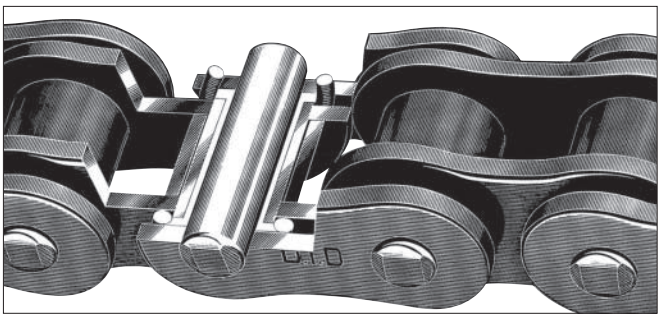
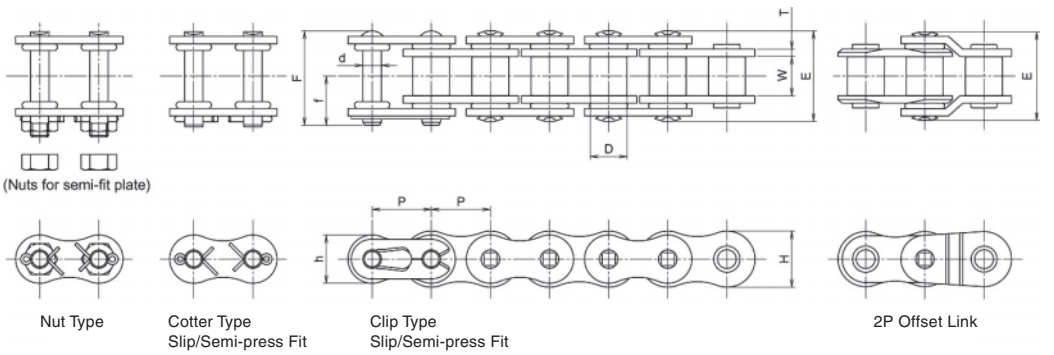
2-3-4 D.I.D O-Ring Chain (LLDR/LDR)

DID O-ring chain is dramatically improved in durability, since grease is sealed between the pins and bushings by O-rings. O-ring chain is recommended for applications which provide abrasive conditions require frequent maintenance or where sintered bushing roller chain is not applicable due to its insufficient shock load capacity or high speed capacity.



Dimensions



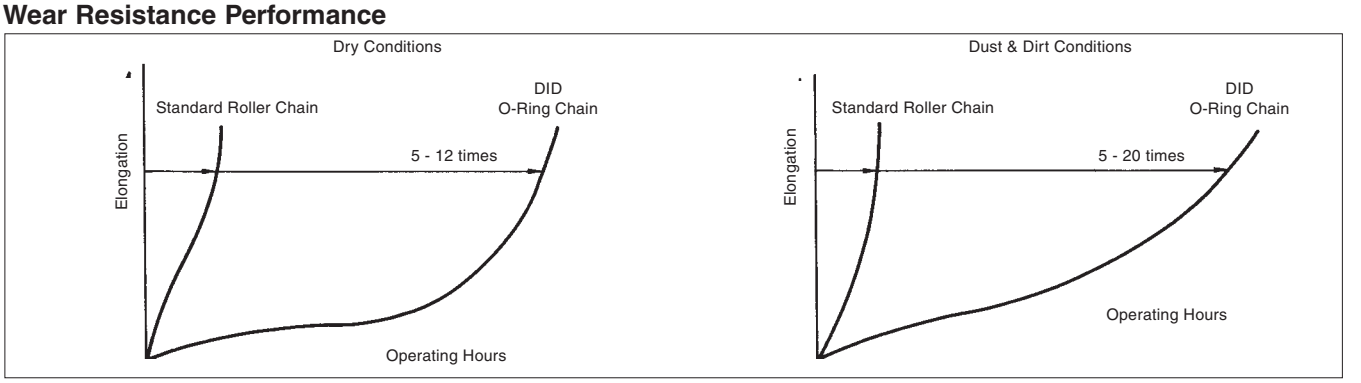
Dimensions

Unit (inch)

