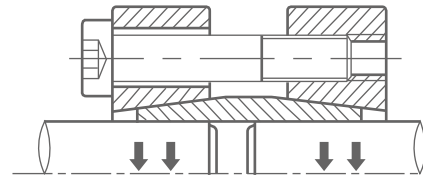


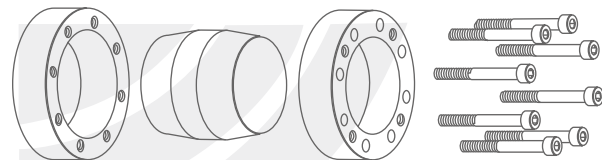
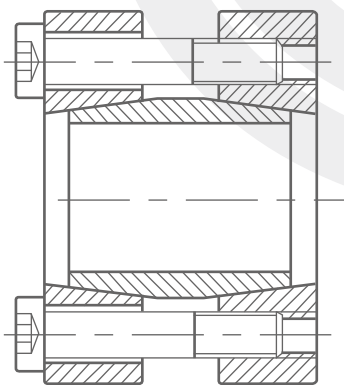
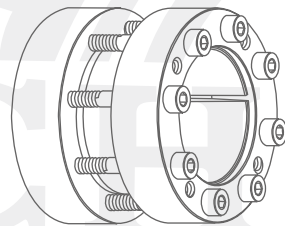
# CAPT-LOCKS



suit for shaft diameter  
f15~f110mm

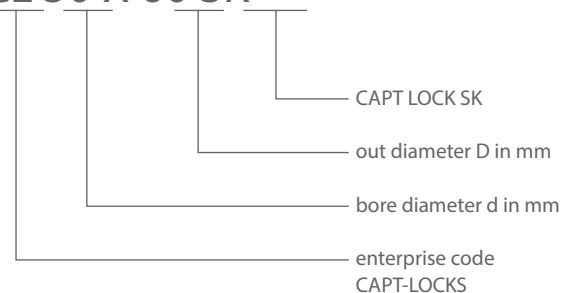
SK CAPT-LOCKS are the developing types of SD CAPT-LOCKS. They are suitable for the joint between long shafts and hubs and can transmit bigger torque. They can replace couplings in some mechanical transmission if the shaft diameter and precision are the same.

The working principle of SK CAPT-LOCKS is as following: under the pressure of tightening bolts, two tightening rings with inner taper surface press the inner ring with outer taper surface and then make it contract to tighten the hubs and shafts. The emerged radial pressure and friction force make the hubs and shafts join together. SK CAPT-LOCKS are composed of one inner ring, two tightening rings with taper surface and the corresponding tightening bolts. They have the characteristics of simple structure, easy on and easy off with the corresponding tightening bolts, low costs and easy to use.



Nomenclature for CAPT-LOCK SK

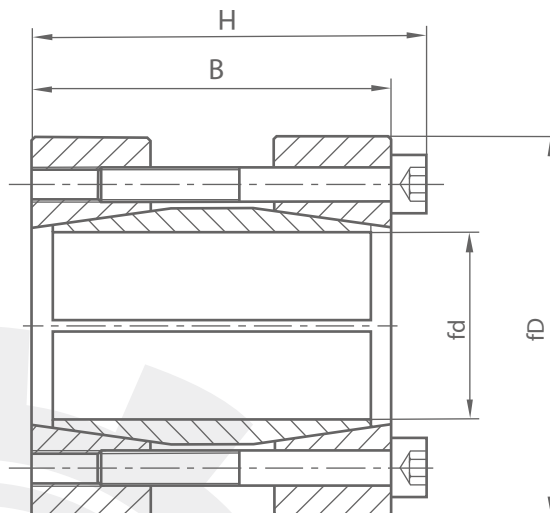
**CL 50 X 60 SK**



**SK** CAPT-LOCKS

# CAPT-LOCKS

# SK



## SK CAPT-LOCKS®

Catalog	Fundamental dimensions		SizesxN	Rated load		Ps	Ma	G
	B	H		Ft(Kn)	Mt(Kn.m)	Mpa	N.m	Kg
CL15x45SK	50	56	M6x4	16.8	0.126	127	17	0.4
CL16x45SK	50	56	M6x4	16.8	0.134	119	17	0.4
CL17x45SK	50	56	M6x4	16.8	0.142	112	17	0.4
CL18x50SK	50	56	M6x4	16.8	0.151	105	17	0.5
CL19x50SK	50	56	M6x4	16.8	0.159	100	17	0.5
CL20x50SK	50	56	M6x4	16.8	0.168	95	17	0.5
CL22x55SK	60	66	M6x4	25.2	0.277	103	17	0.7
CL24x55SK	60	66	M6x4	25.2	0.302	95	17	0.73
CL25x55SK	60	66	M6x6	25.2	0.315	91	17	0.77
CL28x60SK	60	66	M6x6	25.2	0.327	87	17	0.91
CL30x60SK	60	66	M6x6	25.2	0.352	81	17	0.81
CL32x65SK	60	66	M6x6	31.2	0.378	76	17	0.80
CL35x75SK	75	83	M8x4	31.2	0.499	80	42	1.30
CL38x75SK	75	83	M8x4	31.2	0.546	73	42	1.20
CL40x75SK	75	83	M8x4	31.2	0.592	67	42	1.40
CL42x78SK	75	83	M8x4	31.2	0.624	64	42	1.33
CL45x85SK	85	93	M8x6	46.8	0.982	74	42	2.30
CL48x90SK	85	93	M8x6	46.8	1.053	69	42	2.30
CL50x90SK	85	93	M8x6	46.8	1.123	65	42	2.50
CL55x95SK	85	93	M8x8	62.4	1.17	62	42	2.40
CL60x100SK	85	93	M8x8	62.4	1.71	58	42	3.00
CL65x105SK	85	93	M8x8	62.4	1.87	53	42	3.30
CL70x115SK	100	110	M10x6	62.4	2.02	49	84	4.10
CL75x120SK	100	110	M10x6	91	2.12	47	84	3.80
CL80x125SK	100	110	M10x8	98.4	3.44	66	84	5.20
CL85x130SK	100	110	M10x8	123	3.69	62	84	5.50
CL90x135SK	100	110	M10x8	123	4.92	73	84	7.00
CL95x140SK	120	132	M10x8	123	5.22	68	84	7.50
CL100x150SK	120	132	M12x8	144	5.53	65	145	7.80
CL105x155SK	120	132	M12x8	144	5.84	57	145	7.90
CL110x160SK	120	132	M12x8	180	7.20	65	145	10.4

