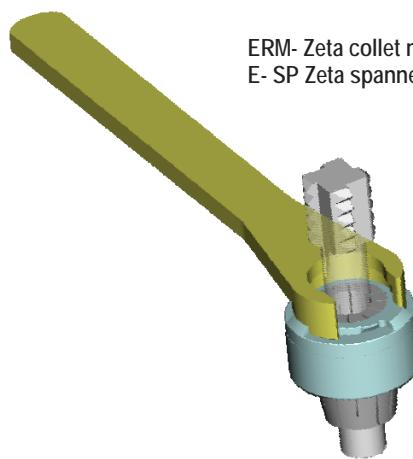


Torque wrench adapter  
ETET- Zeta

ERM- Zeta collet nut attached with  
ECS- Zeta torque adapter



ERM- Zeta collet nut attached with  
E- SP Zeta spanner wrench



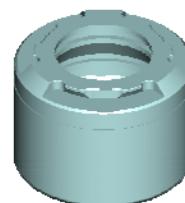
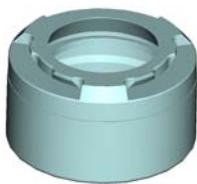
Torque adapter  
ECS- Zeta



Spanner wrench  
E- SP Zeta

compatible with ER collets DIN 6499

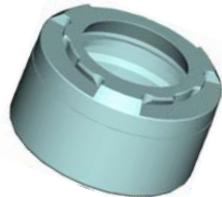
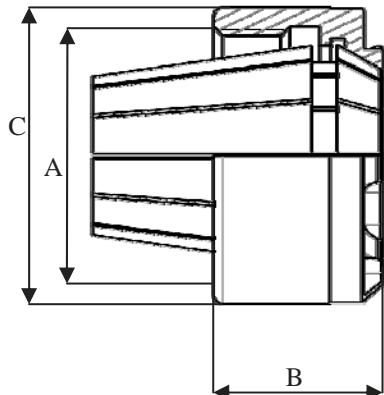
ERM- Zeta  
Mini collet nut after DIN 6499



ERMD- Zeta  
Mini sealing collet nut after DIN 6499

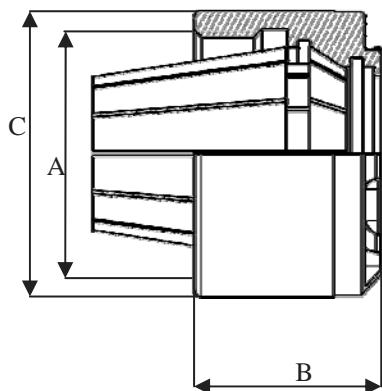
# ERM Zeta Mini Safety Clamping System

**Zeta- Mini- collet nut after DIN 6499 type ERM- Zeta**



type	part number	A	B	C
ERM 08 Zeta*	SPAMUERM08Zeta	12	11,3	M10x0,75
ERM 11 Zeta*	SPAMUERM11Zeta	16	11,3	M13x0,75
ERM 12 Zeta*	SPAMUERM12Zeta	17	11,3	M14x0,75
ERM 16 Zeta*	SPAMUERM16Zeta	22	17	M19x1,0
ERM 20 Zeta*	SPAMUERM20Zeta	28	19	M24x1,0
ERM 25 Zeta*	SPAMUERM25Zeta	35	20	M30x1,0
ERM 32 Zeta*	SPAMUERM32Zeta	43	23	M38 x1,0

**Zeta- Mini– sealing nut after DIN 6499 type ERM- Zeta**



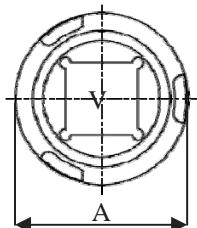
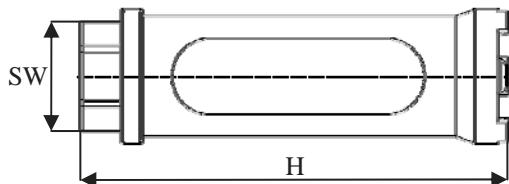
type	part number	A	B	C
ERMD 16 Zeta*	SPAMUERMD16Zeta	22	17	M19x1,0
ERMD 20 Zeta*	SPAMUERMD20Zeta	28	19	M24x1,0
ERMD 25 Zeta*	SPAMUERMD25Zeta	35	20	M30x1,0
ERMD 32 Zeta*	SPAMUERMD32Zeta	43	23	M38 x1,0



For ERM Zeta nuts use the operation tools from the ER Zeta system on page 19

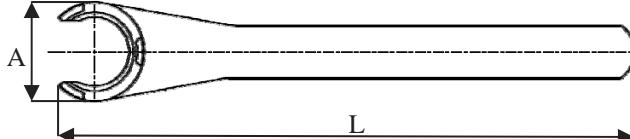
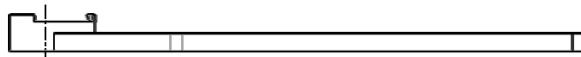
# ERM Zeta Mini Operating Tools

