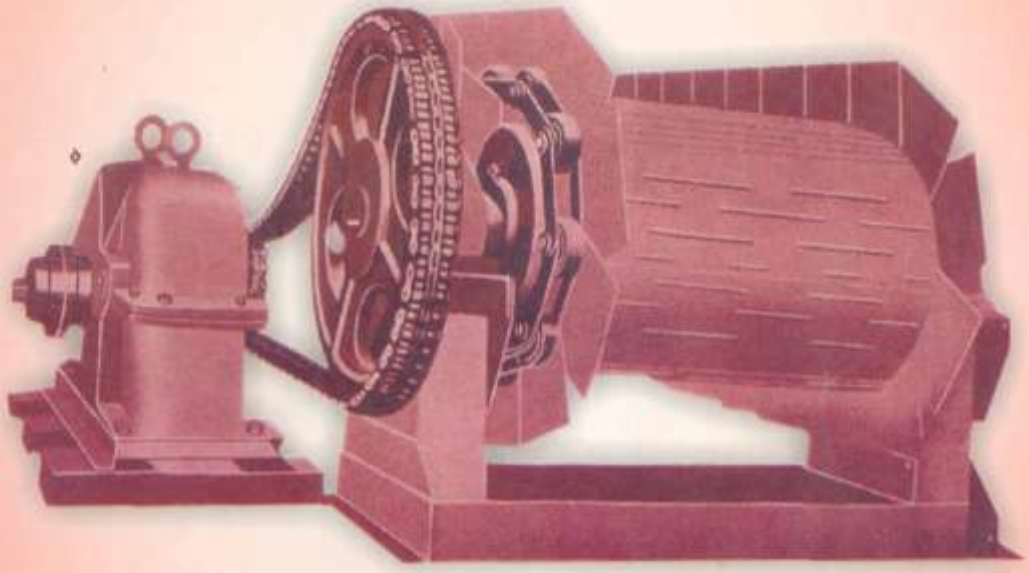
ROL-KÖBO



PRODUCT CATALOGUE

TÜV CERT

ISO 9001 2000
Certi No.0410020067292/E3
Certi No.0410020067292/01-E3

Precision Steel Link Chains & Chain Wheels

Cert. No. 7F 0017

ROLCON ENGINEERING CO. LTD.

"ROL-KOBO" CHAINS & SPROCKETS

Rolcon's modern Chain and Sprocket, manufacturing plants were established in 1967 in technical and financial collaboration with Messrs Kohler + Bovenkamp GMBH + Co., West Germany, makers of world famous 'KOBO' chains, having more than 105 years of experience in the field.

Rolcon being ISO 9002 certified is the largest manufacturer of Chains and Sprockets in the country. It's plant is equipped with most modern CNC machines. Special purpose machinery. New range of heat treatement machinery, and Latest testing facilities.

Rolcon's complete manufacturing range consists of Precision Industrial Transmission Chains conforming to the international standards like ISO 606/DIN 8187/DIN 8188/BS 228/ASME B29 IN/AP 7F. It also manufactures, and exports Conveyor, Elevator, and Special Purpose Chains, and all suitable Sprockets for the above stated Chains.

Rolcon's Chains & Sprockets are mainly utilised in the following industries :
• Cement • Fertilizer • Steel • Sugar • Chemical • Mining • Paper Plants • ONGC & many more industries.

Rolcon's strong network of distributors as well as sales outlets throughout India helps its esteemed customers for better communication, quick deliveries, and prompt after sales service.

Rolcon's chains are well known for its • Highest breaking loads, • Excellent wear life, and • Increased fatigue strength. All the above have been achieved by selecting appropriate material, precise heat treatment, rigid quality control and constant R & D efforts done indigenously as well as from its West German collaborators.

A special marketing team of Rolcon guides, and recommends its esteemed clients for total solution for their specific requirements, and problems of chain and sprocket drives including design.

Backed by 34 years of experience in its field Rolcon has also gained lots of practical experience from its customers who are using Rolcon's chain and sprockets. This experience is continuosly fed back to Rolcons production department, which accounts for the high quality standard for its products. A team of engineers and technical experts are continuosly doing R & D and incorporating latest technical advances to improve the quality of chain and sprockets.

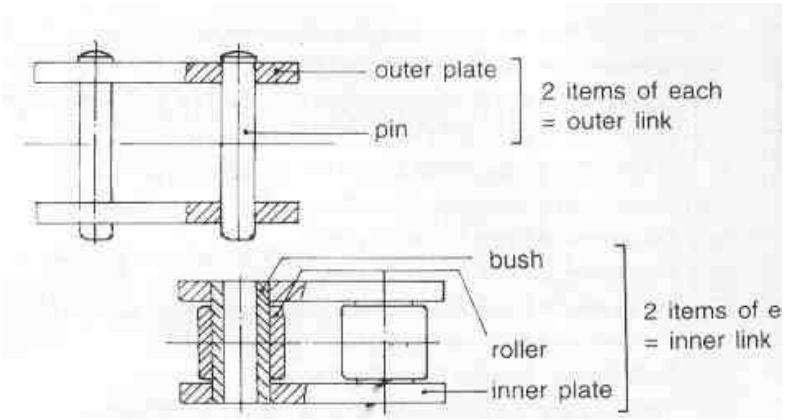
Contents

Construction of Link Chain

Chains

Every link chain consists of inner and outer links. The diagram opposite shows both links together with their component parts. The design and construction of the individual parts will very according to the type of chain.

Different materials may be used for each and every part of the chain, although high-grade steel of variant qualities and heat treatment is the main material.



Pins

Pins are subject to bending and shearing stresses and are, therefore, generally made from high-grade casehardening steels. The appropriate heat treatment gives them a tough core and a wear-resistant, extremely hard surface. Suitable treatment of the surface and adherence to close tolerances ensure excellent coupling and pressfitting conditions.

Bushes

Bushes have to withstand bending and deformation stresses and are generally made from casehardening steel alloys. As with the pings, appropriate heat treatment ensures wearresistances and surface quality.

Rollers

Rollers are subject mainly to impact stress an are, therefore, normally made from heat treatable steels. Thick-walled tread rollers are also made from casehardening steels and other materials. Close tolerances ensure a trouble-free fir on the bushes.

Linkplates

Linkplates are subject mainly to tensile stress and are made from heat treatable steels. They are heat treated according to the type of chain and achieve high fatigue and tensile strength with corresponding elasticity. The accuracy of the hole and of pitch, secured partly by the fine blanking process, ensure an exact fit for pins and bushes and a very close overall tolerance in length in the chain.

Important Information To Accompany Enquiries And Others

Chains

Pitch = dimension from one pin center to the other; inside width = width between inner link plates; roller diameter; bush diameter; pin diameter; also if possible **:** breaking strain; linkplate dimensions; quality of material; overall chain width; chain length; type and number of connecting / cranked links and exact number of links for endless chains.

Chains Drives

Horsepower; pinion speed; transmission ratio; operating conditions; degree of impulsiveness; maintenance possibilities; temperature; humidity; dirt -

Chains Wheels

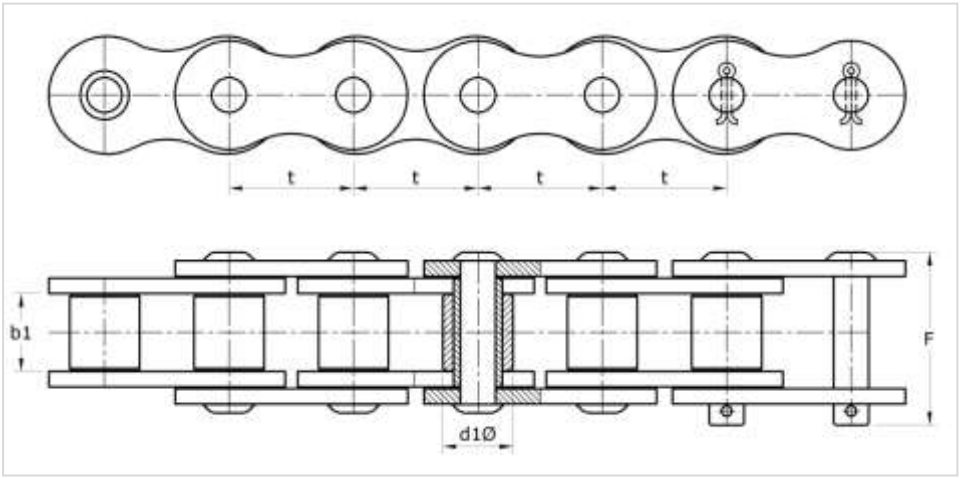
Number of teeth; pitch circle diameter; process of toothing and type of chain to mesh with; wheel design as shown on page 62; bore and tolerance; keyway and setscrew; length of hub, one sided, symetrical or asymetrical; material and, if applicable, heat treatment -

Conveyor Chains

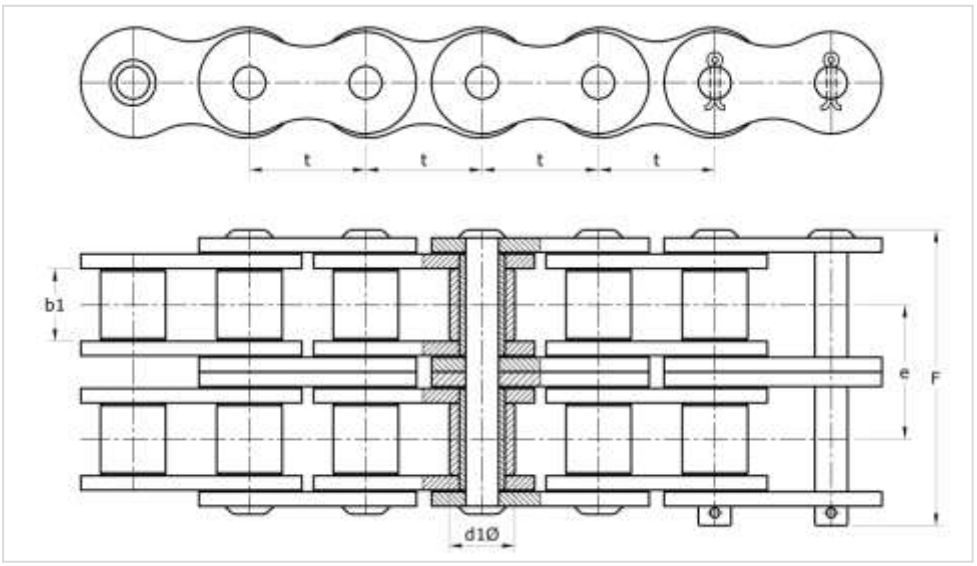
Type; dimension and weight of moving load; conveyor speed; conveyor direction and length; method of charging and discharging; general operating conditions; maintenance; degree of humidity; temperature and corrosion factors; details of space available for housing the conveyor chain, the return pulley, the tension and driving stations; if possible, please include dimensional drawings -

High Performance Precision Rolkobo Roller Chains To ISO 606 / DIN 8187 / BS 228 / IS 2403 Standards

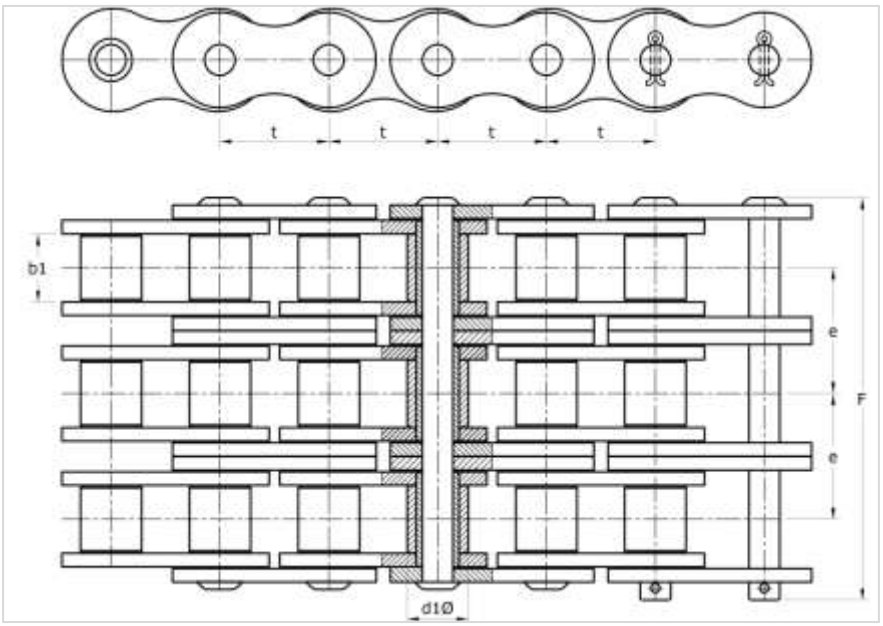
Simplex



Duplex



Triplex



High Performance Precision Rolkobo Roller Chains To

ISO 606 / DIN 8187 / BS 228 / IS 2403 Standards

SIMPLEX

t		0	b1	d1	F	Guranteed	Weight
pitch		'ROL-KOBO'	Inside Width	Roller Dia	Outside width	Breaking load	per Meter
mm	inch	Number	mm	mm	mm	kgs	kgs
9.525	3/8"	120	5.72	6.35	14.8	928	0.41
12.7	1/2"	126	7.75	8.51	18.7	1,856	0.7
15.88	5/8"	133	9.65	10.16	21.1	2,315	0.95
19.05	3/4"	139	11.68	12.07	24.5	3,009	1.25
25.4	1"	145	17.02	15.88	42.5	5,916	2.7
31.75	1 1/4"	156	19.56	19.05	48	9,690	3.6
38.1	1 1/2"	170	25.4	25.4	63.8	17,000	6.7
44.45	1 3/4"	179	30.99	27.94	74.8	20,400	8.3
50.8	2"	186	30.99	29.21	82.9	26,520	10.5
63.5	2 1/2"	190	38.1	39.37	91.2	36,720	16
76.2	3"	197	45.75	48.26	113.6	57,120	25
88.9	3 1/2"	198	53.34	53.98	132	85,000	35
101.6	4"	199	60.96	63.5	140	1,08,400	60

DUPLEX

t		0	b1	d1	F	Guranteed	Weight
pitch		'ROL-KOBO'	Inside Width	Roller Dia	Outside Width	Breaking load	per Meter
mm	inch	Number	mm	mm	mm	kgs	kgs
9.525	3/8"	220	5.72	6.35	25.04	1,650	10.24
12.7	1/2"	226	7.75	8.51	32.62	3,244	13.92
15.875	5/8"	233	9.65	10.16	37.69	4,631	16.59
19.05	3/4"	239	11.68	12.07	43.96	6,018	19.46
25.4	1"	245	17.02	15.88	74.38	11,220	31.88
31.75	1 1/4"	256	19.56	19.05	84.45	18,360	36.45
38.1	1 1/2"	270	25.4	25.4	112.16	32,400	48.36
44.45	1 3/4"	279	30.99	27.94	134.36	38,862	59.56
50.8	2"	286	30.99	29.21	141.45	50,490	58.55
63.5	2 1/2"	290	38.1	39.37	163.49	69,360	72.29
76.2	3"	297	45.75	48.26	204.81	1,02,000	91.21
63.5	2 1/2"	298	53.34	53.98	239	1,70,000	106.6
76.2	3"	299	60.96	63.5	260	2,16,800	119.89

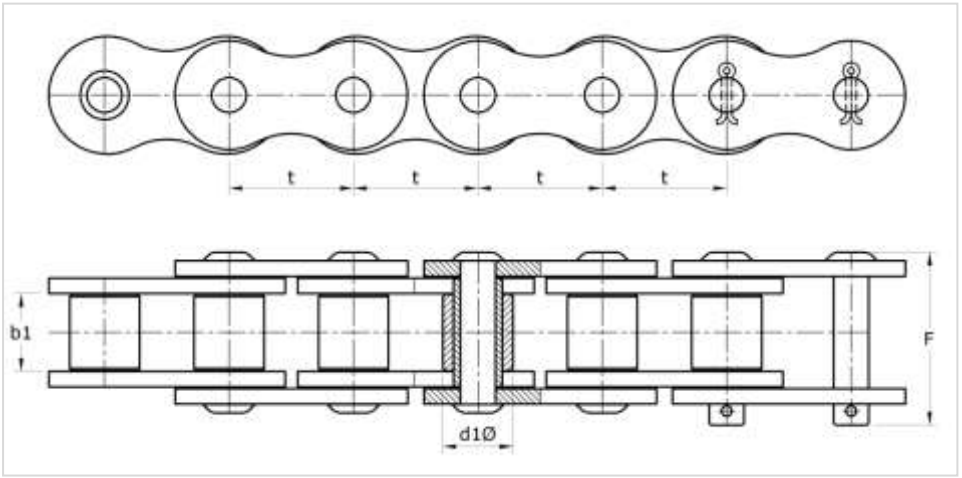
TRIPLEX

t	0	b1	d1	F		Guranteed	Weight

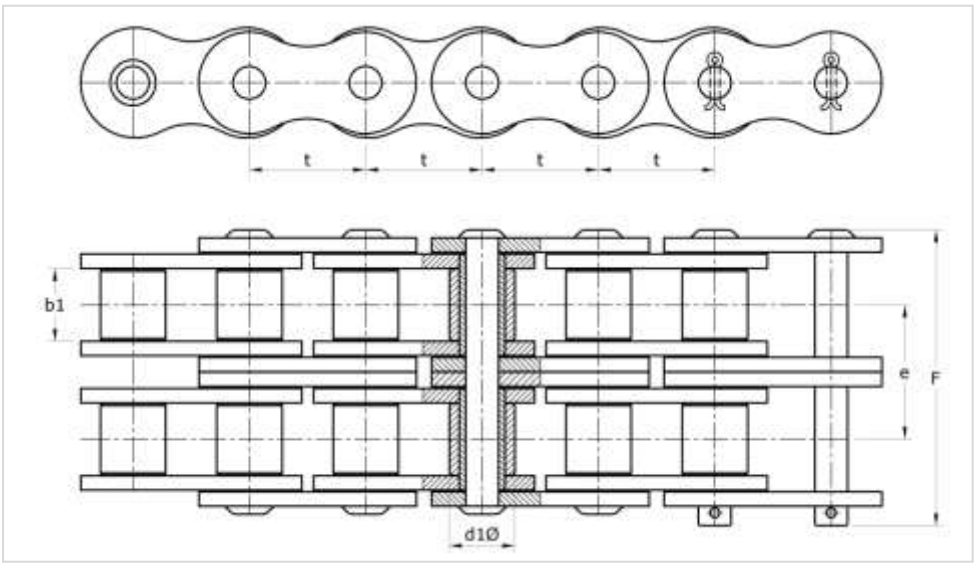
pitch		'ROL-KOBO'	Inside Width	Roller Dia	Outside Width	e	Breaking load	per Meter
mm	inch	Number	mm	mm	mm		kgs	kgs
9.525	3/8"	320	5.72	6.35	35.38	2,300	10.24	1.18
12.7	1/2"	326	7.75	8.51	46.54	4,631	13.92	2
15.875	5/8"	333	9.65	10.16	54.28	6,800	16.59	2.8
19.05	3/4"	339	11.68	12.07	63.42	8,500	19.46	3.8
25.4	1"	345	17.02	15.88	106.26	16,830	31.88	8
31.75	1 1/4"	356	19.56	19.05	120.9	27,540	36.45	11
38.1	1 1/2"	370	25.4	25.4	160.52	49,470	48.36	21
44.45	1 3/4"	379	30.99	27.94	193.92	58,240	59.56	25
50.8	2"	386	30.99	29.21	200	74,300	58.55	32
63.5	2 1/2"	390	38.1	39.37	235.78	1,02,000	72.29	48
76.2	3"	397	45.75	48.26	296.02	1,63,200	91.21	75
63.5	2 1/2"	398	53.34	53.98	345.5	2,55,000	106.6	105
76.2	3"	399	60.96	63.5	380	3,25,000	119.89	180

High Performance Precision Rolkobo Roller Chains To ISO 606 / DIN 8187 / BS 228 / IS 2403 Standards

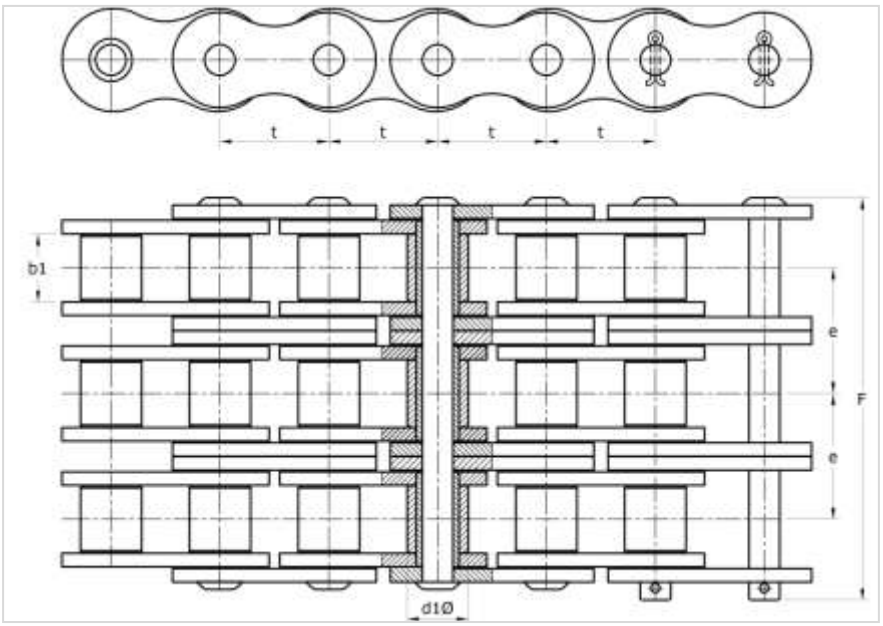
Simplex



Duplex



Triplex



High Performance Precision Rolkobo Roller Chains To

ISO 606 / DIN 8188 / ASME B29 / IS 2403 Standards

SIMPLEX

t pitch mm	inch	0 'ROL-KOBO' Number	b1 Inside Width mm	d1 Roller Dia mm	F Outside Width mm	Guranteed Breaking load kgs	Weight per Meter kgs
12.7	1/2"	40	7.94	7.94	18.2	1,500	0.41
15.875	5/8"	50	9.53	10.16	22	2,300	1.01
19.05	3/4"	60	12.7	11.9	27.1	3,200	1.47
25.4	1"	80	15.88	15.87	35	5,700	2.57
31.75	1 1/4"	100	19.05	19.05	44.5	8,900	3.73
38.1	1 1/2"	120	25.4	22.22	54.5	12,800	5.5
44.45	1 3/4"	140	25.4	25.4	58.5	17,400	7.5
50.8	2"	160	31.75	28.57	70	22,700	9.7
57.5	2 1/4"	180	35.71	35.71	79	28,300	12.8
63.5	2 1/2"	200	38.1	39.68	86.5	35,400	15.8
76.2	3"	240	47.63	47.63	107	52,051	22.6