Chain No. DID	Pitch	Roller Link Width	Roller (Bush) Dia.	Pin				Plate			Avg. Tensile Strength	Max. Allowable Load	Approx. Weight (lbs/ft)
	P	W	D	d	E	F	f	T	H	h	lbs	lbs	
* RC35LLDR	0.375	0.181	0.200	0.141	0.512	0.569	0.307	0.049	0.354	0.305	2200	330	0.235
RC40LLDR	0.500	0.313	0.312	0.156	0.787	0.787	0.421	0.059	0.472	0.409	4070	836	0.449
RC50LLDR	0.625	0.375	0.400	0.200	0.921	0.941	0.504	0.079	0.591	0.512	6754	1540	0.724
RC60LLDR	0.750	0.500	0.469	0.235	1.150	1.181	0.630	0.094	0.713	0.614	9614	2090	1.086
RC80LDR	1.000	0.625	0.625	0.313	1.437	1.531	0.823	0.126	0.941	0.811	16280	3300	1.898
RC100LDR	1.250	0.750	0.750	0.376	1.732	1.819	0.972	0.157	1.177	1.024	24200	5060	2.729
RC120LDR	1.500	1.000	0.875	0.437	2.126	2.236	1.189	0.189	1.413	1.228	35200	6820	3.956
RC140LDR	1.750	1.000	1.000	0.500	2.307	2.724	1.583	0.220	1.650	1.429	44000	9020	5.277
RC160LDR	2.000	1.250	1.125	0.563	2.717	3.161	1.819	0.252	1.882	1.630	55000	11880	6.913
RC200LDR	2.500	1.500	1.562	0.781	3.299	3.799	2.165	0.315	2.362	2.047	96140	16500	11.326
RC240LDR	3.000	1.875	1.875	0.937	3.984	4.583	2.606	0.374	2.815	2.441	140140	22220	16.630

Note: 1. Those marked with * indicates bush chain
2. Please connect with bolt type connecting link by using nuts. The nuts should be used only for press-fitting of link plates.
3. RC40LLDR - RC80LLDR are X-Ring Chain

Wear Resistance Performance



Design of chain transmission

O-ring chain is almost the same as a standard roller chain in strength. (Since the pins are longer than those of standard roller chain, the average tensile strength is slightly lower.) Therefore, design the chain transmission as you would do with standard roller chain.
If the service environment temperature is higher than 176°C, special heat resistant O-ring must be used. In this case, contact us for more information.

Maintenance

Even an O-ring chain can exhibit increased wear life with additional lubrication added during service. This additional lubrication also has the effect of rust prevention. However, do not use such chemical materials as gasoline, phosphoric acid, ester based working fluids, benzene, trichlene and acetone, since the O-rings may be damaged.
Suitable oil is SAE10W to SAE50W.

Connecting Link and Offset Link

Two types of connecting links are available: Clearance Fit connecting links (clip/cotter) and Interference Fit connecting links (clip/cotter) If strength and/or durability is critical, use Intererence Fit connecting links. Offset links are only available in 2 pitch style.

Chain No. DID	Connecting Link		Offset Link
	Clearance Fit	Interference Fit	
RC35LLDR	———	Clip type	2 Pitch offset link
RC40LLDR RC50LLDR RC60LLDR	Clip type	Clip type	
RC80LDR	———	Cotter pin type	
RC100LDR	Cotter pin type		
RC120LDR	———		
RC140LDR RC160LDR RC200LDR RC240LDR	———	Cotter pin type	

Chain No. DID	Connecting Link		Offset Link
	Clearance Fit	Interference Fit	
06BLDR	Clip type	———	———
08BLDR 10BLDR 12BLDR	Clip type		
16BLDR	Cotter pin type		

06NLDR	———	Clip type	———
08NLDR 10NLDR 12NLDR	———	Clip type	———

DID O-ring Chain Series

There are 5 types of O-Ring Chain for various uses. They can be applied under severe conditions where periodic lubrication is not practical.
Heat resistant O-ring chain is available in the following table, and are equipped with an X-Ring, with wear resistance 1.5 times better than that of normal O-Ring chains.

LLDR(LDR)	featuring SOLID BUSHING
LLDRS (LDRS)	featuring SOLID BUSHING & HEAT-RESISTENT RUBBER O-RING (Up to about 120°C/248°F)
LLDRSS (LDRSS)	featuring SOLID BUSHING & HEAT-RESISTANT RUBBER O-RING (Up to about 200°C/329°F)
LLDRSP (LDRSP)	equals LLDSR, except for its O-RING: LLDRSP has an X -RING.
LLDRSSP (LDRSSP)	equals LDSS, except for its O-RING: LLDRSSP has an X -RING.

*** For heat resistant O-Ring Chain, please consult us for availability**

Service limit of O-ring chain

If even one O-ring comes off or when chain elongation reaches the corresponding value in the following table, immediately replace the chain with a new one. The table shows the critical elongations at which the effect of a sealed ring ceases. If the corresponding value is exceeded, wear increases as in the case of standard roller chain.

# of Teeth Large Sprocket	Max. Allowable Elongation Ratio for Non O-Ring Chain	Max. Allowable Elongation Ratio for O-Ring Chain
40 and under	2.0%	1.0%
41~60	1.5%	1.0%
61~80	1.2%	1.0%
81~100	1.0%	1.0%
101 and over	0.8%	0.8%

Other features of O-ring chain

- O-ring chain has a silencing effect. (According to tests, the noise level is 3 dB less compared to a standard roller chain.)
- O-ring chain has friction in bending. However, the power loss is almost negligible, since the frictional force acting between the pins and bushing when a load acting on the chain is greater.