Micro- machining	Standard and ultraprecision	micRun®	Metallic sealed	Pullout protection secuRgrip®	Collets fo	r tapping
ER-MB	ER-Standard/ ER-UP	MR	ER-DM	ER-SG	ER-GB	PCM ET1
				<b>(1)</b>		
page 134	page 135	page 199	page 144	page 149	page 150	page 154



## **Swiss quality ER collets**

















	МВ	Std.	UP	MR	DM	SG	GB	PCM ET1
	microbore	standard	ultra- precision	micRun®	metallic sealed	secuRgrip®	tapping collet	tapping collet
Main machining use	micro- machining	all	high precision	high precision	internal cooling	heavy machining	rigid tapping	rigid tapping with length compensation
DIN ISO 15488: form	A	В	В	В	В	В	A	A
ER size	8-16	8-50	8-50	11-32	11-40	32-40	11-50	11-40
Shaft diameter range	0.2-0.9	1.0-36.0	1.0-36.0	1.0-20.9	3.0-26.0	10.0-25.4	2.5-32.0	1.4-17.0
Clamping range (mm) or tolerance	h7	1	1	h11	0.5	h6	h9	h9
Runout (max)*	6µm	10 µm	5 µm	2µm	6µm	5μm	10 µm	10 µm
Anti-corrosion coating		available on request	available on request		available on request	_	available on request	_
Metallic sealed			_	_	•	_	_	_
Internal square						_	•	•
Length compensation			_	_	_	_	_	•
secuRgrip® thread to prevent tool pullout						•		
Collet-locking system		•	•	•	•	•	•	_

<sup>\*</sup>For information about our measuring values, please refer to page 271

#### Expert advice

Please note that DM collets are not compatible with Weldon or Whistle notch shafts.

To achieve internal cooling with Weldon or Whistle notch shafts, use the SOCOJE sealing disks ER/DS with your SOCOJE ER collet.

### **Microbore collets ER-MB**

#### Clamping capacity h7

Туре	Part no.	[mm]	[decimal inch]
ER 8-MB			
Ø 0.2 mm	1308.00200	0.2	0.0079
Ø 0.3 mm	1308.00300	0.3	0.0118
Ø 0.4 mm	1308.00400	0.4	0.0157
Ø 0.5 mm	1308.00500	0.5	0.0197
Ø 0.6 mm	1308.00600	0.6	0.0236
Ø 0.7 mm	1308.00700	0.7	0.0276
Ø 0.8 mm	1308.00800	0.8	0.0315
Ø 0.9 mm	1308.00900	0.9	0.0354

Exhei	t advice

Microbore collets have a runout of  $\leq 6~\mu m$ . They have been developed by SOCOJE especially for smallest tool shank diameters.

For tool shanks with nominal diameter h7 tolerance only.

ER 11-MB			
Ø 0.2 mm	1311.00200	0.2	0.0079
Ø 0.3 mm	1311.00300	0.3	0.0118
Ø 0.4 mm	1311.00400	0.4	0.0157
Ø 0.5 mm	1311.00500	0.5	0.0197
Ø 0.6 mm	1311.00600	0.6	0.0236
Ø 0.7 mm	1311.00700	0.7	0.0276
Ø 0.8 mm	1311.00800	0.8	0.0315
Ø 0.9 mm	1311.00900	0.9	0.0354

ER 16-MB			
Ø 0.2 mm	1316.00200	0.2	0.0079
Ø 0.3 mm	1316.00300	0.3	0.0118
Ø 0.4 mm	1316.00400	0.4	0.0157
Ø 0.5 mm	1316.00500	0.5	0.0197
Ø 0.6 mm	1316.00600	0.6	0.0236
Ø 0.7 mm	1316.00700	0.7	0.0276
Ø 0.8 mm	1316.00800	0.8	0.0315
Ø 0.9 mm	1316.00900	0.9	0.0354

For further technical information, please refer to page 300



### 띪

## **ER standard collets and ultraprecision collets ER-UP**

 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 8 [mm]						
SET ER 8	1108.00000	1108.00001	0.5-5.0	0.0197-0.1969	_	_
Ø 1.0 mm	1108.01000	1108.01001	1.0-0.5	0.0394-0.0197	1/32"	•
Ø 1.5 mm	1108.01500	1108.01501	1.5-1.0	0.0591-0.0394	_	•
Ø 2.0 mm	1108.02000	1108.02001	2.0-1.5	0.0787-0.0591	1/16"*	•
Ø 2.5 mm	1108.02500	1108.02501	2.5-2.0	0.0984-0.0787	3/32"	•
Ø 3.0 mm	1108.03000	1108.03001	3.0-2.5	0.1181-0.0984	_	•
Ø 3.5 mm	1108.03500	1108.03501	3.5-3.0	0.1378-0.1181	1/8"*	•
Ø 4.0 mm	1108.04000	1108.04001	4.0-3.5	0.1575-0.1378	5/32"	•
Ø 4.5 mm	1108.04500	1108.04501	4.5-4.0	0.1772-0.1575	_	•
Ø 5.0 mm	1108.05000	1108.05001	5.0-4.5	0.1969-0.1772	3/16"*	•
ER 8 [inch]						
INCH SET ER 8	1108.00002	1108.00003	1.09-4.76	0.0429-0.1875		_
Ø 1/16"	1108.01592	1108.01593	1.59-1.09	0.0625-0.0429		•
Ø 1/8"	1108.03182	1108.03183	3.18-2.68	0.125-0.1055		•
Ø 3/16"	1108.04762	1108.04763	4.76-4.25	0.1875-0.1675		•
ER 11 [mm]						
SET ER 11	1111.00000	1111.00001	0.5-7.0	0.0197-0.2756		
Ø 1.0 mm	1111.01000	1111.01001	1.0-0.5	0.0394-0.0197	1/32"	•
Ø 1.5 mm	1111.01500	1111.01501	1.5-1.0	0.0591-0.0394		•
Ø 2.0 mm	1111.02000	1111.02001	2.0-1.5	0.0787-0.0591	1/16"*	•
Ø 2.5 mm	1111.02500	1111.02501	2.5-2.0	0.0984-0.0787	3/32"*	•
Ø 3.0 mm	1111.03000	1111.03001	3.0-2.5	0.1181-0.0984		•
Ø 3.5 mm	1111.03500	1111.03501	3.5-3.0	0.1378-0.1181	1/8"*	•
Ø 4.0 mm	1111.04000	1111.04001	4.0-3.5	0.1575-0.1378	5/32"*	•
Ø 4.5 mm	1111.04500	1111.04501	4.5-4.0	0.1772-0.1575		•
Ø 5.0 mm	1111.05000	1111.05001	5.0-4.5	0.1969-0.1772	3/16"*	•
Ø 5.5 mm	1111.05500	1111.05501	5.5-5.0	0.2165-0.1969	_	•
Ø 6.0 mm	1111.06000	1111.06001	6.0-5.5	0.2362-0.2165	7/32"*	•
Ø 6.5 mm	1111.06500	1111.06501	6.5-6.0	0.2559-0.2362	1/4"*	•
Ø 7.0 mm	1111.07000	1111.07001	7.0-6.5	0.2756-0.2559		•

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

For further technical information, please refer to page 295

#### Expert advice

Various ER collets are available on request with an anti-corrosion coating for improved collet lifetime.

 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 11 [inch]						
INCH SET ER 11	1111.00002	1111.00003	1.09-6.35	0.0429-0.25	_	_
Ø 1/16"	1111.01592	1111.01593	1.59-1.09	0.0625-0.0429	1/16"	•
Ø 3/32"	1111.02382	1111.02383	2.38-1.87	0.0938-0.0738	3/32"	•
Ø 1/8"	1111.03182	1111.03183	3.18-2.67	0.125-0.105	1/8"	•
Ø 5/32"	1111.03972	1111.03973	3.97-3.46	0.1563-0.1363	5/32"	•
Ø 3/16"	1111.04762	1111.04763	4.76-4.25	0.1875-0.1675	3/16"	•
Ø 7/32"	1111.05562	1111.05563	5.56-5.04	0.2188-0.1988	7/32"	•
Ø 1/4"	1111.06352	1111.06353	6.35-5.84	0.25-0.23	1/4"	•
ER 16 [mm]						
SET ER 16	1116.00000	1116.00001	0.5-10.0	0.0197-0.3937	_	_
Ø 1.0 mm	1116.01000	1116.01001	1.0-0.5	0.0394-0.0197	1/32"	•
Ø 1.5 mm	1116.01500	1116.01501	1.5-1.0	0.0591-0.0394		
Ø 2.0 mm	1116.02000	1116.02001	2.0-1.0	0.0787-0.0394	1/16"*	•
Ø 2.5 mm	1116.02500	1116.02501	2.5–1.5	0.0984-0.0591	3/32"*	_
Ø 3.0 mm	1116.03000	1116.03001	3.0-2.0	0.1181-0.0787		•
Ø 3.5 mm	1116.03500	1116.03501	3.5-2.5	0.1378-0.0984	1/8"*	_
Ø 4.0 mm	1116.04000	1116.04001	4.0-3.0	0.1575-0.1181	5/32"*	•
Ø 4.5 mm	1116.04500	1116.04501	4.5-3.5	0.1772-0.1378	_	_
Ø 5.0 mm	1116.05000	1116.05001	5.0-4.0	0.1969-0.1575	3/16"*	•
Ø 5.5 mm	1116.05500	1116.05501	5.5-4.5	0.2165-0.1772		_
Ø 6.0 mm	1116.06000	1116.06001	6.0-5.0	0.2362-0.1969	7/32"*	•
Ø 6.5 mm	1116.06500	1116.06501	6.5-5.5	0.2559-0.2165	1/4"*	_
Ø 7.0 mm	1116.07000	1116.07001	7.0-6.0	0.2756-0.2362	_	•
Ø 7.5 mm	1116.07500	1116.07501	7.5-6.5	0.2953-0.2559	9/32"*	_
Ø 8.0 mm	1116.08000	1116.08001	8.0-7.0	0.315-0.2756	5/16"*	•
Ø 8.5 mm	1116.08500	1116.08501	8.5-7.5	0.3346-0.2953		_
Ø 9.0 mm	1116.09000	1116.09001	9.0-8.0	0.3543-0.315	11/32"*	•
Ø 9.5 mm	1116.09500	1116.09501	9.5-8.5	0.374-0.3346		_
Ø 10.0 mm	1116.10000	1116.10001	10.0-9.0	0.3937-0.3543	3/8"*	•
ER 16 [inch]						
INCH SET ER 16	1116.00002	1116.00003	1.09-10.32	0.0429-0.4063	_	_
Ø 1/16"	1116.01592	1116.01593	1.59-1.09	0.0625-0.0429		•
Ø 3/32"	1116.02382	1116.02383	2.38-1.87	0.0938-0.0738	3/32"	•
Ø 1/8"	1116.03182	1116.03183	3.18–2.16	0.125-0.085	1/8"	•
Ø 5/32"	1116.03972	1116.03973	3.97-2.95	0.1563-0.1163	5/32"	•
Ø 3/16"	1116.04762	1116.04763	4.76-3.75	0.1875-0.1475	3/16"	•

 ${\it Included in the ER sets are all marked collets within that size and the matching collet tray {\it ZWT}}$ 

