

# Face Drivers for Grinding

- **FFBR**  
with Flange Retainer
- **FBSR**  
with Taper Shank Retainer
- **FFB/FFBH**
- **Changeable Parts**
- **Special Face Drivers**  
FBSR PN / FFPR / FBS



# Face Drivers FFBR

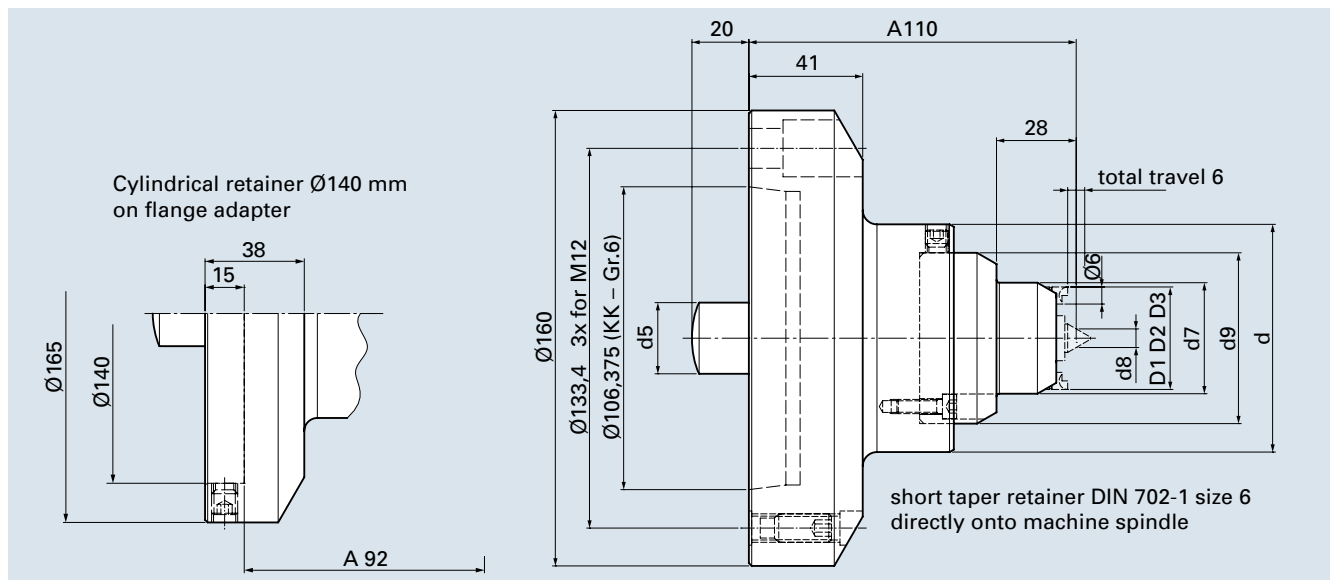
## Type FFBR with flange retainer

### Clamping tools for grinding between centers

The **complete surface** of both, hardened and soft work pieces, can be finish-ground with one single clamping.

Face drivers types FFBR/FBSR are **power-operated** on the **side of the spindle**. The work pieces are clamped centrally using a dead center pin, this way a high true running accuracy is achieved.

There are **two retainer designs** for adapting the face drivers onto the machine spindle – either for adaption onto a flange adapter with 140 in diameter or for direct mounting onto a spindle nose DIN 702-1 size 6 (DIN 55026/28)



- Face drivers without changeable parts (types 0/01 include center body). Center pins, center bodies and drive pins see page 4 and 5.
- All face drivers for grinding are designed for 3 drive pins only.

cat. no. zyl. Ø 140	cat. no. KK Gr. 6	type	d	center Ø	d5	d7	d8	d9	clamping diameter-Ø		
									D1	D2	D3
72631	72601	FFBR 0	65	1 - 3	18	16	1.5	48	6	9	15
72632	72602	FFBR 01	65	1 - 5	18	18	3	48	8	11	17
72633	72603	FFBR 11	65	2 - 6.5	18	21	4.25	48	11	14	20
72634	72604	FFBR 1	65	4 - 8.5	18	25	6.25	48	15	18	24
72635	72605	FFBR 2	77	4 - 9	25	38	6.5	60	27	30	36
72636	72606	FFBR 3	85	6 - 11	25	46	8.5	68	35	38	44
72637	72607	FFBR 4	110	10 - 15	25	62	12.5	85	50	53	59

### NEIDLEIN face drivers FFBR/FBSR ensure:

- datum-point located in center of work piece
- maximum deviation from run-out 0.002-0.003mm
- compensating drive components
- retracting of drive pins in case of on- or off-loading
- adjustment true at face drivers for highest run-out requirements



## Face Drivers FBSR

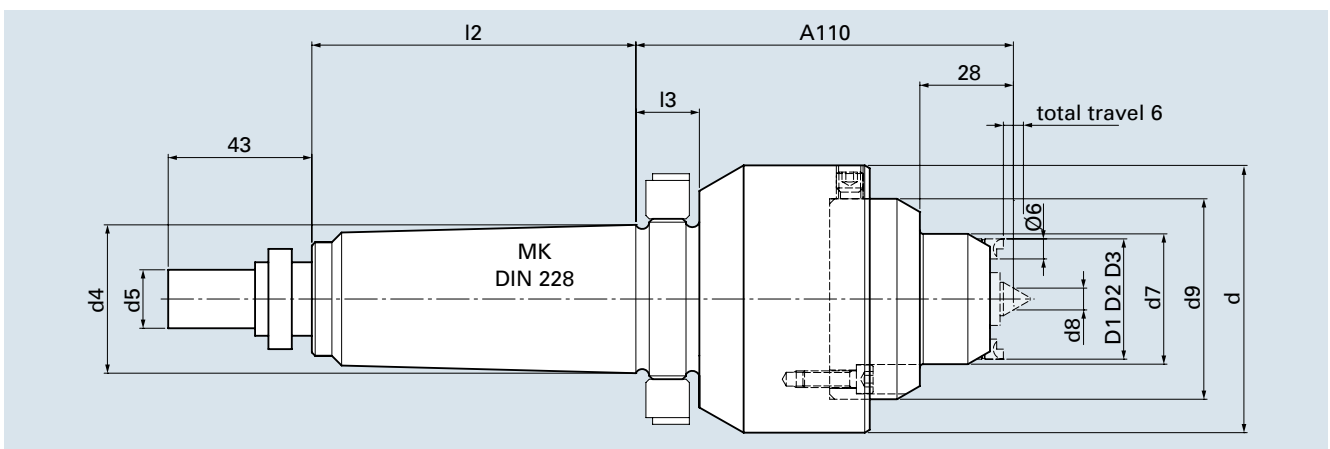
### Clamping tools for grinding between centers

