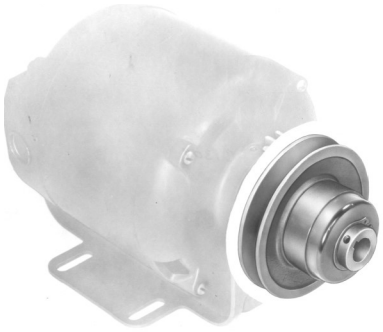
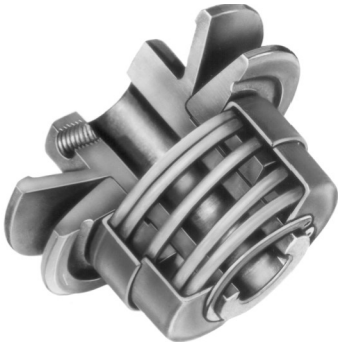
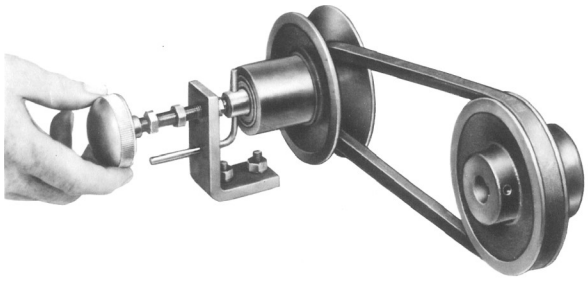
Variable Speed Drives Up To 2 H.P.





Spring-Loaded Sheaves - Automatic Type

Speed Ratios up to 2.19:1 , available for drives of 1/4 to 2 H.P. Motor is equipped with Maurey spring-loaded sheave.



Spring-Loaded Sheaves - Manual Type

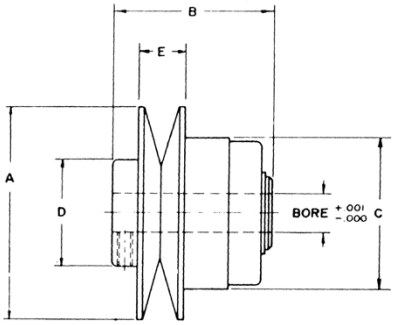
For fixed center drives.

Motor Bases

spring loaded sheaves for 4L "A'" and 5L "B" belts

FEATURES:

1. **Single moving flange. Simple trouble-free constr-uction with a minimum of working parts**
2. **Grooved for Permawick (cellulose fibre 85% lubri-cating oil content) that holds oil in suspension until such time as needed on bushing for lubrication.**
3. **Nylon bushing between movable flange and hub is continuously lubricated by Permawick.**
4. **Stainless steel key adds strength and assures non-corrosion.**



ORDERING PROCEDURE

SPRING LOADED SHEAVE is driver sheave

TO SELECT COMPANION SHEAVE, check chart of model no. selected. Refer to speed range desired. Adjacent column at right gives companion sheave number

TO SELECT V-BELT to fit your drive move horizontally on same chart to desired center distance. Read down to obtain FHP V-belt number

COMPANION SHEAVES DIMENSIONS - Section A.

MOTOR BASE DIMENSIONS - Page G-3

BORES AND KEYWAYS	
1/2"	None
5/8", 3/4", 7/8"	3/16" x 3/32"
1"	1/4" x 1/8"

ORDERING EXAMPLE FOR COMPLETE DRIVE

DRIVE REQUIREMENTS:

1/3 HP Motor @ 1750 RPM
Motor Shaft Size: 5/8"
Driven Shaft Size: 1"
Speed Range: 300 to 600 RPM

Belt Center Distance: 18" ± 1/2"

REFER TO CHART, PAGE G-5

Select either 6325 or 6400 closest to requirement

TO ORDER FROM CHART:

6400 x 5/8" Spring Loaded Sheave
AC110 x 1" Companion Sheave, Section A
4L600 V-Belt
6000 Standard Motor Base, Page G-3

Model Number	HP @ RPM		Speed Ratio	Pitch Diameter		Belt Section	Drive Selection	Weight Lbs
	1750	1160		MIN	MAX			
6325	1/3	1/4	1.65:1	1.91	3.15	A or B	Page G-5	1.75
6400	1/2	1/3	2.00:1	1.95	3.90	A or B	Page G-5	2.25
6500	1 & 3/4	1/2	2.05:1	2.37	4.84	B	Page G-6	4.88
6600	1	3/4	2.19:1	2.67	5.84	B	Page G-6	6.00
66150	1-1/2	1	2.19:1	2.67	5.84	B	Page G-6	6.00
66200	2	1-1/2	2.19:1	2.67	5.84	B	Page G-6	6.00