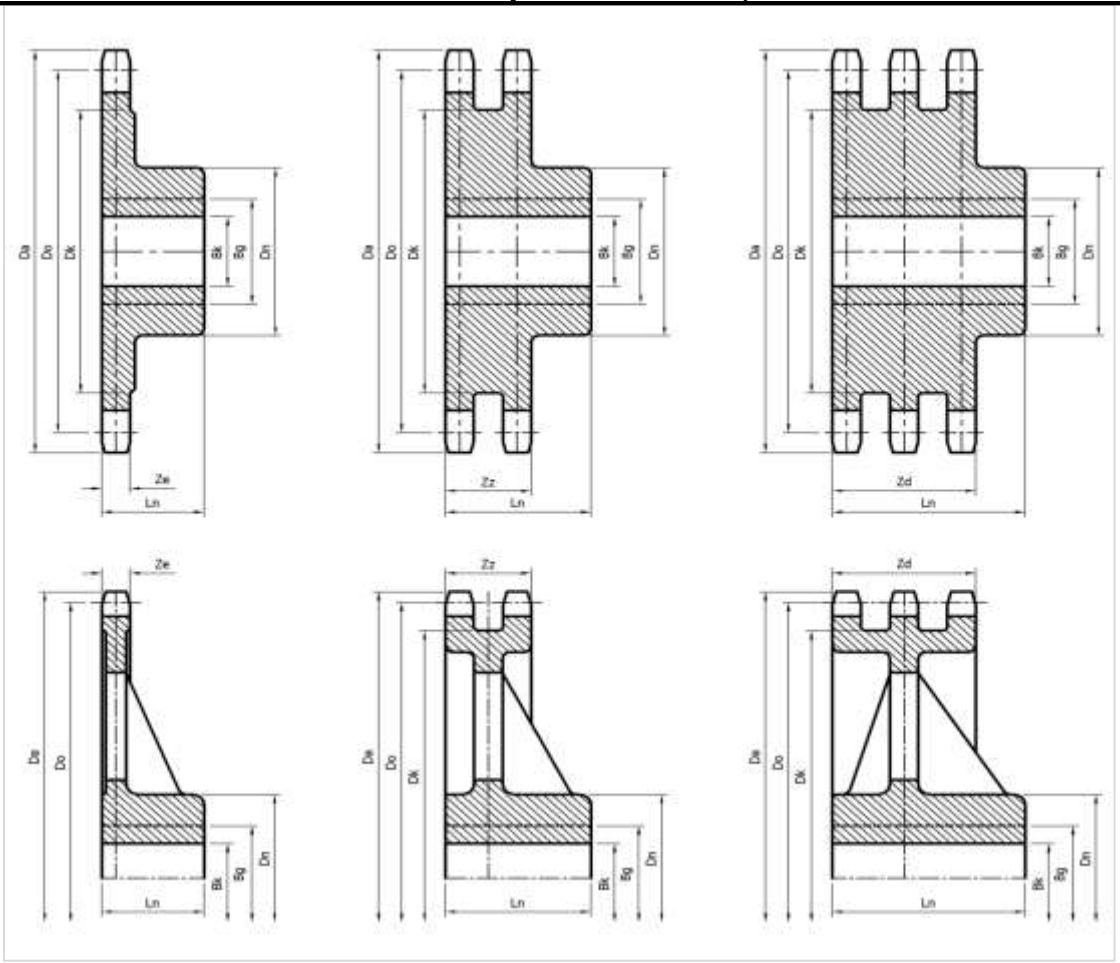
DUPLEX

t pitch mm	inch	0 'ROL-KOBO' Number	b1 Inside Width mm	d1 Roller Dia mm	F Outside Width mm	e	Guranteed Breaking load kgs	Weight per Meter kgs
19.05	3/4"	60-2	12.7	11.9	50.9	22.78	6,400	2.9
25.4	1"	80-2	15.88	15.87	65	29.29	11,400	5.01
31.75	1 1/4"	100-2	19.05	19.05	81.7	35.76	17,800	7.31
38.1	1 1/2"	120-2	25.4	22.22	100	45.44	25,600	10.9
44.45	1 3/4"	140-2	25.4	25.4	108.2	48.87	34,800	14.4
50.8	2"	160-2	31.75	28.57	129.8	58.55	45,400	19.1
57.15	2 1/4"	180-2	35.71	35.71	146	65.84	56,300	25.2
63.5	2 1/2"	200-2	38.1	39.68	158.6	71.55	70,800	32
76.2	3"	240-2	47.63	47.63	195	87.8	1,04,101	44

TRIPLEX

t pitch mm	inch	0 'ROL-KOBO' Number	b1 Inside Width mm	d1 Roller Dia mm	F Outside Width mm	e	Guranteed Breaking load kgs	Weight per Meter kgs
19.05	3/4"	60-3	12.7	11.9	74	22.78	9,600	4.28
25.4	1"	80-3	15.88	15.87	94	29.29	17,100	7.47
31.75	1 1/4"	100-3	19.05	19.05	119	35.76	26,700	11
38.1	1 1/2"	120-3	25.4	22.22	145.8	45.44	38,400	16.5
44.45	1 3/4"	140-3	25.4	25.4	158.2	48.87	52,200	21.7
50.8	2"	160-3	31.75	28.57	189.2	58.55	68,100	28.3
57.15	2 1/4"	180-3	35.71	35.71	211.8	65.84	84,900	37.6
63.5	2 1/2"	200-3	38.1	39.68	231	71.55	1,06,200	48
76.2	3"	240-3	47.63	47.63	284	87.8	1,56,152	66

High Performance Standard Chain Wheels (For Roller Chains)



Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
120	9.525 mm	12013	13	M.S. or EN8	39.8	43	28	5.2	10	15	28	24	0.12
	3/8"	12014	14		42.81	46	31		10	18	31	24	0.15
		12015	15		45.81	49	34		10	20	34	24	0.18
		12016	16		48.82	52	37		10	22	37	24	0.24
		12017	17		51.84	55	40		10	25	40	28	0.29
		12018	18		54.85	58	43		10	28	43	28	0.34
		12019	19		57.87	61	46		10	30	46	28	0.38
		12020	20		60.89	65	49		10	32	49	28	0.43
		12021	21		63.91	67	52		10	32	52	28	0.47
		12022	22		66.93	70	55		10	34	55	28	0.53
		12023	23		69.95	73	58		10	35	58	28	0.59
		12024	24		72.97	76	61		10	38	61	28	0.65
		12025	25		76	80	64		10	40	64	28	0.72
		12026	26		79.02	83	67		10	45	67	28	0.78
		12030	30		91.12	95	80		10	50	80	28	1.1
		12038	38	C.I. or Cast Steel	115.34	119	104		20	40	70	32	1
		12057	57		172.91	177	162		20	40	70	32	1.4
		12076	76		230.49	234	219		20	40	70	32	2.3
		12095	95		288.08	292	277		20	45	80	38	3.2
		120114	114		345.68	349	335		20	45	80	38	3.9
		120150	150		454.82	458	444		25	50	90	45	8

Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
220	9.525 mm	22013	13	M.S. or EN8	39.8	43	28	15.4	10	15	28	28	0.13
	3/8"	22015	15		45.81	49	34		10	20	34	28	0.2
		22017	17		51.84	55	40		10	25	40	28	0.32
		22019	19		57.87	61	46		10	30	46	28	0.4
		22021	21		63.91	67	52		10	32	52	28	0.5
		22023	23		69.95	73	58		10	35	58	28	0.65
		22025	25		76	80	64		10	40	64	28	0.75
		22038	38	C.I. or Cast Steel	115.34	119	104		20	50	90	38	2
		22057	57		172.91	177	162		20	50	90	38	2.6
		22076	76		230.49	234	219		20	50	90	38	3.3
		22095	95		288.08	292	277		20	60	95	45	4.7
		220114	114		345.68	349	335		20	60	95	45	5.7
		220150	150		454.82	458	444		25	65	100	50	10.5

Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
320	9.525 mm	32013	13	M.S. or EN8	39.8	43	28	25.7	10	15	28	38	0.2
	3/8"	32015	15		45.81	49	34		10	20	34	38	0.3
		32017	17		51.84	55	40		10	25	40	38	0.45
		32019	19		57.87	61	46		10	30	46	38	0.55
		32021	21		63.91	67	52		15	32	52	38	0.7
		32023	23		69.95	73	58		15	35	58	38	0.85
		32025	25		76	80	64		15	40	64	38	1.05
		32038	38	C.I. or Cast Steel	115.34	119	104		25	55	95	57	3
		32057	57		172.91	177	162		25	55	95	57	3.8
		32076	76		230.49	234	219		25	65	110	57	6.7
		32095	95		288.08	292	277		25	65	110	57	7.3
		320114	114		345.68	349	335		25	70	115	57	10.6
		320150	150		454.82	458	444		30	75	125	64	15.8

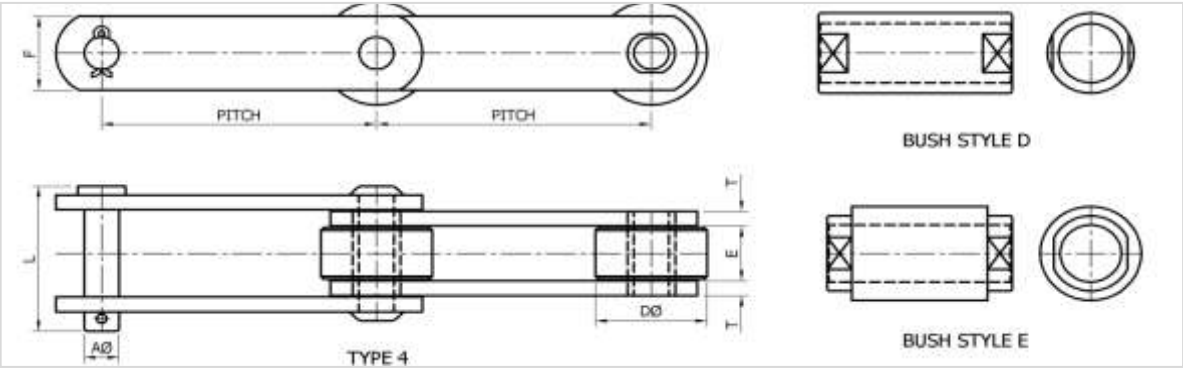
Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
126	12.7 mm	12613	13	M.S. or EN8	53.07	58	37	7.1	15	20	37	24	0.22
	1/2"	12614	14		57.07	62	41		15	23	41	24	0.26
		12615	15		61.08	66	45		15	25	45	24	0.3
		12616	16		64.1	70	49		15	28	49	24	0.37
		12617	17		69.12	74	53		15	32	53	24	0.45
		12618	18		73.14	78	57		15	35	57	28	0.58
		12619	19		77.16	82	61		15	40	60	28	0.7
		12620	20		81.18	86	66		15	40	60	28	0.76
		12621	21		85.21	90	70		15	40	60	28	0.83
		12622	22		89.24	94	74		15	40	60	28	0.85
		12623	23		93.27	98	78		15	40	60	28	0.88
		12624	24		97.3	102	82		15	40	60	28	0.91
		12625	25		101.33	106	86		15	40	60	28	0.94
		12626	26		105.36	110	90		15	40	60	28	1
		12627	27		109.4	113	94		15	40	60	28	1
		12630	30		121.5	126	106		15	40	60	28	1.1
		12638	38	C.I. or Cast Steel	153.79	159	139		25	50	90	38	2.15
		12645	45		182.06	187	167		25	50	90	38	2.3
		12657	57		230.54	235	216		25	50	90	38	3.15
		12676	76		307.32	312	292		25	50	90	38	3.9
		12695	95		384.11	388	369		25	50	90	45	5.4
		126114	114		460.91	466	446		25	50	90	45	6.6

Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
226	12.7 mm	22613	13	M.S. or EN8	53.07	58	37	21	15	20	37	34	0.33
	1/2"	22615	15		61.08	66	45		15	25	45	34	0.46
		22617	17		69.12	74	53		15	32	53	34	0.7
		22619	19		77.16	82	61		15	40	61	38	1
		22621	21		85.21	90	70		15	45	70	38	1.25
		22623	23		93.27	98	78		15	50	78	38	1.5
		22625	25		101.33	106	86		15	55	86	38	1.8
		22638	38	C.I. or Cast Steel	153.79	159	139		25	60	100	45	3.3
		22657	57		230.54	235	216		25	60	100	50	4.5
		22676	76		307.32	312	292		25	60	100	55	6.1
		22695	95		384.11	389	369		25	60	100	55	7.6
		226114	114		460.91	466	446		25	60	100	60	10.5
Chain No.	**Pitch**	**Rol KOBO No.**	**No. of Teeth**	**Mat.**	**Do mm**	**Da mm**	**Dk mm**	**Ze Zz / Zd mm**	**Bk mm**	**Bg mm**	**Dn mm**	**Ln mm**	**R q kg/piece**
326	12.7 mm	32613	13	M.S. or EN8	53.07	58	37	34.9	15	20	37	50	0.5
	1/2"	32615	15		61.08	66	45		15	25	45	50	0.7
		32617	17		69.12	74	53		15	32	53	50	0.96
		32619	19		77.16	82	61		15	40	61	55	1.4
		32621	21		85.21	90	70		15	45	70	55	1.8
		32623	23		93.27	98	78		15	50	78	55	2.2
		32625	25		101.33	106	86		15	55	86	55	2.6
		32638	38	C.I. or Cast Steel	153.79	159	139		25	75	120	50	5.1
		32657	57		230.54	235	216		25	90	145	55	8.5
		32676	76		307.32	312	292		25	90	145	60	11.3
		32695	95		384.11	389	369		25	90	145	60	12.7
		326114	114		460.91	466	446		25	90	145	65	16.4

Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
133	15.875 mm	13313	13	M.S. or EN8	66.34	73	50	8.9	15	30	50	28	0.5
	5/8"	13314	14		71.34	78	55		15	35	55	28	0.6
		13315	15		76.36	83	60		15	40	60	28	0.7
		13316	16		81.36	88	65		15	42	65	28	0.8
		13317	17		86.39	93	70		15	45	70	28	0.9
		13318	18		91.42	98	75		15	45	70	28	0.94
		13319	19		96.45	104	80		15	45	70	33	1
		13320	20		101.48	108	85		15	45	70	33	1.1
		13321	21		106.51	114	90		15	45	70	33	1.2
		13322	22		111.55	118	95		15	45	70	33	1.3
		13323	23		116.58	124	100		15	45	70	33	1.4
		13324	24		121.62	128	105		15	45	70	33	1.5
		13325	25		126.66	134	110		15	45	70	33	1.55
		13326	26		131.7	138	115		15	45	70	33	1.6
		13327	27		136.74	144	120		15	45	70	33	1.65
		13330	30		151.87	158	135		15	45	70	33	1.9
		13338	38	C.I. or Cast Steel	192.24	198	176		25	55	75	48	3.4
		13345	45		227.58	235	211		25	55	75	48	4.1
		13357	57		288.18	295	270		25	55	75	48	4.8
		13376	76		384.15	391	367		25	55	75	48	6.5
		13395	95		480.14	487	463		25	55	75	53	9.5
		133114	114		576.13	583	559		25	55	75	60	11

Chain No.	Pitch	Rol KOBO No.	No. of Teeth	Mat.	Do mm	Da mm	Dk mm	Ze Zz / Zd mm	Bk mm	Bg mm	Dn mm	Ln mm	R q kg/piece
233	15.875 mm	233.13	13	M.S. or EN8	66.34	73	50	25.5	15	30	50	40	0.9
	5/8"	233.15	15		76.36	83	60		15	40	60	40	1.3
		233.17	17		86.39	93	70		15	45	70	40	1.7
		233.19	19		96.45	104	80		15	50	80	45	2.12
		233.21	21		106.51	114	90		15	60	90	45	2.72
		233.23	23		116.58	124	100		15	60	100	45	3.32
		233.25	25		126.24	134	110		15	65	110	45	3.9
		233.38	38	C.I. or Cast Steel	192.24	198	176		25	70	115	60	7.85
		233.57	57		288.18	295	272		25	80	130	60	10.9
		233.76	76		384.15	391	367		25	85	140	65	15.9
		233.95	95		480.14	487	463		25	90	150	65	22.2
		233.114	114		576.13	583	559		25	100	165	70	28.4

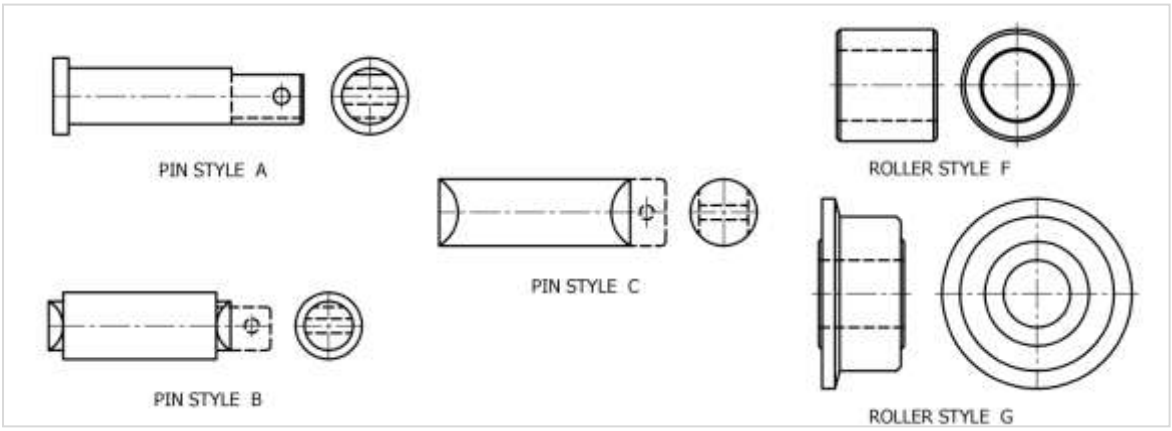
High Performance Bush Roller Chains



Chain No.	Chain Type	AveragePitch mm	Braking Load Kgs.	A	L (approx)	D	E	F	T	STYLE		
				mm						Pins	Bushing	Rol-lers
0070	4	76.20	10000	12.70	65.20	41.30	27.00	28.60	6.00	A	D	F
0071R	4	76.20	11000	14.30	72.00	50.00	35.0	40.00	5.00	A	D	F
0180	4	76.20	2200	9.525	23.90	25.40	12.70	19.05	2.38	B	E	G
0087	4	76.20	7400	11.11	53.086	47.625	19.05	31.10	3.81	A	D	F
0080	4	100.00	5500	11.11	26.60	30.00	10.50	25.80	3.10	A	D	F
0100	4	100.00	22000	17.74	58.00	50.00	25.00	50.00	6.00	A	D	F
0034	4	101.60	22000	17.74	76.50	66.00	31.40	50.00	7.75	B	D	F
0043	4	101.60	17000	17.74	77.50	60.00	35.00	45.00	6.00	A	D	F
0052	4	101.60	14000	14.56	48.00	25.04	20.00	40.00	5.00	B	E	F
0061	4	101.60	14500	15.85	70.00	55.02	32.00	40.00	5.00	A	D	F
0062	4	101.60	14500	15.85	61.00	55.00	32.00	40.00	5.00	B/C	D	G/F
0064	4	101.60	10000	11.12	69.00	44.50	30.00	30.00	6.30	B	D	G
0089R	4	101.60	15000	15.90	90.00	55.00	50.80	50.00	7.00	C	D	F
0099	4	101.60	15000	14.27	61.00	55.00	25.00	40.00	6.00	B	D	F
0102	4	101.60	14000	14.74	48.00	25.40	20.00	40.00	5.00	B	E	F
0137R	4	101.60	13636	17.74	69.00	55.00	35.00	45.00	6.00	C	D	F
0176	4	101.60	12000	17.74	68.50	55.00	31.75	40.00	5.00	B	D	F
0177	4	101.60	13000	17.74	77.25	60.00	35.00	45.00	6.00	B	D	F
0187	4	101.60	14000	13.80	54.00	48.00	25.40	40.00	5.00	B	D	F
0192	4	101.60	15000	14.27	53.00	47.625	25.00	40.00	6.00	B	D	F
0198R	4	101.60	18182	17.74	68.00	60.00	35.00	50.00	6.00	A	D	F
0020	4	150.00	11500	17.74	50.00	48.00	20.00	40.00	5.00	B	D	F
0049	4	150.00	30000	19.52	107.00	72.00	45.00	50.00	10.00	A	E	G
0035	4	126.90	21500	22.74	68.00	66.00	31.30	50.00	6.25&7.75	B	D	F
0044	4	126.90	13000	17.74	77.25	60.00	35.00	45.00	6.00	A	E	F
0039	4	152.40	11000	15.85	49.00	57.15	15.24	40.00	5.00	B	D	F
0041	4	152.40	16300	15.82	67.00	66.00	30.00	50.00	7.50	A	D	F

Pins of style B and style C a Pins of style B and style C are indicating rivetted lengths only.

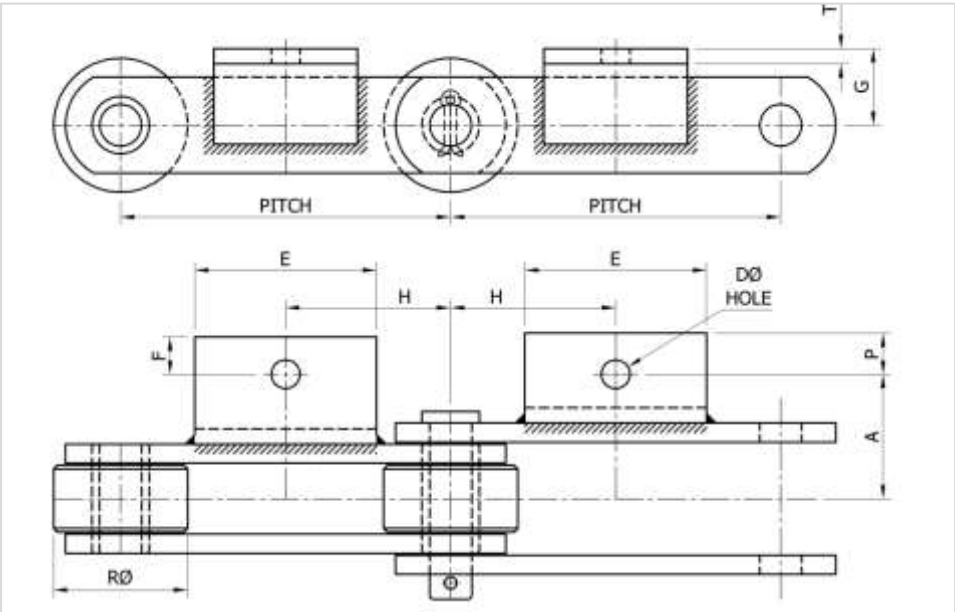
High Performance Bush Roller Chains



Chain No.	Chain Type	AveragePitch mm	Braking Load kgs.	A	L (approx)	D	E	F	T	STYLE		
				mm						Pins	Bushing	Roller
45	4	152.4	22500	22.75	99.5	80	55	50	7.5	B	D	F
46	4	152.4	25000	19	89	65	35	50	9.525	A	D	F
54	4	152.4	25000	22.22	94	76.2	35	50	10	A	D	F
55	4	152.4	18000	19	81.5	65	35	50	7.5	A	D	F
60	4	152.4	11000	14.56	57	63.5	19.8	40	5	B	D	F
73	4	152.4	21000	21.75	98	60	54	50	7.5	B	D	F
74	4	152.4	11000	14.28	46	47.62	19.05	38.1	5	B	E	F
75	4	152.4	11000	14.28	48	46.62	19.05	40	5.08	C	D	F
81	4	152.4	15000	15.85	90.5	69.9	36.05	50.8	9.5	B	D	F
85	4	152.4	5600	8.95	39.9	57.2	15	26	4	B	E	F
0088R	4	152.4	40000	22	95	65	47.5	55	10	C	D	F
90	4	152.4	16000	17.74	83	60	45	50	6	C	D	F
94	4	152.4	30000	19	90.5	65	36.5	50	10	A	D	F
109	4	152.4	22000	19	97	56.5	39.7	50	7.5	A	D	F
122	4	152.4	32300	19	95.5	63.5	37	60	10	A	D	F
0125R	4	152.4	50000	25.4	155.6	75.45	76.2	65	12.7	A	D	G
161	4	152.4	35000	25.4	85	88.9	41	65	8	C	E	G
173	4	152.4	13000	15.85	50	60.32	19.05	40	6	B	D	F
183	4	152.4	40000	22.74	96	76.2	36	65	10	A	D	F
0188R	4	152.4	3500	22.74	126	65	56	55	10	A	D	F
190	4	152.4	9000	10.2	39.5	31.75	15.9	28.6	4	C	E	F
197	4	152.4	40850	22.74	96	76.2	36	65	10	A	D	F
130	4	200	21000	21.75	94	80	54	50	7.5	C	D	G
37	4	250	15000	17.74	72	67	26	50	5.5	A	E	F
118	4	250	16300	20	86	70	45	50	8	C	D	G

Pins of style B and style C a Pins of style B and style C are indicating rivetted lengths only.

