

Shafts

Shaft Ends Configurable Type

| Shafts – Shaft Ends Configurable Type | | Type | Material | Hardness | Surface Treatment |
|---------------------------------------|----------------|---|---|---|-------------------|
| D Tolerance g6 | D Tolerance h5 | | | | |
| FSFJ | FSFU | 52100 Bearing Steel Equivalent | SUS440C (13Cr) Stainless Steel Equivalent | Induction Hardening Effective Hardened Depth P.199 52100 Bearing Steel Equivalent 58 HRC min. | — |
| FSSFJ | FSSFU | 52100 Bearing Steel Equivalent | | | |
| FPSFJ | — | 52100 Bearing Steel Equivalent | | | |
| FPPSFJ | — | SUS440C (13Cr) Stainless Steel Equivalent | | | |

No Surface Treatment on machined areas

Select from Left End Shape Select from Right End Shape

① (Y) dimensions need to be (Y) ≤ Dx50, (Y) ≤ 1500

② Changes in circularity, straightness, perpendicularity, concentricity and hardness **P.198**.

| Left End Shape | | | Right End Shape | | |
|----------------|--------------|--------------|-----------------|--------------|--------------|
| A | B | C | A | B | C |
| D | E | F | D | E | F |
| G | H | T | G | H | T |
| ① 6 ≤ D ≤ 20 | ① 4 ≤ M ≤ 12 | ① 6 ≤ D ≤ 20 | ① 6 ≤ D ≤ 20 | ① 4 ≤ N ≤ 12 | ① 6 ≤ D ≤ 20 |

Machining Conditions

| | | | |
|--|---|--|---|
| B When M3-8 M (N) ≤ D-3 When M10 or 12 M (N) ≤ D-4 When M16, 20 or 24 M (N) ≤ D-5 When M30 M (N) ≤ D-6 L ≥ M (N) x 4 | C Please specify M(N) Dimensions. ① B and S ≥ Pitch x 3 is required. | D D r 6-30 0.3 or Less 31-50 0.5 or Less | E P(Q)M (N)+3 D r 6-30 0.3 or Less 31-50 0.5 or Less When M3-8 M (N) ≤ P (Q)-3 When M10 or 12 M (N) ≤ P (Q)-4 When M16, 20 or 24 M (N) ≤ P (Q)-5 When M30 M (N) ≤ P (Q)-6 |
| F For Retaining Ring Groove Detailed Dimensions P.853 . D dimensions 31 and 38 can not be specified. | G D b Hex Socket Depth ℓ 6-7 2.5 3.5 8-9 3 4.5 10 4 6 12-15 5 7.5 16-19 6 9 20 8 12 | H D ≥ 16 D ≥ M+4+R Tap Depth R ≥ M+3 M x 2 W ≥ N+3 N x 2 | T D-J (Z) tan 15° x 2 ≥ 2 (Tip diameter Ø2 or more) L needs to be L-J (Z) ≥ 20 When both ends are in T shape needs to be L-(J+Z) ≥ 20 |

- ① When only one end requires alteration, select Shape A for the opposite end that does not require alteration.
- ② When D=P or D=N is selected for shaft shape C, B (S) needs to be specified as F=B (T=S).
- ③ G and H will not be symmetrical when applied to both ends of the shaft. However, L, F, and T dimensions have manufacturing priority and B (S) dimension will be F (T)-(Pitch x 2).

Shafts

Shaft Ends Configurable Type, continued

| Part Number | | | D | 0.5 mm Increments. | | 1 mm Increments | | | | | M / N (Coarse) | C | |
|-------------|----------------|-----------------|----------|-----------------------|---|--|--|-----------------|--|-------|----------------|--------------------------------------|--|
| Type | Left End Shape | Right End Shape | | L | F / T | B / S | H / U | P / Q | R / W | J / Z | | | |
| (D Tol. g6) | A | A | 6 17 31 | 20.0-1500.0 (L ≤ DX5) | 2 ≤ F ≤ Px5 2 ≤ T ≤ MX5 2 ≤ T ≤ NX5 | 2 ≤ B ≤ Mx3 2 ≤ S ≤ NX3 B ≤ F-2 S ≤ T-2 (When M and N ≤ 6) | 2 ≤ H / U 3 ≤ H / U (When D=6) 3 ≤ H / U (When 6 < D ≤ 10) | D/3 ≤ P / Q < D | D ≥ M+4+R D ≥ N+4+W R ≥ M+3 W ≥ N+3 | D | J / Z | 3 4 5 6 8 10 12 16 20 24 30 | 0.2 or less when D-Q (P / M / N) ≤ 4 0.5 or less when D < 20, 1.0 or less when D ≥ 20. |
| | B | B | 7 18 32 | | | | | | | 6 / 7 | 5-7 | | |
| | C | C | 8 19 35 | | | | | | | 8 / 9 | 5-10 | | |
| | D | D | 9 20 38 | | | | | | | 10 | 5-14 | | |
| | E | E | 10 22 40 | | | | | | | 12 | 5-18 | | |
| F | F | 12 24 45 | 13 / 14 | | | | | | | 5-20 | | | |
| G | G | 13 25 50 | 15 | | | | | | | 10-24 | | | |
| H | H | 14 26 | 16 / 17 | | | | | | | 10-25 | | | |
| T | T | 15 28 | 18 / 19 | | | | | | | 10-28 | | | |
| | | 16 30 | 20 | | | | | | | 10-32 | | | |
| (D Tol. h5) | | | | | | | | | | | | | |

Part Number Example

| Type | Left End | Right End | D | L | F | M | B | T | N | S | H | U | P | Q | R | W | J | Z |
|------|----------|-----------|-----|------|---|---|---|---|-----|----|-----|---|---|---|---|---|---|---|
| FSFJ | A | C | D12 | L100 | | | | | T30 | N6 | S12 | | | | | | | |

Part Number Alterations

For details, please see Alterations Overview **P.200**.
 Available only for LKC, SC, WSC, PMC, PMS, QMC and QMS.

DKC alterations was discontinued in June 2010.
 Please specify new part numbers; FSFU and FSSFU to place orders.
 Not available for Hard Chrome Plated Shafts