## Torque Adapter—Standard



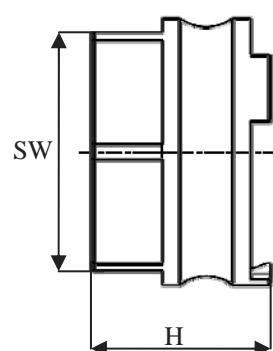
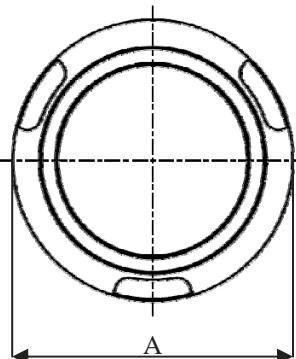
type	part number	A	H	SW	V
EC 08 Zeta	STEC08Zeta	16	75	12	1/4"
EC 11-12 Zeta	STEC11-12Zeta	16	75	13	1/4"
EC 16 Zeta	STEC16Zeta	22	85	17	3/8"
EC 20 Zeta	STEC20Zeta	26	90	19	3/8"
EC 25 Zeta	STEC25Zeta	30	96	22	1/2"
EC 32 Zeta	STEC32Zeta	38	96	27	1/2"

## Spanner wrench for nut type Zeta



type	part number	A	L
E 08 Zeta	SCHE08Zeta	Ø16	150
E 11-12 Zeta	SCHE11-12Zeta	Ø16	150
E 16 Zeta	SCHE16Zeta	Ø21	180
E 20 Zeta	SCHE20Zeta	Ø26	180
E 25 Zeta	SCHE25Zeta	Ø30	200
E 32 Zeta	SCHE32Zeta	Ø37	215

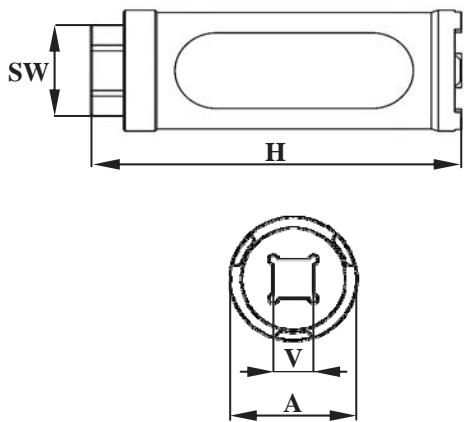
## Screw-on-adapter



type	order number	A	SW	H
ED 08 Zeta	SCHED08Zeta	12	10	16
ED 11-12 Zeta	SCHED11-12Zeta	16	13	16
ED 16 Zeta	SCHED16Zeta	22	19	18
ED 20 Zeta	SCHED20Zeta	26	22	19
ED 25 Zeta	SCHED25Zeta	30	27	20
ED 32 Zeta	SCHED32Zeta	38	30	21

## Torque Adapter - Mini

*NEW!*



type	part number	A	H	SW	V
ECM 08 Zeta	STECM08Zeta	Ø15	38	12	1/4"
ECM 11-12 Zeta	STECM11-12Zeta	Ø16	40	13	1/4"
ECM 16 Zeta	STECM16Zeta	Ø22	49	17	3/8"
ECM 20 Zeta	STECM20Zeta	Ø26	54	19	1/2"
ECM 25 Zeta	STECM25Zeta	Ø30	60	22	1/2"
ECM 32 Zeta	STECM32Zeta	Ø38	70	27	1/2"
ECM 40 Zeta	STECM40Zeta	Ø48	80	27	1/2"

## Torque wrenches and adapters

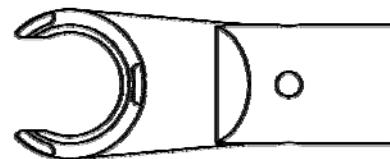
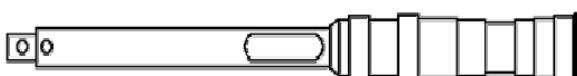
type	part number
------	-------------

Torque Wrench      100TH15-80Lbf.ft  
                        20-100 Nm

Torque Wrench      60TH5-45Lbf.ft  
                        8-60 Nm

type	part number
------	-------------

To adapter ET 08 Zeta      THET08  
 To adapter ET 11-12 Zeta      THET11-12  
 To adapter ET 16 Zeta      THET16  
 To adapter ET 20 Zeta      THET20  
 To adapter ET 25 Zeta      THET25  
 To adapter ET 32 Zeta      THET32  
 To adapter ET 40 Zeta      THET40  
 To adapter ET 50 Zeta      THET50  
 To adapter OT 25 Zeta      THOT25

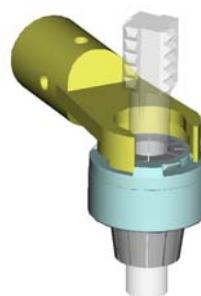


## Technical Data

### Torque specifications

type	Nm	Lbf.ft
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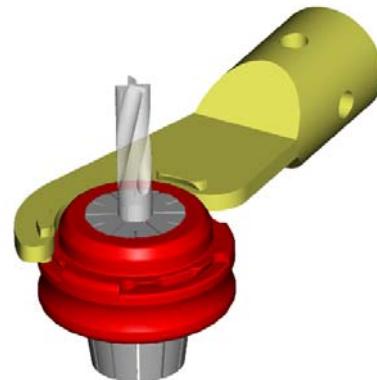
ERM 08	12	9
ERM 11	25	18
ERM 12	25	18
ER M16	40	30
ERM 20	55	40
ERM 25	60	44
ERM 32	70	50



