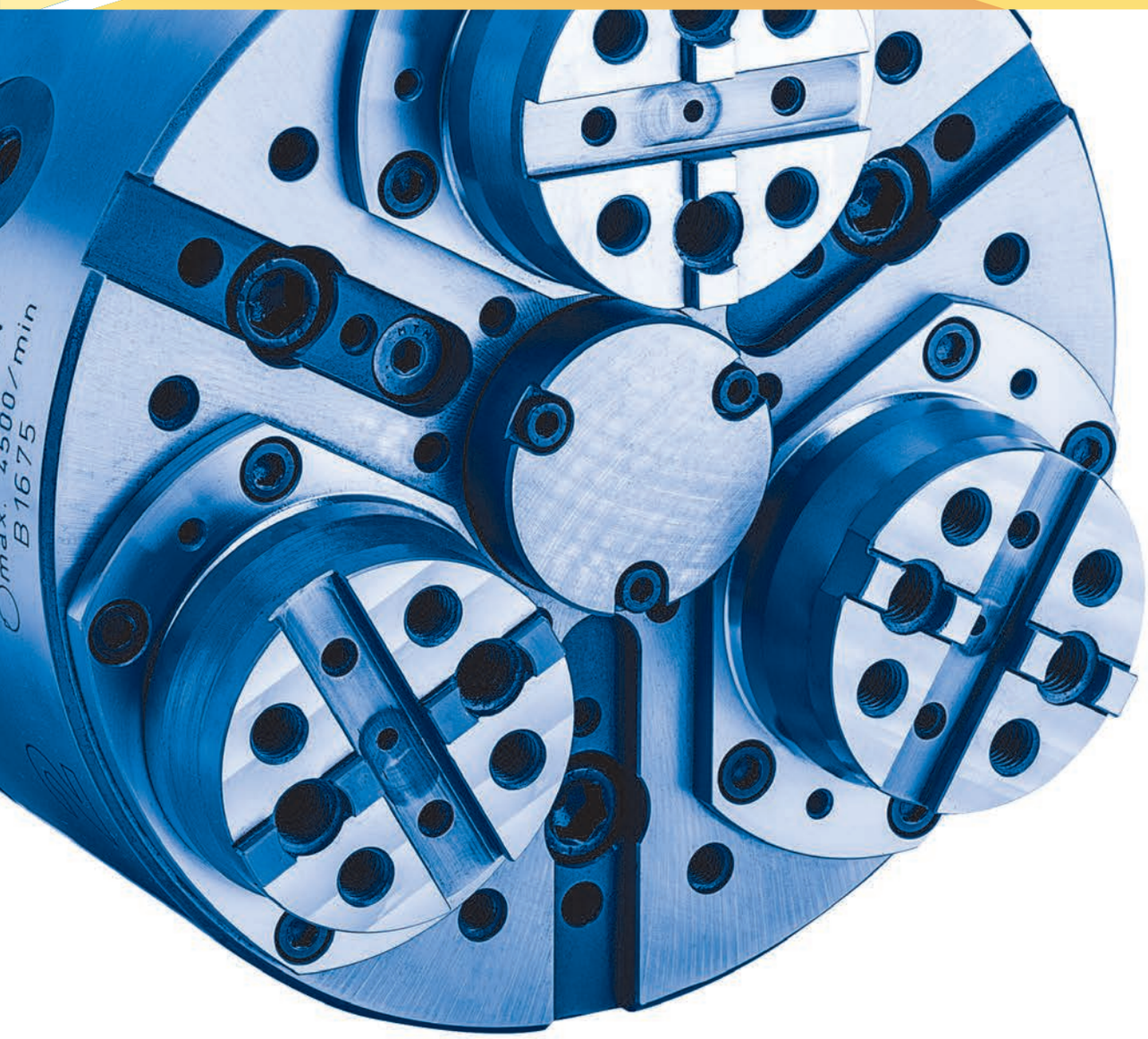


THE RIGHT CHUCK FOR EVERY APPLICATION

KBF-N draw-down power chuck

ZFM draw-down power chuck

KFD-AF compensating chuck

GF gripper chuck

The RÖHM application chucks are as versatile as the sectors where they are used. RÖHM application chucks are used successfully in the sectors of mechanical engineering, the automobile industry, for aerospace, as well as the energy sector to Micro Technology sector.

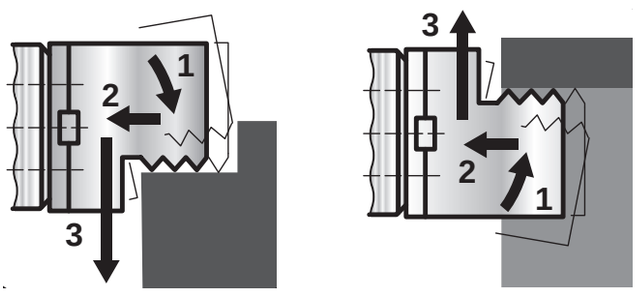
Video KBF-N draw-down power chuck

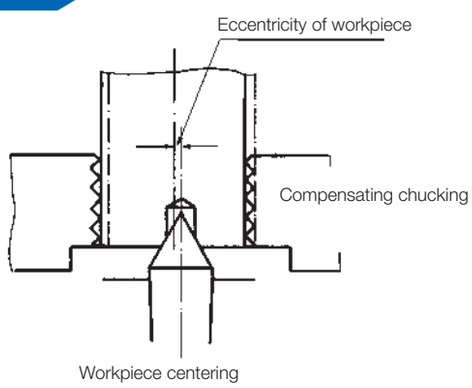
APPLICATION CHUCKS

RÖHM application chucks are specially developed for the requirements of the respective sector and their applications in order to ensure top quality, reliability and safety. The application chucks are used successfully in the sectors of mechanical engineering, the automobile industry, for aerospace, as well as the energy sector to Micro Technology sector.

