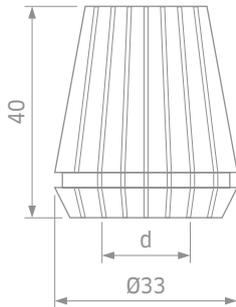
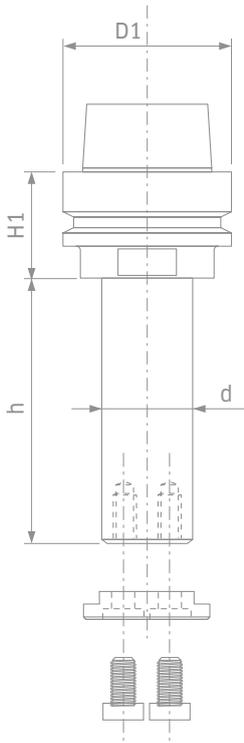


# Accessories and Spare Parts

Freud offers the most complete range of industrial quality accessories and spare parts, suitable for all machine types, both stationary and portable. The portfolio includes an extensive selection of tool holders, spacers, screws and accessories designed to fulfill the demands of the industry.

Users benefit from a broad range of standard products, for cost effective solutions and custom accessories, for more specific needs. Standard or custom, Freud's solutions always grant the greatest precision and outstanding performance.





Leading technology for accessories and spare parts ..... Page 532

**COMPONENTS**

**Chucks for boring machines**

MP01MD-MP01MS Chucks for bits for multiboring machines ..... Page 535  
 MP20M Spring adaptors for twist drills ..... Page 535

**Chucks and accessories for CNC routers**

AP08M Spindle for overhead routers ..... Page 536  
 MP05M High precision spindles - ISO30 ..... Page 537  
 MP06MD High precision chucks - ISO30 ..... Page 537  
 MP07M High precision Nickel coated spindles - HSK 63 E ..... Page 538  
 MP08M High precision Nickel coated chucks - HSK 63 E ..... Page 538  
 MP09M High precision Nickel coated spindles - HSK 63 F ..... Page 539  
 MP10MD High precision Nickel coated chucks - HSK 63 F ..... Page 539  
 CD01M Pull studs for chucks ISO30 ..... Page 540  
 MP06M High precision collet for ER32 locking rings ..... Page 540  
 GH32M High precision locking ring ..... Page 540  
 MP16M High precision collet for ER40 locking rings ..... Page 541  
 GH40M High precision locking ring ..... Page 541  
 MC01M Encoding microchip for smart tool ..... Page 541

**Bushes and accessories**

BF10MD-BF10MS Sleeves with locking nut ..... Page 542  
 BLA Standard reduction rings for saw blades ..... Page 543  
 BF01M Standard reduction rings for cutterhead ..... Page 543  
 3105M Reducing bushes ..... Page 544  
 FX01M Reducing bushes ..... Page 544  
 FX02M Reducing bushes ..... Page 544  
 FX03M Stiffening collars for saw blades ..... Page 544  
 AN01M Spacers ..... Page 545  
 AN01 Special spacers ..... Page 548  
 AN03M Standard spacer set ..... Page 548  
 CC01 Ball bearing guide for moulding ..... Page 549  
 3102M Ball bearing ..... Page 549  
 RB62M Ball bearing rub collars ..... Page 549  
 3103MC Sleeved speciality bearings ..... Page 549

**KEYS AND DEVICES**

Spare screws, nuts, washers and keys ..... Page 551  
 OPT04 Standard keyway ..... Page 557  
 OPT09 Re-boring for cutterheads and brazed cutters ..... Page 557

**Maintenance tools**

SAG1M Maintenance tool for cutterhead sets ..... Page 557  
 SAG2M Clamping device with rolling bearing ..... Page 558  
 TA01M Device for grinding Performance knives ..... Page 558  
 TA02M Device for grinding Performance knives ..... Page 558  
 TA03M Support for grinding Performance knives ..... Page 558

Torque values for screws and grub screws used for tightening Freud's knives and inserts ..... Page 559

Tips for the correct use ..... Page 560

Technical features ..... Page 561

# LEADING TECHNOLOGY

## EXTENSIVE RANGE

Freud provides a comprehensive range of premium accessories and spare parts, standard and custom. The wide range of bore sizes provides a suitable option for all machine types, both traditional and automated CNC machines.



## MAINTENANCE KEYS & ACCESSORIES

Tool maintenance represents the best practice to maintain cutting edges sharp and ensure the proper tool alignment. Cutting tools for wood applications require special care, beyond regular cleaning. Clamping surfaces must be free of dirt, grease, oil and water to perform efficiently.

For this reason, Freud has specifically designed a range of accessories (including keys, wrenches and clamping devices) to perform the most accurate tool maintenance and provide the perfect solution to reach the highest results in the woodworking processes.





## PIONEERING SOLUTIONS

Freud leverages its long-term expertise, engineering know-how and industrial competence to offer safer, faster and more efficient solutions to the most challenging market needs.

To achieve maximum results in all applications, Freud employs the most advanced technologies. For its new Nickel Coated Mandrel range - for example - cementing and hardening treatments are used to withstand higher temperatures and improve wear resistance, for an extended lifetime and improved performance.

In addition to achieve the highest rust protection, the tools undergo a series of acid baths and ultrasonic cleaning before receiving the final nickel-plating treatment (nickel depth 7  $\mu\text{m}$ ).

## FINEST BALANCING - G2.5



ISO 1940-1 G2.5 grades at maximum RPM.

An accurate balancing at maximum speed (G2.5 ISO 1940-1), combined with the excellent rust protection, ensures an ideal and durable clamping of the tools, in the most demanding CNC routing applications.

All Freud's tool holders are designed to be equipped with a microchip, ready to be programmed for tool management systems.

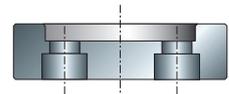
## FLANGES

Freud provides different flange types.

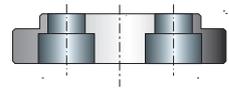
Flange **Type B** is the standard.

Flange **Type A** is the optional with no. 3 M6 fixing screws.

Available on request.



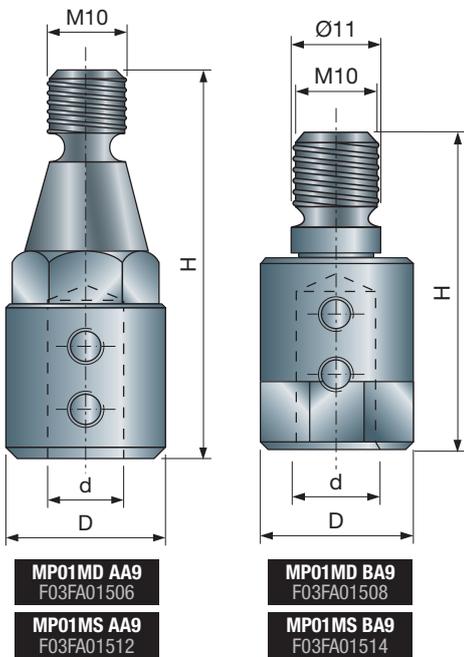
Flange Type A



Flange Type B

# Components





## MP01MD MP01MS

## Chucks for bits for multiboring machines

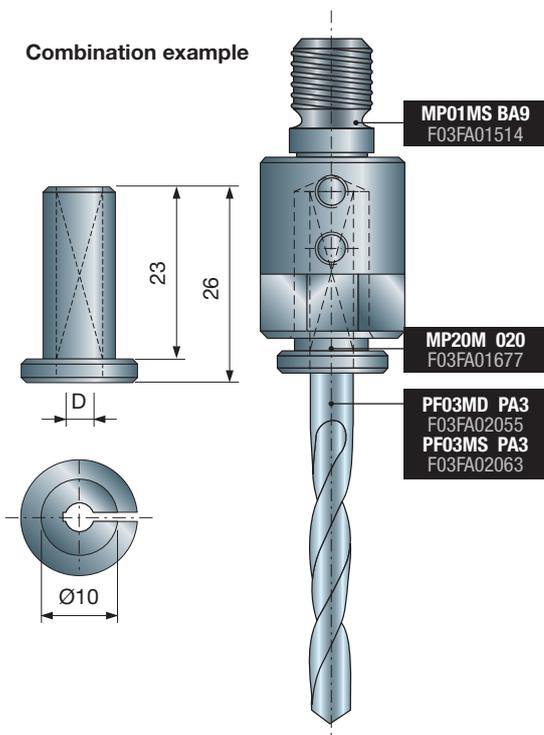
D mm	H mm	d mm	Rotation	Freud Code	Art. No.	Freud Code	Art. No.
				Right (D)		Left (S)	
*	19	47	10	RH	MP01MD AA9	F03FA01506	MP01MS AA9 F03FA01512
				Right (D)		Left (S)	
**	19	41	10	LH	MP01MD BA9	F03FA01508	MP01MS BA9 F03FA01514
Spare parts				Dimensions	Freud Code	Art. No.	
Screw				mm	2615M DD9	F03FA07423	

Freud standard chucks for router bits.

\* **MP...AA9:** Shanks for: Alberti, Balestrini, Bilek, Busellato, Ompec, Reimall, Schlicher, SCM, Tanzani, Viciani, Vitap, Weingärter.

\*\* **MP...BA9:** Shanks for: Alberti, Balestrini, Biesse, Busellato, Gessner, Morbidelli, Torwegge, Weeke.

### Combination example

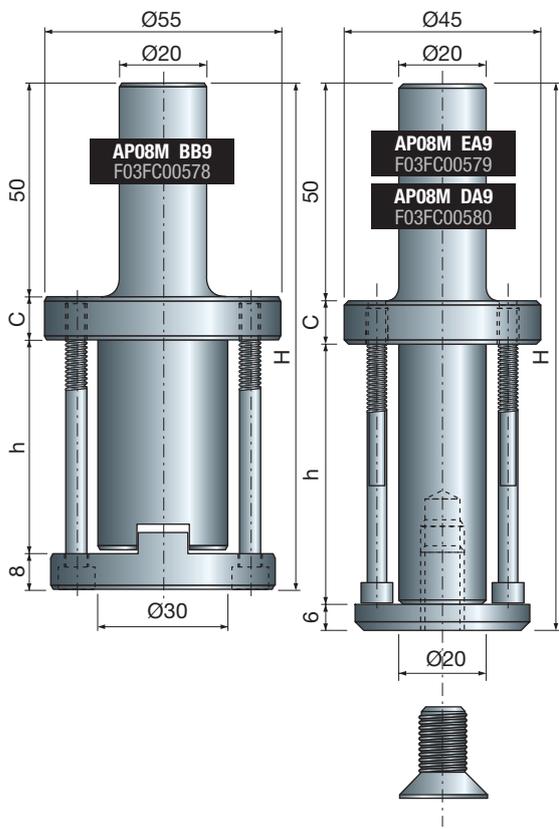


## MP20M

## Spring adaptors for twist drills

D mm	Freud Code	Art. No.
2	MP20M 020	F03FA01677
2,5	MP20M 025	F03FA01678
3	MP20M 030	F03FA01679
3,2	MP20M 032	F03FA01680
3,5	MP20M 035	F03FA01681
4	MP20M 040	F03FA01682
4,5	MP20M 045	F03FA01683
5	MP20M 050	F03FA01684
6	MP20M 060	F03FA01686
8	MP20M 080	F03FA01690

Adaptors for drill bits (as PF03MD/S) suitable for **MP01MD/S** chucks.



## AP08M

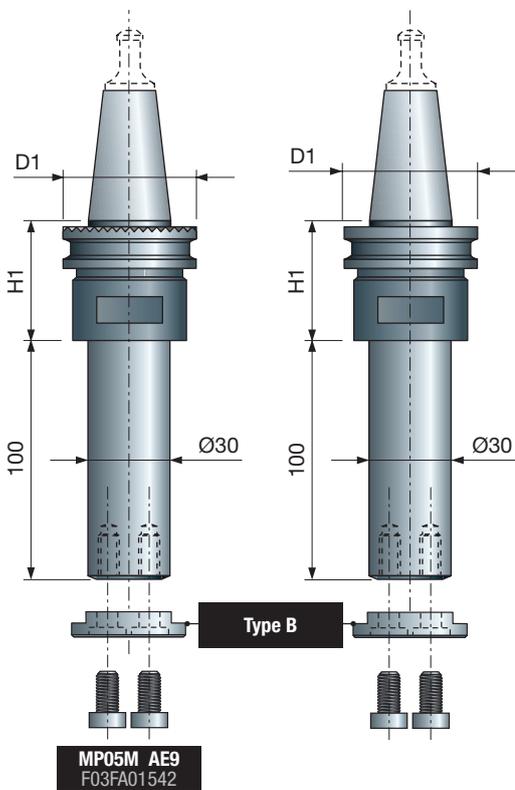
## Spindle for overhead routers

D	h	H	C	Freud Code	Art. No.
mm	mm	mm			
20	33	93	12	AP08M DA9	F03FC00579
20	60	120	10	AP08M EA9	F03FC00580
30	50	118	12	AP08M BB9	F03FC00578

Spindles for manual or overhead CNC router machines with 20x50 mm shank.

**AP08M DA3** and **AP08M EA9** suitable for mounting tool with bore Ø20 mm, while the **AP08M BB9** is suitable for mounting tool with bore Ø30 mm.

- The **AP08M BB9** includes an anti-rotation ring nut and the housing for the screws that fasten the tool to the chuck.

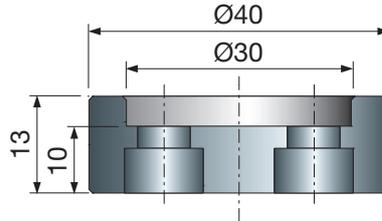


## MP05M High precision spindles - ISO30

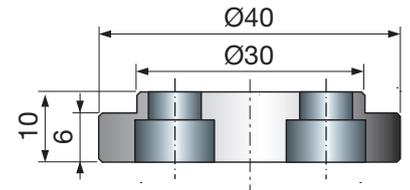
D1 mm	H1 mm	Router	Freud Code	Art. No.
50	35	Universal	MP05M AA9	F03FA01538
50	35	Biesse	MP05M AB9	F03FA01539
46	35	CMS	MP05M AC9	F03FA01540
49	41	SCM - Morbidelli	MP05M AE9	F03FA01542

Flange Type A

**FX09M AA9**  
F03FA13481

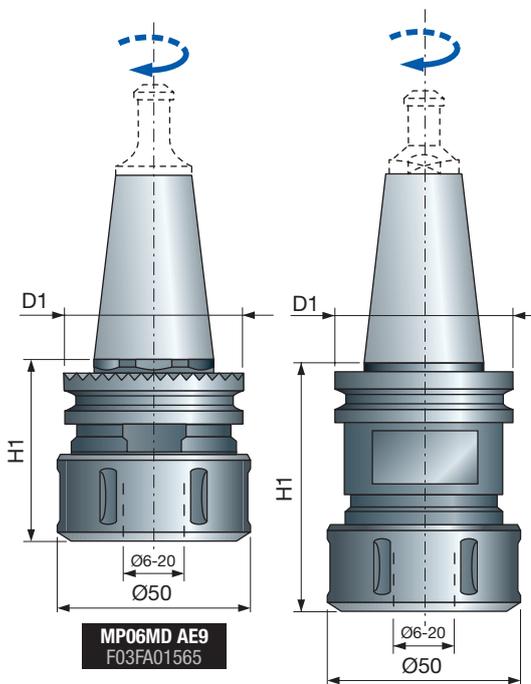


Flange Type B



Spindles for overhead CNC machines with **ISO30** shank for Ø30 mm tools bore.