\*Approx. inch sizing

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 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
Ø 7/32"	1116.05562	1116.05563	5.56-4.54	0.2188-0.1788	7/32"	•
Ø 1/4"	1116.06352	1116.06353	6.35-5.33	0.25-0.21	1/4"	•
Ø 9/32"	1116.07142	1116.07143	7.15–6.13	0.2813-0.2413	9/32"	•
Ø 5/16"	1116.07942	1116.07943	7.94-6.92	0.3125-0.2725	5/16"	•
Ø 11/32"	1116.08732	1116.08733	8.73-7.72	0.3438-0.3038	11/32"	•
Ø 3/8"	1116.09532	1116.09533	9.53-8.51	0.375-0.335	3/8"	•
Ø 13/32"	1116.10322	1116.10323	10.32-9.3	0.4063-0.3663	13/32"	•
ER 20 [mm]						
SET ER 20	1120.00000	1120.00001	1.0-13.0	0.0394-0.5118	_	_
Ø 1.0 mm	1120.01000	1120.01001	1.0-0.5	0.0394-0.0197	1/32"	_
Ø 1.5 mm	1120.01500	1120.01501	1.5-1.0	0.0591-0.0394	_	_
Ø 2.0 mm	1120.02000	1120.02001	2.0-1.0	0.0787-0.0394	1/16"	•
Ø 2.5 mm	1120.02500	1120.02501	2.5-1.5	0.0984-0.0591	3/32"	_
Ø 3.0 mm	1120.03000	1120.03001	3.0-2.0	0.1181-0.0787	_	•
Ø 3.5 mm	1120.03500	1120.03501	3.5-2.5	0.1378-0.0984	1/8"	_
Ø 4.0 mm	1120.04000	1120.04001	4.0-3.0	0.1575-0.1181	5/32"	•
Ø 4.5 mm	1120.04500	1120.04501	4.5-3.5	0.1772-0.1378		_
Ø 5.0 mm	1120.05000	1120.05001	5.0-4.0	0.1969-0.1575	3/16"	•
Ø 5.5 mm	1120.05500	1120.05501	5.5-4.5	0.2165-0.1772	_	_
Ø 6.0 mm	1120.06000	1120.06001	6.0-5.0	0.2362-0.1969	7/32"	•
Ø 6.5 mm	1120.06500	1120.06501	6.5-5.5	0.2559-0.2165	1/4"	_
Ø 7.0 mm	1120.07000	1120.07001	7.0-6.0	0.2756-0.2362	_	•
Ø 7.5 mm	1120.07500	1120.07501	7.5-6.5	0.2953-0.2559	9/32"	_
Ø 8.0 mm	1120.08000	1120.08001	8.0-7.0	0.315-0.2756	5/16"	•
Ø 8.5 mm	1120.08500	1120.08501	8.5-7.5	0.3346-0.2953	_	_
Ø 9.0 mm	1120.09000	1120.09001	9.0-8.0	0.3543-0.315	11/32"	•
Ø 9.5 mm	1120.09500	1120.09501	9.5-8.5	0.374-0.3346	_	_
Ø 10.0 mm	1120.10000	1120.10001	10.0-9.0	0.3937-0.3543	3/8"	•
Ø 10.5 mm	1120.10500	1120.10501	10.5-9.5	0.4134-0.374	13/32"	_
Ø 11.0 mm	1120.11000	1120.11001	11.0-10.0	0.4331-0.3937		•
Ø 11.5 mm	1120.11500	1120.11501	11.5-10.5	0.4528-0.4134	7/16"	_
Ø 12.0 mm	1120.12000	1120.12001	12.0-11.0	0.4724-0.433	15/32"	•
Ø 12.5 mm	1120.12500	1120.12501	12.5-11.5	0.4921-0.4528		_
Ø 13.0 mm	1120.13000	1120.13001	13.0-12.0	0.5118-0.4724	1/2"	•

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

For further technical information, please refer to page 295

 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 20 [inch]						
INCH SET ER 20	1120.00002	1120.00003	2.16-12.7	0.085-0.5	_	_
Ø 1/8"	1120.03182	1120.03183	3.18-2.18	0.125-0.085	1/8"	•
Ø 3/16"	1120.04762	1120.04763	4.76-3.76	0.1875-0.1475	3/16"	•
Ø 1/4"	1120.06352	1120.06353	6.35-5.35	0.25-0.21	1/4"	•
Ø 5/16"	1120.07942	1120.07943	7.94-6.94	0.3125-0.2725	5/16"	•
Ø 3/8"	1120.09532	1120.09533	9.53-8.53	0.375-0.335	3/8"	•
Ø 7/16"	1120.11112	1120.11113	11.11-10.11	0.4375-0.3975	7/16"	•
Ø 1/2"	1120.12702	1120.12703	12.7-11.7	0.5-0.46	1/2"	•
ER 25 [mm]						
SET ER 25	1125.00000	1125.00001	2.0 –16.0	0.0787-0.6299		
Ø 1.0 mm	1125.01000	1125.01001	1.0-0.5	0.0394-0.0197	1/32"	
Ø 1.5 mm	1125.01500	1125.01501	1.5–1.0	0.0591-0.0394		
Ø 2.0 mm	1125.02000	1125.02001	2.0-1.0	0.0787-0.0394	1/16"	•
Ø 2.5 mm	1125.02500	1125.02501	2.5-1.5	0.0984-0.0591	3/32"	
Ø 3.0 mm	1125.03000	1125.03001	3.0-2.0	0.1181-0.0787		•
Ø 3.5 mm	1125.03500	1125.03501	3.5-2.5	0.1378-0.0984	1/8"*	
Ø 4.0 mm	1125.04000	1125.04001	4.0-3.0	0.1575-0.1181	5/32"	•
Ø 4.5 mm	1125.04500	1125.04501	4.5-3.5	0.1772-0.1378		
Ø 5.0 mm	1125.05000	1125.05001	5.0-4.0	0.1969-0.1575	3/16"*	•
Ø 5.5 mm	1125.05500	1125.05501	5.5-4.5	0.2165-0.1772		
Ø 6.0 mm	1125.06000	1125.06001	6.0-5.0	0.2362-0.1969	7/32"	•
Ø 6.5 mm	1125.06500	1125.06501	6.5-5.5	0.2559-0.2165	1/4"*	<u> </u>
Ø 7.0 mm	1125.07000	1125.07001	7.0-6.0	0.2756-0.2362	<u> </u>	•
Ø 7.5 mm	1125.07500	1125.07501	7.5–6.5	0.2953-0.2559	9/32"	
Ø 8.0 mm	1125.08000	1125.08001	8.0-7.0	0.315-0.2756	5/16"*	•
Ø 8.5 mm	1125.08500	1125.08501	8.5-7.5	0.3346-0.2953		
Ø 9.0 mm	1125.09000	1125.09001	9.0-8.0	0.3543-0.315	11/32"	•
Ø 9.5 mm	1125.09500	1125.09501	9.5-8.5	0.374-0.3346		
Ø 10.0 mm	1125.10000	1125.10001	10.0-9.0	0.3937-0.3543	3/8"*	•
Ø 10.5 mm	1125.10500	1125.10501	10.5-9.5	0.4134-0.374	13/32"	
Ø 11.0 mm	1125.11000	1125.11001	11.0-10.0	0.4331-0.3937		•
Ø 11.5 mm	1125.11500	1125.11501	11.5-10.5	0.4528-0.4134	7/16"*	
Ø 12.0 mm	1125.12000	1125.12001	12.0-11.0	0.4724-0.4331	15/32"	•
Ø 12.5 mm	1125.12500	1125.12501	12.5-11.5	0.4921-0.4528		
Ø 13.0 mm	1125.13000	1125.13001	13.0-12.0	0.5118-0.4724	1/2"*	•
Ø 13.5 mm	1125.13500	1125.13501	13.5-12.5	0.5315-0.4921	17/32"	
Ø 14.0 mm	1125.14000	1125.14001	14.0-13.0	0.5512-0.5118		•

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

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 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
Ø 14.5 mm	1125.14500	1125.14501	14.5-13.5	0.5709-0.5315	9/16"*	_
Ø 15.0 mm	1125.15000	1125.15001	15.0-14.0	0.5906-0.5512	_	•
Ø 15.5 mm	1125.15500	1125.15501	15.5-14.5	0.6102-0.5709	19/32"	_
Ø 16.0 mm	1125.16000	1125.16001	16.0-15.0	0.6299-0.5905	5/8"*	•
Ø 17.0 mm	1125.17000	1125.17001	17.0–16.0	0.6693-0.6299	21/32"	_
ER 25 [inch]						
INCH SET ER 25	1125.00002	1125.00003	2.16-15.88	0.085-0.625		_
Ø 1/8"	1125.03182	1125.03183	3.18-2.16	0.125-0.085	1/8"	•
Ø 3/16"	1125.04762	1125.04763	4.76-3.75	0.1875-0.1475	3/16"	•
Ø 1/4"	1125.06352	1125.06353	6.35-5.33	0.25-0.21	1/4"	•
Ø 5/16"	1125.07942	1125.07943	7.94-6.92	0.3125-0.2725	5/16"	•
Ø 3/8"	1125.09532	1125.09533	9.53-8.51	0.375-0.335	3/8"	•
Ø 7/16"	1125.11112	1125.11113	11.11-10.11	0.4375-0.3975	7/16"	•
Ø 1/2"	1125.12702	1125.12703	12.70-11.68	0.5-0.46	1/2"	•
Ø 9/16"	1125.14292	1125.14293	14.29-13.27	0.5625-0.5225	9/16"	•
Ø 5/8"	1125.15882	1125.15883	15.88-14.78	0.625-0.582	5/8"	•
ER 32 [mm]						
SET ER 32	1132.00000	1132.00001	2.0-20.0	0.0787-0.7874	_	_
Ø 2.0 mm	1132.02000	1132.02001	2.0-1.0	0.0787-0.0394	1/16"	_
Ø 2.5 mm	1132.02500	1132.02501	2.5-1.5	0.0984-0.0591	3/32"	_
Ø 3.0 mm	1132.03000	1132.03001	3.0-2.0	0.1181-0.0787		•
Ø 3.5 mm	1132.03500	1132.03501	3.5-2.5	0.1378-0.0984	1/8"*	
Ø 4.0 mm	1132.04000	1132.04001	4.0-3.0	0.1575-0.1181	5/32"	•
Ø 4.5 mm	1132.04500	1132.04501	4.5-3.5	0.1772-0.1378		_
Ø 5.0 mm	1132.05000	1132.05001	5.0-4.0	0.1969-0.1575	3/16"*	•
Ø 5.5 mm	1132.05500	1132.05501	5.5-4.5	0.2165-0.1772		_
Ø 6.0 mm	1132.06000	1132.06001	6.0-5.0	0.2362-0.1969	7/32"	•
Ø 6.5 mm	1132.06500	1132.06501	6.5-5.5	0.2559-0.2165	1/4"*	_
Ø 7.0 mm	1132.07000	1132.07001	7.0-6.0	0.2756-0.2362		•
Ø 7.5 mm	1132.07500	1132.07501	7.5–6.5	0.2953-0.2559	9/32"	_
Ø 8.0 mm	1132.08000	1132.08001	8.0-7.0	0.315-0.2756	5/16"*	•
Ø 8.5 mm	1132.08500	1132.08501	8.5–7.5	0.3346-0.2953		
Ø 9.0 mm	1132.09000	1132.09001	9.0-8.0	0.3543-0.315	11/32"	•
Ø 9.5 mm	1132.09500	1132.09501	9.5–8.5	0.374-0.3346		_
Ø 10.0 mm	1132.10000	1132.10001	10.0-9.0	0.3937-0.3543	3/8"*	•
Ø 10.5 mm	1132.10500	1132.10501	10.5–9.5	0.4134-0.374	13/32"	_
Ø 11.0 mm	1132.11000	1132.11001	11.0-10.0	0.4331-0.3937		•

