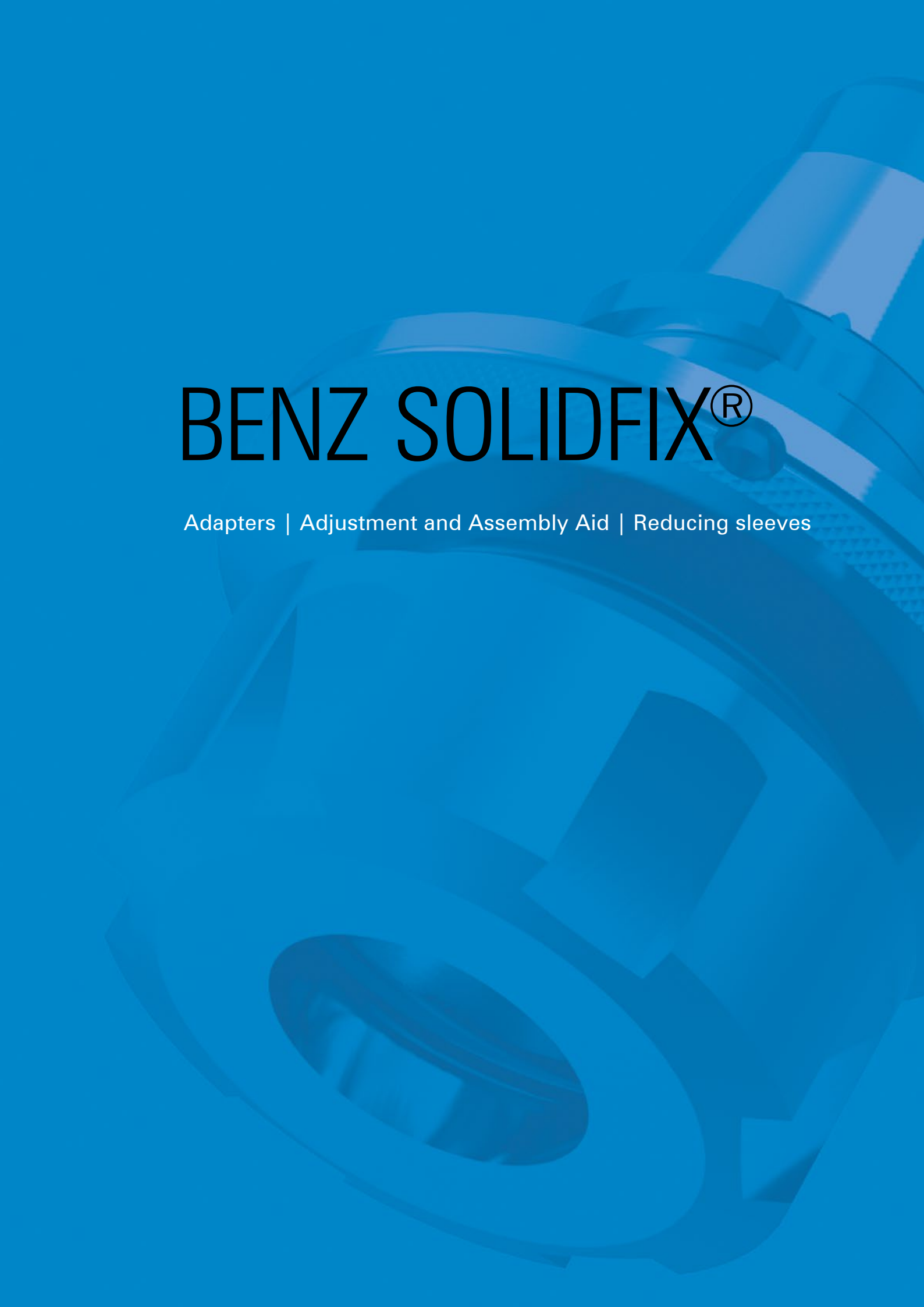




BENZ SOLIDFIX[®]

Adapters | Adjustment and Assembly Aid | Reducing sleeves

MODULAR QUICK CHANGE SYSTEM

BENZ SOLIDFIX®

User friendly, stable and very precise

By combining taper concentricity with no backlash with an extremely large planar surface, combined with high torque, BENZ Solidfix® offers a maximum in stability and rigidity, which is even capable of withstanding the demands of milling. The high torque transmission and the highest possible rpms also stress the effectiveness.

