

LOAD CALCULATION SHEET

All calculations are general and do not take into account coefficients or other factors that may effect the load calculations.

**Please have your customers confirm and agree with any calculations you do from this sheet.*

(All calculations have been taken from the CYCLO® 6000 Catalog [General Engineering Section])

ENTER NUMBERS IN ALL THE BLUE AREAS AND DO NOT CHANGE THE RED NUMBERS.

<u>FORMULA</u>	<u>REQUIRED</u>	<u>FORMULA</u>			<u>RESULT</u>
VELOCITY (FPM) LINEAR OR ROTATIONAL	DIAM. AND RPM	.262 X	PITCH DIA. X	RPM=	FPM VELOCITY
		0.262	17	20	89.08
RPM	V, DIAM, RPM	FPM /	.262 X	DIAM =	RPM
		100	0.262	16.5	23.13
DIAM OR P.D. OF WHEEL(IN.)	FPM/.262X RPM	Feet per min (FPM)	.262 X	RPM	DIA.
		1	0.262	0.62	6.16
HORSEPOWER	TORQUE (IN.LB)	TORQUE	X RPM	63025	HP REQ.
	FINAL RPM	48037	17.18	63025	13.09
TORQUE (IN. LB)	HP, RPM OF SHAFT	HP X	63025	/ RPM=	TORQUE
		3	63025	12.2	15498
RPM OF SHAFT	HP, TQ	HP X	63025	/ TQ. =	RPM
		10	63025	378000	1.67

TORQUE REQ. IN.LB	F=FORCE,OR PULL (LB'S)	FORCE LB X	RADIUS=	TORQUE	Coeff.	Req. Torque
		7040	8.5	59840	0.25	14960

HP REQUIRED	LBS RADIUS	F X	FPM /	33000=	HP
		3000	12	33000	1.09

EFFECTIVE FORCE (F) LBS	HP, VEL,	HP X	33000 /	VEL =	FORCE
		0.5	33000	94	176

VELOCITY (FPM)	HP, FORCE	HP X	33000/	FORCE =	FPM
		1	33000	3000	11

EFF. TENSION (LBS)	HP, RPM, RAD.	TQ. IN.LB	/ RADIUS	LBS
		36685	8	4585.625

EFF. TENSION/ LBS BASED HP	HP, FPM	HP X	33000 /	FPM =	TENSION
		10	33000	55	6000

3 PHASE MOTOR HP	VOLTS X	AMPS X	EFF.MTR	x PF	X 1.73	/ 746	HP
	480	2.8	0.825	0.756	1.73	746	1.94

Friction Coefficient (f)

- Belt/Rollers = 0.25
- Fabric/Steel = 0.27
- Plastic/Steel = 0.35
- Rubber/Steel = 0.50
- Leather/Steel = 0.56

TAKE ALL INFORMATION OFF THE MOTOR NAMEPLATE OR USE MOTOR SPEC. SHEET

DC MOTOR HP	VOLTS	X AMPS	X %EFF	/ 746	HP
	480	4	0.87	746	2.24

Nm TO LB.IN.	NEWTON METER	X 8.8507=	LB.IN.
	390	8.8507	3452

KW TO HP	KW X	1.341 =	HP
	37	1.341	49.62