ADVANTAGES AT A GLANCE

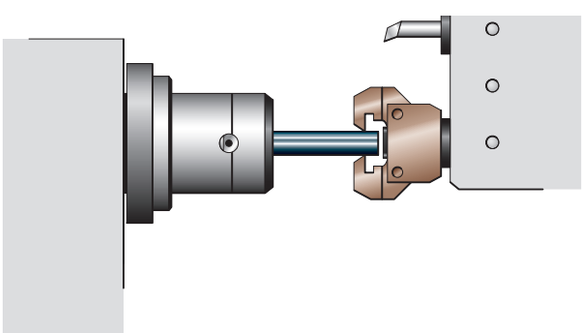
- Safe and precise clamping of complex and individual workpieces
- Adaptation of the clamping solution to the individual application
- Proven RÖHM quality for maximum reliability





Functionality of the draw-down power chucks (KBF-N and ZFM):
The workpiece is automatically drawn down onto a rigid plane face when it is clamped. In the process, the workpiece is moved and fixed by clamping jaws during the clamping-operation, before the clamping force is built up again in this axially defined position. Depending on the functional principle of the clamping chuck, internal and external clamping or external clamping only can be realized.

Functionality of the compensating chuck (KFD-AF):
The workpiece is taken up in the center point which is mounted in an insert, and clamped by centrically compensating jaws. Compensation is realized by the radially floating, chucking piston. By simply exchanging the center insert, the chuck can be very quickly retrofit to centric clamping.



Functionality of gripper chucks (GF):
To clamp, the gripper chuck is usually moved against the clamped-in material with the tool holder of the machine. In the process, the jaws are forced outward via their approach angle until the workpiece diameter is reached and they grab the workpiece in the cylindrical area. The clamping force is generated by a floating disc spring package acting on the jaws. The round material is now released in the clamping chuck and pulled into the intended position by the gripper chuck. Now the workpiece is clamped again and the gripper chuck simply pulled off by the workpiece. The jaws are automatically pressed inward into their original position by the disc spring package. The interchangeable take-up shaft meets DIN 69880.

Power-operated ball lock draw-down chuck

KBF-N - maximum plane-parallelism

APPLICATION

For clamping tasks for internal and external clamping where the axial run-out errors of the workpiece have to be minimized.

TYPE

Power chuck with draw-down and ball lock principle available with cylindrical centre mount or short taper mount.

CUSTOMER BENEFITS

- Maximum plane-parallelism thanks to active draw-down by the jaws
- Maximum productivity thanks to long maintenance intervals - hermetically sealed against dirt and cooling water
- Consistent workpiece quality thanks to constant clamping force due to oil filling
- Suitable for high speeds (speed-dependent centrifugal influences are minimized by similar mass distribution to the right and left of the ball lock)

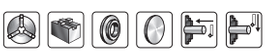
TECHNICAL FEATURES

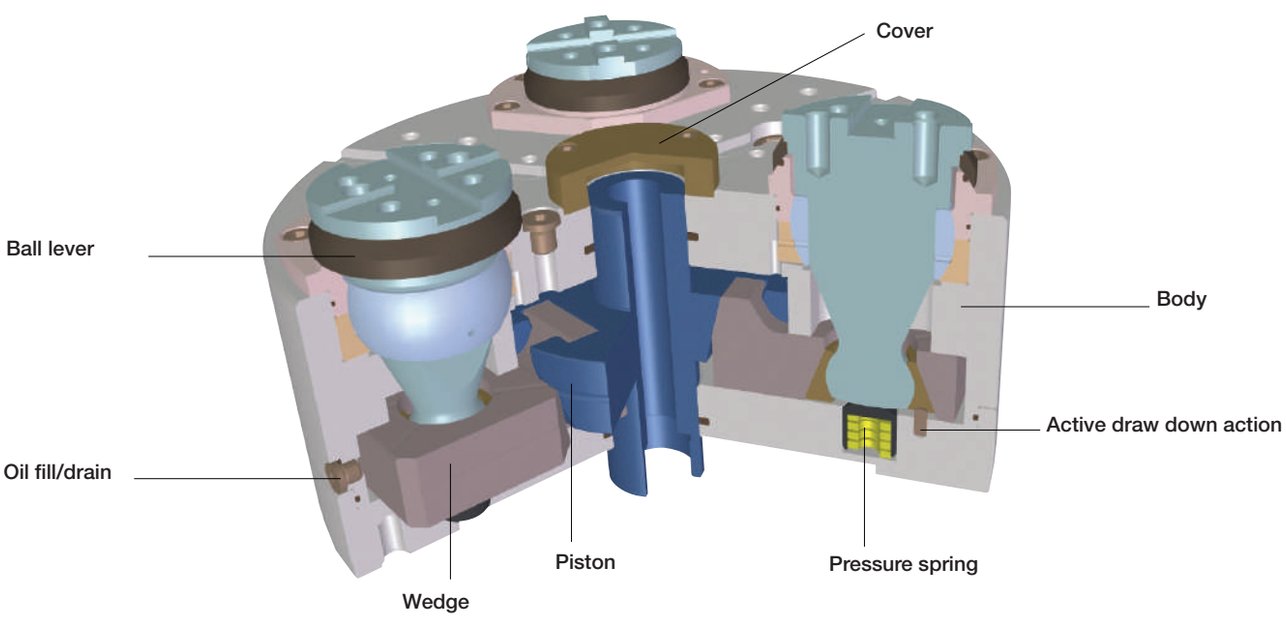
- Ball lock principle with wedge hook system
- With fixed jaws (pendulum jaws on request)

