

# KFD-HE



## APPLICATION

Standard power chuck with through-hole for bar and tube machining, as well as for flange-type workpieces.

## TYPE

Standard version with cylindrical center mount.

3-jaw version with serration (90° and 60°).

Universal draw tube adapter at serration (60°).

## CUSTOMER BENEFITS

- ③ Large through-hole for hollow or partially hollow clamping
- ③ Long-tested chuck principle for maximum service life

## TECHNICAL FEATURES

- Power transmission by means of wedge hook principle
- Direct lubrication of all wear surfaces
- Sturdy chuck construction

## Gripping force/speed diagram

The loss of gripping force was determined experimentally on a chuck with matched UB top jaws. It is largely independent of the initial gripping force at zero speed.

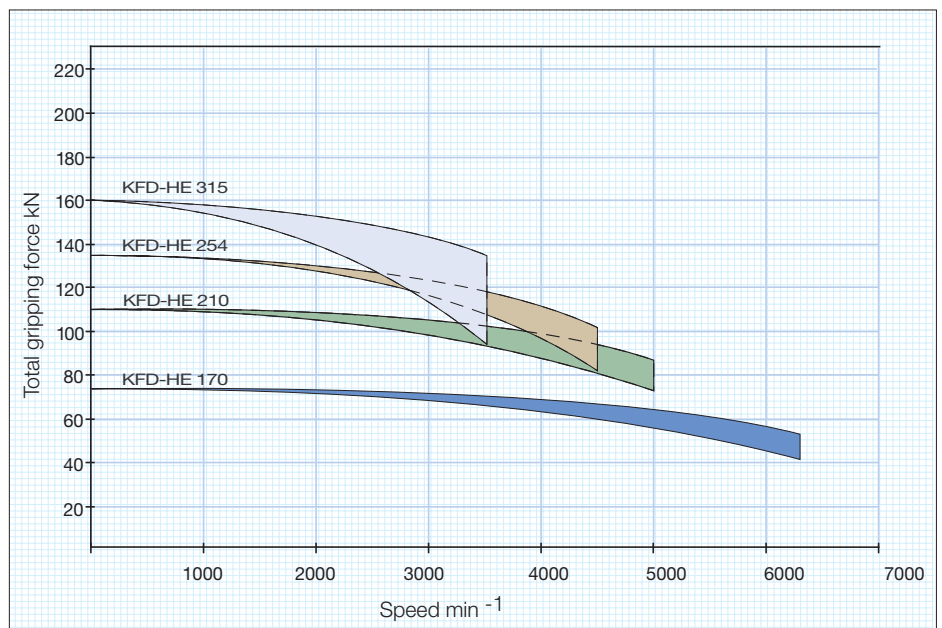
Upper curve:  
min. centrifugal  
force of top jaw



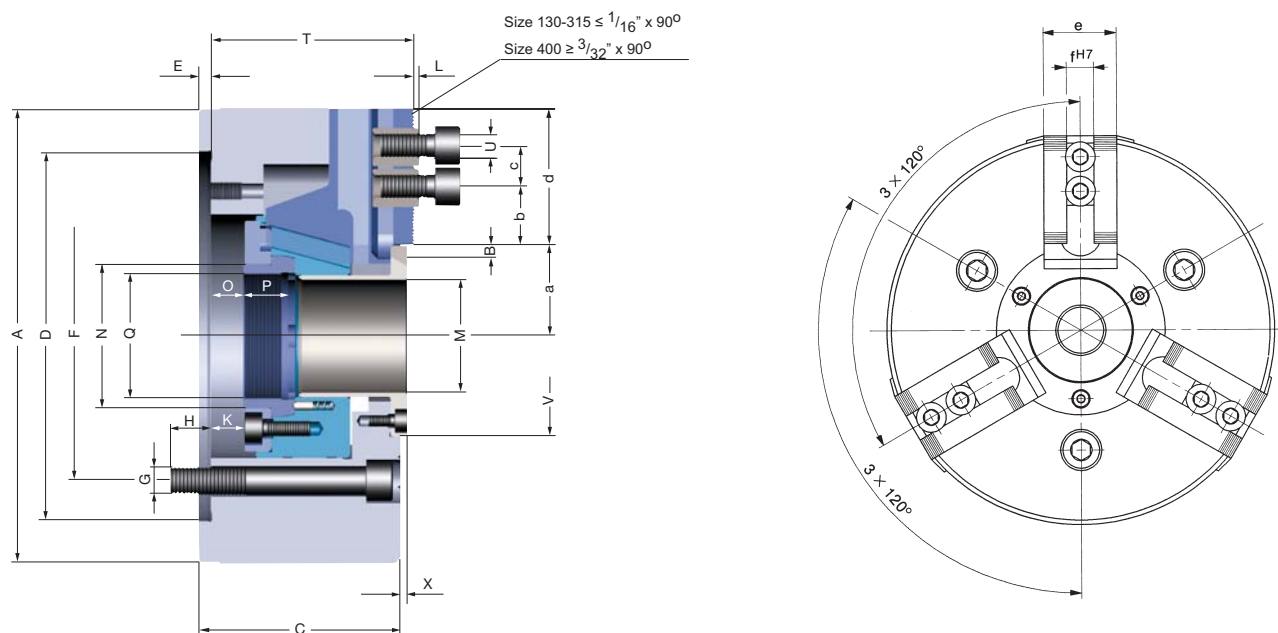
Lower curve:  
max. centrifugal  
force of top jaw



