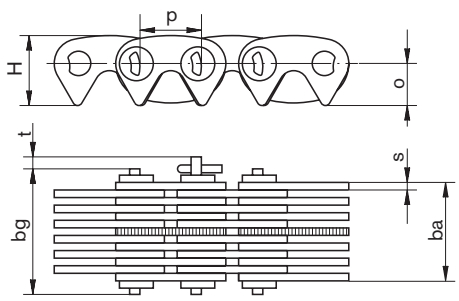
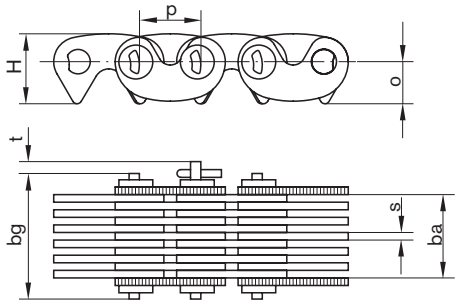
HDL inverted tooth chains





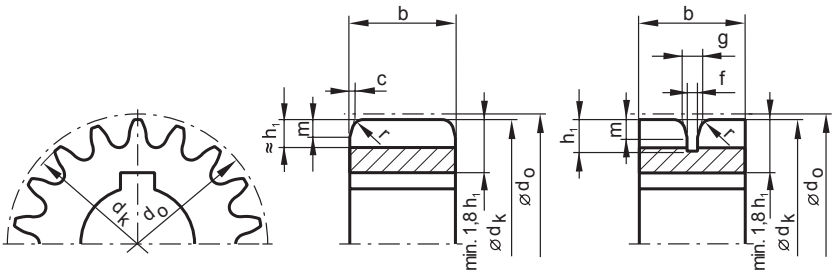
Pitch p	Designation no.	RZ	Nominal width b_n	Working width b_a	Total width b_g	Design breaking load	Weight [kg/m]	Sprocket width b	H	o	s	t
3/8" = 9.525 mm	HDL 015 A	10	15	12.5	19.9	14.5	0.9	11.5	10.9	6.7	1.5	2.0
	HDL 020 A	13	20	17.2	24.5	17.7	1.1	16.0				
	HDL 025	17	25	26.6	30.8	27.4	1.4	30.0				
	HDL 030	21	30	32.9	37.1	33.9	1.7	35.0				
	HDL 040	25	40	39.1	43.3	40.3	2.0	45.0				
	HDL 050	33	50	51.6	55.8	53.2	2.6	55.0				
	HDL 065	41	65	64.2	68.4	66.2	3.3	70.0				
1/2" = 12.7 mm	HDL 315 A	10	15	12.5	21.3	20.2	1.1	11.5	14.5	8.7	1.5	2.5
	HDL 320 A	13	20	17.2	25.9	24.7	1.4	16.0				
	HDL 325	17	25	26.6	32.2	38.2	1.8	30.0				
	HDL 330	21	30	32.9	38.5	47.3	2.2	35.0				
	HDL 340	25	40	39.1	44.7	56.3	2.6	45.0				
	HDL 350	33	50	51.6	57.2	74.3	3.4	55.0				
	HDL 365	41	65	64.2	69.8	92.3	4.3	70.0				
	HDL 375	49	75	76.7	82.3	110.3	5.1	80.0				
	HDL 3100	65	100	101.7	107.3	146.4	6.7	105.0				
3/4" = 19.05 mm	HDL 530 A	15	30	27.0	38.2	59.6	3.3	26.0	21.0	10.7	2.0	3.5
	HDL 535	17	35	35.4	42.4	78.0	3.7	40.0				
	HDL 540	21	40	43.7	50.7	96.3	4.5	50.0				
	HDL 550	25	50	52.0	59.0	114.7	5.4	55.0				
	HDL 565	33	65	68.6	75.6	151.4	7.1	75.0				
	HDL 585	41	85	85.3	92.3	188.1	8.9	90.0				
	HDL 5100	49	100	101.9	108.9	224.9	10.6	105.0				
	HDL 5125	61	125	126.9	133.9	279.9	13.2	130.0				
	HDL 5150	73	150	151.8	158.8	335.0	15.8	155.0				
	HDL 5200	97	200	201.8	208.8	445.2	20.9	205.0				
1" = 25.4 mm	HDL 640	13	40	40.2	48.2	112.1	5.6	45.0	27.7	14.0	3.0	6.0
	HDL 650	17	50	52.6	60.6	146.6	7.3	55.0				
	HDL 665	21	65	65.0	73.0	181.1	9.0	70.0				
	HDL 675	25	75	77.4	85.4	215.6	10.7	80.0				
	HDL 6100	33	100	102.1	110.1	284.7	14.1	105.0				
	HDL 6125	41	125	126.9	134.9	353.7	17.5	130.0				
	HDL 6150	49	150	151.7	159.7	422.7	21.0	155.0				
	HDL 6200	65	200	201.2	209.2	560.7	27.8	205.0				