Note:
Alternatively with swinging ball lock for clamping rough, easily deformable workpieces at six clamping points on request

Included in scope of delivery:
Chuck, chuck mounting screws (without top jaws)

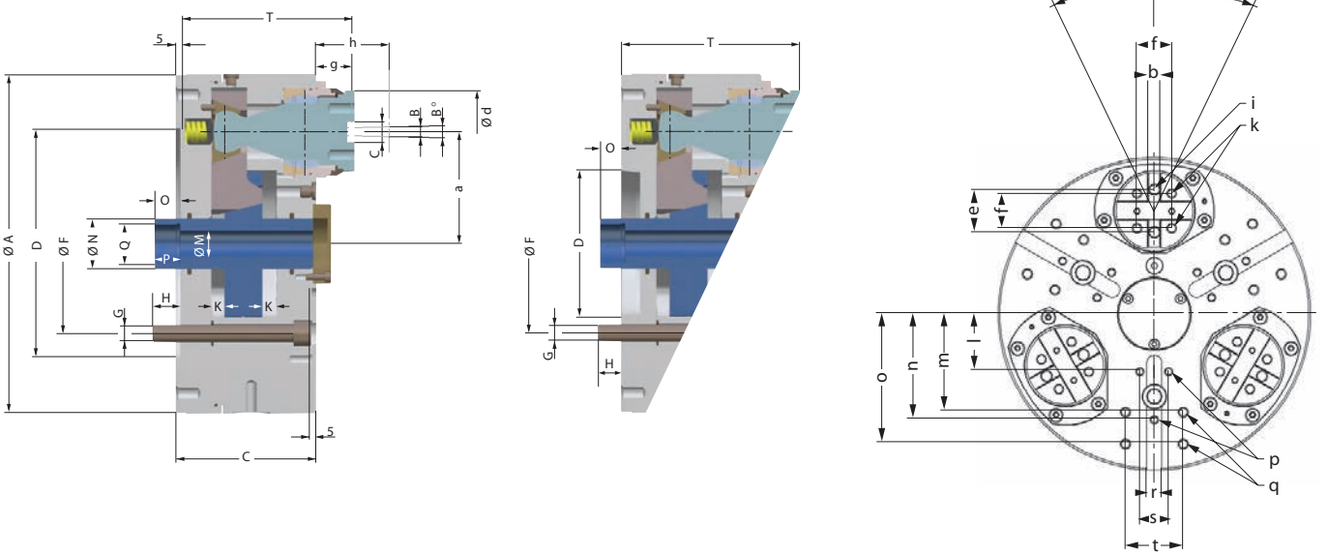
KBF-N = ball lock, chuck, draw-down





Power-operated ball lock draw-down chuck

KBF-N - maximum plane-parallelism

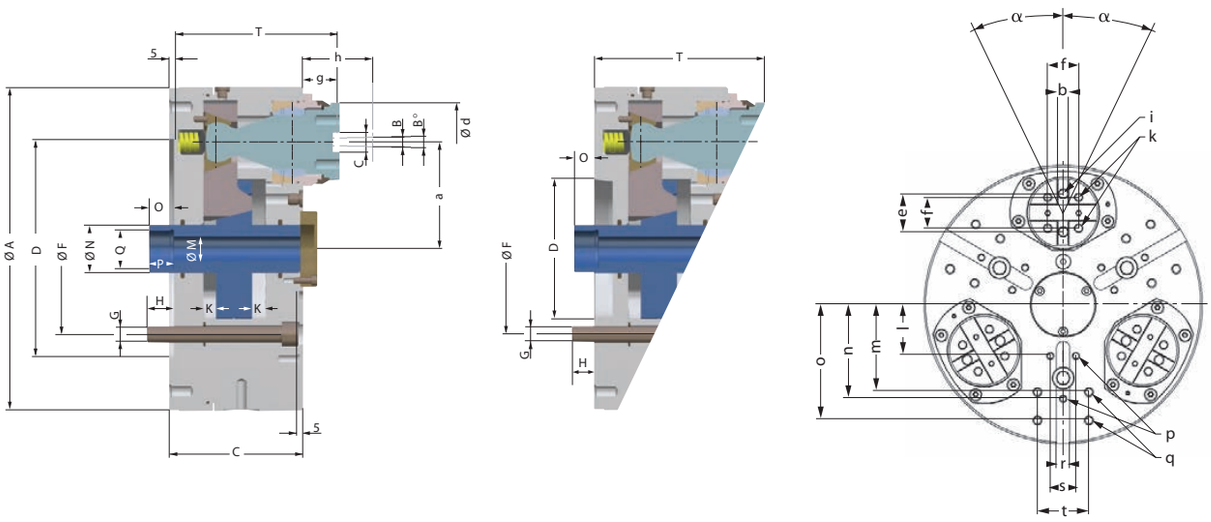


C 15
Power-operated ball lock draw-down chuck **KBF-N** with **fixed jaws** for **internal and external clamping,** with pull down effect, **hermetically sealed, oil filled, centrical clamping**
Cylindrical centre mount **DIN 6353**