To obtain the specified gripping forces, the chuck must be in a perfect condition and lubricated with F 80 lubricant recommended by RÖHM. Measuring point near chuck face.



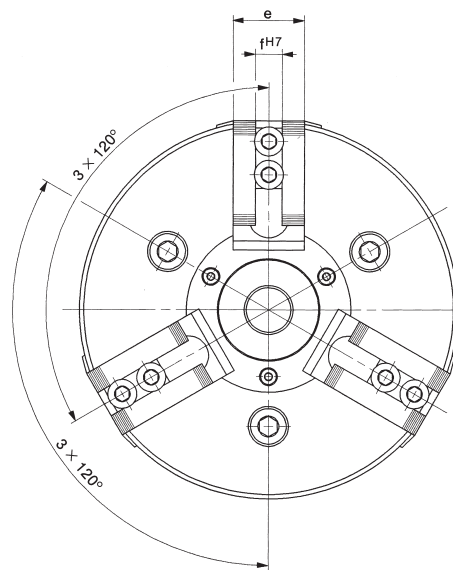
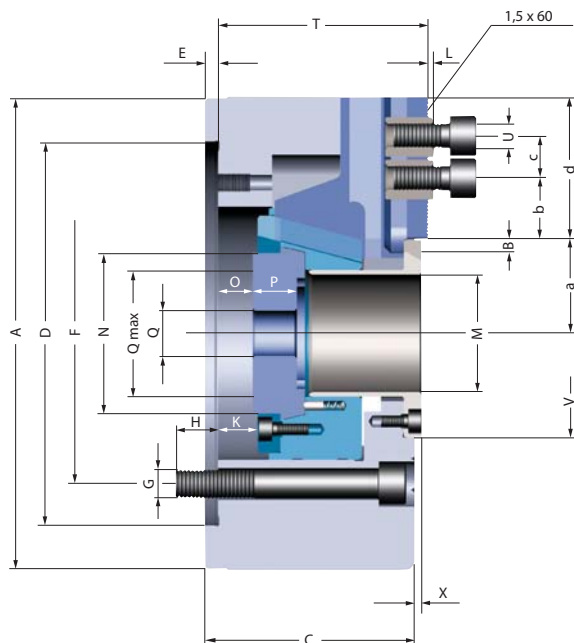
# KFD-HE 3-jaw, standard design, serration 90°



C 15  
3-jaw power chuck KFD-HE, serration 90°, Adaptor recess, mounting dimensions to DIN 6353

