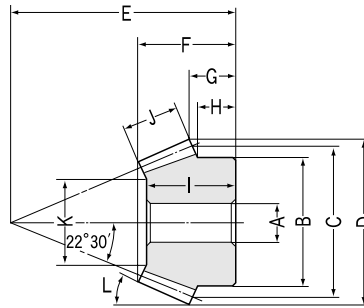




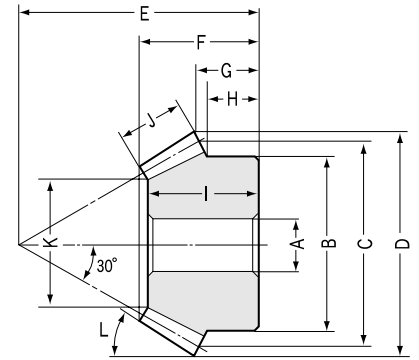
SAM Angular Miter Gears Modules 1.5~3



$\Sigma = 45^\circ$



B3 Shape $\Sigma = 45^\circ$



B3 Shape $\Sigma = 60^\circ$

Shaft Angle $\Sigma = 45^\circ$ 20 Tooth Miter Gears Modules 1.5~3

Catalog No.	Shaftangle	Module	No. of teeth	Bore	Hub dia.	Pitch dia.	Outside dia.	Mounting distance	Total length	Crown to back length	Hub width	Length of bore	Face width	Holding surface dia.	Tip angle
	Σ														
SAM1.5-20045	45°	1.5	20	8	25	30	32.77	45	19.33	9.36	7.75	18	11	17	25°06'
SAM2-20045	45°	2	20	10	30	40	43.69	60	26.08	12.48	9.65	24	15	20.92	25°06'
SAM2.5-20045	45°	2.5	20	12	40	50	54.62	75	31.92	15.6	12.58	30	18	30.07	25°06'
SAM3-20045	45°	3	20	14	50	60	65.54	90	38.66	18.72	15.51	36	22	34	25°06'

Shaft Angle $\Sigma = 60^\circ$ 20 Tooth Miter Gears Modules 1.5~3

SAM1.5-20060	60°	1.5	20	8	25	30	32.59	40	22.3	14.77	12.58	21	9	18.18	33°24'
SAM2-20060	60°	2	20	12	32	40	43.46	50	26.39	16.36	13.05	24	12	21.93	33°24'
SAM2.5-20060	60°	2.5	20	14	40	50	54.33	60	30.49	17.94	13.82	28	15	29.15	33°24'
SAM3-20060	60°	3	20	16	50	60	65.19	70	34.59	19.54	15.16	32	18	36.36	33°24'

Shaft Angle $\Sigma = 120^\circ$ 20 Tooth Miter Gears Modules 1.5~3

SAM1.5-20120	120°	1.5	20	8	26	30	31.5	26	20.69	18.64	13.88	18	5	19.22	65°52'
SAM2-20120	120°	2	20	12	34	40	42	34	26.86	24.18	17.26	24	6.5	26.78	65°52'
SAM2.5-20120	120°	2.5	20	14	42	50	52.5	42	33.22	29.73	20.64	29	8.5	32.03	65°52'
SAM3-20120	120°	3	20	16	50	60	63	50	39.39	35.28	24.02	35	10	39.59	65°52'

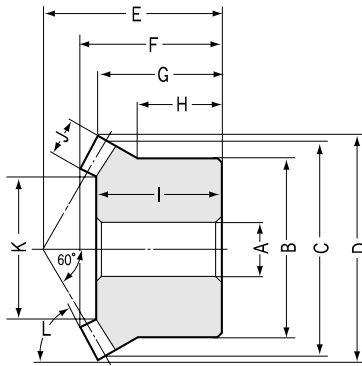
CAUTION: Dimensions of the outside diameter, the overall length and crown to back length are all theoretical values, and some differences will occur due to the corner chamfering of the gear tips.



$\Sigma = 60^\circ$



$\Sigma = 120^\circ$



B3 Shape $\Sigma = 120^\circ$

Specifications

Precision grade	JIS B 1704 grade 3	Tooth hardness	Less than 194HB
Gear teeth	Gleason	Surface treatment	Black oxide
Pressure angle	20°	Tooth surface finish	Cut
Material	S45C	Datum reference surface for gear cutting	Bore
Heat treatment	—	Secondary Operations	Possible

Shape	Allowable torque (N·m) NOTE 1		Allowable torque (kgf·m)		Backlash (mm)	Weight (kgf)	Catalog No.
	Bending strength	Surface durability	Bending strength	Surface durability			
B3	4.296	0.3834	(0.4381)	(0.0391)	0.05 ~ 0.15	0.07	SAM1.5-20045
B3	10.34	0.9503	(1.054)	(0.0969)	0.06 ~ 0.16	0.15	SAM2 -20045
B3	19.64	1.846	(2.003)	(0.1882)	0.07 ~ 0.17	0.31	SAM2.5-20045
B3	34.37	3.296	(3.505)	(0.3361)	0.08 ~ 0.18	0.55	SAM3 -20045

Pitch Angle 22°30'

B3	3.54	0.3187	(0.361)	(0.0325)	0.05 ~ 0.15	0.08	SAM1.5-20060
B3	8.391	0.7806	(0.8557)	(0.0796)	0.06 ~ 0.16	0.15	SAM2 -20060
B3	16.39	1.558	(1.671)	(0.1589)	0.07 ~ 0.17	0.27	SAM2.5-20060
B3	28.32	2.74	(2.888)	(0.2794)	0.08 ~ 0.18	0.47	SAM3 -20060

Pitch Angle 30°

B3	2.429	0.2922	(0.2477)	(0.0298)	0.05 ~ 0.15	0.07	SAM1.5-20120
B3	5.662	0.7041	(0.5774)	(0.0718)	0.06 ~ 0.16	0.16	SAM2 -20120
B3	11.4	1.451	(1.162)	(0.148)	0.07 ~ 0.17	0.31	SAM2.5-20120
B3	19.44	2.529	(1.982)	(0.2579)	0.08 ~ 0.18	0.53	SAM3 -20120

Pitch Angle 60°

NOTE 1: The allowable torques shown in the table are the calculated values according to the assumed usage conditions. Please see page 196 more details.

Regarding 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° and 120° shaft angles. Other shaft angles may be ordered as custom gears. However, because of the limitations of manufacturing equipment, some gears are not possible to be made.