# Torque specifications for Zeta Safety Clamping System

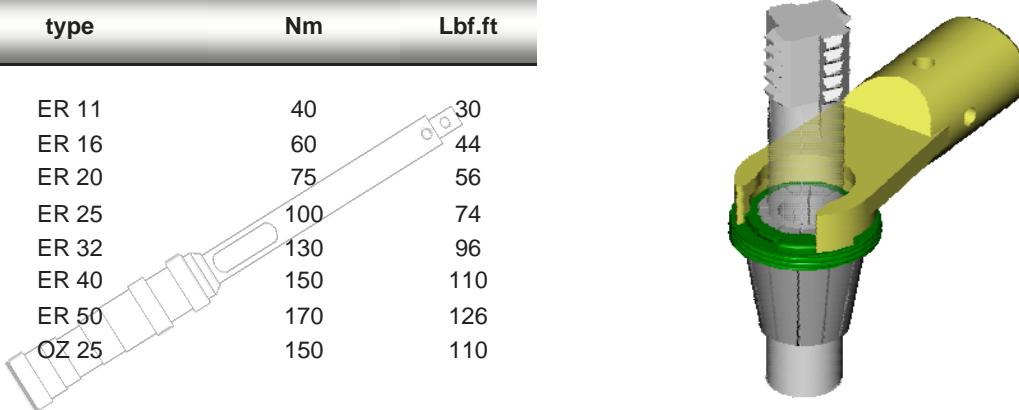
## Torque specifications for collet nut type ERST and ERSD

type	Nm	Lbf.ft
ERST / ERSD 16	60	44
ERST / ERSD 20	75	56
ERST / ERSD 25	100	74
ERST / ERSD 32	130	96
ERST / ERSD 40	150	110



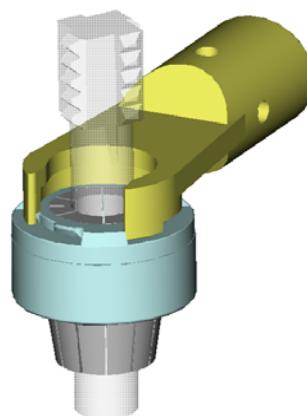
## Torque specifications for collet nut type ER and OZ/RDO

type	Nm	Lbf.ft
ER 11	40	30
ER 16	60	44
ER 20	75	56
ER 25	100	74
ER 32	130	96
ER 40	150	110
ER 50	170	126
OZ 25	150	110



## Torque specifications collet nut type ERM- Zeta

type	Nm	Lbf.ft
ERM 08	12	9
ERM 11	25	18
ERM 12	25	18
ER M16	40	30
ERM 20	55	40
ERM 25	60	44
ERM 32	70	50



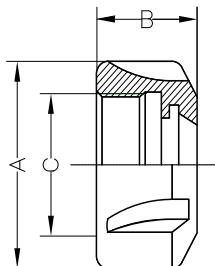


# standard collet nuts

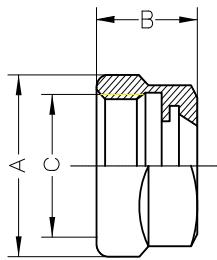


# ER standard System Variations

## Nuts for collets DIN 6499 Type ER/ESX

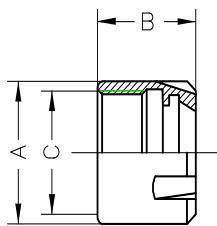


type	order number	A	B	C
<b>UM/ER 16</b>	SPAMU16UMERPROF	32	17,5	M 22x1,5
<b>UM/ER 20</b>	SPAMU20UMERPROF	35	19	M 25x1,5
<b>UM/ER 25</b>	SPAMU25UMER	42	20	M 32x1,5
<b>UM/ER 32</b>	SPAMU32UMER	50	23	M 40x1,5
<b>UM/ER 40</b>	SPAMU40UMER	63	25	M 50x1,5
<b>UM/ER 50</b>	SPAMU50UMER	78	35,5	M 64x2



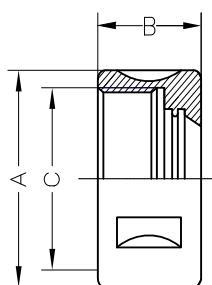
type	order number	A	B	C
<b>UM/ER 11 SW</b>	SPAMU11UMERSW	19	11,3	M 14x0,75
<b>UM/ER 16 SW</b>	SPAMU16UMERSW	28	17,5	M 22x1,5
<b>UM/ER 20 SW</b>	SPAMU20UMERSW	34	19	M 25x1,5

## Mini nuts for collets DIN 6499 Type ER/ESX



type	order number	A	B	C
<b>ER - 8 - M</b>	SPAMU08ERM	12	10,8	M 10x0,75
<b>ER - 11 - M</b>	SPAMU11ERM	16	11,3	M 13x0,75
<b>ER - 16 - M</b>	SPAMU16ERM	22	17	M 19x1,0
<b>ER - 20 - M</b>	SPAMU20ERM	28	19	M 24x1,0
<b>ER - 25 - M</b>	SPAMU25ERM	35	20	M 30x1,0

