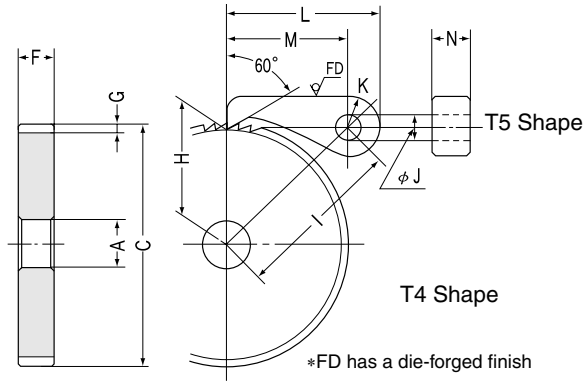
SRT(B) Pawls & Ratchets Pitches 2.09~12.56



■ Pawls

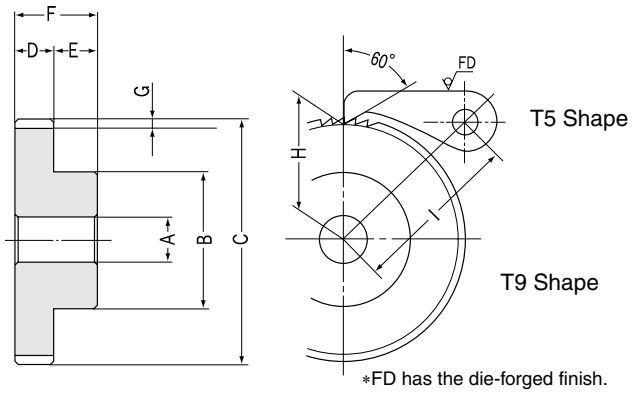
Catalog No.	J	K	L	M	N	Shape	Weight (kgf)
SRT2/3-C	5	8	38	30	6	T5	0.02
SRT1 -C	8	10	49	39	12	T5	0.05
SRT2 -C	10	12.5	67.5	55	15	T5	0.12
SRT3 -C	12	15	80	65	20	T5	0.22
SRT4 -C	13	18	98	80	25	T5	0.3

■ Ratchets

Catalog No.	Pitch	No. of teeth	Bore	Hub dia.	Outside dia.	Face width	Hub length	Total length	Depth of teeth	Mounting distance	Center distance
	P	z	A	B	C	D (F)	E	F	G	H	I
SRT2/3- 50	2.09	50	10	—	33.3	6	—	6	1	15.5	33.8
SRT2/3- 60		60	10		40					19	35.5
SRT2/3- 80		80	12		53.3					25.5	39.4
SRT2/3- 90		90	12		60					29	41.7
SRT2/3-100		100	12		66.6					32	43.9
SRT1 - 50	3.14	50	12	—	50	12	—	12	1.6	23.4	45.5
SRT1 - 60		60	15		60					28.4	48.2
SRT1 - 80		80	15		80					38.4	54.7
SRT1 - 90		90	15		90					43.4	58.3
SRT1 -100		100	15		100					48.4	62.2
SRT2 - 30	6.28	30	15	—	60	15	—	15	3.1	26.9	61.2
SRT2 - 40		40	15		80					36.9	66.2
SRT2 - 50		50	15		100					46.9	72.3
SRT2 - 60		60	15		120					56.9	79.1
SRT3 - 30	9.42	30	15	—	90	20	—	20	5	40	76.3
SRT3 - 40		40	20		120					55	85.1
SRT3 - 50		50	20		150					70	95.5
SRT4 - 30	12.56	30	20	—	120	25	—	25	7.4	52.6	95.7
SRT4 - 40		40	20		160					72.6	108
SRT4 - 50		50	20		200					92.6	122.4

■ Ratchets with Hubs

SRTB2/3- 50	2.09	50	10	25	33.3	6	10	16	1	15.5	33.8
SRTB2/3- 60		60	10	30	40					19	35.5
SRTB2/3- 80		80	12	35	53.3					25.5	39.4
SRTB2/3- 90		90	12	40	60					29	41.7
SRTB2/3-100		100	12	40	66.6					32	43.9
SRTB1 - 50	3.14	50	12	35	50	12	12	24	1.6	23.4	45.5
SRTB1 - 60		60	15	40	60					28.4	48.2
SRTB1 - 80		80	15	50	80					38.4	54.7
SRTB1 - 90		90	15	50	90					43.4	58.3
SRTB1 -100		100	15	50	100					48.4	62.2
SRTB2 - 30	6.28	30	15	50	60	15	14	29	3.1	26.9	61.2
SRTB2 - 40		40	15	60	80					36.9	66.2
SRTB2 - 50		50	15	60	100					46.9	72.3
SRTB2 - 60		60	15	65	120					56.9	79.1
SRTB3 - 30	9.42	30	15	75	90	20	16	36	5	40	76.3
SRTB3 - 40		40	20	80	120					55	85.1
SRTB3 - 50		50	20	85	150					70	95.5
SRTB4 - 30	12.56	30	20	90	120	25	18	43	7.4	52.6	95.7
SRTB4 - 40		40	20	90	160					72.6	108
SRTB4 - 50		50	20	100	200					92.6	122.4



∗FD has the die-forged finish.

