

Face Drivers FSB / SB



with drive pins and movable center pin

The entire surface of the workpiece can be tooled and finished by clamping with a maximum of torque transmission. NEIDLEIN face drivers are mechanical clamping systems which are suited **for turning as well as hard turning.**

Face drivers of type FSB / SB are power-operated by the thrust of the tailstock. Workpieces are clamped centrically using a movable center pin. This way different centerings can be adjusted, thus ensuring a constant datum-point at the end face of the workpieces.

Type FSB with flange retainer

Type FSB is mounted onto the machine spindle nose using a flange adapter.



Type SB with MK- or cylindrical retainer

Type SB with taper shank and extracting nut for fast mounting into the machine spindle.



NEIDLEIN face drivers FSB / SB with movable center pins ensure:

- a maximum of torque transmission, thus achieving high metal removing rates
- datum-point at the end face of the workpiece
stable datum-point in case of different centerings
- extended tool-life of driving devices and cutting tools
due to vibration-free running
- run-out deviation max.: 0.015 - 0.02 mm
- clamping force is triggered by tailstock
- fixed center pin/fixed datum-point
in clamped state
- compensating driving devices/ideal clamping
of the workpiece
- simple handling

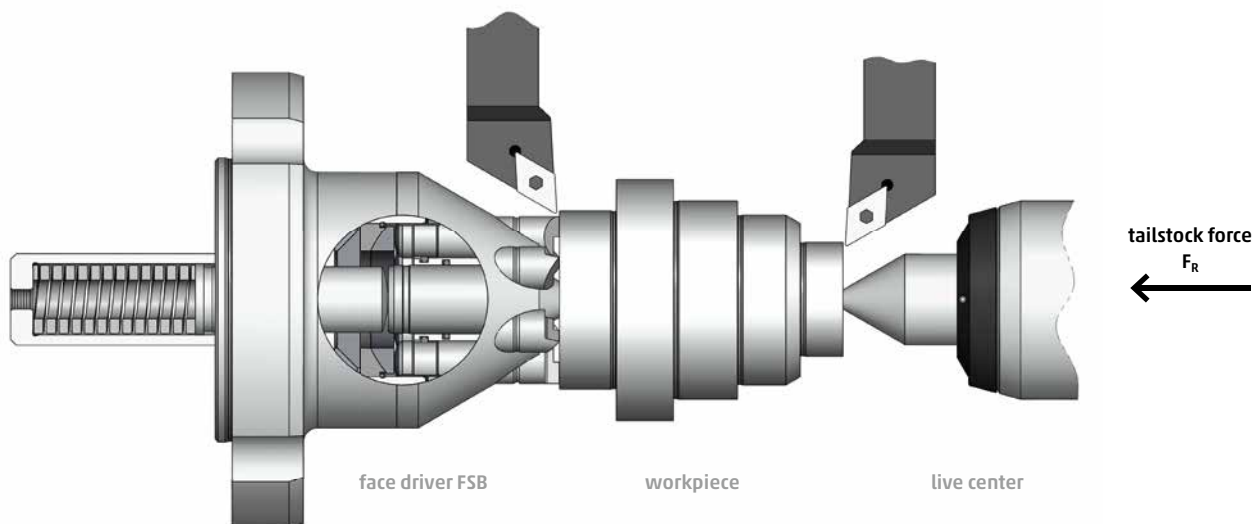
Clamping principle

The center pin located on the side of the tailstock pushes the workpiece against the movable center pin of the face driver. The center pin will draw back until the surface of the workpiece bears against the drive pins. In this state the clamping bolt is clamped over the power flow in order to ensure a fixed datum-point during the entire tooling process.

