

Available for various angles

ANGULAR HEAD



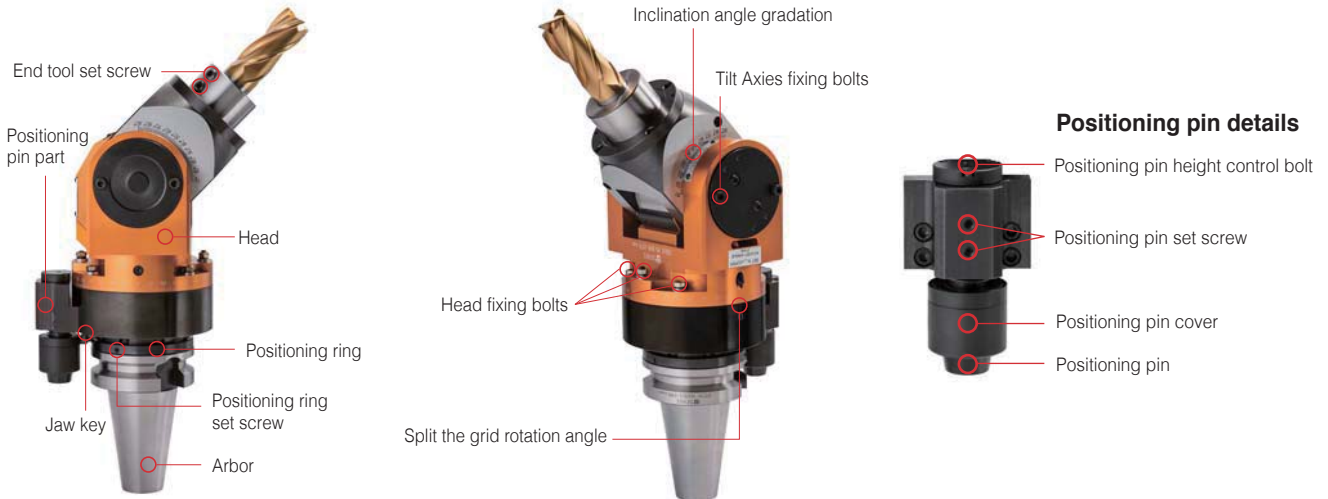
Features

- Doubled effect by one equipment/Available for various angles
- Lighter aluminum body

Code system



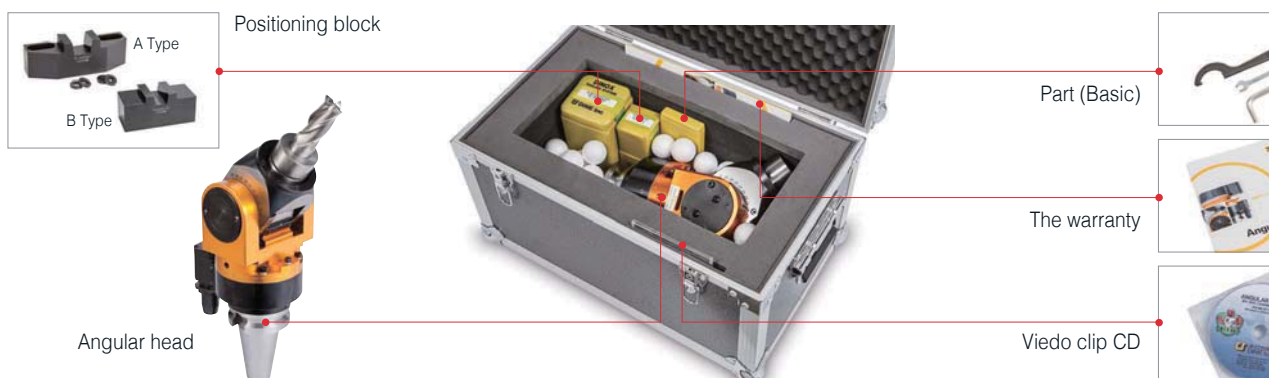
Name of angular head parts



Various applications

0~90-degree rotating (MAH, KHU)	Fixed 90-degree type (KAH)	Fixed 45-degree type (KAC)	Attachment type (HRAG, KAG)

Components



Technical Information for Angular Head

MAH

Universal type MAH (Reinforced series)

- Reinforced type Better performance by improving existing universal Angular head
 - Stability on large mold machining
 - Use 32mm Ball Endmill
 - Reinforced from KHU type



HRAG

Attachment type HRAG (Reinforced type)

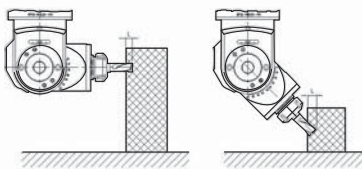
- HRAG: The reinforced bracket enhanced durability upto 200%
 - Stability on face milling machining
 - Reinforced stiffness from KAG type