- Standard chucks are provided with **Type B** flange **Type A** flange **Type A** is supplied on demand.
- Terminal pin **CD01M** is not included.

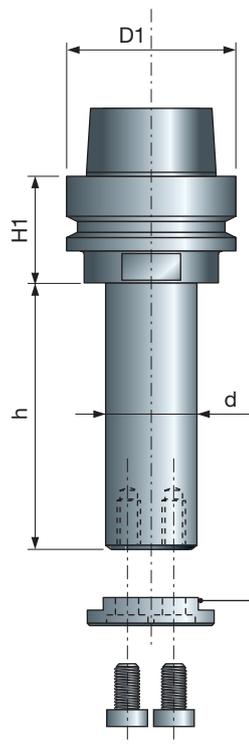


## MP06MD High precision chucks - ISO30

D mm	H mm	Router	Freud Code	Art. No.
50	67	Universal	MP06MD AA9	F03FA01561
50	50	Biesse	MP06MD AB9	F03FA01562
46	60	CMS	MP06MD AC9	F03FA01563
58	50	Esseteam	MP06MD AD9	F03FA01564
49	55	SCM - Morbidelli	MP06MD AE9	F03FA01565

Chucks for overhead CNC machines with **ISO30** shank.

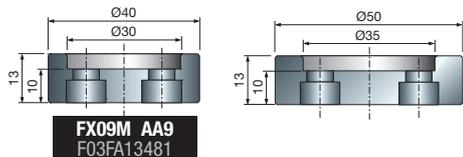
- Locking ring **ER32 RH**.
- Ideal for router bits with cylindrical shank.
- Terminal pin **CD01M** and **MP06M** collet not included.



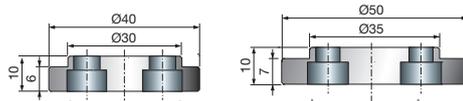
Spindles for CNC overhead CNC machines with **HSK 63 E** shank.

- Nickel coating treatment to prevent rust.
- G2,5 balancing for high speed applications.
- Standard spindles with **Type B** flange, **Type A** on demand.

#### Flange Type A



#### Flange Type B



## MP07M

### High precision Nickel coated spindles - HSK 63 E

h mm	H1 mm	d mm	D1 mm	Freud Code	Art. No.
50	33	30	63	MP07M30050	F03FB22386
60	33	30	63	MP07M30060	F03FB22387
70	33	30	63	MP07M30070	F03FB22388
80	33	30	63	MP07M30080	F03FB22389
90	33	30	63	MP07M30090	F03FB22390
100	33	30	63	MP07M30100	F03FB22391
110	33	30	63	MP07M30110	F03FB22392
120	33	30	63	MP07M30120	F03FB22393
130	33	30	63	MP07M30130	F03FB22394
140	33	30	63	MP07M30140	F03FB22395
150	33	30	63	MP07M30150	F03FB22396
160	33	30	63	MP07M30160	F03FB22397
170	33	30	63	MP07M30170	F03FB22398
180	33	30	63	MP07M30180	F03FB22399
190	33	30	63	MP07M30190	F03FB22400
200	33	30	63	MP07M30200	F03FB22401
210	33	30	63	MP07M30210	F03FB22402
220	33	30	63	MP07M30220	F03FB22403
230	33	30	63	MP07M30230	F03FB22404
50	33	35	63	MP07M35050	F03FB22405
60	33	35	63	MP07M35060	F03FB22406
70	33	35	63	MP07M35070	F03FB22407
80	33	35	63	MP07M35080	F03FB22408
90	33	35	63	MP07M35090	F03FB22409
100	33	35	63	MP07M35100	F03FB22410
110	33	35	63	MP07M35110	F03FB22411
120	33	35	63	MP07M35120	F03FB22412
130	33	35	63	MP07M35130	F03FB22413
140	33	35	63	MP07M35140	F03FB22414
150	33	35	63	MP07M35150	F03FB22415
160	33	35	63	MP07M35160	F03FB22416
170	33	35	63	MP07M35170	F03FB22417
180	33	35	63	MP07M35180	F03FB22418
190	33	35	63	MP07M35190	F03FB22419
200	33	35	63	MP07M35200	F03FB22420
210	33	35	63	MP07M35210	F03FB22421
220	33	35	63	MP07M35220	F03FB22422
230	33	35	63	MP07M35230	F03FB22423
245	33	35	63	MP07M35245	F03FB22424
245	33	40	63	MP07M40245	F03FB22425

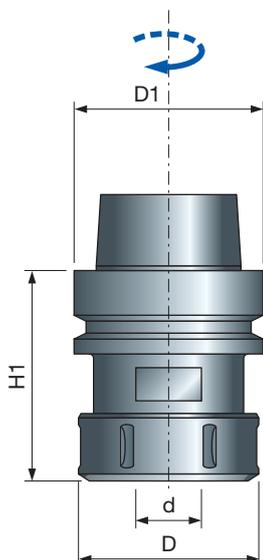
## MP08M

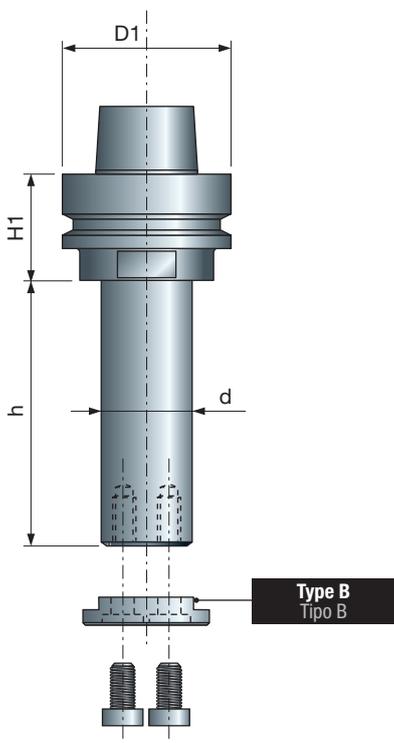
### High precision Nickel coated chucks - HSK 63 E

H1 mm	D mm	d mm	D1 mm	Freud Code	Art. No.
73	50	4-20	63	MP08MDC AA9	F03FA19217
78	63	6-25	63	MP08MDC BA9	F03FA19218

Chucks for CNC overhead CNC machines with **HSK 63 E** shank.

- Nickel coating treatment to prevent rust.
- G2,5 balancing for high speed applications.
- **ER32 RH** locking ring for item **MP08MDC AA9**.
- **ER40 RH** for **MP08MDC BA9**.
- Collet not included.

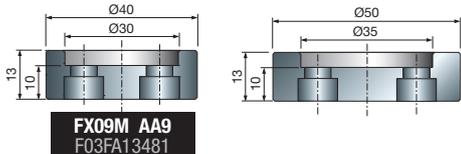




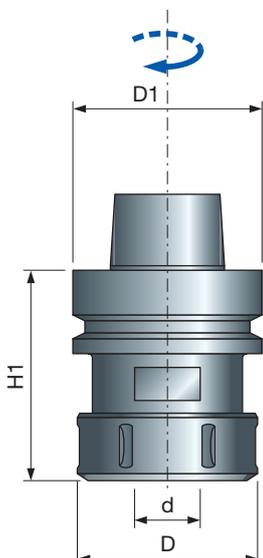
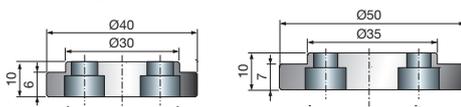
Spindles for CNC overhead CNC machines with **HSK 63 F** shank.

- Nickel coating treatment to prevent rust.
- G2,5 balancing for high speed applications.
- Standard spindles with **Type B** flange, **Type A** on demand.

#### Flange Type A



#### Flange Type B



## MP09M

### High precision Nickel coated spindles - HSK 63 F

h mm	H1 mm	d mm	D1 mm	Freud Code	Art. No.
50	33	30	63	MP09M30050	F03FB22426
60	33	30	63	MP09M30060	F03FB22427
70	33	30	63	MP09M30070	F03FB22428
80	33	30	63	MP09M30080	F03FB22429
90	33	30	63	MP09M30090	F03FB22430
100	33	30	63	MP09M30100	F03FB22431
110	33	30	63	MP09M30110	F03FB22432
120	33	30	63	MP09M30120	F03FB22433
130	33	30	63	MP09M30130	F03FB22434
140	33	30	63	MP09M30140	F03FB22435
150	33	30	63	MP09M30150	F03FB22436
160	33	30	63	MP09M30160	F03FB22437
170	33	30	63	MP09M30170	F03FB22438
180	33	30	63	MP09M30180	F03FB22439
190	33	30	63	MP09M30190	F03FB22440
200	33	30	63	MP09M30200	F03FB22441
50	33	35	63	MP09M35050	F03FB22442
60	33	35	63	MP09M35060	F03FB22443
70	33	35	63	MP09M35070	F03FB22444
80	33	35	63	MP09M35080	F03FB22445
90	33	35	63	MP09M35090	F03FB22446
100	33	35	63	MP09M35100	F03FB22447
110	33	35	63	MP09M35110	F03FB22448
120	33	35	63	MP09M35120	F03FB22449
130	33	35	63	MP09M35130	F03FB22450
140	33	35	63	MP09M35140	F03FB22451
150	33	35	63	MP09M35150	F03FB22452
160	33	35	63	MP09M35160	F03FB22453
170	33	35	63	MP09M35170	F03FB22454
180	33	35	63	MP09M35180	F03FB22455
190	33	35	63	MP09M35190	F03FB22456
200	33	35	63	MP09M35200	F03FB22457

## MP10M

### High precision Nickel coated chucks - HSK 63 F

H1 mm	D mm	d mm	D1 mm	Freud Code	Art. No.
73	50	4-20	63	MP10MDC AA9	F03FA19227
78	63	6-25	63	MP10MDC BA9	F03FA19228

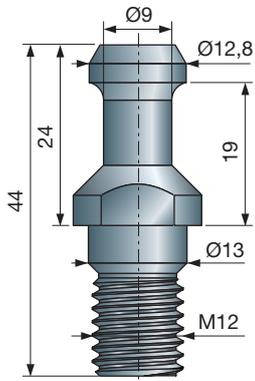
Chucks for CNC overhead CNC machines with **HSK 63 F** shank.

- Nickel coating treatment to prevent rust.
- G2,5 balancing for high speed applications.
- **ER32 RH** locking ring for item **MP10MDC AA9**.
- **ER40 RH** for **MP10MDC BA9**.
- Collet not included.

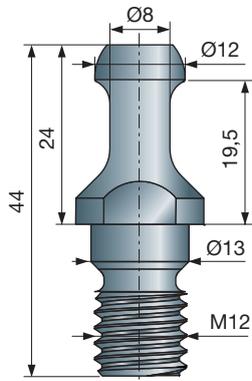
## CD01M

## Pull studs for chucks ISO30

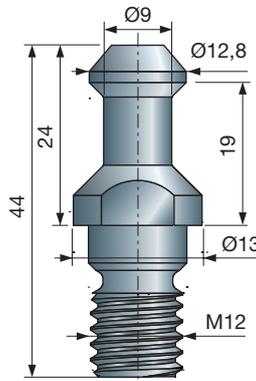
Terminal pins for ISO30 chucks and spindles.



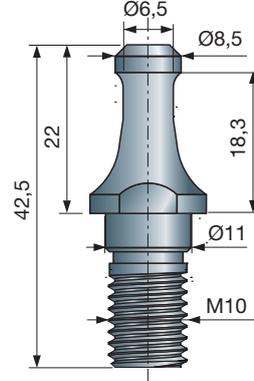
**CD01M AA9**  
F03FA00537



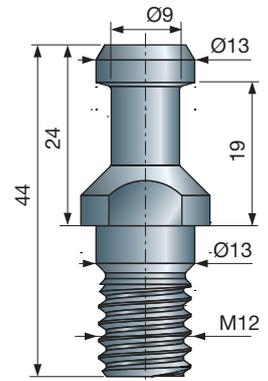
**CD01M BA9**  
F03FA00538



**CD01M CA9**  
F03FA00539

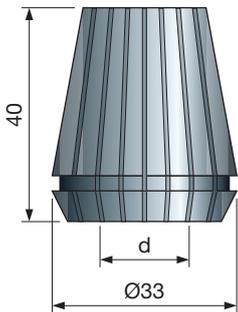


**CD01M DA9**  
F03FA00540



**CD01M EA9**  
F03FA00541

For routers:	Freud Code	Art. No.
CMS	<b>CD01M AA9</b>	F03FA00537
Biesse, Masterwood	<b>CD01M BA9</b>	F03FA00538
Alberti, Masterwood	<b>CD01M CA9</b>	F03FA00539
SCM, Morbidelli	<b>CD01M DA9</b>	F03FA00540
Busellato, IMA, Weeke, Maka	<b>CD01M EA9</b>	F03FA00541

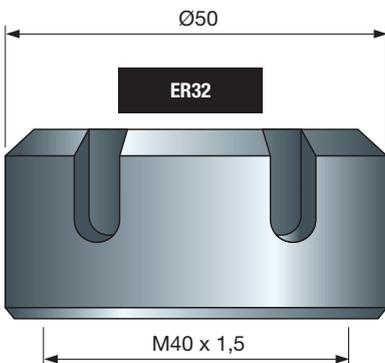


Collet for router bits with cylindrical shank.  
Suitable for **MP06MD**, **MP08MDC AA9** and **MP10MDC AA9** chucks.

