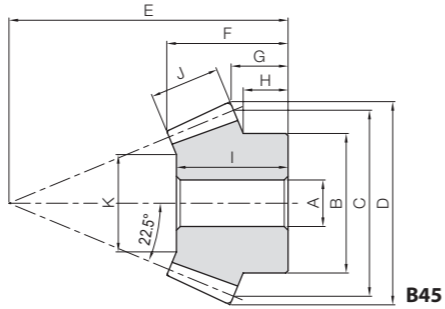


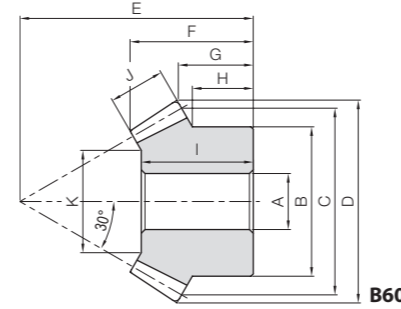


Shaft angle 45°

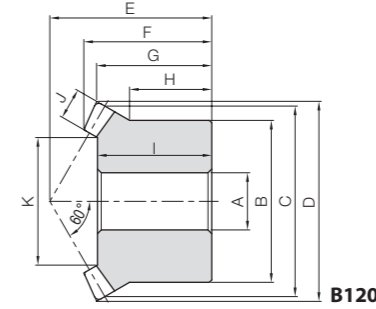
| Specifications | |
|-------------------|--------------------------|
| Precision grade | JIS B 1704: 1978 grade 3 |
| Gear teeth | Gleason |
| Pressure angle | 20° |
| Material | S45C |
| Heat treatment | — |
| Tooth hardness | (less than 194HB) |
| Surface treatment | Black oxide coating |



B45



B60



B120

H To order Hardened Plus, please specify **Catalog No. + H**. Example: **SAM1.5-20045H**

| Catalog Number | Gear Ratio | Module | No. of teeth | Shaft angle | Shape | Bore | | Hub dia. | Pitch dia. | Outside dia. | Mounting distance | Total length | Hub width | Hole length | | | | | |
|---------------------|------------|-------------|--------------|-------------|-------|-----------------|----|----------|------------|--------------|-------------------|--------------|-----------|-------------|-------|----|-------|-------|----|
| | | | | | | A _{H7} | B | | | | | | | | | | | | |
| SAM1.5-20045 | 1 | m1.5 | 20 | 45° | B45 | 8 | 25 | 30 | 32.77 | 45 | 19.33 | 7.75 | 18 | | | | | | |
| SAM2-20045 | | m2 | | | | 10 | 30 | | | | | | | 40 | 43.69 | 60 | 26.08 | 9.65 | 24 |
| SAM2.5-20045 | | m2.5 | | | | 12 | 40 | | | | | | | 50 | 54.62 | 75 | 31.92 | 12.58 | 30 |
| SAM3-20045 | | m3 | | | | 14 | 50 | | | | | | | 60 | 65.54 | 90 | 38.66 | 15.51 | 36 |
| SAM1.5-20060 | 1 | m1.5 | 20 | 60° | B60 | 8 | 25 | 30 | 32.59 | 40 | 22.3 | 12.58 | 21 | | | | | | |
| SAM2-20060 | | m2 | | | | 12 | 32 | | | | | | | 40 | 43.46 | 50 | 26.39 | 13.05 | 24 |
| SAM2.5-20060 | | m2.5 | | | | 14 | 40 | | | | | | | 50 | 54.33 | 60 | 30.49 | 13.82 | 28 |
| SAM3-20060 | | m3 | | | | 16 | 50 | | | | | | | 60 | 65.19 | 70 | 34.59 | 15.16 | 32 |
| SAM1.5-20120 | 1 | m1.5 | 20 | 120° | B120 | 8 | 26 | 30 | 31.5 | 26 | 20.69 | 13.88 | 18 | | | | | | |
| SAM2-20120 | | m2 | | | | 12 | 34 | | | | | | | 40 | 42 | 34 | 26.86 | 17.26 | 24 |
| SAM2.5-20120 | | m2.5 | | | | 14 | 42 | | | | | | | 50 | 52.5 | 42 | 33.22 | 20.64 | 29 |
| SAM3-20120 | | m3 | | | | 16 | 50 | | | | | | | 60 | 63 | 50 | 39.39 | 24.02 | 35 |