High Performance Bush Roller Chains



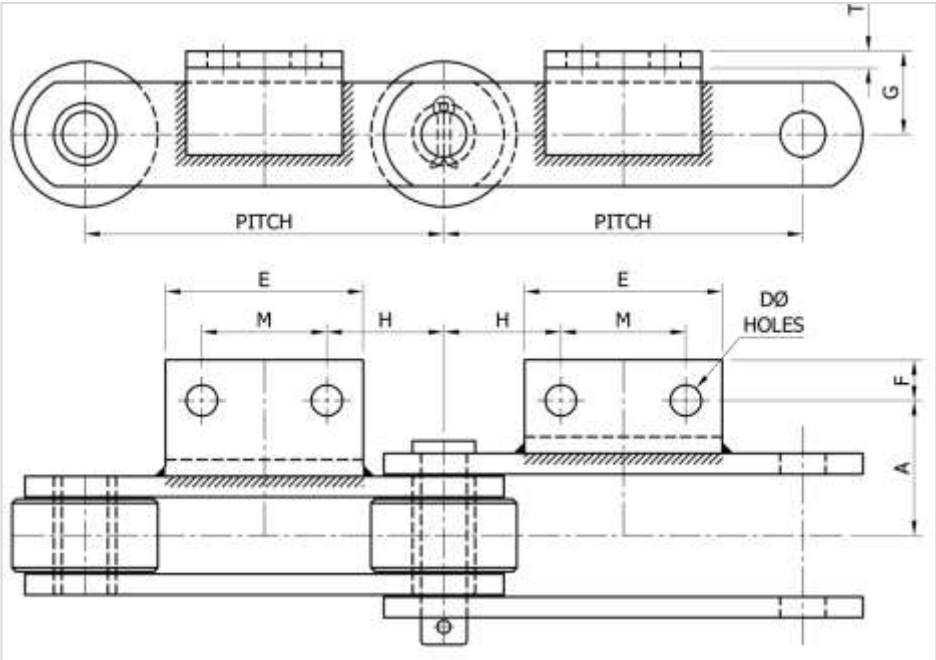
A.1 Attachments (one hole one).

Chain No.	Average Pitch Mm	Breaking Load Kgs.	A	D	E	F	G	H	P	R	T	STYLE		
												Pins	Bushings	Rollers
70	76.2	10000	48.2	9.525	50.8	10	14.3	38.1	12	41.3	5	A	D	F
0090/A	101.6	15000	44	13	40	19.5	40	50.8	19.5	55	5.5	B	D	F
102	101.6	14000	40	9	60	20	35	50.8	20	25.4	6	B	D	F
39	152.4	11000	38.1	14.40Sq	56	25.5	25.4	76.2	25.5	57.15	5	B	D	F
74	152.4	11000	43.205	14.28Sq	57.12	15.09	19.05	76.2	15.09	47.62	3.17	C	D	F
85	152.4	5600	36.9	14.40Sq	56.5	20.6	24	76.2	20.6	57.2	5	B	E	F
122	152.4	32000	108	14.2	63.5	17.5	40.7	44	17.5	63.5	9.5	A	E	F
35	126.9	21500	65	17	75	18.7	45	63.45	18.7	66	6	B	D	F

Pins may be furnished in direction.

Please specify

High Performance Bush Roller Chains



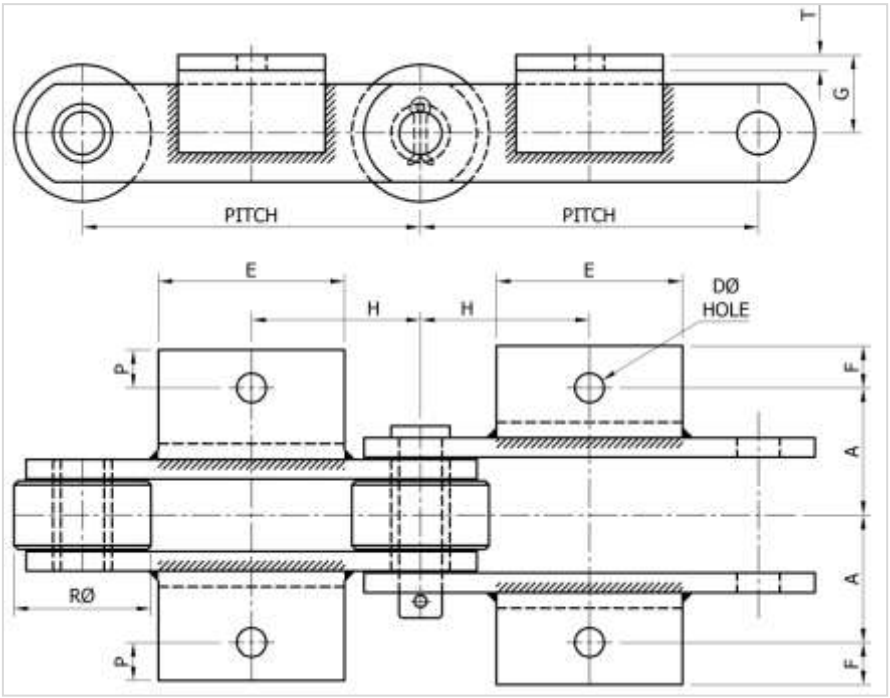
A.2 Attachments (one side wedded, two holes).

Chain No.	Average Pitch Mm	Breaking Load Kgs.	A	D	E	F	G	H	M	T	STYLE		
											Pins	Bushings	Roller
34	101.5	22000	65	11	55	18.7	45	34.57	32	6	B	D	F
61	101.6	12350	65	9	55	15.6	45	34.8	32	6	A	D	F
62	101.6	8000	50	12	71	30.6	45	30.8	40	6	B	D	G
64	101.6	11700	50	12	71	16.3	28	30.85	39.9	6	B	D	G
60	152.4	11000	42.8	10	95.25	17.2	60	47.75	57.15	3	B	D	F
161	152.4	35000	84.3	15.87	95.24	20.63	8.78	44.45	63.49	9.5	C/A	E	G
173	152.4	13000	44.45	10.7	84	11.55	31.75	47.7	57	5	B	D	F
190	152.4	9000	36.6	11.1	101.6	14.3	23.8	58.7	38.1	4.76	C	E	F

Pins may be furnished in reverse direction.

Please specify

High Performance Bush Roller Chains

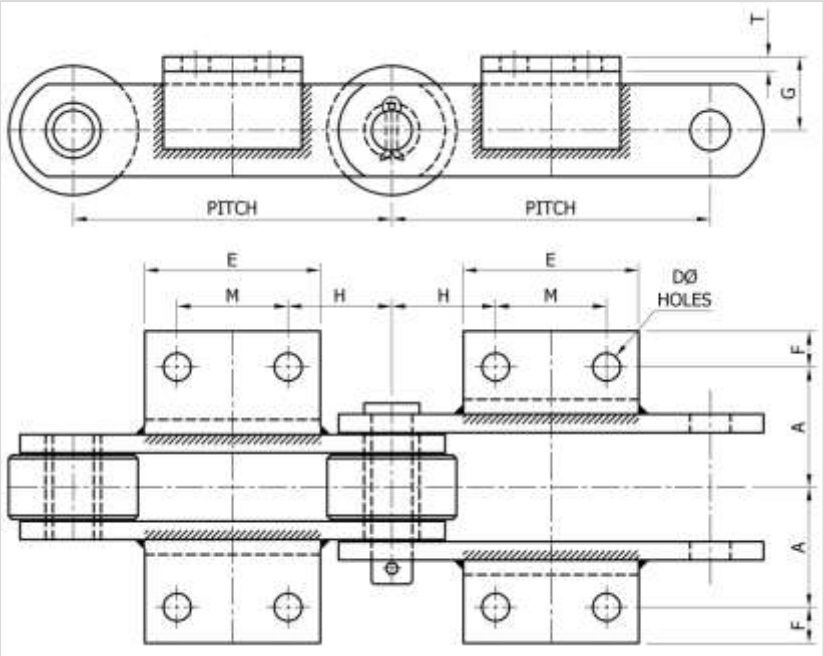


K.1 Attachments (one hole, two side).

Chain No.	Average Pitch Mm	Breaking Load Kgs.	A	D	E	F	G	H	P	R	T	STYLE		
												Pins	Bushings	Rollers
0071R	76.2	11000	57.15	10.00Sq	35	21	25	38	21	50	6	A	D	F
192	101.6	5000	44	13	40	20	34	51	20	47.6	5	B	D	F
55	152.4	18000	66	13.5	40	17	30	76	17	65	6	A	D	F
109	152.4	23000	73.02	17.4	70	8.83	51	76	8.83	56.5	6	A	D	F

Pins may be furnished in reverse direction.
Please specify

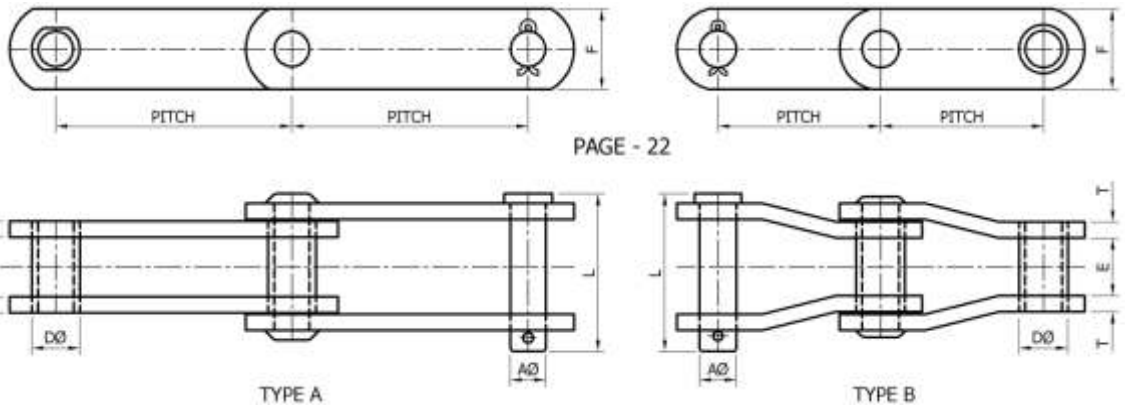
High Performance Bush Roller (Appron Feeder Chains)



K.2 Attachments (Both side welled, two holes).

Chain No.	Average Pitch Mm	Breaking Load Kgs.	A	D	E	F	G	H	M	T	STYLE		
											Pins	Bush-Ings	Rol-lers
0043	101.50	13000	65.50	11.00	50.00	15.25	45.00	36.75	28.00	6.00	B	D	F
0089	101.60	12500	73.80	12.70	71.40	16.70	28.50	31.80	38.00	6.00	A	D	F
0137R	101.60	13636	60.00	11.00	60.00	20.00	32.00	36.80	28.00	6.00	A	D	F
0176	101.60	5455	65.00	9.00	55.00	15.60	45.00	34.75	32.00	6.00	B	E	F
0177	101.60	5910	65.50	11.00	65.00	15.25	45.00	35.80	30.00	6.00	A & B	D	F
0198R	101.60	18182	65.00	11.00	60.00	15.75	32.00	35.80	30.00	6.00	A	D	F
0041	152.40	16300	67.50	11.00	80.00	12.00	45.00	53.70	45.00	8.00	A	D	F
0045	152.40	22500	82.50	11.00	80.00	11.50	50.00	53.70	45.00	8.00	B	D	F
0088R	152.40	18181	79.00	15.00	112.00	19.60	38.00	41.20	70.00	10.00	A	D	F
0090	152.40	16000	63.50	11.00	80.00	21.50	50.00	53.70	45.00	6.00	C	D	F
0125	152.40	50000	25.40	15.87	107.95	22.22	49.45	44.50	63.40	9.50	A	D	F
0188	152.40	35000	72.50	15.00	14.00	25.00	38.00	31.20	90.00	10.00	C	D	F
0044	126.90	13000	65.50	11.00	65.00	14.75	45.00	48.45	30.00	6.00	A	D	F

High Performance Bush Roller Chains



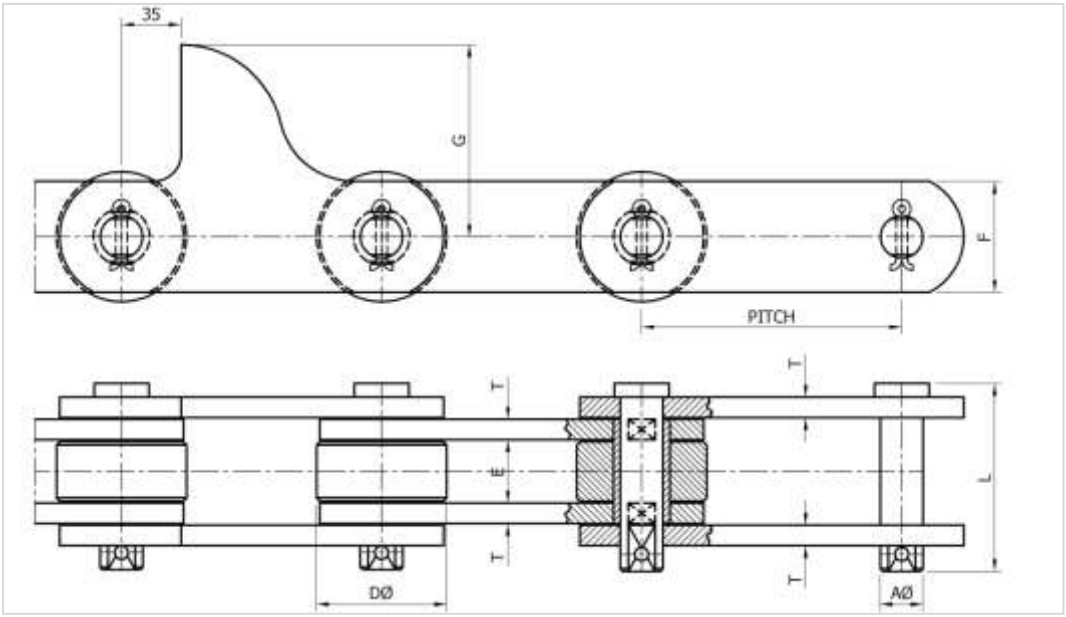
Chain No.	Chain Type	Average Pitch mm	Average Ultimate Strength Kgs.	A	L (approx)	D	E	F	T	STYLE	
										Pins	Bushing
0101	A	100.00	8500	18.00	58.00	26.00	25.00	50.00	6.00	A	D
0121	A	100.00	8000	17.74	54.00	26.00	25.00	40.00	5.00	A	D
0119*	A	101.60	10909	15.875	111.00	25.40	54.00	38.10	10.00	A	Malla able
0089	A	101.60	15000	15.90	90.00	25.40	50.80	50.00	7.00	C	E
0137	A	101.60	13636	17.74	77.50	26.00	35.00	45.00	6.00	A	D
0198	A	101.60	18182	17.74	68.00	26.00	35.00	50.00	6.00	A	D
0088	A	152.40	40000	22.00	117.50	34.00	47.50	55.00	10.00	A	D
0090	A	152.40	16000	17.74	83.00	25.00	45.00	50.00	6.00	B	D
0104	B	152.40	27272	19.05	113.00	31.76	57.00	39.50	9.50	A	E
0125	A	152.40	50000	25.40	155.60	44.45	76.20	63.50	12.70	A	D
0188	A	152.40	35000	22.00	126.00	34.00	56.00	55.00	10.00	A	D
0091	A	160.00	16000	18.00	79.00	26.00	35.00	45.00	6.00	A	D
0114	A	160.00	50000	31.75	143.51	47.62	50.80	76.19	12.70	A	D
0126	A	200.00	16300	20.00	87.00	30.00	45.00	50.00	7.50	A	D
0076	B	228.60	39545	25.40	148.50	44.45	63.50	70.00	14.30	A	D
0086	A	250.00	45000	29.96	125.00	41.90	54.50	70.00	10.00	A	D

*Equivalent to Link Belt Chain No. C102B

Equivalent to Jeffrey Chain No. WS110

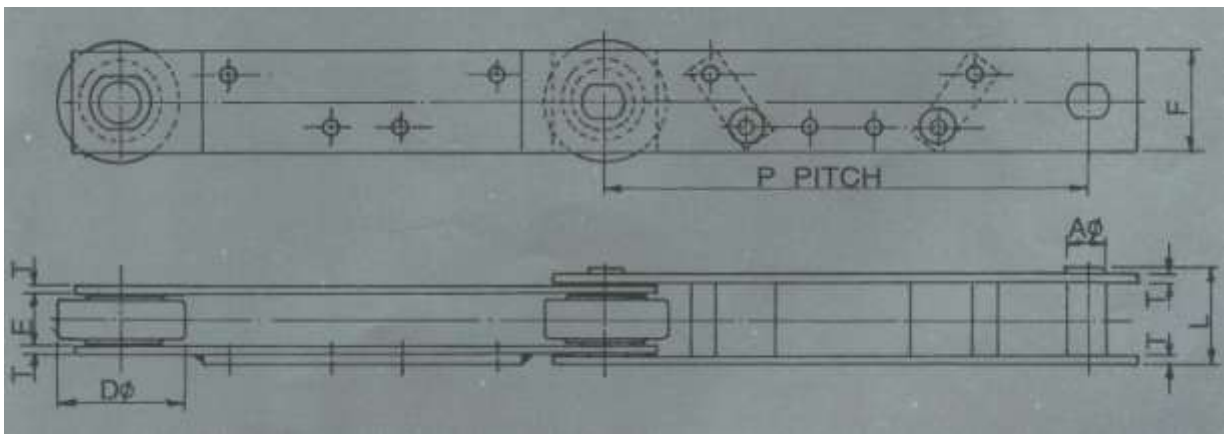
Equivalent to Jeffrey Chain No. 6859

High Performance Feeder Table Chains



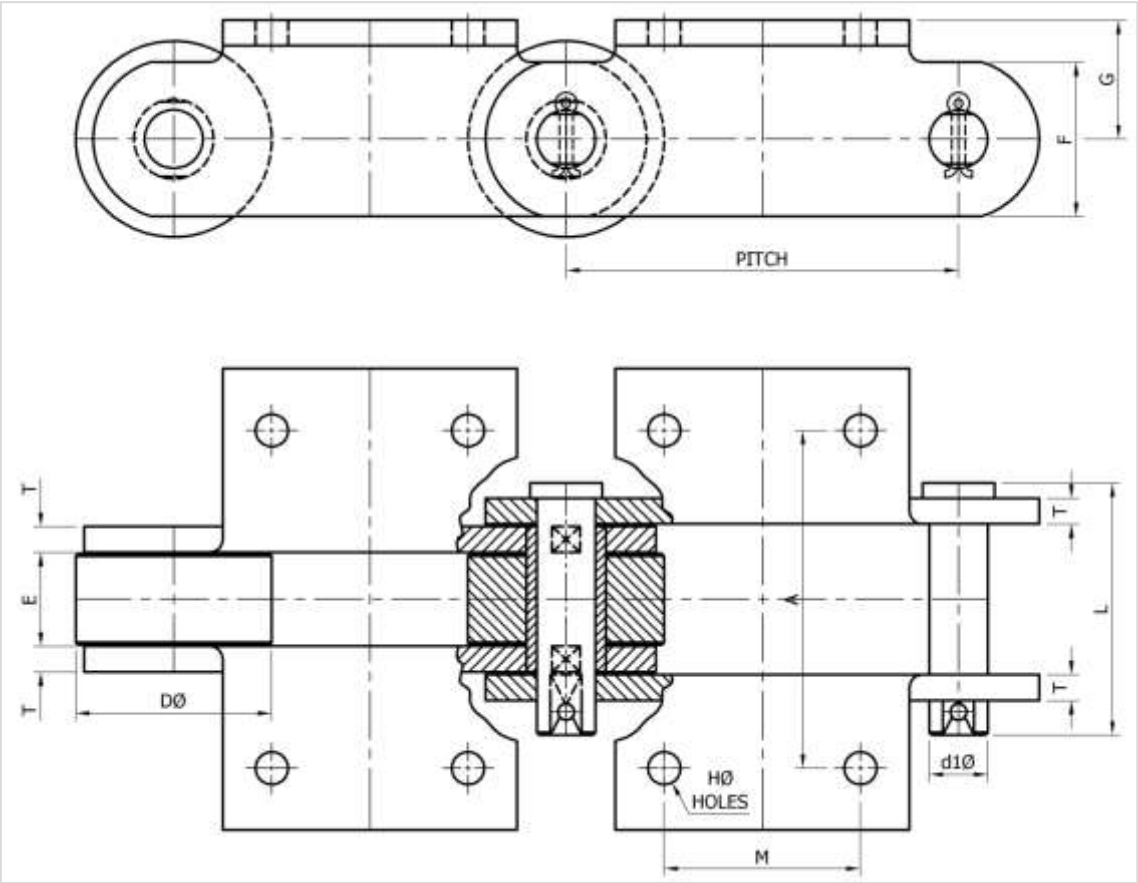
Rolkobo Chain no.	Pitch	Breaking Load/ Strand (kgs.)	AΦ	L	DΦ	E	F	G	T
2262	150 mm	40,000	25	109	75	37	60	112.5	10
2375	150 mm	40,000	22.74	98	75	37	60	112.5	12
1850	150 mm	40,000	24	105	75	37	65	112.5	12
2541	150 mm	40,000	25	98	75	36	65	112.5	10

High Performance Cane Diffuser Chain



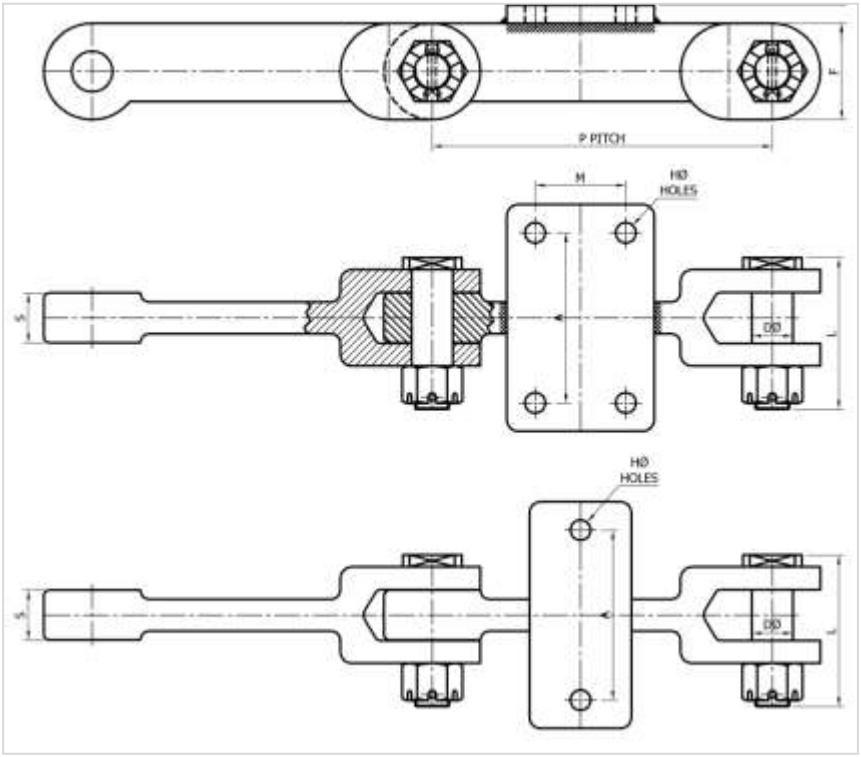
Chain no.	Chain Pitch P	Breaking Load (kgs.)	AΦ	L	DΦ	F	T
127	900	2,00,000	75	175	232	200	19
159	900	1,20,000	55	145	235	160	16