Item No.	168355▲	165635▲	165637▲	165639▲	168056▲
Size	170	200	250	315	400
Jaw design	Fixed jaws	Fixed jaws	Fixed jaws	Fixed jaws	Fixed jaws
A mm	178	210	260	325	400
Jaw travel B mm	5,4	5,9	6,3	6,4	7,5
B°	5,2°	4,9°	4,4°	4,5°	4,7°
C mm	94	111	135	135	148
D	ZA 140	ZA 170	ZA 220	ZA 220	ZA 300
F mm	104,8	133,4	171,4	171,4	235
G	3 x M10	3xM12	3xM16	3xM16	3 x M20
H mm	15	17	22	22	30
Total wedge stroke K+K mm	21	25	25	25	30
M mm	14	14	18	25	52
N^{g6} mm	30	36	38	48	75
O min.	12,5	12,5	12,5	12,5	10
O max.	33,5	37,5	37,5	37,5	40
P mm	20	18	20	25	25
Q mm	M22 x 1,5	M28x1,5	M32x1,5	M38x1,5	M60 x 1,5
T mm	116	139	163	163	180
a mm	55	64	82	107	130
bh8 mm	7,94	7,94	12,7	12,7	12,7
cH7 mm	12,68	12,68	19,03	19,03	19,03
d mm	60	65	75	80	105
e mm	32	38	44,4	44,4	63,5
f mm	24	32	36	36	48
g mm	27	33	33	33	37
Reference height h mm	50	60	70	70	80
i	M10	M12	M12	M12	M16
k	M8	M10	M10	M10	M12
l mm	-	30	50	60	80
m mm	65	80	102	102	140
n mm	68	50	65	110	144
o mm	-	-	-	135	170
p	M6	M6	M8	M8	M10
q	M8	M8	M10	M10	M12
r mm	16	16	16	16	20
s mm	-	25	30	30	36
t mm	36	45	60	60	80
Pull-down travel mm	0,3	0,3	0,3	0,3	0,3
Max. admissible speed min^{-1}	5000	4500	3800	3000	2200
Maximum draw bar pull kN	18	30	40	45	50
Max. total clamping force kN	44	73	93	105	120
Weight approx. kg	18	30	55	80	130
Actuating cylinders (recommended)	**OVS-85**	**OVS-105**	**OVS-130**	**OVS-130**	**OVS-150**

Power-operated ball lock draw-down chuck

KBF-N - maximum plane-parallelism



C 15
Power-operated ball lock draw-down chuck **KBF-N** with **fixed jaws** for **internal and external clamping, hermetically sealed, oil filled, centrical clamping**
Short taper mount for **ISO 702-1** (DIN 55026/55021)

Item No.	**168356 ▲**	**165636 ▲**	**165638 ▲**	**165640 ▲**	**168057 ▲**
Size	170	200	250	315	400
Jaw design	Fixed jaws	Fixed jaws	Fixed jaws	Fixed jaws	Fixed jaws
A mm	178	210	260	325	400
Jaw travel B mm	5,4	5,9	6,3	6,4	7,5
B°	5,2°	4,9°	4,4°	4,5°	4,7°
C mm	94	111	135	135	148
D	KK 5	KK 6	KK 8	KK 8	KK 11
F mm	104,8	133,4	171,4	171,4	235
G	3 x M10	3xM12	3xM16	3xM16	3 x M20
H mm	15	17	22	22	30
Total wedge stroke K+K mm	21	25	25	25	30
M mm	14	14	18	25	52
N^{js6} mm	30	36	38	48	75
O min.	7,5	7,5	7,5	7,5	5
O max.	28,5	32,5	32,5	32,5	35
P mm	20	18	20	25	25
Q mm	M22 x 1,5	M28x1,5	M32x1,5	M38x1,5	M60 x 1,5
T mm	121	144	168	168	185
a mm	55	64	82	107	130
bh8 mm	7,94	7,94	12,7	12,7	12,7
cH7 mm	12,68	12,68	19,03	19,03	19,03
d mm	60	65	75	80	105
e mm	32	38	44,4	44,4	63,5
f mm	24	32	36	36	48
g mm	27	33	33	33	37
Reference height h mm	50	60	70	70	80
i	M10	M12	M12	M12	M16
k	M8	M10	M10	M10	M12
l mm	-	30	50	60	80
m mm	65	80	102	102	140
n mm	68	50	65	110	144
o mm	-	-	-	135	170
p	M6	M6	M8	M8	M10
q	M8	M8	M10	M10	M12
r mm	16	16	16	16	20
s mm	-	25	30	30	36
t mm	36	45	60	60	80
Pull-down travel mm	0,3	0,3	0,3	0,3	0,3
Max. admissible speed min^{-1}	5000	4500	3800	3000	2200
Maximum draw bar pull kN	18	30	40	45	50
Max. total clamping force kN	44	73	93	105	120
Weight approx. kg	18	30	55	80	130
Actuating cylinders (recommended)	**OVS-85**	**OVS-105**	**OVS-130**	**OVS-130**	**OVS-150**