Like face driver FFBR, but including morse taper shank and extracting nut.

Adjustment true by using set screws inside shank for highest true running accuracy.

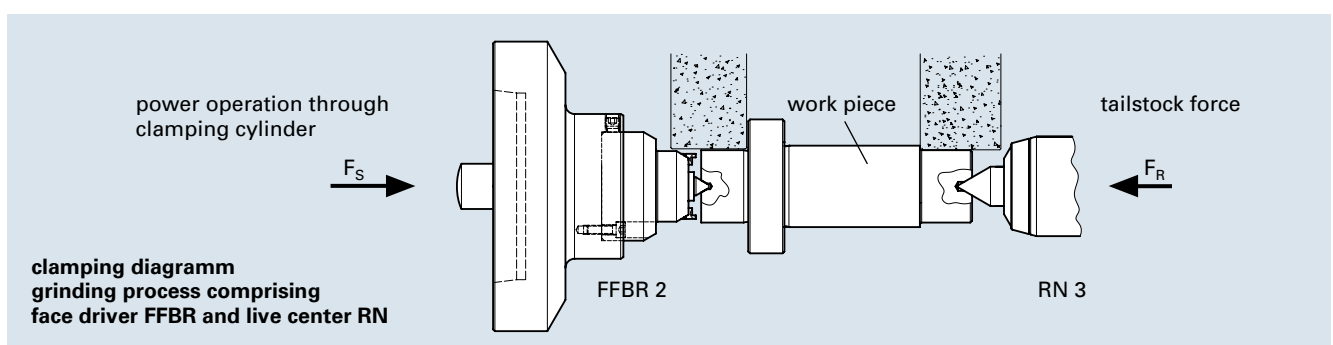
Matching changeable parts for grinding soft or hardened work pieces can be found on pages 4 and 5.

Type FBSR with morse taper retainer



- Face drivers without changeable parts (types 0/01 include center head). center pins, center heads and drive pins see pages 4 and 5.
- All face drivers for grinding are designed for 3 drive pins only.

cat. no.	type	MK	d	center Ø	d5	d7	d8	d9	L	l2	l3	clamping diameter-Ø		
												D1	D2	D3
72651	FBSR 0	4	65	1 - 3	11.5	16	1.5	48	183	73	16	6	9	15
72652	FBSR 01	4	65	1 - 5	11.5	18	3	48	183	73	16	8	11	17
72653	FBSR 11	4	65	2 - 6.5	11.5	21	4.25	48	183	73	16	11	14	20
72654	FBSR 1	4	65	4 - 8.5	11.5	25	6.25	48	183	73	16	15	18	24
72655	FBSR 1	5	65	4 - 8.5	17.5	25	6.25	48	207	97	19	15	18	24
72656	FBSR 2	4	77	4 - 9	11.5	38	6.5	60	183	73	16	27	30	36
72657	FBSR 2	5	77	4 - 9	17.5	38	6.5	60	207	97	19	27	30	36
72658	FBSR 3	4	85	6 - 11	11.5	46	8.5	68	183	73	16	35	38	44
72659	FBSR 3	5	85	6 - 11	17.5	46	8.5	68	207	97	19	35	38	44
72660	FBSR 4	4	110	10 - 15	11.5	62	12.5	85	183	73	16	50	53	59
72661	FBSR 4	5	110	10 - 15	17.5	62	12.5	85	207	97	19	50	53	59