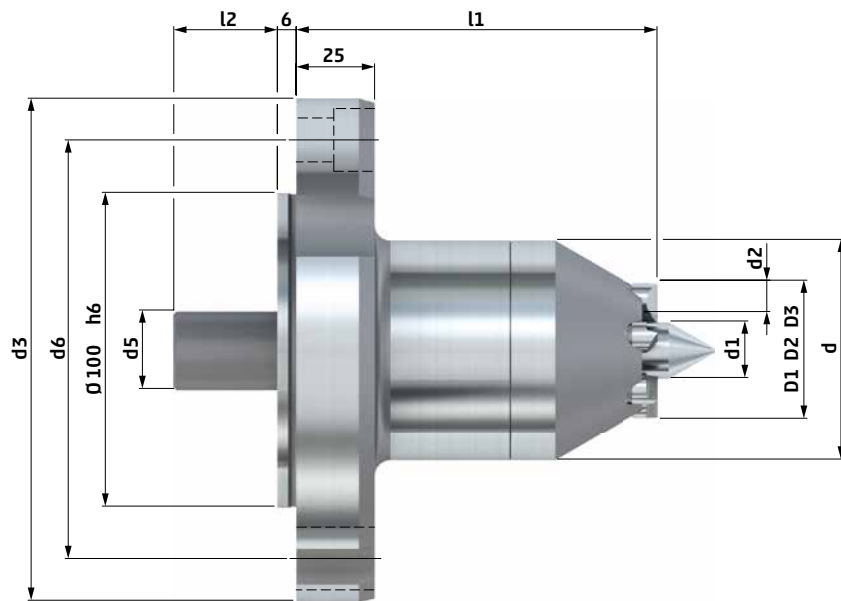
The drive pins are "floatingly", thus compensating for variations in workpiece, squareness and surface finish. The entire surface of the workpiece can now be finished in one single clamping. Please check page 14 - 15 for metal removing rates to be obtained as well as for the tailstock forces required. Compatible standard drive pins and center pins are listed on page 22 - 28.

We will be glad to design clamping devices suitable for your workpieces.

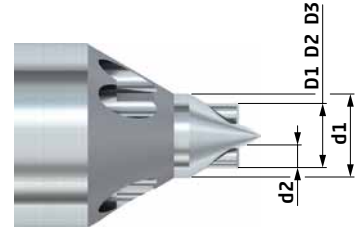
Type FSB with flange retainer



Technical data – type FSB face driver



type FSB 01/0



type FSB	d	d1	center Ø	d2	d3	d5	d6	l1	l2	drive pin	fastening screw		clamping Ø			cat. no.
											type	pcs	D1	D2	D3	
01	48	22	0 - 5	6	160	25	133.4	115	28	3	M12	3	8	11	17	730 12
0	48	22	0 - 3	8	160	25	133.4	115	28	3	M12	3	6	11	19	730 01
11	42	6	0 - 6	6	160	25	133.4	115	28	3	M12	3	11	14	20	730 11
1	48	8	0 - 8	8	160	25	133.4	115	28	3	M12	3	13	18	26	730 02
2	70	14	2 - 14	10	160	25	133.4	115	23	6	M12	3	26	31	36	730 03
3	70	18	2 - 18	10	160	25	133.4	115	33	6	M12	3	34	39	44	730 04
35	80	14	2 - 14	15	160	25	133.4	115	33	6	M12	3	29	39	49	730 09
4	90	24	3 - 24	15	160	32	133.4	115	72	6	M12	3	39	49	59	730 05
45	100	28	3 - 28	15	160	32	133.4	115	72	6	M12	3	49	59	69	730 10
5	132	35	3 - 35	20	160	45	133.4	115	164	6	M12	3	69	84	99	730 06
55	182	35	3 - 35	20	220	45	171.4	115	165	6	M16	3	110	125	140	730 08
6	212	35	3 - 35	20	250	45	210	115	165	6	M20	3	140	155	170	730 07
7	255	50	25 - 48	20	290	50	250	132	165	6	M20	6	180	195	210	730 13
75	302	50	25 - 48	20	348	50	310	132	165	6	M20	6	230	245	260	730 14
8	360	80	30 - 76	30	440	78	394	190	262	6	M20	6	270	290	310	730 16
85	410	80	30 - 76	30	490	78	444	190	262	6	M20	6	320	340	360	730 15

- All face drivers are supplied without drive pins. (drive pins see page 22 - 27)
- Types FSB 01 / 0 are supplied with center body, all other types without center pin. (center pins see page 28)
- Mounting elements for face drivers see page 76 - 73.