### Key elements for designing and calculation:

1. Determine max torque needed and max axial load

$$M_{t \max} = \frac{30000H}{p \cdot n} \cdot K \text{ (N m)}$$

$$F_{t \max} = F_t \cdot K$$

H--Transmission power KW

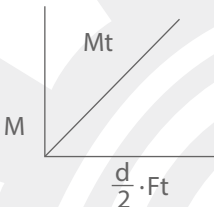
n--rotational speed r/min

K--coefficient needed

Sheet for coefficient needed, K

No shock load, transmitting with little inertia	1.5 - 2.5
Slight shock load, transmitting with middle inertia	2.0 - 4.0
Big shock load, transmitting with heavy inertia	3.0 - 5.0

2. Calculate synthetic load and transmitted torque

$$M = \sqrt{M_t^2 - \left(\frac{d}{2} \cdot F_t\right)^2}$$


M--Required transmitted torque N.M

Mt--CAPT lock rated transmitted torque N.m

Ft--Rated axial force N

d--Transmission shaft diameter mm

Mt ≥ M, can be used.

Mt < M, need bigger type of CAPT lock or to be installed by two CAPT locks or more together

3. Determine the surface roughness and dimension tolerance

$$D_a \geq D \sqrt{\frac{\sigma_b + K_a \cdot P_h}{\sigma_b - K_a \cdot P_h}}$$

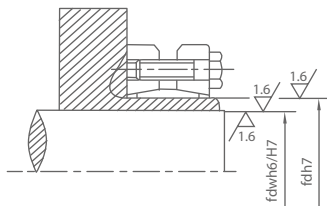
Da--outside diameter of hub mm

D--inside diameter of hub mm

Ph--surface pressure on hub Mpa

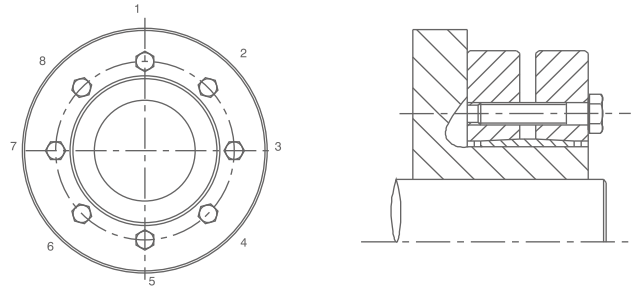
σb--tensile strength of material

Ka--It should be 0.6 for single CAPT lock, it will be 0.8 when two CAPT locks or more are installed together



Fitting section	Ra(um) Surface roughness	Dimension precision
Shaft diameter d	1.6/√	h8 - H9
Bore diameter D	1.6/√	H8 - H9

4. Installation and disassembling for SD & SK type CAPT lock.

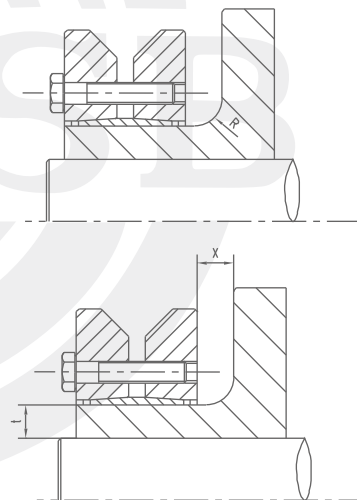


1. Clean the CAPT locks, hubs and shafts before installation. compose the CAPT LOCKS with hub and shaft, adjust it to suitable position for installation.

2. Install the tightening bolts into the corresponding tap bores and twist them according to the drawing in proper order. The bolts should be tightened by giving more and more force step by step in several times until up to the rated torque. Torque spanner have to be used to twist tightening bolts in order to ensure the rated torque.

3. Loose and remove all the tightening bolts in order to ensure the CAPT LOCKS disassemble properly.

5. Attention to the designing for hub structure.



In order to ensure the hubs with enough strength, the interim radius must be bigger than 6mm, the distance X between the face of CAPT lock and the face of hubs must be bigger than R, and also should meet X.t.

6. Operation attention

1. The actual torque will be reduced 10% due to the jointed shafts with deway.

2. SD and SK type Capt Locks should work under temperature from -30 °C to +200 °C.

3. Pay attention to anti-rust, avoid to influence life time and affect disassembling when used outside.

4. Please do not exchange tightening bolts. Please contact with seller to exchange if they were damaged.