



precise. powerful. intelligent.

CENTRO|Eco
Precision collet chucks

A detailed close-up photograph of a precision collet chuck, showing its complex mechanical structure and polished metal surfaces. The chuck is mounted on a cylindrical shaft, and the image highlights the precision engineering of its clamping mechanism.

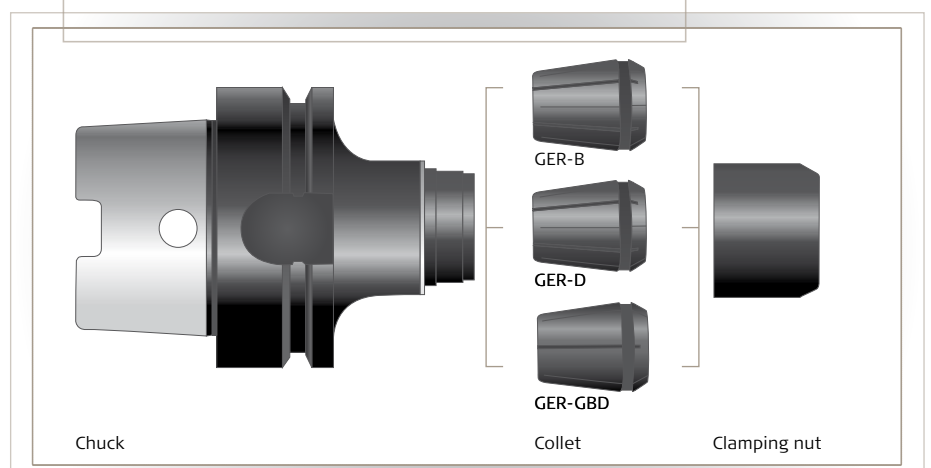
CENTRO|Eco – the limited special edition

Tool clamping systems from FAHRION have been extremely successful in the market for years, and represent the ultimate in precision, quality and economy. The CENTRO|P precision collet chuck has become technically highly accepted, and has acquired a very good reputation among its users. A finely-structured and broad range of products offers extensive solutions for all applications. Our philosophy is that a high-quality chuck of this type offers many benefits, precisely where an economical solution is important, despite its somewhat higher purchase price: It more than pays for itself because it provides better results, longer tool life, and due to the long life of the machine spindle. The intelligent, simple clamping technology makes expensive and elaborate alternatives such as hydraulic expansion and shrinking techniques redundant. And, if one considers the marginally-higher prices compared to standard collet chucks in relation to other quality-enhancing engineering measures in machine tools and in their application, the FAHRION system usually wins, by miles.

FAHRION offers an inexpensive collet chuck below the CENTRO|P in the newly-developed special edition CENTRO|Eco, which is limited to the commonest types. Our goal is to gain new clients by means of a very favorable price and due to the high quality of our products. The CENTRO|Eco is produced in large series with fewer machining steps. This enables us to achieve an unparalleled price – without compromising in terms of accuracy and holding force.



How is the FAHRION modular system structured?



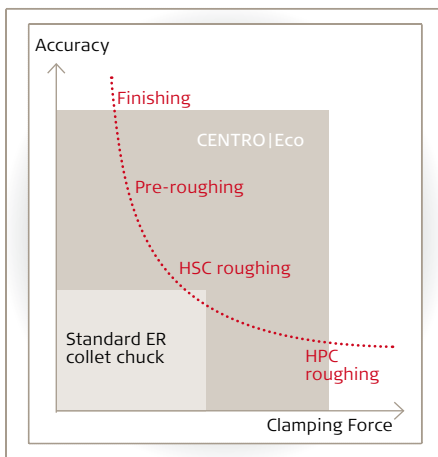
The most precise chuck is also the most economical

What is the use of a particularly precise collet chuck, if it costs more than a standard collet chuck? That is easy to explain: for you, higher precision means better machining results with smaller manufacturing tolerances and less rework needed. In addition, longer cutting tool life is achieved, and the machine spindle is preserved. Altogether, these benefits save far more money than the manageable extra costs of a precision collet chuck. In any case, those are no longer of any concern when using the CENTRO|Eco. Try it.



precise.