KHU

Universal type KHU

- Free angle adjusting up to 90°
 - HSK and SK type are order made

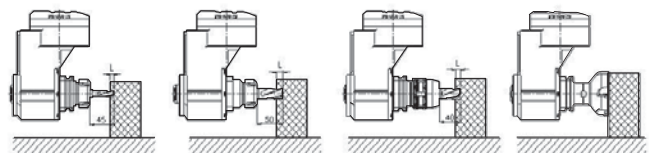


BT50-KHU20-195

KAG

Attachment type KAG

- Free 360° angle adjusting from side to side
 - Possible to use various tools of BT40 and BT30
 - HSK and SK type are order made



BT40-SDC20-60
(Ø12 E/M)

NT40-SDC20-60
(Ø20 E/M)

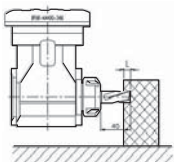
BT40-NPM20-85
(Ø20 E/M)

BT40-FMA25.4-45
(Ø80 Shoulder Mill)

KAH

Modular type KHU (90° type)

- Fixed 90° type angular head
 - In case of using a tap collet, please contact us in advance
 - HSK and SK type are order made



BT50-KAH20-200

KAC

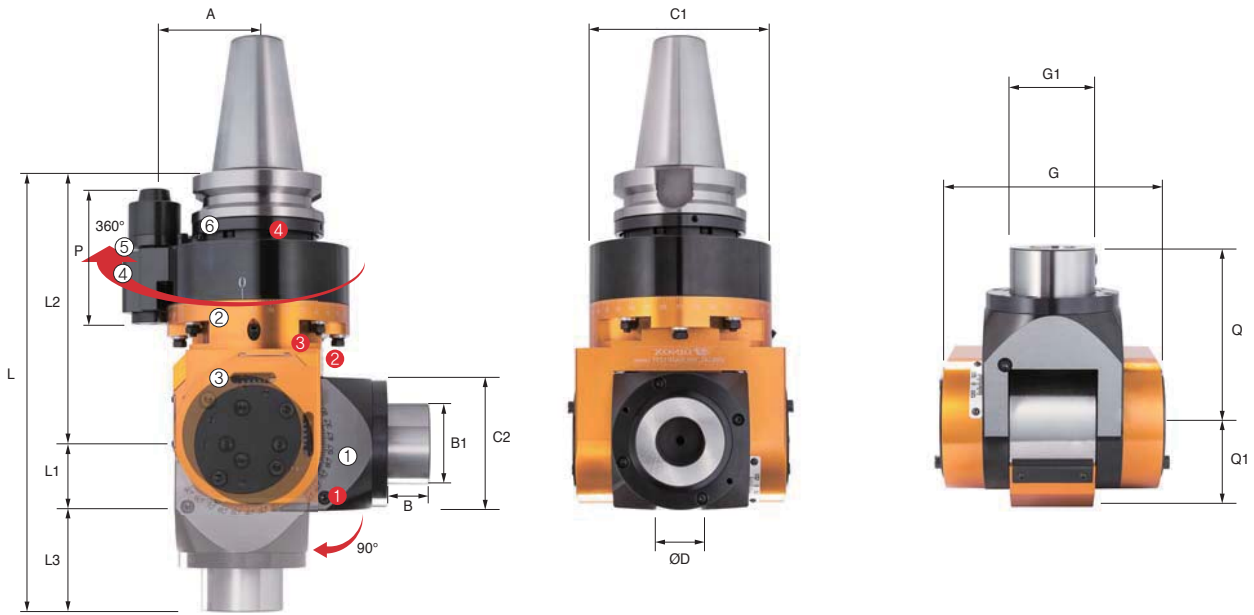
Modular type KAC (45° type)

- Fixed 45° type angular head
 - HSK and SK type are order made

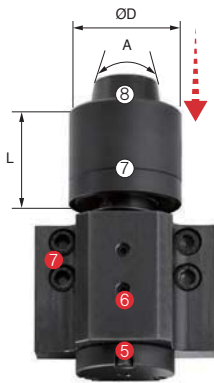


MHA for mold (0°~90°)_Reinforced type

BT-MAH



Positioning pin



Shank size	L	A	ØD
BT50	56.5	30°	Ø40

NO	Name
①	Inclination angle gradation (Axial positioning in 0°~90°)
②	Rotating angle gradation (Free radius position in 360°)
③	Head
④	Positioning pin part
⑤	Jaw key
⑥	Positioning ring
⑦	Positioning pin cover
⑧	Positioning pin