Power-operated ball lock draw-down chuck

Jaws KBF-N

C 21
Soft top jaws, 3-jaw set tongue and groove, material: 16MnCr5

Item no.	Chuck Size	Jaw length mm	Jaw height mm	Jaw width mm
168383▲	170	70	26,5	60
165694	200	80	31,5	65
165696▲	250/315	90	41,5	75
168385▲	400	125	46,5	105

Workpiece-specific top jaws can be placed on the tongue and groove interface of the ball bolts.

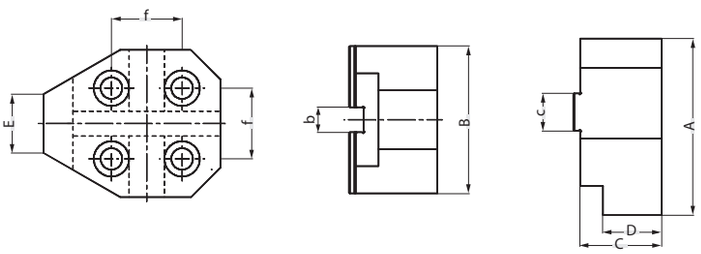
For exact clamping, soft top jaws are preferably used. They are to be turned out to the desired clamping diameter under clamping force. If these top jaws are still to be hardened, the chuck must be ground out afterward.

For raw-part clamping, hardened clamping inserts can be worked into the soft top jaws at the corresponding clamping diameter.

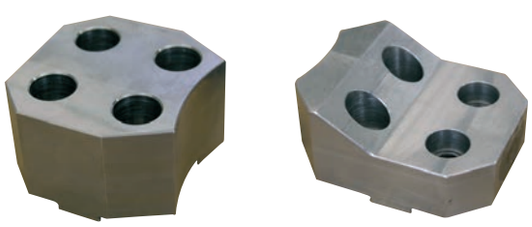
On request, special top jaws specific to the workpiece can also be delivered.

Soft top jaws for KBF-N

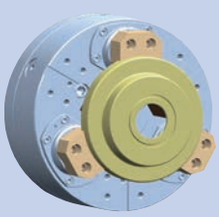
Chuck size	170	200	250	315	400
A	70	80	90	90	125
B	60	65	75	75	105
C	26,5	31,5	41,5	41,5	46,5
D	20	20	30	30	30
E	25	30	30	30	40
b H7	7,94	7,94	12,7	12,7	12,7
c h6	12,68	12,68	19,03	19,03	19,03
f	24	32	36	36	48



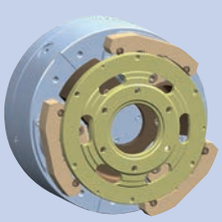
Examples for machined clamping jaws



Examples for applications:



Fixed jaws:
For exact clamping of flange-like workpieces, e.g. wheel hubs, spur gears, etc.



Optionally with pendulum jaws:
For clamping deformation-sensitive raw parts, e.g. coupling pressure plates or sprockets

Power-operated draw bar chuck with pull-down

ZFM - with pull-down

APPLICATION

Simple clamping principle for external clamping of bars, pipes and shafts, as well as flange-type workpieces where the axial run-out errors of the workpiece have to be minimized.

TYPE

Collet pin system with cylindrical centre mount.

CUSTOMER BENEFITS

- Maximum plane-parallelism thanks to active draw-down using axially movable draw rod studs
- Easy adaptation to various workpiece diameters thanks to interchangeable clamping inserts
- Insensitive clamping system thanks to simple setup, allows machining at maximum speeds

TECHNICAL FEATURES

- Power transmission directly from the piston to the draw rod studs
- Clamping inserts hardened, adapted to the workpiece diameter

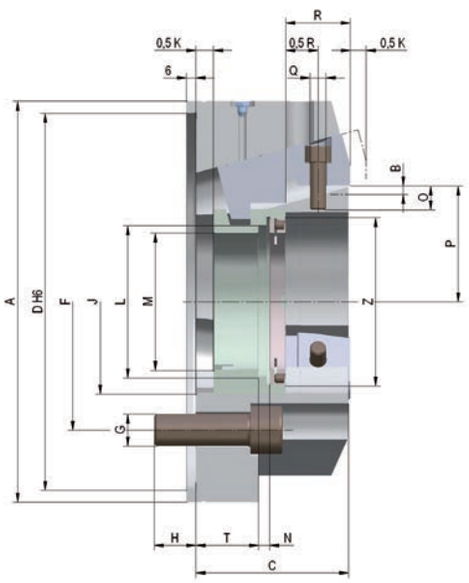
Included in the scope of delivery:
Chuck, chuck and jaw mounting screws, mounting wrench (without top jaws)