Model Number	DIMENSIONS (INCHES)					STOCK BORES (INCHES) MARKED "X"				
	A	B	C	D	E	1/2	5/8	3/4	7/8	1
6325	3-1/4	2-3/8	2-5/16	1-5/8	11/16	X	X	X		
6400	4	2-7/16	2-5/16	1-5/8	11/16	X	X	X		
6500	5	3-5/8	3-3/16	1-7/8	15/16		X	X	X	X
6600	6	3-7/8	3-3/16	1-7/8	15/16		X	X	X	X
66150	6	3-7/8	3-3/16	1-7/8	15/16		X	X	X	X
66200	6	3-7/8	3-3/16	1-7/8	15/16		X	X	X	X

USE MAUREY MOTOR BASE NO. 6000, PAGE G-3

DRIVE SELECTION FOR SPRING-LOADED SHEAVES

By: Horsepower and/or Speed Ratio

Selection Procedure:

1. Determine horsepower and/or speed ratio of your particular drive.
2. Across to specified model number and your particular motor speed. NEMA motor frames also indicated.
3. Select proper motor base (NEMA motor frames also indicated).
4. For complete drive details, turn to page that pertains to model number specified in step 2. Page numbers located on bottom of chart.

Horsepower Selection	Speed Ratio Selection	Specified Model No. Selection at Motor RPM		Motor Base Selection	NEMA Motor Frames
		1750 RPM	1160 RPM		
1/4	1.65 : 1	6325	6325	6000	48, 56, 56H, 66
1/3	1.65 : 1	6325	6325	6000	48, 56, 56H, 66
1/2	1.65 : 1	6325	6325	6000	48, 56, 56H, 66, 203, 204
1/2	2.00 : 1	6400	6400	6000	48, 56, 56H, 66, 203, 204
3/4	2.00 : 1	6400	---	6000	48, 56, 56H, 66, 203, 204
3/4	2.05 : 1	---	6500	6000	56, 56H, 66, 203, 204, 182, 184, 143T, 145T
1	2.05 : 1	6500	---	6000	56, 56H, 66, 182, 184, 143T 145T, 224, 225, 203, 204
1	2.19 : 1	6600	---	6000	56, 56H, 66, 182, 184, 143T 145T, 203, 204
1	2.19 : 1	---	66150	6000	56, 56H, 66, 182, 184, 143T 145T, 203, 204, 224, 225
1-1/2	2.19 : 1	66150	---	6000	56, 56H, 66, 182, 184, 143T 145T, 203, 204, 224, 225
1-1/2	2.19 : 1	---	66200	6000	56, 56H, 66, 182, 184, 143T 145T, 224, 225
2	2.19 : 1	66200	---	6000	56, 56H, 66, 182, 184, 143T 145T, 224, 225

PAGE NUMBERS FOR ABOVE MODELS:

6325, 6400, 6500 ..... PAGE G-2

6600, 66150, 66200 .....PAGE G-2

MODEL NO. 6325 / SPEED AND CENTER DISTANCE TABLE
USE MOTOR BASE NO. 6000

DRIVEN SPEED				Companion Sheave	CENTER DISTANCE (INCHES) AT MAXIMUM SPEED POSITION														
1750 RPM		1160 RPM																	
Min.	Max.	Min.	Max.																
1045	1723	693	1142	AC33	7.9	8.9	9.9	11.9	13.9	14.9	16.9	18.9	19.9	21.9	23.9	24.9	29.9	34.9	39.9	44.9
983	1621	652	1075	AC35	7.8	8.8	9.8	11.8	13.8	14.8	16.8	18.8	19.8	21.8	23.8	24.8	29.8	34.8	39.8	44.8
857	1414	568	937	AC40	7.4	8.4	9.4	11.4	13.4	14.4	16.4	18.4	19.4	21.4	23.4	24.4	29.4	34.4	39.4	44.4
760	1253	504	830	AC45	7.0	8.0	9.0	11.0	13.0	14.0	16.0	18.0	19.0	21.0	23.0	24.0	29.0	34.0	39.0	44.0
682	1125	452	745	AC50	6.6	7.6	8.6	10.6	12.6	13.6	15.6	17.6	18.6	20.6	22.6	23.6	28.6	33.6	38.6	43.6
567	934	376	619	AC60		6.6	7.7	9.7	11.8	12.8	14.8	16.8	17.8	19.8	21.8	22.8	27.9	32.9	37.9	42.9
484	799	321	530	AC70			6.7	8.7	10.8	11.8	13.8	15.9	16.9	18.9	21.0	22.0	27.0	32.0	37.0	42.0
423	698	281	463	AC80				7.8	9.9	10.9	12.9	15.0	16.0	18.0	20.0	21.1	26.1	31.1	36.1	41.1
376	619	249	411	AC90					8.9	10.0	12.0	14.1	15.1	17.1	19.2	20.2	25.2	30.2	35.3	40.3
338	557	224	369	AC100					8.1	9.1	11.2	13.2	14.2	16.3	18.3	19.4	24.4	29.5	34.5	39.6
307	506	203	335	AC110						8.1	10.1	12.3	15.3	15.4	17.5	18.5	23.5	28.6	33.7	38.7
281	463	186	307	AC120							9.1	11.3	12.3	14.4	16.6	17.6	22.7	27.7	32.8	37.8
259	427	172	283	AC130								10.1	11.3	13.4	15.4	16.6	21.7	26.8	31.9	37.0
240	397	159	263	AC140									10.2	12.4	14.4	15.5	20.8	25.9	31.0	36.1
224	370	149	245	AC150										11.2	13.5	14.5	19.8	25.0	30.1	35.2
184	303	122	200	AC183													16.6	21.8	27.1	32.2
					4L 260	4L 280	4L 300	4L 340	4L 380	4L 400	4L 440	4L 480	4L 500	4L 540	4L 580	4L 600	A68	A78	A88	A98

MODEL NO. 6400 / SPEED AND CENTER DISTANCE TABLE
USE MOTOR BASE NO. 6000

DRIVEN SPEED				Companion Sheave	CENTER DISTANCE (INCHES) AT MAXIMUM SPEED POSITION														
1750 RPM		1160 RPM																	
Min.	Max.	Min.	Max.																
875	1750	580	1060	AC40	8.8	9.8	10.8	11.8	12.8	13.8	15.8	17.8	18.8	20.8	22.8	23.8	28.8	33.8	38.8	43.8
776	1552	514	1028	AC45	8.4	9.4	10.4	11.4	12.4	13.4	15.4	17.4	18.4	20.4	22.4	23.4	28.4	33.4	38.4	43.4
697	1394	462	924	AC50	8.0	9.0	10.0	11.0	12.0	13.0	15.0	17.0	18.0	20.0	22.0	23.0	28.0	33.0	38.0	43.0
632	1264	419	838	AC55		8.6	9.6	10.6	11.6	12.6	14.6	16.6	17.6	19.6	21.6	22.6	27.6	32.6	37.6	42.6
578	1156	383	766	AC60		8.1	9.1	10.2	11.2	12.2	14.2	16.2	17.2	19.2	21.2	22.2	27.2	32.2	37.2	42.2
533	1066	353	706	AC65			8.7	9.7	10.7	11.8	13.8	15.8	16.8	18.8	20.8	21.8	26.8	31.8	36.8	41.8
495	990	328	656	AC70			8.2	9.2	10.3	11.3	13.3	15.3	16.3	18.4	20.4	21.4	26.4	31.4	36.4	41.4
432	864	286	572	AC80				8.4	9.4	10.4	12.4	14.5	15.5	17.5	19.5	20.5	25.6	30.6	35.6	40.6
383	766	254	508	AC90					8.7	9.7	11.7	13.7	14.8	16.8	18.8	19.8	24.9	29.9	35.0	40.0
345	690	228	456	AC100							10.7	12.7	13.8	15.8	17.9	18.9	24.0	29.0	34.0	39.0
313	626	208	416	AC110								11.8	12.8	14.9	16.9	18.0	23.0	28.1	33.1	38.1
287	574	190	380	AC120								10.8	11.8	13.9	16.0	17.0	22.1	27.2	32.2	37.3
265	530	175	350	AC130										13.0	15.0	16.1	21.2	26.3	31.3	36.4
246	492	163	326	AC140										11.9	14.0	15.1	20.3	25.4	30.5	35.6
229	458	151	302	AC150											13.0	14.2	19.4	24.5	29.6	34.7
188	376	124	248	AC183													16.0	21.4	26.6	31.7
					4L 300	4L 320	4L 340	4L 360	4L 380	4L 400	4L 440	4L 480	4L 500	4L 540	4L 580	4L 600	A68	A78	A88	A98