Dimensions in mm – Design breaking load in kN – RZ (Number of rows) = number of all link plates per joint – Other pitches and widths on request.

■ HDL inverted tooth chains are delivered open and with a split pin lock if not specified otherwise. ■ Revolving chains require an even number of links. Chains with an uneven number of links could not be closed. ■ Uneven numbers of links are permitted only if the ends of the chain are connected to external parts.

Drive technology with inverted tooth chains from Renold. Order no. RTC Drive Technology/2016-03/EN

HDL inverted tooth sprockets



Minimum number of teeth:
The theoretical minimum is 17, but in practice, it should not be below 23 teeth.

Tip diameter d_k				
Number of teeth z	3/8"	1/2"	3/4"	1"
17	48.1	63.9	100.7	134.3
18	51.2	68.0	106.9	142.6
19	54.3	72.2	113.1	150.8
20	57.4	76.3	119.3	159.1
21	60.5	80.4	125.5	167.3
22	63.5	84.6	131.6	175.5
23	66.6	88.7	137.8	183.7
24	69.7	92.8	143.9	191.9
25	72.8	96.9	150.0	200.1
26	75.8	101.0	156.2	208.3
27	78.9	105.0	162.3	216.4
28	82.0	109.1	168.4	224.6
29	85.0	113.2	174.5	232.7
30	88.1	117.3	180.7	240.9
31	91.2	121.4	186.8	249.0
33	97.3	129.5	199.0	265.3
35	103.4	137.7	211.2	281.6
37	109.5	145.8	223.4	297.9
39	115.6	153.9	235.6	314.1
41	121.7	162.1	247.8	330.3
43	127.8	170.2	260.0	346.6
45	133.9	178.3	272.1	362.8
47	139.9	186.4	284.3	379.0
49	146.0	194.5	296.4	395.3
51	152.1	202.6	308.6	411.5
55	164.3	218.9	332.9	443.9
60	179.5	239.1	363.3	484.4
70	209.9	279.6	424.0	565.4
80	240.2	320.1	484.8	646.4
90	270.6	360.6	545.5	727.3
100	300.9	401.1	606.1	808.2
110	331.3	441.5	666.8	889.1
120	361.6	482.0	727.5	970.0
130	391.9	522.4	788.2	1050.9
140	422.3	562.8	848.8	1131.8
150	452.6	603.3	909.5	1212.6

Guideway and profile				
Pitch p	3/8"	1/2"	3/4"	1"
g	4.0	4.0	5.0	8.0
f	3.0	3.0	4.0	6.0
h_1	6.0	7.0	12.0	15.0
m	4.0	5.0	8.0	10.0
r	2.0	2.0	3.0	3.0
c	0.5	0.5	0.5	1.0

The pitch circle diameter helps determine the correct external diameter of the sprocket with an attached chain in new condition.

Pitch circle diameter:

$$d_0 = \frac{p}{\sin(180\,°/z)}$$

Max. diameter incl. chain:

$$D_{max} = d_0 + 2 \cdot (H\text{-}o)$$

Dimensions in mm – Interpolate intermediate values