# Center Pins/Center Heads FFBR/FBSR

for face drivers FFBR/FBSR with dead center

Type FFBR/FBSR tool steel or carbide metal

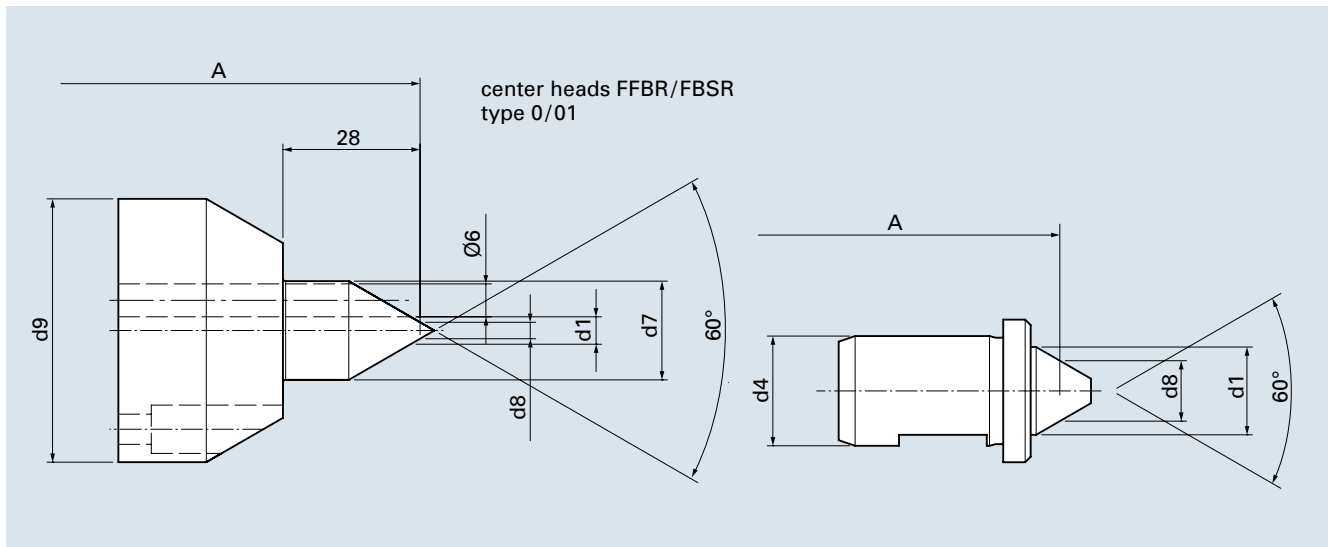
For **maximum stability and run-out requirements** the center pins are produced with narrow tolerances and are fixed safely via set screw and **plane surface** inside the face driver.

For a large batch of hardened work pieces we recommend the construction comprising **carbide insert**. Center heads of type 0/01 consist of 60°-taper tip that are carbide coated.

Due to the **accurate assembly** between center pin and head of face driver we ensure **highly accurate replacement**.



fig. center pin with carbide insert



cat. no tool-steel	cat. no carbide	type	d1	d4	for center Ø	d7	d8	d9
73415	73431	FFBR 0	3	-	1 - 3	18	1.5	48
73416	73432	FFBR 01	5	-	1 - 5	18	3	48
73411	73433	FFBR 11	7.8	6	2 - 6.5	-	4.25	-
73402	73434	FFBR 1	9.8	8	4 - 8.5	-	6.25	-
73403	73435	FFBR 2	10	14	4 - 9	-	6.5	-
73404	73436	FFBR 3	12	18	6 - 11	-	8.5	-
73405	73438	FFBR 4	16	20	10 - 15	-	12.5	-

Further dimensions upon request.

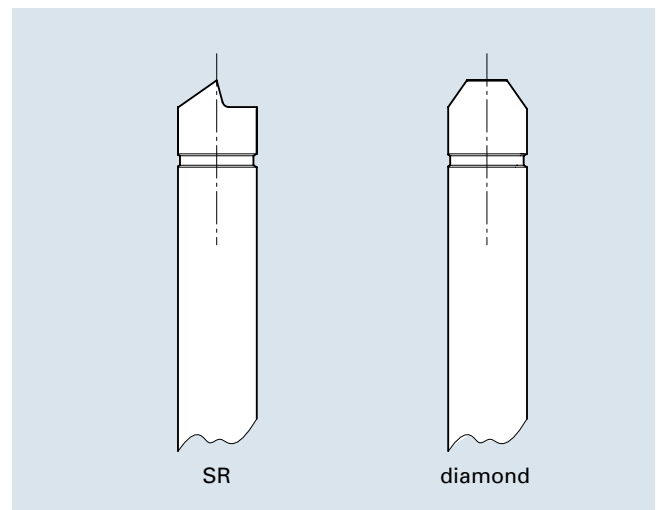
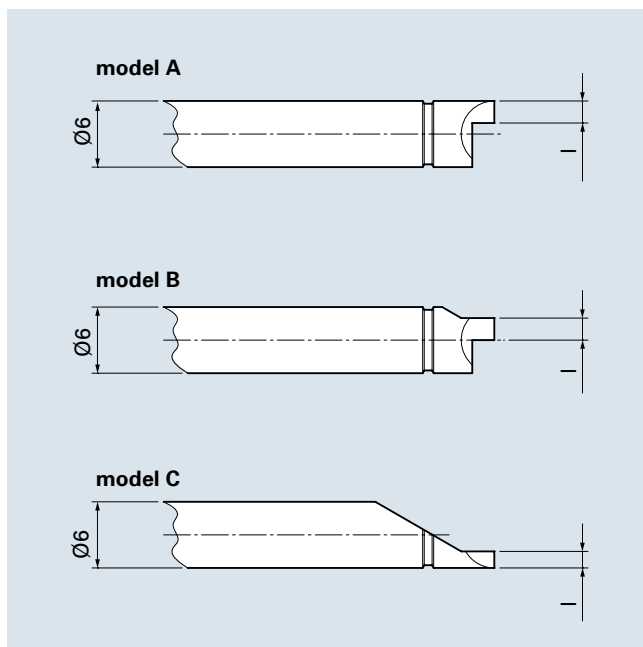
## Drive Pins FFBR / FBSR

Drive pins for torque transmission onto the work piece by grinding soft and hardened work pieces.

For soft work pieces we apply drive pins made of hardened HSS comprising a chisel. They are characterized by high wear-resistance as well as maximum torque transmission.

For hardened work pieces we apply drive pins that are diamond coated. They are characterized by a high friction-coefficient.

**Type FFBR / FBSR**  
 chisel or diamond coating



cat. no.	type	for clamping diameter	l	model
736651	SR	D1	1.5	C
736652	SR	D2	2	B
736653	SR	D3	2	A
736654	diamond	D1	1.5	C
736655	diamond	D2	3	B
736656	diamond	D3	3	A

● Clamping diameter D1, D2, D3 see pages 2-3.

Further dimensions upon request.