High Performance Cane Carrier Chains



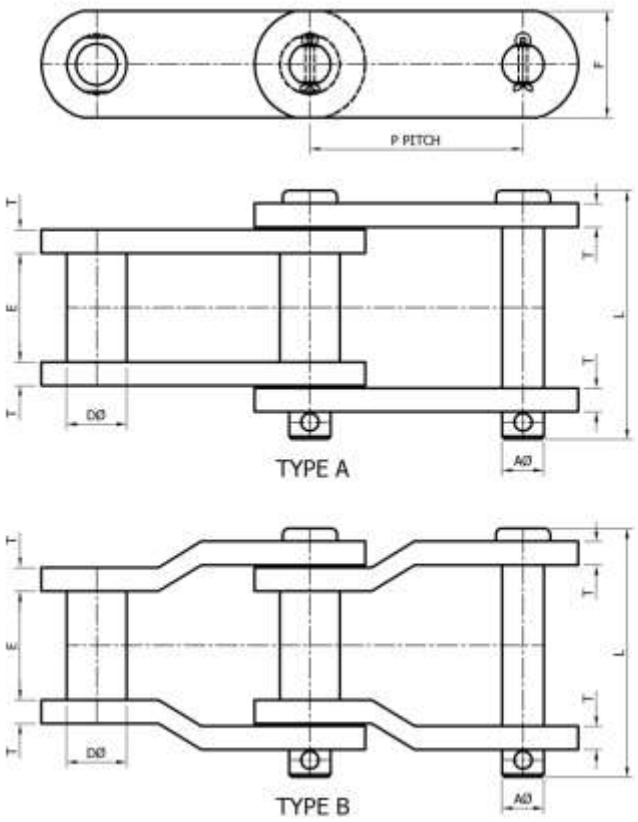
Chain no.	Pitch	Breaking Load/ Strand (kgs.)	$d_1\Phi$	L	DΦ	E	F	A	M	G	HΦ	T
14	152.40 mm	30,000	22.22	95	75	35	60	125	76	40	15	10
141	152.40 mm	43,000	23.22	104	75	35	60	129	76	40	15	12
171	152.40 mm	43,000	23.25	104	75	35	60	130	76	40	14	12
184	152.40 mm	38,600	22.74	96	76.2	36	63	126	64	45	14	10
2118	150.00 mm	30,000	22.8	97	75	36	63.5	126	60	42.5	14	10
2376	150.00 mm	40,000	22.74	98	75	37	60	150	75	45	14	10
2263	150.00 mm	40,000	25	109	75	37	65	150	75	47.5	14	12
2419	200.00 mm	60,000	30	130	90	37	75	170	80	58.5	18	16
2395	200.00 mm	75,000	30	130	90	37	75	170	100	56	14	16

High Performance Rake Elevator / Carrier Chains



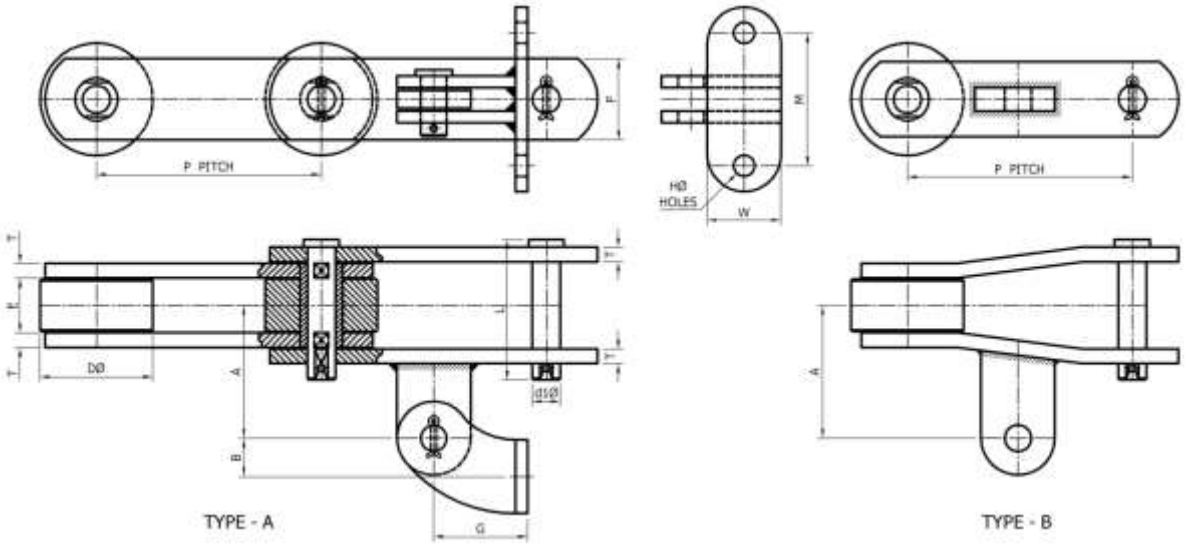
Chain no.	Chain Type	Pitch	Breaking Load/ Strand (kgs.)	DΦ	L	S	F	A	M	T	HΦ
2333	A	200 mm	60,000	32	104	32	70	130	70	16	18
2601	A	229 mm	60,000	32	114	32	70	100	70	16	18
2525	A	300 mm	80,000	38	136	44	85	130	80	16	18
2665	B	150 mm	45,000	28	101	32	60	100	--	12	18

High Performance Bush Elevator Chains



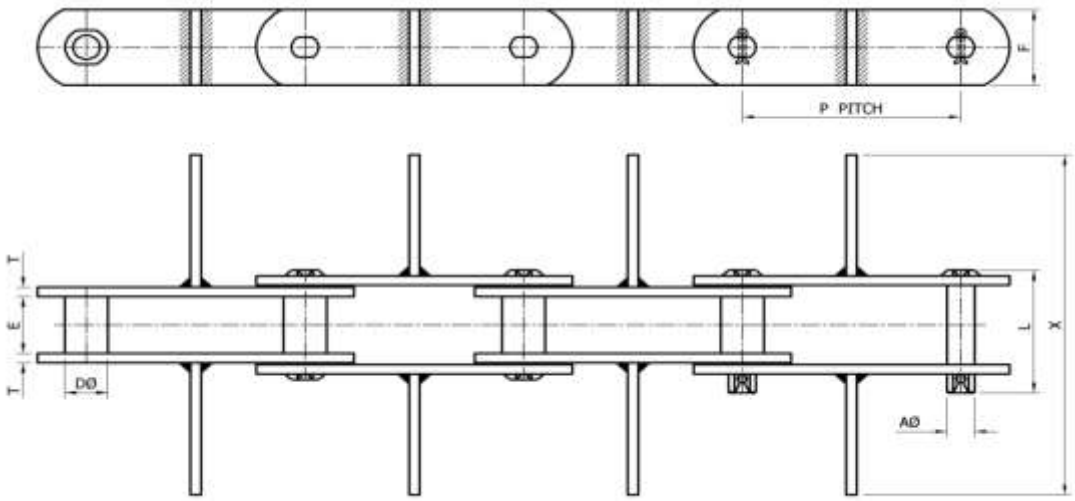
Chain no.	Type	Chain Pitch P	Breaking Load/ Strand (kgs.)	AΦ	L	DΦ	E	F	T
2273	A	2.609"	25,000	12.7	68.0	22.22	27.0	28.57	6.5
0228	A	6.0"	1,00,000	25.4	155.5	44.45	76.2	65.00	12.7
1715	B	7.0"	2,00,000	31.75	187.3	60.32	95.25	100.0	16.0
0076	B	9.0"	87,000	25.4	148.5	44.45	63.5	70.0	14.0
0667	B	9.0"	2,24,000	38.1	170.0	60.4	76.2	90.0	16.0
2417	A	9.0"	1,86,000	34.9	147.0	50.0	57.7	80.0	16.0

High Performance Baggasse Carrier Chains



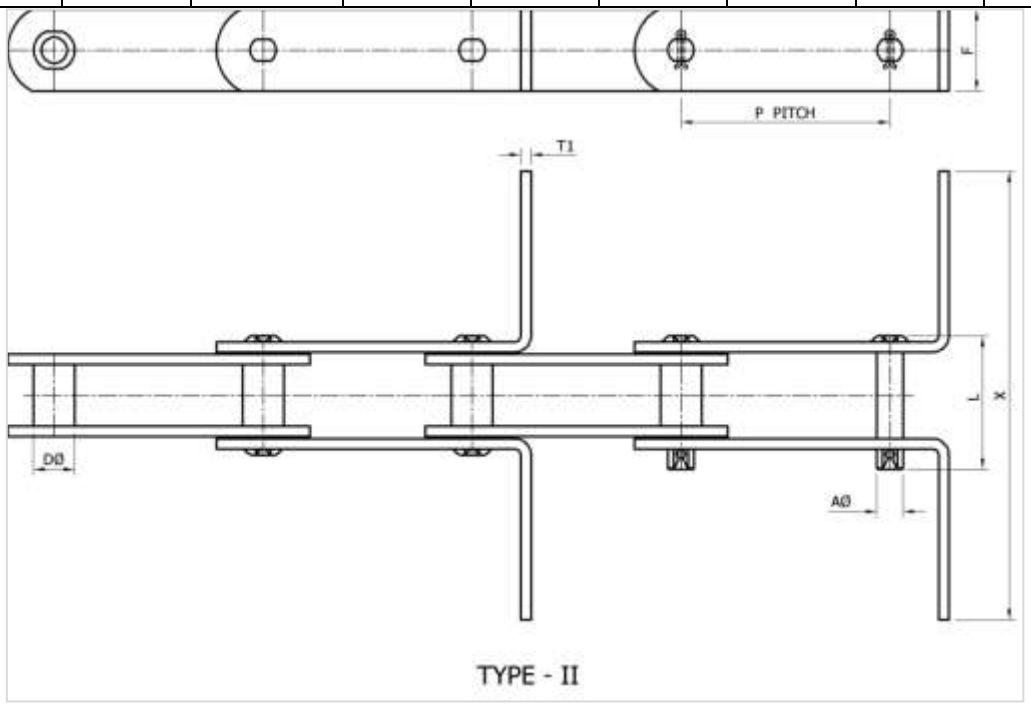
Chain no.	Chain Type	Chain Pitch P	Breaking Load/ Strand (kgs.)	$d_1\Phi$	L	DΦ	E	F	A	M	G	a	W	HΦ	T
52	A	101.60 mm	14,000	14.56	54	25.4	20	40	41	--	--	--	--	--	5
46	A	152.40 mm	18,182	19	89	65	35	50	90	90	65	25	50	15	9.5
54	A	152.40 mm	25,000	22.22	94	76.2	35	50	66.67	88.89	60	25.8	50	14.27	10
81	A	152.40 mm	15,000	19.05	90.5	69.9	36.5	50.8	64	82.6	360	25	50.8	12.7	9.5
94	A	152.40 mm	30,000	19	91	65	36.5	50	91	90	63.5	25.4	50	14.28	10
183	A	152.40 mm	40,000	22.74	96	76.2	36	65	63	--	--	--	--	--	10
197	A	152.40 mm	40,850	22.74	96	76.2	36	65	63	--	--	--	--	--	10
138	B	152.40 mm	36,000	22.74	98	76.2	37	60	74	--	--	--	--	--	10
2264	A	150.00 mm	40,000	25	109	75	37	65	80	90	78	35	50	14	12
2546	A	152.40 mm	45,000	25	109	75	37	65	70	82.5	56	25	50	10.3	12
2409	A	200.00 mm	60,000	30	130	90	37	75	90	110	50	33	65	17	16
2719	A	228.60 mm	50,000	27	97	75	35	65	90	150	65.5	35	65	18	10
2377	A	150.00 mm	40,000	22.74	98	75	37	60	80	90	78	35	50	14	10

High Performance Flow Conveyor Redler Chains



TYPE - I

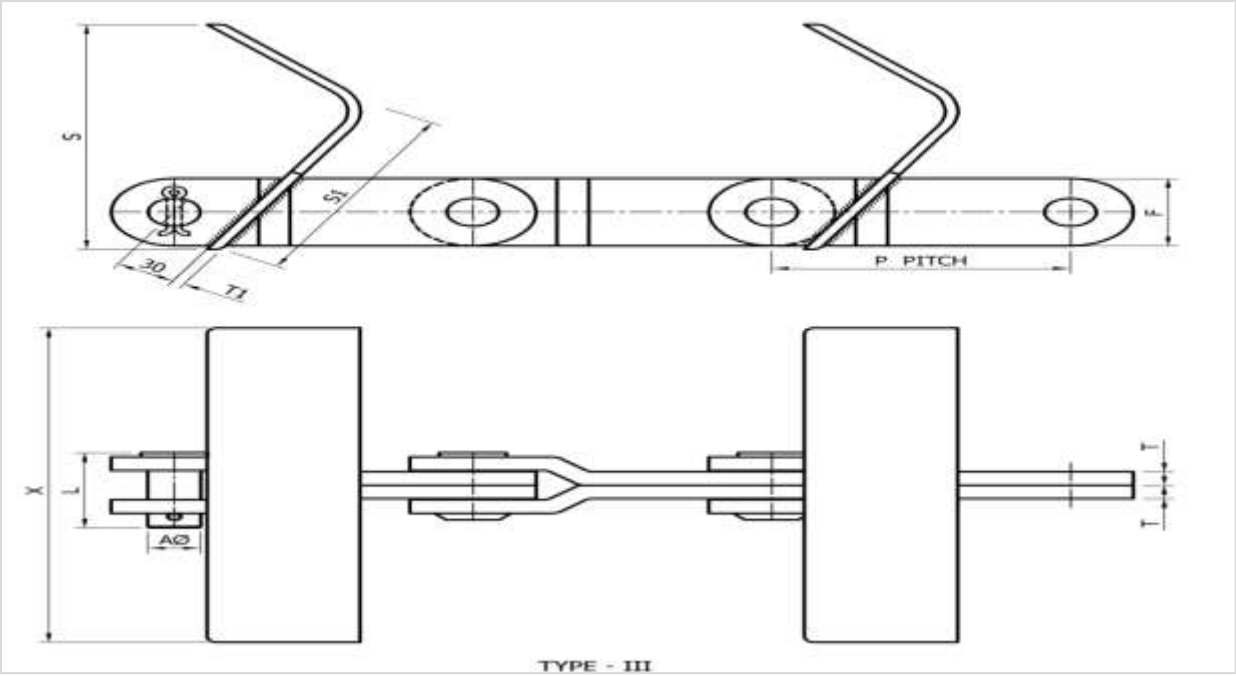
Chain No.	*Pitch*	*Breaking Load*	*A*	*L max.*	*D*	*E min.*	*F*	*T*	*T1*	*X max.*
RK-RL-101.6	*4”*	*11,500 kgs.*	*14.28*	*56*	*25*	*22*	*40*	*5*	*8*	*190*
RK-RL-127	*5”*	*11,500 kgs.*	*14.28*	*56*	*25*	*22*	*40*	*5*	*8*	*315*
RK-RL-150	*150mm*	*11,200 kgs.*	*15*	*76*	*21*	*32*	*40*	*6*	*8*	*400*
RK-RL-160	*160mm*	*22,400 kgs.*	*21*	*95*	*30*	*48*	*60*	*8*	*8*	*315*
RK-RL-200	*200mm*	*31,500 kgs.*	*25*	*116*	*36*	*48*	*70*	*10*	*10*	*600*



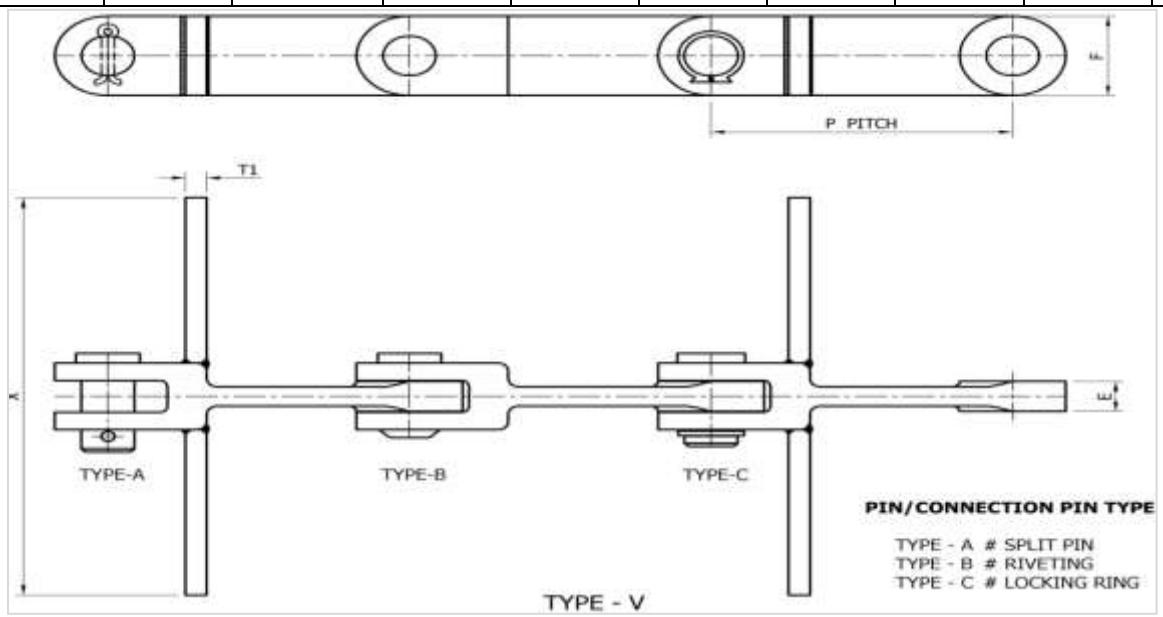
TYPE - II

Chain No.	Pitch	Breaking Load	A	L max.	D	E min.	F	T	T1	X max.
RK-RL-125/14	125mm	14,000 kgs.	14.56	80	25.4	27.5	40	6	8	276
RK-RL-125/19	125mm	19,000 kgs.	19.85	91	32	34	50	6	10	482
RK-RL-125/35	125mm	35,000 kgs.	22	95	35	34	65	8	10	482
RK-RL-150	150mm	25,000 kgs.	19.85	104	32	45	65	8	10	440
RK-RL-160	160mm	22,000 kgs.	21	95	30	40	60	8	10	315

High Performance Flow Conveyor Redler Chains

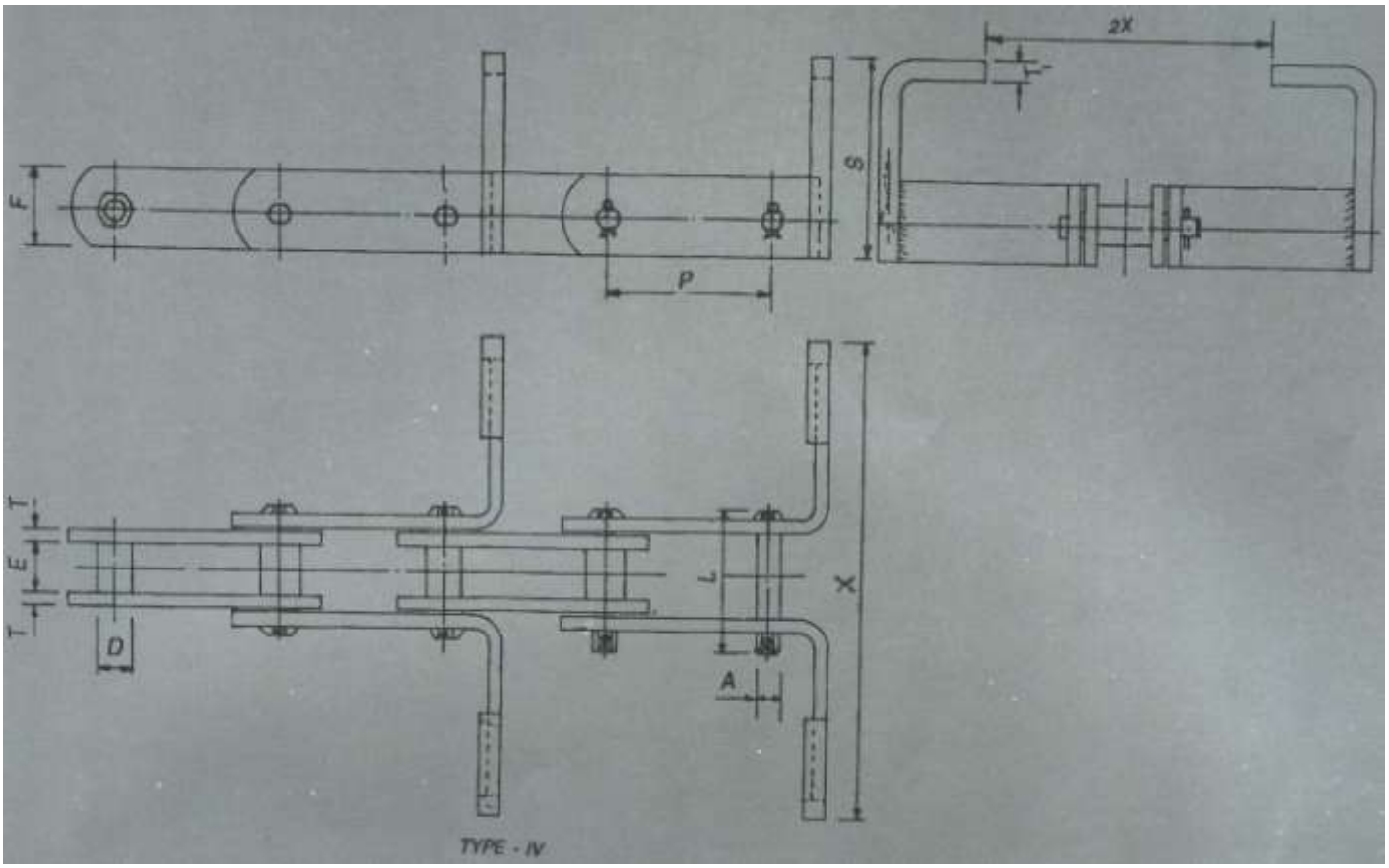


Chain No.	Pitch	Breaking Load	A	L max.	F	T	T1	S	S1	X max.
RK-RL-125	125 mm	42,000 kgs.	25	60	60	12	5	158	105	485
RK-RL-142/24	142 mm	24,000 kgs.	22.22	58	50	8	6	145	105	278
RK-RL-142/30	142 mm	30,000 kgs.	22.74	56	50	8	6	170	122	325
RK-RL-142/42	142 mm	42,000 kgs.	25	67	60	12	5	158	105	275
RK-RL-160	160 mm	22,500 kgs.	22.22	70	55	10	5	300	200	685