Item no.	154384	154031	154032	154829
Size	170	210	254	315
number of jaws	3	3	3	3
A mm	170	210	254	315
Jaw travel B mm	3,2	4,3	5,1	5,3
C mm	82	93	101	114
DH6 mm	140	170	220	300
E mm	6	6	6	6
F mm	104,8	133,4	171,4	235
G mm	3 x M 10	3 x M 12	3 x M 16	3 x M 20
H mm	15	19	23	28
Wedge stroke K mm	14	16	19	23
L mm	2,5	2,5	2,5	2,5
Through-hole M mm	43	52	75	121
N mm	57	66	94	143
O min.	-2,6	-0,7	-10,3	-9,4
O max.	11,4	15,3	8,7	13,6
P mm	19	20,5	28	26
Q mm	M 52 x 1,5	M 58 x 1,5	M 82 x 1,5	M 126 x 1,5
T mm	82	93	101	114
U mm	M 8	M 12	M 16	M 16
VH7-0,05 mm	74	92	125	170
X mm	3	3	3	3
a min.	34,8	37,7	50,9	72,2
a max.	38	42	56	77,5
b min.	7,5	9	10	12
c min.	2 x 15	19	25	25
c max.	-	47	59	69
d mm	47	63	71	80
e mm	32	40	50	50
fH7-0,025 mm	12	17	21	21
Max. swing top jaws mm	230	290	345	410
Maximum draw bar pull kN	25	40	60	60
Max. total clamping force approx. kN	75	110	135	160
Max. admissible speed min-1	6300	5000	4500	3500
Moment of inertia J kgm2	0,038	0,09	0,22	0,8
Weight without jaws approx. kg	12	18	29	50
Actuating cylinders (recommended)	OVS-105 / SZS-46/103	OVS-130 / SZS-52/130	OVS-150 / SZS-77/170	OVS-200 / SZS-127/325

# KFD-HE 3-jaw, universal draw tube connector, serration 60°



C 15

3-jaw power chuck KFD-HE, serration 60°, with pre-machined draw tube-connector, Adaptor recess, mounting dimensions to DIN 6353

Item no.	154390	154391	154392	154830
Size	170	210	254	315
number of jaws	3	3	3	3
A mm	170	210	254	315
Jaw travel B mm	3,4	4,3	5,1	5,3
C mm	82	93	101	114
DH6 mm	140	170	220	300
E mm	6	6	6	6
F mm	104,8	133,4	171,4	235
G mm	3 x M 10	3 x M 12	3 x M 16	3 x M 20
H mm	15	19	23	28
Wedge stroke K mm	14	16	19	23
L mm	3,2	3,2	3,2	3,2
Through-hole M mm	43	52	75	121
N mm	57	66	94	143
O min.	-2,6	-0,7	-10,3	-9,4
O max.	11,4	15,3	8,7	13,6
P mm	19	20,5	28	26
Q mm	Ø 20	Ø 30	Ø 45	Ø 60
Q max.	M 53 x 1,5	M 60 x 2	M 85 x 2	M 130 x 2
T mm	82	93	101	114
U mm	M 10	M 12	M 12	M 16
VH7-0,05 mm	74	92	125	170
X mm	3	3	3	3
a min.	34,8	37,7	50,9	72,7
a max.	38	42	56	77,5
b min.	4,5	9	8	12
c min.	20	25	30	30
d mm	47	63	71	80
e mm	32	40	50	50
fH7-0,025 mm	12	14	16	21
Max. swing top jaws mm	230	290	345	410
Maximum draw bar pull kN	25	40	60	60
Max. total clamping force approx. kN	75	110	135	160
Max. admissible speed min-1	6300	5000	4500	3500
Moment of inertia J kgm2	0,038	0,9	0,22	0,8
Weight without jaws approx. kg	12	18	29	50
Actuating cylinders (recommended)	OVS-105 / SZS-46/103	OVS-130 / SZS-52/130	OVS-150 / SZS-77/170	OVS-200 / SZS-127/325

Interchangeable with Kitagawa B-200A

# Jaws KFD-HE

C 21

Reversible top jaws, 3-jaw set, hardened serration 90° - material: 16 MnCr 5



Chuck Size	3-jaw set	Jaw length mm	Jaw height mm	Jaw width mm	Serration
170	<b>046404</b>	56	37,5	26	1/16"x 90°
210	<b>118522</b>	75	49	36	1/16"x 90°
254/315	<b>046414</b>	103,5	58	50	1/16"x 90°

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

C 21

Reversible top jaws, 3-jaw set, hardened serration 60° - material: 16 MnCr 5



Chuck Size	3-jaw set	Jaw length mm	Jaw height mm	Jaw width mm	Serration
170	<b>154674<sup>1)</sup></b>	66	36	34,7	1,5 x 60°
210	<b>154676</b>	81	49	36	1,5 x 60°
254	<b>154678</b>	99,5	54	44,5	1,5 x 60°
315	<b>154816<sup>1)</sup></b>	103	55,5	50	1,5 x 60°