## Face Drivers FFB/FFBH

### Clamping tools for machining between center pins

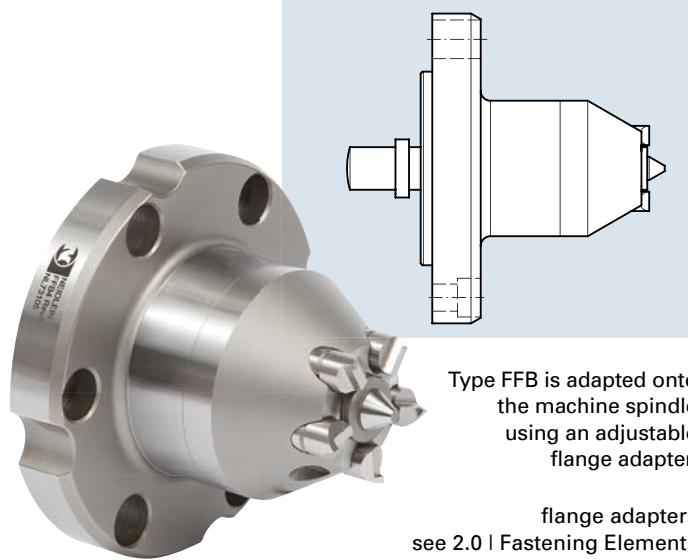
The entire surface of the work piece can be finished with one single clamping and with a maximum of torque transmission. NEIDLEIN face drivers are clamping systems, which are equally suitable for soft and hard work pieces.

Face drivers of types **FFB/FFBH** are power-operated on the side of the spindle.

Originally conceived for turning, face drivers of type **FFB/FFBH** provide a multitude of possible applications for grinding. Without retraction of drive pins and with NEIDLEIN retainer  $\varnothing 100$  type **FFB/FFBH** provides an alternative to face drivers of type **FFB/FFBH**, especially when machining large-size work pieces.

When **FFBH** is used, the compensation of drive pins is implemented hydraulically, thus achieving excellent true runout results.

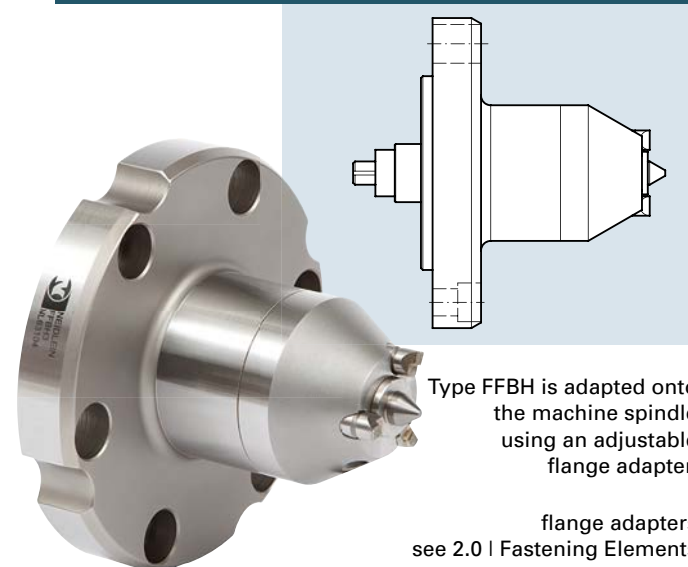
#### Type FFB with flange retainer



Type FFB is adapted onto the machine spindle using an adjustable flange adapter.

flange adapters  
see 2.0 | Fastening Elements

#### Type FFBH with flange retainer



Type FFBH is adapted onto the machine spindle using an adjustable flange adapter.

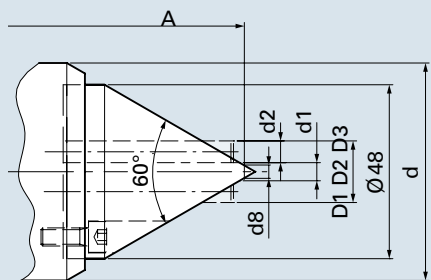
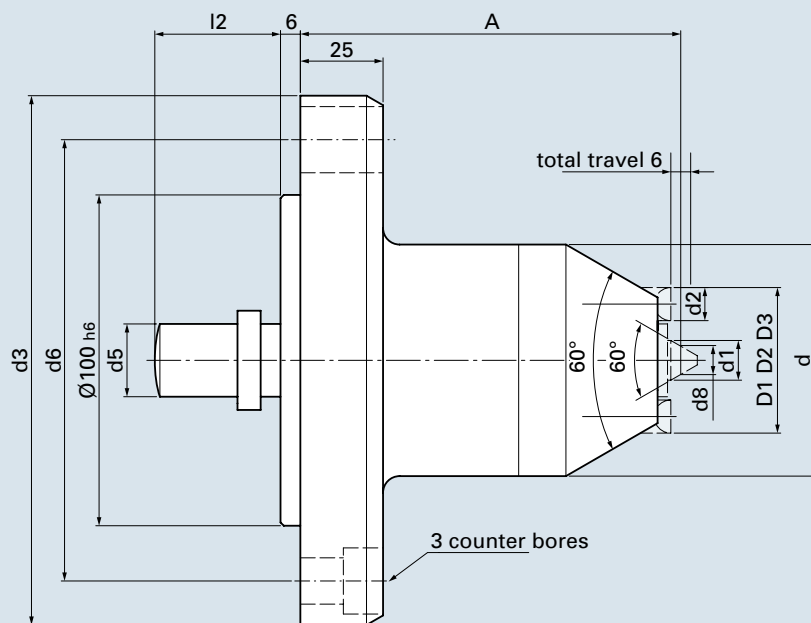
flange adapters  
see 2.0 | Fastening Elements

