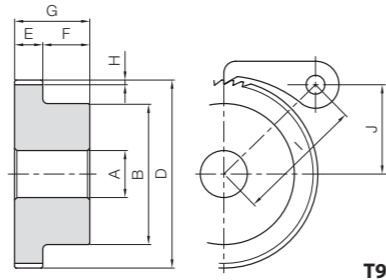




Specifications	
Tooth groove angle	60°
Material	S45C
Heat treatment	Gear teeth induction hardened
Tooth hardness	50 to 60HRC
Surface treatment	Black oxide coating



T9

Characteristics of Pawls and Ratchets

- A simple structure used to restrict the rotational direction in one-way.
- The tips of pawls and the teeth of ratchets are induction hardened and therefore have superior durability.

Catalog Number	Pitch	No. of teeth	Shape	Bore	Hub dia.	Outside dia.	Face width	Hub width	Total length	Tooth height	
				A	B	D	E	F	G	H	
SRTB2/3-50 (Made to Order)	2.09	50	T9	10	25	33.3	6	10	16	1	
SRTB2/3-60 (Made to Order)		60		10	30	40					
SRTB2/3-80 (Made to Order)		80		12	35	53.3					
SRTB2/3-90 (Made to Order)		90		12	40	60					
SRTB2/3-100 (Made to Order)		100		12	40	66.6					
SRTB1-50 (Made to Order)	3.14	50		12	35	50	12	12	24	1.6	
SRTB1-60 (Made to Order)		60		15	40	60					
SRTB1-80 (Made to Order)		80		15	50	80					
SRTB1-90 (Made to Order)		90		15	50	90					
SRTB1-100 (Made to Order)		100		15	50	100					
SRTB2-30 (Made to Order)	6.28	30		T9	15	50	60	15	14	29	3.1
SRTB2-40 (Made to Order)		40				60	80				
SRTB2-50 (Made to Order)		50				60	100				
SRTB2-60 (Made to Order)		60				65	120				
SRTB3-30 (Made to Order)		9.42				30	15				
SRTB3-40 (Made to Order)	40		20		80	120					
SRTB3-50 (Made to Order)	50		20		85	150					
SRTB4-30 (Made to Order)	12.57	30	T9		20	90	120	25	18	43	7.4
SRTB4-40 (Made to Order)		40				90	160				
SRTB4-50 (Made to Order)		50				100	200				

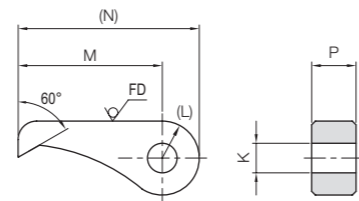
Center distance I	Mounting height J	Allowable torque (N·m)		Weight (kg)	Catalog Number
		Bending strength	Bending strength		
33.84	15.67	3.07	0.31	0.067	SRTB2/3-50 (Made to Order)
35.51	19	4.10	0.42	0.10	SRTB2/3-60 (Made to Order)
39.48	25.67	6.00	0.61	0.16	SRTB2/3-80 (Made to Order)
41.73	29	7.11	0.73	0.21	SRTB2/3-90 (Made to Order)
44.11	32.33	8.24	0.84	0.24	SRTB2/3-100 (Made to Order)
45.48	23.4	14.7	1.50	0.24	SRTB1-50 (Made to Order)
48.24	28.4	19.5	1.99	0.34	SRTB1-60 (Made to Order)
54.73	38.4	29.4	3.00	0.61	SRTB1-80 (Made to Order)
58.35	43.4	34.5	3.52	0.73	SRTB1-90 (Made to Order)
62.16	48.4	39.4	4.02	0.87	SRTB1-100 (Made to Order)
61.23	26.9	29.0	2.96	0.47	SRTB2-30 (Made to Order)
66.23	36.9	49.2	5.02	0.82	SRTB2-40 (Made to Order)
72.28	46.9	70.8	7.22	1.14	SRTB2-50 (Made to Order)
79.14	56.9	94.3	9.61	1.59	SRTB2-60 (Made to Order)
76.32	40	92.6	9.44	1.40	SRTB3-30 (Made to Order)
85.15	55	158	16.1	2.17	SRTB3-40 (Made to Order)
95.52	70	229	23.3	3.22	SRTB3-50 (Made to Order)
95.74	52.6	226	23.0	2.75	SRTB4-30 (Made to Order)
108.03	72.6	385	39.3	4.38	SRTB4-40 (Made to Order)
122.37	92.6	559	57.0	6.72	SRTB4-50 (Made to Order)

- [Caution on Product Characteristics] ① For the ratchet with SRTB hub, pay attention to the orientation of the teeth with respect to the hub. Items with opposite orientation can be made to order.
 ② The bore may slightly vary due to the effect of heat treatment. When using with the indicated hole diameter, provide machining with a reamer or the like before use.
- [Caution on Secondary Operations] ① Due to the gear teeth being induction hardened, no secondary operations can be performed on tooth areas including the bottom land (approx. 2 to 3 mm).
- [Precautions for Made to Order Products] Prices and lead times for Made to Order products require separate estimates. Contact your dealer.

SRT-C Pitch 2.09~12.57
Ratchet Pawls



Specifications	
Tooth angle	60°
Material	S45C
Heat treatment	Pawl induction hardened
Pawl hardness	50 to 60HRC
Surface treatment	Black oxide coating



* FD has a forged finish surface.

T5

Catalog Number	Shape	K	(L)	M	(N)	P	Weight (kg)
SRT2/3-C	T5	5	(8)	30	(38)	6	0.020
SRT1-C		8	(10)	39	(49)	12	0.057
SRT2-C		10	(12.5)	55	(67.5)	15	0.13
SRT3-C		12	(15)	65	(80)	20	0.23
SRT4-C		13	(18)	80	(98)	25	0.38

- [Caution on Product Characteristics] ① The ratchet pawl is for preventing reverse rotation. It cannot be used for feeding or indexing.
 ② SRT2/3-C is a lost wax product that uses S45C-equivalent material.

Application Examples

* The illustration is a design example, not a design for machinery or a device in actual use.

Example: ratchets used for complete reverse prevention of worm gears

Bending Strength of Ratchets

The allowable transmission force F_b (N) of ratchets is the value calculated by the following formula.

$$F_b = \sigma_b \cdot \frac{b \cdot e^2}{6} \cdot \frac{1}{h} \cdot \frac{1}{S_F}$$

Also, the SRT Ratchet's allowable torque T (N·m) for bending strength is calculated by the following formula.

$$T = F_b \cdot r_f$$

Where

- σ_b : Bending stress → Assumed 225.55MPa (23kgf/mm²)
- b : Face width mm → Dimension Table ratchet face width E
- e : Root length mm
→ $e = h \times \tan\left(60 - \frac{360}{\text{No. of teeth}}\right)$ is the calculation
- h : Depth of teeth mm → Dimension Table ratchet tooth depth H
- S_F : Safety factor → Assumed 2
- r_f : Tooth root radius mm

$$\rightarrow r_f = \frac{\text{Outside dia. } D - 2h}{2000} \text{ is the calculation}$$