## MP06M

## High precision collet for ER32 locking rings

d	H	Clamping range	Freud Code	Art. No.
4	40	4÷3	<b>MP06M 049</b>	F03FA01550
6	40	6÷5	<b>MP06M 069</b>	F03FA01551
8	40	8÷7	<b>MP06M 089</b>	F03FA01553
10	40	10÷9	<b>MP06M 109</b>	F03FA01554
12	40	12÷11	<b>MP06M 129</b>	F03FA01555
14	40	14÷13	<b>MP06M 149</b>	F03FA01557
16	40	16÷15	<b>MP06M 169</b>	F03FA01558
18	40	18÷17	<b>MP06M 189</b>	F03FA01559
20	40	20÷19	<b>MP06M 209</b>	F03FA01560

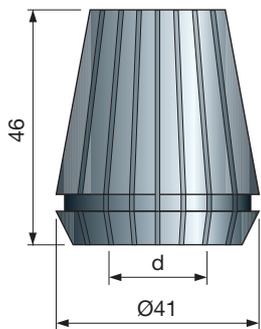


Locking rings suitable for universal high precision chucks with **MP06M** collet.

## GH32M

## High precision locking ring

D	Locking ring	Freud Code	Art. No.
50	ER32	<b>GH32M AA9</b>	F03FA01400

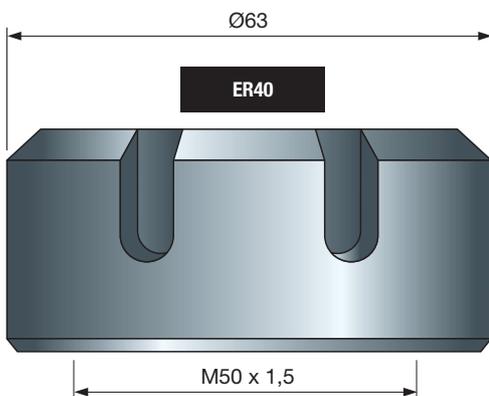


Collets for router bits with cylindrical shank.  
Suitable for **MP08MDC BA9** and **MP10MDC BA9** chucks.

## MP16M

### High precision collet for ER40 locking rings

d mm	H mm	Clamping range	Freud Code	Art. No.
6	46	6÷5	<b>MP16M 069</b>	F03FA01666
8	46	8÷7	<b>MP16M 089</b>	F03FA01667
10	46	10÷9	<b>MP16M 109</b>	F03FA01668
12	46	12÷11	<b>MP16M 129</b>	F03FA01669
14	46	14÷13	<b>MP16M 149</b>	F03FA01670
16	46	16÷15	<b>MP16M 169</b>	F03FA01671
18	46	18÷17	<b>MP16M 189</b>	F03FA01672
20	46	20÷19	<b>MP16M 209</b>	F03FA01673
25	46	25÷24	<b>MP16M 259</b>	F03FA01675

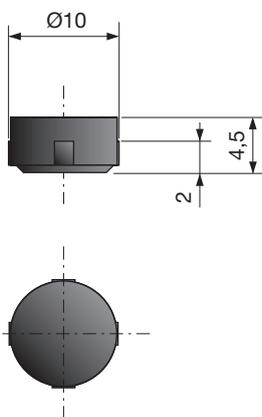


Locking rings suitable for universal high precision chucks with **MP16M** collet.

## GH40M

### High precision locking ring

D mm	Locking ring	Freud Code	Art. No.
63	ER40	<b>GH40M AA9</b>	F03FA01401



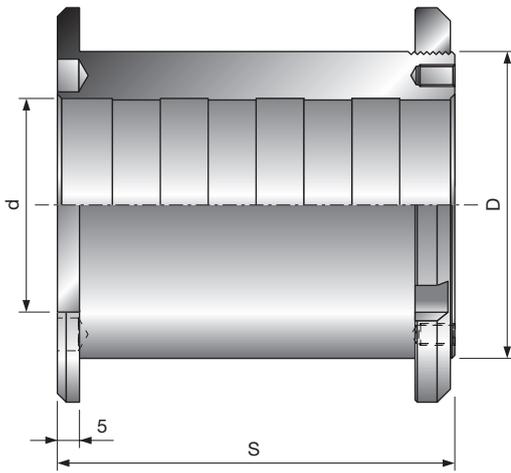
## MC01M

### Encoding microchip for smart tools

D mm	H mm	h mm	Freud Code	Art. No.
10	4,5	2	<b>MC01M 010</b>	F03FB01638

Microchip suitable for machines set up to read and write data for tool recognition.

- Circular in shape, it has storage capacity of 511 bytes.
- To be used at temperatures from 0° to + 70°.



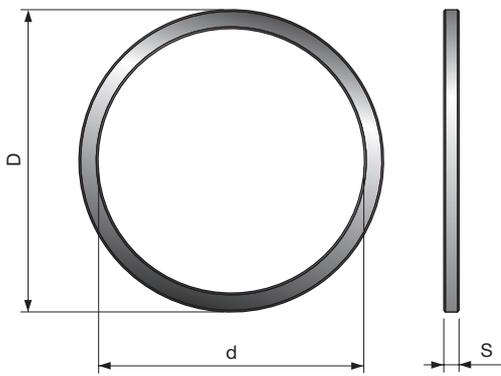
Standard Freud's sleeves for complex tools with threaded locking nut.

## BF10MD BF10MS

## Sleeves with locking nut

D mm	S mm	d mm	Freud Code Right (D)	Art. No.	Freud Code Left (S)	Art. No.
50	110	30	<b>BF10MD AA9</b>	F03FC00616	<b>BF10MS AA9</b>	F03FC00661
50	130	30	<b>BF10MD AD9</b>	F03FC00619	<b>BF10MS AD9</b>	F03FC00664
50	60	35	<b>BF10MD AG9</b>	F03FC00622	-	-
50	110	35	<b>BF10MD AB9</b>	F03FC00617	<b>BF10MS AB9</b>	F03FC00662
50	130	35	<b>BF10MD AE9</b>	F03FC00620	-	-
50	110	40	<b>BF10MD AC9</b>	F03FC00618	<b>BF10MS AC9</b>	F03FC00663
50	130	40	<b>BF10MD AF9</b>	F03FC00621	<b>BF10MS AF9</b>	F03FC00665
55	110	35	<b>BF10MD BA9</b>	F03FC00625	<b>BF10MS BA9</b>	F03FS07470
55	130	35	<b>BF10MD BC9</b>	F03FS07469	<b>BF10MS BC9</b>	F03FS07471
55	110	40	<b>BF10MD BB9</b>	F03FS07468	-	-
55	130	40	<b>BF10MD BD9</b>	F03FC00626	<b>BF10MS BD9</b>	F03FC00668
60	90	32	<b>BF10MD DL9</b>	F03FC24537	-	-
60	85	35	<b>BF10MD KB9</b>	F03FC00643	-	-
60	90	35	<b>BF10MD DB9</b>	F03FC00630	-	-
60	110	35	<b>BF10MD CB9</b>	F03FC00627	-	-
60	85	40	<b>BF10MD KC9</b>	F03FC00644	-	-
60	90	40	<b>BF10MD DC9</b>	F03FC00631	<b>BF10MS DC9</b>	F03FC00669
60	110	40	<b>BF10MD CC9</b>	F03FC00628	-	-
60	85	50	<b>BF10MD KD9</b>	F03FC00645	-	-
60	90	50	<b>BF10MD DD9</b>	F03FC00632	-	-
60	110	50	<b>BF10MD CD9</b>	F03FC00629	-	-
70	75	30	<b>BF10MD LA9</b>	F03FC00646	-	-
70	85	30	-	-	<b>BF10MS HA9</b>	F03FC00676
70	90	30	<b>BF10MD EA9</b>	F03FC24536	-	-
70	90	32	<b>BF10MD EL9</b>	F03FC24537	<b>BF10MS EL9</b>	-
70	85	35	<b>BF10MD HB9</b>	F03FC00638	-	-
70	90	35	<b>BF10MD EB9</b>	F03FC00633	<b>BF10MS EB9</b>	F03FC00671
70	75	40	<b>BF10MD LC9</b>	F03FC00647	-	-
70	85	40	<b>BF10MD HC9</b>	F03FC00639	-	-
70	90	40	<b>BF10MD EC9</b>	F03FC00634	<b>BF10MS EC9</b>	F03FC00672
*	70	40	<b>BF10MD QD9</b>	F03FC00653	<b>BF10MS QD9</b>	F03FC00685
*	70	45	<b>BF10MD PD9</b>	F03FC00652	<b>BF10MS PD9</b>	F03FC00684
*	70	50	<b>BF10MD OD9</b>	F03FC00651	<b>BF10MS OD9</b>	F03FC00683
*	70	55	<b>BF10MD ND9</b>	F03FC00650	<b>BF10MS ND9</b>	F03FC00682
*	70	60	<b>BF10MD MD9</b>	F03FC00649	<b>BF10MS MD9</b>	F03FC00681
*	70	65	<b>BF10MD ID9</b>	F03FC00641	<b>BF10MS ID9</b>	F03FC00679
*	70	70	<b>BF10MD GD9</b>	F03FC00637	<b>BF10MS GD9</b>	F03FC00675
*	70	75	<b>BF10MD LD9</b>	F03FC00648	<b>BF10MS LD9</b>	F03FC00680
*	70	80	<b>BF10MD FD9</b>	F03FC00636	<b>BF10MS FD9</b>	F03FC00674
*	70	85	<b>BF10MD HD9</b>	F03FC00640	<b>BF10MS HD9</b>	F03FC00678
*	70	90	<b>BF10MD ED9</b>	F03FC00635	<b>BF10MS ED9</b>	F03FC00673

\* Item already fitted with pin holes.

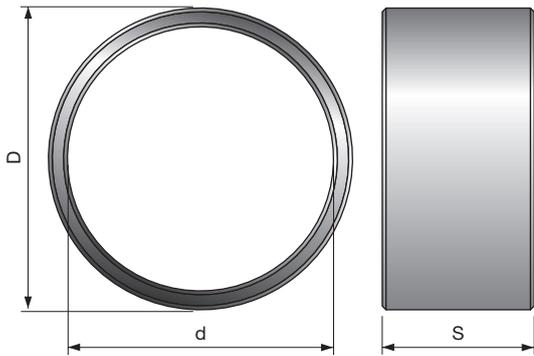


Standard reduction rings suitable for circular saw blades.

## BLA

### Standard reduction rings for saw blades

D mm	S mm	d mm	Freud Code	Art. No.
15.88	0.8	10	BLA08158100	F03FA23018
20	1.2	12.7	BL15M20127	F03FC00694
20	1.5	16	BLA15200160V01	F03FS11956
20	1.8	16	BLA18200160V01	F03FS11960
25.4	1.0	19.05	BLA10254190V01	F03FS11954
25.4	1.2	20	BLA12254200V01	F03FS11955
30	1.5	15.88	BLA15300158	F03FA23019
30	1.8	15.88	BLA18300158	F03FA23020
30	1.5	20	BLA15300200V01	F03FS11957
30	1.8	20	BLA18300200	F03FA23021
30	1.5	25	BLA15300250V01	F03FS11958
30	1.8	25	BLA18300250	F03FA23022
30	1.5	25.4	BLA15300254V01	F03FS11959
30	1.8	25.4	BLA18300254V01	F03FS11961
35	1.8	25.4	BLA18350254	F03FA22201
35	1.8	30	BLA18350300	F03FA23023

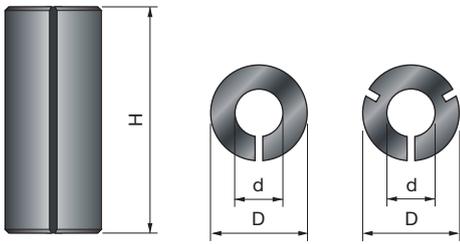


Standard reduction rings suitable for cutterheads.

## BF01M

### Standard reduction rings for cutterheads

D mm	S mm	d mm	Freud Code	Art. No.
35	5	30	BF01M AA9	F03FC00604
35	10	30	BF01M AB9	F03FC00605
35	15	30	BF01M AC9	F03FC00606
35	20	30	BF01M AD9	F03FC00607
35	25	30	BF01M AE9	F03FC00608
35	50	30	BF01M AF9	F03FC00609
40	5	35	BF01M BA9	F03FC00610
40	10	35	BF01M BB9	F03FC00611
40	15	35	BF01M BC9	F03FC00612
40	20	35	BF01M BD9	F03FC00613
40	25	35	BF01M BE9	F03FC00614
40	50	35	BF01M BF9	F03FC00615

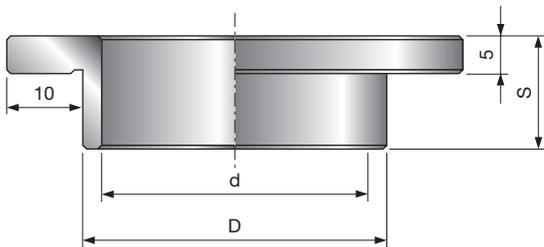


Reducing bushes for router bits.

## 3105M

## Reducing bushes

D mm	S mm	d mm	Freud Code	Art. No.
8	25	6	3105MVY250	F03FA10588
8	25	6,35	3105MVX250	F03FA10587
9,5	25	6	3105MUY250	F03FA10586
9,5	25	6,35	3105MUX250	F03FA10585
9,5	25	8	3105MUV250	F03FA10584
10	25	8	3105MTV250	F03FA10582
12	25	6	3105MSY250	F03FA10581
12	25	8	3105MSV250	F03FA10580
12	25	10	3105MST250	F03FA10579
12,7	25	6	3105MRY250	F03FA10578
12,7	25	6,35	3105MRX250	F03FA10577
12,7	25	8	3105MRV250	F03FA10576
12,7	25	9,5	3105MRU250	F03FA10575
16	25	13	3105MQQ250	F03FA10574

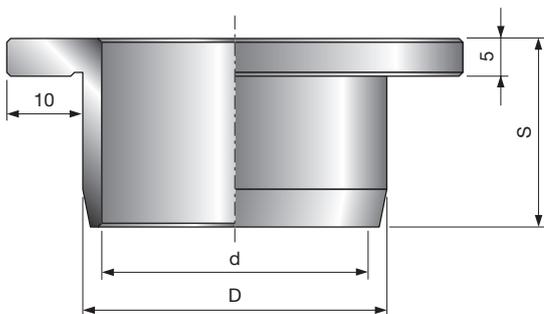


Reducing bushes for cutterheads with shoulder.

