# PRODUCTS GUIDE X-Ring Chain.



# DRIVEN TO SOLUTIONS The D.I.D Brand

Known for its Durability and Dependability In Design.

As established technical innovator in the world chain drive market, serving a broad spectrum of industries with quality products for over 75 years.

That is D.I.D. Our technology turns timely ideas into productive realities.

D.I.D a professional partnership you can count on for your optimum drive system solutions.

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# DID is a brand you can depend on.

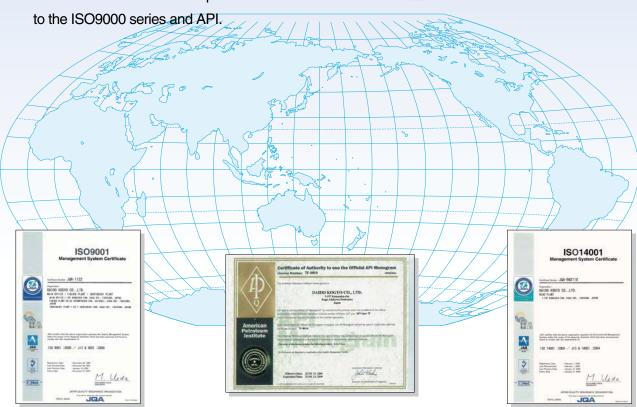
# Certified Management System in Conformity with World Standards

Quality assurance and environmental management system authorized by domestic and overseas standards.

# **DID's Quality Assurance**

- Customer satisfaction is our priority.
- All DAIDO members are committed to quality.
- Quality control based on facts is assured.

With activities based on these quality policies, our quality assurance system is internationally authorized to state that our products conform Proud of MADE IN JAPAN Quality



#### ISO9001/2000 Certification

It is indispensable to obtain the certification of ISO9001/2000 for supplying products to overseas markets - not only Europe and the US but also other countries. Our entire production system, including design, development, manufacturing, installation and technical assistance for all of our products including various chains, conveyor systems and welfare equipment, has been certified by the Japan Quality Assurance Organization (JQA).

#### **Authorization by API**

The American oil industry applies rigid quality control standards to all mechanical parts used in oil field development and oil refining. The organization that examines the conformity with their standards for authorization is called API (American Petroleum Institute).

Since receiving authorization from API in 1972, we have been supplying DID roller chains and sprockets to many companies not only in the USA but also all over the world under our rigid quality control system.

#### **ISO14001 Certification**

ISO14001 was established in 1996 by the International Organization for Standardization, to set requirements for environmental management systems. In order to preserve the global environment, reverse contamination and enhance the health of human beings and ecosystems, DAIDO declared our policies for environmental preservation. As a result, our management system for our activities, products and service for environmental protection was certified by the organization. We have been engaged in various activities for environmental preservation and improvement, such as reduction of waste and classification of waste for recycling, in accordance with our environmental policies.

# **Standard Roller Chain**

# Worldwide standard chains complying with ISO and ANSI

The 14 sizes of DID standard roller chains are available ranging from DID25 to DID240 including those in conformity with ANSI (American National Standard Institute), and ISO (International Organization for Standardization).

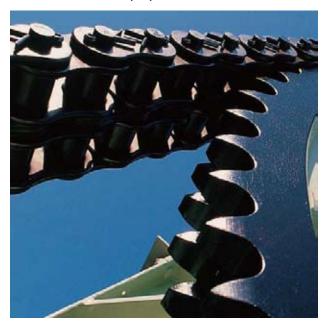
The chains not only meet the requirements for the minimum tensile strength prescribed by ANSI and ISO, but they also provide the top class quality in the world including a high fatigue strength.

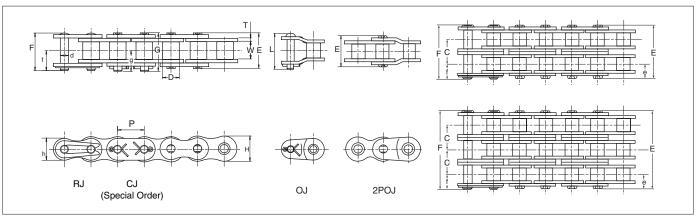
#### Suitable uses

General use for driving and lifting equipment.

#### **Examples**

Driving transfer units and other equipment.





