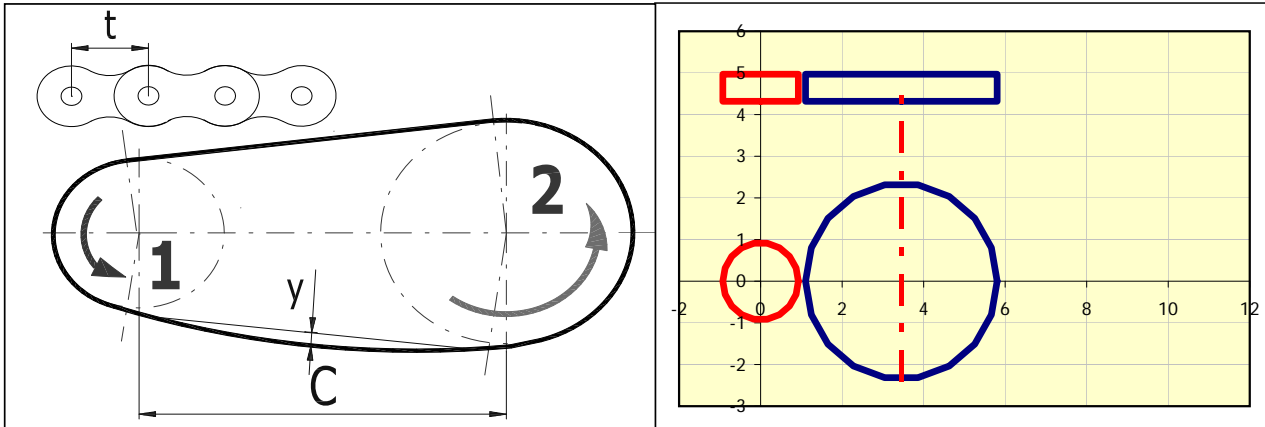




Roller chain transmission

i	Check lines:3.5;3.15;3.16;	Sprocket1	Sprocket2										
ii	Project information												
?	Input section												
1.0 The manner of loading, working parameters													
1.1	Calculation units	Imperial (lbf, in, HP,...)											
1.2	Transferred power	P	1.52	1.49 [HP]									
1.3	Speed of the sprocket wheel (desired)	n	1097	390 [/min]									
1.4	Speed of the sprocket wheel (actual)	n	1097	391.79 [/min]									
1.5	The desired / actual transmission ratio	i	2.813	2.800									
1.6	Torque	Mk	87.06	238.89 [lb.in]									
1.7	The type of driving machine (loading)	B...Moderate shocks											
1.8	The type of driven machine (loading)	A...Smooth											
1.9	Type of lubrication	B...Sufficient without contamination											
1.10	Number of links of the chain	Even only											
1.11	Number of teeth of the sprocket wheel	Even and odd											
2.0 Automatic design													
2.1	Chain type												
2.2	A...Standard roller chains / ASME B29.1												
2.3	Axis distance for Automatic design	3.46 Entered		[in]									
2.4	Range of smaller sprocket teeth	10 18											
2.5	Automatic design - press the button												
2.6	Sort results according to parameter	Transmission weight											
2.7	Table of solutions												
2.8	Type	z1	z2	n2	i	A	Pp	v	SD	p	SP	Pp%	m
2.9	16A - 1	11	31	389.3	2.82	0.00	10.77	1019	164.93	235	0.00	34	18.0
3.0 Design and calculation													
3.1	Chain selection - Standard chain No. (Pitch)	40 - 1 (0.5)											
3.2	Chain pitch / chains strands number	t	0.500	1									
3.3	Sprocket - number of teeth / recommended	z	10	28 19 (min=11)									
3.4	Pitch diameter	Dp	1.618	4.466 [in]									
3.5	Desired axis distance / recommended	C	3.63	20 [in]									
3.6	Actual axis distance / min.-max.	C	3.45	4.3 - 80 [in]									
3.7	Number of chain links	X	34	34									
3.8	Length of the chain	L	17	[in]									
3.9	Speed of the chain / max	v	464.66	< 2109 [ft/min]									
3.10	Design power / table power	Pp	3.09	< 4.67 [HP]									
3.11	Tensile force / Centrifugal force	Fu/Fc	107.7	0.8 [lbf]									
3.12	Breaking force (table) / Force on the chain	FB/Fr	3186	108.5 [lbf]									
3.13	Static coefficient of safety against breakage	SB	29.37	> 14.6									
3.14	Dynamic coefficient of safety against breakage	SD	29.37	> 15.37									
3.15	The calculated / permitted pressure in the chain joint	p	1590	< 1582.6 [psi]									
3.16	Level of safety of the chain joint	SP	1.00	> 1.00									
3.17	Total weight of the transmission / chain	m	1.98	0.61 [lb]									