This is supported by a special clamping mechanism which works centrally, without lateral forces, which in combination with the compact, highly precise components used achieves optimal values for concentricity, rigidity and accuracy in repeatability. Because of its compact design the system is ideal for tools with internal cooling.



PRODUCT BENEFITS

Performance

- compact design
- large planar contact surface
- high rigidity (milling capable)
- high transmission of torque
- high speed (balancing-neutral design)

Precision

- high concentricity: < 5 µm auf 30 mm
- high repeatability
- central, cross-force-free transmission of forces
- play-free centering of taper

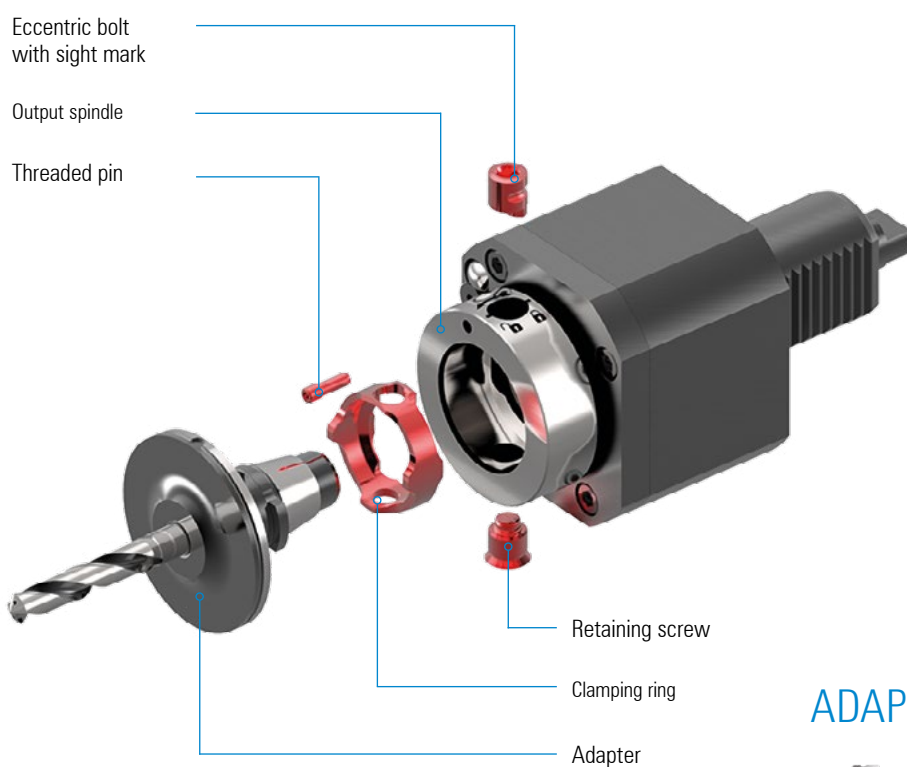
Handling

- quick change, change in < 20 seconds
- one-hand operation
- simple handling without the need of special tools
- resistance controlled clamping (180°) - no need to observe torque
- ejection feature

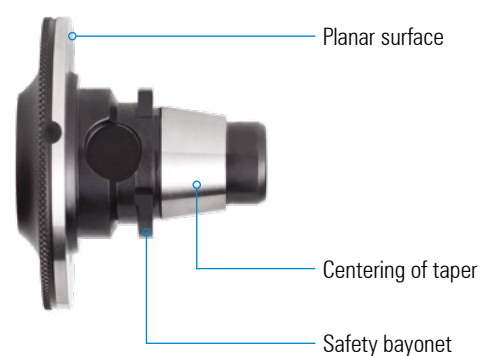
Safety

- securing device via safety bayonet
- self-locking clamp function
- avoidance of operating errors
- fulfills machinery directive 2006/42/EG