#### NEIDLEIN face drivers FFB/FFBH ensure:

- datum-point located in center of work piece
- maximum deviation from run-out 0.002 - 0.003mm
- adjustment true via adjustable flange adapter for highest run-out requirements
- compensating drive components/optimal clamping of work piece
- easy handling
- face driver type FFBH comprises a hydraulic unit which is exchangeable as a complete package



Specifications – type FFB face driver



type FFB 01/0

cat. no.	type	d	d1	center Ø	d2	d3	d5	d6	d8	A	l2	drive pins	clamping type	screws pieces	clamping diam.-Ø		
															D1	D2	D3
73101	FFB 01	60	5	1 - 5	6	160	18	133.4	3.5	115	38	3	M12	3	8	11	17
73112	FFB 0	60	3	1 - 3	8	160	18	133.4	3	115	38	3	M12	3	6	11	19
73111	FFB 11	42	7.8	2 - 6.5	6	160	12	133.4	4.25	115	38	3	M12	3	11	14	20
73102	FFB 1	48	9.8	4 - 8.5	8	160	18	133.4	6.25	115	38	3	M12	3	13	18	26
73103	FFB 2	70	10	4 - 9	10	160	22	133.4	6.5	115	38	3	M12	3	26	31	36
73104	FFB 3	70	12	6 - 11	10	160	22	133.4	8.5	115	38	3	M12	3	34	39	44
73113	FFB 35	80	10	4 - 9	15	160	22	133.4	6.5	115	38	3	M12	3	29	39	49
73105	FFB 4	90	16	10 - 15	15	160	25	133.4	12.5	115	38	5	M12	3	39	49	59
73106	FFB 45	100	16	10 - 15	15	160	25	133.4	12.5	115	54	5	M12	3	49	59	69
73107	FFB 5	132	16	10 - 15	20	160	25	133.4	12.5	115	54	5	M12	3	69	84	99
73108	FFB 55	182	16	10 - 15	20	220	40	171.4	12.5	155	54	5	M16	3	110	125	140
73109	FFB 6	220	16	10 - 15	20	250	40	210	12.5	171	54	5	M20	3	140	155	170

- All face drivers are supplied without drive pins. (Drive pins see page 10 - 11)
- Types FFB 01/0 are supplied with center body, all other types without center pin. (Center pin see page 9)
- The diameter d8 refers to the standard center pins (see page 9).
- Retaining elements for face drivers see brochure 2.0

A stable assembly on the machine spindle is implemented using an adjustable flange adapter. We supply these flange adapters for various sizes of spindle heads in standardized size (DIN 702-1) or for vendor-specific spindle heads in particular.

Thus face drivers of range FFB can be assembled universally on various machines.

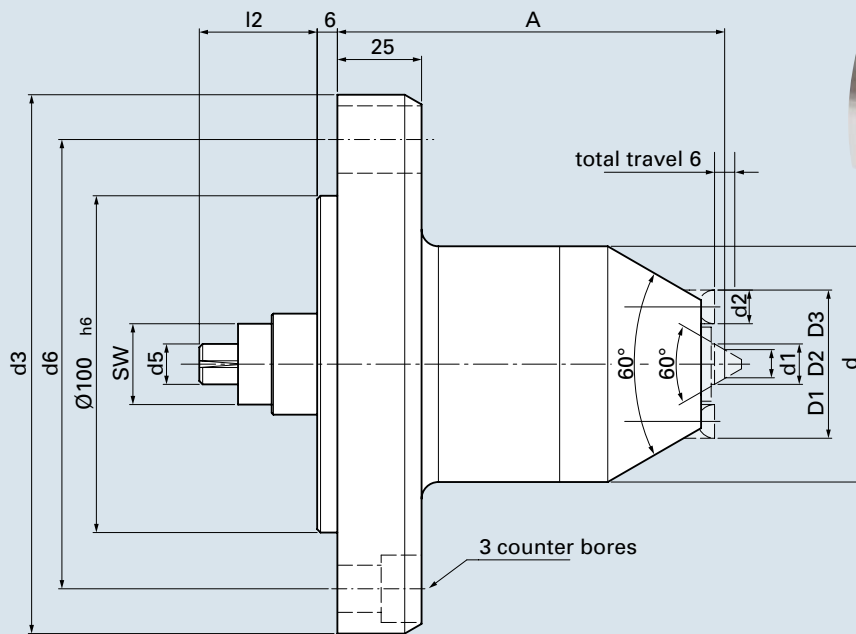
Driving components and center pin are easily exchanged from the front part of the machine.

As required, the face driver can be equipped with either drive pins comprising a chisel for machining soft work pieces, or with diamond coated drive pins for machining hardened work pieces.

Apart from the clamping diameters listed above D1, D2, D3, we can also provide alternative sizes upon request.

We are also able to manufacture larger center pins or mushroom centers for oversize centering.

## Specifications – type FFBH face driver

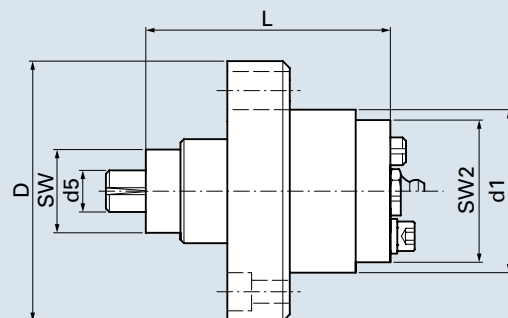


cat. no.	type	d	d1	center Ø	d2	d3	SW	d5	d6	d8	A	l2	drive pins	clamping screws		clamping diam.-Ø		
														type	pieces	D1	D2	D3
63102	FFBH 1	70	9.8	4 - 8.5	8	160	24	12	133.4	6.25	115	35	3	M12	3	13	18	26
63103	FFBH 2	70	10	4 - 9	10	160	24	12	133.4	6.5	115	35	3	M12	3	26	31	36
63104	FFBH 3	70	12	6 - 11	10	160	24	12	133.4	8.5	115	35	3	M12	3	34	39	44
63106	FFBH 4	90	16	10 - 15	15	160	34	12	133.4	12.5	132	35	5	M12	3	39	49	59
63107	FFBH 45	100	16	10 - 15	15	160	34	12	133.4	12.5	132	35	5	M12	3	49	59	69
63108	FFBH 5	132	16	10 - 15	20	160	34	12	133.4	12.5	149	35	5	M12	3	69	84	99

