

Chain Couplings



The H.K.H chain coupling, composed of two-strand roller chains and two sprockets, features simple and compact structure, and high flexibility, power transmission capability and durability, What's more, the chain coupling allows simple connection/disconnection, and the use of the housing enhances safety and durability.

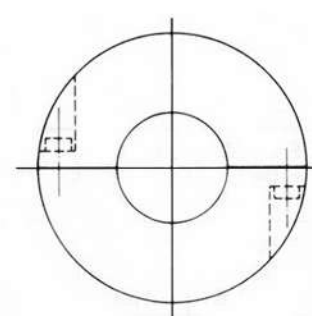
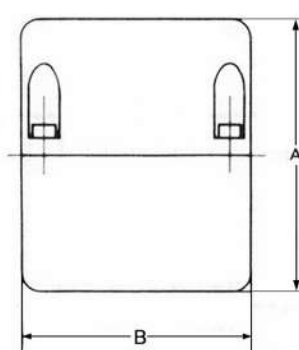
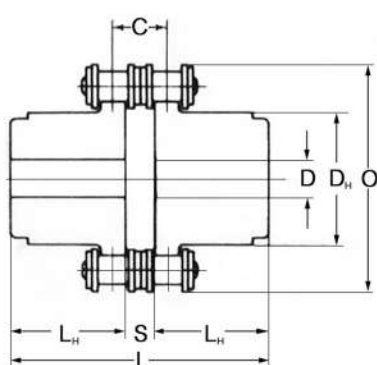


Coupling



Casing

Make sure to use the housing for high-speed operation, and for use in dusty or corrosive environment.



Dimensions (Millimeters)

Coupling Number	Chain pitch	Coupling										Casing		
		Drill hole	Shaft diam.		O	L	D _H	L _H	S	C	Approx weight (kg)	A	B	Approx weight (kg)
			Min.	Max.										
3012	9.525	12	13.5	16	45	65	27.2	29.5	6.0	10.1	0.31	69	63	0.22
4012	12.70	12	14	22	62	79.4	36	36	7.4	14.4	0.73	77	72	0.30
4014	12.70	12	14	28	69	79.4	45	36	7.4	14.4	1.12	84	75	0.31
4016	12.70	13.5	16	32	77	87.4	51.5	40	7.4	14.4	1.50	92	72	0.35
5014	15.875	14.5	17	35	86	99.7	56	45	9.7	18.1	2.15	101	85	0.47
5016	15.875	14.5	18	40	96	99.7	64	45	9.7	18.1	2.75	110	87	0.50
5018	15.875	16	18	45	106	99.7	73.5	45	9.7	18.1	3.60	122	85	0.60
6018	19.05	20	22	56	127	123.5	89.5	56	11.5	22.8	6.55	147	105	1.2
6020	19.05	20	24	60	139	123.5	102.5	56	11.5	22.8	8.38	158	105	1.2
6022	19.05	20	28	71	151	123.5	110	56	11.5	22.8	10.4	168	117	1.2
8018	25.40	20	32	80	169	141.2	115	63	15.2	29.3	13.2	190	129	1.9
8020	25.40	20	36	90	185	145.2	125	65	15.2	29.3	16.2	210	137	2.5
8022	25.40	20	40	100	202	157.2	142	71	15.2	29.3	21.8	226	137	2.7
10020	31.75	25	45	110	233	178.8	162	80	18.8	35.8	32.4	281	153	4.1
12018	38.10	35	50	125	256	202.7	173	90	22.7	45.4	43.2	307	181	5.2
12022	38.10	35	56	140	304	222.7	213	100	22.7	45.4	69.1	357	181	6.7
16018	50.80	-	68	160	341	250.1	220	112	30.1	58.5	122	402	240	9.6
16022	50.80	-	78	200	405	360.1	280	165	30.1	58.5	185	466	240	16.3
20018	63.50	-	88	205	424	519.6	295	241	37.6	71.6	288	490	270	19
20022	63.50	-	98	260	505	519.6	375	241	37.6	71.6	334	570	270	25

Note: The first two or three digits of the coupling No. imply chain No. and the two succeeding digits imply the number of teeth.

Chain couplings



Selection

1. Operating Conditions

- Operating hours/day
- Types of load and prime mover
- Transmission power (kw) and speed (rpm) of coupling
- Diameters of both shafts

2. Selection Method

- Find service factor from the service factor table according to operating conditions a) and b)
- Determine the compensated power (kw) by multiplying the transmission power kw by the service factor.
- Find a proper coupling, which meets the compensated power, from the power transmission capacity table below according to the operating speed of the coupling.
- If maximum allowable shaft diameter specified for the selected coupling is smaller than the actual shaft diameter, reselect the larger coupling with proper allowable shaft diameter.
- When using standard key at a low speed, the pressure acting on the key surface will be increased excessively in some cases. Therefore, It is required to calculate the pressure acting on the key surface to find whether the use of special key or spline is necessary

• Service factors

Operating conditions	Operating hours/day			
	8 h	8-16 h	8 h	8-16h
Small load variations, small impact, light load, no reversing	1.0	1.5	2.0	2.5
Medium load variations, medium impact, no reversing (normally)	1.5	2.0	2.5	3.0
Large load variations, large impact, reversing while loaded	2.0	2.5	3.0	3.5
Type of prime mover	Motor, turbine		Combustion engine	

NOTE : In case of 16 operating hours day or longer, add 1.0 to service factor in the case of 8 operating hours day, provided that service factor for 8 operating hours day is applicable when speed is 50 rpm or less.