# **Standard Roller Chain**



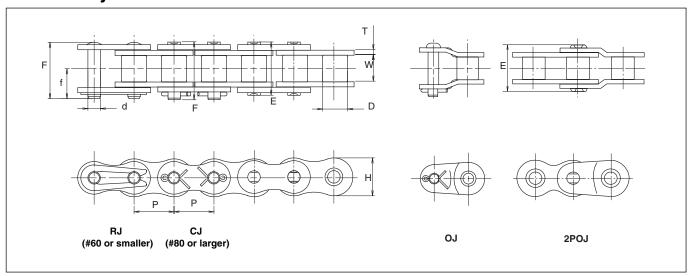
# **Dimensions**

Chain	No.	Pitch	Roller link width	Bush dia.				F	Pin					Transverse pitch		Plate		JIS Min. tensile	DID Min. tensile	DID Avg. tensile	DID Max. allowable
DID	JIS	P	W	D	d	E	F	G	L	е	f	ı	g	c	T	н	h	strength <b>kN</b>	strength <b>kN</b>	strength <b>kN</b>	load <b>kN</b>
DID25	**					7.8	8.5											3.6	3.63	4.41	0.73
DID25-2	**	6.35	3.18	3.30	2.31	14.4 20.8	15.0 21.4			3.9	4.7			6.4	0.72	5.9	5.2	7.2 10.8	7.26 10.89	8.82 13.20	1.17 1.76
DID25-3 DID25H	**					9.00	9.45				5.15				1.00			10.8	10.67	5.88	1.76
DID35	35					12.0	13.1	14.1										8.7	8.83	11.2	2.15
DID35-2 DID35-3	35-2 35-3	9.525	4.78	5.08	3.59	22.1 32.2	23.2 33.4	23.5		6.0	7.3		7.4	10.1	1.25	9.0	7.75	17.4 26.1	17.66 26.49	22.5 33.8	3.62 5.39
DID41	41	12.70	6.38	7.77	3.59	13.7	14.6	33.7	15.3	6.9	7.9	8.5			1.20	9.6	8.0	7.40	8.83	10.7	2.35
DID40	40					16.5	17.6	18.1	19.1									15.2	15.69	19.1	3.72
DID40-2 DID40-3	40-2 40-3	12.70	7.95	7.92	3.97	31.0 45.4	32.1 46.4	32.6 47.0	33.6 47.9	8.3	9.5		10.1	14.4	1.50	12.0	10.4	30.4 45.6	31.38 47.07	38.2 57.3	6.27 9.31
DID40-3	40-3	12.70	7.93	7.92	3.97	59.9	61.0	61.4	61.4	0.3	9.5		10.1	14.4	1.50	12.0	10.4	66.8	62.76	76.4	12.2
DID40-5	40-5					74.3	75.4	75.8	75.8									76.0	78.45	95.6	14.5
DID50	50					20.3	21.9	22.1 40.3	23.2									24	26.48	30.8	6.86
DID50-2 DID50-3	50-2 50-3	15.875	9.53	10.16	5.09	38.5 56.7	40.1 58.3	58.5	59.5	10.2	11.6		121.1	18.1	2.00	15.0	13.0	48 72	52.96 79.44	61.7 92.6	11.6 17.1
DID50-4	50-4					74.8	76.4	76.6	76.6									96	105.9	123	22.6
DID50-5	50-5					93.0	94.5	94.7	94.7									120	132.4	155	26.7
DID60 DID60-2	60 60-2					25.4 48.3	26.9 49.8	27.9 50.9	29.8 52.5									34.2 68.4	35.30 70.60	44.1 88.2	9.31 15.7
DID60-3	60-3	19.05	12.70	11.91	5.96	71.2	72.7	73.7	75.3	12.7	14.3		15.1	22.8	2.40	18.1	15.6	102.6	105.9	132	23.2
DID60-4	60-4					94.0	95.5	96.5	96.5									136.8	141.2	176	30.6
DID60-5 DID80	60-5 80					116.8 32.5	118.8	119.3 35.5	119.3 37.1									171.0 61.2	176.5 71.59	220 78.4	36.2 14.7
DID80-2	80-2					61.8		64.7	66.3									122.4	143.1	156	25
DID80-3	80-3	25.40	15.88	7.94	5.96	91.3		94.0	95.1	16.3			19.25	29.3	3.20	24.1	20.8	183.6	214.7	235	36.7
DID80-4	80-4					120.6		123.3	124.4									244.8	286.3	313	48.5
DID80-5 DID100	80-5 100					149.9 39.5		42.6	45.2									306.0 95.4	357.9 107.0	392 118	57.3 22.5
DID100-2	100-2					75.4		78.3	81.1									190.8	215.7	237	38.3
DID100-3		31.75	19.05	19.05	9.54	111.2		114.2	115.2	19.8			22.8	35.8	4.0	30.1	26.0	286.2	323.6	355	56.3
DID100-4 DID100-5	100-4 100-5					147.0 182.9		150.0 185.9	151.0 186.9									381.6 477.0	431.4 539.3	474 593	74.4 87.9
DID120	120					49.8		53.8	56.1									137.1	147.1	166	30.4
DID120-2						75.4		99.2	99.6									274.2	294.2	333	51.6
DID120-3 DID120-4		38.10	25.40	22.23	11.11	140.6 186.1		143.9	145.0 190.5	24.9			28.9	45.4	4.80	36.2	31.2	411.3 548.4	441.3 588.4	500 666	76 100
DID120-5	120-5					231.5		234.8	235.9									685.5	735.5	833	118
DID140	140					53.6		58.4	59.6									185.9	193.1	215	40.2
DID140-2 DID140-3		11 15	25.40	25.40	12 71	102.6		107.4	108.6 157.5	26.8			31.7	48.9	5.60	<i>4</i> 1 O	36.3	371.8 557.7	386.3 579.5	431 647	68.3 100
DID140-4		44.45	25.40	25.40	12.71	200.5		205.3		20.0			31.7	40.7	3.00	41.7	30.3	743.6	772.7	862	132
DID140-5						249.4		254.2	255.4									929.5	965.9	1,070	156
DID160 DID160-2	160-2					63.6 122.2		68.2 126.8	69.7 128.3									244.6 489.2	245.1 490.3	269 539	52.9 90.9
DID160-2		50.80	31.75	28.58	14.29	180.8		185.4	186.9	31.9			36.5	58.5	6.40	47.8	41.4	733.8	735.5	809	132
DID160-4	160-4					239.3		243.8	245.4									978.4	980.6	1,070	178
DID160-5	160-5 180					297.8 71.5		303.4 77.3	303.9 79.3									1,223.0	1,225	1,340 362	206 61.7
DID180 DID180-2						137.4			145.2									308.2 616.4	333.4 666.8	725	105
DID180-3		57.15	35.72	35.71	17.46			209.1	211.1	35.8			41.6	65.8	7.10	53.8	46.6	924.6	1,000	1,088	154
DID180-4						269.1		274.9	276.9									1,232.8	1,333	1,451	203
DID180-5 DID200	180-5					334.9 77.9		340.7 85.0	342.7 87.3									1,541 381.7	1,667 431.4	1,814 470	73.5
DID200-2						149.6			159.0									763.4	862.9	941	125
DID200-3		63.50	38.1	39.68	19.85			228.3	230.6	39.0				71.6	8.00	60.0	52.0	1,145.1	1,294	1,412	183
DID200-4 DID200-5						292.9 364.5		299.9 371.5	302.2									1,526.8	1,725 2,157	1,882 2,353	242
	240					95.2		102.9	105.4									550.4	622.7	686	99
DID240-2						183.1		190.8	193.3									1,100.8	1,245	1,370	168
DID240-3 DID240-4		76.20	47.63	47.63	23.81	270.9 358.7		278.6 366.4	281.1 368.9	47.7			55.3	87.8	9.50	71.5	62.0	1,651.2 2,201.6	1,868 2,490	2,050 2,740	247 326
DID240-5						446.5			456.7									2,752	3,113	3,430	386

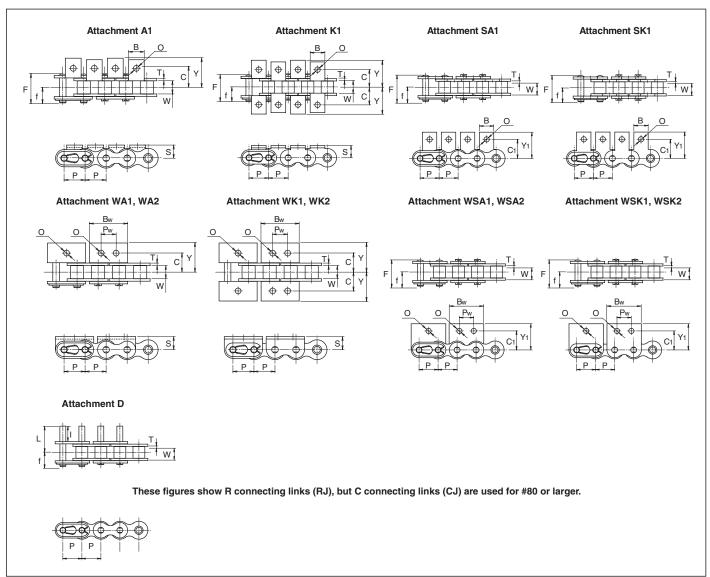
# DID

# Standard Roller Chain (with Attachment)

# **Chain Body**



#### **Attachment**



# Standard Roller Chain (with Attachment)



# **Dimensions of Chain Bodies**

Unit (mm)

Chain No.	Pitch	Roller link width	Roller (bushing) dia.		Pi	n		Plo	ate	Avg. tensile strength	Max. allowable load	Approx. weight without attachments
	P	W	D	d	E	F	f	T	Н	kN	kN	(kg/m)
*DID 25	6.35	3.18	(3.30)	2.31	7.8	8.50	4.7	0.72	5.9	4.02	0.63	0.13
*DID 35	9.525	4.78	(5.08)	3.59	12.0	13.1	7.3	1.25	9.0	9.31	1.47	0.32
DID 41	12.70	6.38	7.77	3.59	13.7	14.6	7.9	1.20	9.6	10.1	1.67	0.39
DID 40	12.70	7.95	7.92	3.97	16.5	17.6	9.5	1.50	12.0	16.6	2.64	0.63
DID 50	15.875	9.53	10.16	5.09	20.3	21.9	11.6	2.00	15.0	27.9	4.41	1.06
DID 60	19.05	12.70	11.91	5.96	25.4	26.9	14.3	2.40	18.1	40.2	6.37	1.44
DID 80	25.40	15.88	15.88	7.94	32.6	35.4	19.0	3.20	24.0	78.4	10.7	2.55
DID 100	31.75	19.05	19.05	9.54	39.5	42.5	22.7	4.00	29.9	118	1 <i>7</i> .1	3.79
DID 120	38.10	25.40	22.23	11.11	49.7	53.0	28.2	4.80	35.9	166	24.5	5.49
DID 140	44.45	25.40	25.40	12.71	53.6	58.4	31.7	5.60	41.9	215	32.3	7.11
DID 160	50.80	31.75	28.58	14.29	63.6	68.2	36.5	6.40	47.8	269	41.2	9.82
DID 200	63.50	38.10	39.68	19.85	77.9	85.0	46.0	8.00	60.0	470	68.6	16.5