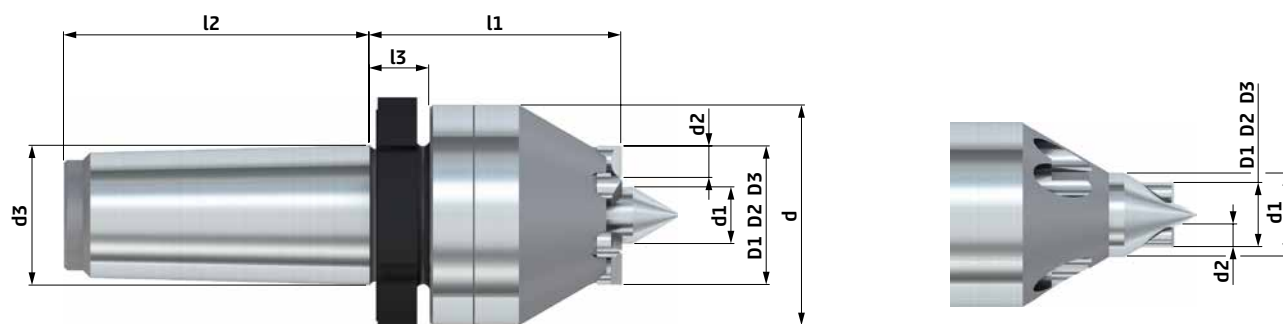
It is the purpose of a flange-adapter to provide stable connection to the machine spindle. We supply these flange adapters for various sizes of spindle noses either in standard size (DIN ISO 702-1 / DIN 55028) or for spindle noses specific to manufacturer of machine-tools. Thus face drivers of type FSB can be used on different machines. Driving devices and center pins can be exchanged front view on the machine without any effort.

Upon request and depending on the tooling direction of the machine the face driver can be equipped optionally with drive pins for counter-clockwise tooling (SR / tooling direction M3), for clockwise tooling (SL / tooling direction M4) or for both tooling directions (NV = bi-directional).

Apart from the clamping diameters listed in the table under D1, D2, D3 we can also supply intermediate dimensions upon request. We can as well make extra-large center pins or mushroom centers appropriate to oversized centerings in workpieces. (see page 30)

Technical data – type SB face driver

type SB 01/0



type SB	MK	d	d1	center Ø	d2	d3	l1	l2	l3	drive pin	clamping Ø			cat. no.
											D1	D2	D3	
01	3	48	22	0 - 5	6	M28 x 1.5	87	61	14	3	8	11	17	720 16
	4	48	22	0 - 5	6	M35 x 1.5	87	74	16	3	8	11	17	720 17
	5	48	22	0 - 5	6	M48 x 1.5	87	97	19	3	8	11	17	720 18
0	3	48	22	0 - 3	8	M28 x 1.5	87	61	14	3	6	11	19	720 01
	4	48	22	0 - 3	8	M35 x 1.5	87	74	16	3	6	11	19	720 02
	5	48	22	0 - 3	8	M48 x 1.5	87	97	19	3	6	11	19	720 03
11	3	42	6	0 - 6	6	M28 x 1.5	80	61	14	3	11	14	20	720 19
	4	42	6	0 - 6	6	M35 x 1.5	80	74	16	3	11	14	20	720 20
	5	42	6	0 - 6	6	M48 x 1.5	80	97	19	3	11	14	20	720 21
1	3	48	8	0 - 8	8	M28 x 1.5	80	61	14	3	13	18	26	720 04
	4	48	8	0 - 8	8	M35 x 1.5	80	74	16	3	13	18	26	720 05
	5	48	8	0 - 8	8	M48 x 1.5	80	97	19	3	13	18	26	720 06
2	4	70	14	2 - 14	10	M35 x 1.5	80	74	16	6	26	31	36	720 07
	5	70	14	2 - 14	10	M48 x 1.5	80	97	19	6	26	31	36	720 08
3	4	70	18	2 - 18	10	M35 x 1.5	80	74	16	6	34	39	44	720 09
	5	70	18	2 - 18	10	M48 x 1.5	80	97	19	6	34	39	44	720 10
4	5	90	24	3 - 24	15	M48 x 1.5	104	97	19	6	39	49	59	720 11
	6	90	24	3 - 24	15	M70 x 1.5	104	134	20	6	39	49	59	720 12
5	6	132	35	3 - 35	20	M70 x 1.5	135	134	20	6	69	84	99	720 13
55	6	182	35	3 - 35	20	M70 x 1.5	140	134	20	6	110	125	140	720 15
6	6	212	35	3 - 35	20	M70 x 1.5	140	134	20	6	140	155	170	720 14