<sup>1)</sup> one step only

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: 16 MnCr 5



Chuck Size	3-jaw set	Jaw length mm	Jaw height mm	Jaw width mm	Serration
170	<b>046403</b>	55	38	26,5	1/16"x 90°
210	<b>133153</b>	75	53	36,5	1/16"x 90°
254/315	<b>133154</b>	95	54,5	45	1/16"x 90°

C 21

Soft top jaws, 3-jaw set, can be hardened serration 60° - material: 16 MnCr 5



Chuck Size	3-jaw set	Jaw length mm	Jaw height mm	Jaw width mm	Serration
170	<b>154865</b>	72	43	30,5	1,5 x 60°
210	<b>154867</b>	95	45,5	35	1,5 x 60°
254	<b>154869</b>	110	45	50	1,5 x 60°
315	<b>154871</b>	130	55,5	50	1,5 x 60°

# Jaws KFD-HE

C 21

**Claw-type jaws, 1 piece, hardened serration 60° - width of the groove 12**


Item no.	Chuck Size	Jaw length mm	Jaw height mm	Claw length mm	Serration
156025	170	67	45	53	1,5 x 60°
156027	170	65	45	46	1,5 x 60°
156029	170	55	45	40	1,5 x 60°
161189	170	55	45	24	1,5 x 60°

C 21

**Claw-type jaws, 1 piece, hardened serration 60° - width of the groove 16**


Item no.	Chuck Size	Jaw length mm	Jaw height mm	Claw length mm	Serration
156099	254	95	50	80	1,5 x 60°
156101	254	75	50	60	1,5 x 60°
156103	254	60	50	43	1,5 x 60°
156105	254	70	50	37	1,5 x 60°

C 21

**Claw-type jaws, 1 piece, hardened serration 90° - width of the groove 17**


Item no.	Chuck Size	Jaw length mm	Jaw height mm	Claw length mm	Serration
137031	210	67	45	53	1/16"x 90°
137032	210	65	45	46	1/16"x 90°
137039	210	55	45	40	1/16"x 90°
137034	210	50	45	31	1/16"x 90°
137035	210	55	45	27	1/16"x 90°
137036	210	65	45	19	1/16"x 90°
137037	210	65	45	26	1/16"x 90°
137038	210	55	45	24	1/16"x 90°
137033	210	55	45	39	1/16"x 90°

C 21

**Claw-type jaws, 1 piece, hardened serration 90° - width of the groove 21**

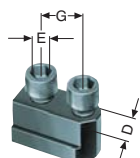

Item no.	Chuck Size	Jaw length mm	Jaw height mm	Claw length mm	Serration
137041	254/315	95	50	80	1/16"x 90°
137042	254/315	75	50	60	1/16"x 90°
137043	254/315	60	50	43	1/16"x 90°
137044	254/315	70	50	37	1/16"x 90°
137045	254/315	95	50	25	1/16"x 90°
137046	254/315	80	50	30	1/16"x 90°

# Accessories KFD-HE

C 15

## T-nuts

with screw, for SV 1/16" x 90°



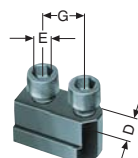
Item no.	Chuck Size	Con- tents of delivery	D mm	E	G mm
1305166	170	piece	12	M8x20	2x15
1305172 <sup>1)</sup>	210	Piece	17	M12x25	-
1305169	254/315	piece	21	M16x30	25

<sup>1)</sup> Simple slot nut

C 15

## T-nuts

with screw, for SV 1,5" x 60°



Item no.	Chuck Size	Con- tents of delivery	D mm	E	G mm
1028192	170	piece	12	M10x25	20
1028193	210	piece	14	M12x30	25
1028194	254	piece	16	M12x30	30
1028196	315	piece	21	M16x40	30

C15

## Special grease F80 for lathe chucks

for lubrication and conservation of clamping force



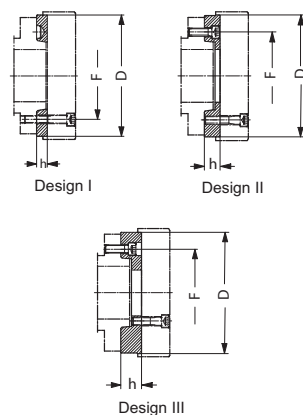
Item no.	Design	Contents
308555	Cartridge	0,5 kg
028975	Tin	1 kg

