UDC 672.64/.65:621.85.055.25
:621.855:620.1

March 1984

American type roller chains

DIN
8188

Rollenketten; amerikanische Bauart

Supersedes August 1972 edition.

In keeping with current practice in standards published by the International Organization for Standardization (ISO), a comma has been used throughout as the decimal marker.

See Explanatory notes for connection with International Standard ISO 606:1994 published by the International Organization for Standardization (ISO).

Dimensions in mm

1 Scope and field of application

This standard specifies dimensions and technical delivery conditions for American type roller chains which, together with their associated chain wheels, are predominantly used as power transmission elements between two or more shafts.

2 Dimensions and designation

For illustrations, designations and dimension tables, see pages 2 to 5.

3 Material

Plates shall be made of heat treatable steel or case hardening steel, the grade being at the manufacturer's discretion.

4 Design and finish

Roller chains shall be supplied greased or lubricated (at the manufacturer's discretion), other types of finish being the subject of agreement.

Attachment plates shall be cranked or straight, at the manufacturer's discretion.

Bushes and/or rollers shall be wound or seamless, at the manufacturer's discretion.

When a measuring force equal to 1 % of the minimum breaking force is applied to an unlubricated chain, designated by a chain number up to and including 12 A, of at least 610 mm in length and to a chain, designated by a chain number from 16 A to 48 A, of at least 1220 mm in length, the actual length of the chain shall not deviate from the nominal length by more than +0,15 %.

5 Testing

For length measurement, the chain shall be supported along its entire length.

For testing the breaking force, chains with a length equal to at least $5 \times p$ shall be attached by pins through the outer plates or bushes so as to permit universal movement and prevent any bending stress. The results of tests in which failure occurs near the shackles shall be disregarded. The proof force shall amount to 1/3 of the minimum breaking force.

6 Technical delivery conditions

Chains that are ordered in metres always terminate with an inner link at either end and may be supplied without connecting links.

Chains that are ordered on the basis of a given number of links may be supplied either with or without a connecting link. If a roller chain without connecting link is to be supplied on the basis of a given number of links, it shall be stated whether the chain is to terminate with an inner link or an outer link.

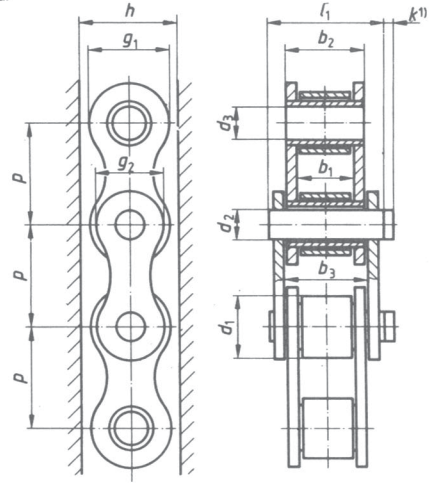
Where a chain is to be supplied ready for assembly with a connecting link, the type of link desired shall be stated in the order. This link is included in the total number of links ordered.

Where type C or L cranked links are used (not recommended), the ratio of test force to minimum breaking force may be reduced by 20 %.

Continued on pages 2 to 6.

2.1 Simple roller chains

Simple roller chains are not expected to conform to the designs illustrated here; compliance is only required in the case of the dimensions specified.



Designation of a simple roller chain with chain number 10 A – 1:

Roller chain DIN 8188 – 10 A – 1

If a 10 m simple roller chain with chain number 10 A – 1 is to be ordered, the order designation shall read:

10 m roller chain DIN 8188 – 10 A – 1

If five roller chains with 79 links each, terminating at both ends with inner links (B) and with no connecting link, are to be ordered, the order designation shall read:

5 roller chains DIN 8188 – 10 A – 1 × 79 B

If five roller chains with 100 links each, including a connecting link with spring fastener (E), are to be ordered, the order designation shall read:

5 roller chains DIN 8188 – 10 A – 1 × 100 E

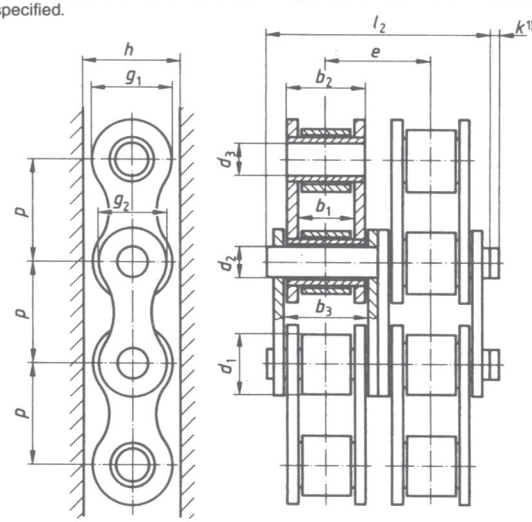
Table 1

Chain number	p	b_1 min.	b_2 max.	b_3 min.	d_1 max.	d_2 h9	d_3 H11	g_1 max.	g_2 max.	h min.	$k^{1)}$ max.	l_1 max.	Minimum breaking force, in N	Measuring force, in N	Bearing area, in cm^2	Approx. mass, in kg/m
08 A – 1	12,7	7,85	11,15	11,28	7,95	3,96	4,01	12	10,4	12,4	3,9	17,8	14 100	141	0,44	0,6
10 A – 1	15,875	9,4	13,8	13,93	10,16	5,08	5,13	15	13	15,4	4,1	21,8	22 200	222	0,70	1
12 A – 1	19,05	12,57	17,7	17,85	11,91	5,94	5,99	18	15,6	18,4	4,6	26,9	31 800	318	1,05	1,5
16 A – 1	25,4	15,75	22,5	22,7	15,88	7,92	7,98	24,1	20,8	24,4	5,4	33,5	56 700	567	1,78	2,6
20 A – 1	31,75	18,9	27,4	27,6	19,05	9,53	9,59	30,1	26	30,5	6,1	41,1	88 500	885	2,61	3,7
24 A – 1	38,1	25,22	35,3	35,6	22,23	11,1	11,17	36,2	31,2	36,6	6,6	50,8	127 000	1270	3,92	5,5
28 A – 1	44,45	25,22	37	37,3	25,4	12,7	12,77	42,2	36,4	42,7	7,4	54,9	172 400	1724	4,7	7,5
32 A – 1	50,8	31,55	45	45,3	28,58	14,27	14,35	48,2	41,6	48,8	7,9	65,5	226 800	2268	6,42	9,7
40 A – 1	63,5	37,85	54,7	55	39,68	19,84	19,92	60,3	52	61	10	80,3	353 800	3538	10,85	15,8
48 A – 1	76,2	47,35	67,5	68	47,63	23,8	23,9	72,3	62,4	73,2	10	95,5	510 300	5103	16,07	22,6

[1]) Pin projecting length for connecting link.

2.2 Duplex roller chains

Duplex roller chains are not expected to conform to the designs illustrated here; compliance is only required in the case of the dimensions specified.



Designation of a duplex roller chain with chain number 10 A – 2:

Roller chain DIN 8188 – 10 A – 2

If a 10 m duplex roller chain with chain number 10 A – 2 is to be ordered, the order designation shall read:

10 m roller chain DIN 8188 – 10 A – 2

If five roller chains with 79 links each, terminating at both ends with inner links (B) and with no connecting link, are to be ordered, the order designation shall read:

5 roller chains DIN 8188 – 10 A – 2 × 79 B

If five roller chains with 100 links each, including a connecting link with spring fastener (E), are to be ordered, the order designation shall read:

5 roller chains DIN 8188 – 10 A – 2 × 100 E

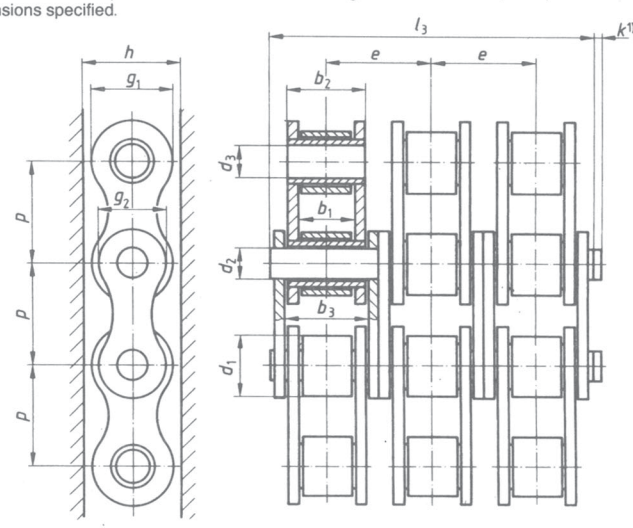
Table 2

Chain number	p	b_1 min.	b_2 max.	b_3 min.	d_1 max.	d_2 h9	d_3 H11	e	g_1 max.	g_2 max.	h min.	k [1] max.	l_2 max.	Minimum breaking force, in N	Measuring force, in N	Bearing area, in cm^2	Approx. mass, in kg/m
08 A – 2	12,7	7,85	11,15	11,28	7,95	3,96	4,01	14,38	12	10,4	12,4	3,9	32,3	28 200	282	0,88	1,2
10 A – 2	15,875	9,4	13,8	13,93	10,16	5,08	5,13	18,11	15	13	15,4	4,1	39,9	44 400	444	1,40	1,9
12 A – 2	19,05	12,57	17,7	17,85	11,91	5,94	5,99	22,78	18	15,6	18,4	4,6	49,8	63 600	636	2,1	2,9
16 A – 2	25,4	15,75	22,5	22,7	15,88	7,92	7,98	29,29	24,1	20,8	24,4	5,4	62,7	113 400	1 134	3,56	5
20 A – 2	31,75	18,9	27,4	27,6	19,05	9,53	9,56	35,76	30,1	26	30,5	6,1	77	177 000	1 770	5,22	7,3
24 A – 2	38,1	25,22	35,3	35,6	22,23	11,1	11,17	45,44	36,2	31,2	36,6	6,6	96,3	254 000	2 540	7,84	10,9
28 A – 2	44,45	25,22	37	37,3	25,4	12,7	12,77	48,87	42,2	36,4	42,7	7,4	103	344 800	3 448	9,4	14,4
32 A – 2	50,8	31,55	45	45,3	28,58	14,27	14,35	58,55	48,2	41,6	48,8	7,9	124	453 600	4 536	12,84	19
40 A – 2	63,5	37,85	54,7	55	39,68	19,84	19,92	71,55	60,3	52	61	10	151	707 600	7 076	21,7	32
48 A – 2	76,2	47,35	67,5	68	47,63	23,8	23,9	87,83	72,3	62,4	73,2	10	183	1 020 600	10 206	32,13	44

[1]) Pin projecting length for connecting link.

2.3 Triplex roller chains

Triplex roller chains are not expected to conform to the designs illustrated here; compliance is only required in the case of the dimensions specified.



Designation of a triplex roller chain with chain number 10 A – 3:

Roller chain DIN 8188 – 10 A – 3

If a 10 m triplex roller chain with chain number 10 A – 3 is to be ordered, the order designation shall read:

10 m roller chain DIN 8188 – 10 A – 3

If five roller chains with 79 links each, terminating at both ends with inner links (B) and with no connecting link, are to be ordered, the order designation shall read:

5 roller chains DIN 8188 – 10 A – 3 × 79 B

If five roller chains with 100 links each, including a connecting link with spring fastener (E), are to be ordered, the order designation shall read:

5 roller chains DIN 8188 – 10 A – 3 × 100 E

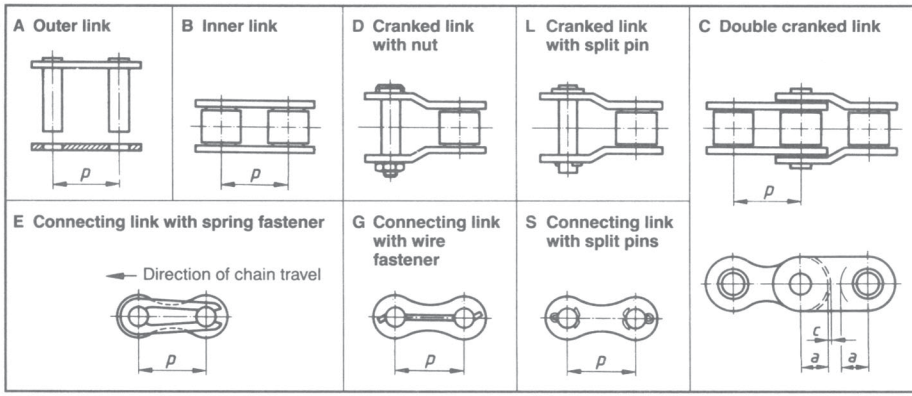
Table 3

Chain number	p	b_1 min.	b_2 max.	b_3 min.	d_1 max.	d_2 h9	d_3 H11	e	g_1 max.	g_2 max.	h min.	$k^{1)}$ max.	l_3 max.	Minimum breaking force, in N	Measuring force, in N	Bearing area, in cm^2	Approx. mass, in kg/m
08 A – 3	12,7	7,85	11,15	11,28	7,95	3,96	4,01	14,38	12	10,4	12,4	3,9	46,7	42 300	423	1,32	1,8
10 A – 3	15,875	9,4	13,8	13,93	10,16	5,08	5,13	18,11	15	13	15,4	4,1	57,9	66 600	666	2,10	2,9
12 A – 3	19,05	12,57	17,7	17,85	11,91	5,94	5,99	22,78	18	15,6	18,4	4,6	72,6	95 400	954	3,15	4,3
16 A – 3	25,4	15,75	22,5	22,7	15,88	7,92	7,98	29,29	24,1	20,8	24,4	5,4	91,7	170 100	1 701	5,35	7,5
20 A – 3	31,75	18,9	27,4	27,6	19,05	9,53	9,59	35,76	30,1	26	30,5	6,1	113	265 500	2 655	7,83	11
24 A – 3	38,1	25,22	35,3	35,6	22,23	11,1	11,17	45,44	36,2	31,2	36,6	6,6	141	381 000	3 810	11,76	16,5
28 A – 3	44,45	25,22	37	37,3	25,4	12,7	12,77	48,87	42,2	36,4	42,7	7,4	152	517 200	5 172	14,1	21,7
32 A – 3	50,8	31,55	45	45,3	28,58	14,27	14,35	58,55	48,2	41,6	48,8	7,9	182	680 400	6 804	19,26	28,3
40 A – 3	63,5	37,85	54,7	55	39,68	19,84	19,92	71,55	60,3	52	61	10	223	1 061 400	10 614	32,56	48
48 A – 3	76,2	47,35	67,5	68	47,63	23,8	23,9	87,83	72,3	62,4	73,2	10	271	1 530 900	15 309	48,2	66

[1]) Pin projecting length for connecting link.

2.4 Connecting links

The connecting links shall always be fitted as a complete unit.
Other dimensions as in tables 1 to 3.



Designation of an outer link (A) for a roller chain with chain number 10 A in the form of a simple roller chain (1):

Link DIN 8188 – A – 10 A – 1

Table 4

Chain number	p	a_1 min.	a_2 min.	c min.
08 A	12,7	5,2	6,1	0,1
10 A	15,875	6,6	7,6	0,1
12 A	19,05	7,9	9,1	0,1
16 A	25,4	10,5	12,2	0,2
20 A	31,75	13,1	15,2	0,2
24 A	38,1	15,8	18,2	0,2
28 A	44,45	18,4	21,3	0,2
32 A	50,8	21,0	24,3	0,2
40 A	63,5	26,2	30,3	0,2
48 A	76,2	31,4	36,4	0,2

Standard referred to

ISO 606 : 1994 Short-pitch transmission precision roller chains and chain wheels

Other relevant standards

DIN 8181 Extended-pitch roller chains
DIN 8187 European type roller chains
DIN 8195 Design and selection of chain drives
DIN 8196-1 Toothing of chain wheels for use with DIN 8187 and DIN 8188 roller chains; profile dimensions

Previous editions

DIN 8188: 08.56, 12.69, 08.72.

Amendments

The following amendments have been made to the August 1972 edition.

a) The clearance between pin and bush has been altered in some cases.
b) The values of width b_1 have been harmonized with those given in ISO.
c) The measuring force has been specified as being equal to 1 % of the breaking force.
d) The standard has been editorially revised.

Explanatory notes

The roller chains specified in this standard conform in substance to International Standard ISO 606. As the chain types specified are based on American Standards, the letter A has been included in the chain number.

International Patent Classification

F 16 G 13-06