- Face driver with cylindrical shank upon request.
- All face drivers are supplied without drive pins. (drive pins see page 22 - 27)
- Types SB 01/0 are supplied with center body, all other types without center pin. (center pins see page 28)
- Reducing sleeves for face drivers see page 76 - 77.

Type series SB with MK retainer is embedded directly in the machine spindle and removed by means of an extracting nut. Driving devices and center pins can be exchanged front view on the machine without any effort.

If necessary and depending on the tooling direction of the machine the face driver can be equipped optionally with drive pins for counter-clockwise tooling (SR/tooling direction M3), for

clockwise tooling (SL/tooling direction M4) or for both tooling directions (NV = bi-directional).

Apart from the clamping diameters listed in the table under D1, D2, D3 we also supply intermediate dimensions upon request. We also make extra-large center pins or mushroom centers appropriate to oversized centerings in workpieces. (see page 30)



Drive Pins FSB / SB / FFB · Chisel SL / SR / NV

**for torque transmission onto the workpiece
for soft / green tooling**

Type FSB / SB / FFB · chisel SL / SR / NV



SR

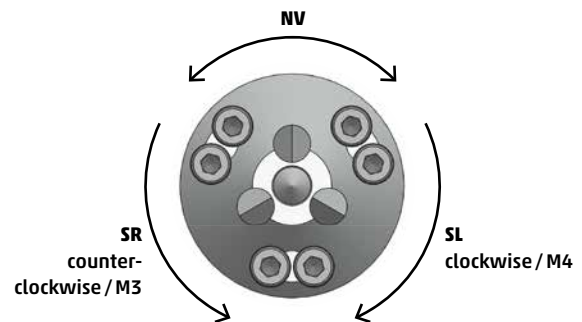


SL

SR

NV

view from tailstock onto the face driver



Technical data – type FSB / SB / FFB · chisel SL / SR / NV

types 01 and 11 with chisel SL and SR are double chiselled



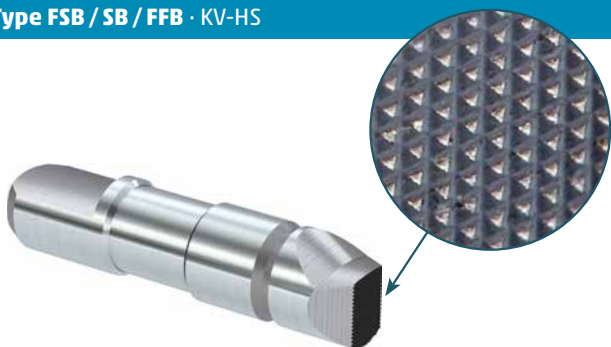
for type FSB / SB / FFB	clamping Ø			chisel length			TYPE CHISEL SL for tooling direction M4	TYPE CHISEL SR for tooling direction M3	TYPE CHISEL NV for tooling direction M4 and M3
	D1	D2	D3	L1	L2	L3	cat. no.	cat. no.	cat. no.
01	8			1.5			736 104	736 101	736 107
		11			3		736 105	736 102	736 108
			17			6	736 106	736 103	736 109