Specifications

Catalog No.	SRT-C	SRT • SRTB
Angle of jaw or teeth	60°	60°
Material	S45C	S45C
Heat treatment	Induction hardened pawls	Induction hardened teeth
Tooth hardness	48～53HRC	48～53HRC
Surface treatment	Black oxide	Black oxide
Tooth surface finish	—	—
Datum reference surface for tooth cutting	—	Bore
Secondary Operations	Possible except the tip area	Possible except the tooth area

Shape	Allowable torque (N-m) NOTE 1 Bending strength	Allowable torque(kgf-m) Surface durability	Weight (kgf)	Catalog No.
T4	3.07	(0.31)	0.034	SRT2/3- 50
	4.1	(0.42)	0.053	SRT2/3- 60
	6	(0.61)	0.095	SRT2/3- 80
	7.11	(0.73)	0.12	SRT2/3- 90
	8.24	(0.84)	0.15	SRT2/3-100
T4	14.69	(1.5)	0.16	SRT1 - 50
	19.5	(1.99)	0.24	SRT1 - 60
	29.37	(3)	0.44	SRT1 - 80
	34.47	(3.52)	0.56	SRT1 - 90
	39.4	(4.02)	0.7	SRT1 -100
T4	29.03	(2.96)	0.28	SRT2 - 30
	49.22	(5.02)	0.53	SRT2 - 40
	70.82	(7.22)	0.86	SRT2 - 50
	94.28	(9.61)	1.24	SRT2 - 60
T4	92.56	(9.44)	0.86	SRT3 - 30
	157.52	(16.06)	1.58	SRT3 - 40
	228.62	(23.31)	2.54	SRT3 - 50
T4	225.92	(23.04)	1.91	SRT4 - 30
	385.14	(39.27)	3.54	SRT4 - 40
	559.4	(57.04)	5.68	SRT4 - 50
T9	3.07	(0.31)	0.067	SRTB2/3- 50
	4.1	(0.42)	0.1	SRTB2/3- 60
	6	(0.61)	0.16	SRTB2/3- 80
	7.11	(0.73)	0.21	SRTB2/3- 90
	8.24	(0.84)	0.24	SRTB2/3-100
T9	14.69	(1.5)	0.24	SRTB1 - 50
	19.5	(1.99)	0.34	SRTB1 - 60
	29.37	(3)	0.61	SRTB1 - 80
	34.47	(3.52)	0.73	SRTB1 - 90
	39.4	(4.02)	0.87	SRTB1 -100
T9	29.03	(2.96)	0.48	SRTB2 - 30
	49.22	(5.02)	0.82	SRTB2 - 40
	70.82	(7.22)	1.14	SRTB2 - 50
	94.28	(9.61)	1.59	SRTB2 - 60
T9	92.56	(9.44)	1.4	SRTB3 - 30
	157.52	(16.06)	2.17	SRTB3 - 40
	228.62	(23.31)	3.21	SRTB3 - 50
T9	225.92	(23.04)	2.76	SRTB4 - 30
	385.14	(39.27)	4.4	SRTB4 - 40
	559.4	(57.04)	6.74	SRTB4 - 50

■ Characteristics of Pawls and Ratchets

- The tips of pawls and the teeth of ratchets are induction hardened and therefore have superior durability.
- The pawls are designed to prevent reverse rotation. They are not suitable for use as driving ratchets or driving rotation.
- SRT2/3-C is manufactured using a lost wax casting method.
- As to SRTB ratchets with hubs, please note the direction of teeth, viewing from the hub side. KHK can produce ratchets which have the teeth pointed in the opposite direction as a custom order item.

■ Bending strength of Ratchets [NOTE 1]

The allowable torque of ratchets is the value calculated by the following bending strength formula and converted to torque.

(1)Allowable Transmission Forces F_b

$$F_b = \sigma_b \cdot \frac{be^2}{6} \cdot \frac{1}{h} \cdot \frac{1}{S_F} \text{ (N)}$$

Here

σ_b = Bending stress (Assumed 225.55MPa)

b = Face width D or F(mm)

e = Root length(mm)

$$e = \text{Depth of teeth} \times \tan\left(60 - \frac{360}{\text{No. of teeth(z)}}\right)$$

h = Depth of teeth (G)(mm)

S_F = Safety factor (Assumed 2)

(2) Conversion to allowable torque

Allowable torque (N·m) = Allowable transmission forces F_b (N) x tooth root radius (m)