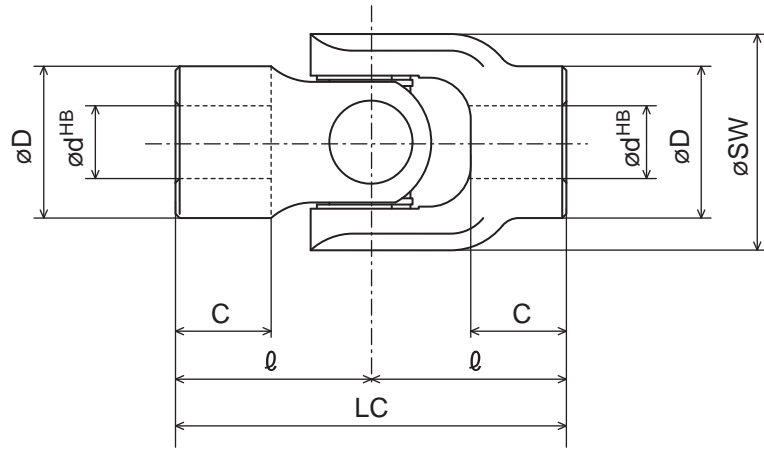


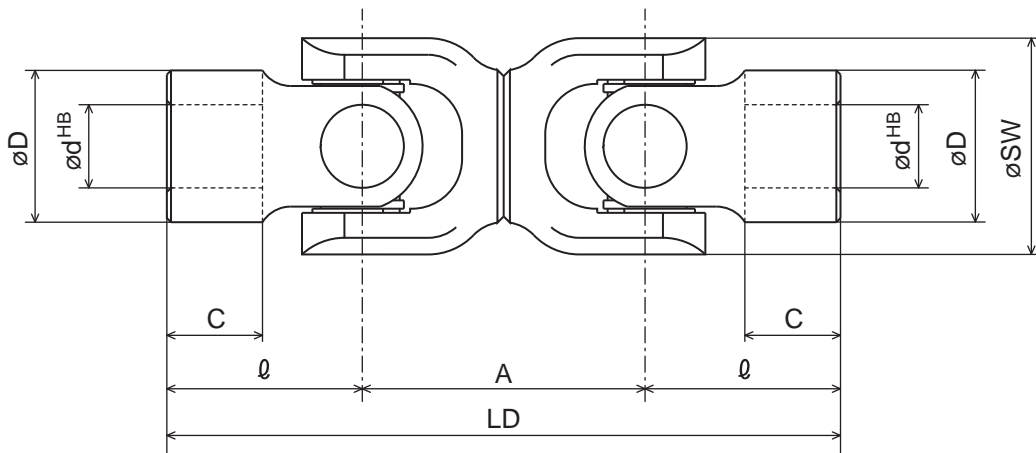
# C TYPE Special small cross type

CF-\*\*-RRA-00



Dimension Name	d	D	LC	$\varnothing$	C	Rotational diameter SW
CF-32-RRA-00	14	25.0	60	30	15	33
CF-42-RRA-00	16	32.5	76	38	18	43
CF-52-RRA-00	20	36.5	94	47	23	53
CF-59-RRA-00	25	42.5	104	52	25	60
CF-70-RRA-00	30	51.0	140	70	35	70

CD-\*\*-RRA-00



Dimension Name	d	D	$\varnothing$	C	LD	A	Rotational diameter SW
CD-32-RRA-00	14	25.0	30	15	115	55	33
CD-42-RRA-00	16	32.5	38	18	147	71	43
CD-52-RRA-00	20	36.5	47	23	162	68	53
CD-59-RRA-00	25	42.5	52	25	184	80	60
CD-70-RRA-00	30	51.0	70	35	245	105	70

Inquire us intermediate spline shaft.

# C Series Selection table

Item Name	Allowable rotating speed (min <sup>-1</sup> )	Allowable operating angle(°)	Allowable torque(N.m)	Static breaking torque(N.m)
CF-32	5000	20	29	110
CF-42	5000	20	78	310
CF-52	5000	20	140	580
CF-59	5000	20	240	960
CF-70	3500	20	340	1300
CD-32	5000	one side 20	29	110
CD-42	5000	one side 20	78	310
CD-52	5000	one side 20	140	580
CD-59	5000	one side 20	240	960
CD-70	3500	one side 20	340	1300

Relation between rotating speed and angle

$$\text{Rotating speed}(\text{min}^{-1}) \times \text{Angle}(\text{°}) < 18000$$

Calculation formula of life expectancy

$$LH = \frac{1.5 \times 10^6}{N \times \alpha} \times \left(\frac{C}{P}\right)^3$$

$$P = \frac{T \times 10^3}{\cos \alpha \times \varrho}$$

LH = Life expectancy (H)

N = Rotating speed (min<sup>-1</sup>)

$\alpha$  = Angle (°)

C = Load rating of needle bearing (N)

P = Load imposed on needle bearing (N)

T = Shaft torque (N.m)

$\varrho$  = Distance between points of torque application of cross kit (mm)

## Calculation example

Life of the CF-42 type under the following conditions, rotating speed 700 min<sup>-1</sup>, angle 10°, and torque 30 N.m, is calculated below.

$$P = \frac{30 \times 10^3}{\cos 10^\circ \times 29.3} \approx 1040 \text{N}$$

$$LH = \frac{1.5 \times 10^6}{700 \times 10} \times \left(\frac{3200}{1040}\right)^3 \approx 6200 \text{h}$$

Name	C(N)	$\varrho$ (mm)
C*-32	2700	22.15
C*-42	3200	29.3
C*-52	5600	35.3
C*-59	6400	41.4
C*-70	7000	47.5

Note : NBR (butadiene acrylonitrile rubber) is used for oil seal. Consider secular deterioration which occurs irrespective of calculated life expectancy.