BENZ SOLIDFIX® - SYSTEM DESIGN



ADAPTER



SYSTEM OVERVIEW

Size	Technical data	
	T* [Nm]	Size Inbus wrench
S1	25	SW 3
S2	50	SW 4
S3	100	SW 5
S4	200	SW 6
S5	400	SW 6

*transmittable torque of interface



IC-capable

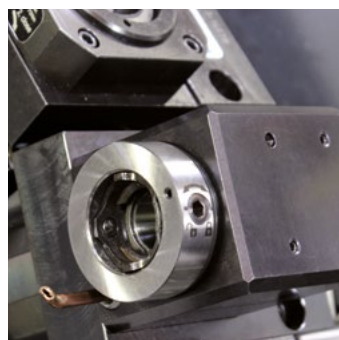


MQL-capable Adapter
on request

MODULAR QUICK CHANGE SYSTEM

BENZ SOLIDFIX®

TOOL CHANGE



Step 1: Familiarize yourself with the system

In order to change an adapter in the angle head/live tool the operation unit needs to be in the loosed position.



Loose position:
Marking is sitting on open
lock

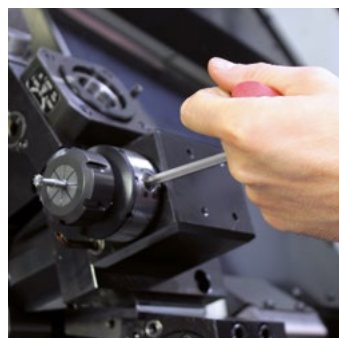


Clamped position:
Marking is sitting on closed
lock



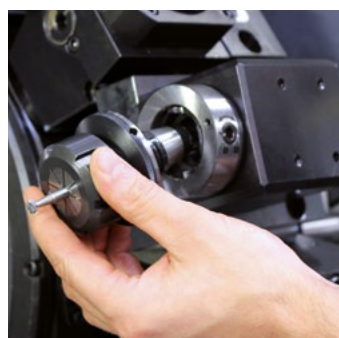
Step 2: Inserting the adapter

Insert the adapter into the tool spindle. The adapter cannot fall out due to a special safety mechanism which holds the tool in place, even if not clamped yet. This prevents injuries during set up of the tools in the machine.



Step 3: Resistance controlled clamping

The modular quick change system BENZ Solidfix® can be operated with just one hand without any special tools - a standard hex key is sufficient. By simply turning the clamping screw 180 degrees (up to its end position) the tool adapter (meaning the tool) is clamped.



Step 4: Loosening and changing the adapter

After loosening the locking mechanism with a hex key and turning the tool adapter 90 degrees (a bayonet style safety mechanism prevents the tool from falling out after opening the lock) the adapter can be removed.

A specialized eject feature ensures that the adapter does not get stuck in the spindle. The tool change can be done in less than 20 seconds.



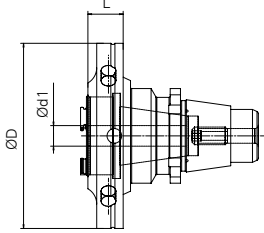
BENZ SOLIDFIX®

	COLLET CHUCK 8° Type ER	20		WELDON for parallel shanks DIN 1835B	20
	WHISTLE-NOTCH for parallel shanks DIN 1835E	21		MILLING ARBOR	22
	COLLET CHUCK with TER-shrinking collet	22		SHRINK FIT CHUCK	24
	SCREW-IN MILL CUTTER Basic holder	24		HYDRO CLAMPING CHUCK	24
	SQUARE SHOULDER / PLUNGE MILL CUTTER	25		TEST MANDREL	25
	MASTER SHANKS VDI DIN 69880 / HSK Form A ISO 12164 SK DIN 69871 AD	25		MOUNTING BLOCK	26
	REDUCING SLEEVE	27		BLANK	27
	CLOSING PLUG	27			

Further Adapters (such e.g Softsynchro, BENZ Solidfix® static, MQL- capable adapter) upon request.
Please contact our BENZ sales team.