## FX01M

## Reducing bushes

D mm	S mm	d mm	Freud Code	Art. No.
30	15	25	FX01M AA9	F03FC15031
35	15	30	FX01M BA9	F03FC15033
40	15	30	FX01M CA9	F03FC15035
40	15	35	FX01M CB9	F03FC15036
50	15	30	FX01M DA9	F03FC15037
50	15	35	FX01M DB9	F03FC15038
50	15	40	FX01M DC9	F03FC15039
68	10	40	FX01M HC9	F03FC15041

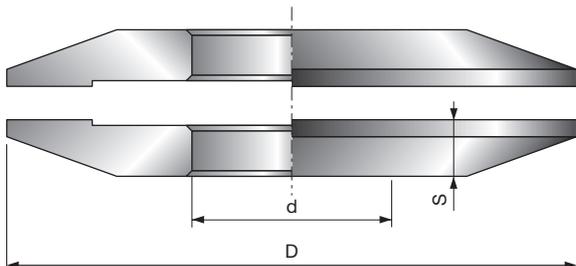


Reducing bushes for cutterheads with shoulder.  
• Suitable for planer heads **TM06M** and **TM07M**.

## FX02M

## Reducing bushes

D mm	S mm	d mm	Freud Code	Art. No.
40	25	35	FX02M CB9	F03FC15043

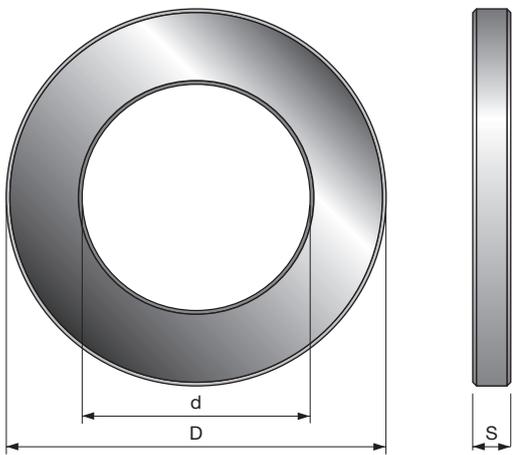


Stiffening collars suitable for circular saw blades.

## FX03M

## Stiffening collars for saw blades

D mm	S mm	d mm	Freud Code	Art. No.
80	10	30	FX03M AA9	F03FC15045
80	10	35	FX03M AB9	F03FC15047
100	10	30	FX03M BA9	F03FC15049
100	10	35	FX03M BB9	F03FC15051
100	10	40	FX03M BC9	F03FC15053
125	10	30	FX03M CA9	F03FC15055
125	10	35	FX03M CB9	F03FC15057



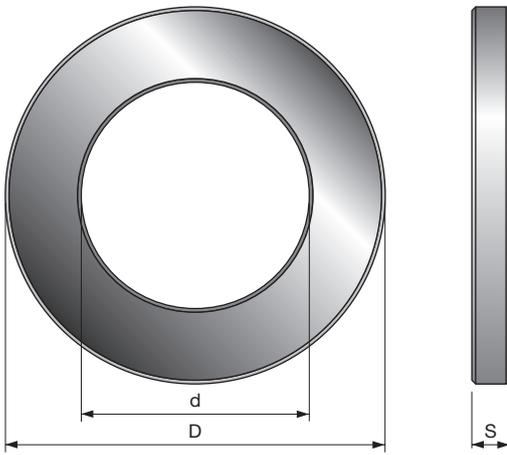
Standard spacers suitable for cutterheads.

# AN01M

# Spacers

D mm	S mm	d mm	Freud Code	Art. No.
48	24,6	31,75	AN01MM2469	F03FC00385
48	99	31,75	AN01MM9909	F03FC00386
50	0,1	30	AN01MA0019	F03FC00030
50	0,2	30	AN01MA0029	F03FC00031
50	0,3	30	AN01MA0039	F03FC00032
50	0,5	30	AN01MA0059	F03FC00033
50	1	30	AN01MA0109	F03FC00034
50	2	30	AN01MA0209	F03FC00035
50	3	30	AN01MA0309	F03FC00036
50	4	30	AN01MA0409	F03FC00037
50	5	30	AN01MA0509	F03FC00038
50	6	30	AN01MA0609	F03FC00040
50	7	30	AN01MA0709	F03FC00041
50	8	30	AN01MA0809	F03FC00042
50	9	30	AN01MA0909	F03FC00043
50	10	30	AN01MA1009	F03FC00044
50	11	30	AN01MA1109	F03FC00045
50	12	30	AN01MA1209	F03FC00046
50	13	30	AN01MA1309	F03FC00047
50	14	30	AN01MA1409	F03FC00048
50	15	30	AN01MA1509	F03FC00049
50	16	30	AN01MA1609	F03FC00050
50	17	30	AN01MA1709	F03FC00051
50	18	30	AN01MA1809	F03FC00052
50	19	30	AN01MA1909	F03FC00053
50	20	30	AN01MA2009	F03FC00054
50	21	30	AN01MA2109	F03FC00055
50	22	30	AN01MA2209	F03FC00056
50	23	30	AN01MA2309	F03FC00057
50	24	30	AN01MA2409	F03FC00058
50	25	30	AN01MA2509	F03FC00059
50	26	30	AN01MA2609	F03FC00060
50	27	30	AN01MA2709	F03FC00061
50	28	30	AN01MA2809	F03FC00062
50	29	30	AN01MA2909	F03FC00063
50	30	30	AN01MA3009	F03FC00064
50	31	30	AN01MA3109	F03FC00065
50	32	30	AN01MA3209	F03FC00066
50	33	30	AN01MA3309	F03FC00067
50	34	30	AN01MA3409	F03FC00068
50	35	30	AN01MA3509	F03FC00069
50	36	30	AN01MA3609	F03FC00070
50	37	30	AN01MA3709	F03FC00071
50	38	30	AN01MA3809	F03FC00072
50	40	30	AN01MA4009	F03FC00073
50	41	30	AN01MA4109	F03FC00074
50	42	30	AN01MA4209	F03FC00075
50	53	30	AN01MA5309	F03FC00076
50	60	30	AN01MA6009	F03FC00077
50	93	30	AN01MA9309	F03FC00079
50	99	30	AN01MA9909	F03FC00080
55	0,1	35	AN01MB0019	F03FC00081
55	0,2	35	AN01MB0029	F03FC00082
55	0,3	35	AN01MB0039	F03FC00083
55	0,5	35	AN01MB0059	F03FC00084
55	1	35	AN01MB0109	F03FC00085
55	2	35	AN01MB0209	F03FC00086
55	3	35	AN01MB0309	F03FC00087
55	4	35	AN01MB0409	F03FC00088
55	5	35	AN01MB0509	F03FC00089
55	6	35	AN01MB0609	F03FC00091
55	7	35	AN01MB0709	F03FC00092
55	8	35	AN01MB0809	F03FC00093
55	9	35	AN01MB0909	F03FC00094
55	10	35	AN01MB1009	F03FC00095

D mm	S mm	d mm	Freud Code	Art. No.
30	0,1	20	AN01MG0019	F03FC00247
30	0,2	20	AN01MG0029	F03FC00248
30	0,3	20	AN01MG0039	F03FC00249
30	0,5	20	AN01MG0059	F03FC00250
30	1	20	AN01MG0109	F03FC00251
30	3	20	AN01MG0309	F03FC00252
30	6	20	AN01MG0609	F03FC00253
30	10	20	AN01MG1009	F03FC00254
33	0,1	19,05	AN01ML0019	F03FC00358
33	0,2	19,05	AN01ML0029	F03FC00359
33	0,3	19,05	AN01ML0039	F03FC00360
33	0,5	19,05	AN01ML0059	F03FC00361
33	1	19,05	AN01ML0109	F03FC00362
33	3,6	19,05	AN01ML0369	F03FC00363
33	6,8	19,05	AN01ML0689	F03FC00365
33	7,3	19,05	AN01ML0739	F03FC00366
48	0,1	31,75	AN01MM0019	F03FC00371
48	0,2	31,75	AN01MM0029	F03FC00372
48	0,3	31,75	AN01MM0039	F03FC00373
48	0,5	31,75	AN01MM0059	F03FC00374
48	1	31,75	AN01MM0109	F03FC00375
48	3,2	31,75	AN01MM0329	F03FC00376
48	3,6	31,75	AN01MM0369	F03FC00377
48	4	31,75	AN01MM0409	F03FC00378
48	5,5	31,75	AN01MM0559	F03FC00379
48	6,8	31,75	AN01MM0689	F03FC00380
48	7,3	31,75	AN01MM0739	F03FC00381
48	8,05	31,75	AN01MM0809	F03FC00382
48	8,35	31,75	AN01MM0839	F03FC24743
48	8,35	31,75	AN01MM0849	F03FC00383
48	9,4	31,75	AN01MM0949	F03FC00384

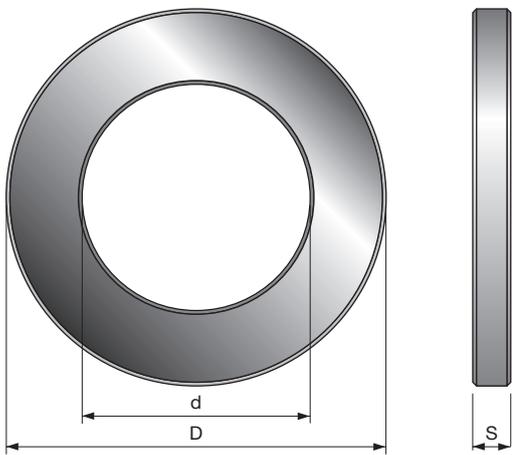


# AN01M

# Spacers

D mm	S mm	d mm	Freud Code	Art. No.
55	11	35	AN01MB1109	F03FC00096
55	12	35	AN01MB1209	F03FC00097
55	13	35	AN01MB1309	F03FC00098
55	14	35	AN01MB1409	F03FC00099
55	15	35	AN01MB1509	F03FC00100
55	16	35	AN01MB1609	F03FC00101
55	17	35	AN01MB1709	F03FC00102
55	18	35	AN01MB1809	F03FC00103
55	19	35	AN01MB1909	F03FC00104
55	20	35	AN01MB2009	F03FC00105
55	21	35	AN01MB2109	F03FC00106
55	22	35	AN01MB2209	F03FC00107
55	23	35	AN01MB2309	F03FC00108
55	24	35	AN01MB2409	F03FC00109
55	25	35	AN01MB2509	F03FC00110
55	26	35	AN01MB2609	F03FC00111
55	27	35	AN01MB2709	F03FC00112
55	28	35	AN01MB2809	F03FC00113
55	29	35	AN01MB2909	F03FC00114
55	30	35	AN01MB3009	F03FC00115
55	31	35	AN01MB3109	F03FC00116
55	32	35	AN01MB3209	F03FC00117
55	33	35	AN01MB3309	F03FC00118
55	34	35	AN01MB3409	F03FC00119
55	35	35	AN01MB3509	F03FC00120
55	40	35	AN01MB4009	F03FC00121
55	99	35	AN01MB9909	F03FC00122
60	0,1	40	AN01MC0019	F03FC00123
60	0,2	40	AN01MC0029	F03FC00124
60	0,3	40	AN01MC0039	F03FC00125
60	0,5	40	AN01MC0059	F03FC00126

D mm	S mm	d mm	Freud Code	Art. No.
60	1	40	AN01MC0109	F03FC00127
60	2	40	AN01MC0209	F03FC00128
60	3	40	AN01MC0309	F03FC00129
60	4	40	AN01MC0409	F03FC00130
60	5	40	AN01MC0509	F03FC00131
60	6	40	AN01MC0609	F03FC00133
60	7	40	AN01MC0709	F03FC00134
60	8	40	AN01MC0809	F03FC00135
60	9	40	AN01MC0909	F03FC00136
60	10	40	AN01MC1009	F03FC00137
60	11	40	AN01MC1109	F03FC00138
60	12	40	AN01MC1209	F03FC00139
60	13	40	AN01MC1309	F03FC00140
60	14	40	AN01MC1409	F03FC00141
60	15	40	AN01MC1509	F03FC00142
60	16	40	AN01MC1609	F03FC00143
60	17	40	AN01MC1709	F03FC00144
60	18	40	AN01MC1809	F03FC00145
60	19	40	AN01MC1909	F03FC00146
60	20	40	AN01MC2009	F03FC00147
60	21	40	AN01MC2109	F03FC00148
60	22	40	AN01MC2209	F03FC00149
60	23	40	AN01MC2309	F03FC00150
60	24	40	AN01MC2409	F03FC00151
60	25	40	AN01MC2509	F03FC00152
60	26	40	AN01MC2609	F03FC00153
60	27	40	AN01MC2709	F03FC00154
60	28	40	AN01MC2809	F03FC00155
60	29	40	AN01MC2909	F03FC00156
60	30	40	AN01MC3009	F03FC00157
60	31	40	AN01MC3109	F03FC00158
60	32	40	AN01MC3209	F03FC00159
60	33	40	AN01MC3309	F03FC00160
60	34	40	AN01MC3409	F03FC00161
60	35	40	AN01MC3509	F03FC00162
60	40	40	AN01MC4009	F03FC00163
60	42	40	AN01MC4209	F03FC00164
60	99	40	AN01MC9909	F03FC00165
70	0,1	50	AN01MD0019	F03FC00166
70	0,2	50	AN01MD0029	F03FC00167
70	0,3	50	AN01MD0039	F03FC00168
70	0,5	50	AN01MD0059	F03FC00169
70	1	50	AN01MD0109	F03FC00170
70	2	50	AN01MD0209	F03FC00171
70	3	50	AN01MD0309	F03FC00173
70	4	50	AN01MD0409	F03FC00174
70	5	50	AN01MD0509	F03FC00175
70	6	50	AN01MD0609	F03FC00178
70	7	50	AN01MD0709	F03FC00179
70	8	50	AN01MD0809	F03FC00180
70	9	50	AN01MD0909	F03FC00181
70	10	50	AN01MD1009	F03FC00182
70	11	50	AN01MD1109	F03FC00183
70	12	50	AN01MD1209	F03FC00184
70	13	50	AN01MD1309	F03FC00185
70	14	50	AN01MD1409	F03FC00186
70	15	50	AN01MD1509	F03FC00187
70	16	50	AN01MD1609	F03FC00188
70	17	50	AN01MD1709	F03FC00189
70	18	50	AN01MD1809	F03FC00190
70	19	50	AN01MD1909	F03FC00191
70	20	50	AN01MD2009	F03FC00192
70	21	50	AN01MD2109	F03FC00193
70	22	50	AN01MD2209	F03FC00194
70	23	50	AN01MD2309	F03FC00195