0	6			1.5			736 04	736 01	736 07
		11			4		736 05	736 02	736 08
			19			8	736 06	736 03	736 09
1	13			1.5			736 13	736 10	736 16
		18			4		736 14	736 11	736 17
			26			8	736 15	736 12	736 18
11	11			1.5			736 76	736 73	736 79
		14			3		736 77	736 74	736 80
			20			6	736 78	736 75	736 81
2	26			5			736 22	736 19	736 25
		31			7.5		736 23	736 20	736 26
			36			10	736 24	736 21	736 27
3	34			5			736 31	736 28	736 34
		39			7.5		736 32	736 29	736 35
			44			10	736 33	736 30	736 36
35	29			5			736 85	736 82	736 88
		39			5		736 86	736 83	736 89
			49			5	736 87	736 84	736 90
4	39			5			736 40	736 37	736 43
		49			7.5		736 41	736 38	736 44
			59			7.5	736 42	736 39	736 45
45	49			5			736 94	736 91	736 97
		59			7.5		736 95	736 92	736 98
			69			7.5	736 96	736 93	736 99
5	69			5			736 49	736 46	736 52
		84			10		736 50	736 47	736 53
			99			10	736 51	736 48	736 54
55	110			5			736 58	736 55	736 61
		125			10		736 59	736 56	736 62
			140			10	736 60	736 57	736 63
6	140			5			736 67	736 64	736 70
		155			10		736 68	736 65	736 71
			170			10	736 69	736 66	736 72
7	180			5			736 114	736 111	736 117
		195			15		736 115	736 112	736 118
			210			20	736 116	736 113	736 119
75	230			5			736 344	736 341	736 347
		245			15		736 345	736 342	736 348
			260			20	736 346	736 343	736 349
8	270			10			736 373	736 370	736 376
		290			20		736 374	736 371	736 377
			310			30	736 375	736 372	736 378
85	320			10			736 364	736 361	736 367
		340			20		736 365	736 362	736 368
			360			30	736 366	736 363	736 369



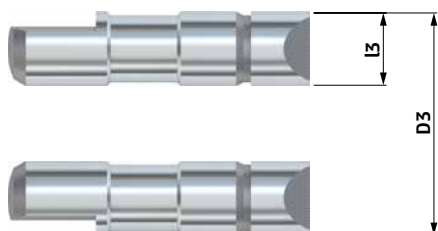
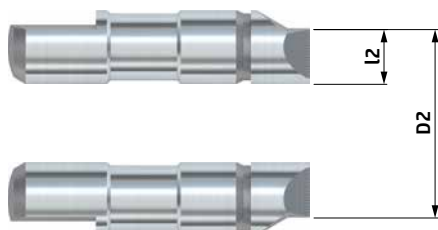
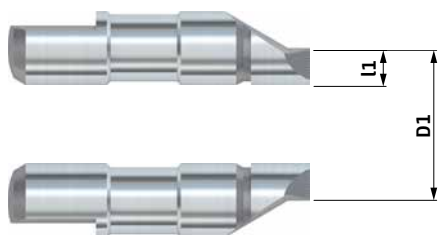
Drive Pins FSB / SB / FFB · KV-HS

cross serrated and coated for hard turning operation
for torque transmission onto the workpiece
for hard tooling