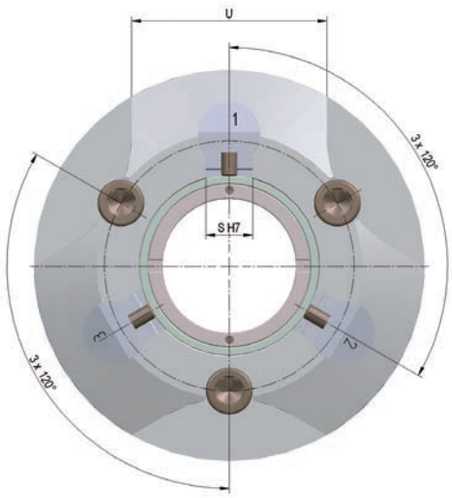
Special designs:

E.g. power operated draw bar chuck ZFM, diameter 220 mm, with clamping inserts with chip flow grooves and threads, for work stops for clamping of aluminum flanges.

Power-operated draw bar chuck with pull-down

ZFM - with pull-down





C 15
Power-operated draw bar chuck **ZFM, with gripping inserts, cylindrical centre mount**

Item No.	201980▲	201981▲	201982▲	201983▲
Size	160	200	250	315
A mm	160	200	250	315
Jaw travel B mm	5,3	5,3	5,3	5,3
C mm	75	82	95	105
D^{h6} mm	145	185	235	235
F mm	100	140	160	200
G	3 x M 12	3 x M 16	3 x M 20	3 x M 20
H mm	18	20	26	26
J mm	71	95	115	160
Wedge stroke K mm	20	20	20	20
L mm	52	72	95	136
M mm	45,5	65,5	85,5	125,5
N mm	7	7	7	7
O mm	12	15	15	15
P max.	48,15	64,65	74,65	101,65
P min.	42,85	59,35	69,35	96,35
Q mm	M 8	M 10	M 10	M 12
R mm	30	35	40	45
SH7 mm	24	30	30	35
T max.	40	40	48	53
T min.	20	20	28	33
U mm	60	85	125	125
Z	M 62 x 1,25	M 85 x 1,25	M 105 x 1,25	M 150 x 1,25
Maximum draw bar pull kN	25	35	45	50
Max. total clamping force approx. kN	46	66	84	90
Max. admissible speed min^{-1}	8000	6300	5500	4200
Moment of inertia J kgm^2	0,026	0,072	0,183	0,508
Weight without jaw inserts approx. kg	7,5	13	21	35
Chucking capacity mm	0-40	4-70	24-80	30-130
Actuating cylinders (recommended)	**OVS-85/105**	**OVS-105**	**OVS-130**	**OVS-150**

C 21
Clamping Jaws, 3-jaw-set, prefabricated, can be hardened material: 16MnCr5

Chuck Size	3-jaw set	Jaw length mm	Jaw height mm	Jaw width mm
160	**210007▲**	42,7	30	24
200	**210008▲**	51,7	35	30
250	**210009▲**	61,7	45	30
315	**210010▲**	85,7	45	35

Power-operated compensating chuck

KFD-AF - compensating jaws

APPLICATION

Centric or compensating clamping chuck with which the workpiece is centered either via a center or via the jaws.

TYPE

Compensating clamping power chuck with cylindrical centre mount or short taper mount.
3-jaw version with serration 90°.

CUSTOMER BENEFITS

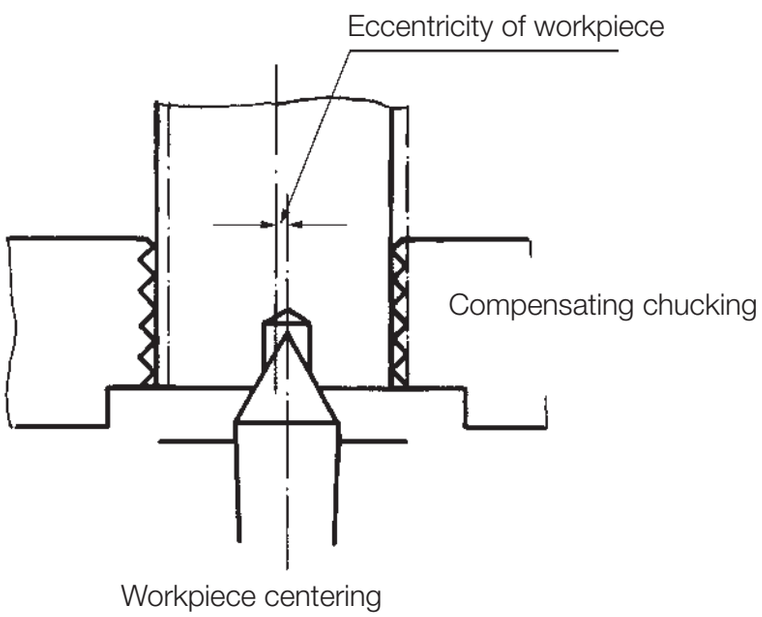
- Flexible use thanks to retrofitting to centric clamping using center inserts
- Low-maintenance thanks to special sealing against dirt and cooling water

TECHNICAL FEATURES

- Proven wedge hook system
- Compensation is realized by the radially floating chucking piston
- Piston lubrication at centric clamping
- Base jaw lubrication