#### **Dimensions of attachment**

	,,,,,,,	<u> </u>	.0111110										
Chain No	Pitch	A	Attachment A1, K1			hment , SK1	Com dimer		Atta	chment D	Approx.	additional wo attachment (kg)	eight per
	P	С	Y	S	C1	Υl	В	0	ı	L	A,SA	K,SK	D
*DID 25	6.35	7.15	10.7	4.76	7.94	11.50	5.56	3.4	6.00	9.2	0.0003	0.0006	0.00002
*DID 35	9.525	9.52	14.4	6.35	9.52	14.70	7.94	3.5	9.52	14.6	0.001	0.002	0.0009
DID 41	12.70	11.91	17.5	7.14	12.30	17.50	9.53	3.5	9.52	15.4	0.0015	0.003	0.0009
DID 40	12.70	12.70	17.6	7.92	12.70	17.50	9.53	3.5	9.52	16.8	0.002	0.004	0.001
DID 50	15.875	15.88	23.0	10.31	15.88	22.60	12.70	5.2	11.91	21.0	0.003	0.006	0.002
DID 60	19.05	19.05	27.0	11.91	18.26	26.20	15.88	5.2	14.27	25.7	0.006	0.012	0.003
DID 80	25.40	25.40	34.9	15.88	24.61	34.05	19.05	6.8	19.05	33.9	0.011	0.022	0.007
DID 100	31.75	31.75	43.3	19.84	31.75	42.75	25.40	8.7	23.83	41.9	0.024	0.048	0.012
DID 120	38.10	38.10	53.2	23.01	36.53	50.30	28.58	10.3	28.58	51.4	0.037	0.074	0.02
DID 140	44.45	44.45	61.9	28.58	44.45	62.40	34.92	12.3	33.32	57.8	0.068	0.136	0.03
DID 160	50.80	50.80	69.9	31.75	50.80	68.10	38.10	14.3	38.10	67.4	0.091	0.182	0.045
DID 200	63.50	63.50	90.0	42.87	63.50	84.50	47.60	17.0	47.62	83.4	0.186	0.372	0.106

#### Dimensions of wide attachment

Dillion	510110	01 1110	ao attu	<b>O</b> 11111							
Chain No.	Pitch		Attachment VA2, WK1,	WK2	WSA1,	nment WSA2, ,WSK2	Comm	on dime	ensions	weight per	additional attachment kg)
	P	С	Y	S	C1	Υ1	0	Bw	Pw	WA,WSA	WK,WSK
DID 40	12.70	12.70	17.6	7.92	12.70	17.5	4.5	23.0	9.5	0.003	0.006
DID 50	15.875	15.88	23.0	10.31	15.88	22.6	5.5	28.8	11.9	0.007	0.014
DID 60	19.05	19.05	27.0	11.91	18.26	26.2	6.6	34.6	14.3	0.012	0.024
DID 80	25.40	25.40	34.9	15.88	24.61	34.1	9.0	46.1	19.1	0.026	0.052
DID 100	31.75	31.75	43.3	19.84	31.75	42.8	11.0	57.8	23.8	0.051	0. 102

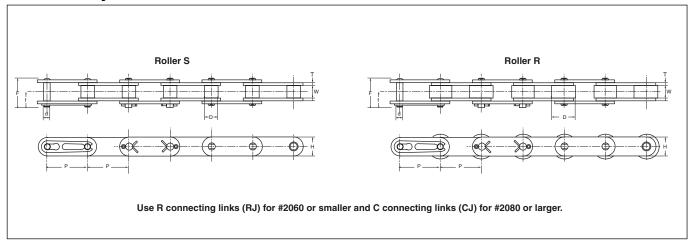
Note: 1. Those marked with \* indicate Bushing Chain .

<sup>2.</sup> The values of the Avg. tensile strength and Max. allowable load are for the chain body (attachments aren't included).

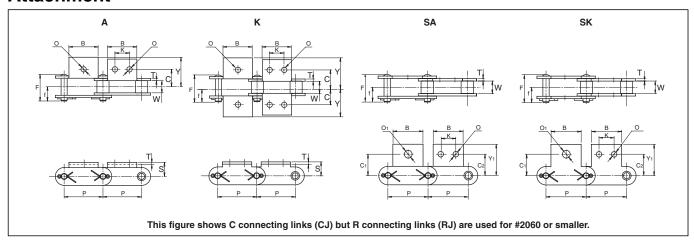


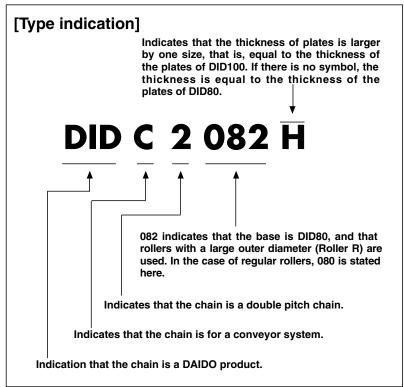
# Double Pitch Chain (with Attachment)

# **Chain Body**



#### **Attachment**





# Double Pitch Chain (with Attachment)



# **Dimensions of Chain Bodies**

Unit (mm)

Chain No.	Pitch	Roller link width	Roller (bush) dia.		Pin		Plo	ate	Avg. tensile strength	Max. allowable load	Approx. weight without attachments
	P	w	D	d	F	f	T	Н	kN	kN	(kg)
DID C2040 DID C2042	25.40	7.95	7.92 15.88	3.97	17.6	9.5	1.5	11.7	17.0	2.64	0.49 0.86
DID C2050 DID C2052	31.75	9.53	10.16 19.05	5.09	21.9	11.6	2.0	15.1	28.7	4.41	0.84 1.32
DID C2060H DID C2062H	38.10	12.70	11.91 22.23	5.96	30.1	16.1	3.2	17.2	40.2	6.47	1.45 2.17
DID C2080H DID C2082H	50.80	15.88	15.88 28.58	7.94	38.7	20.6	4.0	23.3	68.6	11.2	2.46 3.53
DID C2100H DID C2102H	63.50	19.05	19.05 39.68	9.54	45.8	24.4	4.8	28.8	112	18.6	3.60 5.81
DID C2120H DID C2122H	76.20	25.40	22.23 44.45	11.11	56.5	29.9	5.6	33.8	156	25.5	5.09 8.09
DID C2160H DID C2162H	101.60	31.75	28.58 57.15	14.29	71.6	38.2	7.1	47.4	259	42.1	8.91 13.60

Note: The values of the avg. tensile strength and max. allowable load are for the chains (attachments aren't included).

#### **Dimensions of attachment**

Chain No.	Pitch					A	Attachment						Approx. additional weight per attachment(kg)		
	P	S	С	Y	Υl	C1	C2	K	В	0	01	T	A,SA	K,SK	
DID C2040 DID C2042	25.40	9.13	12.70	19.4	19.8	11.11	13.50	9.53	19.1	3.5	5.2	1.5	0.003	0.006	
DID C2050 DID C2052	31.75	11.11	15.88	24.4	24.6	14.29	15.88	11.91	23.8	5.2	6.8	2.0	0.006	0.012	
DID C2060H DID C2062H	38.10	14.68	21.43	33.3	30.6	17.46	19.05	14.29	28.6	5.2	8.7	3.2	0.016	0.032	
DID C2080H DID C2082H	50.80	19.05	27.78	40.8	40.5	22.23	25.40	19.05	38.1	6.8	10.3	4.0	0.034	0.068	
DID C2100H DID C2102H	63.50	23.42	33.34	51.6	50.4	28.58	31.75	23.81	47.6	8.7	14.3	4.8	0.064	0.128	
DID C2120H DID C2122H	76.20	27.78	39.69	62.9	59.9	33.34	37.31	28.58	57.1	10.3	16.0	5.6	0.108	0.216	
DID C2160H DID C2162H	101.60	36.51	52.39	79.0	78.6	44.45	50.80	38.10	76.2	14.3	22.0	7.1	0.246	0.492	

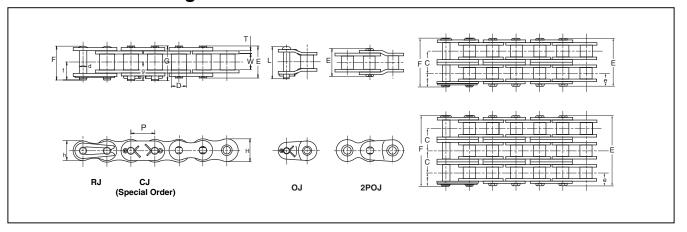
Note: Attachments with one hole are indicated as SA1, SK1, A1, K1, and those with two holes are indicated as SA2, SK2, A2, K2.