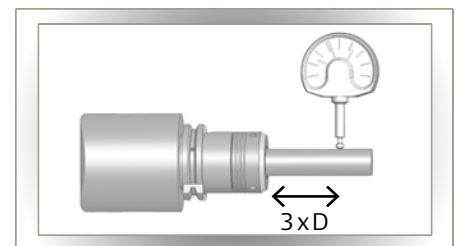
FAHRION achieves real 6 µm system accuracy with the CENTRO|Eco



= Accuracy and holding force
Due to unique, patented design features, the FAHRION CENTRO|Eco achieves significantly higher accuracy than conventional collet chucks. A further result of the system intelligence is the significantly higher holding forces. That combination opens up a considerably wider field of application.



= Optimum design
The grinded 30° trapezoidal thread and the special coating of the nut reduce friction and, together with the double guiding, ensure accurate centring of the nut in the chuck. The nut itself is completely round. The symmetrical structure results in minimum imbalance.



= High concentricity and repeatability
When our GER-B and GER-D collets are used, we guarantee a definitive system accuracy of 6 µm.

The CENTRO|Eco system is thus up to three times as precise as conventional ER collet chucks.

= Maximum balancing quality
As standard, the CENTRO|Eco precision collet chucks are finely balanced with G 2.5 at up to 22.000 rpm or ≤ 1 gmm. Hence, maximum dimensional accuracy, surface quality and tool life is achieved. The chuck is a central element for dampening vibrations in the system of the machine spindle, tool holder and tool.

Force is not everything. But it's a whole lot ...

The primary task of every tool clamping system is to hold the tool as strong as possible. Depending on the material, the specific machining task and the clamping situation, milling parameters such as: depth of feed, feeding speed, and removal rate are defined for heavy roughing. This leads to the greatest possible material removal rate, without the danger of tool withdrawal and the associated risk of scrap.

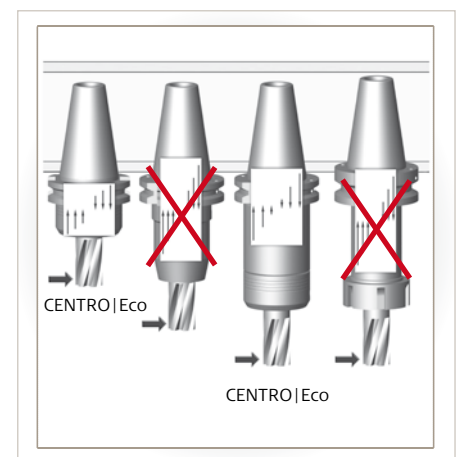
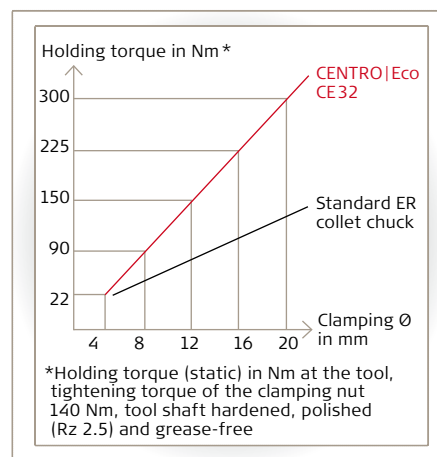
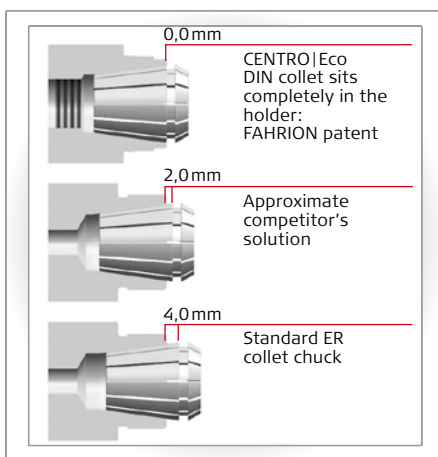
Many factors that are all responsible for safe, effective and economic operation depend on the holding force. Compared to conventional systems, the innovative, patented FAHRION collet chuck system has been further developed in many technological details, and always offers quite a bit more than others in every tool clamping discipline.

powerful.



The CENTRO|Eco

– principle-related force development



= High holding force

The patented FAHRION collet system enables holding forces to be achieved that are twice as big as those of conventional collet chucks. The collet sits completely in the chuck cone, and does not apply the usual bridging.