# Accessories KFD-HE

C 15

## Intermediate adaptor plates with cylindrical centre mount DIN 6353 for 3-jaw chucks

Mounting from front to ISO 702-1 (DIN 55026/55021) and ASA B 5.9 A1/A2 with metric mounting bolts



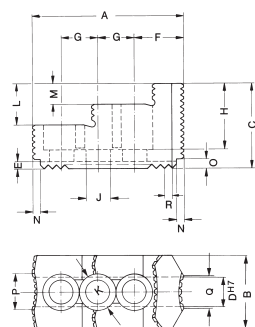
Item no.	Spindle nose size	Size	Design	h mm	F mm	D mm
145125 <sup>1)</sup>	4	170	II	18	82,6	140
145153	5	170	I	15	104,8	140
145127	5	210	II	21	104,8	170
145129	6	170	III	35	133,4	140
145155	6	210	I	16	133,4	170
145131	6	254	II	27	133,4	220
145135	8	210	III	39	171,4	170
145157	8	254	I	18	171,4	220
145139	8	315	II	38	171,4	300
145143	11	254	III	48	235	220
145159	11	315	I	19	235	300

All fastening parts are included

<sup>1)</sup> DIN 55021 auf Anfrage

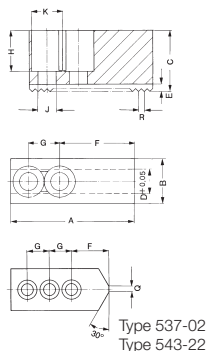
# Jaw dimensions KFD-HE

**Reversible top jaws UB,**  
hardened, serration 90°,  
material 16MnCr5



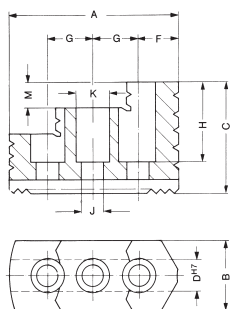
Chuck size	170	210	254/315
Type	537-02	538-04	538-05
Item no. 3-jaw	<b>046404</b>	<b>118522</b>	<b>046414</b>
A	56	75	103,5
B	26	36	50
C	37,5	49	58
D <sup>H7</sup>	12	17	21
E	3,5	5	5
F	14	21,5	33,5
G	15	19	25
H	29	37,5	45
J	8,4	13	17
K	13,5	19	25
L	20	24	28
M	10	12	14
N	4	6	6
O	4	7,5	6,5
P	5	18	24,5
Q	5	7	22,5
R	1/16"x90°	1/16"x90°	1/16"x90°
Weight/jaw kg	0,130	0,460	1,130

**Soft top jaws AB,**  
serration 90°,  
material 16MnCr5



Chuck size	170	210	254/315
Type	538-02	538-04	538-05
Item no. 3-jaw	<b>046403</b>	<b>133153</b>	<b>133154</b>
A	55	75	95
B	26,5	36,5	45
C	38	53	54,5
D	12	17	21
E	3,5	5	5
F	31	44	55
G	15	19	25
H	28	43	42,5
J	8,4	13	17
K	13,5	19	25
Q	-	-	-
R	1/16"x90°	1/16"x90°	1/16"x90°
Weight/jaw kg	0,320	0,880	1,400

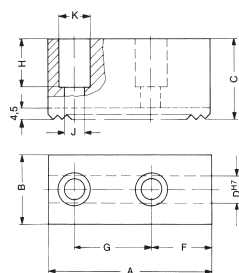
**Reversible top jaws UB,**  
serration 60°,  
material 16MnCr5



Chuck size	170	210	254	315
Type	543-31	543-31	543-31	543-31
Item no. 3-jaw	<b>154674 1)</b>	<b>154676</b>	<b>154678</b>	<b>154816 1)</b>
A	66	81	99,5	103
B	34,7	36	44,5	50
C	36	49	54	55,5
D	12	14	16	21
F	12,5	17,5	25,5	22,5
G	20	25	30	30
H	23	36,5	38,5	34
J	11	13	13	17
K	17	19	19	25
Serration	1,5 x 60°	1,5 x 60°	1,5 x 60°	1,5 x 60°
Weight/jaw kg	0,3	0,6	1,2	1,5