NO	Part name	Designation
①	Inclination angle gradation screw	BT1216
②	Head fixed bolts	BT0645
③	Rotating angle gradation screw	BT0640
④	Positioning ring set screw	MSST5-12
⑤	Positioning pin height control bolt	BT0516
⑥	Positioning pin set screw	BT0512
⑦	Body position block set screw	BX0516

Designation	ØD	L	L1	L2	L3	C	C1	G	C2	Q	Q1	B	B1	P	A	MAX RPM	Install tool	kg
BT50-MAH32-200	32	200	47	78	325	136	95	154	95	125	63	31	60	95	80	3,000	SIDE LOCK	19



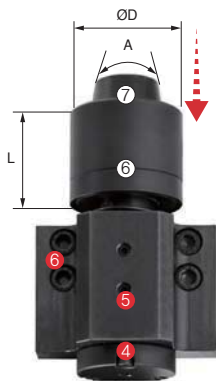
Angular Head Series

HRAG (90° fixed)_Reinforced type

BT-HRAG



Positioning pin



Shank size	L	A	ØD
BT50	56.5	30°	Ø40

NO	Name
①	Rotating angle graduation (Free radius position in 360°)
②	Head
③	Positioning pin part
④	Jaw key
⑤	Positioning ring
⑥	Positioning pin cover
⑦	Positioning pin

NO	Part name	Designation
①	Head fixed bolts	BX0660
②	Positioning ring set screw	MSST5-12
③	Rotating angle graduation screw	BT0648
④	Positioning pin height control bolt	BT0516
⑤	Positioning pin set screw	BT0512
⑥	Body position block set screw	BX0516
⑦	BT/NT Bolt	

Designation	L	L1	L2	L3	L4	Q	Q1	A	G	G1	MAX RPM	Tool shank	kg
BT50-HRAG40-230	230	56.5	145	46.5	276.5	89	101	80	93	136	3000	BT/NT40	15.75

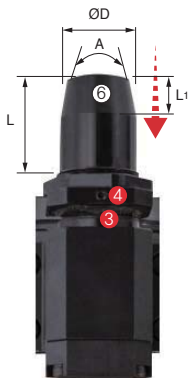


KHU (0°~90°)_Collet type

BT-KHU



Positioning pin



Shank size	L	L1	A	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15		Ø28

NO	Name
①	Inclination angle gradation (Axial positioning in 0°~90°)
②	Rotating angle gradation (Free radius position in 360°)
③	Head
④	Positioning pin part
⑤	Jaw key
⑥	Height control wrench hole

NO	Part name	Designation
①	Bracket angle fixing bolt	BX0630
②	Position block fixing bolt	BX0512
③	Set screw	BT0404
④	Fixing bolts	BXS0630

Designation	ØD	ØD1	L	L1	L2	L3	B	B1	E	F	C	A	G	Q	Q1	Torque rate (IN: OUT)	Direction of rotation (IN: OUT)	MAX RPM	Collet	kg
BT40-KHU10-160	1.0~10.0	58	160	33	54	247	22	28	51	98	96	65	90	87	40	1: 2	CW: CW	6,000	GER16	6.4
BT50-KHU10-180	1.0~10.0	58	180	33	54	267	22	28	53	103	114	80	90	87	40	1: 2	CW: CW	6,000	GER16	10.5
BT50-KHU20-195	2.0~20.0	84	195	47	73	315	29	50	53	132	114	80	124	120	63	1: 1	CW: CW	3,000	GER32	15.8



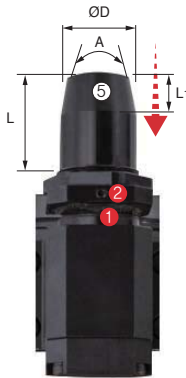
Angular Head Series

KAG (90° fixed type)

BT-KAG




Positioning pin



Shank size	L	L1	A	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15		Ø28

NO	Name
①	Rotating angle graduation (Free radius position in 360°)
②	Head
③	Positioning pin part
④	Jaw key
⑤	Height control wrench hole

NO	Part name	Designation
①	Set screw	BT0404
②	Fixing bolts	BXS0630
③	BT / NT Bolt	

Designation	L1	L2	L3	L4	L5	L6	Q	Q1	A	C	G	Torque rate (IN: OUT)	Direction of rotation (IN: OUT)	MAX RPM	Holder shank	
BT40-KAG30-195	44	86	65	37.5	195	232.5	66	70	65	96	75	1: 1	CW: CW	4,000	BT30/NT30	6.4
BT50-KAG40-230	57	88	85	46.5	230	276.5	89	94	80	114	93	1: 1	CW: CW	3,000	BT40/NT40	15.8