ADAPTER BENZ SOLIDFIX®

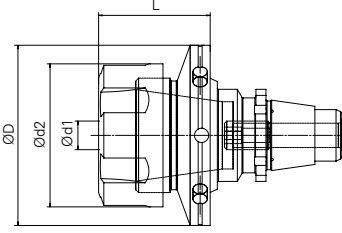
COLLET CHUCK 8° TYPE ER | INTERNAL CLAMPING NUT

Model	Drawing	Technical data					Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	L [mm]	
		S1	ER11	32	1-7	9	691.130E1A09
		S2	ER16	40	1-10	13	692.130E3A13
		S3	ER16	50	1-10	10	693.130E3A10
		S3	ER20	50	2-13	14	693.130E4A14
		S4	ER16	63	1-10	11	694.130E3A11
		S4	ER20	63	2-13	12	694.130E4A12
		S4	ER25	63	2-16	20	694.130E5A20
		S5	ER32	75	2-20	22	695.130E6A22

Collet chuck not included

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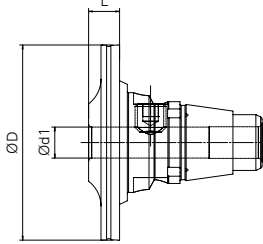
COLLET CHUCK 8° TYPE ER | EXTERNAL CLAMPING NUT

Model	Drawing	Technical data						Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S1	ER11M	32	1-7	16	20	691.130M120
		S1	ER16M	32	1-10	22	30	691.130M120
		S2	ER16M	40	1-10	22	30	692.130M230
		S2	ER20	40	2-13	34	31	692.130E431
		S3	ER16M	50	1-10	22	32	693.130M232
		S3	ER20	50	2-13	34	30	693.130E430
		S3	ER25	50	2-16	42	34	693.130E534
		S4	ER16M	63	1-10	22	30	694.130M232
		S4	ER32	63	2-20	50	39	694.130E639
		S5	ER32	75	2-20	50	40	695.130E640
		S5	ER40	75	3-26	63	46	695.130E746

Collet chuck not included

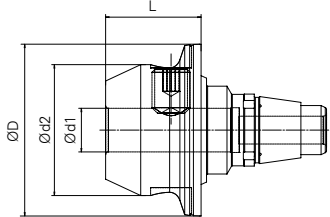
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WELDON FOR PARALLEL SHANKS DIN 1835 B | SHORT DESIGN

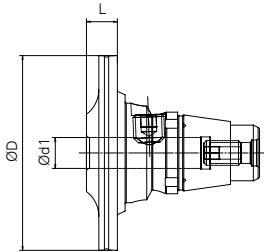
Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	
		S1	32	3	4	691.1400304
		S1	32	4	5	691.1400405
		S2	40	4	5	692.1400405
		S2	40	6	7	692.1400607
		S3	50	6	6	693.1400606
		S3	50	8	8	694.1400808
		S4	63	6	7	694.1400607
		S4	63	8	8	694.1400808
		S4	63	10	10	694.1401010
		S4	63	12	12	694.1401212
		S5	75	6	10	695.1400610
		S5	75	8	10	695.1400810
		S5	75	10	10	695.1401010
		S5	75	12	10	695.1401210
		S5	75	14	12	695.1401412
		S5	75	16	12	695.1401612