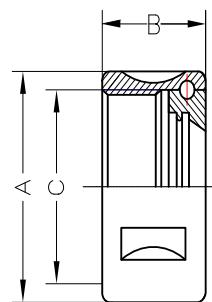
## Nuts for collets DIN 6499 Type ER/ESX



type (right)	order number	A	B	C
OZ - ER 16	SPAMU16OZER	32	17,5	M 22x1,5
OZ - ER 20	SPAMU20OZER	35	19	M 25x1,5
OZ - ER 25	SPAMU25OZER	42	20	M 32x1,5
OZ - ER 32	SPAMU32OZER	50	23	M 40x1,5
OZ - ER 40	SPAMU40OZER	63	25	M 50x1,5

type (left)	order number	A	B	C
OZ - ER 16L	SPAMU16OZERL	32	17,5	M 22x1,5
OZ - ER 20L	SPAMU20OZERL	35	19	M 25x1,5
OZ - ER 25L	SPAMU25OZERL	42	20	M 32x1,5
OZ - ER 32L	SPAMU32OZERL	50	23	M 40x1,5
OZ - ER 40L	SPAMU40OZERL	63	25	M 50x1,5

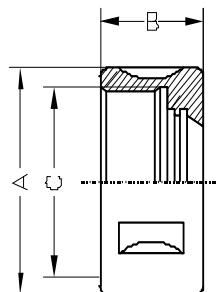
## Ball- bearing nuts for collets DIN 6499 Type ER/ESX



type (right)	order number	A	B	C
OZ - KM/ER 16	SPAMU16OZKMER	32	17,5	M 22x1,5
OZ - KM/ER 20	SPAMU20OZKMER	35	19	M 25x1,5
OZ - KM/ER 25	SPAMU25OZKMER	42	20	M 32x1,5
OZ - KM/ER 32	SPAMU32OZKMER	50	23	M 40x1,5
OZ - KM/ER 40	SPAMU40OZKMER	63	29	M 50x1,5

type (left)	order number	A	B	C
OZ - KM/ER 16L	SPAMU16OZKMERL	32	17,5	M 22x1,5
OZ - KM/ER 20L	SPAMU20OZKMERL	35	19	M 25x1,5
OZ - KM/ER 25L	SPAMU25OZKMERL	42	20	M 32x1,5
OZ - KM/ER 32L	SPAMU32OZKMERL	50	23	M 40x1,5
OZ - KM/ER 40L	SPAMU40OZKMERL	63	29	M 50x1,5

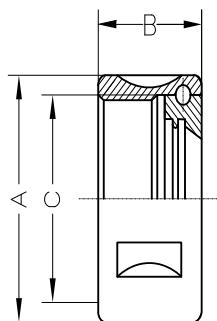
## Nuts for collets DIN 6388 (w/o bearing)



type (right)	order number	A	B	C
OZ. 1809	SPAMU1809OZF	18	14	M 14x1
OZ. 1820	SPAMU1820OZF	26	19	M 20x1,5
OZ. 1821	SPAMU1821OZF	30	19	M 22x1,5
OZ. 1822	SPAMU1822OZF	35	20	M 27x1,5
OZ. 1823	SPAMU1823OZF	43	24	M 33x1,5
OZ. 1823-2	SPAMU1823-2OZF	43	24	M 30x1,5
OZ. 1824	SPAMU1824OZF	53	28	M 42x2
OZ. 1825	SPAMU1825OZF	60	30	M 48x2

type (left)	order number	A	B	C
OZ. 1821 L	SPAMU1821OZFL	30	19	M 22x1,5
OZ. 1822 L	SPAMU1822OZFL	35	20	M 27x1,5
OZ. 1823 L	SPAMU1823OZFL	43	24	M 33x1,5
OZ. 1823-2 L	SPAMU1823-2OZFL	43	24	M 30x1,5
OZ. 1824 L	SPAMU1824OZFL	53	28	M 42x2
OZ. 1825 L	SPAMU1825OZFL	60	30	M 48x2

## Ball- bearing nuts for collets DIN 6388



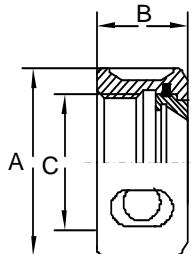
type (right)	order number	A	B	C
OZ. 1823 K	SPAMU1823OZK	43	24	M 33x1,5
OZ. 1823-2 K	SPAMU1823-2OZK	43	24	M 30x1,5
OZ. 1824 K	SPAMU1824OZK	53	28	M 42x2
OZ. 1825 K	SPAMU1825OZK	60	30	M 48x2
OZ. 1826 K	SPAMU1826OZK	72	28	M 60x2,5
OZ. 1827 K	SPAMU1827OZK	85	30	M 68x2,5

type (left)	order number	A	B	C
OZ. 1823 KL	SPAMU1823OZKL	43	24	M 33x1,5
OZ. 1823-2 KL	SPAMU1823-2OZKL	43	24	M 30x1,5
OZ. 1824 KL	SPAMU1824OZKL	53	28	M 42x2
OZ. 1825 KL	SPAMU1825OZKL	60	30	M 48x2
OZ. 1826 KL	SPAMU1826OZKL	72	28	M 60x2,5
OZ. 1827 KL	SPAMU1827OZKL	85	30	M 68x2,5

balanced types on request

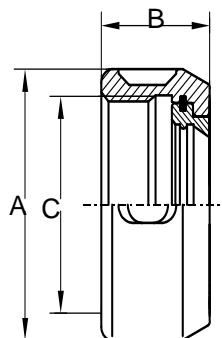
# ER Friction Bearing Collet Nut System Variations