Further details, such as the grinded trapezoidal thread with a double guiding and the central tightening by means of a roller bearing wrench technology, further increase the holding forces so that very high machining safety is guaranteed and roughing work is possible.

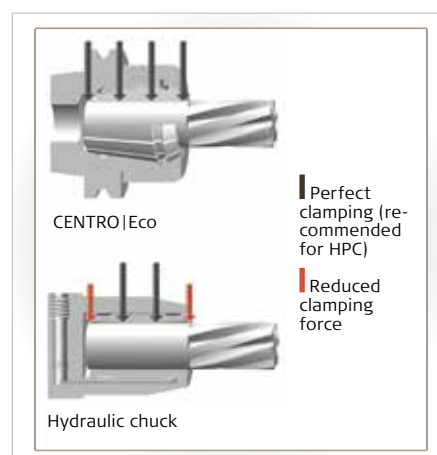
= High rigidity

The CENTRO|Eco is designed in accordance with the latest findings and consistently reduces bending and compressive forces. The reinforcement of the chuck body to the diameter of the clamping nut creates immense stability with optimum interference contours.

= Strong, robust, and resistant

Robustness and resistance is also a strength.

The CENTRO|Eco is resistant to temperature fluctuations and is entirely suitable for dry machining and hard milling up to 200 °C. The black burrishing also offers initial protection against rust.



= Immense stability

Thanks to the design of the CENTRO|Eco the clamping forces are distributed evenly over the entire cylindrical surface of the tool shaft. Radial forces are absorbed optimally, and optimal surfaces result when milling.

Technical intelligence is manifest in many impressive details

FAHRION's most important technical principle has always been to keep things simple. For us, a technical development only reaches full maturity when it is understandable at first sight – and usually when it is amazingly simple. And that is precisely what we have succeeded in doing with our precision collet chucks. A unique design consistently reduces the complexity and increases the variability of the areas of application. Constructive intelligence is the basis of the complete system, and the CENTRO|Eco series represents a new high point in the philosophy of simple perfection.

Consistent innovation and maximum flexibility

= Consistently innovative

Precision collet chucks by FAHRION have been perfected over a period of many years, making use of a great deal of experience and benefit from large investments in development. It is often the smallest details that move us forward – and which ultimately provide the technical advantage. For many years, we have worked with our customers to turn practical requirements into useful products.

= Greatest possible dampening

The constructive principle of our collets absorbs vibrations. Perfectly calculated masses optimise cushioning even more.

= Eco is also ecological

Sustainability is not just a question of money, but also of conscientious dealing with energy and resources. Thanks to its perfect concentricity, CENTRO|Eco reduces the power consumption of the spindle. Workpieces can be machined in a shorter time, as a result of which, less electricity is used.

Dry machining is possible, saving the costs for water, cooling units, and disposal. In addition, tool wear is reduced, and the tools don't need to be replaced so often.

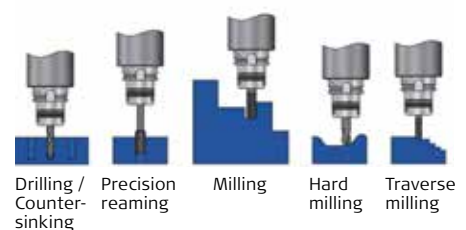
= Optimum handling

FAHRION relies on simplicity where handling is concerned, too. Despite its many technical advantages, an ingeniously simple, mechanical collet chuck requires no peripheral devices. It can be clamped simply, quickly, and securely, using the roller bearing wrench.