# BS (British Standard ) Roller Chain

DID BS Roller Chains conform to the ISO (International Organization for Standardization) "B series", and they are manufactured in conformity with the British Standard or German Standard. For sprockets, use those in conformity with the BS standard.



# **Dimensional drawing**



**Dimensions** 

Chain I	No.	Pitch	Roller link width	Roller dia.			Pi	n			Transverse pitch		Plo	ate		JIS Avg. tensile strength	Min. tensile strength	Approx. weight (kg/m)
DID	JIS B	P	W	D	d	E	F	G	f	g	С	T	t	Н	h	kN	kN	
DID 04B		6.00	2.80	4.00	1.85	6.45			4.15		<del></del>	0.63	0.63	4.9	4.9		3.33	0.12
DID 05B	05B					7.60										4.4	5.68	0.18
DID 05B-2		8.00	3.00	5.00	2.31		14.25		4.80		5.64	0.75	0.75	7.1	6.2	7.8	9.21	0.34
DID 06B	06B					13.15										8.9	10.4	0.39
DID 06B-2		9.525	5.72	6.35	3.28	22.75			7.4		10.24	1.3	1.0	8.2	8.2	16.9	19.4	0.74
DID 06B-3							34.3									24.9	27.4	1.10
DID 08B	08B						18.1									17.8	19.6	0.67
DID 08B-2		12.70	7.75	8.51	4.45		32.0		9.9		13.92	1.5	1.5	11.9	10.4	31.1	34.3	1.30
DID 08B-3							46.0									44.5	49.0	1.92
DID 10B	10B						20.4									22.2	25.4	0.86
DID 10B-2		15.875	9.65	10.16	5.08		37.0		10.9		16.59	1.5	1.5	14.7	13.0	44.5	50.9	1.68
DID 10B-3							53.7									66.7	76.4	2.54
DID 12B	12B	1005	11.40	10.07	- 70		23.6		10 7		10.44					28.9	31.3	1.14
DID 12B-2		19.05	11.68	12.07	5.72	41.7			12.7		19.46	1.8	1.8	16.1	14.6	57.8	62.7	2.28
DID 12B-3						61.3	62./	20.0								86.7	94.1	3.46
DID 16B	16B	05.40	17.00	1.5.00	0.00	35.1		38.2		00.7	01.00	4.0	2 0	01.0	01.0	60	63.7	2.56
DID 16B-2	-	25.40	17.02	15.88	8.28	67.1		70.3		20.7	31.88	4.0	3.2	21.0	21.0	106	127	5.12
DID 16B-3 DID 20B	16B-3 20B					99.1		102.2								160 95	191 98.0	7.59
DID 20B-2		21 75	10.57	19.05	10 10	41.0		44.0		22.5	36.45	4.5	2 5	2/ 4	2/ 4	95 170		3.81
DID 20B-2 DID 20B-3	-	31./3	19.56	19.03	10.19	<i>77.</i> 4		80.5 117.0		23.5	30.43	4.5	3.5	26.4	20.4	250	196 294	7.57 11.3
DID 20B-3	20B-3					53.4		58.7								160	166	7.08
DID 24B-2		20 10	25.40	25.40	14.63			107.1		32.0	48.36	6.0	5.0	33.4	22.4	280	333	13.9
DID 24B-2 DID 24B-3		36.10	25.40	25.40	14.03	101.8		107.1		32.0	46.36	0.0	5.0	33.4	33.4	425	500	20.7
UIU 24D-3	Z4D-3															423	500	20.7

Note: 1. 2POJ offset links are used for DID04B and DID05B.

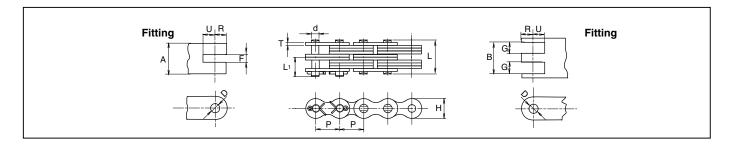
<sup>2.</sup> DID06B has flat oval-shaped plates.

<sup>3.</sup> Clip connecting links (RJ) are used for DID06B-12B and cotter connecting links (CJ) for DID16B-24B.

# **Leaf Chain**

Leaf chains consist of pins and plates only and are higher in strength than roller chains. They are suitable for tasks like hoisting and pulling. Leaf chains conform to ANSI and have two types: AL and BL.





**Dimensions** 

Chain No.	Pitch	Plc	ate		Pin		Min. tensile strength	Max. allowable load	Approx. weight				Fitting			
	P	H (Max.)	T	d	L (Max.)	L1 (Max.)	kN	kN	(kg/m)	b (Min.)	R	U (Min.)	F (Min.)	G (Min.)	A (Max.)	B (Min.)
DID AL 422 DID AL 444	12.59	10.4	1.5	3.97	8.1 14.6	6.0 9.8	16.6 33.3	1.86 3.43	0.40 0.77	4.00	6.3	6.3	3.3	3.3	3.0 9.3	3.3 9.7
DID AL 466 DID AL 522 DID AL 544	15.75	13.0	2.0	5.09	21.1 10.5 19.0	12.6 7.3 11.5	50.0 27.9 55.8	3.92 3.04 5.29	1.14 0.65 1.26	5.12	7.9	7.9	3.3 — 4.3	3.3 —— 4.3	15.7 4.0 12.3	16.1 4.3 12.7
DID AL 566 DID AL 622					27.5 12.5	15.8	83.8 38.2	6.27 4.41	1.85				4.3	4.3	20.7	21.1
DID AL 644 DID AL 666	19.05	15.6	2.4	5.96	22.7 32.8	13.9 19.0	76.4 114	7.45 8.72	1.75 2.59	6.00	9.5	9.5	5.1 5.1	5.1 5.1	14.7 24.7	15.1 25.1
DID AL 822 DID AL 844 DID AL 866	25.28	20.8	3.2	7.94	16.4 29.7 43.1	11.0 17.8 24.5	66.6 133 200	7.35 13.2 15.3	1.55 3.04 4.51	8.00	12.7	12.7	6.8	6.8	6.4 19.8 32.9	6.8 20.1 33.4
DID AL 1022 DID AL 1044 DID AL 1066	31.64	26.0	4.0	9.54	19.1 36.4 53.1	13.1 21.3 29.7	100 200 423	11.5 20.5 24.0	2.46 4.80 7.15	9.60	15.8	15.8	8.4 8.4	8.4 8.4	8.0 24.4 40.9	8.4 24.9 41.4
DID AL 1222 DID AL 1244 DID AL 1266	37.98	31.2	4.8	11.11	23.8 43.4 63.4	15.3 25.2 35.1	141 282 423	16.4 29.1 34.2	3.32 6.50 9.68	11.20	19.0	19.0	10.0	10.0	9.6 29.2 48.9	10.0 29.7 49.4
DID AL 1444 DID AL 1446	44.32	36.3	5.6	12.71	50.6 73.6	30.1 41.6	372 558	38.9 46.0	10.0 14.6	12.80	22.2	22.2	11.6 11.6	11.6 11.6	34.0 56.9	34.5 57.4
DID AL 1644 DID AL 1666 DID BL 423	50.62	41.4	6.4	14.29	57.5 83.6 12.5	33.4 46.4 8.5	470 706 24.5	49.9 58.8 4.51	12.7 19.6 0.86	14.40	25.4	25.4	13.2 13.2	13.2	38.8 64.9 6.0	39.4 65.5 6.3
DID BL 423 DID BL 434 DID BL 446	12.70	12.0	2.0	5.09	16.9 23.2	10.6 13.7	37.2 49.0	5.29 5.98	1.16 1.69	5.12	6.3	6.3	2.2 4.3	4.3 6.4	10.3 16.3	10.7 16.8
DID BL 523 DID BL 534 DID BL 546	15.875	15.0	2.4	5.96	15.0 20.2 27.7	9.9 12.5 16.3	39.2 58.8 78.4	6.86 8.33 9.41	1.30 1.73 2.44	6.00	7.9	7.9	2.6 5.1	5.1 7.6	7.2 12.3 19.5	7.5 12.7 20.0
DID BL 623 DID BL 634 DID BL 646	19.05	18.1	3.2	7.94	19.8 26.7 36.7	12.6 16.2 21.1	68.6 103 127	9.80 12.2 13.7	2.08 2.85 4.07	8.00	9.5	9.5	3.4 6.8	6.8 10.1	9.7 16.2 26.0	10.0 16.9 26.6
DID BL 823 DID BL 834 DID BL 846	25.40	24.0	4.0	9.54	24.0 32.4 44.8	15.3 19.3 25.5	102 154 205	16.9 20.5 23.5	3.25 4.50 6.39	9.60	12.7	12.7	4.2 8.4	8.4 12.5	12.1 20.2 32.4	12.4 20.9 33.0
DID BL 1023 DID BL 1034 DID BL 1046	31.75	29.9	4.8	11.11	28.6 38.6 53.9	17.7 22.7 30.2	141 220 282	25.9 31.3 36.2	4.33 6.03 8.53	11.20	15.8	15.8	5.0 10.0	10.0 14.9	14.4 24.2 38.8	14.8 24.9 39.4
DID BL 1223 DID BL 1234 DID BL 1246	38.10	35.9	5.6	12.71	33.3 44.8 61.7	21.5 27.2 36.1	193 313 386	36.7 44.1 50.5	6.06 8.45 12.0	12.80	19.0	19.0	5.9 11.6	11.6 17.4	16.8 28.0 45.2	17.3 28.8 45.9
DID BL 1423 DID BL 1434 DID BL 1446	44.45	41.9	6.4	14.29	37.6 50.7 70.4	23.4 30.0 39.8	254 421 509	49.0 58.8 67.6	8.74 10.9 20.3	14.40	22.2	22.2	6.7 13.2	13.2 19.8	19.2 32.0 51.6	19.7 32.8 52.3
DID BL 1623 DID BL 1634 DID BL 1646	50.80	47.8	7.1	17.46	41.7 56.4 78.0	26.7 34.0 44.8	353 554 706	58.8 70.6 80.4	11.9 16.6 23.6	17.60	25.4	25.4	7.4 14.6	14.6 11.9	21.3 35.5 57.2	21.8 36.3 57.9