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 32 [mm] conti	nued					
Ø 11.5 mm	1132.11500	1132.11501	11.5-10.5	0.4528-0.4134	7/16"*	_
Ø 12.0 mm	1132.12000	1132.12001	12.0-11.0	0.4724-0.4331	15/32"	•
Ø 12.5 mm	1132.12500	1132.12501	12.5-11.5	0.4921-0.4528	_	_
Ø 13.0 mm	1132.13000	1132.13001	13.0-12.0	0.5118-0.4724	1/2"*	•
Ø 13.5 mm	1132.13500	1132.13501	13.5–12.5	0.5315-0.4921	17/32"	_
Ø 14.0 mm	1132.14000	1132.14001	14.0-13.0	0.5512-0.5118	_	•
Ø 14.5 mm	1132.14500	1132.14501	14.5-13.5	0.5709-0.5315	9/16"*	_
Ø 15.0 mm	1132.15000	1132.15001	15.0-14.0	0.5906-0.5512	_	•
Ø 15.5 mm	1132.15500	1132.15501	15.5-14.5	0.6102-0.5709	19/32"	_
Ø 16.0 mm	1132.16000	1132.16001	16.0-15.0	0.63299-0.5906	5/8"*	•
Ø 16.5 mm	1132.16500	1132.16501	16.5-15.5	0.6496-0.6102	_	_
Ø 17.0 mm	1132.17000	1132.17001	17.0-16.0	0.6693-0.6299	21/32"	•
Ø 17.5 mm	1132.17500	1132.17501	17.5–16.5	0.689-0.6496	11/16"*	_
Ø 18.0 mm	1132.18000	1132.18001	18.0-17.0	0.7087-0.6693		•
Ø 18.5 mm	1132.18500	1132.18501	18.5-17.5	0.7283-0.689	23/32"	_
Ø 19.0 mm	1132.19000	1132.19001	19.0-18.0	0.748-0.7078		•
Ø 19.5 mm	1132.19500	1132.19501	19.5-18.5	0.7677-0.7284	3/4"*	_
Ø 20.0 mm	1132.20000	1132.20001	20.0-19.0	0.7874-0.748	25/32"	•
Ø 21.0 mm	1132.21000	1132.21001	21.0-20.0	0.8268-0.7874	13/16"*	_
Ø 22.0 mm	1132.22000	1132.22001	22.0-21.0	0.8661-0.8268		_
ER 32 [inch]						
INCH SET ER 32	1132.00002	1132.00003	2.16-20.64	0.085-0.8125	_	_
Ø 1/8"	1132.03182	1132.03183	3.18-2.16	0.125-0.085	1/8"	•
Ø 3/16"	1132.04762	1132.04763	4.76-3.75	0.1875-0.1475	3/16"	•
Ø 1/4"	1132.06352	1132.06353	6.35-5.33	0.25-0.21	1/4"	•
Ø 5/16"	1132.07942	1132.07943	7.94-6.92	0.3125-0.2725		
Ø 3/8"	1132.09532	1132.09533	9.53-8.51	0.375-0.335	3/8"	
Ø 7/16"	1132.11112	1132.11113	11.11–10.1	0.4375-0.3975		
Ø 1/2"	1132.12702	1132.12703	12.7–11.68	0.5-0.46	1/2"	
Ø 9/16"	1132.14292	1132.14293	14.29-13.27	0.5625-0.5225	9/16"	
Ø 5/8"	1132.15882	1132.14293 -	15.88-14.86	0.625-0.585	<del></del>	
Ø 11/16"	1132.17462	1132.17463	17.46-16.45	0.6875-0.6475		
Ø 3/4"	1132.19052	1132.17403	19.05-18.03	0.75-0.71	3/4"	•
Ø 13/16"	1132.20642	1132.17633	20.64-19.62	0.8125-0.7725		•

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

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#### 2

# **ER standard collets and ultraprecision collets ER-UP**

 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.	Clamping range			
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 40 [mm]						
SET ER 40	1140.00000	1140.00001	3.0-26.0	0.1181-1.0236	_	_
Ø 3.0 mm	1140.03000	1140.03001	3.0-2.0 0.1181-0.0787 3/32"		3/32"	_
Ø 3.5 mm	1140.03500	1140.03501	3.5-2.5	0.1378-0.0984	1/8"*	
Ø 4.0 mm	1140.04000	1140.04001	4.0-3.0	0.1575-0.1181	5/32"	•
Ø 4.5 mm	1140.04500	1140.04501	4.5-3.5	0.1772-0.1378	_	_
Ø 5.0 mm	1140.05000	1140.05001	5.0-4.0	0.1969-0.1575	3/16"*	•
Ø 5.5 mm	1140.05500	1140.05501	5.5-4.5	0.2165-0.1772		_
Ø 6.0 mm	1140.06000	1140.06001	6.0-5.0	0.2362-0.1969	7/32"	•
Ø 6.5 mm	1140.06500	1140.06501	6.5-5.5	0.2559-0.2165	1/4"*	
Ø 7.0 mm	1140.07000	1140.07001	7.0-6.0	0.2756-0.2362		•
Ø 7.5 mm	1140.07500	1140.07501	7.5-6.5	0.2953-0.2559	9/32"	
Ø 8.0 mm	1140.08000	1140.08001	8.0-7.0	0.315-0.2756	5/16"*	•
Ø 8.5 mm	1140.08500	1140.08501	8.5-7.5	0.3346-0.2953		_
Ø 9.0 mm	1140.09000	1140.09001	9.0-8.0	0.3543-0.315		•
Ø 9.5 mm	1140.09500	1140.09501	9.5-8.5	0.374-0.3346	11/32"	_
Ø 10.0 mm	1140.10000	1140.10001	10.0-9.0	0.3937-0.3543	3/8"*	•
Ø 10.5 mm	1140.10500	1140.10501	10.5-9.5	0.4134-0.374	13/32"	_
Ø 11.0 mm	1140.11000	1140.11001	11.0-10.0	0.4331-0.3937		•
Ø 11.5 mm	1140.11500	1140.11501	11.5-10.5	0.4528-0.4134	7/16"*	
Ø 12.0 mm	1140.12000	1140.12001	12.0-11.0	0.4724-0.4331	15/32"	•
Ø 12.5 mm	1140.12500	1140.12501	12.5-11.5	0.4921-0.4528		_
Ø 13.0 mm	1140.13000	1140.13001	13.0-12.0	0.5118-0.4724	1/2"*	•
Ø 13.5 mm	1140.13500	1140.13501	13.5-12.5	0.5315-0.4921	17/32"	<u> </u>
Ø 14.0 mm	1140.14000	1140.14001	14.0-13.0	0.5512-0.5118		•
Ø 14.5 mm	1140.14500	1140.14501	14.5-13.5	0.5709-0.5315	9/16"*	<u> </u>
Ø 15.0 mm	1140.15000	1140.15001	15.0-14.0	0.5906-0.5512		•
Ø 15.5 mm	1140.15500	1140.15501	15.5-14.5	0.6102-0.5709	19/32"	<u> </u>
Ø 16.0 mm	1140.16000	1140.16001	16.0-15.0	0.6299-0.5906	5/8"*	•
Ø 16.5 mm	1140.16500	1140.16501	16.5–15.5	0.6496-0.6102		
Ø 17.0 mm	1140.17000	1140.17001	17.0–16.0	0.6693-0.6299	21/32"	•
Ø 17.5 mm	1140.17500	1140.17501	17.5–16.5	0.689-0.6496	11/16"*	
Ø 18.0 mm	1140.18000	1140.18001	18.0-17.0	0.7078-0.6693		•
Ø 18.5 mm	1140.18500	1140.18501	18.5–17.5	0.7283-0.689	23/32"	
Ø 19.0 mm	1140.19000	1140.19001	19.0–18.0	0.748-0.7078		•
Ø 19.5 mm	1140.19500	1140.19501	19.5–18.5	0.7677-0.7283	3/4"*	
Ø 20.0 mm	1140.20000	1140.20001	20.0-19.0	0.7874-0.748	25/32"	•
Ø 20.5 mm	1140.20500	1140.20501	20.5-19.5	0.8071-0.7677		
Ø 21.0 mm	1140.21000	1140.21001	21.0-20.0	0.8268-0.7874	13/16"*	•

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

For further technical information, please refer to page 295

 ER std.
 ER-UP

 DIN 6499-B
 DIN 6499-B

 ISO 15488
 ISO 15488

		Part no.		Clamping range			
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set	
ER 40 [mm] conti	nued						
Ø 21.5 mm	1140.21500	1140.21501	21.5-20.5	0.8465-0.8071	27/32"	_	
Ø 22.0 mm	1140.22000	1140.22001	22.0-21.0	0.8661-0.8268	_	•	
Ø 22.5 mm	1140.22500	1140.22501	22.5-21.5	0.8858-0.8465	7/8"*	_	
Ø 23.0 mm	1140.23000	1140.23001	23.0-22.0	0.9055-0.8661	_	•	
Ø 23.5 mm	1140.23500	1140.23501	23.5–22.5	0.9252-0.8858	29/32"	<del>-</del>	
Ø 24.0 mm	1140.24000	1140.24001	24.0-23.0	0.9449-0.9055	15/16"	•	
Ø 24.5 mm	1140.24500	1140.24501	24.5-23.5	0.9646-0.9252	_	_	
Ø 25.0 mm	1140.25000	1140.25001	25.0-24.0	0.9843-0.9449	31/32"	•	
Ø 25.5 mm	1140.25500	1140.25501	25.5-24.5	1.0039-0.9646	1"*	_	
Ø 26.0 mm	1140.26000	1140.26001	26.0-25.0	1.0236-0.9843	_	•	
Ø 27.0 mm	1140.27000	1140.27001	27.0-26.0	1.063-1.0236	1/1/16"	_	
Ø 28.0 mm	1140.28000	1140.28001	28.0-27.0	1.1024-1.063	1/3/32"	_	
Ø 29.0 mm	1140.29000	1140.29001	29.0-28.0	1.1417-1.1024	1/1/8"	_	
Ø 30.0 mm	1140.30000	1140.30001	30.0-29.0	1.1811-1.1417	1/5/32"	_	
ER 40 [inch]							
INCH SET ER 40	1140.00002	1140.00003	2.16-25.4	0.085-1.0	_	_	
Ø 1/8"	1140.03182	1140.03183	3.18-2.16	0.125-0.085	1/8"	•	
Ø 3/16"	1140.04762	1140.04763	4.76-3.75	0.1875-0.1475	3/16"	•	
Ø 1/4"	1140.06352 1140.07942 1140.09532	1140.06353	6.35-5.33	0.25-0.21	1/4"	•	
Ø 5/16" Ø 3/8"		1140.07943	7.94-6.92	0.3125-0.2725	5/16"	•	
		2 1140.09533	9.53-8.51	3-8.51 0.375-0.335	3/8"	•	
Ø 7/16"	1140.11112	1140.11113	11.11-10.1	0.4375-0.3975	7/16"	•	
Ø 1/2"	1140.12702	1140.12703	12.70-11.68	0.5-0.46	1/2"	•	
Ø 9/16"	1140.14292	1140.14293	14.29-13.27	0.5625-0.5225	9/16"	•	
Ø 5/8"	1140.15882	1140.15883	15.88-14.86	0.625-0.585	5/8"	•	
Ø 11/16"	1140.17462	1140.17463	17.46-16.45	0.6875-0.6475	11/16"	•	
Ø 3/4"	1140.19052	1140.19053	19.05-18.03	0.75-0.71	3/4"	•	
Ø 13/16"	1140.20642	1140.20643	20.64-19.62	0.8125-0.7725	13/16"	•	
Ø 7/8"	1140.22232	1140.22233	22.23-21.21	0.875-0.835	7/8"	•	
Ø 1"	1140.25402	1140.25403	25.40-24.38	1.0-0.96	1"	•	

 ${\it Included in the ER sets are all marked collets within that size and the matching collet tray {\it ZWT}}$ 

\*Approx. inch sizing

ER std. ERDIN 6499-B DIN
ISO 15488 ISO

DIN 6499-B ISO 15488

		Part no.		Clamping range		
Туре	ER standard	ER-UP	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 50 [mm]						
SET ER 50	1150.00000	1150.00001	10.0-34.0	0.2362-1.3386	_	-
Ø 6.0 mm	1150.06000	1150.06001	6.0-4.0	0.2362-0.1575	3/16"	_
Ø 8.0 mm	1150.08000	1150.08001	8.0-6.0	0.315-0.2362	1/4"	_
Ø 10.0 mm	1150.10000	1150.10001	10.0-8.0	0.3937-0.315	3/8"	_
Ø 12.0 mm	1150.12000	1150.12001	12.0-10.0	0.4724-0.3937	7/16"	•
Ø 14.0 mm	1150.14000	1150.14001	14.0-12.0	0.5512-0.4724	1/2"	•
Ø 16.0 mm	1150.16000	1150.16001	16.0-14.0	0.63-0.5512	5/8"	•
Ø 18.0 mm	1150.18000	1150.18001	18.0-16.0	0.7087-0.6299	11/16"	•
Ø 20.0 mm	1150.20000	1150.20001	20.0-18.0	0.7874-0.7087	3/4"	•
Ø 22.0 mm	1150.22000	1150.22001	22.0-20.0	0.8661-0.7874	13/16"	•
Ø 24.0 mm	1150.24000	1150.24001	24.0-22.0	0.9449-0.8661	7/8"	•
Ø 25.0 mm	1150.25000	1150.25001	25.0-23.0	0.9843-0.9055	31/32"	_
Ø 26.0 mm	1150.26000	1150.26001	26.0-24.0	1.0236-0.9449	1"	•
Ø 28.0 mm	1150.28000	1150.28001	28.0-26.0	1.1024-1.0236	1/1/16"	•
Ø 30.0 mm	1150.30000	1150.30001	30.0-28.0	1.1811-1.1024	1/1/8"	•
Ø 32.0 mm	1150.32000	1150.32001	32.0-30.0	1.2598-1.1811	1/1/4"	•
Ø 34.0 mm	1150.34000	1150.34001	34.0-32.0	1.3386-1.2598	1/5/16"	•
Ø 36.0 mm	1150.36000	1150.36001	36.0-34.0	1.4173-1.3386	1/3/18"	_