Minimum construction length

WELDON FOR PARALLEL SHANKS DIN 1835 B | STANDARD DESIGN

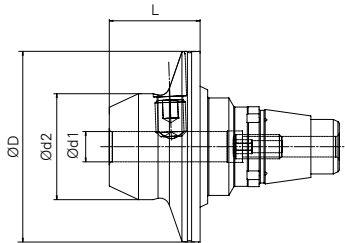
Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S1	32	6	25	24	691.1400624
		S2	40	8	28	25	692.1400825
		S3	50	10	35	28	693.1401028
		S3	50	12	42	32	693.1401232
		S3	50	16	48	35	693.1401635
		S4	63	14	48	32	694.1401432
		S4	63	16	48	35	694.1401635
		S4	63	18	50	35	694.1401835
		S4	63	20	52	38	694.1402038
		S5	75	18	50	36	695.1401836
		S5	75	20	52	38	695.1402038
		S5	75	25	65	40	695.1402540

WHISTLE NOTCH PARALLEL SHANKS DIN 1835 E | SHORT DESIGN

Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	
		S2	40	6	9	692.1410609
		S3	50	6	6	693.1410606
		S3	50	8	8	693.1410808
		S4	63	6	7	694.1410607
		S4	63	8	8	694.1410808
		S4	63	10	10	694.1411010
		S4	63	12	12	694.1411212
		S5	75	6	10	695.1410610
		S5	75	8	10	695.1410810
		S5	75	10	10	695.1411010
		S5	75	12	10	695.1411210
		S5	75	14	12	695.1411412
		S5	75	16	12	695.1411612

Minimum construction length

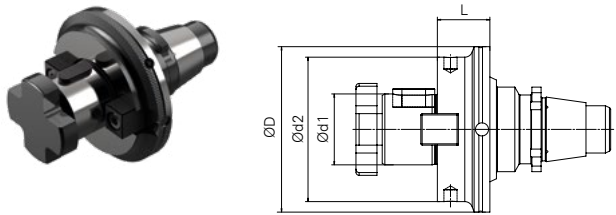
WHISTLE NOTCH PARALLEL SHANKS DIN 1835 E | STANDARD DESIGN

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S1	32	6	25	24	691.1410624
		S2	40	8	28	25	692.1410825
		S3	50	10	35	28	693.1411028
		S3	50	12	42	32	693.1411232
		S3	50	16	48	35	693.1411635
		S4	63	14	48	32	694.1411432
		S4	63	16	48	35	694.1411635
		S4	63	18	50	35	694.1411835
		S4	63	20	52	38	694.1412038
		S5	75	18	50	36	695.1411836
		S5	75	20	52	38	695.1412038
		S5	75	25	65	40	695.1412540

ADAPTER

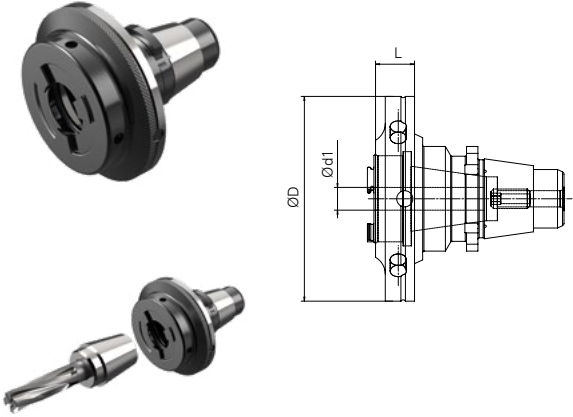
BENZ SOLIDFIX®

MILLING ARBOR

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S2	40	16	34	11	692.2311611
		S3	50	16	34	12	693.2311612
		S3	50	22	48	14	693.2312214
		S4	63	16	34	14	694.2311614
		S4	63	22	48	14	694.2312214
		S4	63	27	55	14	694.2312714
		S5	75	22	48	12	695.2312212
		S5	75	27	55	14	695.2312714
		S5	75	32	62	15	695.2313215

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COLLET CHUCK | WITH TER - SHRINKING COLLET