 $Note: 1. \ Except for \ Al-60 \ series, the \ pitch \ of \ AL \ type \ chains \ is \ slightly \ different \ to \ that \ of \ ANSI \ standard.$ 

<sup>2.</sup> The values of max. allowable tension are not applied to connecting links.

# **Roller Chain Coupling**

#### **Features**

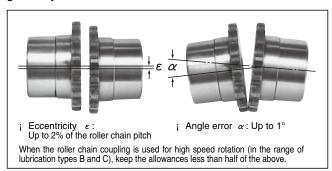
## 1. Simple structure

A roller chain coupling consists of one duplex roller chain and two sprockets for a simplex chain. Handling is very simple as both the shafts (driving shaft and driven shaft) can be connected and disconnected by inserting or removing connecting pins (cotter type).



## 2. Easy alignment

Owing to the play between the respective components of the chain and the play between the roller chain and the sprockets, the eccentricity and angle error can be generally allowed as follows:



# 3. Small but powerful

Since a powerful roller chain is engaged with the sprockets at all the teeth, a large torque can be transmitted, though the coupling itself is smaller than other kinds of couplings.

# 4. Excellent durability

The roller chain is made of heat-treated steel and manufactured precisely and solidly to the highest manufacturing standard. The durability is outstanding and little time is required for maintenance as the sprockets have induction-hardened special teeth, and are always engaged with the roller chain.

#### 5. Protection of machine

Rational flexibility decreases vibration, overheating and wear of the bearings caused by the eccentricities and angle errors of the shafts.

#### Standard housing

The standard housings for No. 8022 or smaller are made of aluminum alloy die casting, and those for No. 10020 or larger are made of aluminum alloy casting. Installation of housings has the following advantages.



## 1. Advantages of housing

#### Holding of lubrication

Since a roller chain coupling rotates with flexibility, the teeth of the roller chain and sprockets slide slightly during operation. So, they must be kept lubricated for prevention of wear as much as possible. The housing functions as a grease box for the lubrication.

#### Prevention of grease scattering

Especially in high speed rotation, grease may be scattered by centrifugal force. The housing functions as a protector that prevents this.

# Protection from dust and moisture (corrosive atmosphere) Whom a roller chain coupling is used in a wear

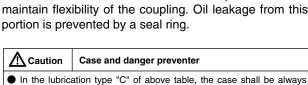
When a roller chain coupling is used in a wearcausing or corrosive circumstances, the chain life is extremely shortened unless the coupling is perfectly shielded from the circumstances. The housing functions to protect the roller chain coupling, preventing the shortening of life.

#### High safety and neat appearance

Since the housing has no protrusions outside, it is safe even if it rotates with the roller chain coupling. It is also neat in appearance. (To avoid possible injury, do not touch the housing when rotating.)

#### 2. Structure

The roller chain coupling can be split in the direction perpendicular to the shafts. The hole on the driving shaft side of the housing firmly holds the coupling's sprocket hub. The hole on the driven shaft side keeps a clearance of 1 mm or more from the sprocket hub to maintain flexibility of the coupling. Oil leakage from this portion is prevented by a seal ring.



■ In the lubrication type "C" of above table, the case shall be always used. In type "B", the case shall be used preferably for safety. ■ For the use of high speed machine or heavily vibrating machine, coat fixing bolts with a loosening preventive. ■ Install a safety cover to prevent any damage by unexpected breakage of case, chain and bolts.



Inhibition of modification, re-use nor partial replacement

■ Partial replacement or re-use of the coupling will lower the strength, which will cause breaking or destruction. Never make these works. Furthermore, since the coupling is heat treated, never modify the cotter pin holes and any other parts. When replacement is necessary, replace a body of coupling (a roller chain and sprockets) or the case respectively.

#### ⚠ Caution A

Abnormal noise

 Abnormal noise during operation can be considered as a sign of trouble or time to replace. Immediately switch off the power and determine the cause of noise.

# **Roller Chain Coupling**



# Lubrication of roller chain coupling

The lubrication of a roller chain coupling belongs to the following three types: A, B and C, depending on the speed of rotation used.

# 1. Lubrication types

Type A	Greasing once a month.
Туре В	Greasing every 1 ~ 2 weeks, or install a lubrication housing.
Туре С	Be sure to install a housing, and replace grease every 3 months.

#### 2. Grease

Since a roller chain coupling is usually used at high speed for a long time, grease must satisfy the following conditions.

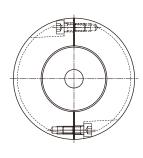
	Table of Luk	orication Type	
Roller Chain Coupling No.	less than r/min.	over $\sim$ less than r/min.	c over r/min.
DID C-4012	500	500~1,200	
DID C-4014	400	400~1,200	1,200
DID C-4016	400	400~1,000	1,000
DID C-5014 DID C-5016 DID C-5018	300	300~800	800
DID C-6018		200~600	600
DID C-6022 DID C-8018	200	200~500	500
DID C-8022	100	100~400	
DID C-10020		50~400	400
DID C-12018 DID C-12022	50	50~300	300
DID C-16018 DID C-16022	25	25~200	200
DID C-20018		10~200	
DID C-20022	10	10~100	100
DID C-24022		10~50	50
DID C-24026	5	_	50

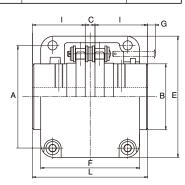
- Excellent in mechanical stability, oxidation stability and adhesion.
- Grease based on metallic soap: For low speed operation, grease based on sodium soap, i.e., fiber grease can be used, but for high speed operation (for lubrication type B and C), be sure to use grease based on lithium soap.

# 3. Greasing amount

Fill appropriate amount of grease in the housing in accordance with the following table.