- All face drivers are supplied without drive pins and without center pins. (Changeable parts see page 9-11)
- The diameter d8 refers to the standard center pins (see page 9).
- Retaining elements for face drivers see brochure 2.0

cat. no.	type	SW	d5	L	d1	SW2	D
63102HE	FFBH 1	24	12	70.5	47	41	75
63102HE	FFBH 2	24	12	70.5	47	41	75
63102HE	FFBH 3	24	12	70.5	47	41	75
63106HE	FFBH 4	34	12	70.5	65	59	93
63106HE	FFBH 45	34	12	70.5	65	59	93
63108HE	FFBH 5	34	12	70.5	87	81	131

## Specifications – type FFBH hydraulic unit



General notes on face driver FFBH can be found on page 7 "specifications – type FFB".

In order to ensure a safe production process, we recommend exchanging the hydraulic unit after 1500 operating hours.

We can provide full rebuild and restoration to these units on our works.



## Center Pins/Center Heads FFB/FFBH

### for face drivers FFB/FFBH with dead center pin

Type FFB/FFBH tool steel or carbide metal

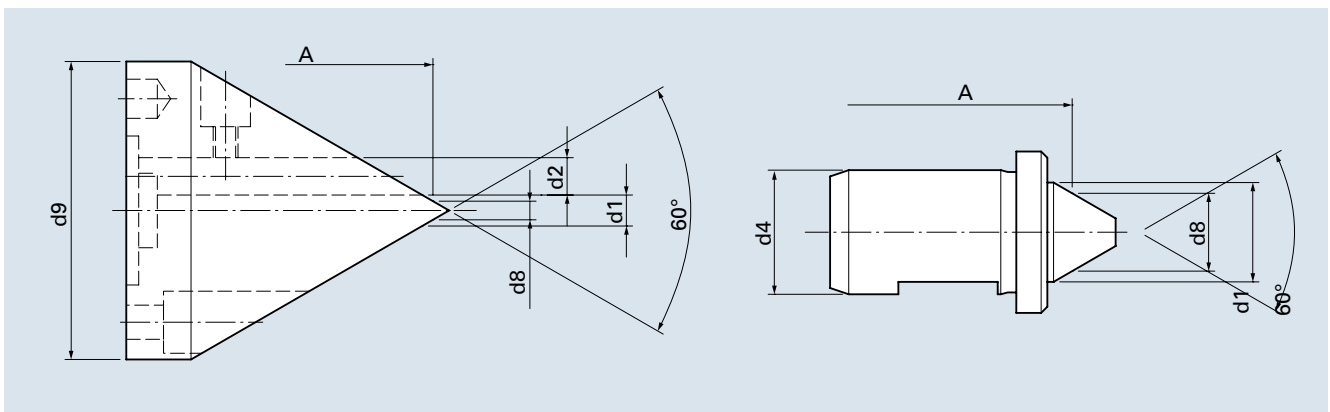
For **maximum stability and run-out requirements** the center pins are produced with narrow tolerances and are fixed safely via set screw and **flat** inside the face driver.

For a large batch of hardened work pieces we recommend the construction comprising **carbide insert**. Center heads of type 0/01 consist of 60°-taper tip that are carbide coated.

Due to the **accurate assembly** between center pin and head of face driver we ensure **replacements** which are of the highest accuracy.



fig. center pin with carbide insert



cat. no. tool-steel	cat. no. carbide	type	d1	d2	d4	for center Ø	d8
73401	73443	FFB 01	5	6	48	1 - 5	3.5
734101	73444	FFB 0	3	8	48	1 - 3	3
73411	73433	FFB 11	7.8	-	6	2 - 6.5	4.25
73402	73434	FFB 1	9.8	-	8	4 - 8.5	6.25
73403	73435	FFB 2	10	-	14	4 - 9	6.5
73404	73436	FFB 3	12	-	18	6 - 11	8.5
73412	73437	FFB 35	10	-	14	4 - 9	6.5
73405	73438	FFB 4	16	-	20	10 - 15	12.5
73406	73439	FFB 45	16	-	28	10 - 15	12.5
73407	73440	FFB 5	16	-	35	10 - 15	12.5
73408	73441	FFB 55	16	-	35	10 - 15	12.5
73409	73442	FFB 6	16	-	35	10 - 15	12.5