Included in the ER sets are all marked collets within that size and the matching collet tray ZWT

\*Approx. inch sizing

For further technical information, please refer to page 295



ER standard and ER-UP

### **Metallic sealed collets ER-DM**

			Clamping range		
Туре	Part no.	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 11-DM [mm]					
Ø 3.0 mm	1211.03000	3.0-2.75	0.1181-0.1083	_	_
Ø 4.0 mm	1211.04000	4.0-3.75	0.1575-0.1476	_	_
Ø 5.0 mm	1211.05000	5.0-4.75	0.1969-0.187	_	_
Ø 6.0 mm	1211.06000	6.0-5.75	0.2362-0.2264	_	_
Ø 7.0 mm	1211.07000	7.0-6.75	0.2756-0.2657	_	_
ER 11-DM [inch]					
Ø 1/8"	1211.03182	3.18-2.93	0.125-0.1154	1/8"	_
Ø 3/16"	1211.04762	4.76-4.51	0.1875-0.1776	3/16"	_
Ø 7/32"	1211.05562	5.56-5.31	0.2188-0.2091	7/32"	_
Ø 1/4"	1211.06352	6.35-6.1	0.25-0.2402	1/4"	_
ER 16-DM [mm]					
SET ER 16-DM	1216.00000	3.0-10.0	0.1181-0.3937	_	_
Ø 3.0 mm	1216.03000	3.0 h9	0.1181 h9		•
Ø 4.0 mm	1216.04000	4.0 h9	0.1575 h9		•
Ø 5.0 mm	1216.05000	5.0-4.5	0.1969-0.1772	_	•
Ø 6.0 mm	1216.06000	6.0-5.5	0.2362-0.2165	_	•
Ø 7.0 mm	1216.07000	7.0-6.5	0.2756-0.2559		•
Ø 8.0 mm	1216.08000	8.0-7.5	0.315-0.2953		•
Ø 9.0 mm	1216.09000	9.0-8.5	0.3543-0.3346	_	•
Ø 10.0 mm	1216.10000	10.0-9.5	0.3937-0.374		•

For further technical information, please refer to page 295



#### Expert advice

Please note that the ER-DM collets are not suitable for use with reCool®.

			Clamping range		
Туре	Part no.	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 16-DM [inch]					
INCH SET ER 16-DM	1216.00002	3.18-10.32	0.125-0.4063	-	_
Ø 1/8"	1216.03182	3.18 h9	0.125 h9	1/8"	•
Ø 5/32"	1216.03972	3.97 h9	0.1563 h9	5/32"	_
Ø 3/16"	1216.04762	4.76 h9	0.1875 h9	3/16"	•
Ø 7/32"	1216.05562	5.56-5.06	0.2188-0.1991	7/32"	_
Ø 1/4"	1216.06352	6.35-5.85	0.25-0.2303	1/4"	•
Ø 9/32"	1216.07142	7.14-6.64	0.2813-0.2616	9/32"	_
Ø 5/16"	1216.07942	7.94-7.44	0.3125-0.2928	5/16"	•
Ø 11/32"	1216.08732	8.73-8.23	0.3438-0.3241	11/32"	_
Ø 3/8"	1216.09532	9.53-9.02	0.375-0.3553	3/8"	•
Ø 13/32"	1216.10322	10.32-9.82	0.4063-0.3866	13/32"	_
ER 20-DM [mm]					
SET ER 20-DM	1220.00000	3.0-13.0	0.1181-0.5118	-	_
Ø 3.0 mm	1220.03000	3.0 h9	0.1181 h9		•
Ø 4.0 mm	1220.04000	4.0 h9	0.1575 h9		•
Ø 5.0 mm	1220.05000	5.0 h9	0.1969 h9		•
Ø 6.0 mm	1220.06000	6.0 h9	0.2362 h9		•
Ø 7.0 mm	1220.07000	7.0-6.5	0.2756-0.2559		•
Ø 8.0 mm	1220.08000	8.0-7.5	0.315-0.2953		•
Ø 9.0 mm	1220.09000	9.0-8.5	0.3543-0.3346		•
Ø 10.0 mm	1220.10000	10.0-9.5	0.3937-0.374		•
Ø 11.0 mm	1220.11000	11.0-10.5	0.4331-0.4134		•
Ø 12.0 mm	1220.12000	12.0-11.5	0.4724-0.4528		•
Ø 13.0 mm	1220.13000	13.0-12.5	0.5118-0.4921		•
ER 20-DM [inch]					
INCH SET ER 20-DM	1220.00002	3.18-12.7	0.125-0.5	_	_
Ø 1/8"	1220.03182	3.18 h9	0.125 h9	1/8"	•
Ø 5/32"	1220.03972	3.97 h9	0.1563 h9	5/32"	
Ø 3/16"	1220.04762	4.76 h9	0.1875 h9	3/16"	•
Ø 7/32"	1220.05562	5.56 h9	0.2188 h9	7/32"	
Ø 1/4"	1220.06352	6.35 h9	0.25 h9	1/4"	•
Ø 9/32"	1220.07142	7.14-6.64	0.2813-0.2616	9/32"	
Ø 5/16"	1220.07942	7.94-7.44	0.3125-0.2928	5/16"	•
Ø 11/32"	1220.08732	8.73-8.23	0.3438-0.3241	11/32"	
Ø 3/8"	1220.09532	9.53-9.02	0.375-0.3553	3/8"	•
Ø 13/32"	1220.10322	10.32-9.82	0.4063-0.3866	13/32"	
Ø 7/16"	1220.11112	11.11–10.61	0.4375-0.4178	7/16"	•
Ø 15/32"	1220.11912	11.91–11.41	0.4687-0.4491	15/32"	
Ø 1/2"	1220.12702	12.7–12.2	0.5-0.4803	1/2"	•
- **=					

### **Metallic sealed collets ER-DM**

			Clamping range		
Туре	Part no.	[mm]	[decimal inch]	Ø [inch]	Included in set
ER 25-DM [mm]					
SET ER 25-DM	1225.00000	6.0-16.0	0.2362-0.6299	-	_
Ø 6.0 mm	1225.06000	6.0 h9	0.2362 h9	_	•
Ø 7.0 mm	1225.07000	7.0 h9	0.2756 h9	_	_
Ø 8.0 mm	1225.08000	8.0-7.5	0.315-0.2953	_	•
Ø 9.0 mm	1225.09000	9.0-8.5	0.3543-0.3347	_	_
Ø 10.0 mm	1225.10000	10.0-9.5	0.3937-0.374	<del>-</del>	•
Ø 11.0 mm	1225.11000	11.0-10.5	0.4331-0.4134	_	_
Ø 12.0 mm	1225.12000	12.0-11.5	0.4724-0.4528		•
Ø 13.0 mm	1225.13000	13.0-12.5	0.5118-0.4921	_	_
Ø 14.0 mm	1225.14000	14.0-13.5	0.5512-0.5315		•
Ø 15.0 mm	1225.15000	15.0-14.5	0.5906-0.5709	_	_
Ø 16.0 mm	1225.16000	16.0-15.5	0.6299-0.6102		•
ER 25-DM [inch]					
INCH SET ER 25-DM	1225.00002	6.35-15.88	0.25-0.625		
Ø 7/32"	1225.05562	5.56 h9	0.2188 h9	7/32"	
Ø 1/4"	1225.06352	6.35 h9	0.2500 h9	1/4"	•
Ø 9/32"	1225.07142	7.14 h9	0.2813 h9	9/32"	_
Ø 5/16"	1225.07942	7.94-7.44	0.3125-0.2928	5/16"	•
Ø 11/32"	1225.08732	8.73-8.23	0.3438-0.3241	11/32"	
Ø 3/8"	1225.09532	9.53-9.02	0.375-0.3553	3/8"	•
Ø 13/32"	1225.10322	10.32-9.82	0.4063-0.3866	13/32"	_
Ø 7/16"	1225.11112	11.11-10.61	0.4375-0.4178	7/16"	•
Ø 15/32"	1225.11912	11.91-11.41	0.4687-0.4491	15/32"	_
Ø 1/2"	1225.12702	12.7-12.2	0.5-0.4803	1/2"	•
Ø 17/32"	1225.13492	13.49-12.99	0.5313-0.5116	17/32"	_
Ø 9/16"	1225.14292	14.29-13.79	0.5625-0.5428	9/16"	•
Ø 19/32"	1225.15082	15.08-14.58	0.5934-0.5741	19/32"	_
Ø 5/8"	1225.15882	15.88-15.38	0.625-0.6055	5/8"	•
ER 32-DM [mm]					
SET ER 32-DM	1232.00000	6.0-20.0	0.2362-0.7874		
Ø 6.0 mm	1232.06000	6.0 h9	0.2362 h9		•
Ø 7.0 mm	1232.07000	7.0 h9	0.2756 h9		
Ø 8.0 mm	1232.08000	8.0-7.5	0.315-0.2953	<u> </u>	•
Ø 9.0 mm	1232.09000	9.0-8.5	0.3543-0.3346		
Ø 10.0 mm	1232.10000	10.0-9.5	0.3937-0.374		•
Ø 11.0 mm	1232.11000	11.0-10.5	0.4331-0.4134		

			Clamping range		
Туре	Part no.	[mm]	[decimal inch]	Ø [inch]	Included in set
Ø 12.0 mm	1232.12000	12.0-11.5	0.4724-0.4528	_	•
Ø 13.0 mm	1232.13000	13.0-12.5	0.5118-0.4921		_
Ø 14.0 mm	1232.14000	14.0-13.5	0.5512-0.5315		•
Ø 15.0 mm	1232.15000	15.0-14.5	0.5906-0.5709	_	_
Ø 16.0 mm	1232.16000	16.0-15.5	0.6299-0.6102	<del></del> -	•
Ø 17.0 mm	1232.17000	17.0-16.5	0.6693-0.6496		_
Ø 18.0 mm	1232.18000	18.0-17.5	0.7087-0.689		•
Ø 19.0 mm	1232.19000	19.0-18.5	0.748-0.7283		_
Ø 20.0 mm	1232.20000	20.0-19.5	0.7874-0.7677		•
ER 32-DM [inch]					
INCH SET ER 32-DM	1232.00002	6.35-19.05	0.25-0.75	_	-
Ø 1/4"	1232.06352	6.35 h9	0.25 h9	1/4"	•
Ø 9/32"	1232.07142	7.15 h9	0.2813 h9	9/32"	_
Ø 5/16"	1232.07942	7.94-7.44	0.3125-0.2928	5/16"	•
Ø 11/32"	1232.08732	8.73-8.23	0.3438-0.3241	11/32"	_
Ø 3/8"	1232.09532	9.53-9.02	0.375-0.3553	3/8"	•
Ø 13/32"	1232.10322	10.32-9.82	0.4063-0.3866	13/32"	_
Ø 7/16"	1232.11112	11.11-10.61	0.4375-0.4178	7/16"	•
Ø 15/32"	1232.11912	11.91-11.41	0.4687-0.4491	15/32"	_
Ø 1/2"	1232.12702	12.7-12.2	0.5-0.4803	1/2"	•
Ø 17/32"	1232.13492	13.5-12.99	0.5313-0.5116	17/32"	_
Ø 9/16"	1232.14292	14.29-13.79	0.5625-0.5428	9/16"	•
Ø 19/32"	1232.15082	15.07-14.58	0.5934-0.5741	19/32"	_
Ø 5/8"	1232.15882	15.88-15.38	0.625-0.6055	5/8"	•
Ø 21/32"	1232.16672	16.67-16.17	0.6563-0.6366	21/32"	_
Ø 11/16"	1232.17462	17.46-16.96	0.6875-0.6678	11/16"	•
Ø 23/32"	1232.18262	18.26-17.76	0.7188-0.6991	23/32"	_
Ø 3/4"	1232.19052	19.05-18.55	0.75-0.7303	3/4"	•
ER 40-DM [mm]					
Ø 6.0 mm	1240.06000	6.0 h9	0.2362 h9		_
Ø 8.0 mm	1240.08000	8.0 h9	0.3150 h9		
Ø 10.0 mm	1240.10000	10.0-9.5	0.3937-0.374		_
Ø 11.0 mm	1240.11000	11.0-10.5	0.4331-0.4134		
Ø 12.0 mm	1240.12000	12.0-11.5	0.4724-0.4528		
Ø 13.0 mm	1240.13000	13.0-12.5	0.5118-0.4921		_
Ø 14.0 mm	1240.14000	14.0-13.5	0.5512-0.5315		
Ø 15.0 mm	1240.15000	15.0-14.5	0.5906-0.5709		_