Roller chain coupling No.	Required amount of grease kg	Roller chain coupling No.	Required amount of grease kg
DID C-4012	0.10	DID C-10020	1.8
DID C-4014	0.13	DID C-12018	3.2
DID C-4016	0.17	DID C-12022	4.4
DID C-5014	0.22	DID C-16018	7.2
DID C-5016	0.26	DID C-16022	9.9
DID C-5018	0.36	DID C-20018	11.8
DID C-6018	0.5	DID C-20022	15.8
DID C-6022	0.7	DID C-24022	21.9
DID C-8018	0.9	DID C-24026	28.1
DID C-8022	1.2	_	_





# **Dimensions**

Unit (mm)

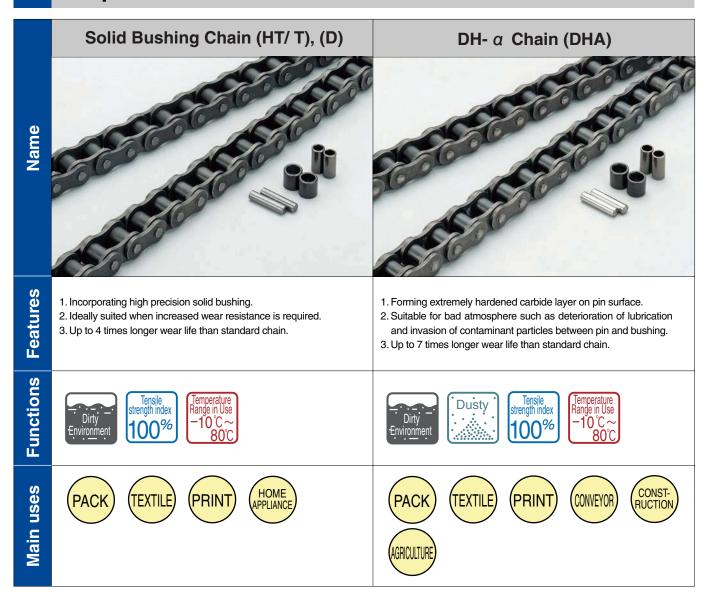
Roller chain coupl	ing No.	Applicable range of	able Prepared	_	F	A	L	R	С	В	G	Set	Max. allowable to	rque of under 50rpm	Allowable rotation	Approx. weight	Moment of inertia	GD <sup>2</sup> ×10 <sup>-3</sup>
DID	JIS	shaft dia.	hole dia.			(max.)	-	ĸ		В		screw	kN⋅m	kgf∙m	(r/min)	(kg)	kg·m	kgf·m²
DID C-4012	4012	11~ 22	10	75	75	61	79.4	36	7.4	35	9	M 6	0.249	25.4	4,800	1.1	0.55	2.20
DID C-4014	4014	14~ 28	10	84	75	69	79.4	36	7.4	43	9	M 6	0.329	33.6	4,800	1.3	0.97	3.85
DID C-4016	4016	16~ 32	14	92	75	77	87.4	40	7.4	50	6	M 6	0.419	42.8	4,800	1.85	1.44	5.76
DID C-5014	5014	16~ 35	14	102	85	86	99.7	45	9.7	53	11	M 8	0.620	63.3	3,600	2.7	2.80	11.2
DID C-5016	5016	18~ 40	14	111	85	96	99.7	45	9.7	60	11	M 8	0.791	80.7	3,600	3.25	3.70	14.8
DID C-5018	5018	18~ 45	14	122	85	106	99.7	45	9.7	70	11	M 8	0.979	99.9	3,000	4.25	5.63	22.5
DID C-6018	6018	22~ 56	18	142	106	128	123.5	56	11.5	85	15	M10	1.81	185	2,500	7.3	13.73	54.9
DID C-6022	6022	28~ 75	18	167	106	152	123.5	56	11.5	110	15	M10	2.61	267	2,500	11.6	29.5	118
DID C-8018	8018	32~ 80	23	186	130	170	141.2	63	15.2	115	27	M12	3.92	400	2,000	16.15	52.0	208
DID C-8022	8022	40~100	28	220	130	203	157.2	71	15.2	140	19	M12	5.64	576	1,800	24.3	111	444
DID C-10020	10020	45~110	40	255	160	233	178.8	80	18.8	160	29	M12	8.40	857	1,800	39.7	244	976
DID C-12018	12018	50~125	45	280	184	255	202.7	90	22.7	170	47	M12	12.7	1,300	1,500	53.8	394	1,575
DID C-12022	12022	56~140	50	330	190	303	222.7	100	22.7	200	37	M12	18.3	1,870	1,250	<i>77</i> .1	781	3,122
DID C-16018	16018	63~160	55	375	240	340	254.1	112	30.1	225	64	M16	26.4	2,700	1,100	108	1,453	5,811
DID C-16022	16022	80~200	70	440	245	405	310.1	140	30.1	280	36	M16	38.1	3,890	1,000	187	3,222	12,890
DID C-20018	-	82~205	75	465	' '	425	437.5	200			15	M20	54.1	5,520	800	286	5,098	20,390
DID C-20022	-	100~255	90	545	300	506	477.5	220	37.5	360	-	M20	77.8	7,940	600	440	11,110	44,450
DID C-24022	-	120~310	110	650	340	607	650	302.5	45.0	445	-	M20	137	14,000	600	869	31,000	124,100
DID C-24026	-	150~360	140	745	350	704	700	327.5	45.0	525	-	M20	186	19,000	500	1,260	59,850	239,400

Note: 1. Dimension G indicates the required margin for assembling and deassembling of the roller chain coupling.

- 2. Allowable rotation is applicable only when the housing is mounted.
- The weight of the housing and grease is included in Approx. weight and GD2.
- 4. Ask us for the delivery time.

# **D.I.D** Ultimate Life Chain Series (Digest)

# Dependable in severe conditions



Chain No.	Solid Bushing	DH-α	O-Ring/X-Ring	Sinterd Bushing
DID 25	HT	DHA	-	-
DID 35	T	DHA	LD	-
DID 41	-	DHA	-	-
DID 40	D	DHA	LX	UR, URN
DID 50	D	DHA	LX	UR, URN
DID 60	D	DHA	LX	UR, URN
DID 80	D	-	LD	UR, URN
DID 100	D	-	LD	-
DID 120	-	-	LD	-
DID 140	-	-	LD	-
DID 160	-	-	LD	-
DID 200	-	-	LD	-
DID 240	-	-	LD	-

# Sintered Bushing Roller Chain (UR), (URN) X-Ring Chain(LX)/O-Ring Chain(LD) Name 1. DID X-Ring chain is the best value of maintenance-free chain available. Main uses | Functions | Features 2. The patented X-Ring design has half the friction of normal O-Ring chain and 1. Sintered bushing is incorporated. provides great sealing performance. It keeps the dirt out and the grease in 2. Ultimate Life Chain for low speed and light lord applications. much better than any other O-rings. 3. Up to 5 times longer wear life than standard chain. 3. Up to 2 times longer wear resistance performance compared to normal O-Ring chains. 4. Great cost savings can be achieved through longer life and less down time. Tensile strength index Tensile trength index Dusty HOME APPLIANCE

%~LX: Temp. -10°C~120°C, LD: Temp. -10°C~80°C

# **■** Symbols

	syllibols -		
ions	Dirty Environment  Resistant against contaminated or deteriorated oil	No lubrication or maintenance	Temperature Range in Use -10°C ~ 100°C temperature
Functions	Dusty Resistant against dusty circumstances	Tensile strength index (Compared to standard roller chains)	
(0)	FOOD Feed and drive in food processing machines	PACK Feed and drive in packaging machines	TEXTILE Feed and drive in textile machines
Main uses	PRINT Feed and drive in printing machines	Feed and drive in the conveyors and transfer equipment	CANNING  Feed and drive in can conveyors and for painting and drying cans
2	CONST- RUCTION Feed and drive in construction machines	HOME APPLIANCE Feed and drive of home appliances	AGRICUTURE Drive of agricultural machines