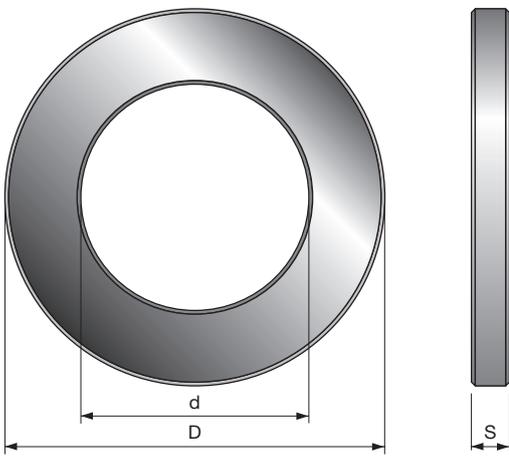


# AN01M

# Spacers

D mm	S mm	d mm	Freud Code	Art. No.
70	24	50	AN01MD2409	F03FC00196
70	25	50	AN01MD2509	F03FC00197
70	26	50	AN01MD2609	F03FC00198
70	27	50	AN01MD2709	F03FC00199
70	28	50	AN01MD2809	F03FC00200
70	29	50	AN01MD2909	F03FC00201
70	30	50	AN01MD3009	F03FC00202
70	31	50	AN01MD3109	F03FC00203
70	32	50	AN01MD3209	F03FC00204
70	33	50	AN01MD3309	F03FC00205
70	34	50	AN01MD3409	F03FC00206
70	35	50	AN01MD3509	F03FC00207
70	38	50	AN01MD3809	F03FC00208
70	40	50	AN01MD4009	F03FC00209
70	99	50	AN01MD9909	F03FC00210
80	0,1	60	AN01MK0019	F03FC00311
80	0,2	60	AN01MK0029	F03FC00312
80	0,3	60	AN01MK0039	F03FC00313
80	0,5	60	AN01MK0059	F03FC00314
80	1	60	AN01MK0109	F03FC00315
80	2	60	AN01MK0209	F03FC00316
80	3	60	AN01MK0309	F03FC00318
80	4	60	AN01MK0409	F03FC00319
80	5	60	AN01MK0509	F03FC00321
80	6	60	AN01MK0609	F03FC00322
80	7	60	AN01MK0709	F03FC00324
80	8	60	AN01MK0809	F03FC00325
80	9	60	AN01MK0909	F03FC00326
80	10	60	AN01MK1009	F03FC00327
80	11	60	AN01MK1109	F03FC00328
80	12	60	AN01MK1209	F03FC00329
80	13	60	AN01MK1309	F03FC00330
80	14	60	AN01MK1409	F03FC00331

D mm	S mm	d mm	Freud Code	Art. No.
80	15	60	AN01MK1509	F03FC00333
80	16	60	AN01MK1609	F03FC00334
80	17	60	AN01MK1709	F03FC00335
80	18	60	AN01MK1809	F03FC00336
80	19	60	AN01MK1909	F03FC00338
80	20	60	AN01MK2009	F03FC00339
80	21	60	AN01MK2109	F03FC00340
80	22	60	AN01MK2209	F03FC00341
80	23	60	AN01MK2309	F03FC00342
80	24	60	AN01MK2409	F03FC00343
80	25	60	AN01MK2509	F03FC00344
80	26	60	AN01MK2609	F03FC00345
80	27	60	AN01MK2709	F03FC00346
80	28	60	AN01MK2809	F03FC00347
80	29	60	AN01MK2909	F03FC00348
80	30	60	AN01MK3009	F03FC00349
80	31	60	AN01MK3109	F03FC00350
80	32	60	AN01MK3209	F03FC00351
80	33	60	AN01MK3309	F03FC00352
80	34	60	AN01MK3409	F03FC00353
80	35	60	AN01MK3509	F03FC00354
80	39,7	60	AN01MK3979	F03FC00355
80	40	60	AN01MK4009	F03FC00356
80	99	60	AN01MK9909	F03FC00357
90	0,1	70	AN01MH0019	F03FC00255
90	0,2	70	AN01MH0029	F03FC00256
90	0,3	70	AN01MH0039	F03FC00257
90	0,5	70	AN01MH0059	F03FC00258
90	1	70	AN01MH0109	F03FC00259
90	2	70	AN01MH0209	F03FC00260
90	3	70	AN01MH0309	F03FC00261
90	4	70	AN01MH0409	F03FC00262
90	5	70	AN01MH0509	F03FC00263
90	6	70	AN01MH0609	F03FC00264
90	7	70	AN01MH0709	F03FC00265
90	8	70	AN01MH0809	F03FC00267
90	9	70	AN01MH0909	F03FC00270
90	10	70	AN01MH1009	F03FC00272
90	11	70	AN01MH1109	F03FC00276
90	12	70	AN01MH1209	F03FC00278
90	13	70	AN01MH1309	F03FC00279
90	14	70	AN01MH1409	F03FC00280
90	15	70	AN01MH1509	F03FC00282
90	16	70	AN01MH1609	F03FC00284
90	17	70	AN01MH1709	F03FC00285
90	18	70	AN01MH1809	F03FC00286
90	19	70	AN01MH1909	F03FC00287
90	20	70	AN01MH2009	F03FC00288
90	21	70	AN01MH2109	F03FC00289
90	22	70	AN01MH2209	F03FC00291
90	23	70	AN01MH2309	F03FC00294
90	24	70	AN01MH2409	F03FC00295
90	25	70	AN01MH2509	F03FC00296
90	26	70	AN01MH2609	F03FC00297
90	27	70	AN01MH2709	F03FC00298
90	28	70	AN01MH2809	F03FC00299
90	29	70	AN01MH2909	F03FC00300
90	30	70	AN01MH3009	F03FC00301
90	31	70	AN01MH3109	F03FC00302
90	32	70	AN01MH3209	F03FC00303
90	33	70	AN01MH3309	F03FC00304
90	34	70	AN01MH3409	F03FC00305
90	35	70	AN01MH3509	F03FC00306
90	40	70	AN01MH4009	F03FC00307
90	99	70	AN01MH9909	F03FC00308



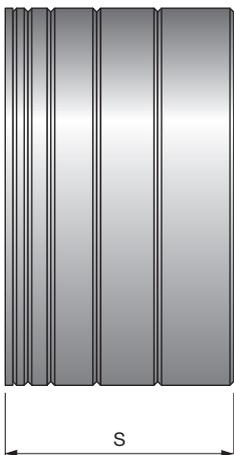
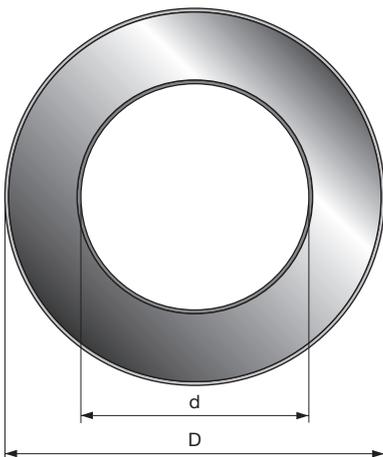
Special spacers suitable for cutterheads; minimum thickness 1mm.

- Please refer to the code as a guideline, applicable only while the order is processed.

## AN01

## Special spacers

D mm	S mm	d mm	Freud Code	Art. No.
-	5	30 ÷ 40	AN01	
-	10	30 ÷ 40	AN01	
-	20	30 ÷ 40	AN01	
-	40	30 ÷ 40	AN01	
-	99	30 ÷ 40	AN01	
-	5	50 ÷ 70	AN01	
-	10	50 ÷ 70	AN01	
-	20	50 ÷ 70	AN01	
-	40	50 ÷ 70	AN01	
-	99	50 ÷ 70	AN01	

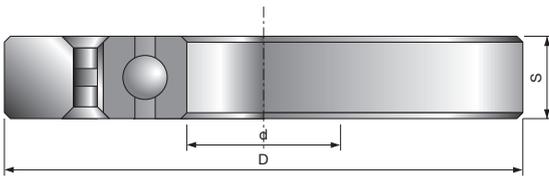


## AN03M

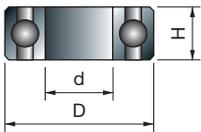
## Standard spacer set

D mm	S mm	d mm	Freud Code	Art. No.
50	10	30	AN03M AA9	F03FC00444
50	20	30	AN03M AB9	F03FC00445
50	30	30	AN03M AC9	F03FC00446
50	40	30	AN03M AD9	F03FC00447
50	50	30	AN03M AE9	F03FC00448
55	10	35	AN03M BA9	F03FC00454
55	20	35	AN03M BB9	F03FC00455
55	30	35	AN03M BC9	F03FC00456
55	40	35	AN03M BD9	F03FC00457
55	50	35	AN03M BE9	F03FC00458
60	10	40	AN03M CA9	F03FC00465
60	20	40	AN03M CB9	F03FC00466
60	30	40	AN03M CC9	F03FC00467
60	40	40	AN03M CD9	F03FC00468
60	50	40	AN03M CE9	F03FC00469
70	10	50	AN03M DA9	F03FC00473
70	20	50	AN03M DB9	F03FC00474
70	30	50	AN03M DC9	F03FC00475
70	40	50	AN03M DD9	F03FC00476
70	50	50	AN03M DE9	F03FC00477
80	10	60	AN03M EA9	F03FC00484
80	20	60	AN03M EB9	F03FC00485
80	30	60	AN03M EC9	F03FC00486
80	40	60	AN03M ED9	F03FC00487
80	50	60	AN03M EE9	F03FC00488
90	10	70	AN03M FA9	F03FC00490
90	20	70	AN03M FB9	F03FC00491
90	30	70	AN03M FC9	F03FC00492
90	40	70	AN03M FD9	F03FC00493
90	50	70	AN03M FE9	F03FC00494

Standard spacers sets suitable for cutterheads.



Ball bearing guide for cutterheads: please refer to the code as a guideline, applicable only while the order is processed.



Ball bearing for router bits.



## CC01

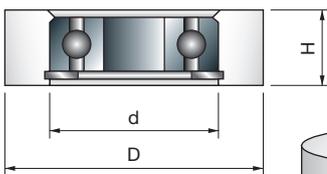
## Ball bearing guide for moulding

D mm	S mm	d mm	Freud Code	Art. No.
-	12	20	CC01 AA9	
-	12	25	CC01 BA9	
-	13	30	CC01 CA9	
-	14	35	CC01 DA9	
-	15	40	CC01 EA9	
-	16	45	CC01 FA9	
-	16	50	CC01 GA9	
-	18	55	CC01 HA9	
-	18	60	CC01 IA9	
-	20	70	CC01 LA9	

## 3102M

## Ball bearing

D mm	S mm	d mm	Freud Code	Art. No.
9,53	3,2	4,76	3102M AA9	F03F010006
12,7	4,98	4,76	3102M AB9	F03F010007
13	5	4	3102M CD9	F03FA14096
13	5	6	3102M AP9	F03FA10558
15	5	6	3102M AQ9	F03FA10559
15,88	4,97	4,76	3102M AJ9	F03F010014
16	5	5	3102M CC9	F03FA14095
16	5	8	3102M AS9	F03FA10561
19	6	6	3102M CA9	F03FA14097
19	7	10	3102M AG9	F03F010012
19,05	3,97	12,7	3102M CB9	F03FA14098
19,05	6,35	12,7	3102M AV9	F03F012286
22	7	8	3102M AC9	F03F010008
28	8	12	3102M AH9	F03F010013
32	9	15	3102M AN9	F03F010016
35	11	15	3102M AI9	F03F012285



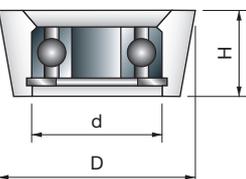
Cylindrical rub collars for ball bearing.



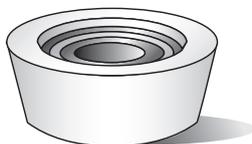
## RB62M

## Ball bearing rub collars

D mm	S mm	d mm	Freud Code	Art. No.
19,05	8	4,76	RB62M 1509	F03F011422
22,22	8	4,76	RB62M 1529	F03F011423
26	10	8	RB62M 1249	F03F011417
28,58	8	4,76	RB62M 1549	F03F011424
30	10	8	RB62M 1289	F03F011418
34	10	8	RB62ME DA9	F03FR01146
34,92	8	4,76	RB62M 1569	F03F011425
39,6	11,2	12	RB62ME FB9	F03FR01147



Conical rub collars for ball bearing.