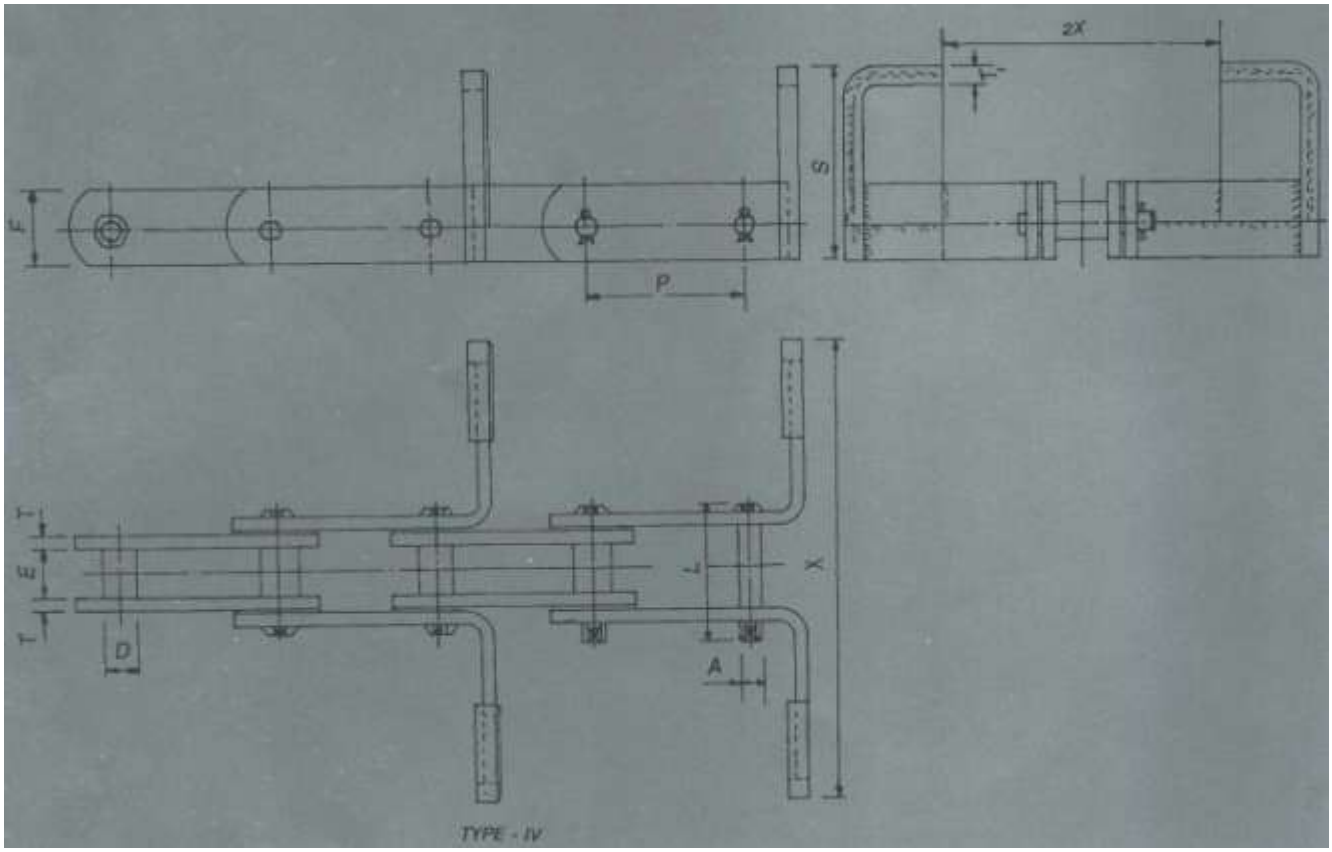
Chain No.	Pitch	Breaking Load	A	L max.	E min.	F	T1	X max.
RK-RL-142/25	142 mm	25,000 kgs.	25	61	19	50	10	290
RK-RL-142/28	142 mm	28,000 kgs.	25	61	18	48	12	485
RK-RL-142/22	142 mm	22,000 kgs.	22.7	61	19	50	10	375

High Performance Flow Conveyor Redler Chains



Chain No.	Pitch	Breaking Load	A	L max.	D	E min.	F	T	T1	S	X max.	2x
RK-RL-125	125 mm	15,000 kgs.	15.85	96	31	35.6	50	6/8	12 Sq	94	476	308
RK-RL-150/25	150 mm	25,000 kgs.	19.85	104	32	45	65	8	12 Sq	100	440	275
RK-RL-150/30	150mm	30,000 kgs.	25	115	49	43	70	12	16 Sq	150	580	160
RK-RL-160	160mm	22,400 kgs.	21	95	30	48	60	6/8	12 Sq	100	315	200

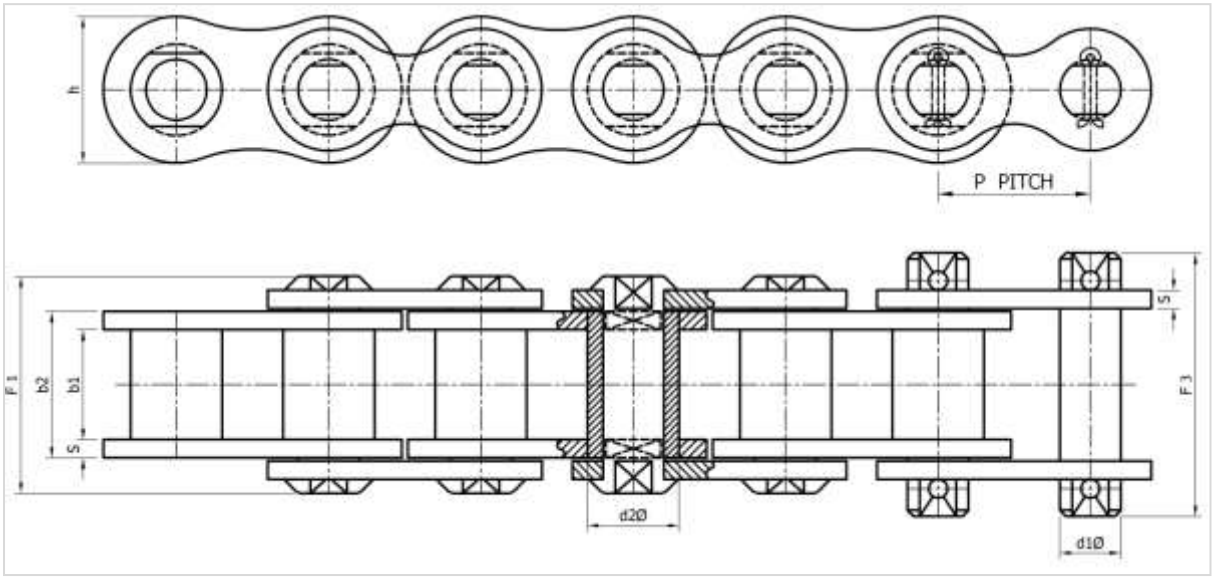
High Performance Flow Conveyor Redler Chains



Chain No.	Pitch	Breaking Load	A	L max.	D	E min.	F	T	T1	S	X max.	2x
RK-RL-200	200 mm	15,000 kgs.	15.85	77	24	30	50	8	10 Sq	115	195	75
RK-RL-150	150 mm	30,000 kgs.	25	114	49	43	70	12	20 Sq	200	579.5	169.5
RK-RL-160	160mm	20,000 kgs.	17.74	91	25	35	50	10	12 Sq	100	480	140

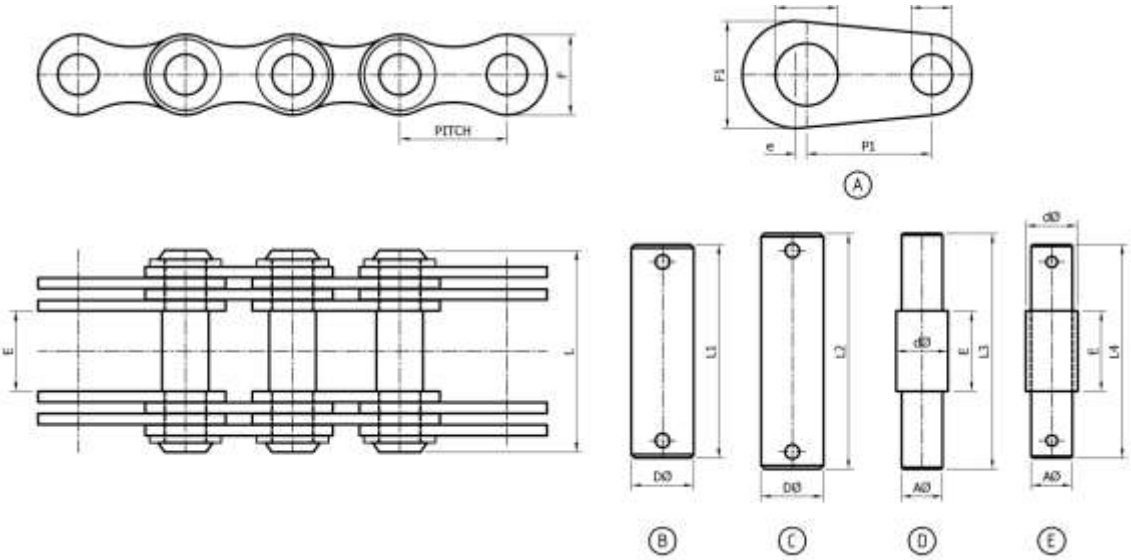
High Performance Bush Driving Chains

To DIN 8164



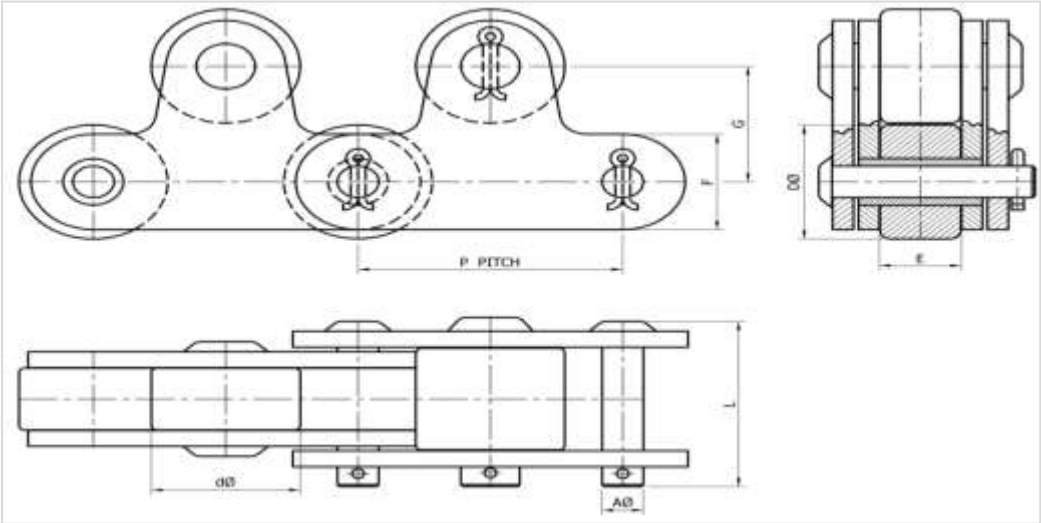
ChainNo.	Ref.No.	P	b_1	b_2	d_2	d_1	f_1	f_3	H	S	Breaking
		mm	mm	mm	mm	mm	mm	mm	mm	mm	load (Kgs)
201	40010000	15	14	18.2	9	6	26.1	29.4	14	2	1,250
202	40020000	20	16	22.2	12	8	32.6	38.2	18.8	3	2,500
203	40030000	25	18	24.2	15	10	35.6	43.2	24	3	3,300
204	40040000	30	20	28.2	17	11	41.6	49.2	27.8	4	4,600
205	40050000	35	22	30.2	18	12	44	54	29.8	4	5,000
206	40060000	40	25	35.2	20	14	52	61	35	5	7,200
207	40070000	45	30	42.2	22	16	61	70	38	6	10,000
208	40080000	50	35	47.2	26	18	66	79	43	6	12,500
209	40090000	55	45	61.2	30	20	85.5	99	48.7	8	16,000
210	41100000	60	50	66.5	32	22	92.3	102	54.7	8	18,000
211	41110000	65	55	71.5	36	26	97.5	113	61	8	20,000
212	41120000	70	65	85.5	42	30	117	130.2	66.5	10	27,000
214	41140000	80	70	95	44	32	130	148	75	12	31,600
216	41160000	90	80	105	50	36	140	160	85.8	12	40,000
218	41180000	100	90	115	56	42	152	169	95.5	12	50,000

High Performance Stud Chains (Gall Chain)



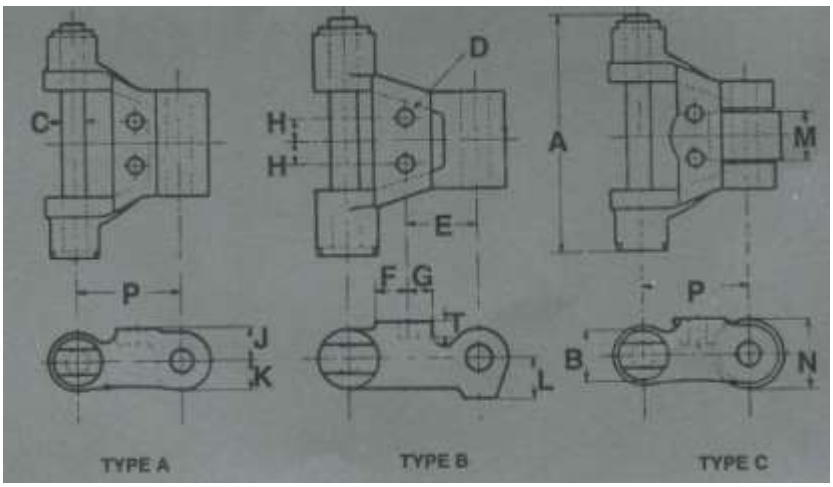
Chain No	Pitchmm	P_1	E	dΦ	AΦ	DΦ	e	L	L_4	L_3	F	F_1	L_2	L_1	Lacing	Breaking Load(kgs)
RK-GL-10200	20	25	15	8	6	10	2.0	28	33	--	15	20.0	36	32	2	1,275
RK-GL-10210	20	25	15	8	6	10	2.0	36	42	63	15	24.0	41	37	4	1,530
RK-GL-10300	25	30	18	10	8	12	2.5	36	42	68	18	25.0	46	40	2	2,550
RK-GL-10310	25	30	18	10	8	12	2.5	47	52	80	18	23.5	54	48	4	3,570
RK-GL-10430	30	40	20	11	9	14	3.0	43	50	80	20	30.0	58	44	4	3,825
RK-GL-10400	30	40	20	11	9	14	3.0	51	58	88	20	30.0	60	54	4	4,080
RK-GL-10500	35	45	22	12	10	16	3.5	53	61	93	26	35.0	62	55	4	6,120
RK-GL-10600	40	50	25	14	12	18	4.0	58	66	102	30	40.0	70	63	4	8,160
RK-GL-10700	45	55	30	17	14	22	4.5	63	70	108	35	45.0	75	68	4	10,200
RK-GL-10800	50	60	35	22	18	26	5.0	90	97	141	38	50.0	108	98	4	15,300
RK-GL-10900	55	65	40	24	21	32	5.5	108	115	163	40	55.0	132	118	4	20,400
RK-GL-11000	60	70	45	26	23	36	6.0	114	120	171	45	60.0	139	125	4	25,500
RK-GL-11200	70	85	50	32	28	40	7.0	148	157	213	55	70.0	169	156	6	38,250
RK-GL-11400	80	100	60	36	32	50	8.5	159	171	233	60	85.0	189	176	6	51,000
RK-GL-11600	90	120	70	40	36	60	10.0	184	200	266	70	100.0	214	199	6	76,500
RK-GL-11800	100	140	80	45	40	70	12.0	224	234	309	80	120.0	256	239	8	1,02,000
RK-GL-11900	110	160	90	50	45	80	14.0	236	251	327	90	140.0	279	264	8	1,27,500
RK-GL-12000	120	180	100	55	50	90	16.0	262	277	357	100	160.0	306	287	8	1,53,000

High Performance Top Roller Chains



Chain No	Pitch p	Breaking Load (kgs.)	AΦ	L	DΦ	E	F	dΦ	G
2193	25.4 mm	1,410	3.97	19	7.94	7.95	15.88	12	15
2194	50.8 mm	5,670	7.94	41	28.58	15.75	28.58	24	29
2148	63.5 mm	11,000	10	55	39.69	19.05	39.69	28.6	35.4
2057	38.1 mm	3,180	5.96	34	11.91	12.7	22.23	18	23

High Performance Intermediate Carrier Chain



Chain No.	Type	Chain Pitch P	Breaking load Lbs.)	A	B	C	D	E	F	G	H	J	K	L	M	N	T
5074 E2	A	2.38"	4,000	46	27	13.4	9	25.4	12.7	14.3	12.7	22.2	16.7	---	---	---	7.93
5074 E3	A	2.38"	4,000	46	27	13.5	9	27	11.1	14.3	12.7	19.1	16.7	---	---	---	7.93
5074 E4	A	2.38"	4,000	46	27	13.5	9	25.4	11.1	15.9	12.7	17.5	16.7	---	---	---	7.93
5174 E4	A	2.36"	4,500	140	28.6	13.5	11	25.4	12.7	12.7	12.7	17.5	16.7	---	---	---	9.52
901 E43	B	3.15"	5,000	140	34.1	15.9	11	25.4	17.5	15.9	13.9	20.6	---	23.8	---	---	9.52
902 E43	B	2.97"	5,000	140	34.9	15.9	11	41.3	20.6	14.3	13.9	22.2	---	7.93	---	---	9.52
907 E51	B	3.17"	5,000	140	34.1	15.9	18	37.7	17.5	15.9	---	18.3	---	23.8	---	---	13.9

Equivalent to American Sizes.

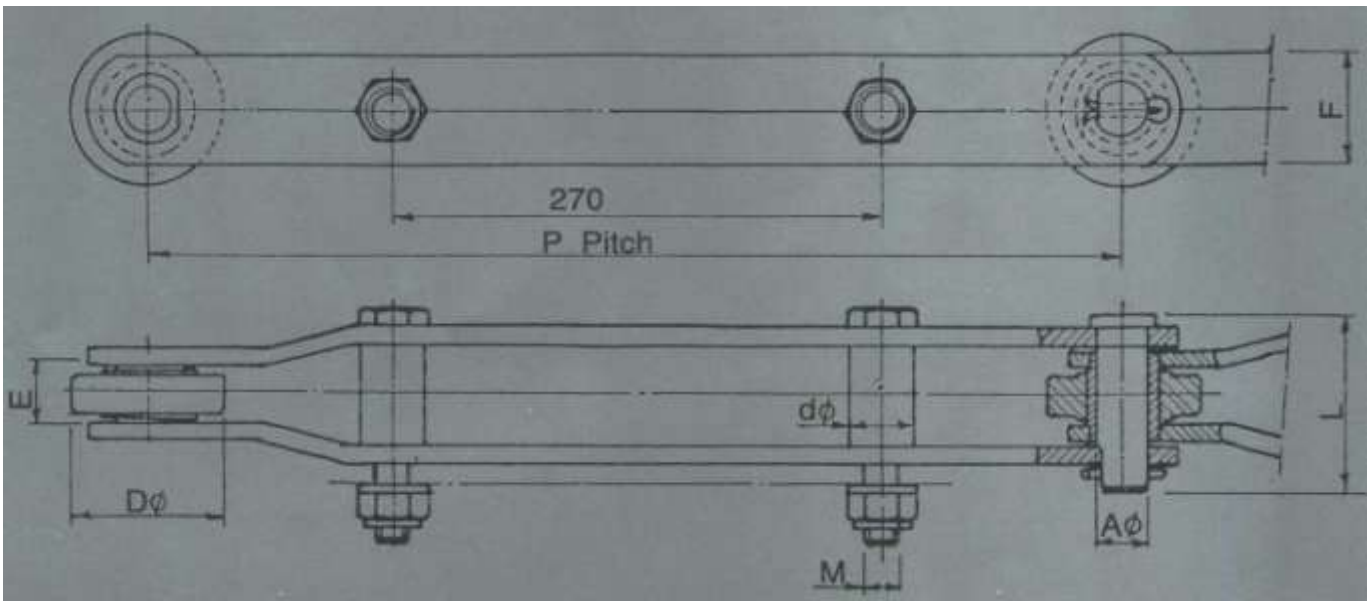
* Chain No.-907 has one central hole in the attachment.

Chain No.-5074 is not fitted with bushes.

Chain No.-5071 and 902 may be bushed if required.

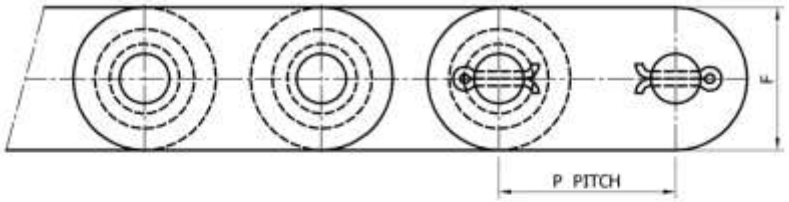
Chain No.-901 and 907 are Bushed Chain only.

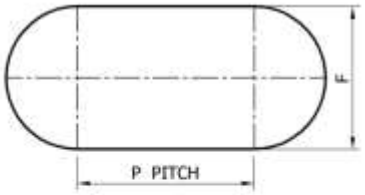
High Performance Water Screen Chains



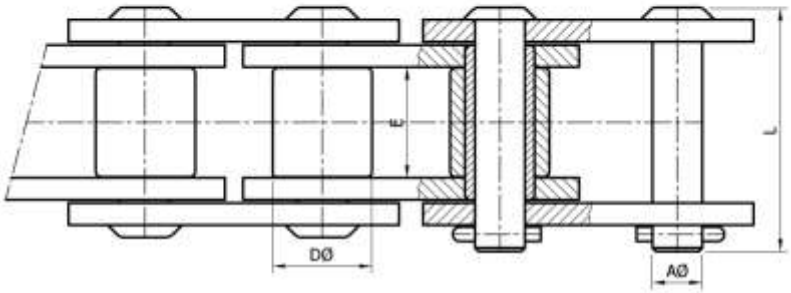
Chain No	Pitch mm	Breaking Load (kgs.)	AΦ	L	DΦ	E	F	F_1	L_2
WAC 011	609.6 mm	25,000	22.2	102	100	50	63.5	27.2	M-16
WAC 012	609.6 mm	32,000	26.1	117	100	50	63.5	27.2	M-16
WAC 013	609.6 mm	45,000	26.1	117	100	50	76.2	27.2	M-16
WAC 014	609.6 mm	55,000	26.1	117	100	50	76.2	27.2	M-16
WAC 015	609.6 mm	65,000	31.8	135	110	50	76.2	27.2	M-20
WAC 015	609.6 mm	75,000	31.8	151	110	66.7	80	27.2	M-20

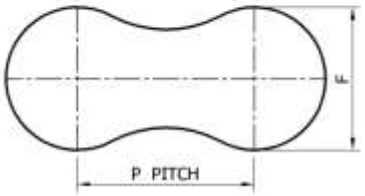
High Performance Extended Pitch Roller Chains





TYPE - A

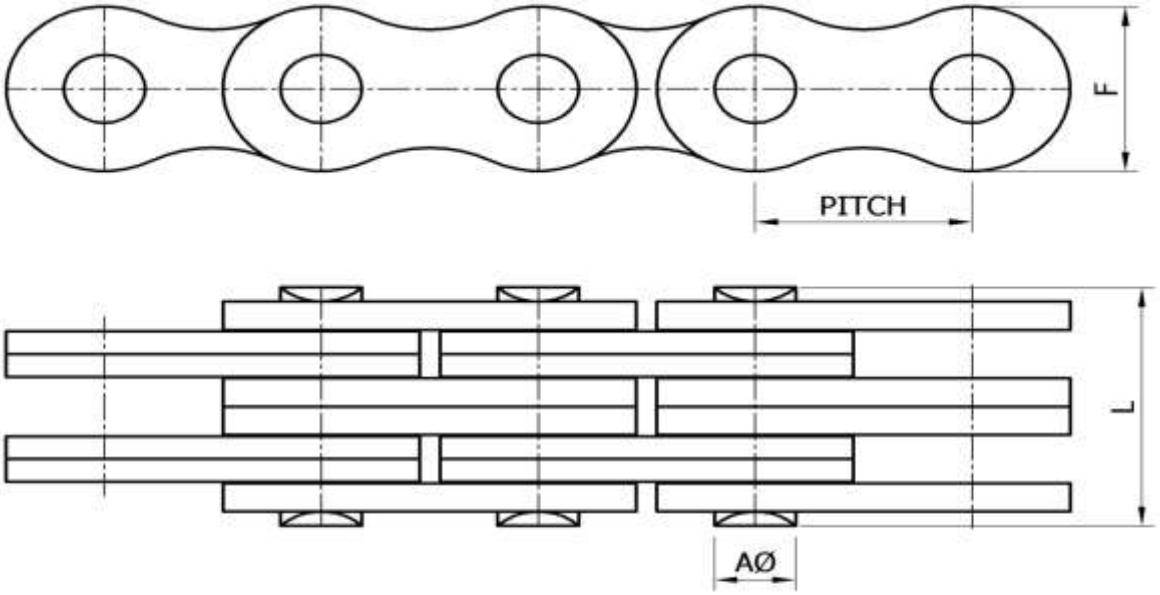




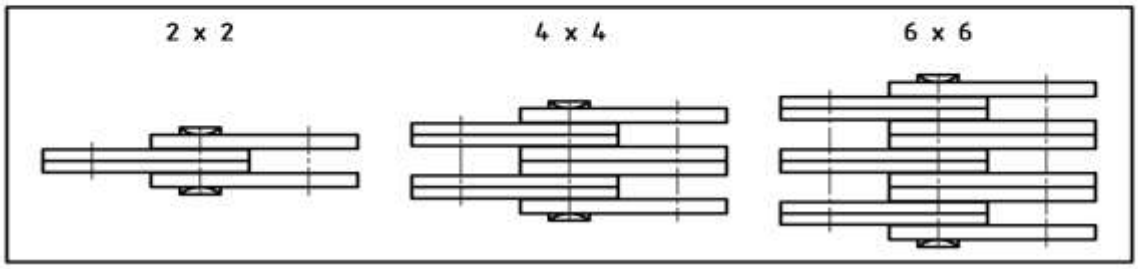
TYPE - B

Chain No	Chain Type	Pitch	Breaking Load	AΦ	L	DΦ	E	F
1463	A	38.10 mm	8,500 lbs	5.95	31.5	11.91	12.7	18
1642	A	38.10 mm	8,500 lbs	5.95	34.5	22.22	12.7	17.45
1615	A	50.80 mm	14,500 lbs	7.91	42	16	16	23
727	B	25.40 mm	3,700 lbs	3.9	19	7.9	7.9	12
0727/1	B	31.75 mm	6,100 lbs	5.08	22	10.16	9.6	14
845	B	38.10 mm	8,500 lbs	5.97	35	11.9	12.7	17.4