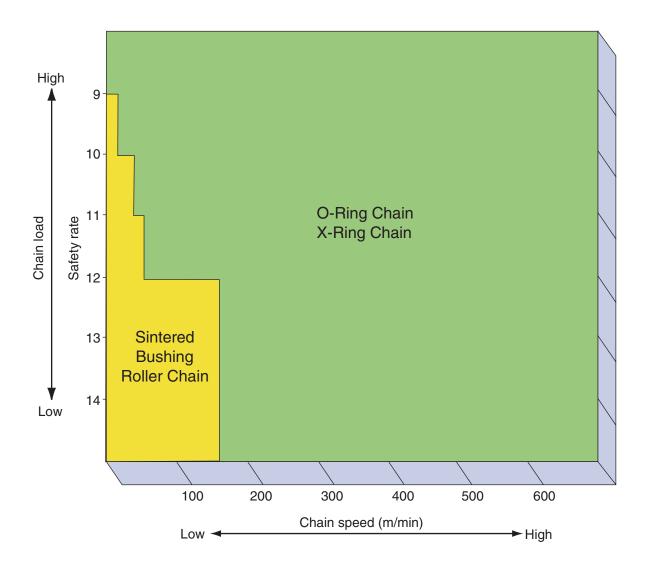
# D.I.D Ultimate Life Chain Series (Digest)



# Wide range of product line-up

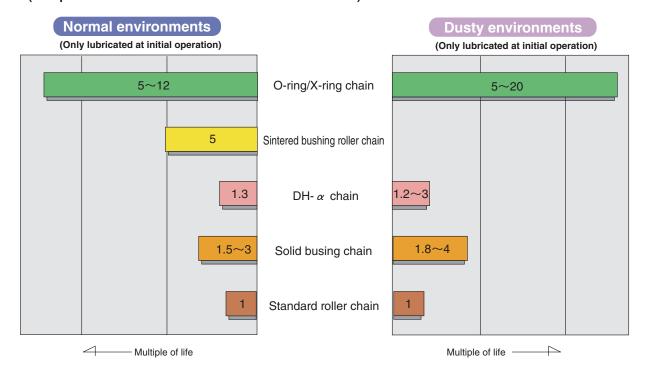
# O-Ring/X-Ring Chain and Sintered Two types of maintenance-free chains Bushing Roller Chain applicable for use under various conditions

The Ultimate Life Chain Series includes two types of maintenance-free chains, O-Ring Chain and Sintered Bushing Roller Chain. They can be applied in various conditions from low-speed to high-speed operation, or from low-load to high-load operation as you can see in the chart below.

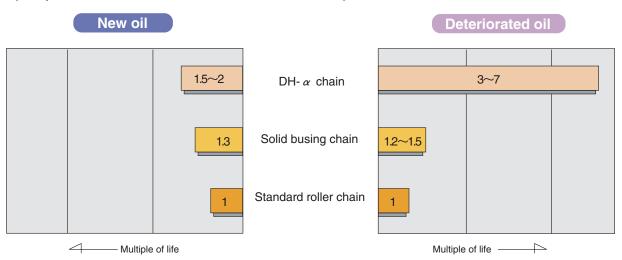


# **Life Comparison Test**

1 Chain life comparison without lubrication (Compared with standard roller chain as the bench mark)



2 Chain life comparison by new oil and deteriorated oil (Compared with standard roller chain as the bench mark)



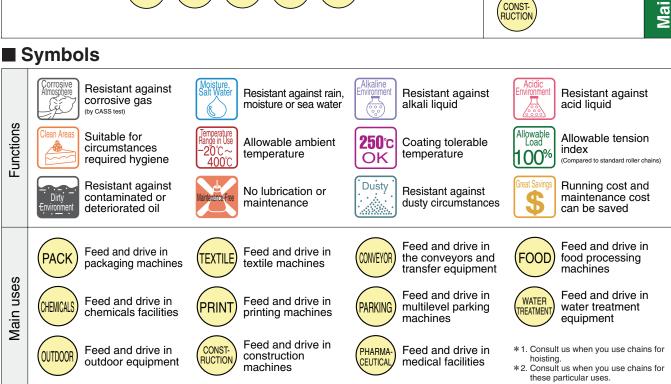
# **D.I.D** Environment Resistant Chain Series(Digest)

# **Applicable for many different environments**

	Nickel Plated Chain (N)	Hi-Guard Chain (E)	Double Guard Chain (WG)
Name			
Features	<ol> <li>Special nickel plated finish.</li> <li>Where brilliance and cleanliness are required.</li> <li>Strong corrosion resistance (highly resistant to salt water spray ard acid atmophere).</li> </ol>	<ol> <li>High corrosion resistant film coating.</li> <li>Where long periods of seasonal inactivity create need for orotection against indoor or out.</li> <li>Outstanding resistance to rusting or corrosion, particularly in salt water environments.</li> </ol>	<ol> <li>Rust protection "twice as tough" as DID Hi-Guard Chain.</li> <li>Amazing performance in acidic and alkaline atmospheres.</li> <li>The tensile strength and working load is the same as ANSI standard chain and makes the downsizing possible where stainless steel chain is used.</li> </ol>
Functions	Corrosive Almosphere Salt Water Salt Water Corrosive Allowable Load 100%	Corrosive Almosphere Salt Water Salt Water OK  Allowable Load 100%	Corrosive Almosphere Sali Water Environment Control Co
Main uses	TEXTILE COMEYOR FOOD CHEMICALS  PRINT PARKING	TEXTILE CONFIOR PARKING (REATMENT)  CONST. OUTDOOR	TEXTILE (CONFIG) (PARKING) (WATER TREATMENT)  OUTDOOR (CONST. RUCTION) (FOOD) (HEMICALS)  PHARMA-CEUTICAL

# ■ Environment Resistant Series: Chain No. and Codes

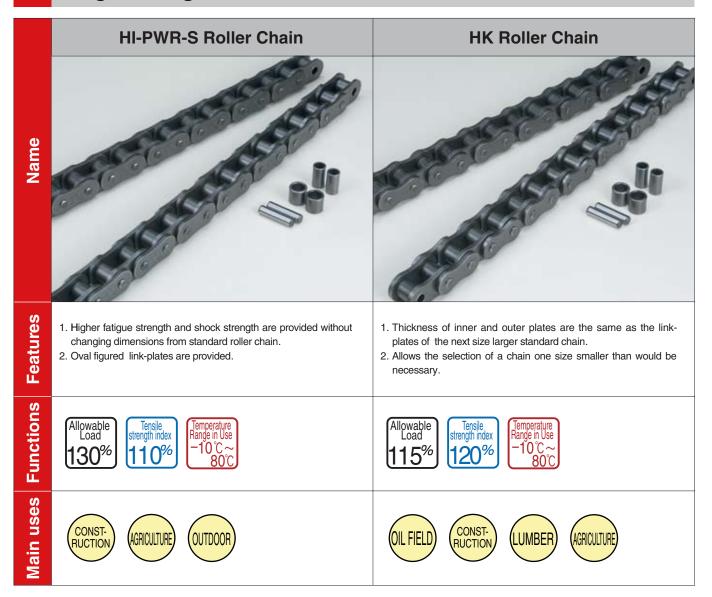
Chain No.	Nickel Plated	HI-Guard	Double Guard	Stainless steel  Non O-Ring X-Ring			Low temperature
Chain No.	INICKEI PIOTEO						
DID 25	N	-	-	SS	-	-	-
DID 35	N	E	-	SS	-	-	-
DID 41	N	-	-	-	-	-	-
DID 40	N	E	WG	SS	SSK	SSLT	TK
DID 50	N	E	WG	SS	SSK	SSLT	TK
DID 60	N	E	WG	SS	SSK	SSLT	TK
DID 80	N	E	WG	SS	SSK	SSLT	TK
DID 100	N	E	-	SS	SSK	-	TK
DID 120	N	E	-	SS	SSK	-	TK
DID 140	N	-	-	SS	-	-	TK
DID 160	N	-	-	SS	-	-	TK
DID 180	-	-	-	-	-	-	-
DID 200	-	-	-	SS	-	-	-
DID 240	-	-	-	-	-	-	-



machines

# D.I.D Ultimate Power Chain Series (Digest)

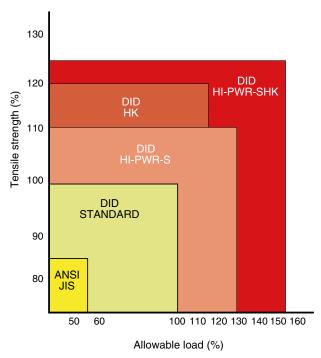
# High Strength Chains suitable for use in various conditions