(Caution on Product Characteristics) ① The shaft angle is where the same products are set together. The shaft angle cannot be changed by using it with a different product.

(Caution on Secondary Operations) ① See Page 22 for more details on Hardened Plus (H Series and HJ Series).

| Face width | Holding surface dia. | Allowable torque | | | | | | Backlash (mm) | Weight (kg) | Catalog Number |
|------------|----------------------|------------------|-------|--------------------|-------|-----------------------------|-------|---------------|-------------|---------------------|
| | | Bending strength | | Surface durability | | Surface durability H | | | | |
| J | K | N·m | kgf·m | N·m | kgf·m | N·m | kgf·m | | | |
| 11 | 17 | 4.30 | 0.44 | 0.38 | 0.039 | 1.60 | 0.16 | 0.05~0.15 | 0.067 | SAM1.5-20045 |
| 15 | 20.92 | 10.3 | 1.05 | 0.95 | 0.097 | 3.92 | 0.40 | 0.06~0.16 | 0.15 | SAM2-20045 |
| 18 | 30.07 | 19.6 | 2.00 | 1.85 | 0.19 | 7.54 | 0.77 | 0.07~0.17 | 0.31 | SAM2.5-20045 |
| 22 | 34 | 34.4 | 3.51 | 3.30 | 0.34 | 13.3 | 1.36 | 0.08~0.18 | 0.55 | SAM3-20045 |
| 9 | 18.18 | 3.54 | 0.36 | 0.32 | 0.033 | 1.35 | 0.14 | 0.05~0.15 | 0.077 | SAM1.5-20060 |
| 12 | 21.93 | 8.39 | 0.86 | 0.78 | 0.080 | 3.25 | 0.33 | 0.06~0.16 | 0.15 | SAM2-20060 |
| 15 | 29.15 | 16.4 | 1.67 | 1.56 | 0.16 | 6.43 | 0.66 | 0.07~0.17 | 0.27 | SAM2.5-20060 |
| 18 | 36.36 | 28.3 | 2.89 | 2.74 | 0.28 | 11.2 | 1.14 | 0.08~0.18 | 0.47 | SAM3-20060 |
| 5 | 19.22 | 2.43 | 0.25 | 0.29 | 0.030 | 1.28 | 0.13 | 0.05~0.15 | 0.073 | SAM1.5-20120 |
| 6.5 | 26.78 | 5.66 | 0.58 | 0.70 | 0.072 | 3.02 | 0.31 | 0.06~0.16 | 0.16 | SAM2-20120 |
| 8.5 | 32.03 | 11.4 | 1.16 | 1.45 | 0.15 | 6.14 | 0.63 | 0.07~0.17 | 0.31 | SAM2.5-20120 |
| 10 | 39.59 | 19.4 | 1.98 | 2.53 | 0.26 | 10.6 | 1.08 | 0.08~0.18 | 0.53 | SAM3-20120 |

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Precautions for Standard Machined Products → Pages 42~44



Shaft angle 60°



Shaft angle 120°

Angular Miter Gear Box Example



Angular miter

The axis angle of a normal miter is set to 90°, but the angle is set arbitrarily for the angular miter. The SAM Angular Miters are products with standardized axial angles of 45°, 60° and 120°. Be sure to pair products with the same model number. Custom items of other shaft angles are available, but may not be manufacturable due to the capabilities of the machine.