For further technical information, please refer to page 295

### **Metallic sealed collets ER-DM**

			Clamping range			
Туре	Part no.	[mm]	[decimal inch]	Ø [inch]	Included in set	
ER 40-DM [mm] continued						
Ø 16.0 mm	1240.16000	16.0-15.5	0.6299-0.6102	-	_	
Ø 17.0 mm	1240.17000	17.0–16.5	0.6693-0.6496	_	_	
Ø 18.0 mm	1240.18000	18.0-17.5	0.7087-0.689	_	_	
Ø 19.0 mm	1240.19000	19.0-18.5	0.748-0.7283	_	_	
Ø 20.0 mm	1240.20000	20.0-19.5	0.7874-0.7677	_	_	
Ø 21.0 mm	1240.21000	21.0-20.5	0.8268-0.8071	_	_	
Ø 22.0 mm	1240.22000	22.0-21.5	0.8661-0.8465	_	_	
Ø 23.0 mm	1240.23000	23.0-22.5	0.9055-0.8858	_	_	
Ø 24.0 mm	1240.24000	24.0-23.5	0.9449-0.9252	_	_	
Ø 25.0 mm	1240.25000	25.0-24.5	0.9843-0.9646	_	_	
Ø 26.0 mm	1240.26000	26.0-25.5	1.0236-1.0039	_	_	
ER 40-DM [inch]						
Ø 1/4"	1240.06352	6.35 h9	0.25 h9	1/4"	_	
Ø 5/16"	1240.07942	7.94 h9	0.3125 h9	5/16"	_	
Ø 3/8"	1240.09532	9.53-9.02	0.375-0.3553	3/8"	_	
Ø 7/16"	1240.11112	11.11-10.61	0.4375-0.4178	7/16"	_	
Ø 1/2"	1240.12702	12.7-12.2	0.5-0.4803	1/2"	_	
Ø 9/16"	1240.14292	14.29-13.79	0.5625-0.5428	9/16"	_	
Ø 5/8"	1240.15882	15.88-15.38	0.62-0.6055	5/8"	_	
Ø 11/16"	1240.17462	17.46-16.96	0.6875-0.6678	11/16"	_	
Ø 3/4"	1240.19052	19.05-18.55	0.75-0.7303	3/4"	_	
Ø 13/16"	1240.20642	20.64-20.14	0.8123-0.7928	13/16"	_	
Ø 7/8"	1240.22232	22.23-21.72	0.875-0.8553	7/8"	_	
Ø 1"	1240.25402	25.4-24.9	1.0-0.9803	1"	_	

For further technical information, please refer to page 295.

#### Expert advice

Please note that DM collets are not compatible with weldon or Whistle notch shafts. To achieve internal cooling with Weldon or Whistle notch shafts, use the SOCOJE sealing disks ER/DS with your SOCOJE ER collet.

### secuRgrip® collets ER-SG

ER-SG DIN 6499 ISO 15488

			Ø
Туре	Part no.	[mm]	[inch]
ER 32-SG [mm]			
Ø 10.0 mm	1332.10004	10	_
Ø 12.0 mm	1332.12004	12	_
Ø 16.0 mm	1332.16004	16	_
ER 32-SG [inch]			
Ø 1/2"	1332.12704	12.7	1/2"
Ø 5/8"	1332.15884	15.88	5/8"
ER 40-SG [mm]			
Ø 16.0 mm	1340.16004	16	
Ø 20.0 mm	1340.20004	20	_
Ø 25.0 mm	1340.25004	25	_
ER 40-SG [inch]			
Ø 5/8"	1340.15884	15.88	5/8"
Ø 3/4"	1340.19054	19.05	3/4"
Ø 1"	1340.25404	25.4	1"

Threaded insert SGI [mm]	
Ø 10.0 mm	7694.10000
Ø 12.0 mm	7694.12000
Ø 14.0 mm	7694.14000
Ø 16.0 mm	7694.16000
Ø 18.0 mm	7694.18000
Ø 20.0 mm	7694.20000
Ø 25.0 mm	7694.25000

Threaded insert SGI [inch]	
Ø 1/2"	7694.12700
Ø 5/8"	7694.15880
Ø 3/4"	7694.19050
Ø 1"	7694.25404



For further information on secuRgrip®, please refer to page 277.





## **ER tapping collets ER-GB**

Manufactured with a form-fitting internal square, the ER-GB collets successfully prevent the tap from slipping.

## Tapping collets without axial compensation

#### **Swiss quality**

Made in Switzerland to ISO 9001/ISO 14001.

#### Marking

Type and size (reduced collet selection errors).

#### Traceability

Lot number marking on all products for traceability through the entire manufacturing process.

#### **Original SOCOJE**

Our long-lasting, machining experience results in a well-engineered system. When buying SOCOJE products pay attention to our quality seal: The triangle is our seal for outstanding quality made in Switzerland.

#### Interchangeable

With standard ER collet DIN 6499/ISO 15488. No additional toolholders and clamping nuts necessary.

#### Wide product range

Sizes: ER-GB 11 to 50. Standards: DIN, ISO, JIS, ANSI.

#### Strength: Square for tight grip of tap

Eliminates tap slippage in collets.

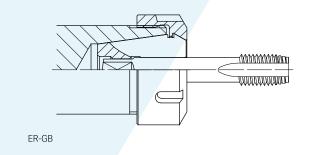
#### Matched tooling system for best fit

The compatibility of the entire system results in maximum precision, balance and tool life.

Tapping collets ER-GB These rigid tapping collets are compatible with taps per DIN, ISO, JIS and ANSI standards. The SOCOJE ER-GB tapping collets are manufactured with an internal square. They are intended for use on CNC machines that have synchronized machine spindle speed and feed rate. Machines that have such rigid tapping capabilities require only minimal compensation. We recommend the use of our SSY Softsynchro® tapping holders. They compensate minimal synchronizing differences of CNC machines.

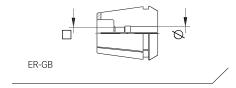
For machines without tapping option we recommend the use of our axial compensating GSF tapping holders. Please refer to page 116 for more information. For additional technical information and dimensions of taps on ER-GB, please refer to pages 299 and 336.





### **ER** tapping collets

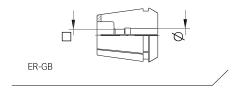
### ER-GB [mm]



	ER-GB							ions [mm]	Dimens
Standard	50	40	32	25	20	16	11		Ø
DIN/ISC		-	_	-	_	_	1411.02500	2.1/2.0	2.5
DIN						1416.02800	1411.02800	2.1	2.8
DIN					1420.03500	1416.03500	1411.03500	2.7	3.5
DIN						_	1411.04000	3.0	4.0
ISO/JI			1432.04002	1425.04002	1420.04002	1416.04002	1411.04002	3.15/3.2	4.0
DIN			1432.04500	1425.04500	1420.04500	1416.04500	1411.04500	3.4	4.5
ISO/JI			1432.05002	1425.05002	1420.05002	1416.05002	1411.05002	4.0	5.0
DIN			1432.05500	1425.05500	1420.05500	1416.05500	_	4.3	5.5
JI:			1432.05501	1425.05501	1420.05501	1416.05501	_	4.5	5.5
JI:	_	1440.06001	1432.06001	1425.06001	1420.06001	1416.06001	_	4.5	6.0
DIN	_	1440.06000	1432.06000	1425.06000	1420.06000	1416.06000	1411.06000	4.9	6.0
JIS	_	1440.06201	1432.06201	1425.06201	1420.06201	1416.06201	_	5.0	6.2
ISC	_	1440.06302	1432.06302	1425.06302	1420.06302	1416.06302	_	5.0	6.3
DIN/JIS	_	1440.07000	1432.07000	1425.07000	1420.07000	1416.07000	_	5.5	7.0
ISC		1440.07102	1432.07102	1425.07102	1420.07102	1416.07102	_	5.6	7.1
DIN/ISC		1440.08000	1432.08000	1425.08000	1420.08000	1416.08000	_	6.2/6.3	8.0
JIS	_	1440.08501	1432.08501	1425.08501	1420.08501	1416.08501	_	6.5	8.5
DIN/ISC	_	1440.09000	1432.09000	1425.09000	1420.09000	1416.09000	_	7.0/7.1	9.0
DIN/ISC	_	1440.10000	1432.10000	1425.10000	1420.10000			8.0	10.0
JIS	_	1440.10501	1432.10501	1425.10501	1420.10501			8.0	10.5
DIN		1440.11000	1432.11000	1425.11000	1420.11000			9.0	11.0
ISC		1440.11202	1432.11202	1425.11202	1420.11202			9.0	11.2
DIN		1440.12000	1432.12000	1425.12000	1420.12000			9.0	12.0
ISO/JIS		1440.12502	1432.12502	1425.12502				10.0	12.5
DIN/ISO/JIS		1440.14000	1432.14000	1425.14000				11.0/11.2	14.0
JIS		1440.15001	1432.15001	1425.15001				12.0	15.0
DIN/ISC		1440.16000	1432.16000	1425.16000				12.0/12.5	16.0
JIS		1440.17001	1432.17001					13.0	17.0
DIN/ISC		1440.18000	1432.18000					14.0/14.5	18.0
DIN/ISC		1440.20000	1432.20000					16.0	20.0
DIN	1450.22000	1440.22000						18.0	22.0
DIN	1450.25000							20.0	25.0
DIN	1450.28000							22.0	28.0
DIN	1450.32000							24.0	32.0