# **■** Table of Ultimate Power Chain Series

Chain No.	HI-PWR-S	HK	HI-PWR-SHK
DID 50	-	HK	-
DID 60	-	HK	-
DID 80	HI-PWR-S	HK	HI-PWR-SHK
DID 100	HI-PWR-S	HK	HI-PWR-SHK
DID 120	HI-PWR-S	HK	HI-PWR-SHK
DID 140	HI-PWR-S	HK	HI-PWR-SHK
DID 160	HI-PWR-S	HK	HI-PWR-SHK
DID 180	HI-PWR-S	HK	HI-PWR-SHK
DID 200	HI-PWR-S	HK	HI-PWR-SHK
DID 240	HI-PWR-S	HK	HI-PWR-SHK





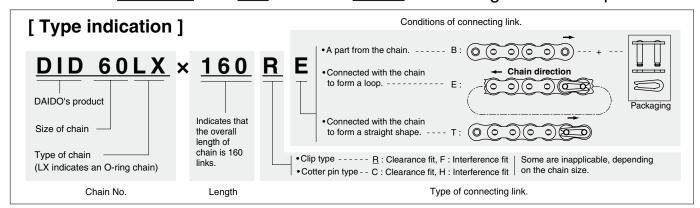
# **■** Symbols

Functions	Allowable Load index (Compared to standard roller chains)	Tensile strength index (Compared to standard roller chains)	Allowable ambient  -10 C~ 80 C
Main uses	CONST- RUCTION Feed and drive in construction machines	Feed and drive in outdoor equipment  Drive of agricultural	Feed and drive of oilfield-related equipment  Feed and drive of
Σ	(LUMBER) lumber-related equipment	AGRICULTURE machines	(MINING) mining equipment

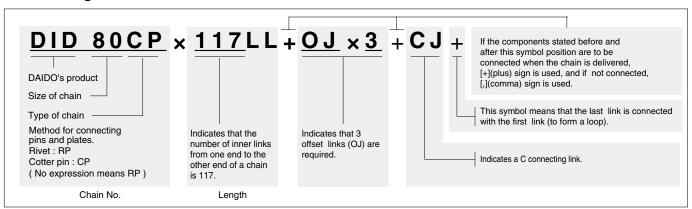
# DID

# **How to Order Roller Chains**

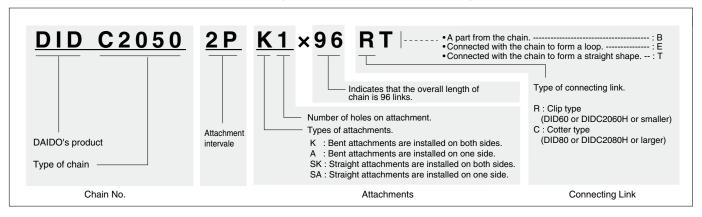
•To order for **DID60LX** with **160** links and **one R** connecting link as a loop.



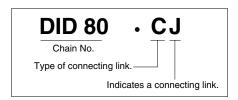
•To order for **DID80CP** with **121** links, **three** offset links and **one C** connecting link as a straight chain.

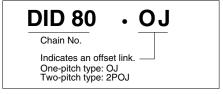


•To order DID C2050 with 96 links, with bent attachments (one-hole) on both sides every two links, with a connecting link attached (in straight shape).



- •To order for a cotter type con- •To order for an offset link of necting link of DID80, in which the pins are clearance-fitted with the upper plate:
- To order for a cotter type connecting link of DID80HK, in which the pins are clearancefitted with the upper plate:







# **Chain Selection**



**Caution** (Read this section carefully prior to making a chain selection) Improper selection and/or improper installation or maintenance of a chain may result in abnormal wear and/or breakage, which may lead to damage to machines and injury. Strictly observe the following recommendation for chain selection, and the steps and notes for handling and maintenance of chains shown in this catalog.

#### 1. Service Factor

If service factors are set forth in technical recommendations or standards published by relative official organizations, adopt such service factors. If our recommended steps of chain selection give a different service factor, use the higher factor of the two for safety.

#### 2. Maximum Allowable Load

The maximum allowable load on a chain should be the value to be gained from dividing the minimum tensile strength of the chain by the service factor, or the maximum allowable load to be computed in our recommended calculation formula. Use the smaller value if they differ.

The maximum allowable load of a chain to be used for lifting and moving a pallet in a mechanical multistory parking operation, various loads like uneven load due to weight of a car and dynamic load upon run and stop must be taken into consideration to compute the right maximum allowable load.

#### 3. Connecting Link

Connecting link is generally designed to connect by a clearance fit, and as a result, the fatigue strength of the chain drops at the joint portion. When it is required to use a stronger connecting link, for example: a chain used for lifting, use our recommended connecting links to be interference-fit or riveted, and do not use an offset link.

## 4. Connection of Chain Terminal Clevis

Accidents may often happen at the connected portion of chain and clevis attachment. The strength of the joint pin will drop drastically due to increased bending movement caused on the pin, particularly when the clevis is improperly sized (length or diameter of the pin), also when the hole ends where the clevis fits get bigger in use. Pin strength drops remarkably, so it is necessary to harden the hole of the clevis attachment by heat treatment or to press-fit a solid bushing into the hole.

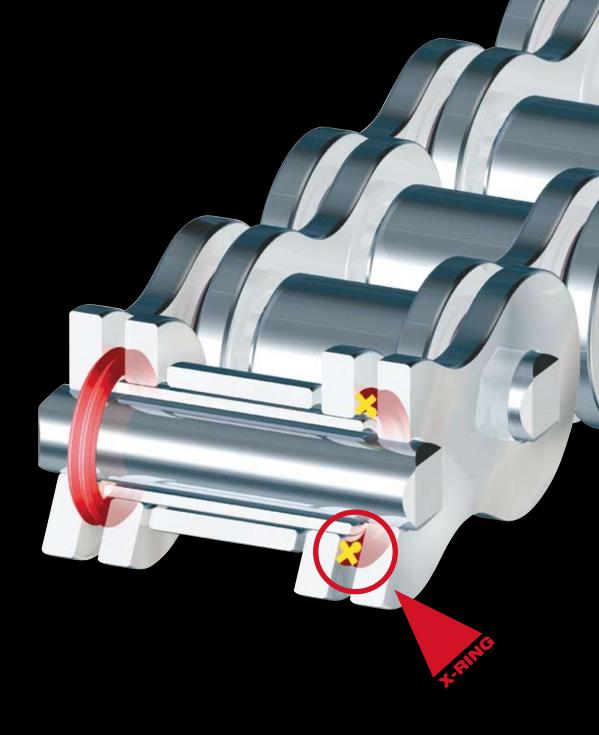
**Warning**: For any application requiring lifting, hoisting, or similar usage, we have a special sales clause. Please consult with us before designing chain selection and purchase.

## 5. Surrounding Conditions

- Cold makes chain strength drop dramatically. Use our cold resistance chain in cold opera tions. Ice and frost also cause chain to reduce flexibility. Lubricate the chain with special low temperature oil or grease.
- 2. Where snow is present, the weight of snow may increase the load on the chain. Consider this factor fully when selecting a chain.
- 3. When chain corrodes, the chain strength is substantially reduced. Corrosive conditions must be taken into full consideration in selecting a chain.

#### 6. Installation and Maintenance

- 1. Installation
  - a. Chain casing is recommended to be used to protect chain from corrosion by rain and snow.
  - b. Coat connecting link fully with grease when it is assembled.
  - c. After fitting chain, coat chain and clevis attachment fully with grease and oil to prevent rust.
  - d. The accuracy of installing chain, sprocket and clevis attachment should follow our recommended values. Consult with us for more information.
- Maintenance
  - a. Periodic lubrication between inner plate and outer plate should be performed.
  - b. The rusting of chain causes chain strength to drop. Replace the chain as soon as rust appears.
  - c. Periodic inspection must be given to the link plate of the chain, If any crack is found on the link plate, the chain should be immediately replaced with a new chain.





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