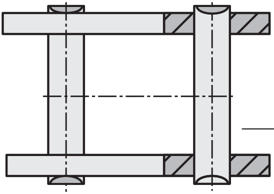
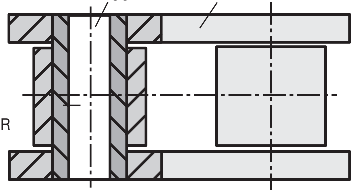
CHAIN INFORMATION

OUTER PLATE



INNER PLATE



CHAIN STANDARDS	
AMERICAN	ANSI B29.1 : ISO 606 A SERIES
BRITISH	BS 228 : DIN 8187 : ISO 606

Lubrication (Dependent on power and speed)

TYPE 1 : MANUAL
TYPE 2 : DRIP FEED
TYPE 3 : OIL BATH
TYPE 4 : OIL STREAM

See Chart on page 27.65.

RECOMMENDED LUBRICANTS AMBIENT TEMPERATURE

°C	°F (Approx.)	LUBRICANT VISCOSITY RATING	
		SAE	BS4231
-5 to 5	20 to 40	20	46 - 68
5 to 40	40 to 100	30	100
40 to50	100 to 120	40	150 - 220
50 to 60	120 to 140	50	320

BREAKING STRENGTHS

PART NUMBER	PITCH	N	Weight Kg/m
Steel			
SUA-4	4.00	1800	0.07
SUA-6	6.00	3000	0.12
SUA-250	6.35	4000	0.13
SBR-8	8.00	5000	0.18
SUA-375	9.53	10000	0.33
SBR-375	9.53	11100	0.39
SUA-500	12.70	16900	0.63
SBR-500	12.70	19000	0.70
SUA-541	12.70	10600	0.42
SBR-625	15.89	23000	0.92
SUA-750	19.05	30500	1.20
SBR-1000	25.40	67000	2.80
SBR-1250	31.75	98070	3.85
Stainless Steel			
SBS-6	6.00	2000	0.12
SBS-8	8.00	4000	0.18
SUS-375	9.53	7560	0.33
SBS-375	9.53	7000	0.41
SUS-500	12.70	10690	0.63
SBS-500	12.70	11770	0.68
SBS-625	15.875	14700	0.92

Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

STEP 1

SELECT DRIVE RATIO AND SPROCKETS

Chart 1 may be used to choose a ratio based on the standard sprocket sizes available. It is best to use an odd number of teeth combined with an even number of chain pitches.

Ideally, chain sprockets with a minimum of 19 teeth should be chosen. If the chain drive operates at high speed or is subjected to impulsive loads, the smaller sprockets should have at least 25 teeth and should be hardened.

It is recommended that chain sprockets should have a maximum of 114 teeth.

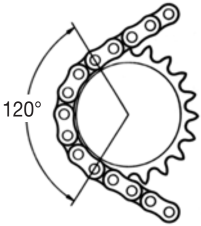
Drive ratio can otherwise be calculated using the formula:-

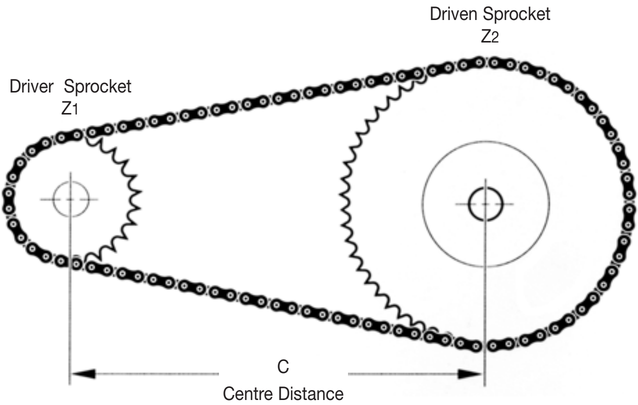
$$i = \frac{Z_2}{Z_1}$$

For large ratio drives, check that the angle of lap on Z1 is not less than 120°.

Chart 1

NO. OF TEETH DRIVEN SPROCKET Z2	NO. OF TEETH DRIVE SPROCKET Z1					
	15	17	19	21	23	25
25	–	–	–	–	–	1.00
38	2.53	2.23	2.0	1.80	1.65	1.52
57	3.80	3.35	3.0	2.71	2.48	2.28
76	5.07	4.47	4.0	3.62	3.30	3.04
95	6.33	5.59	5.0	4.52	4.13	3.80
114	7.60	6.71	6.0	5.43	4.96	4.56





Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

STEP ②

APPLICATION FACTOR f1

Factor f1 takes account of any dynamic overloads depending on the chain operating conditions., The value of factor f1 can be chosen directly or by analogy using Chart 2.

TOOTH FACTOR f2

The use of a tooth factor further modifies the final power selection. The choice of a smaller diameter sprocket will reduce the maximum power capable of being transmitted since the load in the chain will be higher.

$$f2 = \frac{19}{Z_1}$$

Note that this formula arises due to the fact that selection rating curves shown in the BS/ANSI rating charts are those foa a 19 tooth sprocket.

f2 factors for standard sprocket sizes.