### **ER** tapping collets

### ER-GB [inch]



Ø         □         11         16         20         25         32         40         50           0.141"         0.11"         1411.03585         1416.03585         -	
0.168"         0.131"         1411.04275         1416.04275         1420.04275         1425.04275         1432.04275         —           0.194"         0.152"         1411.04935         1416.04935         1420.04935         1425.04935         1432.04935         —           0.22"         0.165"         —         1416.05595         1420.05595         1432.05595         —           0.255"         0.191"         —         1416.08085         1420.08085         1425.08085         1432.08085         1440.08085           0.3318"         0.238"         —         1416.08085         1425.08085         1432.08215         1440.08085           0.367"         0.275"         —         —         1420.09325         1425.09325         1432.09325         1440.09325           0.381"         0.286"         —         —         1420.09685         1425.09685         1440.09685           0.429"         0.322"         —         —         —         1425.11104         1432.11104         1440.11104           0.48"         0.36"         —         —         —         1425.12195         1432.12195         1440.12195           0.542"         0.406"         —         —         —         —         1432.14274 <th>Standard</th>	Standard
0.194"         0.152"         1411.04935         1416.04935         1420.04935         1425.04935         -           0.22"         0.165"         -         1416.05595         1420.05595         1425.05595         1432.05595         -           0.255"         0.191"         -         1416.08085         1420.08085         1425.08085         1432.08085         1440.08085           0.318"         0.238"         -         1416.08085         1420.08215         1425.08215         1432.08085         1440.08085           0.323"         0.242"         -         -         1420.09325         1425.09325         1440.09325           0.367"         0.275"         -         -         1420.09325         1432.0965         1440.09325           0.381"         0.286"         -         -         -         1425.09685         1432.0965         1440.09685           0.429"         0.322"         -         -         -         1425.10905         1432.10905         1440.10905           0.437"         0.328"         -         -         -         1425.11104         1432.11104         1440.11104           0.48"         0.36"         -         -         -         -         1432.13775         1440.12	ANSI
0.22"         0.165"         - 1416.05595         1420.05595         1425.05595         1432.05595         -           0.255"         0.191"         - 1416.06485         1420.06485         1425.06485         1432.06485         1440.06485           0.318"         0.238"         - 1416.08085         1420.08085         1425.08085         1432.08085         1440.08085           0.323"         0.242"         1420.08215         1425.08215         1432.08215         1440.08215           0.367"         0.275"         1420.09325         1425.09325         1432.09325         1440.09325           0.381"         0.286"         1420.09685         1425.09685         1432.09685         1440.09685           0.429"         0.322"         1425.10905         1432.11004         1440.10905           0.437"         0.328"         1425.11104         1432.11104         1440.11104           0.48"         0.36"         1425.12195         1432.12195         1440.12195           0.562"         0.421"         1425.14274         1440.13775           0.652"         0.489"         1425.14995         1432.16565         1440.16665           0.697"         0.523"         1440.17784 <t< td=""><td>ANSI</td></t<>	ANSI
0.255"         0.191"         -         1416.06485         1420.06485         1425.06485         1432.06485         1440.06485           0.318"         0.238"         -         1416.08085         1420.08085         1425.08085         1432.08085         1440.08085           0.323"         0.242"         -         -         1420.08215         1432.08215         1440.08215           0.367"         0.275"         -         -         1420.09325         1432.09325         1440.09325           0.381"         0.286"         -         -         1420.09685         1432.09685         1440.09685           0.429"         0.322"         -         -         -         1425.11104         1440.1905           0.437"         0.328"         -         -         -         1425.11104         1440.11104           0.48"         0.36"         -         -         -         1425.12195         1432.12195         1440.12195           0.542"         0.406"         -         -         -         -         1432.14274         1440.13775           0.59"         0.442"         -         -         -         1425.14995         1432.14274         1440.14274           0.59"         0.489" <td>ANSI</td>	ANSI
0.318"         0.238"         -         1416.08085         1420.08085         1425.08085         1432.08085         1440.08085           0.323"         0.242"         -         -         1420.08215         1425.08215         1432.08215         1440.08215           0.367"         0.275"         -         -         1420.09325         1432.09325         1440.09325           0.381"         0.286"         -         -         1420.09685         1425.09685         1440.09685           0.429"         0.322"         -         -         -         1425.10905         1432.10905         1440.10905           0.437"         0.328"         -         -         -         1425.11104         1432.11104         1440.11104           0.48"         0.36"         -         -         -         1425.12195         1432.12195         1440.12195           0.542"         0.406"         -         -         -         -         1432.14274         1440.13775           0.562"         0.421"         -         -         -         1425.14995         1432.14995         1440.14274           0.652"         0.489"         -         -         -         -         -         1440.17454	ANSI
0.323"         0.242"         -         -         1420.08215         1432.08215         1440.08215           0.367"         0.275"         -         -         1420.09325         1432.09325         1440.09325           0.381"         0.286"         -         -         1420.09685         1425.09685         1432.09685         1440.09685           0.429"         0.322"         -         -         -         1425.10905         1432.10905         1440.10905           0.437"         0.328"         -         -         -         1425.11104         1432.11104         1440.11104           0.48"         0.36"         -         -         -         1425.12195         1440.12195           0.542"         0.406"         -         -         -         -         1432.13775         1440.13775           0.562"         0.421"         -         -         -         1425.14995         1440.14274           0.59"         0.442"         -         -         -         1425.14995         1440.14995           0.652"         0.489"         -         -         -         -         1432.16565         1440.16565           0.697"         0.523"         -         -	ANSI
0.367"         0.275"         -         1420.09325         1432.09325         1440.09325           0.381"         0.286"         -         1420.09685         1425.09685         1432.09685         1440.09685           0.429"         0.322"         -         -         1425.10905         1432.10905         1440.10905           0.437"         0.328"         -         -         -         1425.11104         1432.11104         1440.11104           0.48"         0.36"         -         -         -         1425.12195         1432.12195         1440.12195           0.542"         0.406"         -         -         -         -         1432.13775         1440.13775           0.562"         0.421"         -         -         -         1425.14995         1432.14274         1440.14274           0.69"         0.422"         -         -         -         1425.14995         1440.14995           0.652"         0.489"         -         -         -         -         -         1440.17454           0.697"         0.523"         -         -         -         -         -         -         1440.17705           0.7"         0.531"         -         -<	ANSI
0.381"       0.286"       -       -       1420.09685       1432.09685       1440.09685         0.429"       0.322"       -       -       -       1425.10905       1432.10905       1440.10905         0.437"       0.328"       -       -       -       1425.11104       1432.11104       1440.11104         0.48"       0.36"       -       -       -       1425.12195       1432.12195       1440.12195         0.542"       0.406"       -       -       -       -       1432.13775       1440.13775         0.562"       0.421"       -       -       -       1425.14995       1432.14274       1440.14274         0.59"       0.442"       -       -       -       1425.14995       1432.14995       1440.14995         0.652"       0.489"       -       -       -       -       -       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17705         0.7"       0.531"       -       -       -       -       -       1440.17784	ANSI
0.429"       0.322"       -       -       1425.10905       1432.10905       1440.10905         0.437"       0.328"       -       -       1425.11104       1432.11104       1440.11104         0.48"       0.36"       -       -       -       1425.12195       1432.12195       1440.12195         0.542"       0.406"       -       -       -       -       1432.13775       1440.13775         0.562"       0.421"       -       -       -       1425.14995       1432.14274       1440.14274         0.59"       0.442"       -       -       -       1425.14995       1432.14995       1440.14995         0.652"       0.489"       -       -       -       -       1432.16565       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17765         0.7"       0.531"       -       -       -       -       -       -       1440.17784	ANSI
0.437"       0.328"       -       -       1425.11104       1432.11104       1440.11104         0.48"       0.36"       -       -       -       1425.12195       1432.12195       1440.12195         0.542"       0.406"       -       -       -       -       1432.13775       1440.13775         0.562"       0.421"       -       -       -       1425.14995       1432.14274       1440.14274         0.59"       0.442"       -       -       -       1432.16995       1440.14995         0.652"       0.489"       -       -       -       -       -       1440.17454         0.697"       0.523"       -       -       -       -       -       1440.17705         0.7"       0.531"       -       -       -       -       -       -       1440.17784	ANSI
0.48"       0.36"       -       -       -       1425.12195       1432.12195       1440.12195         0.542"       0.406"       -       -       -       -       1432.13775       1440.13775         0.562"       0.421"       -       -       -       1432.14274       1440.14274         0.59"       0.442"       -       -       -       1425.14995       1432.14995       1440.14995         0.652"       0.489"       -       -       -       -       1432.16565       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17454         0.697"       0.523"       -       -       -       -       -       1440.17784         0.7"       0.531"       -       -       -       -       -       1440.17784	ANSI
0.542"       0.406"       -       -       -       -       1432.13775       1440.13775         0.562"       0.421"       -       -       -       1432.14274       1440.14274         0.59"       0.442"       -       -       1425.14995       1432.14995       1440.14995         0.652"       0.489"       -       -       -       -       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17454         0.697"       0.523"       -       -       -       -       -       1440.17705         0.7"       0.531"       -       -       -       -       -       1440.17784	ANSI/NPT
0.562"       0.421"       -       -       -       1432.14274       1440.14274         0.59"       0.442"       -       -       1425.14995       1432.14995       1440.14995         0.652"       0.489"       -       -       -       -       1432.16565       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17454         0.697"       0.523"       -       -       -       -       -       1440.17705         0.7"       0.531"       -       -       -       -       -       1440.17784	ANSI
0.59"       0.442"       -       -       -       1425.14995       1432.14995       1440.14995         0.652"       0.489"       -       -       -       -       1432.16565       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17454         0.697"       0.523"       -       -       -       -       -       1440.17705         0.7"       0.531"       -       -       -       -       -       1440.17784	ANSI
0.652"       0.489"       -       -       -       -       1440.16565         0.687"       0.515"       -       -       -       -       -       1440.17454         0.697"       0.523"       -       -       -       -       -       1440.17705         0.7"       0.531"       -       -       -       -       -       1440.17784	ANSI/NPT
0.687"     0.515"     -     -     -     -     1440.17454       0.697"     0.523"     -     -     -     -     -     1440.17705       0.7"     0.531"     -     -     -     -     -     1440.17784	ANSI
0.697"     0.523"     -     -     -     -     1440.17705       0.7"     0.531"     -     -     -     -     -     1440.17784	ANSI
0.7" 0.531" 1440.17784	ANSI/NPT
	ANSI
0.76" 0.57" 1440.19305	ANSI/NPT
	ANSI
0.800" 0.600" 1440.20325 1450.20325	ANSI
0.896" 0.672" 1450.22765	ANSI
1.021" 0.766" 1450.25935	ANSI
1.108" 0.831" 1450.28145	ANSI
1.233"     0.925"     -     -     -     -     -     1450.31325	ANSI

Thread	Ø [inch]	
No 0 – 6	0.141	0.110
1/16	0.141	0.110
3/32	0.141	0.110
1/8	0.141	0.110
5/32	0.168	0.131
No 8	0.168	0.131
3/16	0.194	0.152
No 9	0.194	0.152

Thread	Ø [inch]	
No 10	0.194	0.152
1/4	0.255	0.191
5/16	0.318	0.238
3/8	0.381	0.286
7/16	0.323	0.242
1/2	0.367	0.275
9/16	0.429	0.322

Thread	Ø [inch]	
5/8	0.480	0.360
11/16	0.542	0.406
3/4	0.590	0.442
13/16	0.652	0.489
7/8	0.697	0.523
15/16	0.760	0.570
1	0.800	0.600



## **ER tapping collets PCM ET1**

PCM ET1 tapping collets with axial compensation offer a smart and cost-effective toolholding option for machines which need axial compensation for tapping.

## Tapping collets with axial compensation

#### Interchangeable

With SOCOJE standard ER collet DIN 6499/so 15488.

#### Compatibility

PCM ET1-12 is compatible with ER11 toolholders.

#### Cost saving

No expensive tapping tools necessary.

#### **Spring tension**

Adapted to tap size.

#### Compact

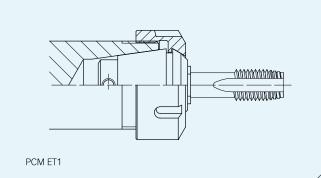
Very robust design with smallest space requirement.

Directions for use The following tapping process is recommended for tapping collets PCM ET1: Fast approach, then tapping feed with approximately 95% of the pitch value, which uses 20 to 30% of the compensation stroke when the spindle rotation and the feed movement are simultaneously reversed.

Return feed must be made with 100% of the pitch, which maintains the sleeve of the tapping collet in the compensation stroke up to the tap disengagement; quick return can then be programmed with usual stroke security. The relatively long axial compensation assists easy programming.

When tapping with very high speed, an appropriate programming compensation may be necessary to balance the differences of inertia between the spindle and the feed movement on reverse. In order to not disturb the axial compensation, use external coolant supply only.

Please refer to page 116 for additional information on SOCOJE tapping holders. For additional technical information and dimensions of taps on PCM ET1, please refer to pages 300.





#### Expert advice

Not for coolant through tools and not for applications with sealing disks.

#### Expert advice

Further information about shaft diameters can be found on page 336.