Type FSB / SB / FFB · KV-HS



Technical data – type FSB / SB / FFB · KV-HS



for type	clamping Ø			chisel length			cat. no.
FSB / SB / FFB	D1	D2	D3	l1	l2	l3	
01	8			1.5			736 200
		11			3		736 201
			17			6	736 202
0	6			1.5			736 203
		11			4		736 204
			19			8	736 205
1	13			1.5			736 209
		18			4		736 210
			26			8	736 211
11	11			1.5			736 206
		14			3		736 207
			20			6	736 208
2	26			5			736 212
		31			7.5		736 213
			36			10	736 214
3	34			5			736 215
		39			7.5		736 216
			44			10	736 217
35	29			5			736 218
		39			10		736 219
			49			15	736 220
4	39			5			736 221
		49			10		736 222
			59			15	736 223
45	49			5			736 224
		59			10		736 225
			69			15	736 226
5	69			5			736 227
		84			12.5		736 228
			99			20	736 229
55	110			5			736 230
		125			12.5		736 231
			140			20	736 232
6	140			5			736 233
		155			12.5		736 234
			170			20	736 235

■ Further clamping Ø of drive pins upon request.

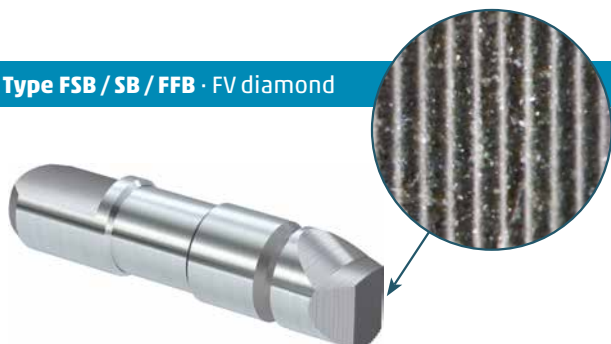


Drive Pins FSB / SB / FFB · FV Diamond

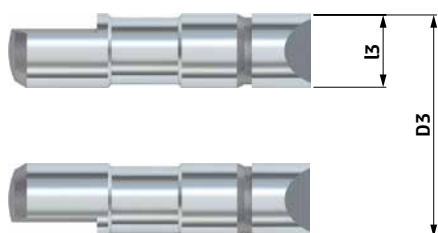
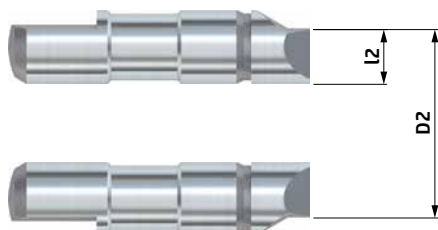
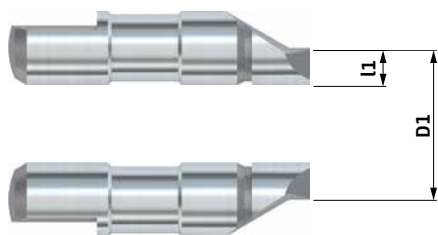
serrated and diamond embedded
for torque transmission onto the workpiece
for hard tooling

for higher friction coefficient and higher tool life of drive pin

Type FSB / SB / FFB · FV diamond



Technical data – type FSB / SB / FFB · FV diamond



for type	clamping Ø			chisel length			cat. no.
FSB / SB / FFB	D1	D2	D3	l1	l2	l3	
01	8			1.5			736 400
	11				3		736 401
		17				6	736 402
0	6			1.5			736 403
	11				4		736 404
		19				8	736 405
1	13			1.5			736 409
	18				4		736 410
		26				8	736 411
11	11			1.5			736 406
	14				3		736 407
		20				6	736 408
2	26			5			736 412
	31				7.5		736 413
		36				10	736 414
3	34			5			736 415
	39				7.5		736 416
		44				10	736 417
35	29			5			736 418
	39				10		736 419
		49				15	736 420
4	39			5			736 421
	49				10		736 422
		59				15	736 423
45	49			5			736 424
	59				10		736 425
		69				15	736 426
5	69			5			736 427
	84				12.5		736 428
		99				20	736 429
55	110			5			736 430
	125				12.5		736 431
		140				20	736 432
6	140			5			736 433
	155				12.5		736 434
		170				20	736 435

■ Further clamping Ø of drive pins upon request.