Z_1	f2
15	1.27
17	1.12
19	1.00
21	0.91
23	0.83
25	0.76

Chart 2

DRIVEN MACHINE CHARACTERISTICS	CHARACTERISTICS OF DRIVER		
	SMOOTH RUNNING electric motors, Steam and gas turbines, internal combustion, engines with hydraulic coupling	**SLIGHT SHOCKS** internal combustion engines with 6 cyls or more with mechanical coupling, electric motors with frequent starts	**MODERATE SHOCKS** internal combustion engines with less than 6 cyls, with mechanical coupling
SMOOTH RUNNING centrifugal pumps and compressors, printing machines, paper calenders, uniformly loaded conveyors, escalators, liquid agitators and mixers, rotary driers, fans	1	1.1	1.3
MODERATE SHOCKS pumps and compressors (3+ cyls), concrete mixing machines, non uniformly loaded conveyors, solid agitators and mixers.	1.4	1.5	1.7
HEAVY SHOCKS planers, excavators, roll and ball mills, rubber processing machines, presses and shears, 1 & 2 cyl pumps and compressors, oil drilling rigs	1.8	1.9	2.1

Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

STEP 3

CALCULATE THE SELECTION POWER

Multiply the power to be transmitted by the factors obtained from STEP TWO.

Selection POWER = POWER to be transmitted x f1 x f2 (kw). This selection power can be used with **the appropriate rating chart on page 27.65.**

STEP 4

SELECT CHAIN DRIVE

From the rating chart, select the smallest pitch of sample chain to transmit the SELECTION POWER at the speed of the driving sprocket Z1.

This normally results in the most economical drive selection. If the SELECTION POWER is now greater than that shown for the simple chain, then consider a multiplex chain of the same pitch size as detailed in the rating charts.

STEP 5

To find the chain length pitches (L) for any contemplated centre distance of a two point drive, use the formula below:-

$$\text{Length (L)} = \frac{Z_1 + Z_2}{2} + \frac{2C}{P} + \frac{\left(\frac{Z_2 - Z_1}{2\pi}\right)^2 \text{x } P}{C}$$

The calculated number of pitches should be rounded up to a whole number of even pitches. Odd numbers of pitchers should be avoided because this would involve the use of a cranked link which is not recommended. If a jockey socket is used for adjustment purposes, two pitches should be added to the chain length (L).

C is the contemplated centre distance in mm and should generally be between 30 - 50 pitches.

STEP 6

CALCULATE EXACT CENTRE DISTANCE

The actual centre distance for the chain length (L) calculated by the method above, will in general be greater than that originally contemplated. The revised centre distance can be calculated from the formula below.

$$C = \frac{P}{8}\left[2L - Z2 - Z1 + \sqrt{(2L - Z_2 - Z_1)^2 - \left(\frac{\pi}{3.88} \quad (Z_2 - Z_1)^2\right)}\right]$$

P = Chain pitch (mm)

L = Chain length (pitches)

Z_1= Number of teeth in driver sprocket

Z_2= Number of teeth in driven sprocket

Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

CHAIN SELECTION

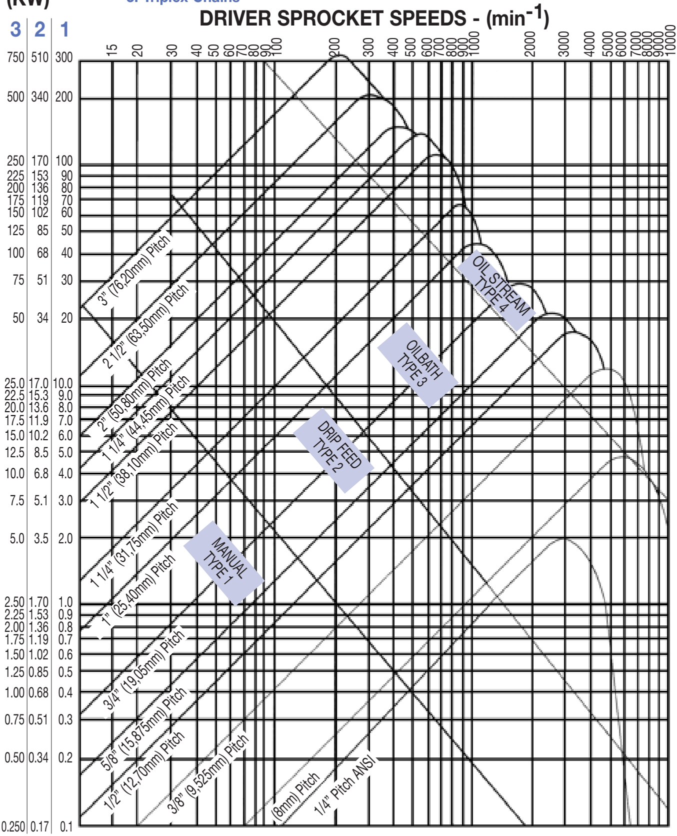
RATING GRAPH - 19T DRIVER SPROCKET AND LUBRICATION METHODS

For driver sprocket speeds less than 10rpm, multiply transmitted power by $\frac{10}{n}$ and read from 10rpm column.