1) Nur eine Spannstufe

**Soft top jaws AB,**  
serration 60°,  
material 16MnCr5

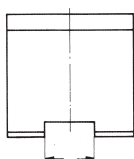
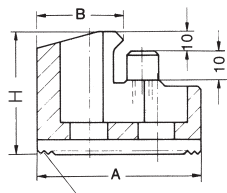


Chuck size	170	210	254	315
Type	543-32	543-32	543-32	543-32
Item no. 3-jaw	<b>154865</b>	<b>154867</b>	<b>154869</b>	<b>154871</b>
A	72	95	110	130
B	32,5	35	50	50
C	40	45,5	45	55,5
D	12	14	16	21
F	37	46	50	52
G	20	25	30	30
H	27	33	29	34
J	11	13	13	17
K	17	19	19	25
Serration	1,5 x 60°	1,5 x 60°	1,5 x 60°	1,5 x 60°
Weight/jaw kg	0,5	0,9	1,7	1,9

# Chuckling capacities KFD-HE

## Claw-type jaws KB

Serration 90°,  
Type 544-50



Piece	A	B	KFD-HE 170 1,5 x 60° External chucking
Item no.			
156025	67	53	39-83
156027	65	46	52-98
156029	55	40	78-124
161189	55	24	110-155
Piece	A	B	KFD-HE 170 1,5 x 60° Internal chucking
Item no.			
161189	55	24	92-135
156029	55	40	125-168
159027	65	46	150-190

Piece	A	B	KFD-HE 210 1/16x90° External chucking
Item no.			
137031	67	53	60-96
137032	65	46	73-111
137039	55	40	88-127
137034	50	31	105-142
137035	55	27	119-157
Piece	A	B	KFD-HE 210 1/16x90° Internal chucking
Item no.			
137036	65	19	72-110
137037	65	26	90-125
137038	55	24	104-144
137035	55	27	124-156
137034	50	31	136-163
137039	55	40	144-175
137033	55	39	154-205
137032	65	46	168-218

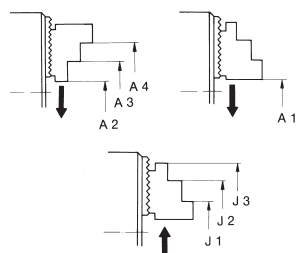
Piece	A	B	KFD-HE 254 1,5 x 60° External chucking
Item no.			
156099	95	80	60-102
156101	75	60	99-140
156103	60	43	132-174
156105	70	37	163-205
Piece	A	B	KFD-HE 254 1,5 x 60° Internal chucking
Item no.			
156101	75	60	222-275
156103	60	43	188-250
156105	70	37	158-198

Piece	A	B	KFD-HE 254 1/16x90° External chucking	KFD-HE 315 1/16x90° External chucking
Item no.				
137041	95	80	53-95	66-160
137042	75	60	92-133	105-198
137043	60	43	125-167	138-232
137044	70	37	156-198	169-263
Piece	A	B	KFD-HE 254 1/16x90° Internal chucking	KFD-HE 315 1/16x90° Internal chucking
Item no.				
137045	95	25	68-112	81-177
137046	80	30	108-154	121-219
137044	70	37	146-186	159-240
137043	60	43	178-240	191-305
137042	75	60	212-265	225-330



# Chucking capacities KFD-HE

Chucking capacities with reversible top jaws UB



Chuck size		170	210	254	315
with reversible jaws 1/16" x 90°	Type	538-02	538-04	538-05	538-05
	Jaw position				
External chucking	A1	20-83	19-108	25-134	57-189
	A2	-	36-128	48-162	50-217
	A3	80-150	94-182	130-226	134-297
	A4	120-192	145-234	210-272	212-332
Internal chucking	J1	63-130	78-156	80-190	70-233
	J2	102-173	128-209	156-261	146-313
	J3	154-210	181-263	246-338	236-393

Chuck size		170	210	254	315
with reversible jaws 1,5 x 60°	Type	543-31	543-31	543-31	543-31
	Jaw position				
External chucking	A1	17-100	19-111	25-130	28-190
	A2	-	-	-	-
	A3	97-174	82-170	124-219	-
	A4	-	133-224	170-265	170-317
Internal chucking	J1	74-154	63-160	84-197	116-271
	J2	-	112-213	129-244	-
	J3	-	170-273	211-328	-