High-speed friction bearing nuts for collets DIN 6499 Type ER/ESX



type	order number	A	B	C
OZ - ER 16 GL	SPAMU16OZERGL	32	17,5	M 22x1,5
OZ - ER 20 GL	SPAMU20OZERGL	35	19	M 25x1,5
OZ - ER 25 GL	SPAMU25OZERGL	42	20	M 32x1,5
OZ - ER 32 GL	SPAMU32OZERGL	50	23	M 40x1,5
OZ - ER 40 GL	SPAMU40OZERGL	63	25	M 50x1,5

Friction bearing nuts for collets DIN 6388

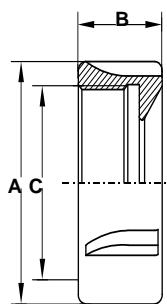


type	order number	A	B	C
OZ. 1825 GL	SPAMU1825OZGL	60	30	M48x2

# ETS

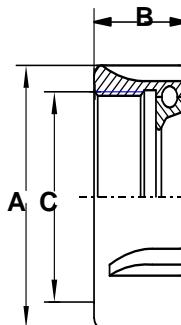
## System Variations

### Nuts for collets Type ETS (w/o bearing)



type	order number	A	B	C
<b>ETS 16</b>	SPAMU16ETS	32	15	M22x1,5
<b>ETS 20</b>	SPAMU20ETS	35	16,5	M25x1,5
<b>ETS 25</b>	SPAMU25ETS	42	18,5	M32x1,5
<b>ETS 32</b>	SPAMU32ETS	50	22	M40x1,5
<b>ETS 40</b>	SPAMU40ETS	63	25	M50x1,5

### Ball- bearing nuts for collets Type ETS

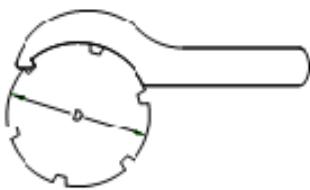


type	order number	A	B	C
<b>ETS 32 K</b>	SPAMU32ETSK	50	24	M40x1,5
<b>ETS 40 K</b>	SPAMU40ETSK	63	27	M50x1,5

# Operating Tools

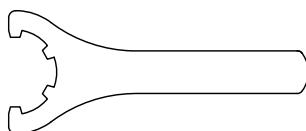
## Standard Variations

### Spanner wrenches for nuts DIN 6388



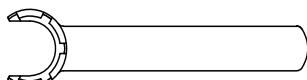
order number	D	SW
SCHDIN638818	18	18-16
SCHDIN638826	26	26-25
SCHDIN638830	30	30-28
SCHDIN638835	35	35-34
SCHDIN638843	43	43-40
SCHDIN638850	50	45-50
SCHDIN638860	60	60-58
SCHDIN638872	72	72-68
SCHDIN638885	85	85-80

### Spanner wrenches for nuts DIN 6499



order number	Size
SCHDIN649916	16
SCHDIN649920	20
SCHDIN649925	25
SCHDIN649932	32
SCHDIN649940	40
SCHDIN649950	50

### Spanner wrenches for nuts DIN 6499 Mini

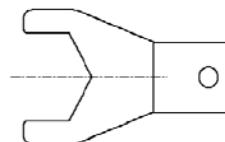


order number	Size
SCHDIN6499MINI08	08
SCHDIN6499MINI11	11
SCHDIN6499MINI16	16
SCHDIN6499MINI20	20
SCHDIN6499MINI25	25

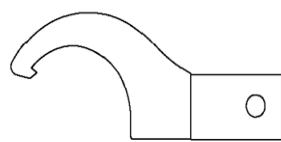
## Torque wrenches and adapters

<b>type</b>	<b>order number</b>	<b>Size</b>
Torque Wrench	300TH 45-220Lbf.ft	60-300 Nm
Torque Wrench	200TH 30-150Lbf.ft	40-200 Nm
Torque Wrench	100TH 15-80Lbf.ft	20-100 Nm
Torque Wrench	60TH 5-45Lbf.ft	8-60Nm

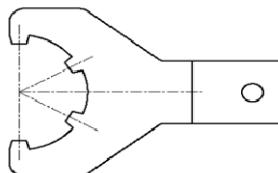
<b>order number / size</b>	<b>Nm</b>
To adapter 16 hex	60
To adapter 20 hex	70



<b>order number / size</b>	<b>Nm</b>
To adapter 40-43 DIN	80
To adapter 45-50 DIN	120
To adapter 60-62 DIN	160