PCM ET1

## ER tapping collets

### PCM ET1 [mm]

Imm         12         14         20         25         32         40         Standard           1.4         1512.01400         1516.01400         -         -         -         -         DIN/ISO           1.6         1512.01600         1516.01600         -         -         -         -         DIN           1.8         1512.02000         1516.02000         1516.02000         1516.02000         150.02000	Shank Ø						PCM ET1	
1.6         1512.01600         1516.01600         —         —         —         —         DIN           1.8         1512.01800         1516.01800         —         —         —         —         DIN           2.0         1512.02200         1516.02200         —         —         —         —         DIN           2.2         1512.02200         1516.02200         1520.02200         —         —         —         DIN           2.24         1512.02200         1516.02200         1520.02200         —         —         —         ISO/JIS           2.8         1512.02800         1516.02800         1520.02800         1525.02800         —         —         DIN           3.0         1512.03500         1516.03800         1520.03500         1525.03000         —         —         JIS           3.5         1512.03500         1516.03500         1520.03500         1525.03500         —         —         JIS           3.5         1512.03550         1516.03500         1520.03500         1525.03500         —         —         JIS           4.0         —         1516.04500         1520.04000         1520.04000         —         —         JIN/JIS <t< th=""><th>[mm]</th><th>12</th><th>16</th><th>20</th><th>25</th><th>32</th><th>40</th><th>Standard</th></t<>	[mm]	12	16	20	25	32	40	Standard
1.8         1512.01800         1516.01800         —         —         —         —         DIN           2.0         1512.02000         1516.02000         —         —         —         —         DIN           2.2         1512.02200         1516.02200         1520.02200         —         —         —         —         DIN           2.24         1512.02200         1516.02200         1520.02500         1525.02500         —         —         DIN           2.5         1512.02500         1516.02500         1520.02500         1525.02500         —         —         DIN           3.0         1512.03500         1516.03000         1520.03000         1525.03000         —         —         DIN           3.5         1512.03500         1516.03500         1520.03500         1525.0350         —         —         DIN           3.5         1512.03500         1516.03550         1520.03500         1525.0350         —         —         DIN           3.5         1512.03500         1516.03550         1520.03500         1525.03550         —         —         DIN/IS           4.0         —         1516.04500         1520.04500         1522.04500         —         DIN/I	1.4	1512.01400	1516.01400	_	_	_	_	DIN/ISO
2.0         1512.02000         1516.02000         1520.02200         1516.02200         1520.02200         1500.02200 <td>1.6</td> <td>1512.01600</td> <td>1516.01600</td> <td></td> <td>_</td> <td>_</td> <td>_</td> <td>DIN</td>	1.6	1512.01600	1516.01600		_	_	_	DIN
2.2         1512.02200         1516.02200         1520.02200         —         —         —         —         DIN           2.24         1512.02240         1516.02240         1520.02240         —         —         —         DIN           2.5         1512.02500         1516.02500         1520.02500         1525.02500         —         —         DIN           2.8         1512.02800         1516.02800         1520.03000         1525.03000         —         —         DIN           3.0         1512.03150         1516.03300         1520.03000         1525.03000         —         —         JIS           3.5         1512.03500         1516.03500         1520.03500         1525.03500         —         —         JIS           3.5         1512.03500         1516.03500         1520.03500         1525.03500         —         —         JIS           4.0         —         1516.04000         1520.04500         1525.04500         —         —         DIN/JIS           5.0         —         1516.0500         1520.05500         1525.05500         —         DIN/JSO           5.5         —         1516.05600         1520.05600         1525.05000         1532.05600	1.8	1512.01800	1516.01800			_	_	DIN
2.24         1512.02240         1516.02240         1520.02500         1520.02500         1520.02500         -         -         DIN           2.5         1512.02500         1516.02500         1520.02500         1525.02500         -         -         ISO/JIS           2.8         1512.02800         1516.03000         1520.02800         1525.03800         -         -         -         DIN           3.0         1512.03150         1516.03000         1520.03150         1525.03500         -         -         JIS           3.5         1512.03500         1516.03500         1520.03550         1525.03500         -         -         DIN           3.5         1512.03550         1516.03500         1520.03550         1525.03500         -         -         JIS           4.0         -         1516.04500         1520.04500         1525.04500         -         -         DIN/JIS           5.0         -         1516.04500         1520.0500         1525.0500         1532.0500         -         DIN/JISO           5.5         -         1516.0500         1520.0500         1532.0500         -         DIN/JISO           5.6         -         1516.0600         1520.0500         1532.05	2.0	1512.02000	1516.02000			_	_	DIN
2.5         1512.02500         1516.02500         1520.02500         1525.02500         —         —         ISO/JIS           2.8         1512.02800         1516.02800         1520.02800         1525.02800         —         —         DIN           3.0         1512.03000         1516.03000         1520.03000         1525.03000         —         —         JIS           3.15         1512.03150         1516.03500         1520.03500         1525.03500         —         —         DIN           3.5         1512.03500         1516.03550         1520.03550         1525.03500         —         —         DIN           3.5         1512.03550         1516.04000         1520.04500         1525.03500         —         —         JIS           4.0         —         1516.04500         1520.04500         1525.04500         1532.05000         —         DIN/JIS           5.0         —         1516.05500         1520.05000         1523.05500         1532.05000         —         DIN/JISO           5.6         —         1516.05600         1520.05600         1532.05600         1540.06000         DIN/JISO           6.2         —         1516.06200         1520.05600         1532.05600	2.2	1512.02200	1516.02200	1520.02200		_	_	ISO/JIS
2.8         1512.02800         1516.02800         1520.02800         1525.02800         —         —         DIN           3.0         1512.03000         1516.03000         1520.03000         1525.03000         —         —         JIS           3.15         1512.03150         1516.03500         1520.03500         1525.03500         —         —         DIN           3.5         1512.03550         1516.03500         1520.03500         1525.03500         —         —         DIN           3.5         1512.03550         1516.03500         1520.03500         1525.03500         —         —         —         JIS           4.0         —         1516.04500         1520.04500         1522.04500         —         —         —         BIN/JIS           5.0         —         1516.05000         1520.05000         1522.05000         1532.05000         —         DIN/JIS           5.5         —         1516.05000         1520.05000         1522.05500         1532.0500         —         DIN/JIS           6.0         —         1516.06000         1520.06000         1522.05600         1532.05600         —         DIN/JISO           6.2         —         1516.06200         1520.06200	2.24	1512.02240	1516.02240	1520.02240	_	_	_	DIN
3.0         1512.03000         1516.03000         1520.03000         1525.03000         —         —         JIS           3.15         1512.03150         1516.03150         1520.03150         1525.03150         —         —         JIS           3.5         1512.03500         1516.03500         1520.03500         1525.03500         —         —         DIN           3.55         1512.03550         1516.03500         1520.04000         1525.04000         —         —         JIS           4.0         —         1516.04000         1520.04500         1522.04500         —         —         DIN/JIS           4.5         —         1516.04500         1520.04500         1523.04500         —         —         DIN/JIS           5.0         —         1516.0500         1520.05000         1523.05000         —         DIN/JISO           5.5         —         1516.05600         1520.05600         1523.05600         1532.05600         —         DIN/JISO           6.0         —         1516.05600         1520.06200         1523.06200         1540.06000         DIN/JISO           6.2         —         1516.06200         1525.06200         1520.06200         1540.06200         DIN/JISO	2.5	1512.02500	1516.02500	1520.02500	1525.02500	_	_	ISO/JIS
3.15         1512.03150         1516.03150         1520.03150         1525.03150         —         —         —         JIS           3.5         1512.03500         1516.03500         1520.03500         1525.03500         —         —         DIN           3.55         1512.03550         1516.03550         1520.03550         1525.04500         —         —         JIS           4.0         —         1516.04500         1520.04500         1525.04500         —         —         DIN/JIS           4.5         —         1516.04500         1520.04500         1522.04500         —         —         DIN/JIS           5.0         —         1516.0500         1520.05000         1525.05000         1532.05000         —         DIN/JISO           5.5         —         1516.0500         1520.0500         1525.0500         1532.05000         —         DIN/JISO           6.0         —         1516.0500         1520.0600         1525.0500         1532.0600         1540.06000         DIN/JISO           6.2         —         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/JISO           6.3         —         1516.06300         1525.06200	2.8	1512.02800	1516.02800	1520.02800	1525.02800	_	_	DIN
3.5         1512,03500         1516,03500         1520,03500         1525,03550         —         —         DIN           3.55         1512,03550         1516,04000         1520,03550         1525,03550         —         —         JIS           4.0         —         1516,04000         1520,04000         1525,04000         —         —         DIN/JIS           4.5         —         1516,04500         1520,04500         1532,04500         —         DIN/JIS           5.0         —         1516,05000         1520,05000         1532,05000         —         DIN/JISO           5.5         —         1516,05000         1520,05500         1532,05500         —         DIN/JISO           6.0         —         1516,06000         1520,05600         1532,05600         —         JIS           6.0         —         1516,06000         1520,06000         1532,06000         1540,06000         DIN/JISO           6.3         —         1516,06200         1520,06000         1532,06000         1540,06200         DIN/JISO           7.0         —         —         1520,07000         1532,07000         1540,06200         DIN/JISO           8.0         —         —         —	3.0	1512.03000	1516.03000	1520.03000	1525.03000	_	_	JIS
3.55         1512.03550         1516.03550         1520.03550         1525.04000         —         —         —         JIS           4.0         —         1516.04000         1520.04000         1525.04000         —         —         —         ISO           4.5         —         1516.04500         1520.05000         1525.05000         1532.05000         —         DIN/JIS           5.0         —         1516.05000         1520.05500         1525.05000         —         DIN/JISO           5.5         —         1516.05600         1520.05600         1525.05600         1532.05500         —         DIN/JISO           6.0         —         1516.06000         1520.06600         1525.06000         1532.05600         —         JIS           6.0         —         1516.06200         1520.06200         1532.06200         1540.06200         DIN/ISO           6.3         —         1516.06300         1520.06300         1532.06200         1540.06200         DIN/ISO           7.0         —         —         1525.07000         1532.07000         1540.06300         DIN/ISO           8.0         —         —         —         1525.0800         1532.08000         1540.07000         I	3.15	1512.03150	1516.03150	1520.03150	1525.03150	_	_	JIS
4.0         -         1516.04000         1520.04000         1525.04000         -         -         -         ISO           4.5         -         1516.04500         1520.04500         1525.04500         1532.05000         -         DIN/IJS           5.0         -         1516.05000         1520.05500         1525.05000         1532.05500         -         DIN/ISO           5.5         -         1516.05600         1520.05600         1525.0600         1532.05600         -         DIN/ISO           6.0         -         1516.06000         1520.06000         1525.0600         1532.06000         1540.06000         DIN/ISO           6.2         -         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06200         1525.06200         1532.06300         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1525.06300         1532.06300         1540.06200         DIN/ISO           7.0         -         -         1520.07000         1532.07000         1540.06300         JIS           7.0         -         -         -         15	3.5	1512.03500	1516.03500	1520.03500	1525.03500	_	_	DIN
4.5         -         1516.04500         1520.04500         1525.04500         1532.04500         -         DIN/JIS           5.0         -         1516.05000         1520.05000         1525.05000         1532.05000         -         ISO           5.5         -         1516.05500         1520.05500         1525.05500         1532.05500         -         DIN/ISO           6.0         -         1516.06000         1520.06000         1525.06000         1532.06000         1540.06000         DIN/ISO           6.2         -         1516.06200         1520.06200         1525.06000         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1532.06300         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1532.06300         1540.06300         JIS           7.0         -         -         1520.07000         1525.07000         1540.06300         JIS           7.0         -         -         -         1525.07000         1532.07000         1540.07000         DIN           8.0         -         -         -         1525.0800         1532.08000         1540.0800         D	3.55	1512.03550	1516.03550	1520.03550	1525.03550	_	_	JIS
5.0         -         1516.05000         1520.05000         1525.05000         1532.05000         -         ISO           5.5         -         1516.05500         1520.05500         1525.05500         1532.05500         -         DIN/ISO           5.6         -         1516.05600         1520.05600         1532.05600         -         JIS           6.0         -         1516.06000         1520.06000         1525.06200         1532.06200         1540.06000         DIN/ISO           6.2         -         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1532.06300         1540.06300         JIS           7.0         -         -         1520.07000         1532.07000         1540.07000         DIN/ISO           8.0         -         -         -         1525.08000         1532.08000         1540.07100         ISO           8.5         -         -         -         1525.08000         1532.08000         1540.08000         DIN/ISO           9.0         -         -         -         1525.08000         1532.08000         1540.08000         DIN/ISO	4.0	_	1516.04000	1520.04000	1525.04000	_	_	ISO
5.5         -         1516.05500         1520.05500         1532.05500         -         DIN/ISO           5.6         -         1516.05600         1520.05600         1532.05600         -         JIS           6.0         -         1516.06000         1520.06000         1532.06000         1540.06000         DIN/ISO           6.2         -         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1525.06300         1532.06300         1540.06300         JIS           7.0         -         -         1520.07000         1525.07000         1532.07000         1540.07000         DIN           7.1         -         -         -         1525.07100         1532.07000         1540.07100         ISO           8.0         -         -         -         -         1525.08000         1532.08000         1540.08000         DIN/ISO           9.0         -         -         -         1525.08000         1532.08500         1540.08000         DIN/ISO           10.5         -         -         -         1525.09000         1540.09000         DIN/ISO	4.5	_	1516.04500	1520.04500	1525.04500	1532.04500	_	DIN/JIS
5.6         -         1516.05600         1520.05600         1532.05600         -         JIS           6.0         -         1516.06000         1520.06000         1525.06000         1532.06000         1540.06000         DIN/ISO           6.2         -         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1525.06300         1540.06300         JIS           7.0         -         -         1520.07000         1525.07000         1532.07000         1540.07000         DIN           7.1         -         -         -         1525.07100         1532.07100         1540.07000         DIN           8.0         -         -         -         -         1525.08000         1532.08000         1540.08000         DIN           8.5         -         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.0900         1540.08500         DIN/ISO           10.5         -         -         -         1532.1000         1540.1000         DIN	5.0	_	1516.05000	1520.05000	1525.05000	1532.05000	_	ISO
6.0         -         1516.06000         1520.06000         1525.06000         1532.06000         1540.06000         DIN/ISO           6.2         -         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1525.06300         1532.06300         1540.06300         JIS           7.0         -         -         1520.07000         1525.07000         1532.07000         1540.07000         DIN           7.1         -         -         -         1525.07100         1532.07100         1540.07000         DIN           8.0         -         -         -         1525.08000         1532.08000         1540.08000         DIN           8.5         -         -         -         1525.08000         1532.08000         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         DIN/ISO           11.0         -         -         -         -         1532.11000	5.5	_	1516.05500	1520.05500	1525.05500	1532.05500	_	DIN/ISO
6.2         -         1516.06200         1520.06200         1525.06200         1532.06200         1540.06200         DIN/ISO           6.3         -         1516.06300         1520.06300         1525.06300         1532.06300         1540.06300         JIS           7.0         -         -         1520.07000         1532.07000         1540.07000         DIN           7.1         -         -         -         1525.07100         1532.08000         1540.08000         DIN           8.0         -         -         -         1525.08500         1532.08500         1540.08000         DIN           8.5         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.08500         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.09000         DIN/ISO           11.0         -         -         -         1532.11000         1540.11000         DIN/ISO           11.2         -         -         -         -         1532.11200         1540.11200         DIN/ISO	5.6	_	1516.05600	1520.05600	1525.05600	1532.05600	_	JIS
6.3         -         1516.06300         1520.06300         1532.06300         1540.06300         JIS           7.0         -         -         1520.07000         1525.07000         1532.07000         1540.07000         DIN           7.1         -         -         -         1525.07100         1532.07100         1540.07000         DIN           8.0         -         -         -         -         1525.08000         1532.08000         1540.08000         DIN           8.5         -         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         DIN/ISO/JIS           10.5         -         -         -         -         1532.11000         1540.10000         DIN/ISO           11.0         -         -         -         -         1532.11200         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12500         1540.12000         D	6.0		1516.06000	1520.06000	1525.06000	1532.06000	1540.06000	DIN/ISO
7.0         -         -         1520.07000         1532.07000         1532.07000         1540.07000         DIN           7.1         -         -         -         1525.07100         1532.07100         1540.07100         ISO           8.0         -         -         -         1525.08000         1532.08000         1540.08000         DIN           8.5         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         DIN/ISO/JIS           10.5         -         -         -         -         1532.10000         1540.10000         DIN/ISO           11.0         -         -         -         -         1532.11000         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12000         1540.12000         DIN/ISO           12.5         -         -         -         -         1532.12500         1540.12500         DIN	6.2	_	1516.06200	1520.06200	1525.06200	1532.06200	1540.06200	DIN/ISO
7.1         -         -         1525.07100         1532.07100         1540.07100         ISO           8.0         -         -         -         1525.08000         1532.08000         1540.08000         DIN           8.5         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         JIS           10.5         -         -         -         -         1532.10000         1540.10500         DIN/ISO           11.0         -         -         -         -         1532.11000         1540.11000         JIS           11.2         -         -         -         -         1532.11200         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12500         1540.12500         DIN/ISO           12.5         -         -         -         -         1532.12500         1540.12500         DIN           14.0         -	6.3	_	1516.06300	1520.06300	1525.06300	1532.06300	1540.06300	JIS
8.0         -         -         -         1525.08000         1532.08000         1540.08000         DIN           8.5         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         JIS           10.5         -         -         -         -         1532.10500         1540.10500         DIN/ISO           11.0         -         -         -         -         1532.11000         1540.11000         JIS           11.2         -         -         -         -         1532.11000         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12000         1540.12000         DIN/ISO           12.5         -         -         -         -         1532.12500         1540.12500         DIN           14.0         -         -         -         -         -         -         1540.14000         DIN           15.0	7.0	_	_	1520.07000	1525.07000	1532.07000	1540.07000	DIN
8.5         -         -         -         1525.08500         1532.08500         1540.08500         ISO/JIS           9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         DIN/ISO           10.5         -         -         -         -         1532.10500         1540.10500         DIN/ISO           11.0         -         -         -         -         1532.11000         1540.11000         JIS           11.2         -         -         -         -         1532.11200         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12000         1540.12000         DIN/ISO           12.5         -         -         -         -         1532.12500         1540.12500         DIN           14.0         -         -         -         -         -         1540.14000         DIN           15.0         -         -         -         -         -         -         1540.15000         DIN           16.0         -	7.1				1525.07100	1532.07100	1540.07100	ISO
9.0         -         -         -         1525.09000         1532.09000         1540.09000         DIN/ISO/JIS           10.0         -         -         -         1525.10000         1532.10000         1540.10000         JIS           10.5         -         -         -         -         1532.10500         1540.10500         DIN/ISO           11.0         -         -         -         -         1532.11000         1540.11000         JIS           11.2         -         -         -         -         1532.11200         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12000         1540.12000         DIN/ISO           12.5         -         -         -         -         1532.12500         1540.12500         DIN           14.0         -         -         -         -         -         1540.14000         DIN           15.0         -         -         -         -         -         -         1540.15000         DIN           16.0         -         -         -         -         -         -         -         -         -         -         -         -	8.0				1525.08000	1532.08000	1540.08000	DIN
10.0       -       -       -       1525.10000       1532.10000       1540.10000       JIS         10.5       -       -       -       -       1532.10500       1540.10500       DIN/ISO         11.0       -       -       -       -       1532.11000       1540.11000       JIS         11.2       -       -       -       -       1532.11200       1540.11200       DIN/ISO         12.0       -       -       -       -       1532.12000       1540.12000       DIN/ISO         12.5       -       -       -       -       1532.12500       1540.12500       DIN         14.0       -       -       -       -       -       1540.14000       DIN         15.0       -       -       -       -       -       1540.15000       DIN         16.0       -       -       -       -       -       -       1540.16000       DIN	8.5				1525.08500	1532.08500	1540.08500	ISO/JIS
10.5         -         -         -         -         1532.10500         1540.10500         DIN/ISO           11.0         -         -         -         -         1532.11000         1540.11000         JIS           11.2         -         -         -         -         1532.11200         1540.11200         DIN/ISO           12.0         -         -         -         -         1532.12000         1540.12000         DIN/ISO           12.5         -         -         -         -         1532.12500         1540.12500         DIN           14.0         -         -         -         -         -         1540.14000         DIN           15.0         -         -         -         -         -         1540.15000         DIN           16.0         -         -         -         -         -         -         1540.16000         DIN	9.0				1525.09000	1532.09000	1540.09000	DIN/ISO/JIS
11.0       -       -       -       -       1532.11000       1540.11000       JIS         11.2       -       -       -       1532.11200       1540.11200       DIN/ISO         12.0       -       -       -       1532.12000       1540.12000       DIN/ISO         12.5       -       -       -       1532.12500       1540.12500       DIN         14.0       -       -       -       -       1540.14000       DIN         15.0       -       -       -       -       1540.15000       DIN         16.0       -       -       -       -       -       1540.16000       DIN	10.0				1525.10000	1532.10000	1540.10000	JIS
11.2       -       -       -       1532.11200       1540.11200       DIN/ISO         12.0       -       -       -       1532.12000       1540.12000       DIN/ISO         12.5       -       -       -       1532.12500       1540.12500       DIN         14.0       -       -       -       -       1540.14000       DIN         15.0       -       -       -       -       1540.15000       DIN         16.0       -       -       -       -       1540.16000       DIN	10.5					1532.10500	1540.10500	DIN/ISO
12.0       -       -       -       -       1532.12000       1540.12000       DIN/ISO         12.5       -       -       -       1532.12500       1540.12500       DIN         14.0       -       -       -       -       1540.14000       DIN         15.0       -       -       -       -       -       1540.15000       DIN         16.0       -       -       -       -       -       1540.16000       DIN	11.0					1532.11000	1540.11000	JIS
12.5         -         -         -         -         1532.12500         1540.12500         DIN           14.0         -         -         -         -         -         1540.14000         DIN           15.0         -         -         -         -         -         1540.15000         DIN           16.0         -         -         -         -         -         1540.16000         DIN	11.2					1532.11200	1540.11200	DIN/ISO
14.0     -     -     -     -     -     1540.14000     DIN       15.0     -     -     -     -     -     1540.15000     DIN       16.0     -     -     -     -     -     1540.16000     DIN	12.0	_	_	_	_	1532.12000	1540.12000	DIN/ISO
15.0     -     -     -     -     -     1540.15000     DIN       16.0     -     -     -     -     -     1540.16000     DIN	12.5	_	_	_	_	1532.12500	1540.12500	DIN
16.0 1540.16000 DIN	14.0						1540.14000	DIN
	15.0	_	_	_	_		1540.15000	DIN
17.0 1540.17000 JIS	16.0						1540.16000	DIN
	17.0	_		_			1540.17000	JIS