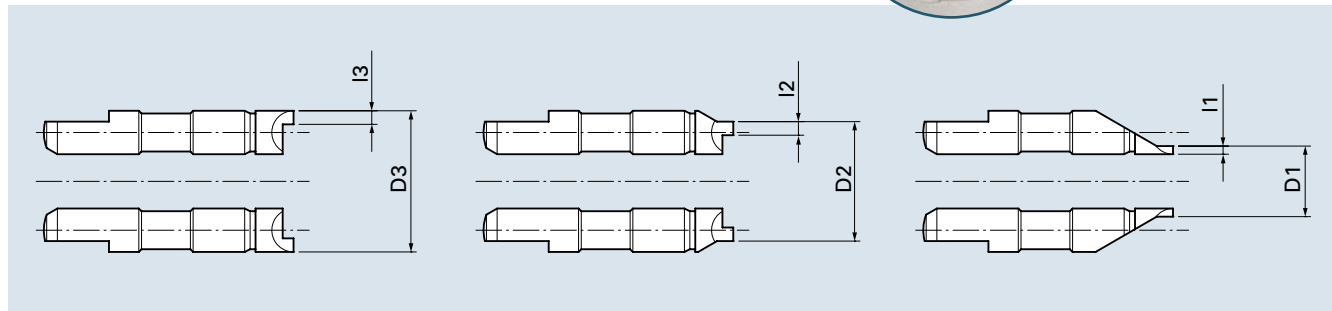
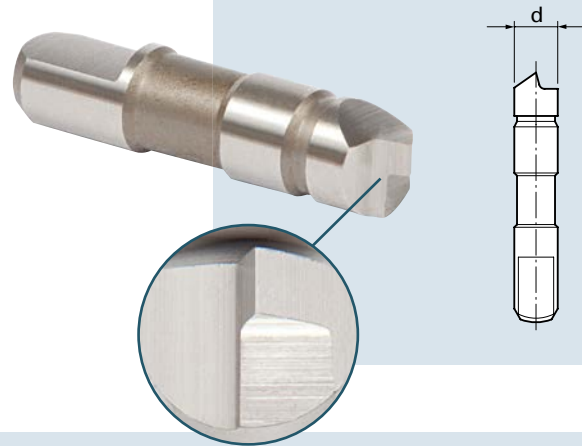
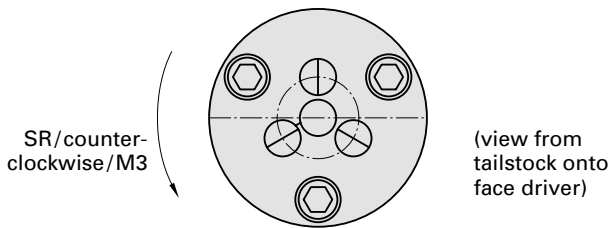
Further dimensions upon request.

# Drive Pins FFB/FFBH – chisel SR

Drive pins for torque transmission onto work piece when machining soft work pieces

Drive pins made of hardened HSS with **chisel** are used for **machining soft work pieces**. These are characterized by a high resistance to wear and tear and a maximum torque transmission.

## Type FFB/FFBH chisel SR



cat. no.	clamping diam.-Ø			chisel length			for type
	D1	D2	D3	l1	l2	l3	
<b>736600</b>	8			1.5			FFB 01 d=6
<b>736601</b>		11			2		
<b>736602</b>			17			2	
<b>736603</b>	6			1.5			FFB 0 d=8
<b>736604</b>		11			2		
<b>736605</b>			19			2	
<b>736606</b>	11			1.5			FFB 11 d=6
<b>736607</b>		14			2		
<b>736608</b>			20			2	
<b>736609</b>	13			1.5			FFB 1 d=8
<b>736610</b>		18			2		
<b>736611</b>			26			2	
<b>736612</b>	26			3			FFB 2 d=10
<b>736613</b>		31			3		
<b>736614</b>			36			3	
<b>736615</b>	34			3			FFB 3 d=10
<b>736616</b>		39			3		
<b>736617</b>			44			3	

cat. no.	clamping diam.-Ø			chisel length			for type
	D1	D2	D3	l1	l2	l3	
<b>736618</b>	29			3			FFB 35 d=15
<b>736619</b>		39			3		
<b>736620</b>			49			3	
<b>736621</b>	39			3			FFB 4 d=15
<b>736622</b>		49			3		
<b>736623</b>			59			3	
<b>736624</b>	49			3			FFB 45 d=15
<b>736625</b>		59			3		
<b>736626</b>			69			3	
<b>736627</b>	69			4			FFB 5 d=20
<b>736628</b>		84			4		
<b>736629</b>			99			4	
<b>736630</b>	110			4			FFB 55 d=20
<b>736631</b>		125			4		
<b>736632</b>			140			4	
<b>736633</b>	140			4			FFB 6 d=20
<b>736634</b>		155			4		
<b>736635</b>			170			4	

Further dimensions upon request.

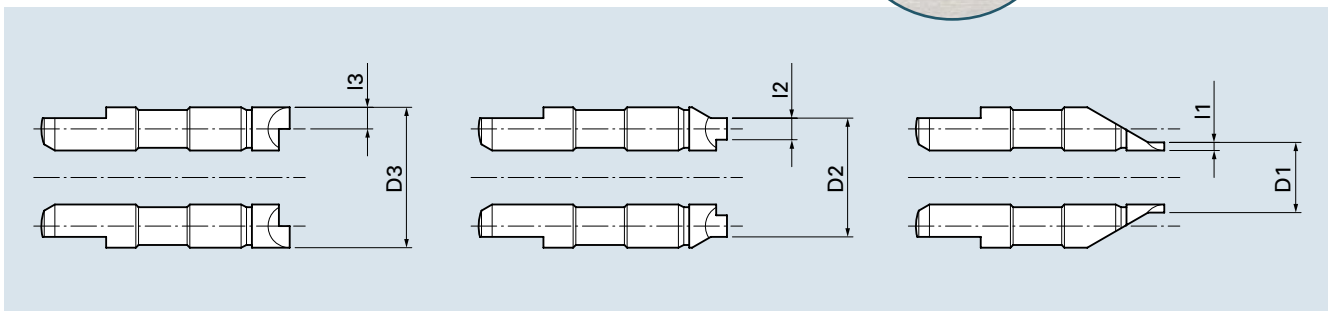
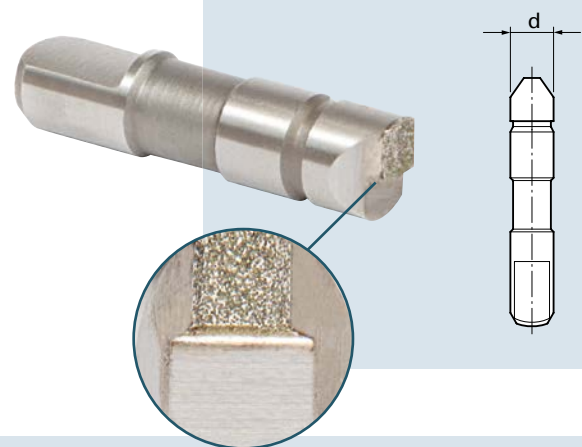