?

Results section

4.0 Results, coefficients

4.1 Coefficients for power corrections

- 4.2 Coefficient of the number of teeth
- 4.3 Coefficient of the transmission ratio
- 4.4 Coefficient of shock (Service factor)
- 4.5 Coefficient of distances of axes
- 4.6 Coefficient of lubrication
- 4.7 Coefficient of temperature
- 4.8 Coefficient of service life
- 4.9 Calculation and setting of coefficients according to
- 4.10 Recommended type of lubrication
- 4.11 Type of lubrication (permissible)
- 4.12 Maximum slackness of the chain
- 4.13 Minimum / Maximum speed of sprocket 2
- 4.14 Coefficient of speed variation

K1	1.00	1.85
K2	1.02	1.02
K3	1.00	1.00
K4	1.33	1.33
K5	1.50	1.50
K6	1.00	1.00
K7	1.00	1.00

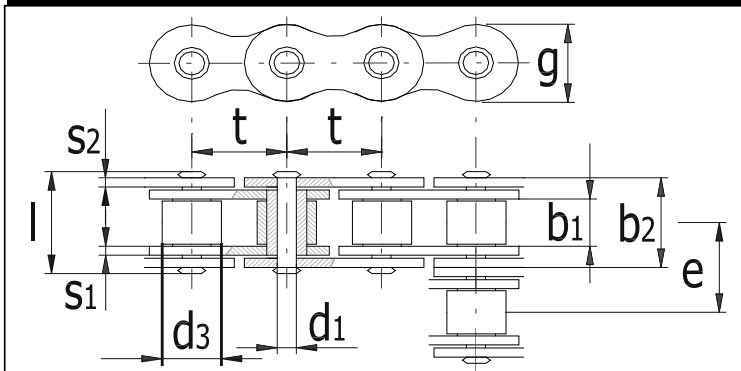
ISO 10823

Oil pressure circulation lubrication

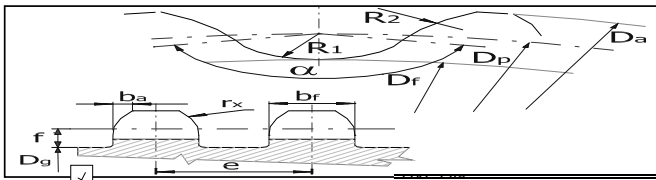
Oil dip with splash ring

y	0.07	[in]
	441.91	467.60 [ft/min]
ξ	5.65	[%]

5.0 Dimensions



d1	0.156	[in]
d3	0.312	[in]
b1	0.312	[in]
b2	0.432	[in]
t	0.500	[in]
g	0.472	[in]
l	0.650	[in]
e	0.000	[in]
s1	0.060	[in]
s2	0.060	[in]



Da	1.853	4.700 [in]
Dp	1.618	4.466 [in]
Df	1.298	4.145 [in]
R1	0.160	[in]
R2	0.574	1.765 [in]
α	121.000	126.786 [°]

6.2 2D drawing scale

6.3 Detail:

Automatic



Sprocket1