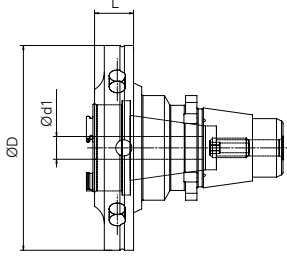
Model	Drawing	Technical data					Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	L [mm]	
		S1	TER 16	32	3	30*	691.1560330
		S1	TER 16	32	3	30*	691.1560430
		S1	TER 16	32	3	30*	691.1560630
		S2	TER 16	40	3	13	692.1560313
		S2	TER 16	40	4	13	692.1560413
		S2	TER 16	40	6	13	692.1560613
		S2	TER 16	40	8	13	692.1560813
		S3	TER 20	50	6	14	693.1560614
		S3	TER 20	50	8	14	693.1560814
		S3	TER 20	50	10	14	693.1561014
		S4	TER 25	63	6	20	694.1560620
		S4	TER 25	63	8	20	694.1560820
		S4	TER 25	63	10	20	694.1561020
		S4	TER 25	63	12	20	694.1561220
		S5	TER 32	75	6	22	695.1560622
		S5	TER 32	75	8	22	695.1560822
		S5	TER 32	75	10	22	695.1561022
		S5	TER 32	75	12	22	695.1561222
		S5	TER 32	75	16	22	695.1561622

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Partner **diebold**
Goldring-Werkzeuge
Spindeltechnologie

MMS-capable adapters on request

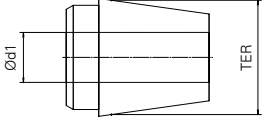
ULTRA-PRECISION COLLET CHUCK | FOR TER - SHRINKING COLLET

Model	Drawing	Technical data					Order No.
		Size	Type	ØD [mm]	Ød1 [mm]	L [mm]	
		S1	ER 16M	32	1-10	30	691.130M230UP
		S2	ER 16	40	1-10	13	692.130E3A13UP
		S3	ER 20	50	2-13	14	693.130E4A14UP
		S4	ER 25	63	2-16	20	694.130E5A20UP
		S5	ER 32	75	2-20	22	695.130E6A22UP

UP-collet chucks: differ versus standard collet chucks by being extremely precise for high speed machining

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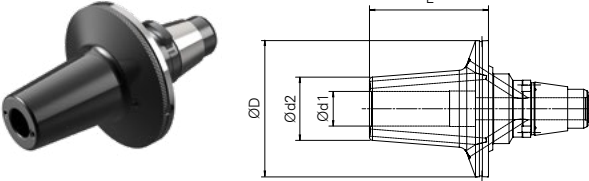
TER-SHRINKING COLLET

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	Ød1 [mm]	
		S1/S2	TER 16	3	B134-426E-0300DS
		S1/S2	TER 16	4	B134-426E-0400DS
		S1/S2	TER 16	6	B134-426E-0600DS
		S2	TER 16	8	B134-426E-0800DS
		S3	TER 20	6	B134-428E-0600DS
		S3	TER 20	8	B134-428E-0800DS
		S3	TER 20	10	B134-428E-1000DS
		S4	TER 25	6	B134-430E-0600DS
		S4	TER 25	8	B134-430E-0800DS
		S4	TER 25	10	B134-430E-1000DS
		S4	TER 25	12	B134-430E-1200DS
		S5	TER 32	6	B134-470E-0600DS
		S5	TER 32	8	B134-470E-0800DS
		S5	TER 32	10	B134-470E-1000DS
		S5	TER 32	12	B134-470E-1200DS
		S5	TER 32	16	B134-470E-1600DS

alternative shrink collet sizes

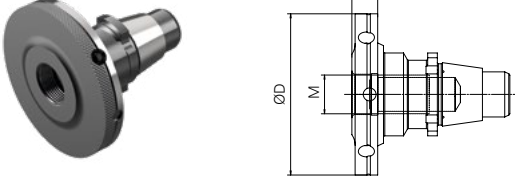
ADAPTER BENZ SOLIDFIX®

SHRINK FIT CHUCK | ONE-PIECE

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S3	50	6	21	45	693.1520645KB
		S3	50	8	21	45	693.1520845KB
		S3	50	10	24	50	693.1521050KB
		S3	50	12	24	55	693.1521255KB
		S4	63	6	21	50	694.1520650KB
		S4	63	8	21	50	694.1520850KB
		S4	63	10	24	50	694.1521050KB
		S4	63	12	24	55	694.1521255KB
		S4	63	14	29	55	694.1521455KB
		S4	63	16	29	55	694.1521655KB
		S4	63	20	33	60	694.1522060KB
		S5	75	20	33	65	695.1522065KB
		S5	75	25	44	70	695.1522570KB