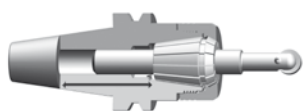
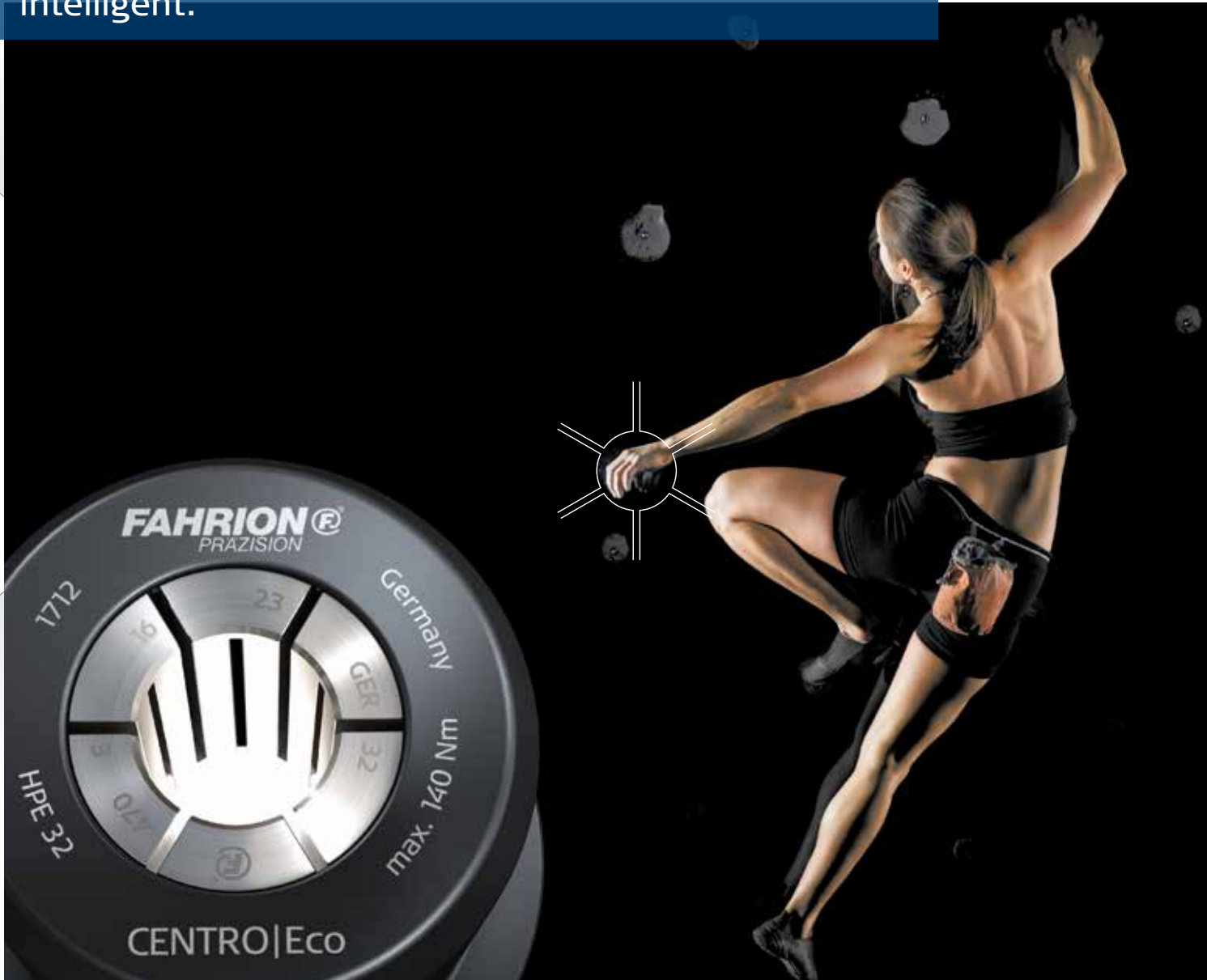
The high purchase costs for technical aids can be dispensed with.

= Universally usable

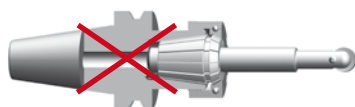
The CENTRO|Eco is ideal for drilling, countersinking, reaming, milling, for HPC / HSC, and for thread tapping.



intelligent.



Tool clearance
CENTRO|Eco



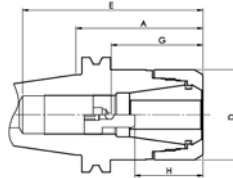
Tool clearance
Conventional collet
chuck

= Largest possible tool clearance
The CENTRO|Eco is designed in such a way that it offers the largest possible tool clearance and thus an extra-long length adjustment range. Hence, the tool can be clamped at the optimum tool projection length, whereby vibration is prevented, the tool is preserved, and the surface finish is optimised.