Note:
When ordering, please specify power chuck, center insert and mounting flange

Included in the scope of delivery:
Chuck, chuck and jaw mounting screws, slot nuts (without top jaws)



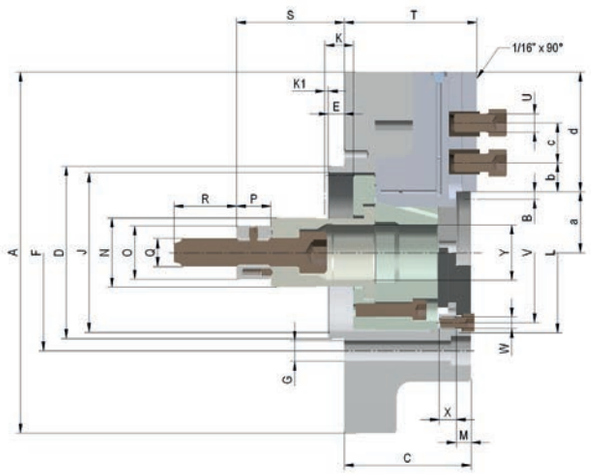
Functionality of the compensating chuck (KFD-AF):
The workpiece is taken up in the center point which is mounted in an insert, and clamped by centrically compensating jaws. Compensation is realized by the radially floating chucking piston. By simply exchanging the center insert, the chuck can be very quickly retrofit to centric clamping.

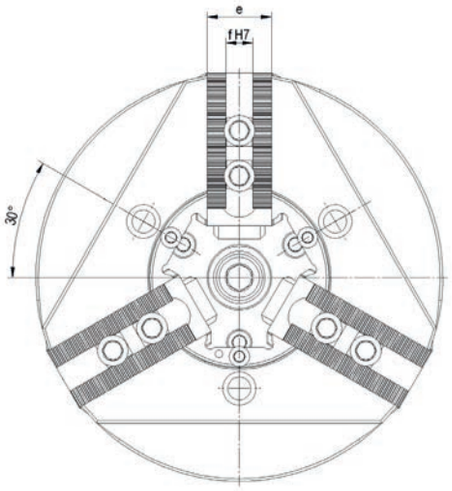
Interchangeable centering inserts:
- with spring-loaded center
- with solid center
- for self-centering chucking (no compensation)

Interchangeable mounting adapters:
- with cylindrical mount
- with short taper recess
- with option for radial fine adjustment, upon request

Power-operated compensating chuck

KFD-AF - compensating jaws





C 15
3-jaw compensation chucks **KFD-AF,** with **serration 90°,** center insert and chuck mount interchangeable

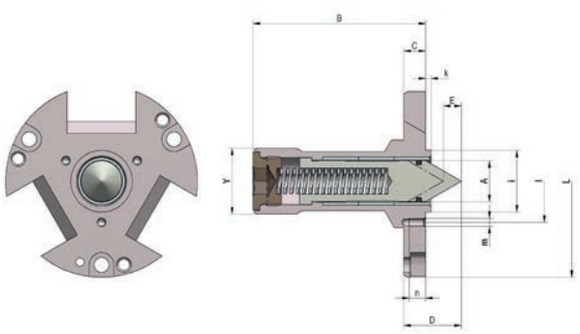
Item No.	**144620**	**144621**	**144622**	**144623**
Size	160	200	250	315
A mm	160	200	250	315
Jaw travel B mm	4,8	5,6	6,7	6,7
C mm	78	85	93	111
D^{h6} mm	90	115	135	150
E mm	14	14	14	14
F mm	104,8	133,4	171,4	171,4
G mm	3 x ø 12	3 x ø 14	3 x ø 18	3 x ø 18
J mm	82	103	122	139
Wedge stroke K mm	18	21	25	25
K_1 mm	2	2	3	3
L^{H6} mm	90	95	120	140
M mm	10	11	13	13
N^{g6} mm	38	42	50	60
O mm	34	40	46	46
P mm	25	30	30	30
Q mm	M16	M20	M24	M24
R mm	40	45	55	55
S min.	56	75	94	94
S max.	74	96	119	119
T mm	82	90	98	116
U	M12	M12	M16	M16
V mm	72	80	102	102
W mm	3 x M8	3 x M8	3 x M10	3 x M10
X mm	12	15	15	15
Y^{H6} mm	32	32	38	48
a min.	27,2	34,4	40,3	46,3
a max.	32	40	47	53
b min.	8	8	10	10
c min.	19	19	25	25
c max.	37	49	64	90
d mm	48	60	78	104,5
e mm	35	40	50	50
f^{f7} mm	17	17	21	21
Maximum draw bar pull kN	25	36	50	65
Max. total clamping force approx. kN	50	72	110	150
Max. admissible speed min^{-1}	3500	3200	3000	2300
Compensation on Ø mm	3	3	4	4
Moment of inertia J kgm^2	0,04	0,1	0,218	0,744
Weight without jaws approx. kg	13	20	28	60
Actuating cylinders (recommended)	**OVS-85/105**	**OVS-105**	**OVS-130**	**OVS-150**

Note: When ordering, specify power chuck, center insert and mounting flange
The diameter N^{g6} must be guided in the spindle