## 3103MC

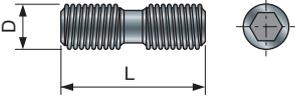
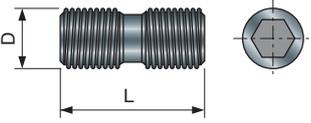
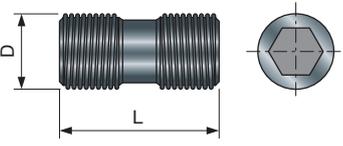
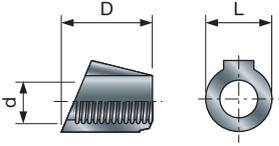
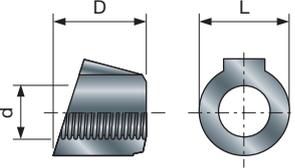
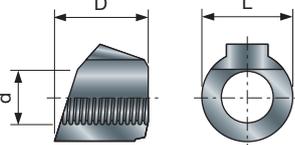
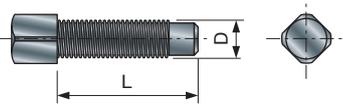
## Sleeved speciality bearings

D mm	S mm	d mm	Freud Code	Art. No.
19,05	6,35	4,76	3103MC HB9	F03F010019
22,2	9	12,7	3103MC HC9	F03FR01724

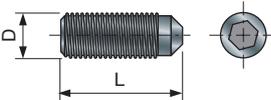
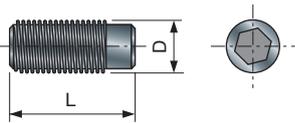
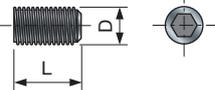
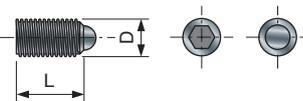
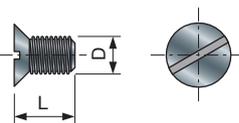
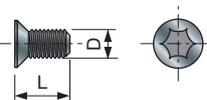
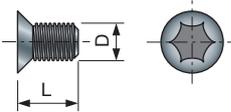
# Keys and devices



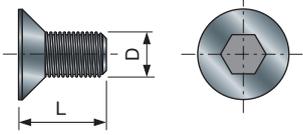
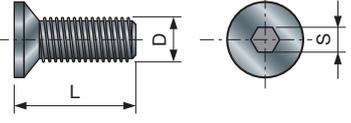
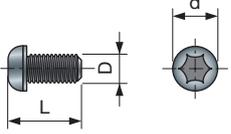
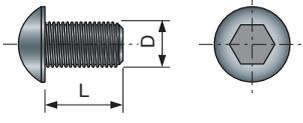
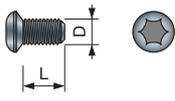
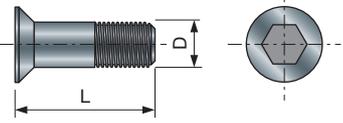
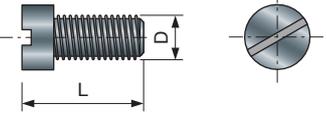
# Spare screws, nuts, washers and keys

Spare parts	Description	Dimensions D/L x L/H x d/S (mm)	Freud Code	Art. No.
	RH-LH Hex print screws for disposable knives	M6 x 22	<b>VT19M AB9</b>	F03FA04491
	RH-LH Hex print screws for H.S.I. knives	M8 x 22	<b>VT19M BB9</b>	F03FA04493
	RH-LH Hex print screws for disposable knives	M10 x 22	<b>VT19M MA9</b>	F03FA04496
	Nuts for VT19M AB9 screws	10 x 11,5 x M6 9 x 10,5 x M6	<b>VT20M AA9</b> <b>VT20M GA9</b>	F03FA04497 F03FC20669
	Nuts for VT19M MA9-MB9 screws	15 x 13,3 x M10	<b>VT20M MA9</b>	F03FC20670
	Nuts for VT19M MA9-MB9 screws	15 x 13,3 x M10	<b>VT20M NA9</b>	F03FC20671
	Squared head screws for disposable knives	M5 x 19	<b>VT11M AA9</b>	F03FA04468

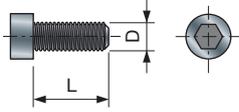
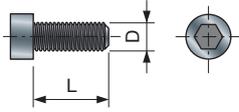
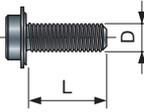
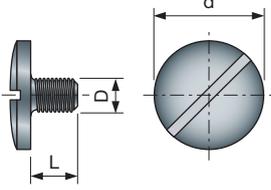
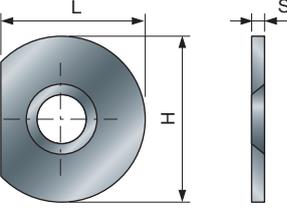
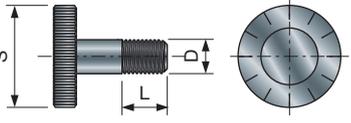
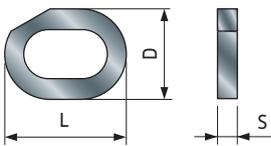
# Spare screws, nuts, washers and keys

Spare parts	Description	Dimensions D/L x L/H x d/S (mm)	Freud Code	Art. No.
	Hex print screws for disposable knives	M6 x 8	<b>VT03M DE9</b>	F03FA04439
		M6 x 12	<b>VT03M DL9</b>	F03FA04441
		M6 x 16	<b>VT03M DI9</b>	F03FA04440
		M8 x 16	<b>VT03M AA9</b>	F03FA04435
	Hex print screws for disposable knives	M4 x 10	<b>2602M CB9</b>	F03FA07346
		M5 x 12	<b>VT03M BA9</b>	F03FA04436
		M5 x 16	<b>VT03M BB9</b>	F03FA04437
		M8 x 16	<b>2602M BB9</b>	F03FA07344
		M8 x 25	<b>2602M EI9</b>	F03FA07352
		M10 x 18	<b>VT03M CC9</b>	F03FA04438
	Hex print screws	M3 x 3	<b>2615M AA9</b>	F03FA07418
		M4 x 6	<b>2602M CE9</b>	F03FA07349
		M5 x 5	<b>2615M CC9</b>	F03FA07420
		M5 x 10	<b>2602M DC9</b>	F03FA07350
		M6 x 6	<b>2615M DD9</b>	F03FA07423
		M8 x 8	<b>2615M EE9</b>	F03FA07424
		M8 x 10	<b>2602M CC9</b>	F03FA07347
	Hex print screws with semi-sphere for ISOprofil Technology	M8 x 16	<b>2616M DE9</b>	F03FA07425
		M10 x 16	<b>2616M EE9</b>	F03FA07426
	Countersink screws for TA01-02 grinding devices	M4 x 6	<b>VT05M AB9</b>	F03FA04445
	Countersink Torx screws for IG03 inserts	M4 x 3,2	<b>VT05M BB9</b>	F03FA04447
		M4 x 4,2	<b>VT05M BC9</b>	F03FA04448
		M4 x 6,5	<b>VT05M BD9</b>	F03FA04449
	Countersink Torx screws for RG and RR spurs	M4 x 12	<b>VT71M AC9</b>	F03FA14740
		M5 x 6	<b>VT05M AC9</b>	F03FA04446
		M5 x 8	<b>VT05M AA9</b>	F03FA04444

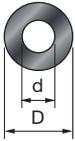
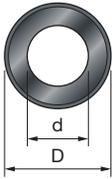
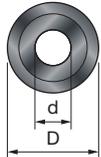
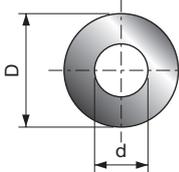
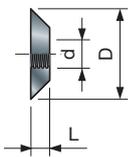
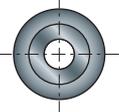
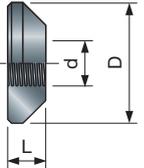
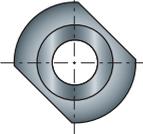
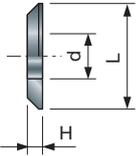
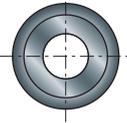
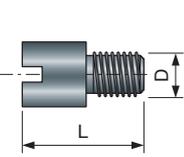
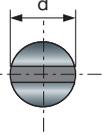
# Spare screws, nuts, washers and keys

Spare parts	Description	Dimensions D/L x L/H x d/S (mm)	Freud Code	Art. No.
	Countersink Hex print screws	M5 x 8	<b>VT05M CA9</b>	F03FA04451
		M6 x 8	<b>VT01M AB9</b>	F03FA04430
		M6 x 10	<b>VT01M AA9</b>	F03FA04429
	Countersink Hex print screws for ID deflectors	M4 x 12	<b>VT05M DA9</b>	F03FC20647
		M4 x 14	<b>VT05M DB9</b>	F03FC20648
		M4 x 16	<b>2609M BD9</b>	F03FA07379
		M6 x 16	<b>VT05M DC9</b>	F03FC20649
		M6 x 16	<b>2609M DD9</b>	F03FA07381
		M8 x 40	<b>2609M EK9</b>	F03FB04618
		M10 x 20	<b>2609M FF9</b>	F03FA07382
		M10 x 35	<b>2609M FI9</b>	F03FA07383
	Round head Torx screw for disposable knives router cutters	M3 x 6 x 5	<b>VT72M AA9</b>	F03FA04506
		M4 x 8 x 6	<b>VT70M AA9</b>	F03FA04504
		M4 x 10 x 9	<b>VT71M AA9</b>	F03FA04505
	Round head Hex print screw	M4 x 10	<b>2622M AB9</b>	F03FA07453
		M6 x 8	<b>2622M CA9</b>	F03FA07454
		M6 x 10	<b>2622M CB9</b>	F03FA07455
		M6 x 12	<b>2622M CC9</b>	F03FA07456
		M8 x 18	<b>2622M DF9</b>	F03FA07457
		M8 x 30	<b>2622M DI9</b>	F03FA07458
		M10 x 25	<b>2622M EH9</b>	F03FA07459
	Round head Torx screw for scorers	M4 x 6	<b>VT71M AB9</b>	F03FA14739
	Countersink Hex print screws for IG inserts	M6 x 11,5	<b>VT16M AB9</b>	F03FA04477
		M6 x 13	<b>VT16M AE9</b>	F03FC20658
		M6 x 14,5	<b>VT16M AA9</b>	F03FA04476
		M6 x 15,5	<b>VT16M AD9</b>	F03FC20657
		M6 x 18,5	<b>VT16M AC9</b>	F03FC20656
		M6 x 20	<b>VT16M AF9</b>	F03FC20659
	Slotted screws	M4 x 10	<b>2611M DB9</b>	F03FA07386
		M5 x 10	<b>2606M DE9</b>	F03FA07361

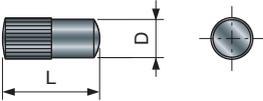
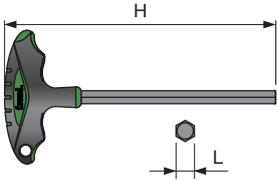
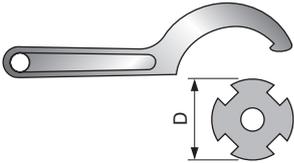
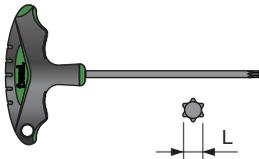
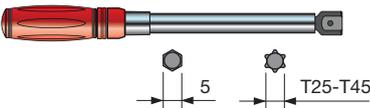
# Spare screws, nuts, washers and keys

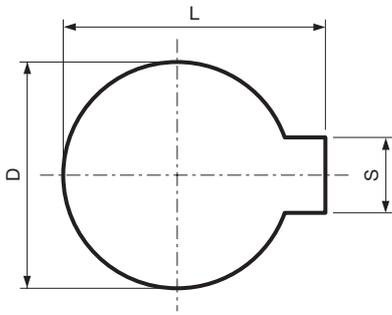
Spare parts	Description	Dimensions D/L x L/H x d/S (mm)	Freud Code	Art. No.
	Hex print allen screws	M3 x 6	<b>2607M AA9</b>	F03FA07362
		M3 x 8	<b>2607M AB9</b>	F03F010001
		M3 x 10	<b>2607M AC9</b>	F03FA07363
		M4 x 8	<b>2607M BB9</b>	F03FA07365
		M5 x 16	<b>2607M CF9</b>	F03FA07367
		M5 x 20	<b>2607M CH9</b>	F03FA17148
		M5 x 40	<b>2607M CL9</b>	F03FA07368
		M5 x 60	<b>2607M CP9</b>	F03FA07369
		M5 x 90	<b>2607M CS9</b>	F03FA18898
	Hex print allen screws	M6 x 16	<b>2607M AF9</b>	F03FB04614
		M8 x 16	<b>VT02M AA9</b>	F03FA04432
		M8 x 35	<b>2607M EK9</b>	F03FB04615
		M10 x 20	<b>2607M FH9</b>	F03FB04616
		M10 x 30	<b>2607M FJ9</b>	F03FB04617
	Flanged screws for router bits	M3 x 7,6	<b>2607M 001</b>	F03F010000
	Reference screws for cutterheads	M5 x 7 x 18	<b>VT08M AE9</b>	F03FA04457
		M5 x 8,8 x 18	<b>VT08M AM9</b>	F03FA04462
		M8 x 10 x 22	<b>VT08M AD9</b>	F03FA04456
	Reference plates for cutterheads	22 x 1,7 x 6,5	<b>VT18M GB9</b>	F03FA04489
	Adjustment screws for jointing cutterheads	M5 x 8 x 25	<b>VT08M AC9</b>	F03FC20652
		M6 x 7 x 18	<b>VT08M AG9</b>	F03FC20653
		M6 x 8 x 25	<b>VT08M AB9</b>	F03FC20651
	Adjustment shaped rings for IG25 inserts	16 x 11,9 x 2,6	<b>VT18M AG9</b>	F03FC20660

# Spare screws, nuts, washers and keys

Spare parts	Description	Dimensions D/L x L/H x d/S (mm)	Freud Code	Art. No.
 	Washer	14 x 1,6 x 8,4	<b>2617M BG9</b>	F03FR01668
		16 x 1,6 x 8,4	<b>2617M AG9</b>	F03F010005
		6 x 2 x 4	<b>VT18M AB9</b>	F03FA04480
 	Stop collars for drill bits	12 x 4 x 6,05	<b>3102M BB9</b>	F03FA10568
		14 x 4 x 8,05	<b>3102M BC9</b>	F03FA10569
 	Step washers	9 x 2 x 4,76	<b>FX07M AA9</b>	F03F010158
		12 x 1,1 x 4,76	<b>FX07M AB9</b>	F03F010159
 	Spacers for inserts	13,6 x 0,1 x 7	<b>ST07M 019</b>	F03FA13619
		13,6 x 0,2 x 7	<b>ST07M 029</b>	F03FA13620
		13,6 x 0,5 x 7	<b>ST07M 059</b>	F03FA13621
		15 x 1 x 7	<b>ST07M 109</b>	F03FA03865
		15 x 2 x 7	<b>ST07M 209</b>	F03FA03867
 	Threaded rings for locking screws	10,2 x 1 x M4	<b>VT18M AA9</b>	F03FA04479
		11,6 x 1,5 x M4	<b>VT18M BA9</b>	F03FA04483
		11,6 x 2,5 x M4	<b>VT18M BB9</b>	F03FA04484
		9,4 x 1,7 x M4	<b>VT18M DA9</b>	F03FA04487
		8 x 5 x M4	<b>VT18M CB9</b>	F03FA04486
 	Threaded nuts for RH and LH VT19M AB9-IA9 screws	16 x 4 x M6	<b>VT18M CC9</b>	F03FC20666
		16 x 5 x M6	<b>VT18M CA9</b>	F03FA04485
 	Washers for knives	14 x 2 x 6	<b>VT18M AL9</b>	F03FC20662
		9 x 1,5 x 4	<b>VT18M AH9</b>	F03FA04481
 	Threaded pins for sleeves	M5 x 9,5 x 7	<b>VT08M AH9</b>	F03FC20654
		M6 x 15,5 x 8	<b>VT08M AI9</b>	F03FA04461

# Spare screws, nuts, washers and keys

Spare parts	Description	Dimensions D/L x L/H x d/S (mm)	Freud Code	Art. No.
	Steel pins for tools	4 x 10	<b>2601M AB9</b>	F03FA07326
	L-shape Hex allen key	2 2,5 3 4 5 6 8	<b>2619M BA9</b> <b>2619M CA9</b> <b>2619M DA9</b> <b>2619M EA9</b> <b>2619M FA9</b> <b>2619M GA9</b> <b>2619M HA9</b>	F03FA07431 F03FA07432 F03FA07433 F03FA07434 F03FA07435 F03FA07436 F03FA07437
	T-shape Hex allen key with handle	3 x 110 4 x 110 5 x 110	<b>CB03M AA9</b> <b>CB03M BA9</b> <b>CB03M EA9</b>	F03FA00162 F03FA00163 F03FA00169
	C-spanners for shanks and sleeves locking rings	45 - 50 (ER32) 58 - 62 (ER40) 68 - 75 80 - 90	<b>CB07M 4550</b> <b>CB07M 5862</b> <b>CB02M BA9</b> <b>CB02M CA9</b>	F03FB00145 F03FB00146 F03FA00160 F03FA00161
	Socket wrench for sleeves locking rings - Ø40/50	70 x 95 x 50	<b>CB02M 6070</b>	F03FC00720
	Socket wrench for sleeves locking rings Ø60/70	88,9 x 95 x 68,9	<b>CB02M 8090</b>	F03FC00721
	T-shape Torx allen key with handle	T9 x 100 T15 x 100 T20 x 100 T25 x 100	<b>CB03M CA9</b> <b>CB03M DA9</b> <b>CB03M CC9</b> <b>CB03M BB9</b>	F03FA00165 F03FA00168 F03FA00167 F03FA00164
	Fork wrench	5	<b>CB04M 059</b>	F03FA00172
	Torque wrench	10-60 Nm	<b>CB06M106001</b>	F03FC25296
<ul style="list-style-type: none"> <li>• 1/4 L-Lock-ratchet insert</li> <li>• Exagon insert 5mm</li> <li>• Torx insert T25 (long and short version)</li> <li>• Torx insert T45 (long and short version)</li> </ul>	Inserts set fo torque wrench		<b>CB0BITSIMB01</b>	F03FC25602



Standard keyway for existing cutterheads.