= Variable cooling
CENTRO|Eco is suitable for all methods of cooling lubricant supply (central, laterally via the collar, minimum quantity lubrication, air cooling or peripheral cooling along the shaft).

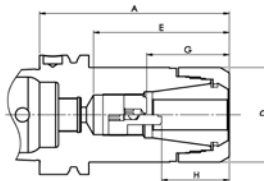
= On request with bridging
By means of a special clamping nut, bridging up to 0.4 mm can be achieved with the GER-B collet.

CENTRO|Eco collet chuck



GER with taper shanks DIN 69871 Form AD – version for HPE standard nuts

Description	Order-No.	Form	D	A ¹⁾	Max. tool insertion depth without stop	Tool insertion depth with stop				Clamping Range / Collets	Clamping Nuts
						Type U		Type W			
					E	G max.	G min.	H max.	H min.		
CE16-AD40-A=70	41315000700	AD	30	70	110	45	28	31	16	1,0 – 10,0 GER16-B/D/GBD	HPE16
CE16-AD40-A=100	41315001000			100	138						
CE25-AD40-A=70	41515000700	AD	40	70	110	60	35	42	20	1,0 – 16,0 GER25-B/D/GBD	HPE25
CE25-AD40-A=100	41515001000			100	113						
CE32-AD40-A=70	41615000700	AD	50	70	100	75	55	62	42	2,0 – 20,0 GER32-B/D/GBD	HPE32
CE32-AD40-A=100	41615001000			100	113	70	42	52	32		



GER with hollow shaft taper HSK-DIN 69893 Form A – version for HPE standard nuts

Description	Order-No.	Form	D	A ¹⁾	Max. tool insertion depth without stop	Tool insertion depth with stop				Clamping Range / Collets	Clamping Nuts
						Type U		Type W			
					E	G max.	G min.	H max.	H min.		
CE16-HSK-A63-A=100	41326001000	A	30	100	71	45	28	31	16	1,0–10,0 GER16-B/D/GBD	HPE16
CE25-HSK-A63-A=100	41526001000	A	40	100	70	38	31	-	-	1,0–16,0 GER25-B/D/GBD	HPE25
CE32-HSK-A63-A=70	41626000700	A	50	70	46	-	-	-	-	2,0–20,0	HPE32
CE32-HSK-A63-A=100	41626001000			100	71	57	41	39	26	GER32-B/D/GBD	

CENTRO | Eco collet chuck



GER with taper shanks MAS/BT (JIS B 6339) Form AD – version for HPE standard nuts

Description	Order-No.	Form	D	A ¹⁾	Max. tool insertion depth without stop	Tool insertion depth with stop				Clamping Range / Collets	Clamping Nuts
					E	Type U G max.	G min.	Type W H max.	H min.		
CE16-BT40-A=70 (AD)	41365000700	AD	30	70	110	45	28	31	16	1,0 – 10,0 GER16-B/D/GBD	HPE16
CE16-BT40-A=100 (AD)	41365001000			100	138						
CE25-BT40-A=70 (AD)	41565000700	AD	40	70	110	60	35	42	20	1,0 – 16,0 GER25-B/D/GBD	HPE25
CE25-BT40-A=100 (AD)	41564001000			100	113						
CE32-BT40-A=70 (AD)	41665000700	AD	50	70	100	75	55	62	42	2,0 – 20,0 GER32-B/D/GBD	HPE32
CE32-BT40-A=100 (AD)	41665001000			100	113						

Clamping nuts for CENTRO | Eco



GER clamping nuts HPE

Description	Order no.	D	L	For collet chucks
HPE16	4181200	30	23,4	CE16
HPE25	4181400	40	25,6	CE25
HPE32	4181500	50	26,9	CE32

- = for high spindle rotation speeds
- = for high-precision clamping of HPC tools
- = only the nominal diameter can be clamped

GER HSS clamping nuts with bridging

Description	Order no.	D	L	For collet chucks
CP16-HSS-Ø-0,4 ¹	4185200	30	21,3	CE16
CP25-HSS-Ø-0,4 ¹	4185400	40	23,8	CE25
CP32-HSS-Ø-0,4 ¹	4185500	50	24,9	CE32

- = for clamping HSS tools
- = limited speed (pre-balanced)
- = with bridging (minus 0.4 mm)