<b>order number / size</b>	<b>Nm</b>
To adapter 16	60
To adapter 20	70
To adapter 25	90
To adapter 32	120
To adapter 40	160



## Torque specification data

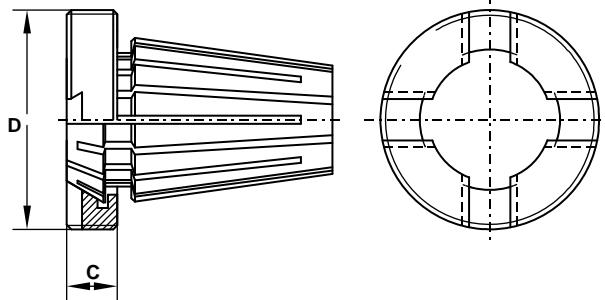
<b>type</b>	<b>Nm</b>	<b>Lbf.ft</b>	<b>type</b>	<b>Nm</b>	<b>Lbf.ft</b>
ER 11	40	30	ERM 11	25	18
ER 16	60	44	ERM 12	25	18
ER 20	75	56	ERM 16	40	30
ER 25	100	74	ERM 20	55	40
ER 32	130	96	ERM 25	60	44
ER 40	150	110	ERM 32	70	50
ER 50	170	126			
OZ 25	150	110			

# ER AZ

## System Variations

Collet nut with outside thread, for short chucks DIN 6499

Typ ER-AZ



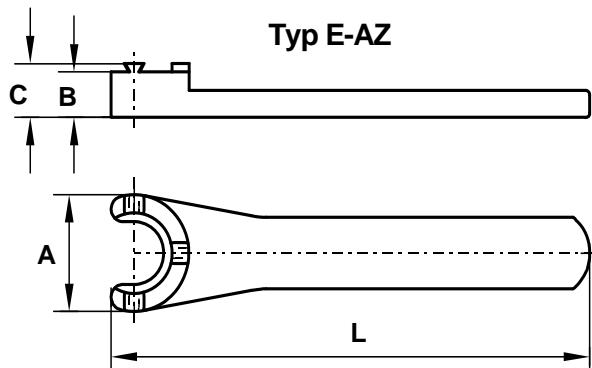
type	order number	C	D
ER 11 AZ	SPMU11ERAZ	4	M18x1
ER 16 AZ	SPMU16ERAZ	6	M24x1
ER 20 AZ	SPMU20ERAZ	6,5	M28x1,5
ER 25 AZ	SPMU25ERAZ	7	M32x1,5
ER 32 AZ	SPMU32ERAZ	7,5	M40x1,5
ER 40 AZ	SPMU40ERAZ	10	M50x1,5

Collet nut with outside thread, for short chucks DIN 6388

type	order number	B	C
OZ 25 AZ	SPAMU25OZAZ	10	M43x1,5

# ER AZ Operating Tools

## Spanner wrench for nut type ER-AZ



type	order number	A	L
E 11 AZ	SCH11EAZ	Ø16	150
E 16 AZ	SCH16EAZ	Ø21	180
E 20 AZ	SCH20EAZ	Ø26	180
E 25 AZ	SCH25EAZ	Ø30	200
E 32 AZ	SCH32EAZ	Ø37	215
E 40 AZ	SCH40EAZ	Ø47	240

## Spanner wrench for nut type OZ-AZ

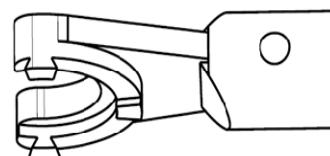
type	order number	A	L
OZ 25 AZ	SCH25OAZ	Ø40	215

## Torque wrenches and adapters

type	Order number	Size
Torque Wrench	300TH 45-220Lbf.ft	60-300 Nm
Torque Wrench	200TH 30-150Lbf.ft	40-200 Nm
Torque Wrench	100TH 15-80Lbf.ft	20-100 Nm
Torque Wrench	80TH 5-45Lbf.ft	8-60Nm



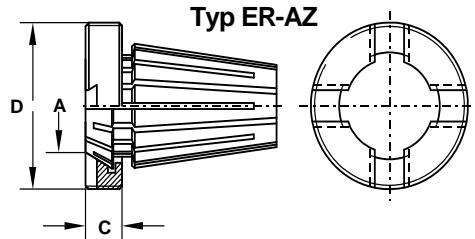
order number / size	Nm
To adapter ER16 AZT	60
To adapter ER20 AZT	70
To adapter ER25 AZT	90
To adapter ER32 AZT	120
To adapter ER40 AZT	160
To adapter OZ25 AZT	160