Drive Pins FSB / SB / FFB · Chisel Carbide

full carbide / carbide inserts

for torque transmission onto the workpiece

for tooling of high-tensile-strength materials

Type FSB / SB / FFB · chisel carbide

model B / SR



MODEL A



SL

SR

NV

MODEL B



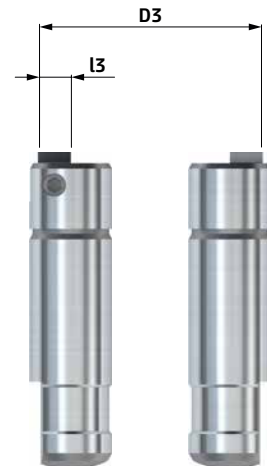
SL

SR

Technical data – type FSB / SB / FFB · chisel carbide

type 01 - 3 made of full carbide, model A

type 35 - 6 with carbide inserts, model B



MODEL A**TYPE CHISEL SL**
for tooling
direction M4**TYPE CHISEL SR**
for tooling
direction M3**TYPE CHISEL NV**
for tooling
direction M4 and M3

for type FSB / SB / FFB	clamping Ø D3	length l3	cat. no.	cat. no.	cat. no.
01	17	6	736 500	736 518	736 536
0	19	8	736 501	736 519	736 537
1	26	8	736 502	736 520	736 538
11	20	6	736 503	736 521	736 539
2	36	10	736 504	736 522	736 540
3	44	10	736 505	736 523	736 541

MODEL B

for type FSB / SB / FFB	clamping Ø		length l3	cat. no.	cat. no.
	D1	D3			
35	34		6	736 506	736 524
		46	6	736 507	736 525
4	44		6	736 508	736 526
		56	6	736 509	736 527
45	54		6	736 510	736 528
		66	6	736 511	736 529
5	75		6	736 512	736 530
		95	6	736 513	736 531
55	116		6	736 514	736 532
		136	6	736 515	736 533
6	146		6	736 516	736 534
		166	6	736 517	736 535

- Drive Pins are supplied with carbide insert.
- Further clamping-Ø of drive pins upon request.

Changeable inserts for type 35 - 6, model B

changeable parts	cat. no.
carbide insert	736 550
set screw for fastening of carbide insert	736 551



Center Pins FSB / SB

for face drivers **FSB / SB** with movable center pin

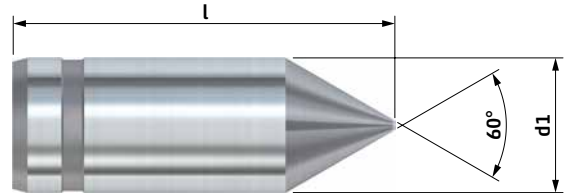
Type **FSB / SB** · center pin



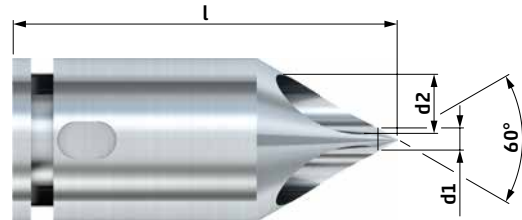
center body type **FSB / SB** 01 / 0



Technical data – type **FSB / SB** · center pin



center body type **FSB / SB** 01 / 0



for type FSB / SB	d1	center Ø	d2	l	cat. no.
01	5	0 - 5	6	52	735 101
0	3	0 - 3	8	52	735 01
11	6	0 - 6	-	53	735 11
1	8	0 - 8	-	53	735 02
2	14	2 - 14	-	47	735 03
3	18	2 - 18	-	51	735 04
35	14	2 - 14	-	47	735 09
4	24	3 - 24	-	70	735 05
45	28	3 - 28	-	74	735 10
5	35	6 - 35	-	96	735 06
55	35	6 - 35	-	96	735 08
6	35	6 - 35	-	96	735 07
7	50	25 - 48	-	100	735 301
75	50	25 - 48	-	100	735 401
8	80	30 - 76	-	135	735 601
85	80	30 - 76	-	135	735 501

■ Further center pins for other center holes upon request.