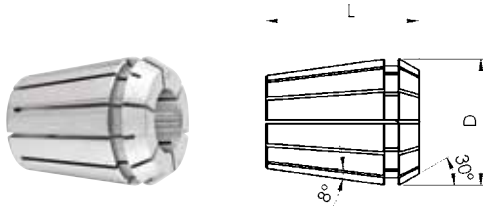
GER clamping nuts HSS-DI with bridging and for sealing discs

Description	Order no.	D	L	For collet chucks
CP16-HSS-DI-Ø-0,4 ¹	4186200	30	24,8	CE 16
CP25-HSS-DI-Ø-0,4 ¹	4186400	40	26,8	CE 25
CP32-HSS-DI-Ø-0,4 ¹	4186500	50	28,2	CE 32

- = for clamping HSS tools
- = limited speed (pre-balanced)
- = for sealing discs (for internal cooling or for an inward seal against dirt)
- = with bridging (minus 0.4 mm)

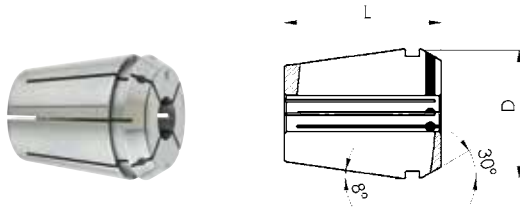
¹ not for GER-D, GER-GBD or GER GBDD collets.

Collets for CENTRO|Eco



GER-B precision collets DIN ISO 15488-B (ER/ESX) – 5 µm

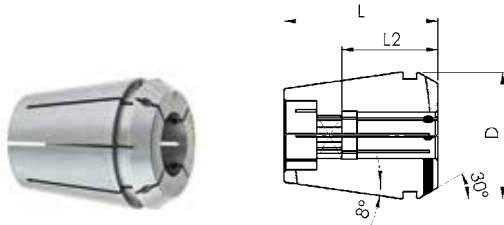
Description	Order no.	□	D	L	Profile	Bore from - to	Steps
426E GER16-B	1300101	5 µm	17	27,5	●	1,0 – 10,0	1,0
	1300104				●	1/16"•3/32"•1/8"•5/32"•3/16"•7/32"•1/4"•9/32"•5/16"•11/32"•3/8"•13/32"	
430E GER25-B	1300301	5 µm	26	34	●	1,0 – 16,0	1,0
	1300304				●	1/8"•3/16"•1/4"•5/16"•3/8"•7/16"•1/2"•9/16"•5/8"	
470E GER32-B	1300401	5 µm	33	40	●	3,0 – 20,0	1,0
	1300404				●	1/8"•3/16"•1/4"•5/16"•3/8"•7/16"•1/2"•9/16"•5/8"•11/16"•3/4"•13/16"	



GER-D precision collets similar to DIN ISO 15488-A with seal for IC (inner coolant) supply – 5 µm

Description	Order no.	□	D	L	Profile	Bore from - to	Steps
425E GER16-D	1346101	5 µm	16,7	27,5	●	3,0 – 10,0	1,0
	1346104				●	1/8"•3/16"•1/4"•5/16"•3/8"	
429E GER25-D	1346301	5 µm	25,7	34	●	3,0 – 16,0	1,0
	1346304				●	1/8"•3/16"•1/4"•5/16"•3/8"•7/16"•1/2"•9/16"•5/8"	
469E GER32-D	1346401	5 µm	32	40	●	3,0 – 20,0	1,0
	1346404				●	1/8"•3/16"•1/4"•5/16"•3/8"•7/16"•1/2"•9/16"•5/8"•3/4"	

Collets for CENTRO|Eco



GER-GBD tap collets similar to DIN ISO 15488-A with internal square drive and seal for IC (inner coolant) supply - 10 µm