PCM ET1-ER 12 is technically identical to ER 11 and fits all ER11 toolholders

# ER tapping collets PCM ET1 [inch]

Shank Ø							PCM ET1
[inch]	[mm]	12	16	20	25	32	40
0.141	3.580	1512.03581	1516.03581	1520.03581	1525.03581	_	_
0.168	4.270	_	1516.04271	1520.04271	1525.04271	1532.04721	_
0.194	4.930	_	1516.04931	1520.04931	1525.04931	1532.04931	_
0.220	5.590	_	1516.05591	1520.05591	1525.05591	1532.05591	_
0.255	6.480	_		1520.06481	1525.06481	1532.06481	1540.06481
0.318	8.080	_			1525.08081	1532.08081	1540.08081
0.323	8.205	_			1525.08211	1532.08211	1540.08211
0.367	9.320	_			1525.09321	1532.09321	1540.09321
0.381	9.680	_			1525.09681	1532.09681	1540.09681
0.429	10.900	_				1532.10901	1540.10901
0.437	11.113	_				1532.11111	1540.11111
0.480	12.192	_				1532.12191	1540.12191
0.542	13.770						1540.13771
0.562	14.290						1540.14291
0.590	14.990						1540.14991
0.652	16.560	_					1540.16561
0.697	17.700						1540.17701

PCM ET1-ER 12 is technically identical to ER 11 and fits all ER11 toolholders

Thread	Ø [inch]	
No 0 – 6	0.141	0.110
1/16	0.141	0.110
3/32	0.141	0.110
1/8	0.141	0.110
5/32	0.168	0.131
No 8	0.168	0.131
3/16	0.194	0.152
No 9	0.194	0.152

Thread	Ø [inch]	
No 10	0.194	0.152
1/4	0.255	0.191
5/16	0.318	0.238
3/8	0.381	0.286
7/16	0.323	0.242
1/2	0.367	0.275
9/16	0.429	0.322

Thread	Ø [inch]	
5/8	0.480	0.360
11/16	0.542	0.406
3/4	0.590	0.442
13/16	0.652	0.489
7/8	0.697	0.523
15/16	0.760	0.570
1	0.800	0.600