Power-operated compensating chuck

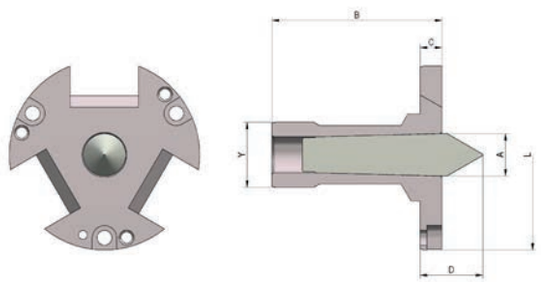
Accessories KFD-AF

C 15
Centering insert with **spring-loaded centre**



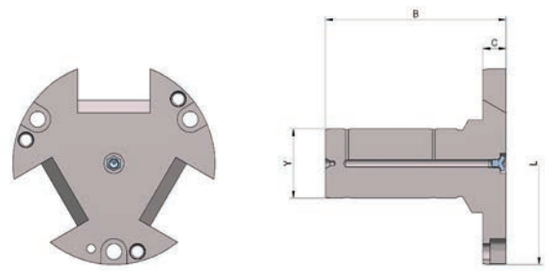
Item no.	Size	A mm	B mm	C mm	D mm	E mm	Lj6 mm	i- 0,05 mm	k mm	Yg6 mm	l mm	m	n mm
144624▲	160	17,5	90	13	~30	6	90	30	4	32	40	M 5	8
144625▲	200	20,5	91	14	~33	8	95	30	4	32	40	M 5	10
144626▲	250	25,5	109	16	~38	10	120	40	4	38	50	M 5	10
144627▲	315	30,5	125	16	~42	13	140	45	4	48	60	M 6	12

C 15
Centering insert with **fixed centre**



Item no.	Size	A mm	B mm	C mm	D mm	Lj6 mm	Yg6 mm
144628▲	160	~18	90	13	~33	90	32
144629▲	200	~18	91	14	~33	95	32
144630▲	250	~24	109	16	~38	120	38
144631▲	315	~32	125	16	~46	140	48

C 15
Centering insert for **centric clamping**



Item no.	Size	B mm	C mm	Lj6 mm	Yg6 mm
144632▲	160	90	13	90	32
144633▲	200	91	14	95	32
144634	250	109	16	120	38
144635▲	315	125	16	140	48

C 21
Reversible top jaws, 3-jaw set, hardened serration 90° - material: 16MnCr5

Item no.	Chuck Size	Jaw length mm	Jaw height mm	Jaw width mm	Serration
046408	160/200	68	45	34,7	1/16"x 90°
118522	160/200	75	49	36	1/16"x 90°
046414	250/315	103,5	58	50	1/16"x 90°

Additionally or later applied, hardened jaws must be ground out in the chuck.

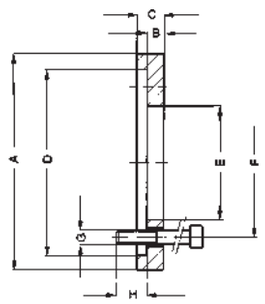
C 21
Soft top jaws, 3-jaw set, can be hardened serration 90° - material: 16MnCr5

Item no.	Chuck Size	Jaw length mm	Jaw height mm	Jaw width mm	Serration
133152	160	66,7	53	36,5	1/16"x 90°
133153	200	75	53	36,5	1/16"x 90°
133154	250	95	54,5	45	1/16"x 90°
133155	315	103	80	50	1/16"x 90°

Further suitable jaws you can find at the KFD power chuck.

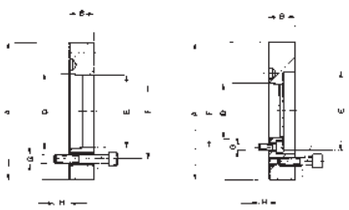
Accessories KFD-AF

C 15
Adaptor plates with cylindrical centre mount to **DIN 6353 complete** with mounting screws

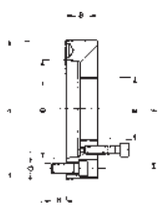


Item no.	Size	A mm	B mm	C mm	D^{h6} mm	EH6 mm	F mm	G	H mm
144636▲	160	160	16	22	140	90	104,8	3 x M 10	14
144637▲	200	200	16	22	170	115	133,4	3 x M 12	16
144638▲	250	250	17	23	220	135	171,4	3 x M 16	24
144639▲	315	280	17	23	220	150	171,4	3 x M 16	24

C 15
Adaptor plates with short taper mount **ISO 702-1 (DIN 55026/55021) complete** with mounting studs



Design I Design II



Design III

Item no.	Size	Design	A mm	B mm	D mm	EH6 mm	F mm	G	H mm
144643	160/5	I	135	29	KK 5	90	104,8	3 x M10	15
144646▲	160/6	III	165	30	KK 6	90	133,4	3 x M12	18
144649	200/5	II	165	33	KK 5	115	104,8	3 x M10	14
144652	200/6	I	165	30	KK 6	115	133,4	3 x M12	18
144655	250/6	II	210	36	KK 6	135	133,4	3 x M12	18
144658	250/8	I	210	33	KK 8	135	171,4	3 x M16	24
144661	315/8	I	210	34	KK 8	150	171,4	3 x M16	25
144664▲	315/11	III	280	46	KK 11	150	235	3 x M20	30