- For other keyway sizes, use code **OPT05 AA9** and specify the necessary dimensions.
- Please refer to the code as a guideline, only applicable while order is processed.

## OPT04

## Standard keyway

D mm	S mm	L mm	Freud Code	Art. No.
12	5	13,8	OPT04 AA9	F03FC16203
14	5	16,3	OPT04 BA9	F03FC16204
16	5	18,3	OPT04 CA9	F03FC16205
18	6	20,8	OPT04 DA9	F03FC16206
20	6	22,8	OPT04 EA9	F03FC16207
25	8	28,3	OPT04 FA9	F03FC16208
30	8	33,3	OPT04 GA9	F03FC16209
35	10	38,3	OPT04 HA9	F03FC16210
40	10	43,3	OPT04 IA9	F03FC16211

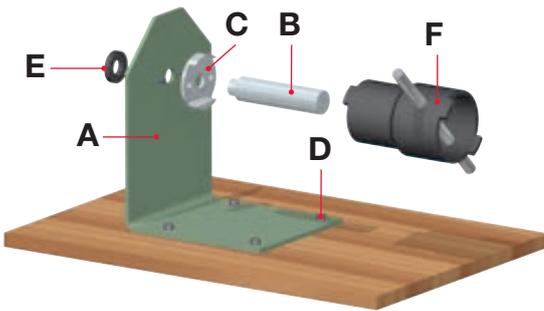
## OPT09

## Re-boring for cutterheads and brazed cutters

Re-boring for existing cutterheads and brazed cutters.

- Please refer to the code as a guideline, only applicable while the order is processed.

Freud Code	Art. No.
OPT09 AA9	F03FC16223



The maintenance tool consists of:

- A:** Steel support plate.
- B:** Replaceable arbor (diameter 35/40/50 mm based on sets bore diameter).
- C:** Replaceable coupling disk for jamming the base of the toolsets' sleeve (65/75/85 mm).
- D:** Screws for mounting support plate "A" to the workbench.
- E:** Locking ring pin "B" to support plate "A".
- F:** Coupling key for the sleeves threaded ring available in the following sizes:
  - $\varnothing 60/70$  mm for sleeves with external diameter 40/50 mm.
  - $\varnothing 80/90$  mm for sleeves with external diameter 60/70 mm.

## SAG1M

## Maintenance tool for cutterhead sets

Freud Code	Art. No.
SAG1M AA9	F03FC18870
SAG1M AB9	F03FC18871

### Item code SAG1M AA9 components

	Spare parts		Dimensions mm	Freud Code	Art. No.
<b>A</b>	Support plate		150 x 230 x 250	SAG1M BA9	F03FA03851
<b>E</b>	Self-locking nut		50 x 8 x 30	SAG1M DA9	F03FA03852
<b>C</b>	Coupling disk		65 x 20 x 30 $\varnothing 50$	SAG1M F65	F03FC18872
<b>C</b>	Coupling disk		75 x 20 x 30 $\varnothing 60$	SAG1M F75	F03FC18873
<b>C</b>	Coupling disk		85 x 20 x 30 $\varnothing 70$	SAG1M F85	F03FC18874
<b>B</b>	Arbor		$\varnothing 35$ x 122	SAG1M 035	F03FC18875
<b>B</b>	Arbor		$\varnothing 40$ x 122	SAG1M 040	F03FC18876
<b>B</b>	Arbor		$\varnothing 50$ x 122	SAG1M 050	F03FC18877
<b>F</b>	Key $\varnothing 40/50$		70 x 95 x 50	CB02M 6070	F03FC00720
<b>F</b>	Key $\varnothing 60/70$		88,9 x 95 x 68,9	CB02M 8090	F03FC00721

### Item code SAG1M AB9 components

	Spare parts		Dimensions mm	Freud Code	Art. No.
<b>A</b>	Support plate		150 x 230 x 250	SAG1M BA9	F03FA03851
<b>E</b>	Self-locking nut		50 x 8 x 30	SAG1M DA9	F03FA03852
<b>C</b>	Coupling disk		65 x 20 x 30 $\varnothing 50$	SAG1M F65	F03FC18872
<b>C</b>	Coupling disk		75 x 20 x 30 $\varnothing 60$	SAG1M F75	F03FC18873
<b>C</b>	Coupling disk		85 x 20 x 30 $\varnothing 70$	SAG1M F85	F03FC18874

### Optional items

	Spare parts		Dimensions mm	Freud Code	Art. No.
<b>B</b>	Arbor		$\varnothing 35$ x 122	SAG1M 035	F03FC18875
<b>B</b>	Arbor		$\varnothing 40$ x 122	SAG1M 040	F03FC18876
<b>B</b>	Arbor		$\varnothing 50$ x 122	SAG1M 050	F03FC18877
<b>F</b>	Key $\varnothing 40/50$		70 x 95 x 50	CB02M 6070	F03FC00720
<b>F</b>	Key $\varnothing 60/70$		88,9 x 95 x 68,9	CB02M 8090	F03FC00721



## SAG2M

## Clamping device with rolling bearing

Freud Code

Art. No.

SAG2M AA9

F03FB22530



## TA01M

## Device for grinding Performance knives

L mm	H mm	S mm	Freud Code	Art. No.
260	60	15	TA01M AA9	F03FC20198

Freud's standard device for knives to fit on horizontal grinding machines. This device must be fitted on the **TA03M** support to work on grinding machines.

Spare parts	Dimensions mm	Freud Code	Art. No.
Screw	M4 x 6,5	VT05M BD9	F03FA04449
Screw	M4 x 6	VT05M AB9	F03FA04445
Torx key	T9	CB03M CA9	F03FA00165



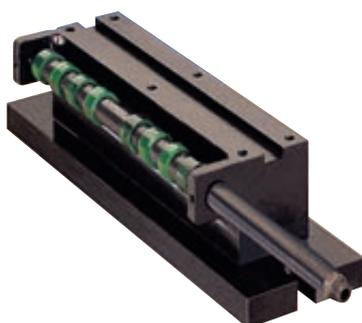
## TA02M

## Device for grinding Performance knives

L mm	H mm	S mm	Freud Code	Art. No.
220	100	100	TA02M AA9	F03FC20199

Freud standard device for knives to fit on vertical grinding machines.

Spare parts	Dimensions	Freud Code	Art. No.
Screw	M4 x 6,5	VT05M BD9	F03FA04449
Screw	M4 x 6	VT05M AB9	F03FA04445
Torx key	T9	CB03M CA9	F03FA00165
Allen key	4 x 110	CB03M BA9	F03FA00163



## TA03M

## Support for grinding Performance knives

L mm	H mm	S mm	Freud Code	Art. No.
340	98	90	TA03M AA9	F03FC20202

Support for **TA01M** device

## Torque values for screws and grub screws used for tightening Freud knives and inserts

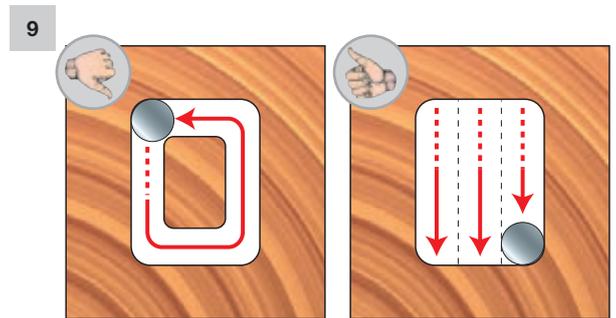
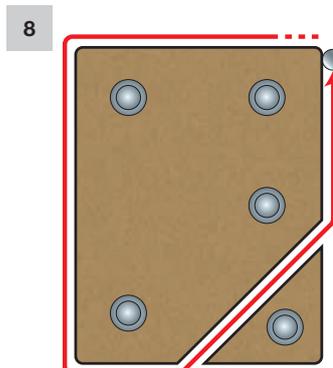
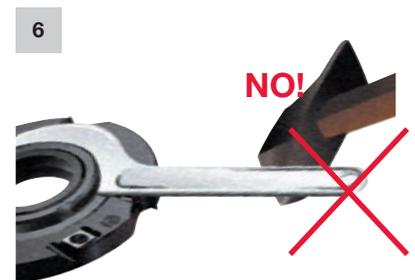
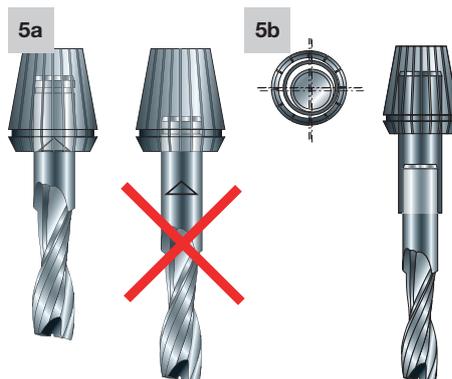
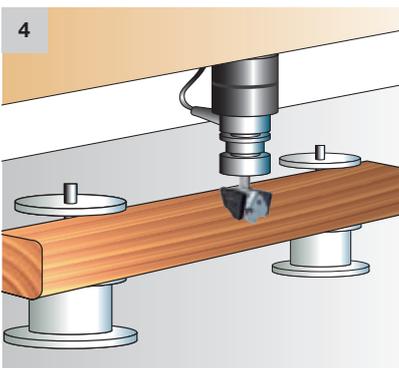
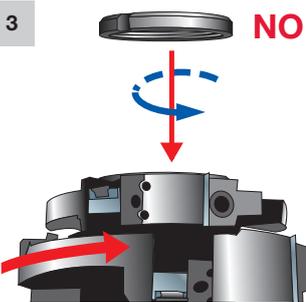
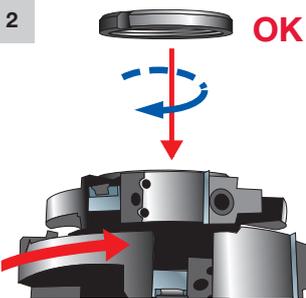
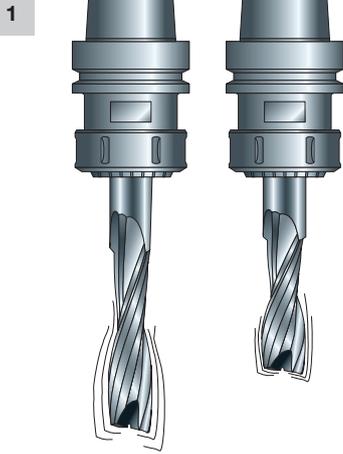
To avoid insufficient clamping forces or screw rupture due to overload, all the screws must be tightened with the required torque. If not differently stated on the instruction manual or marked on the tools, use the following torque values.

Spare parts	Description	Screw thread mm	Key (S) mm	Tightening torques 45H (Nm)
	Hexagon grub screws	M4	2	1,9
		M5	2,5	3,5
		M6	3	5,5
		M8	4	9,5
		M10	5	18
		M12	6	30

Spare parts	Description	Screw thread mm	Key (S) mm	Tightening torques 8,8 (Nm)
	Hex print screws	M3	2,5	1
		M4	3	2
		M5	4	5
		M6	5	8
		M8	6	12
		M10	8	30

Spare parts	Description	Screw thread mm	Key  (mm)	Tightening torques (Nm)
	Torx screws	M4 x 0,5	T9	2
		M4	T15	5,2
		M5	T20	8,6
		M6	T25	15

## TIPS FOR THE CORRECT USE



Tools must be used and handled by experienced and trained personnel, in possession of the necessary understanding.

A router bit with a shorter cutting height vibrates less than a router bit with the same diameter but with a longer cutting height (Fig. 1).

Control your machine regularly (especially guides and ball bearings), making sure that there are no eccentricity problems, so as to avoid the arbor from vibrating hazardously, particularly dangerous for router bits with tips in Polycrystalline Diamond.

Tools and tool bodies must be locked correctly, so they do not loosen during operation (Fig. 2 - 3).

Accurately block the workpiece to the work table surface (Fig. 4).

Respect the minimum fixing length of the shank with a preference to short chucks, with the aim of reducing eccentricity errors (Fig. 5a). For the same reason the use of extensions are generally avoided (Fig. 5b).

To identify eccentricity defects in a router bit or a chuck: rotate the router bit by 90° in the chuck, carry out a moulding and observe the marks left on the workpiece. If they are invaried with respect to the previous moulding, then the tool is defective, if instead the marks vary, then it is possible that the error lies in the chuck.

Screws and nuts shall be tightened using the appropriate spanners etc. and to the torque value provided by the manufacturer.

Spanner extensions or tightening using hammer blows is strictly forbidden (see Fig. 6).