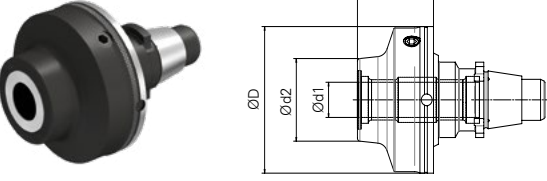
Coolant central or via holes on the collar (without coolant hole on request)
MQL-capable adapter on request

BASE HOLDER FOR THREADED ARBOR | SHORT DESIGN

Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	M [mm]	L [mm]	
		S3	50	M10	8	693.2861008
		S3	50	M12	8	693.2861208
		S4	63	M12	9	694.2861209
		S4	63	M16	9	694.2861609
		S5	75	M12	10	695.2861210
		S5	75	M16	10	695.2861610

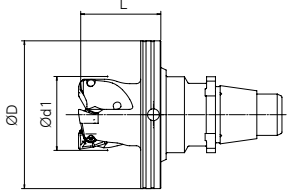
Base holder fits all standard threaded arbors (e.g. Seco, Kennametal...)

HYDRO CLAMPING CHUCK | ONE-PIECE

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	Ød2 [mm]	L [mm]	
		S3	50	12	28	28	693.1581228
		S4	63	12	28	28	694.1581228
		S5	75	20	38	30	695.1582030

Version two-part with Hydrostar-insert on request

SQUARE SHOULDER | PLUNGE MILL

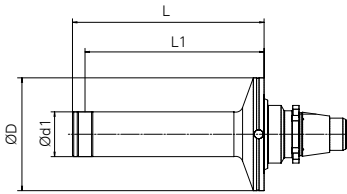
Model	Drawing	Technical data				Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	
		S3	50	25	28	693.6502528S001
		S4	63	32	33	694.6503233S001

Cooperation with



Indexable inserts not included in scope of supply / Can be supplied by Paul Horn GmbH (Type DA32)

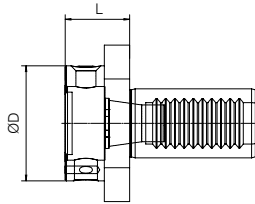
TEST MANDREL

Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	*L1 [mm]	
		S1	32	12	55	50	691.2471255
		S2	40	16	68	63	692.2471668
		S3	50	20	87	80	693.2472087
		S4	63	25	107	100	694.24725107
		S5	75	32	134	125	695.24732134

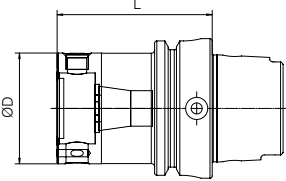
Scope of supply: case with test certificate

*Measuring point

MASTER SHANK / BASE HOLDER | VDI

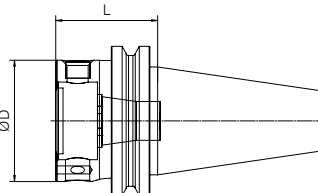
Model	Drawing	Technical data				Order No.
		Size	Type	ØD [mm]	L [mm]	
		S1	VDI 20	32	22	112.251S1022VE
		S2	VDI 25	40	25	325.251S2025VE
		S2	VDI 30	40	25	113.251S2025VE
		S3	VDI 50	30	28	113.251S3028VE
		S3	VDI 30	30	32	✓ 113.251S3032R
		S3	VDI 40	40	28	114.251S3028VE
		S3	VDI 40	50	28	114.251S3028VE
		S4	VDI 40	63	32	✓ 114.251S4032R
		S5	VDI 50	75	32	115.251S5032VE
		S5	VDI 50	75	40	✓ 115.251S5040R

