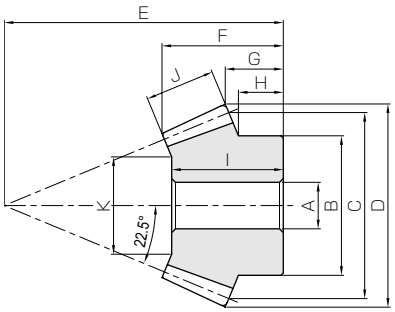
Specifications	
Precision grade	JIS B 1704 grade 3
Gear teeth	Gleason
Pressure angle	20°
Material	S45C
Heat treatment	—
Tooth hardness	less than 194HB



B45

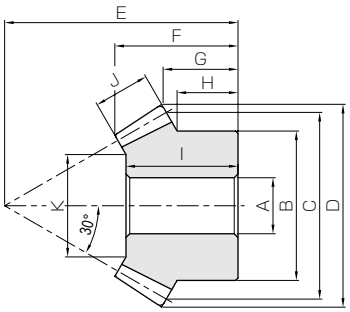
Shaft angle 45°

Catalog No.	Gear ratio	Module	No. of teeth	Shanft angle	Shape	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length
						A_{H7}	B	C	D	E	F	G
SAM1.5-20045	1	***m*1.5**	20	45°	B45	8	25	30	32.77	45	19.33	9.36
SAM2-20045		***m*2**	20	45°	B45	10	30	40	43.69	60	26.08	12.48
SAM2.5-20045		***m*2.5**	20	45°	B45	12	40	50	54.62	75	31.92	15.6
SAM3-20045		***m*3**	20	45°	B45	14	50	60	65.54	90	38.66	18.72
SAM1.5-20060	1	***m*1.5**	20	60°	B60	8	25	30	32.59	40	22.3	14.77
SAM2-20060		***m*2**	20	60°	B60	12	32	40	43.46	50	26.39	16.36
SAM2.5-20060		***m*2.5**	20	60°	B60	14	40	50	54.33	60	30.49	17.94
SAM3-20060		***m*3**	20	60°	B60	16	50	60	65.19	70	34.59	19.54
SAM1.5-20120	1	***m*1.5**	20	120°	B120	8	26	30	31.5	26	20.69	18.64
SAM2-20120		***m*2**	20	120°	B120	12	34	40	42	34	26.86	24.18
SAM2.5-20120		***m*2.5**	20	120°	B120	14	42	50	52.5	42	33.22	29.73
SAM3-20120		***m*3**	20	120°	B120	16	50	60	63	50	39.39	35.28

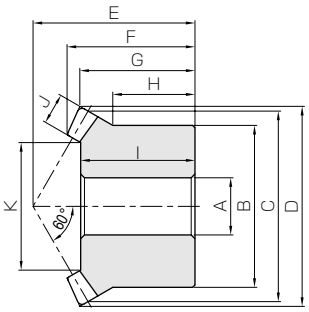
[Caution on Product Characteristics] ① The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 421 for more details.
② Dimensions of the outside diameter, the overall length and crown to back length are all theoretical values, and some differences will occur due to the corner chamfering of the gear tips.

Shaft angle 60°

Shaft angle 120°



B60



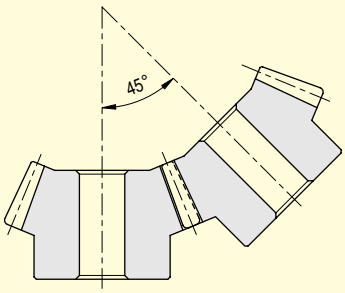
B120

Hub width	Length of bore	Face width	Holding surface dia.	Allowable torque (N·m)		Allowable torque (kgf·m)		Backlash	Weight	Catalog No.
H	I	J	K	Bending strength	Surface durability	Bending strength	Surface durability	(mm)	(kg)	
7.75	18	11	17	4.30	0.38	0.44	0.039	0.05~0.15	0.067	**SAM1.5-20045**
9.65	24	15	20.92	10.3	0.95	1.05	0.097	0.06~0.16	0.15	**SAM2-20045**
12.58	30	18	30.07	19.6	1.85	2.00	0.19	0.07~0.17	0.31	**SAM2.5-20045**
15.51	36	22	34	34.4	3.30	3.51	0.34	0.08~0.18	0.55	**SAM3-20045**
12.58	21	9	18.18	3.54	0.32	0.36	0.033	0.05~0.15	0.077	**SAM1.5-20060**
13.05	24	12	21.93	8.39	0.78	0.86	0.080	0.06~0.16	0.15	**SAM2-20060**
13.82	28	15	29.15	16.4	1.56	1.67	0.16	0.07~0.17	0.27	**SAM2.5-20060**
15.16	32	18	36.36	28.3	2.74	2.89	0.28	0.08~0.18	0.47	**SAM3-20060**
13.88	18	5	19.22	2.43	0.29	0.25	0.030	0.05~0.15	0.073	**SAM1.5-20120**
17.26	24	6.5	26.78	5.66	0.70	0.58	0.072	0.06~0.16	0.16	**SAM2-20120**
20.64	29	8.5	32.03	11.4	1.45	1.16	0.15	0.07~0.17	0.31	**SAM2.5-20120**
24.02	35	10	39.59	19.4	2.53	1.98	0.26	0.08~0.18	0.53	**SAM3-20120**

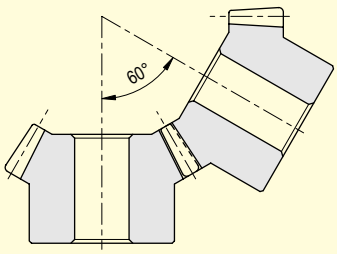
[Caution on Secondary Operations] ① Please read "Caution on Performing Secondary Operations" (Page 422) when performing modifications and/or secondary operations for safety concerns. Haguruma Kobo, the KHK's system for quick modification of KHK stock gears is also available.

■ Angular Miter Gears

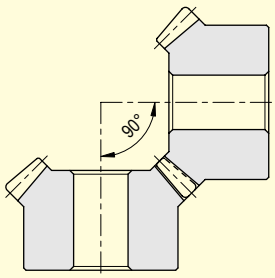
The shafts of standard Miter Gears are at 90° , Miter Gears with other angles are called Angular Miter Gears. SAM series of KHK standard Angular Miter Gears are available with 45° , 60° , 90° and 120° shaft angles. Other shaft angles may be ordered as custom gears. However, because of the limitations of our manufacturing equipment, we may not be able to produce your specific design.



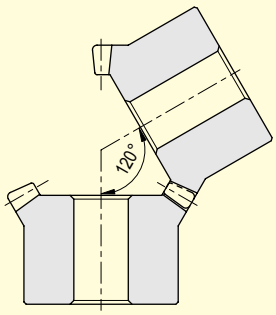
Shaft Angle 45°



Shaft Angle 60°



Shaft Angle 90°



Shaft Angle 120°