Do not use reduction rings with a bore different to those specified by the constructor. Clamping surfaces must be free of dirt, grease, oil and water. Resins must be removed from tools with light alloy bodies using cleaners that do not damage the aluminium and compromise the materials mechanical features. Accurately clean the tool after every knife change.

Tools compiling a set, must be repaired by experienced and fully trained personnel, with the knowledge of the design requirements and security levels to be reached Repairing tools is allowed only in accordance to the tool manufacturer's instructions.

Particular attention is drawn to the following:

- Repair shall therefore include e. g. use of parts which are in accordance with the specification of the original parts provided by the manufacturer.
- Tolerances which ensure correct locking shall be maintained.

Do not exceed the maximum RPM limit marked on the tool. With too high an advancement rate, or an excessive cutting depth, there is the possibility that the tool may break.

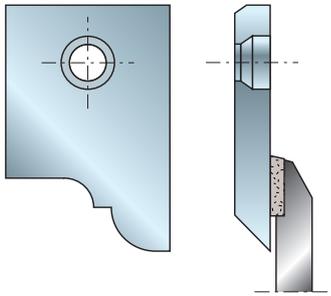
To avoid damaging router bits, we suggest controlling if the fixing surface of the chuck and the router bit are clean and that there are no imperfections (Fig. 7).

To avoid dangerous kick backs, we suggest fixing a spare piece of material and moulding small parts of waste which have accumulated during the working process, by carrying out more passes (Fig. 8 - 9).

Wearing gloves increases grip and reduces the risk of injury.

To avoid injury, tools must be handled with care using special appliances so as to transport them without incurring injury to the user.

10



## TECHNOLOGICAL FEATURES

- Performance system knives are constructed in hard metal, which Freud produces in 6 grades of hardness, second to the material to be worked: softwood and hardwood, heavy, abrasive, chipboard, melamine, laminated, M.D.F. etc. It is possible to use NW with a high grade of hardness, so as to permit a superior hold of 30% more with respect to the NW used for brazed cutting edges destined to work very abrasive materials.
- Other than being a solution that practically substitutes brazed cutters, thanks to the interchangeability of the profiles on the same tool and the duration of the tool itself, there is a notable advantage and convenience when working on overhead CNC router machines, where machine stoppages can result costly: in fact the changing of a used or damaged knife does not require the dismounting of the cutterhead from the machine, since it is sufficient to loosen the screw that holds it in place. Instead a brazed cutter must be completely changed and a substitute available to avoid time wastage.
- Freud has an entire range of tools with performance, standard or personalised knives for manual or overhead CNC router machines (Fig. 11).
- The performance system results advantageous, even when confronted to traditional cutterheads, thanks to the easiness of sharpening, low operational cost and the need of no particular machinery (the use of a flat grinding wheel or surface grinding machine is sufficient - see Fig. 12) or specialised personnel.
- Even after sharpening, performance knives maintain their original profile (Fig.13) and the tool's cutting diameter, considering maximum loses of 0,15~0,20 mm.
- Suggestions for correct sharpening on surface grinding machine or flat grinding machine:
  - 1) Fix support TA01M or TAO2M (Fig. 13) onto the surface grinding machine or flat grinding machine.
  - 2) Fix the knives with the screws that are supplied.
  - 3) Proceed with the sharpening of the entire set of knives. Use of abundant cooling liquid during sharpening is recommended. Use diamond grinding wheels (Fig. 14) with the following characteristics: D6A2-C100-054.
- On request, sharpening can be carried out at our premises by simply sending us the complete set of knives and indicating on the order the code OPTAFF AA9.

11



12



13



14



# EXPLANATION OF SYMBOLS AND ABBREVIATIONS

PERFORMANCE		
Ultimate	High	Standard
●		

CHART ABOUT THE SAW BLADE'S PERFORMANCE

## SYMBOLS TO READ THE PRODUCT TABLES

<b>h1</b>	Actual height	<b>B-B1</b>	Adjustable cutting thickness	$\gamma$	ATB angle	$\beta$	Back relief angle
<b>C</b>	Bearing diameter	<b>d</b>	Bore	<b>h</b>	Cutting height	<b>B</b>	Cutting thickness
<b>D</b>	Diameter	$\alpha$	Hook angle	<b>l</b>	Interaxial distance (Inserts in RB section)	<b>KN</b>	Keyways
<b>L</b>	Length	<b>Max RPM</b>	Max RPM	<b>Z</b>	Number of teeth	<b>H</b>	Overall height
<b>NL</b>	Pin holes	<b>R</b>	Radius (Spurs in RB section)	<b>R1</b>	Radius	<b>b</b>	Saw blade body thickness
<b>A</b>	Shank	<b>V</b>	Spurs	<b>S</b>	Thickness	<b>hUP</b>	UP cut length
<b>L.U.</b>	Working length						

## FEATURE ICONS

	Anti-kickback Technology		Anti-vibration Technology		Cascading System		EXrim Coating
	ISOprofil Technology		Performance System Technology		Perma-SHIELD Coating		Polycrystalline Diamond Technology
	Radial Access Design		Shear Angle Technology		Silver I.C.E. Coating		Split Edge Design
	Super Square Tooth Design		Tensioning Technology		TiCo Carbide Technology		Tri-metal Brazing Technology

## MATERIALS

	ACM		Aluminium		Chipboard		Construct Wood
	Copper and Brass		Fibre Cement		Hardwood		HPL
	Laminated Chipboard		Laminated MDF		Laminates (scoring saw blades)		MDF
	Plasterboard		Plastics		Plexiglas		Plywood
	PVC		Sandwich Panel		Shuttering Board		Softwood
	Solid Surfaces		Steel		Thermoplastic Composites		

# EXPLANATION OF SYMBOLS AND ABBREVIATIONS

## MACHINES

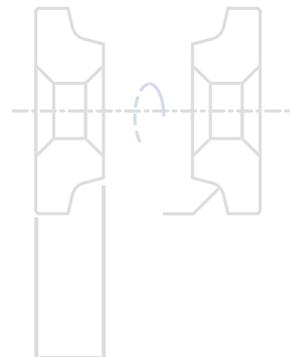
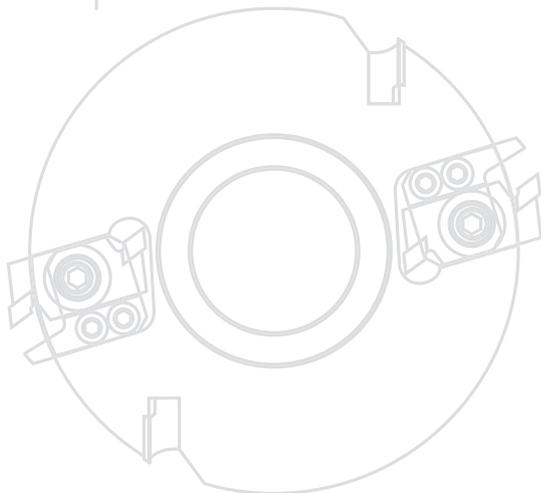
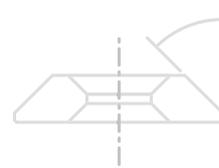
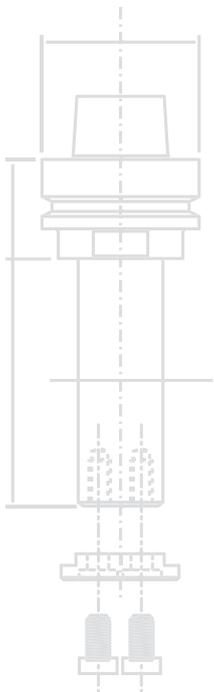
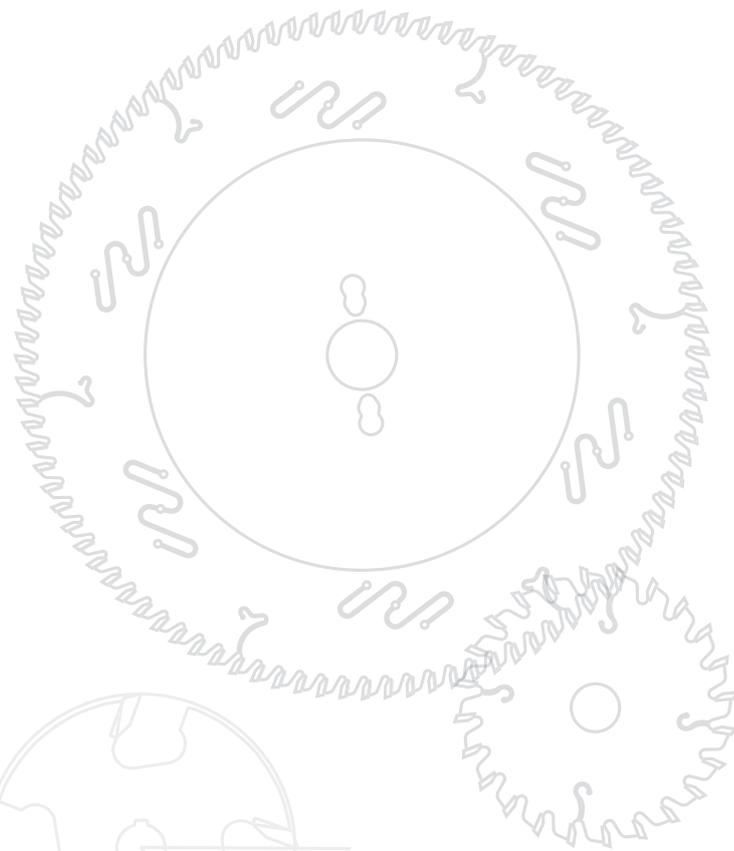
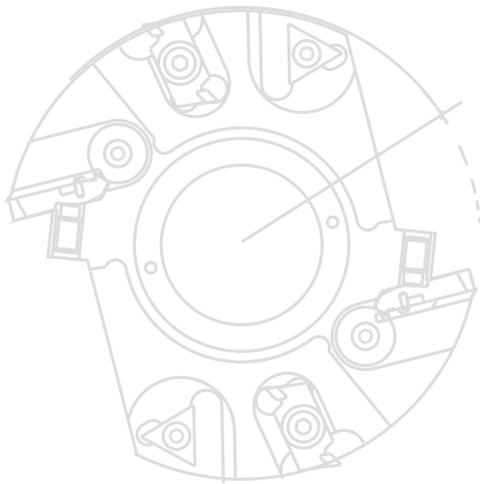
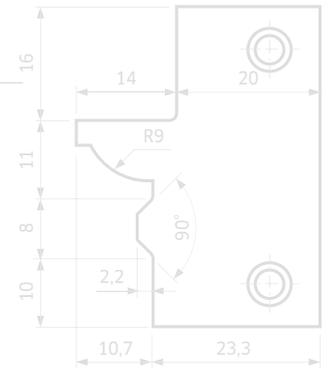
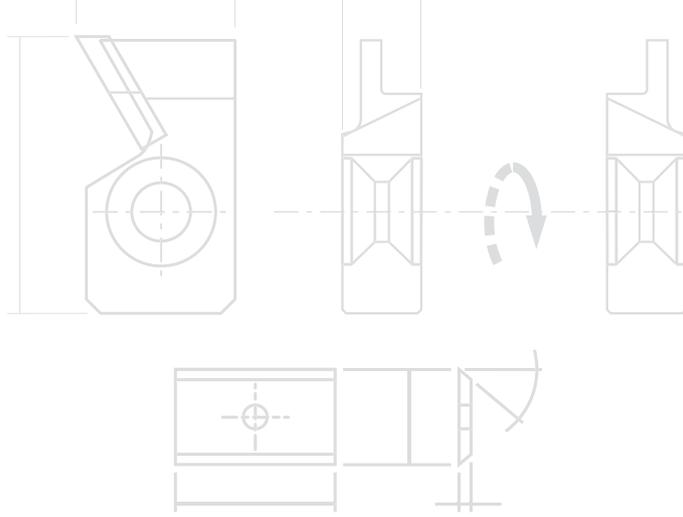
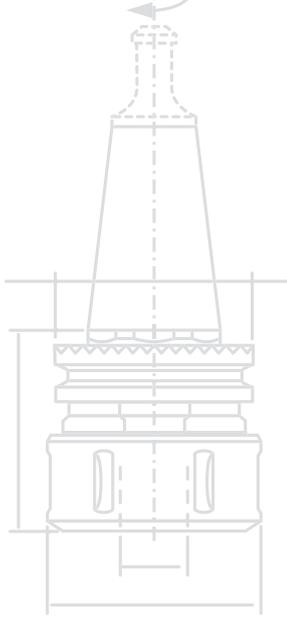
	Boring Machines		Cleaving Machines		CNC Cutting Units		CNC Machines
	CNC Machines		CNC Router		Corded		Cordless
	Cordless		Double End Tenoners		Double Head Cutting Machines		Dry-Cut Mitre Saw
	Edge Banders		For Table Mounted Only		Hand-Held Circular Saws		Hand-Held Routers
	Horizontal Panel Sizing Machines		Mitre Saws		Moulders		Multiripping Machines
	Optimising Machines		Palm Routers		Plunge Saws		Radial Arm Saws
	Squaring Saws		Table Routers		Table Saws		Vertical Panel Sizing Machines

## MECHANICAL FEATURES

	Aluminium Body		Automatic Feed		Brazed Cutters		Clamping System
	Down Spiral		Manual Feed		Boring Machines		Steel Body
	Up and Down Spiral		Up Spiral				

## APPLICATIONS

	Better Finishing on Bottom		Better Finishing on Top		Better Finishing on Top and Bottom		Blind Hole
	Blind Hole with Countersink		Crosscutting		Frames Cutting		Grooving
	Hinge Pockets		Jointing		Multiripping		Planing
	Plunging		Profiling		Ramp Plunging		Rebating
	Ripping		Sizing		Through Hole		Through Hole with Countersink





**CIRCULAR SAW BLADES FOR  
STATIONARY MACHINES**

**CIRCULAR SAW BLADES FOR  
PORTABLE MACHINES**

**ROUTING TOOLS FOR  
CNC MACHINES**

**ROUTING TOOLS FOR  
PORTABLE MACHINES**

**CUTTERHEADS AND BRAZED CUTTERS**

**WINDOW TOOLING**

**KNIVES AND INSERTS IN HW AND HSS**

**ACCESSORIES AND SPARE PARTS**



LEARN MORE

**freud**

freud S.p.A. - Società Unipersonale  
Via Remigio Solari, 7 - 33050 Pavia di Udine (UD), IT

**www.freudtools.com**