MASTER SHANK | HSK

Model	Drawing	Technical data				
		Size	Type	ØD [mm]	L [mm]	Order No.
		S1	HSK 63	32	55	711.251S1055VE
		S2	HSK 63	40	62	711.251S2062VE
		S3	HSK 63	50	70	711.251S3070VE
		S4	HSK 63	63	75	711.251S4075VE
		S4	HSK 63	63	80	713.251S4080VE
		S5	HSK 100	75	80	711.251S5080VE
		S5	HSK 100	75	90	713.251S5090VE

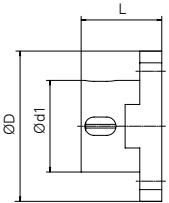
Internal coolant ready (coolant supply transfer needed)

MASTER SHANK | SK

Model	Drawing	Technical data				
		Size	Type	ØD [mm]	L [mm]	Order No.
		S1	SK 30	32	30	090.251S1030VE
		S2	SK 30	40	40	090.251S2040VE
		S3	SK 40	50	42	040.251S3042VE
		S3	SK 50	50	37	042.251S3037VE
		S4	SK 40	63	55	040.251S4055VE
		S4	SK 50	63	40	042.251S4040VE
		S5	SK 40	75	60	040.251S5060VE
		S5	SK 50	75	52	042.251S5052VE

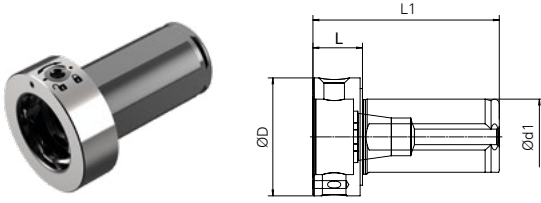
Internal coolant ready (precision pull stud)

MOUNTING BLOCK

Model	Drawing	Technical data			
		Size	ØD [mm]	Ød1 [mm]	L [mm]
		S1	62	31	30
		S2	67	40	38
		S3	82	50	44
		S4	96	65	50
		S5	116	75	60

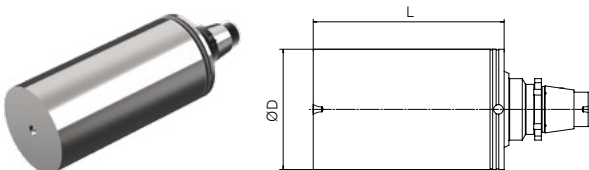
No integrated clamping mechanism

REDUCING SLEEVE

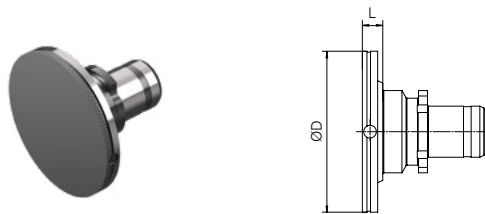
Model	Drawing	Technical data					Order No.
		Size	ØD [mm]	Ød1 [mm]	L [mm]	L1 [mm]	
		S2	40	25	17	65	B570-25S2
		S3	50	32	21	79	B570-32S3
		S4	63	40	22	94	B570-40S4

used for boring bars or combination holders

BLANK

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	L [mm]	
		S1	32	63	691.1023263
		S2	40	80	692.1024080
		S3	50	100	693.10250100
		S4	63	125	694.10263125
		S5	75	160	695.10275160

CLOSING PLUG

Model	Drawing	Technical data			Order No.
		Size	ØD [mm]	L [mm]	
		S1	32	3,5	691.581S
		S2	40	4	692.581S
		S3	50	5	693.581S
		S4	63	6	694.581S
		S5	75	8	695.581S

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