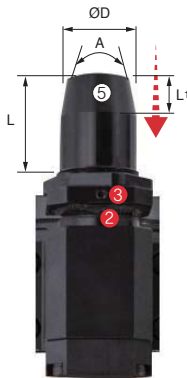


HRAG (90° fixed)_Collet type

BT-KAH



Positioning pin



Shank size	L	L1	A	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15		Ø28

NO	Name
①	Head
②	Rotating angle graduation (Free radius position in 360°)
③	Positioning pin part
④	Jaw key
⑤	Height control wrench hole

NO	Part name	Designation
①	Head fixing bolts	BX0618
②	Set screw	BT0404
③	Fixing bolts	BXS0630

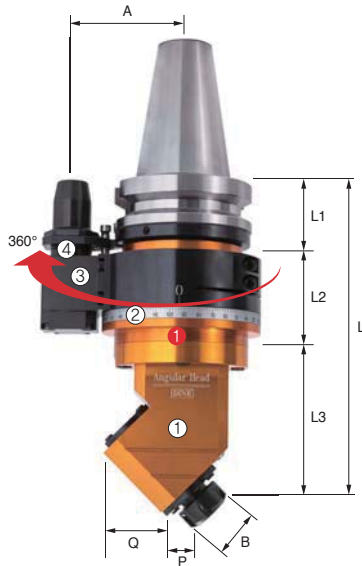
Designation	ØD	L	L1	L2	L3	L4	B	A	P	Q	G	G1	Torque rate (IN: OUT)	MAX RPM	Collet	
BT40-KAH7-170	1.0~7.0	170	20	44	71	55	19	65	37	24.5	40	96	1: 1	5,000	GER11	4.6
BT40-KAH10-195	1.0~10.0	195	25	44	71	80	28	65	46	32	58	96	1: 1	5,000	GER16	5.8
BT40-KAH13-165	1.0~13.0	165	28	44	71	50	35	65	53	35	60	96	1: 1	5,000	GER20	5.7
BT40-KAH20-180	2.0~20.0	180	38	44	71	65	50	65	71	49	76	96	1: 1	3,500	GER32	6.7
BT50-KAH07-220	1.0~7.0	220	20	57	54	109	19	80	37	24.5	40	96	1: 1	5,000	GER11	9.8
BT50-KAH10-215	1.0~10.0	215	25	57	54	104	28	80	46	32	58	96	1: 1	5,000	GER16	10.7
BT50-KAH10-260	1.0~10.0	260	25	57	54	149	28	80	46	32	58	96	1: 1	5,000	GER16	11.0
BT50-KAH13-260	1.0~13.0	260	28	57	54	149	35	80	53	35	60	96	1: 1	5,000	GER20	11.2
BT50-KAH20-200	2.0~20.0	200	38	57	54	89	50	80	71	49	76	96	1: 1	3,500	GER32	11.6
BT50-KAH20-240	2.0~20.0	240	38	57	54	129	50	80	71	49	76	96	1: 1	3,500	GER32	12.4



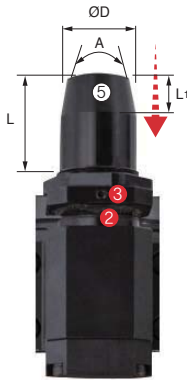
Angular Head Series

KAC (45° fixed)_Collet type

BT-KAC



Positioning pin



NO	Name
①	Head
②	Rotating angle graduation (Free radius position in 360°)
③	Positioning pin part
④	Jaw key
⑤	Height control wrench hole

NO	Part name	Designation
①	Head fixing bolts	BX0618
②	Set screw	BT0404
③	Fixing bolts	BXS0630

Shank size	L	L1	A	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15		

Designation	ØD	L	L1	L2	L3	B	G	G1	P	Q	A	MAX RPM	Collet	kg
BT40-KAC10-220	1.0~10.0	220	44	71	105	28	60	96	25	54	65	5,000	GER16	5.3
BT40-KAC13-220	1.0~13.0	220	44	71	105	28	60	96	25	54	65	5,000	GER20	5.5
BT40-KAC20-230	2.0~20.0	230	44	71	115	50	72	96	30	60	65	3,500	GER32	6.8
BT50-KAC10-240	1.0~10.0	240	57	54	129	28	60	96	25	54	80	5,000	GER16	10.2
BT50-KAC13-240	1.0~13.0	240	57	54	129	28	60	96	25	54	80	5,000	GER20	10.4
BT50-KAC20-250	2.0~20.0	250	57	54	139	50	72	96	30	60	80	3,500	GER32	11.7