## Drive Pins FFB/ FFBH – Diamond

**Drive pins for torque transmission onto work piece when machining hardened work pieces**

**Diamond coated** drive pins are applied for grinding **hardened work pieces**. These are characterized by a high resistance to wear and tear, a maximum of torque transmission and by a high friction-coefficient.

Type SB / FSB / FFB / FFBH diamond



cat. no.	clamping diam.-∅			surface length			for type
	D1	D2	D3	l1	l2	l3	
<b>736300</b>	8			1.5			FFB 01 d=6
<b>736301</b>		11			3		
<b>736302</b>			17			3	
<b>736303</b>	6			1.5			FFB 0 d=8
<b>736304</b>		11			4		
<b>736305</b>			19			4	
<b>736306</b>	11			1.5			FFB 11 d=6
<b>736307</b>		14			3		
<b>736308</b>			20			3	
<b>736309</b>	13			1.5			FFB 1 d=8
<b>736310</b>		18			4		
<b>736311</b>			26			4	
<b>736312</b>	26			5			FFB 2 d=10
<b>736313</b>		31			5		
<b>736314</b>			36			5	
<b>736315</b>	34			5			FFB 3 d=10
<b>736316</b>		39			5		
<b>736317</b>			44			5	

cat. no.	clamping diam.-∅			surface length			for type
	D1	D2	D3	l1	l2	l3	
<b>736318</b>	29			5			FFB 35 d=15
<b>736319</b>		39			5		
<b>736320</b>			49			5	
<b>736321</b>	39			5			FFB 4 d=15
<b>736322</b>		49			5		
<b>736323</b>			59			5	
<b>736324</b>	49			5			FFB 45 d=15
<b>736325</b>		59			5		
<b>736326</b>			69			5	
<b>736327</b>	69			5			FFB 5 d=20
<b>736328</b>		84			7.5		
<b>736329</b>			99			7.5	
<b>736330</b>	110			5			FFB 55 d=20
<b>736331</b>		125			7.5		
<b>736332</b>			140			7.5	
<b>736333</b>	140			5			FFB 6 d=20
<b>736334</b>		155			7.5		
<b>736335</b>			170			7.5	

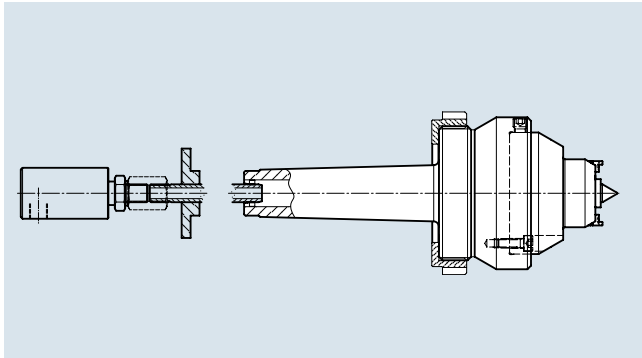


## Special Face Drivers for Grinding

### Clamping tools for clamping onto machine tools

#### Made to measure

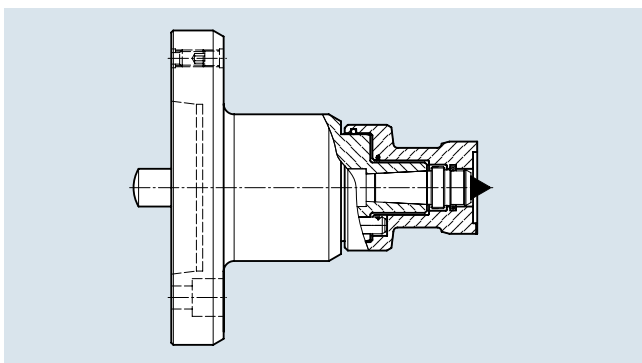
In order to meet the complex requirements of our customers and to cover the various spindle mounting options of machine tools, we develop and produce a variety of special face drivers for clamping work pieces.



Type FBSR-PN special 4532-00



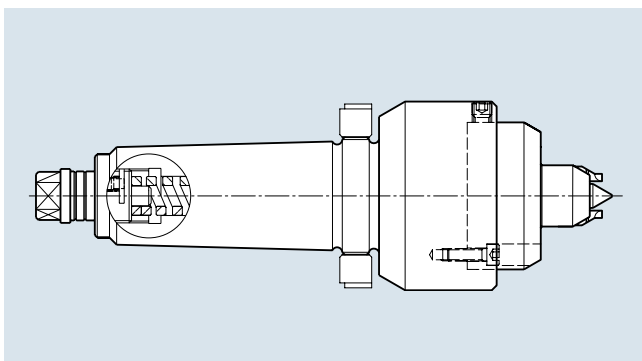
Similar to type FBSR but with **pneumatic power** operation of drive pins. A clamping cylinder therefore is not needed.



Type FFPR special 4462-00



In this case the torque transmission is ensured by using a diamond coated and retractable **drive disk**. The advantages are large frictional surfaces as well as a high degree of flexibility.



Type FBS special 4077-00



Face drivers with **spring loaded** drive pins and dead centers. A clamping cylinder is not needed. Work pieces have to be pre-centered using an auxiliary loading device.