High Performance Leaf Chains

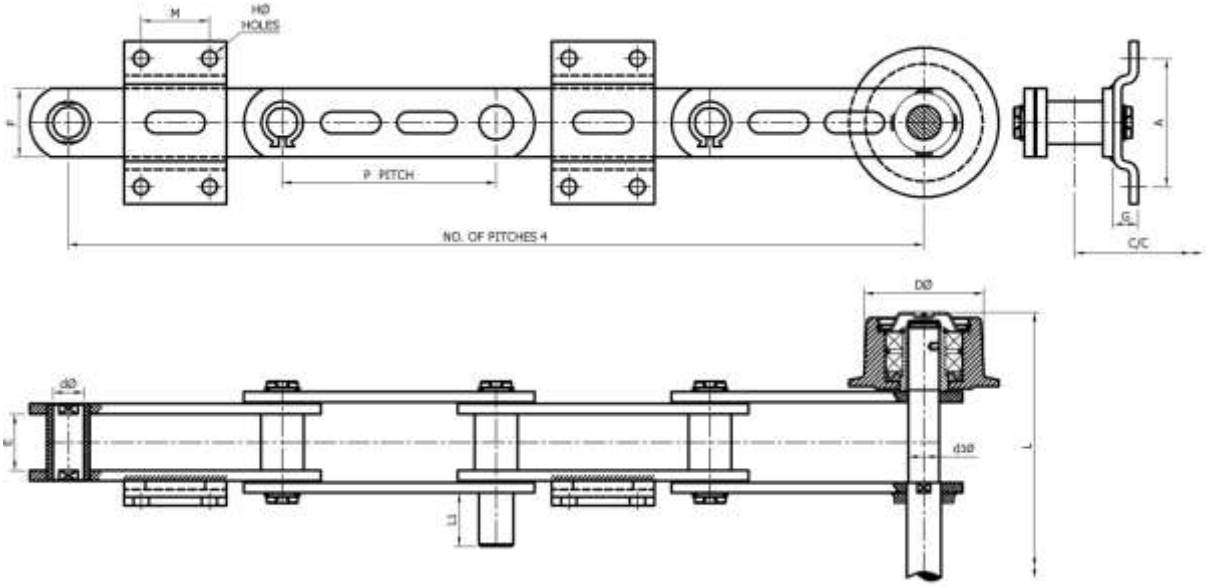


LAYOUT OF LACING



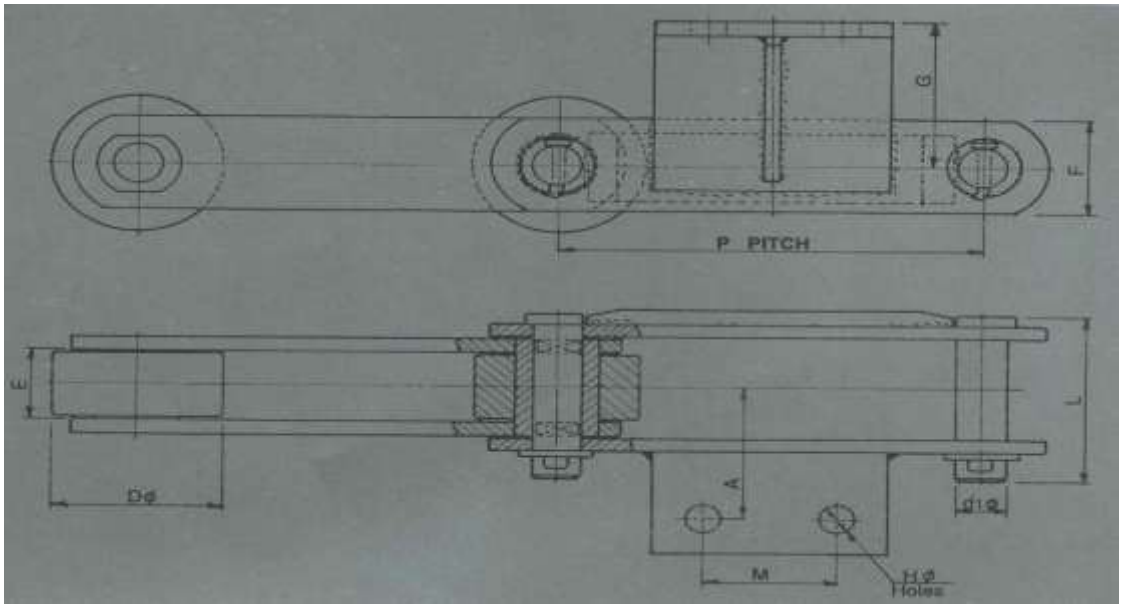
Chain No	Pitch	Breaking load	AΦ	L	F	Lacing
No		(kgs.)				
822	12.70 mm	1,550	4.45	7.6	10.92	2x2
844	12.70 mm	3,110	4.45	13	10.92	4x4
1022	15.87 mm	2,220	5.08	9.3	13.72	2x2
1044	15.87 mm	4,450	5.08	16.1	13.72	4x4
1066	15.87 mm	6,670	5.08	22.9	13.72	6x6
1222	19.05 mm	2,890	5.72	10.7	16.13	2x2
1666	25.40 mm	12,680	8.28	43.2	21.08	6x6
2044	31.75 mm	12,900	10.19	35.1	26.42	4x4
2066	31.75 mm	19,350	10.19	50.1	26.42	6x6

High Performance Deep Bucket Conveyor Chains for Clinker Transport



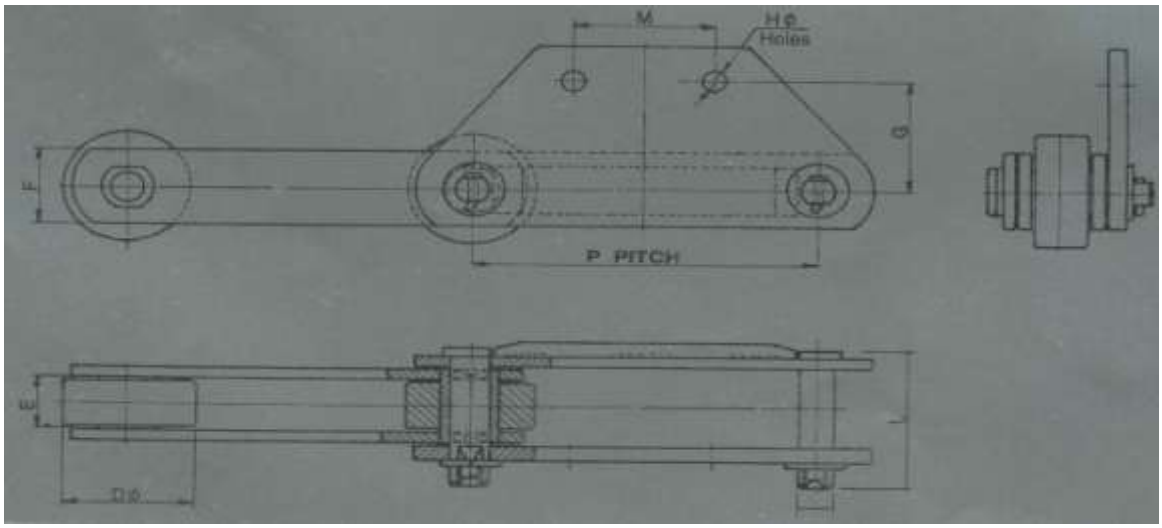
Chain No	Pitch	Breaking load/ Strand	$D_1\Phi$	L	E	F	DΦ	A	M	G	L_1	HΦ
150	250 mm	31,500	32	1097	65	75	140	150	80	36.5	50	18
2710	250 mm	40,000	36	1470	64	80	140	152	80	33.5	50	18
1363	250 mm	67,500	36	1310	80	100	140	150	80	36.5	50	18
2736	315 mm	20,000	26	1459	55	65	100	170	115	66	50	18
1416	315 mm	80,000	36	1792	80	100	140	170	115	48	50	18
1743	315 mm	95,000	38	1559	84	106	140	170	115	44	50	18

High Performance Reclaimer Scraper Chains.



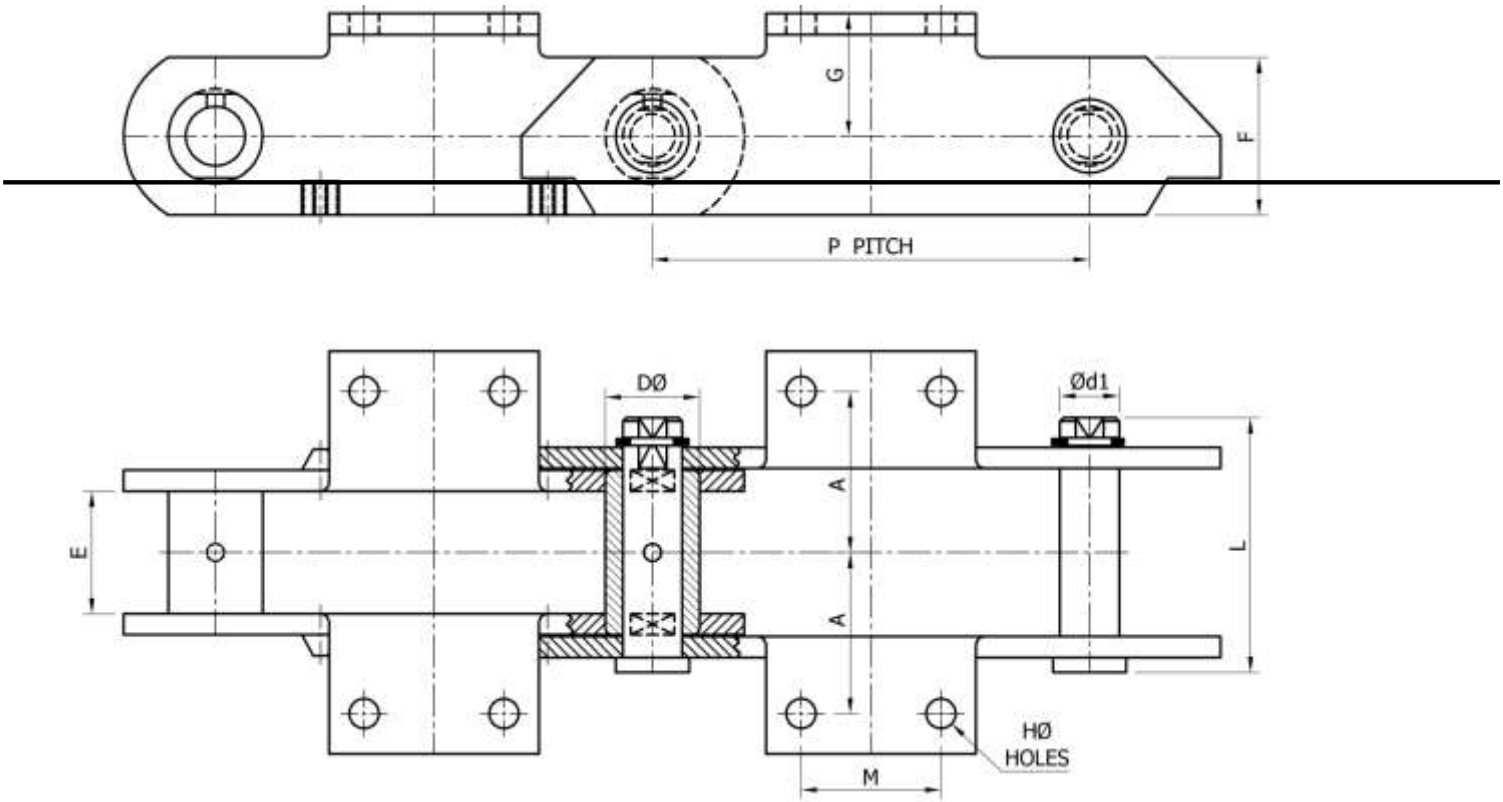
Chain No	Pitch	Breaking load/ Strand (kgs.)	$D_1\Phi$	L	DΦ	E	F	A	G	M	HΦ
2544	250 mm	40,000	25	110	100	48	70	90.5	110	90	22
2423	250 mm	50,000	36	131	100	52	80	100	110	80	25
2441	315 mm	85,000	36	148	120	50	90	90	140	130	21
2440	315 mm	90,000	35.6	161	130	71	100	117	140	130	25

(M-2 Type)



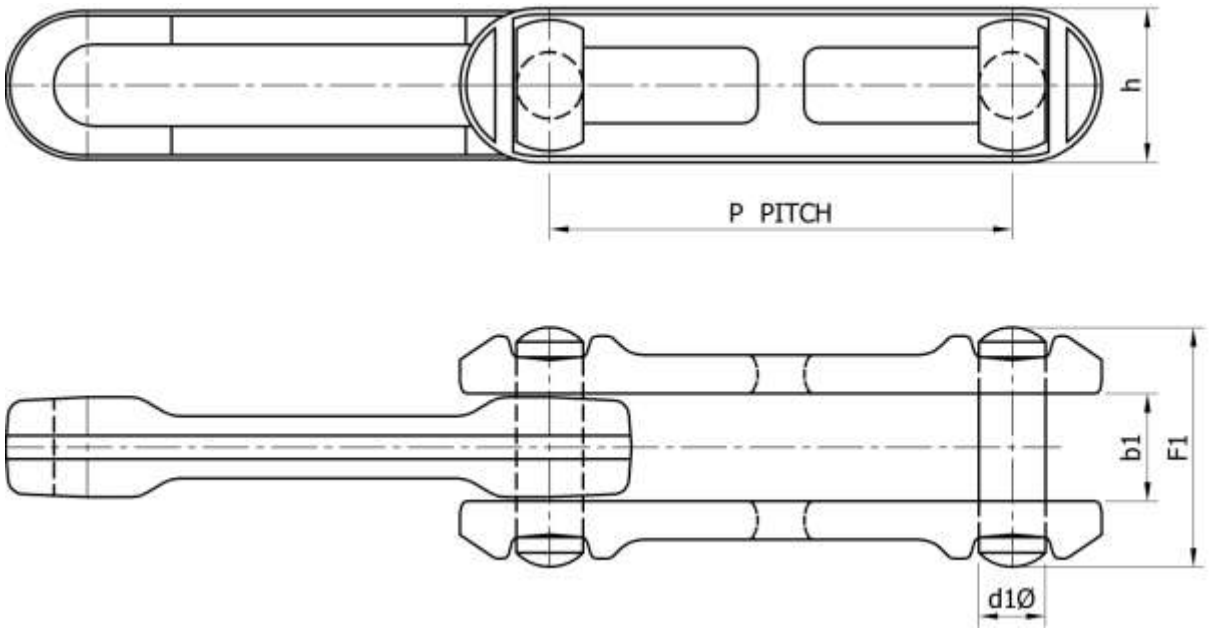
Chain No	Pitch	Breaking load/ Strand (kgs.)	AΦ	L	DΦ	E	F	G	M	HΦ
2732	250 mm	20,000	20	95	85	36	60	95	130	21
2421	250 mm	1,10,000	40	167	113	57	100	88.5	210	25
2642	315 mm	50,000	36	138	120	50	80	120	130	25
2649	315 mm	94,500	40	153	110	66	100	135	170	21

High Performance Pan Conveyor Chains



Chain No	Pitch	D1Φ	L	DΦ	E	F	A	M	G	HΦ	Breaking Load (kgs.)
2615	250 mm	25	102	40	45	65	70	80	59.5	14	30,000
2723	250 mm	26	102	40	45	65	74	75	60	14	35,000
2331	250 mm	26	106	40	45	70	70	80	60	14	45,000
2104	250 mm	27	120	40	45	80	74	80	60	14	50,000
2670	250 mm	38	152	56	75	100	93.5	75	75	14	70,000
1599	250 mm	38	148	56	75	100	95	75	80	14	1,00,000

High Performance Rivetless Chains

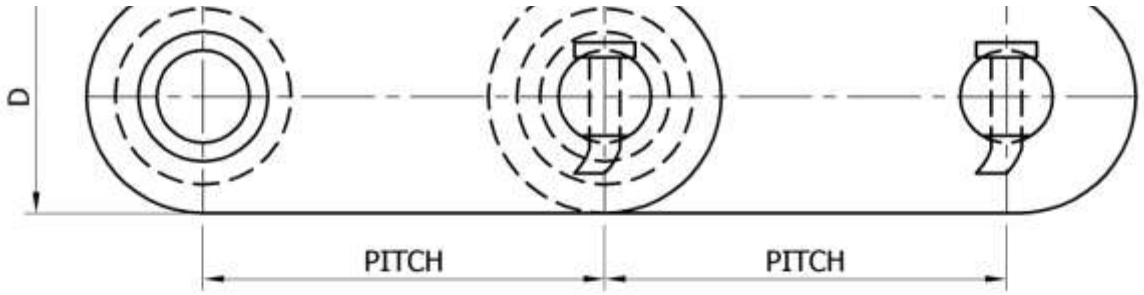


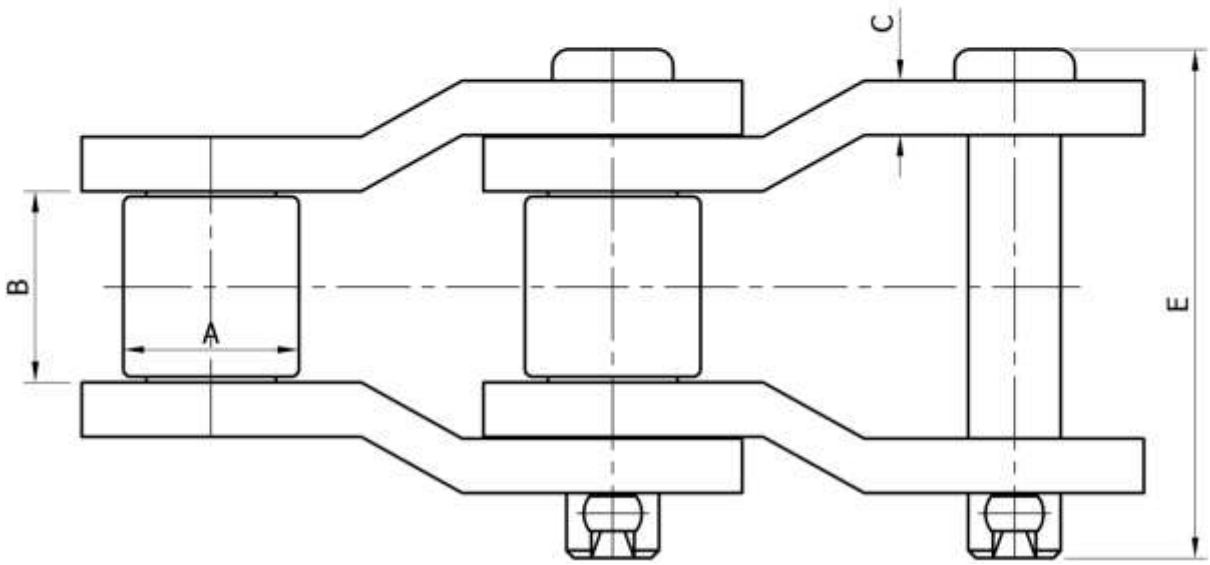
Chain No	P mm	B_1	D_1	F_1	h	Breaking Load (kgs.)
R065	65	15	10	35	30	8,700
R070	76.2	21	12.7	46	28	15,700
R100	100	25	16	60	36	21,900
R101	101.6	25	16	60	36	21,900
R152	152.4	34	23	79	51	38,500
R153	153.18	40.5	28.57	96	65.9	45,454
R153/1	153.18	33	22.22	80	50.8	27,272
R229	229.3	51.6	34.92	124	77.8	1,00,000

High Performance Heavy Duty Chains For Shovels/ Excavators & Other Heavy Earthmoving & Mining Equipment

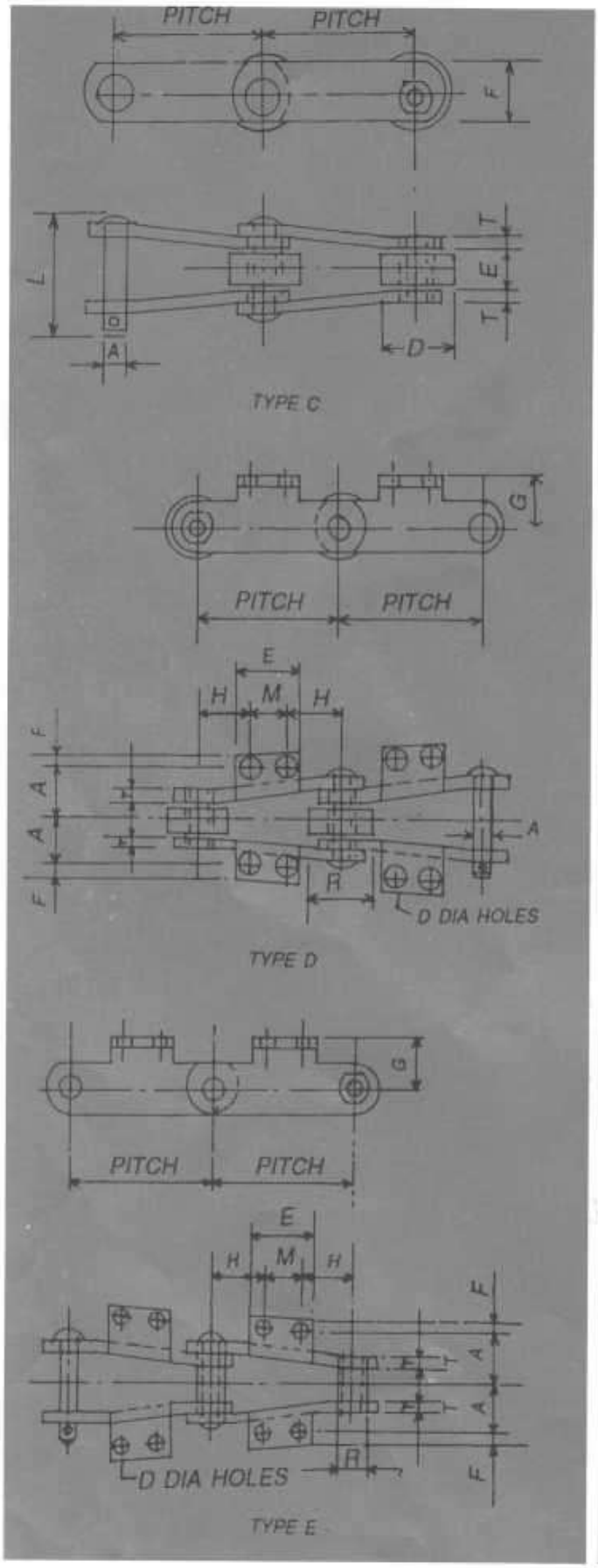
(Suitable for Crawler, Crowd, Propel and Driving Chains)