Description	Order no.	□	D	L	L2	Profile	Standard Bore
4031E GER16-GBD	1332101	10 µm	16,7	27,5	18	●/■	2,8/2,1
					22	●/■	3,5/2,7•4,0/3,2•4,5/3,55•5,0/4,0•5,5/4,5•6,0/5,0•6,3/5,0•7,0/5,6•7,1/5,6
4282E GER25-GBD	1332301	10 µm	25,7	34	18	●/■	3,5/2,7•4,0/3,2•4,5/3,55•5,0/4,0•5,5/4,5•6,0/5,0•6,3/5,0•7,0/5,6•7,1/5,6
					22	●/■	8,0/6,3•9,0/7,1
					25	●/■	10,0/8,0•11,0/9,0•11,2/9,0•12,0/9,0•12,5/10,0•14,0/11,2•16,0/12,5
4537E GER32-GBD	1332401	10 µm	32,7	40	18	●/■	4,0/3,2•4,5/3,55•5,0/4,0•5,5/4,5•6,0/5,0•6,3/5,0•7,0/5,6•7,1/5,6
					22	●/■	8,0/6,3•9,0/7,1
					25	●/■	10,0/8,0•11,0/9,0•11,2/9,0•12,0/9,0•12,5/10,0•14,0/11,2•16,0/12,5
					30	●/■	18,0/14,5•20,0/16,0



Accessories for CENTRO|Eco



RO roller bearing wrench with handle

Description	Order no.	for clamping nuts
RO30	4990800	HPE16
RO40	4991400	HPE25
RO50	4991800	HPE32



DRO roller bearing heads

Description	Order no.	Square drive	for clamping nuts
DRO30	4993800	9 x 12	HPE16
DRO40	4994400	14 x 18	HPE25
DRO50	4994800		HPE32



DRMO torque setting wrench

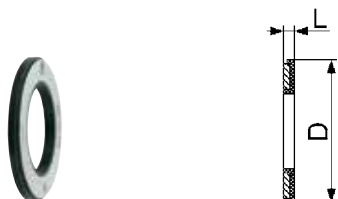
Description	Order no.	Square drive	Torque range	for roller bearing head
DRMO-10-100	4490400	9 x 12	10-100Nm	DRO30
DRMO-20-200	4490600	14 x 18	20-200Nm	DRO40•DRO50



TBR5 mounting device with roller bearing

Description	Order no.	D	for holder shanks
TBR563	4981200	63	SK40•HSK-A63•MAS/BT40

Accessories for CENTRO|Eco



DI sealing discs

Description	Order no.	D	L	Profile	Bore from - to	Steps	Bridging	for clamping nuts	for collets
DI16	2430301	12,6	2	●	1,0 – 10,0	0,5	+0,4 / -0,1	CP16-HSS-DI	426E
	2430304				1/8"•3/16"•1/4"•5/16"•3/8"				
DI25	2450301	20,2			2,0 – 16,0	0,5		CP25-HSS-DI	430E
	2460301				2,0 – 20,0	0,5			
DI32	2460304	26,2			1/8"•3/16"•1/4"•5/16"•3/8"•1/2"•5/8"•3/4"			CP32-HSS-DI	470E



Data carrier BIS (BALLUFF)

Description	Order no.	for collet chucks
BIS C-122-04/L	4499900	All HSK-A

Ordering example

without bridging
for maximum accuracy

with bridging

with bridging

Chuck

e.g. CE32-AD40-A=100

e.g. CE32-AD40-A=100

e.g. CE32-AD40-A=100

+ Clamping nut

e.g. HPE32

e.g. CP-HSS

e.g. CP-HSS-DI

+ Sealing disc

none

none

DI32

+ Collet

e.g. GER32-B

e.g. GER32-B

e.g. GER32-B

+ Accessories

wrench, stop screw, cone wiper, flex-hone brush, coolant pipe, tightening bolt, assembly fixture*

In order to guarantee the greatest possible flexibility in the application of the CENTRO|Eco precision collet chucks, we also offer a comprehensive range of accessories, in addition to the minimum equipment of chuck, clamping nut, and collet.

*For accessories, refer to the main tool clamping systems catalogue

FAHRION, an owner-run company, is synonymous with unique, high-quality tool and workpiece clamping systems. With over 100 years of experience and a pronounced drive to be perfect, FAHRION is continuously developing new products and technologies. The company enjoys a technical lead that is based on innovation and design intelligence, and also on superior quality that is "Made in Germany".

The solid reputation of FAHRION's products is no coincidence. They are as precise as the company itself: focused 100 percent on the customer's requirements, absolutely reliable, and always one step ahead.



Tool clamping
Tool clamping systems
Workpiece clamping

precise. powerful. intelligent.

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