# ER AZ

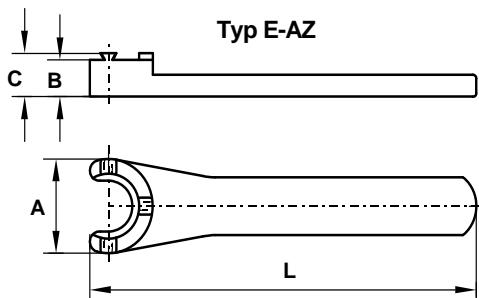
## Data Sheet

### Collet nut with outside thread, for short chucks DIN 6499 & 6388



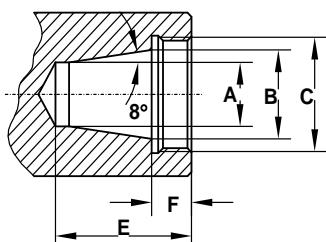
type	A	C	D
ER 11 AZ	Ø8,5	4	M18x1
ER 16 AZ	Ø12,5	6	M24x1
ER 20 AZ	Ø15,5	6,5	M28x1,5
ER 25 AZ	Ø20	7	M32x1,5
ER 32 AZ	Ø27	7,5	M40x1,5
ER 40 AZ	Ø33	10	M50x1,5
OZ 25 AZ	Ø34	10	M43x1,5

### Spanner wrench for nut type ER-AZ and OZ-AZ



type	A	B	C	L
E 11 AZ	Ø16	10	12	150
E 16 AZ	Ø21	10	12	150
E 20 AZ	Ø26	10	12	150
E 25 AZ	Ø30	10	12	172
E 32 AZ	Ø37	9,5	12	215
E 40 AZ	Ø47	9,5	12	240
O 25 AZ	Ø40	9,5	12	215

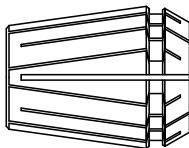
### Design dimensions for collet locations on machining spindles



type	A	B	C	E	F
ER 11 AZ	7,5	11	M18x1,0	23,5	6,5
ER 16 AZ	10,5	16	M24x1,0	32	10
ER 20 AZ	13,5	20	M28x1,5	37,5	11
ER 25 AZ	18,0	25	M32x1,5	41	12
ER 32 AZ	23,5	32	M40x1,5	46,5	12,5
ER 40 AZ	30,5	40	M50x1,5	53	15
OZ 25 AZ	29,5	32,9	M43x1,5	57	16

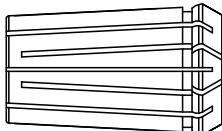
# Collets

Collets after DIN 6499 system Rego-Fix (Inch sizes available)



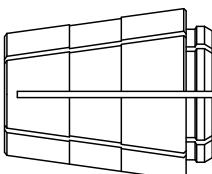
type	1.0mm Increments	order number
426 E / ER 16	1 - 10 mm	SPAZ16DIN6499 001-010
428 E / ER 20	2 - 13 mm	SPAZ20DIN6499 002-013
430 E / ER 25	2 - 16 mm	SPAZ25DIN6499 002-016
470 E / ER 32	3 - 20 mm	SPAZ32DIN6499 003-020
472 E / ER 40	4 - 26 mm	SPAZ40DIN6499 004-026

Collets after DIN 6388 system OZ (inch sizes available)



type	0.5mm Increments	order number
410 E / OZ 16	2 - 16 mm	SPAZ16DIN6388 001-016
415 E / OZ 16	2 - 16 mm	SPAZ16DIN6388 002-016
444 E / OZ 25	2 - 25 mm	SPAZ25DIN6388 001-025
462 E / OZ 25 (RDO35)	2 - 25 mm	SPAZ25DIN6388 002-025
467 E / OZ 32	4 - 32 mm	SPAZ32DIN6388 004-032
450 E / OZ 32	4 - 32 mm	SPAZ32DIN6388 003-032

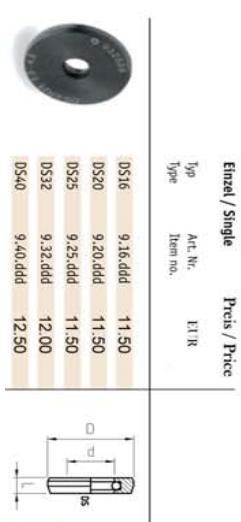
Collets after system ETS (Inch sizes available)



type	1.0mm Increments	order number
ET-SE 16	1 - 10 mm	SPAZ16ET-SE 001-010
ET-SE 20	2 - 13 mm	SPAZ20ET-SE 002-013
ET-SE 25	2 - 16 mm	SPAZ25ET-SE 002-016
ET-SE 32	3 - 20 mm	SPAZ32ET-SE 003-020
ET-SE 40	4 - 26 mm	SPAZ40ET-SE 004-026

# Typ DS

Dichtscheiben und Dichtscheibensatz  
DIN 6499 / DIN 6388 / Erickson  
Sealing disks and sealing disk set  
DIN 6499 / DIN 6388 / Erickson



Einzel / Single			Preis / Price		
Type	Art. Nr. Item no.	EUR		D	L
DS16	9.16.ddd	11.50		13.0	4.0
DS20	9.20.ddd	11.50	X	16.0	4.0
DS25	9.25.ddd	11.50	X	21.0	4.0
DS32	9.32.ddd	12.00	X	27.0	4.0
DS40	9.40.ddd	12.50	X	33.5	4.0

Halber Satz / Half set			Preis / Price		
Type	Art. Nr. Item no.	EUR		D	L
DS16S1	9.16.001	147.30		13.0	4.0
DS20S1	9.20.001	209.00	X	16.0	4.0
DS25S1	9.25.001	270.00	X	21.0	4.0
DS32S1	9.32.001	354.00	X	27.0	4.0
DS40S1	9.40.001	479.00	X	33.5	4.0

\*1) Bitte beachten Sie die Rechtsnachte des gesamten Werkzeugsystems

\*2) Nur ER und EX kompatible Zangen

## **CONDITIONS OF SALE**

### **Delivery**

Shipping dates are approximate and are based upon prompt receipt of all necessary information.