• Power Transmission Capacity (KW)

Coupling No.	Max. shaft diam. (mm)	Allowable transmission torque at 50 rpm or less (kgf.m)	Coupling speed (rpm)																							
			1	5	10	25	50	100	200	300	400	500	600	800	1000	1200	1500	1800	2000	2500	3000	3600	4000	4800	5200	6000
3012	16	10.2	0.01	0.05	0.11	0.26	0.52	0.79	1.21	1.58	1.89	2.26	2.58	3.19	3.88	4.41	5.35	6.25	6.73	8.12	9.44	11.0	12.0	14.0	14.8	16.7
4012	22	22.2	0.02	0.11	0.22	0.58	1.15	1.73	2.63	3.46	4.15	4.96	5.67	7.01	8.53	9.68	11.6	13.7	14.8	19.9	20.7	24.1	26.3	30.8		
4014	28	30.2	0.03	0.16	0.32	0.79	1.58	2.36	3.59	4.72	5.66	6.77	7.72	9.56	11.64	13.21	15.8	18.7	20.2	24.4	28.3	32.9	35.9	42.1		
4016	32	39.4	0.04	0.21	0.41	1.03	2.06	3.09	4.69	6.17	7.41	8.85	10.1	12.5	15.3	17.3	21.0	24.4	26.3	31.9	37.0	43.0	46.9	54.9		
5014	35	57.4	0.06	0.30	0.60	1.50	3.00	4.48	6.80	8.95	10.7	12.8	14.7	18.1	22.1	25.1	30.0	35.4	38.3	46.2	53.6	62.4				
5016	40	75.0	0.08	0.39	0.78	1.95	3.91	5.86	8.92	11.7	14.1	16.8	19.2	23.8	28.9	32.9	39.9	46.4	50.0	60.6	70.4	81.6				
5018	45	95.0	0.10	0.50	0.99	2.48	4.95	7.43	11.3	14.9	17.8	21.3	24.4	30.1	36.6	41.6	50.5	58.8	63.4	76.6	89.2					
6018	56	179	0.18	0.93	1.87	4.67	9.33	14.0	21.3	28.0	33.6	40.1	45.9	56.8	69.1	78.4	95.2	111	120	145						
6022	71	242	0.25	1.25	2.51	6.31	12.5	18.8	28.6	37.7	45.3	54.1	61.9	76.5	93.1	105	128	149	161	195						
8018	80	396	0.41	2.07	4.14	10.3	20.7	31.0	47.2	62.1	74.5	89.0	101	126	153	174	211	246	265							
8022	100	570	0.59	2.96	5.93	14.8	29.6	44.5	67.2	89.0	106	127	146	180	219	249	302	352	379							
10020	110	896	0.93	4.66	9.33	23.3	46.6	70.0	106	140	168	200	229	283	345	392	476	554								
12018	125	1,350	1.40	7.02	14.0	35.1	70.2	105	160	210	252	302	345	426	519	590	716									
12022	140	1,750	1.81	9.07	18.1	45.3	90.7	136	206	272	326	390	446	551	671	762										
16018	160	2,920	3.03	15.1	30.3	75.8	151	227	345	455	546	652	746	922	1122											
16022	200	4,260	4.43	22.1	44.3	110	221	333	506	665	799	954	1090	1350	1640											
20018	205	5,820	6.06	30.3	60.6	151	303	454	691	909	1090	1300	1490	1840												
20022	260	7,340	7.63	38.2	76.3	191	382	572	871	1140	1370	1640	1880													
Lubrication method			A					B					C													

NOTE : Be sure to use the casing with the coupling in the case of lubrication type. C. or details of lubrication types A and B, refer to "lubrication" section.

Lubrication

There are three methods to lubricate chain Couplings. According to operating speed (see Power Transmission Capacity table)

- Lubrication method A : Greasing monthly.
 Lubrication method B : Greasing weekly or filling grease in the casing attached.
 Lubrication method C : Filling grease in the casing attached.

NOTE: When attaching the casing, use high-quality grease because the grease is pressed to the inside wall of the casing due to centrifugal force, deteriorating lubricating ability of the grease. It is recommended to change the grease periodically to maintain high performance and durability of the coupling

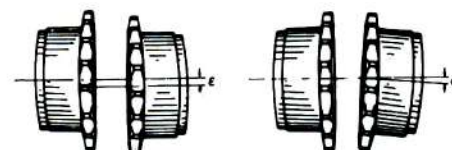
• Grease change intervals (with casing attached)

Operating conditions	Grease change intervals	
	First change	2 nd and later changes
Operation at 1/2 max. speed or higher	1000 hours	2000 hours
Operation at max. speed or lower	2000 hours	4000 hours

• Grease filling quantity

Coupling No	Filling quantity (kg)	Coupling No	Filling quantity (kg)
3012	0.08	6020	0.44
4012	0.12	6022	0.48
4014	0.16	8018	0.79
4016	0.17	8020	0.86
5014	0.24	8022	1.0
5016	0.25	10020	1.7
5018	0.26	12018	3.5
6018	0.42	12022	4.5

Coupling Allowance (Shaft deviation and misalignment)



Allowable errors:
 ϵ = 2% or less of pitch of roller chain used
 α = 1° or less
 In case of high-speed operation, shaft deviation and misalignment must be 1/2 allowable errors.