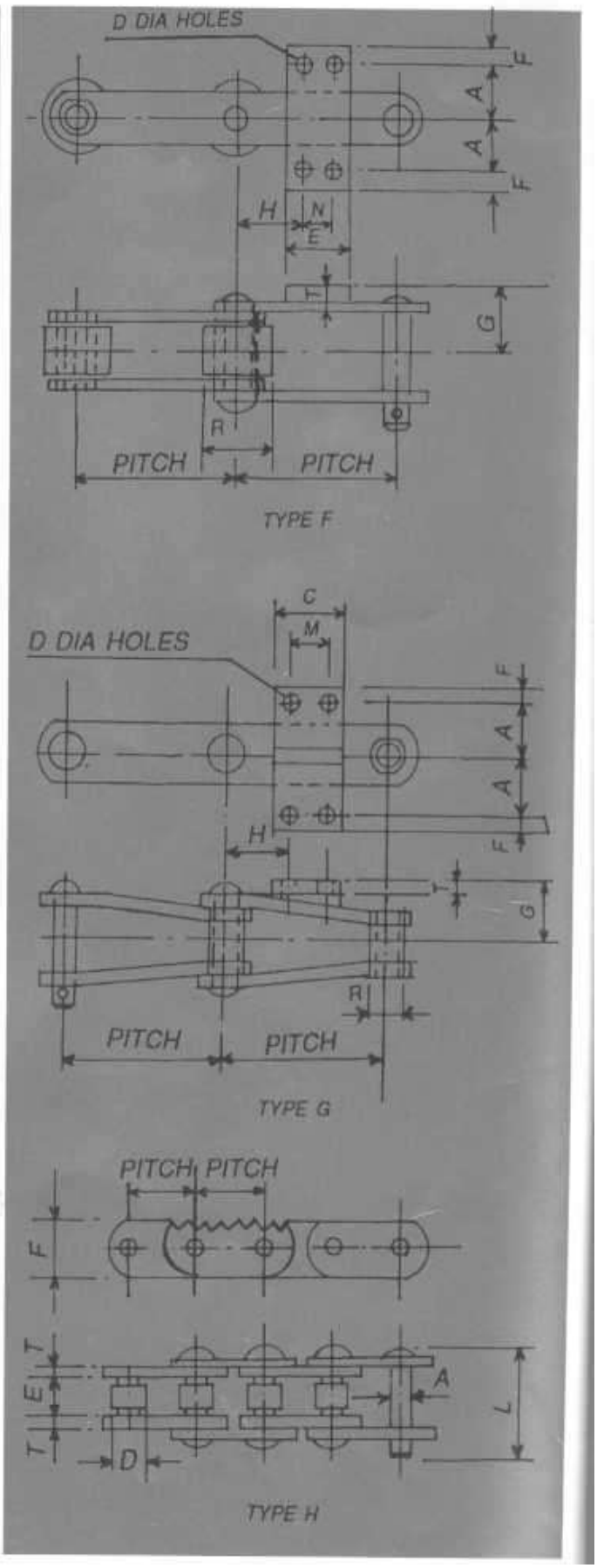
Chain No.	Pitch	Roller Dia.	Inside Width	Side Bar Thickness	Height of Side Bar	Overall Pin Lengh	Breaking Load
		A	B	C	D	E	
1634A	5.00"	2-1/2"	2.5/16"	9/16"	3"	5-3/4"	2,20,000 lbs.
392	3.906"	2-1/4"	1-1/2"	9/16"	3-1/4"	4-3/4"	2,20,000 lbs.
635	4.50"	2-1/4"	2"	9/16"	3"	5-1/4"	2,20,000 lbs.
1345	4.09"	2"	2"	9/16"	2-3/4"	5-1/6"	2,00,000 lbs.
1245	4.073"	1-25/32"	1-15/16"	9/16"	2-3/8"	5-1/4"	1,70,000 lbs.
1568	3.067"	1-5/8"	1-17/32"	3/8"	2-1/4"	3/13/2016	1,10,000 lbs.
1037	3.075"	1-1/4"	1-1/2"	3/8"	1-3/4"	3-3/4"	75,000 lbs.
1343	4.090"	1-7/8"	1-15/16"	9/16"	2-3/4"	5-1/16"	2,16,000 lbs.





High Performance Special Purpose Chains





High Performance Special Purpose Chains

Chain No.	Chain Type	Average Pitch mm	Average Ultimate Strength kgs.	A	L (approx)	D	E	F	T	STYLE		
										Pins	Bush-Ings	Rol-lers
70.6.050	H	50	10000	14.63	62.5	25.4	25.4	40	5	A	D	F
0204*	C	66.268	10900	11.12	55	22.2	25	29	5	A	E	F
70.6.100	H	100	10000	14.63	62.5	25.4	25.4	40	5	A	D	F
138	C	152.4	36000	22.74	98	76.2	37	60	10	A	D	F
186	C	152.4	24000	15.87	103.5	31.75	54.5	38.4	8	A	E	F

* Equivalent to Rex Chain No.-587.

ATTACHMENTS CHAIN

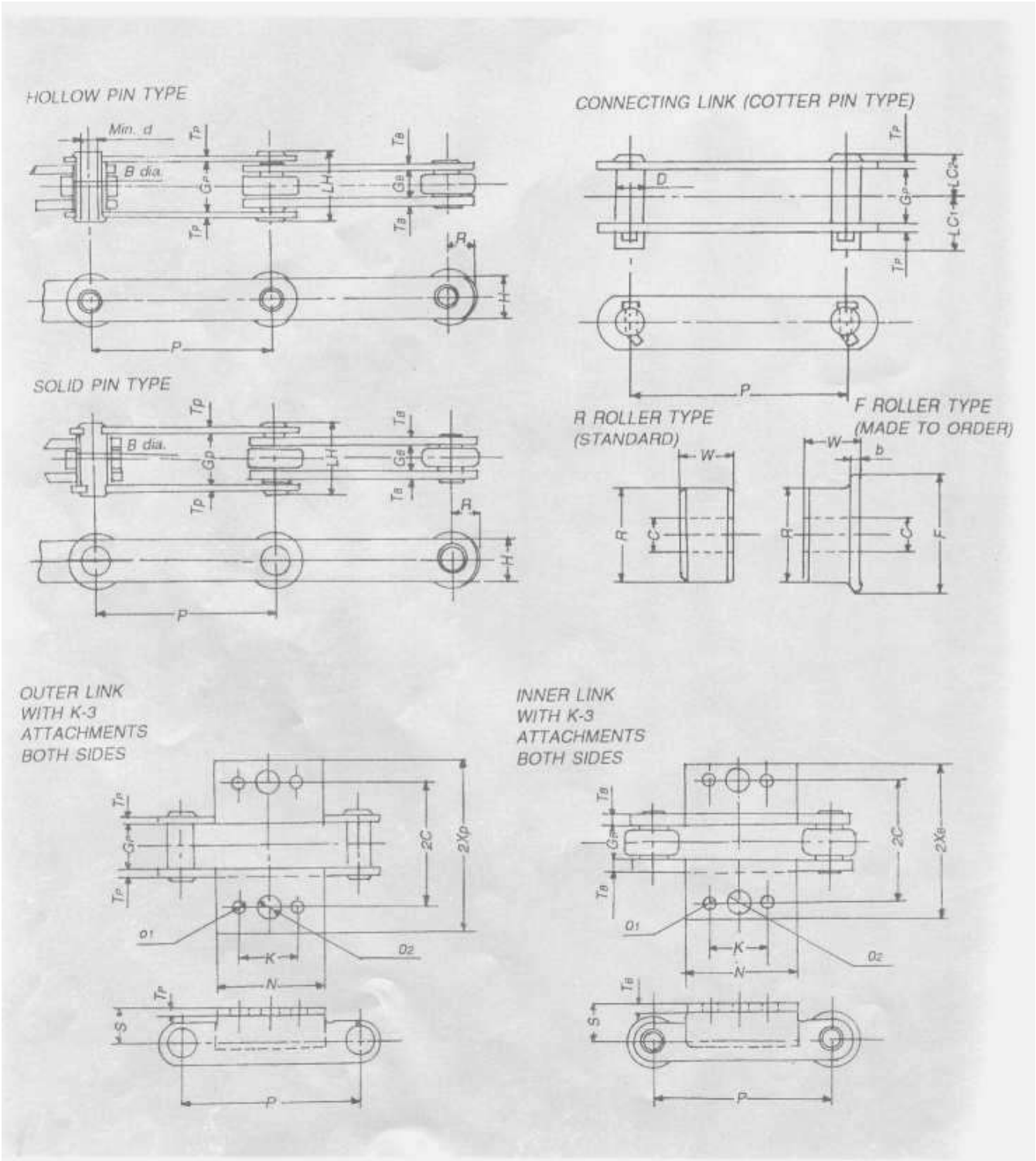
Chain No.	Chain Type	Average Pitch mm	Average Ultimate Strength kgs.	A	D	E	F	G	H	M	R	T	STYLE		
													Pins	Bush-Ings	Rol-lers
185	E	102.5		72	6	75	23	27.5	32.25	38	44	7.5	A	E	-
73	F	152.6	21000	40	11	114	17	51.5	51.2	50	60	8	A	D	F
104	E	152.6	27272	67	10.3	82	16.5	26.1	54	44.4	31.75	9.5	A	E	-
186	D	152.4	24000	68	14.3	76.3	25.25	25.4	53.975	44.45	31.75	8	A	E	F
76	G	228.6	29545	50.8	16.66	139.7	25.4	74.6	57.15	88.9	44.45	15.875	A	D	-

Equivalent to Jeffrey Chain No.-WS 110.

Equivalent to Rex Chain No.-542..

**Equivalent to Jeffrey Chain No.-6859.

High Performance Flow Conveyor Chains



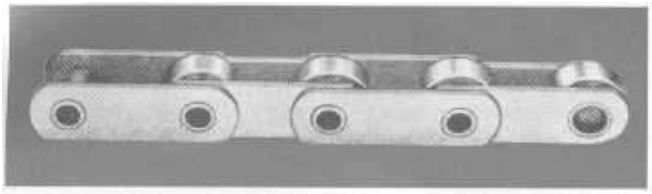
The hollow pin type of chain is designed for ready assembling of

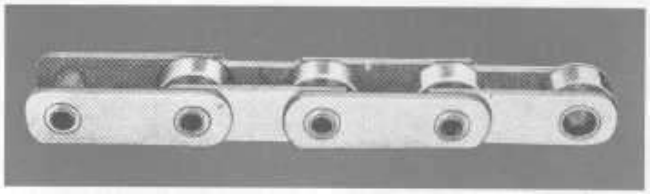
Attachments or cross rods to outer links at any desired spacing

This method is recommended for use under normal condition applications.

High Performance Hollow Pin/Solid Pin Type Chains

High Performance Conveyor chain are designed and manufactured for the general industrial use. Standard type chains are normally in stock to ensure prompt delivery Special type chains are also available upon request.	The solid pin type of chain is application to the same wheels as Equivalent hollow pin type of chain, but the breaking load of the is higher than that of the equivalent hollow pin type of chain, and is Particularly preferred for conveyors working under serve loading conditions.





Plain chain dimensions (inch & mm.)

Chain Breaking Load (Upper figure-Hollow pin Type Lower figure-Solid pin type	Chain Pitch	Chain No.		Roller					Pin					Bush	Link Plate				Width between plates	
	P	Hollow Pin Type	Solid Pin Type	R	W	C	F	b	D	Hollow C	*o* LH	LC1	LC2	B	H	Tp	Tb	r	Outer Gp	Inner Gb
6,000 lb	3	H060 030	S075 030	1.25	0.55	0.72	1.63	0.12	0.55	0.38	1.48 - 1.51	0.99	0.74	0.71	1	0.15	0.17	0.59	1	0.6
	4	H060 040	S075 040	31.75	14	18.3	41.3	3	14	9.65	37.6 - 38.4	25.2	18.8	18.03	25.4	3.8	4.3	15	25.4	15.2
	6	H060 060	S075 060																	
12,000 lb 15,000 lb	3	H120 030	S150 030	1.87	0.7	0.95	2.37	0.15	0.75	0.52	1.72 -1.8	1.17	0.88	0.93	1.5	0.15	0.2	0.87	1.29	0.75
	4	H120 040	S150 040	47.5	17.8	24.1	60.3	3.8	19.05	13.21	43.7 - 45.7	29.9	22.4	23.6	38.1	3.8	5.1	22	32.8	19.1
	6	H120 060	S150 060																	
24,000 lb30,000 lb	4	H240 040	S300 040	2.63	0.95	1.29	3.37	0.25	1.06	0.77	2.25 - 2.32	1.52	1.16	1.27	2	0.2	0.28	1.17	1.7	1
	6	H240 060	S300 060	66.8	24.1	32.8	85.7	6.4	26.92	19.56	57.15 -59	38.6	29.5	32.2	50.8	5.1	7.1	29.7	43.2	25.4

Note: Choose stock pitch, other pitches available upon request. All sprocket wheels can be how furnished upon request. Can offer chains up to 35000 (lbs) breaking load.

o Dimensions parenthesized Solid Pin Type

Attachment dimension (inch & mm.)

Chain Breaking Load (Upper figure- Hollow pin Type Lower figure- Solid pin type	Chain Pitch	Chain No.		Standard type attachment dimensions												Additional Weight per Att. lb (kg.)			
																Hollow Pin Type		Solid Pin Type	
	P	Hollow Pin Type	Solid Pin Type	N	K	01	02	2C	2Xp	2Kb	Tp	Tb	S	Gp	Gb	Outer link with Att. one side	Innerr link with Att. One side	Outer link with Att. one side	Innerr link with Att. One side
6,000 lb 7,500 lb	3	H060 030	S075 030	1.5	0.87	0.37	0.42	3.00	3.96	3.96	0.15	0.17	0.75	1.02	0.60	0.10	0.10	0.10	0.10
				38.1	22.2	9.4	10.7									0.05	0.05	0.05	0.05
	4	H060 040	S075 040	2.5	1.25	0.37	0.42									0.17	0.17	0.17	0.17
				63.5	31.8	9.4	10.7	76.2	100.6	100.6	3.8	4.3	19.1	26.0	15.22	0.08	0.08	0.08	0.08
	6	H060 060	S075 060	4.5	2.25	0.37	0.42									0.31	0.31	0.31	0.31
				114.3	57.2	9.4	10.7									0.14	0.14	0.14	0.14
12,000 lb 15,000 lb	3	H120 030	S150 030	2.5	1.25	0.42	0.55	3.5	4.86	4.86	0.15	0.20	1.25	1.29	0.75	0.21	0.28	0.21	0.28
				63.5	31.8	10.7	13.9									0.10	0.13	0.10	0.13
	4	H120 040	S150 040	2.5	1.25	0.42	0.55									0.21	0.28	0.21	0.28
				63.5	31.8	10.7	13.9	88.9	123.4	123.4	3.8	5.1	31.8	32.8	19.1	0.10	0.13	0.10	0.13
	6	H120 060	S150 060	4.5	2.25	0.42	0.55									0.40	0.53	0.40	0.53
				114.3	57.2	10.7	13.09									0.18	0.24	0.18	0.24
24,000 lb 30,000 lb	4	H240 040	S300 040	2.2	1.25	0.48	–	4.25	5.75	5.75	0.20	0.28	1.5	1.7	1.00	0.33	0.38	0.33	0.38
				56.2	31.8	12.2	–									0.15	0.17	0.15	0.17
	6	240 060	S300 060	4.2	2.25	0.48	0.61	108.0	146.0	146.0	5.1	7.1	38.1	43.2	25.4	0.50	0.70	0.50	0.70
				106.7	57.2	12.2	15.5									0.23	0.32	0.23	0.32

High Performance Conveying & Elevating Chain

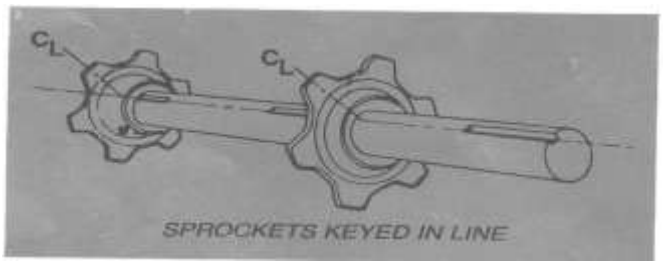
INSTALLATION

General Requirements

1. *Shaft Alignment* – Shaft must be rigidly supported in properly designed bearings. Shaft displacement will destroy the initial alignment and shorten chain and sproket life. Align the shafts horizontally with a leveling device. Head and tail shafts must be parallel and at 90^0 to the direction of travel of the chain or conveyor. Take – ups provide a means for shaft alignment and chain tension adjustment.

2. *Sprocket Alignment* – Sprockets must be in a line and not offset on the shafts. Abnormal sprocket and chain sidebar wear will result if alignment is not maintained.

When two or more strands of chain must operates as a unit, as in a double – strand conveyor, the sprocket teeth on the heads shaft must be timed to pick up the load on each chain simulaneously. Aligning the keyways in the shaft and then aligning the keyways of the sprocket on tooth centerline, will assure the proper match. Sprockets should be ordered "keywayed - in-line and matched in pairs". since the tail shaft is an idling shaft it is usually keyed to only one sprocket. The other sprocket(s) is held in alignment by set collars and is allowed to turn freely. This permits the sprocket to position itself if uneven wear takes place in the chain strands.



3. *Chain* – Place the chain around the sprocket with the free ends meting on one sprocket. When assembling straight sidebar chains, insert the connecting link and then the closing bar over the pins. Drive the closing bar onto both pins at the same time taking care not to bend the link. Most chains are designed with a "press – fit" between the pins and bars. *Do not* away a pin end so that if fits loosely in the chain sidebar.

If a multiple strand installation, where the chains must oper-ate as a unit, be sure the chains are reasonably matched for equal length. Uneven loading may result if they are not matched.

Proper chain tension is essential. A chain that is too tight will cause an overload condition. A chain that is too loose may cause pulsations or interference which result in abnormal chain and sprocket wear.

4. *Freedom from interference* – Contact between the moving parts of the conveyor and adjacent objects must not occur. Clearance should be provided to allow for normal chain sag and take-up movement. Guides and tracks should be smooth and free of foreign objects. Exit and entry points of guides and tracks must permit the chain to pass with a minimum amount of impact or interference.

Start – up

1. Adjust chain tension. On high temperature applications chain must be adjusted while cold.
2. Check conveyor and surrounding area for tools , loose parts etc which might obstruct conveyor operation or create a Safety hazard.
3. Jog conveyor thru one complete cycle.
4. Start conveyor and run with no load. Make certain that all chain joints flex freely.
5. If the application permits the use of oil, lubricate each chain joint well with a good grade of non detergent petroleum base oil. The oil should be applied between the sidebars at each joint and be of a viscosity such that it will flow freely into the pin-bushing area. Grease may be used if it can be applied (forced) directly to the pin - bushing area. However, heavy grease applied to the outside will not flow into the joint and may even act as a barrier to subsequent lubrication or trap contained materials inside the joint.
6. A break-in running period of 8 to 12 hours, under no load, will normally allow the chain joint to seat properly. It is normal for the cain to elongate slightly during this period. A final adjustment of the take-ups may be required.

OPERATION

Loading

1. Loading any conveyor should be accomplished as gently as possible to reduce impact. The load should, if possible, be placed or slid onto the conveyor to reduce surging caused by rough and irregular loading.

2. United a conveyor before shutting it down. Starting a loaded conveyor places extra strain on all the equipment.

3. A conveyor should be run occasionally during extended shut down periods to keep the working parts of the system free from corrosion and in operating condition. Overloads and shortened life will result if the system is allowed to bind up from corrosion.

MAINTANCE

A chain conveyor, like any other operating equipment, requires good maintenance to obtain long life and satisfactory performance.

In the following paragraphs, it is assumed that:

(1) the components of the system have been properly selected for the application;

(2) the shafts, sprockets and conveyor have been installed correctly; and

(3) adequate lubrication has been provided.

Inspection Schedule

The major requirement is to establish a practical schedule and to follow it faithfully. Experience will indicate any need for changes in the schedule.

As with all new equipment, some readjustment may be required during the initial "break-in" period. Therefore, the initial schedule should provide for frequent inspections. After the system has been run-in, the tome between inspections may be extended,. Such changes should be made gradually as experience dictates.

Inspection Items

1. *Lubrication* – It has been show that a separating wedge of fluid lubricant is formed in operating chain joints much like must be applied to assure an ample oil supply to minimize metal to metal contact.

   Manual — Make sure the lubrication schedule is being followed, and that the oil is being properly applied.

   Drip — Inspect the filling of oiler cups the rate of feed. Check that the feed pipes are not clogged and are properly positioned

   Bath — Inspect the oil level and check that is no sludge. Drain, flush and refill the system as the application requires.

   In the chains have not been lubricated property, the joints may have a brownish (rusty) color and the pins of the connecting link of the chains, when removed, may be discolored (light or dark brown). Also, the pins may be roughened, grooved or galled.

   Proerly lubricated chains will not show the brownish colour atthe joints but will be brightly polished with a very high luster.

2. Wear on link plates and sides of sprocket teeth – Such wear indicates misalignment.

3. Shaft and sprocket alignment – check shaft and sprocket alignment directly. This check may reveal misalignment before wear on chains and sprocket becomes apparent.
4. Wear on working faces of sprocket teeth - check for wear on the working faces of the sprocket teeth. As the system runs in, these faces should develop a bright polished appearance. Scratches, galls, grooves or visible changes in tooth form are signs of trouble, probably caused by lubrication failure or overloading.
5. Chain tension should be checked and adjusted.

   Chain elongation – An elongation of as much as six percent indicates that the chain is riding near its limit of allowable height on the sprocket teeth.

A gradual increase in chain length is the result of normal wear. A sudden increase in slack indicates one or more of

the following:

a. Lubrication failure;
b. Excessive overloading or shock;
c. Displacement of shaft bearings;
d. Displacement or failure of take – ups.

Inspect the chain periodically to be sure it is free from dirt, girt or other abrasive material. Clean out extraneous material from the chain, especially the kind that sets up or hardens. Even under the best operating conditions periodic cleaning of the chain is good economy. Gummed lubricant and the products of normal wear can cause rapid pin and bushing wear.

6. Guides, tracks and the area below the conveyor should be inspected frequently for build up of material of dirt which will cause interference or binding of the chain. Exit and entry points of guides and tracks must permit the chain to pass with a minimum amount of impact or interference. If lubricated, check for proper lubrication. Roller chain tracks can be over – lubricated reducing the friction to the point where the rollers will slide rather than roll.
7. Exceptionally low chain conveyor speed coupled with high drag friction will occasionally cause surging. A slight increase in speed will correct this problem if the friction cannot be reduced.
8. Apron and pan bead openings should be inspected. If the beads have been wedged apart or otherwise distorted fine material may leak into moving parts and cause excessive wear.

Objectionable procedures

*New **link in an old chain*** – Never insert a new link in a chain that has been appreciably elongated by wear. The pitch of the new link will be shorted than that of the other links, and the resulting shock, each time the link engages the sprocket, will reduce the life of the chain.

New chain on worn sprockets – Do not install a new chain on badly worn sprockets. A few hours operation under such conditions can do more damage to the chain than months of normal use.

Storage of idle chains and sprockets

Unless properly protected, the components of a conveyor system deteriorate during long periods of idleness. If a chain is to be stored, remove it from the sprockets, clean and reoil it and cover it with heavy grease. Store the chain where it will be protected from moisture and mechanical injury.