The Company shall not be liable for delays in delivery or failure to manufacturer of delivery (1) due to causes beyond its reasonable control, or (2) due to acts of God, acts of the Purchaser, acts of civil or military authorities, priorities, fires, strikes, floods, epidemics, war, riot, delays in transportation or car shortages, or (3) inability due to causes beyond its reasonable control to obtain necessary labor, materials, components or manufacturing facilities. In the event of any such delay, the date of delivery shall be extended for a period equal to the time lost by reason of the delay.

In all cases, risk or damage to goods in transit shall fall upon the Purchaser, whose responsibility it shall be to file claims with the carrier.

### **Payments**

Each shipment shall be considered a separate and independent transaction, and payment therefore shall be made accordingly. If shipments are delayed by the Purchaser, payments shall become due on the date when the Company is prepared to make shipment. If the work to be performed hereunder is delayed by the Purchaser, payments shall be made based on the purchase price and the percentage of completion. Products held for the Purchaser shall be at the risk and expense of the Purchaser if the financial condition of the Purchaser at any time does not, in the judgment of the Company, justify continuance of the work to be performed by the Company hereunder on the terms of the payment as agreed upon, the Company may require full or partial payment in advance or shall be entitled to cancel any order then outstanding and shall receive reimbursement for its reasonable and proper cancellation charges, and in the event of bankruptcy or insolvency of the purchaser or in the event any proceeding is brought against the Purchaser, voluntary or involuntary under the bankruptcy or any insolvency laws, the Company shall be entitled to cancel any order then outstanding at any time during the period allowed for filing claims against the estate and shall receive reimbursement for its reasonable and proper cancellation charges.

All invoices are due and payable not later than 30 days from date of invoice unless specific terms have been agreed to or granted. Orders may be prepaid by either MASTERCARD, VISA, or AMEX credit cards.

### **Sales and Similar Taxes**

Unless otherwise stated herein, the Company's prices do not include sales, use, excise or similar taxes. Consequently, in addition to the price specified herein, the amount of any present or future sales, use excise or other similar tax applicable to the sale or use of the equipment hereunder shall be paid by the Purchaser, or in lieu thereof the Purchaser shall provide the Company with a tax-exemption certificate acceptable to the taxing authorities.

### **Cancellations and Returns**

The Purchaser may cancel his order only upon written notice and upon payment to the Company of the reasonable and proper cancellation charges. No returns will be accepted after 30 days from the date of receipt of goods.

Cancellation charges are 15% of the order value on standard products and no cancellation will be accepted on special orders, these would include tooling that has been laser marked with purchaser's company name or logo.

### **Limitation of Liability**

The Company's liability on any claim of any kind, including negligence, for any loss or damage arising out of, connected with, or resulting from this contract, or from the performance of breach therefore, or from the manufacture, sale, delivery, resale, repair or use of any product covered by or furnished under this contract shall in no case exceed the price allocable to the product covered by or furnished under this contract nor exceed the price allocable to the product or part thereof which gives rise the claim. In no event shall the Company be liable for special or consequential damages.

### **Security Title**

Title and right of possession of the products sold hereunder shall remain with the Company and such products shall remain personal property until all payments hereunder (including deferred payments whether evidenced by notes or otherwise) shall have been made in full in each, and the Purchaser agrees to do all acts necessary to perfect and maintain such right and title in the Company.

### **General**

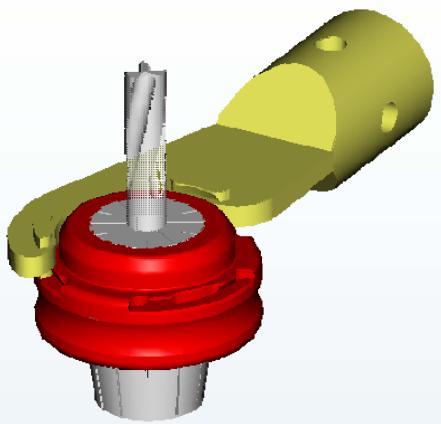
The product sold hereunder was not designed or manufactured for use in or with any atomic installation or activity. If so used, the Company disclaims all responsibility of every kind, including negligence, and in addition the Purchaser shall indemnify and hold the Company harmless for any liability or damage whatsoever arising out of the use of the product in such a manner.

### **Pricing / Delivery**

Pricing and availability subject to change without notice. All orders will be furnished at prices in effect at the time of order.

### **Delivery Terms**

All prices are F.O.B. Weston, FL 33327 including any handling or packing charges if applicable.



**T-Tool USA, LLC**  
**2850 Glades Circle, Suite 11**  
**Weston, FL 33327**

**Phone: 954-358-6071 / Fax: 954-358-6073**  
**Sales@T-ToolUSA.com**  
**www.T-ToolUSA.com**

**Your authorized dealer:**