Where n = driver sprocket speed.

SELECTION POWER (KW)

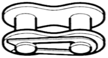
1. Simplex Chains
2. Duplex Chains
3. Triplex Chains



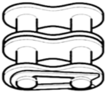
Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

CHAIN CONNECTING LINKS

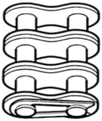
SIMPLEX, DUPLEX & TRIPLEX



Simplex



Duplex



Triplex

These links should not be used where high speed or arduous conditions apply, in these cases, where safety is essential, a riveting link (interference fit) must be used.

NOTE: Some dimensions on Pin Length may differ slightly.

PART NUMBER	Chain No.	Pitch (mm)	Pin Ø (mm)	Pin Length (mm)	Con Link Extra (mm)
Stainless Steel					
SBS-6/L	04-SS	6	1.85	7.4	2.9
SBS-8/L	08B-SS	8	2.31	9.0	-
SUS-375/L	35-SS	9.525	3.59	15.15	3.3
SBS-375/L	06B-SS	9.525	3.28	14.0	-
SUS-500/L	40-SS	12.70	3.98	17.8	3.9
SBS-500/L	08B-SS	12.70	4.45	17.5	3.9
SBS-625/L	10B-SS	15.875	5.08	20.0	4.1
Simplex					
SUA-4/L	1141	4	1.65	6.8	1.2
SUA-6/L	04	6	1.85	7.4	2.9
SUA-250/L	25	6.35	2.30	8.6	0.8
SBR-8/L	05B-1	8	2.31	8.6	3.1
SUA-375/L	35	9.525	3.59	15.5	3.3
SBR-375/L	06B-1	9.525	3.28	13.5	3.3
SUA-500/L	40	12.7	3.98	17.8	3.9
SBR-500/L	08B-1	12.7	4.45	17.0	3.9
SUA-541/L	41	12.7	3.59	14.5	2.0
SBR-625/L	10B-1	15.875	5.08	18.8	4.1
SUA-750/L	12B-1	19.05	5.72	22.7	4.6
SBR-1000/L	16B-1	25.40	8.28	36.1	5.4
SBR-1250/L	20B-1	31.75	10.19	43.2	6.1
Duplex					
XSBR-8/L	05B-2	8.00	2.31	14.3	3.1
XSBR-375/L	06B-2	9.52	3.28	23.8	3.3
XSBR-500/L	08B-2	12.70	4.45	31.0	3.9
XSBR-625/L	10B-2	15.875	5.08	35.4	4.1
XSUA-750/L	12B-2	19.05	5.72	42.2	4.6
Triplex					
XXSBR-375/L	06B-3	9.52	3.28	34.0	3.3
XXSBR-500/L	08B-3	12.70	4.45	44.9	3.9
XXSBR-625/L	10B-3	15.875	5.08	52.8	4.1
XXSUA-750/L	12B-3	19.05	5.72	61.7	4.6

Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003

HOSTAFORM C

HOSTAFORM C 9021 K ACETAL COPOLYMER WITH SPECIAL CHALK

Physical Properties	Metric
Density	1.44 g/cc
Water Absorption	0.2%
Water Absorption at Saturation	0.65%
Melt Flow	10.8 g/10 min
Mechanical Properties	
Ball indentation Hardness	145 MPa
Tensile Strength, Yield	60 MPa
Elongation at Break	22%
Elongation at Yield	8%
Tensile Modulus	3 GPa
Flexural Modulus	2.9 GPa
Charpy Impact Unnotched	10 J/cm^2
Charpy Impact Notched, Low Temp	0.5 J/cm^2
Charpy Impact Unnotched, Low Temp	10 J/cm^2
Charpy Impact, Notched	0.6 J/cm^2
Tensile Creep Modulus, 1 hour	2500 MPa
Tensile Creep Modulus, 1000 hour	1400 MPa
Electrical Properties	
Dielectric Constant	4.2
Dielectric Constant, Low Frequency	4.2
Dielectric Strength	38 kV/mm
Dissipation Factor	0.006
Dissipation Factor, Low Frequency	0.0025
Thermal Properties	
CTE, Linear 20 C	110 µm/m-°C
Melting Point	166 °C
Deflection Temperature at 1.8 MPa (264 psi)	100 °C
Vicat Softening Point	150 °C

Unit 14, Foxwood Ind. Park, Foxwood Rd. Chesterfield, Derbyshire S41 9RN
Telephone +44(0)1246 268080 Fax +44(0)1246 260003