The sprocket may be left in place on the shafts. Cover each with heavy grease and protect them from mechanical injury.

Before placing the conveyor in service again, thoroughly clean the chain and sprockets or remove the protective grease; then relubricate the chain.

Chain with buckets

Position foot take – ups at upper end of travel, and head end take- ups at lower end of travel to provide for maximum adjustment, once chain in installed. When possible chain should be installed from the top of the elevator casting. Assemble the chain to form a single strand without buckets attached. Establish lifting point slightly off center of strand just so one leg is long enough to go around foot sprocket and up to the inspection door.

Lower the chain from its lifting point into the elevator casting. Once the longer leg has been drawn around foot sprocket and up close to inspection door, block the head sprocket from moving.

Disconnect the lifting hook and re – connect in to the long of the chain about two links short of the end. Draw chain ends together and attach with connecting pin. Adjust take – ups to properly tension chain and install buckets through rear panel door. Be sure to prick punch the bolt threads at the nuts to prevent them from loosening.

Operation of elevators

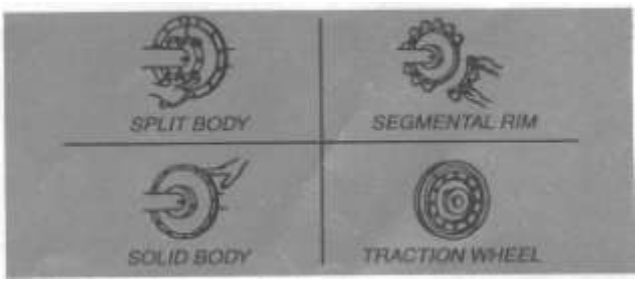
Adjust take – ups or check out functioning of gravity take – ups before putting elevator into operation. Then start the new elevator chain or replacement chain by jogging the system through one complete cycle. If no problems arise, run the chain in for about four hours without a load. After this break-in period normal operation may began.

Material should not be allowed to build up in the boot by overloading. Properly regulated flow, within the capacity of the buckets, will extend service life and prevent surging caused by the buckets digging out the boot.

During normal operation start the elevator empty. This prevents overload of chain and ensures that elevator is not stooped laded with a danger of backrun.

Sprockets anf traction wheels

The solid or split hubs securely mounted to the shaft. Then traction wheels segments or segmental rim sprockets rebolted in place loosely. final tightening should be done with a torque wrench.



Conveyor Chain Calculation

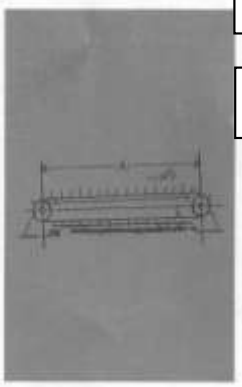
$$F = \frac{Ff}{\text{No of chain strands}}\ kp$$

$$Ff = A1 \cdot (2qf + Q) \cdot \mu \quad [kp]$$

$$Ff = A1 \cdot [\cos \alpha \ (2qf + Q) + \alpha \sin)] \quad [kp]$$

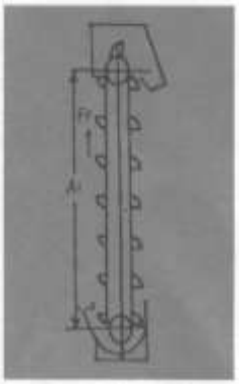
$$Ff = A1 \cdot \left(QL / 3{,}6V \ C^{\circ} + 2q^{f} \mu \right) \quad [kp]$$

terms :	abbreviations	dimension
chain load pull	f	(kp)
conveyor belt pull	FF	(kp)
central distance	A1	(m)
chain weight	q	(kg/m)
chain weight of conveyor belt	qf	(kg/m)
weight of load to be conveyed	Q	(kg/m)
conveying capacity (continuous)	QL	(t/h)
conveying capacity (intermittent)	QU	(t/h)
chain speed	v	(m/sec.)
coefficient of friction	k	(-)
load coefficient of friction	C	(-)
apparent density of load	Fγ	(t/m3)
bulk factor of load	β1	(-)
width oc conveyor channel	βF	(m)
height of conveyor channel	HF	(m)
bucket capacity	I	(m3)
bucket spacing	A2	(m)
angle of inclination	x	0



$$QL = 3600 \cdot HF \cdot BF \cdot v \cdot \beta 1 \gamma F \quad [t/h]$$

$$HF \sim 0{,}3 \cdot BF \quad [m]$$



$$FF = A1 \cdot \left(QU / 3{,}6\,V + 1{,}8\ qf \right) \quad [k/p]$$

$$QU = 3600 \cdot 1/A2 \cdot v \cdot \gamma F\ \beta 2 \quad [t/n]$$

Coefficients of friction and apparent density of load

type of bulk material	apparent density "γF" (t/m3)	coeff. if friction "CC" (on steel) (-)
ashes	0,50	0,85
ore	2,25	1,20
grain	0,60	0,55
wood chips	0,25	0,80
shingle	1,75	1,00
coal	0,80	0,90
coke	0,45	1,00
clay	1,25	0,75
sand	1,55	0,80
rubble	1,80	0,65
peat	0,35	0,70
cement	1,15	0,65

Coefficient Of Friction

sliding friction	
dry :	**0,36**
lubricated	0,27
rolling friction	**μ**
roller bearings :	
Lubrication favourable	0,005
Lubrication normal	0,015
Lubrication unfaurable	0,030
sliding bearings :	
oil lubrication :	0,15
grease lubrication	0,20

Calculations Values and Formulas

terms :	abbreviations		dimensions
	new	old	
power	P	(N)	[HP]
rated horsepower	PK		[HP]
torque	Md		[mkp]
chain load pull	F	(P)	[kp]
chain breaking pull	FB	(PB)	[kp]
chain speed	v		[m/sec.]
chain weight	q		[kp/m]-[kg/m]
drive speed	n		[rpm]
no. of teeth on drive	z		[-]
pitch	p	(t)	[mm]
pitch circle diameter	Do	(Dt)	[mm]
centre distance	a		[mm]
no. of chain links	x		[-]
breaking area	f		[cm^2]
no. of teeth on driving wheel	z_1		[-]
no. of teeth on driving wheel	z_2		[-]
teeth no. factor	y	(n)	[-]
chain sag	hk	(f)	[mm]

Formula

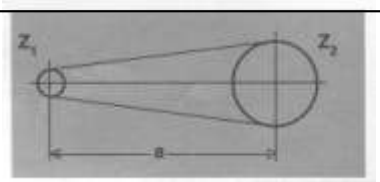
Horsepower: $P = \frac{F.v}{75} = \frac{Md.n}{716,2}$ [HP]

Torque: $Md = \frac{716.2.P}{n} = \frac{F.Do}{2000}$ [mkp]

Chain Speed: $v = \frac{75.P}{F} = \frac{Do.n}{19100} = \frac{n.z.p.}{60000}$ [m/sec.]

Chain Load Pull: $F = \frac{75.Pk}{v} = \frac{20Md}{Do}$ [kp]

Pitch Circle Diameter: $Do = \frac{p}{\sin(\frac{180}{z})} = p.y$ [mm]



Center Distance: $a \sim \frac{P}{4}\left[\left(x - \frac{Z_1+Z_2}{2}\right) + \sqrt{\left(x - Z_1 + Z_2\right)^2 - 2\left(Z_1 + Z_2\right)^2}\right]$ [mm]

No. of Chain Links: $X \sim 2.a\,\frac{}{p} + Z_1 + Z_2 + \frac{(Z_1+Z_2)^2}{2\prod}$ [-]

chain sag: hk (max) = 0,02.a [mm]

Roller Chain Selection with Performance Chart

For the correct selection of a chain drive the following factors are of prime importance: horsepower, pinion speed, degree of impulsiveness, lubrication, maintenance, and pressure per unit of bearing area, chain pitch, chain life and safety. These factors are interdependent and may be noted from the "selection chart" and the "factor – k1 – table". For selection the horse power, pinion speed and field of application must be known.

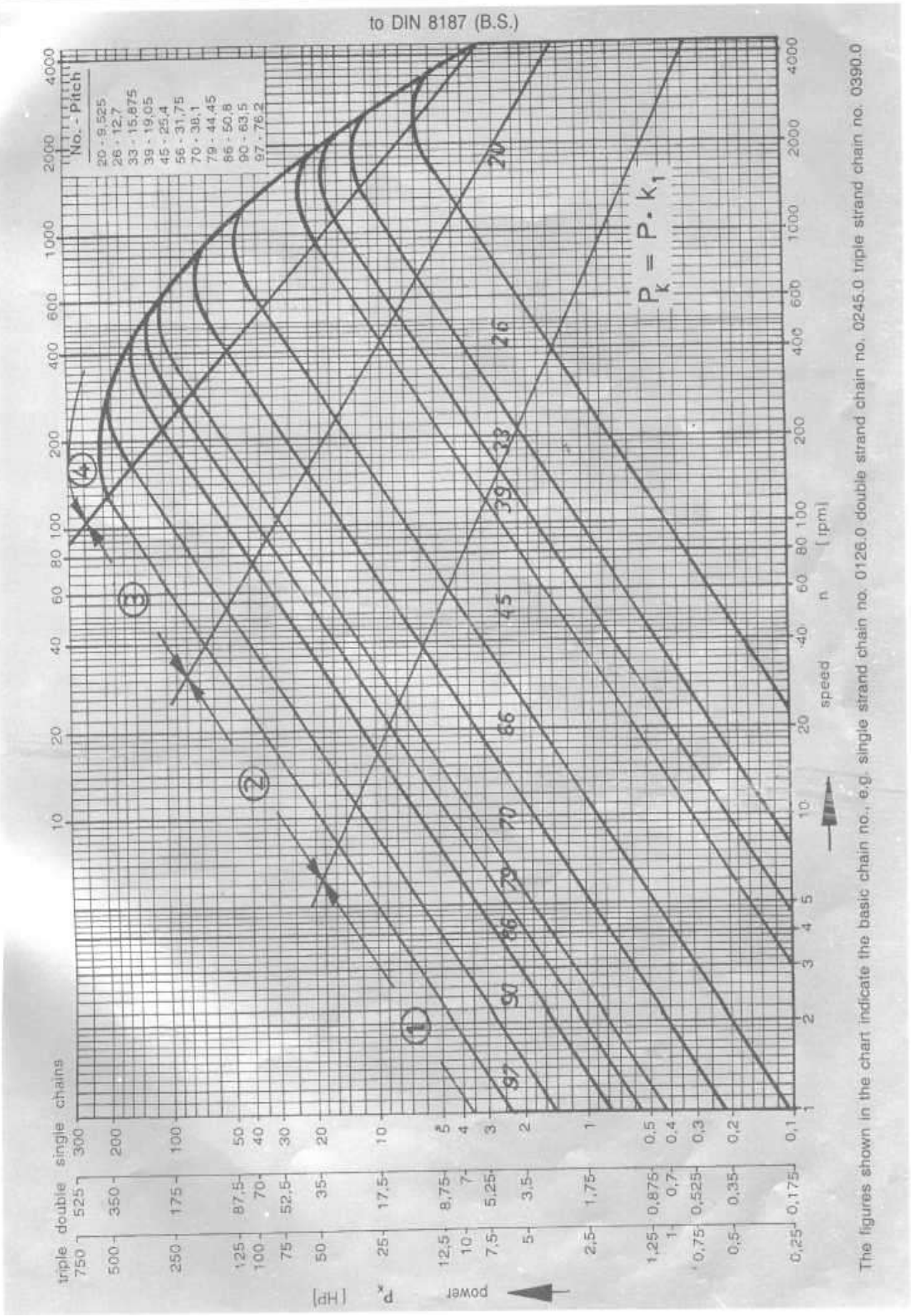
The actual horsepower "p" is multiplied by the correcting factor "k1" according to the table on page 14. The rated horsepower "PK" thus determined is inserted into the performance chart on page 15.In combination with the speed "n" of the driving pinion, the appropriate chain can now be selected. The chart is showing performance curves for chains on the basis of : 19 teeth pinion, steady load, chain length at least.

100 x pitch and correct lubrication. It is recommended that the chain be checked with a view to the pressure per unit of bearing area according to DIN 8195. In special cases, please, contact our technical service, which, on receipt of all the necessary information, will design the most suitable drive.

factor –k_1-table (For electric motors and steady drive units for internal combustion engines and other irregular drives the factor increases by .5)

	17	19	21	23	25	27	30
excavators,crushers, calendars, pile drive,upstting machines, construction machinery				2,43	2,35	2,27	2,19
hammer mills, riveting machines, rolling mills, rotary tillers,rubber mills				2,30	2,23	2,16	2,08
brick and tile machinery, moulding machines, hoists, blower fans, slotting and stamping machines, planning machines			2,22	2,16	2,10	2,03	1,96
winches, straightening machines, drawing machines, presses, marine engines, mining machinery compressors			2,07	2,01	1,95	1,89	1,83
reciprocating pumps, condensors, elevators, broaching machines, machines working synthetic and ceramic materials, crushers			1,90	1,85	1,80	1,74	1,68
wood-working machines, stirring machines, mixers, screens, drilling plants		1,78	1,73	1,68	1,63	1,58	1,52
looms, knitting and spinning machines, bending machines		1,58	1,54	1,50	1,45	1,41	1,36
blowers, shears, roller conveyors, windlasses, drying drums, cellulose-working machines, continuous conveyors		1,39	1,35	1,31	1,27	1,23	1,18
saws, milling machines, washing machines, centrifugal pumps, printing machines	1,20	1,17	1,14	1,11	1,08	1,04	1,00
conveyors belts, generators, lathes, drilling machines, packing machines, grinding machines	1,05	1,00	0,97	0,94	0,90	0,85	0,80

Performance Chart



1. roller chain drives

Roller chain drives are used everywhere and especially where belt drives or gear drives are no longer suitable. All the advantages of the belt and gear drives are united in the roller chain drive, but without the attendant disadvantages. Roller chain drives are of rugged design, but offer high precision. They run at 98% efficiency without slip and can bridge long or even serveral centre distances. Roller chain drives offer high elasticity and optimum efficiency. Their essential advantage over the gear drive is that their transmission ratio is independent of the centre distance.

2. life of link chains

Generally the pressure per unit of bearing and the breaking strain are the essential features for chain determination. However, because of the very large field of application, safety factors are also taken into account. Chain life, therefor, is not dependent solely on the breaking strain, but wear resistance of the articulation parts (pins, bushes, rollers) is of paramount importance. Basically, every chain should be dimensioned in such a way that there should never occur a breakdown in any component part; rather the articulation parts should wear out gradually. Wear in the chain joints inevitably cause extension of chain pitch, and consequently the chain wheel will no longer mesh properly. Chain wear elongation should not exceed 3%. In summary, the important factors having effect on chain life are correct design and calculation of the chain in relation to the operating conditions, accurate fitting and regular care and maintenance.

3. lubrication of link chains

After assebly and inspection every chain is pre-lubricated with a preservative, by immersion in a bath of hot oil, which penetrates to the working surfaces. However, once the chain is in operation the method of lubrication should be adapted to the chain speed. Mineral oil SAW-40 to 60 and the following methods of lubrication are recommended for link chains :

v [m/s]	method of lubrication
≦ 4	by hand-either by means of a brush or from spout oil can
12	drip lubrication-permanently-by drip oiler
≦ 16	oil bath or splash lubrication-by slinger disc
≦ 40	forced lubrication by circulating pump-perferably with autocool

lubricants such as oil and grease should always be applied between the inner and outer linkplates on the side facing the chain wheel. A periodic cleaning of the chain to remove abrasive elements, dirt and stickly materials will prolong the working life. In addition to the lubricants mentioned, dry lubricants may be employed for particular applications. These are generally sprinkled, sprayed or brushed on before chain assembly.

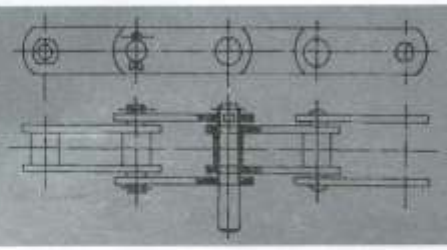
4. assembly of link chains

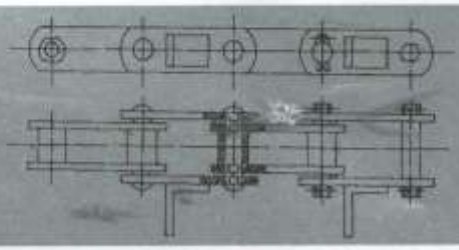
Link chains are generally joined by fastening links. Wherever possible, chains with an **even number of links** should be used, so that the chains begin and end with an inner link to be joined by a no. 10 **straight connecting link**. An **uneven number of links** will necessitate the use of a **cranked link,** which will adversely affect the breaking strain of the chain and decrease it by about 20%. When cutting continuous chain into specific lengths attention is to be paid that the outer link taken off must not be re-used. Chain wheels must be in perfect alignment and should be fitted as close as possible to the point of support. Care should also be taken that the shafts are parallel. As to the positioning of shafts an inclination of 60° to the horizontal is recommended. Vertically arranged centre drives necessitate constant tension adjustment to prevent the chain from disengaging from the lower wheel. Chain sag must not exceed 2% of the centre distance, and should be as little as possible on impulsive drives. Chain sag can be adjusted either by alteration of shaft centres, by retightening the tension station, or by adjusting the jockey or tension rail. Overtightening of the chain should be avoided, since, in addition to imposing an extra load on the bearings, this will lead to quick wear and noisy running. The tightener should have a tension-adjusting movement of at least 1.5 times the pitch to allow for removal of a 2-pitch assembly.

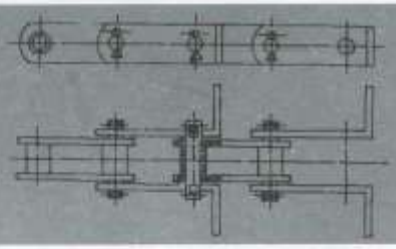
5. Chain wheels

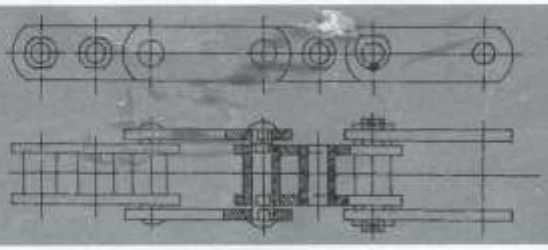
Chain life depends in part, of course, on the correct construction and toothing of the wheel. In general, the number of teeth on a driving wheel is at least 19. Jockeys and pinions used in secondary duty jobs may have a minimum of 13 teeth. For high-speed and impulsive drive it is recommended that the teeth be heat treated to increase wear resistance. Chain lap on the wheels should not be less than 120°, and the transmission ratio of 1:8 should not be exceeded. The number of teeth on the wheels and the number of links in the chain should be correlated in such a way that the same roller will not, after each revolution, engage in the same tooth gap. In extreme cases, conveyor chains with large pitches and running at relatively low speeds will operate over wheels with a minimum of 6 teeth.

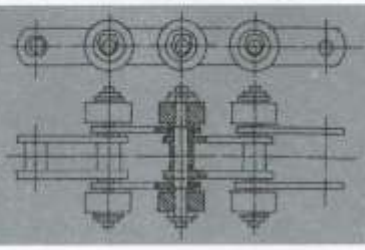
Special Purpose Chains

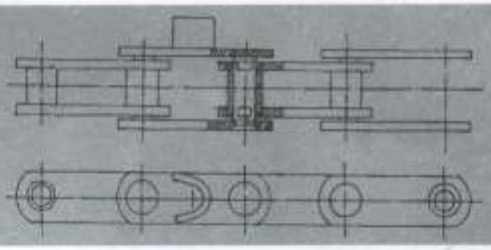
1


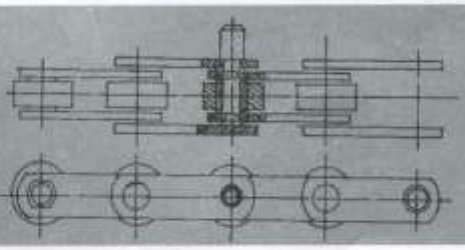
2


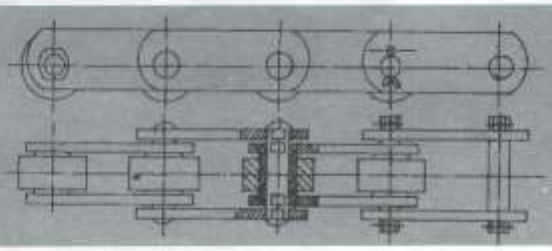
3


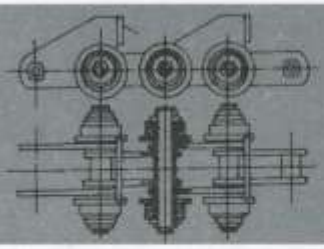
4


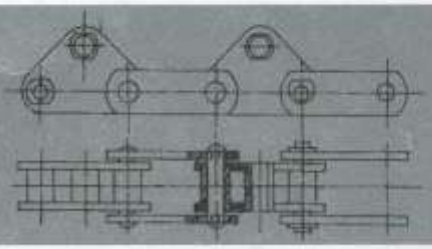
5


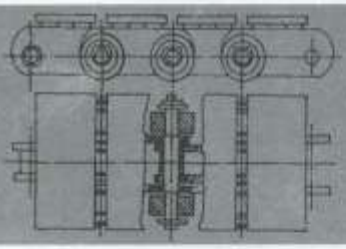
6


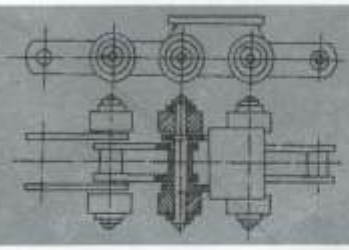
7


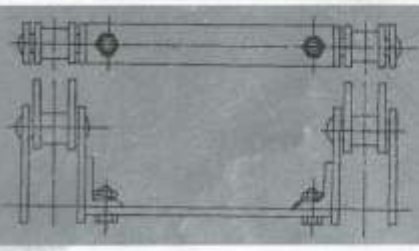
8


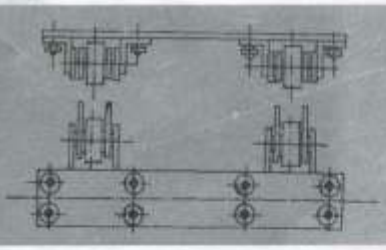
9


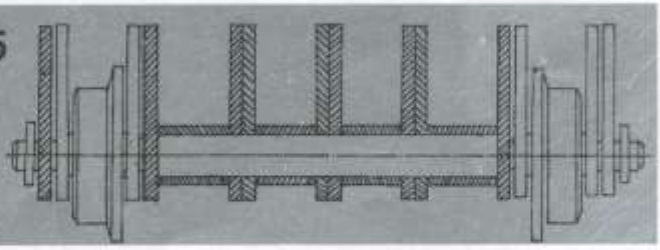
10


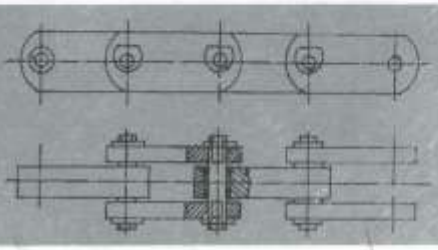
11


12


13


14


15


16


ROL-KÖBO

ROLCON ENGINEERING CO. LTD.

ROLCON SPROCKET COMPANY

Regd. Office : P.B. No. 20, Vallabh Vidyanagar - 388 120.
Via. Anand, Gujarat, India.
Phone:(02692) 230766 / 230866, Fax:(02692) 236480 / 236453
E-mail:rolcon@rolconengineering.com
Website:www.rolconengineering.com

In Collaboration with KOBO-KTB GMBH & CO. KG. Germany.

MAKERS OF WORLD FAMOUS KÖBO CHAINS