MODEL NO. 6500 / SPEED AND CENTER DISTANCE TABLE
USE MOTOR BASE NO. 6000

DRIVEN SPEED				Companion Sheave	CENTER DISTANCE (INCHES) AT MAXIMUM SPEED POSITION													
1750 RPM		1160 RPM																
Min.	Max.	Min.	Max.															
857	1750	568	1160	BC50	7.3	8.3	9.3	10.3	11.3	12.3	14.3	16.3	17.3	19.3	21.3	22.3	27.3	32.3	37.3	42.3
792	1616	525	1071	BC54	7.0	8.0	9.0	10.0	11.0	12.0	14.0	16.0	17.0	19.0	21.0	22.0	27.0	32.0	37.0	42.0
735	1502	487	995	BC58		7.7	8.7	9.7	10.7	11.7	13.7	15.7	16.7	18.7	20.7	21.7	26.7	31.7	36.7	41.7
710	1450	471	961	BC60		7.5	8.5	9.5	10.5	11.5	13.5	15.5	16.5	18.5	20.5	21.5	26.5	31.5	36.5	41.5
665	1357	441	900	BC64		7.2	8.2	9.2	10.2	11.2	13.2	15.2	16.2	18.2	20.2	21.2	26.2	31.2	36.2	41.2
625	1276	414	845	BC68			7.8	8.8	9.9	10.9	12.9	14.9	15.9	17.9	19.9	20.9	25.9	30.9	35.9	40.9
606	1238	402	821	BC70			7.6	8.6	9.6	10.7	12.7	14.7	15.7	17.7	19.7	20.7	25.7	30.7	35.7	40.7
589	1203	390	797	BC72			7.5	8.5	9.5	10.6	12.6	14.6	15.6	17.6	19.6	20.6	25.6	30.6	35.6	40.6
543	1109	360	735	BC78				7.9	9.0	10.0	12.0	14.0	15.0	17.0	19.0	20.0	25.1	30.1	35.1	40.1
469	958	311	635	BC90					8.3	9.3	11.3	13.3	14.3	16.4	18.4	19.4	24.4	29.5	34.5	39.5
430	879	285	582	BC98							10.2	12.2	13.2	15.2	17.3	18.3	23.3	28.4	33.4	38.4
369	754	246	500	BC114								10.9	11.9	14.0	16.0	17.0	22.1	27.1	32.2	37.2
328	670	217	444	BC128									10.5	12.5	14.6	15.6	19.8	25.9	31.0	36.0
300	612	199	406	BC140										11.5	13.6	14.7	19.8	24.9	30.0	35.0
265	542	176	359	BC158											11.7	12.7	18.1	23.2	28.3	33.4
223	454	147	301	BC188													15.0	20.3	25.6	30.7
					B27	B29	B31	B33	B35	B37	B41	B45	B47	B51	B55	B57	B67	B77	B87	B97

MODEL NO. 6600, 66150, 66200 / SPEED AND CENTER DISTANCE TABLE
USE MOTOR BASE NO. 6000

DRIVEN SPEED				Companion Sheave	CENTER DISTANCE (INCHES) AT MAXIMUM SPEED POSITION													
1750 RPM		1160 RPM																
Min.	Max.	Min.	Max.															
800	1750	530	1160	BC60	8.7	9.7	10.7	11.7	12.7	13.7	14.7	15.7	16.7	17.7	19.7	20.7	25.7	30.7	35.7	40.7
774	1692	513	1122	BC62	8.6	9.6	10.6	11.6	12.6	13.6	14.6	15.6	16.6	17.6	19.6	20.6	25.6	30.6	35.6	40.6
749	1638	496	1086	BC64	8.4	9.4	10.4	11.4	12.4	13.4	14.4	15.4	16.4	17.4	19.4	20.4	25.4	30.4	35.4	40.4
726	1587	481	1052	BC66	8.3	9.3	10.3	11.3	12.3	13.3	14.3	15.3	16.3	17.3	19.3	20.3	25.3	30.3	35.3	40.3
704	1539	466	1020	BC68	8.1	9.1	10.1	11.1	12.1	13.1	14.1	15.1	16.1	17.1	19.1	20.1	25.1	30.1	35.1	40.1
683	1494	453	990	BC70	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	19.0	20.0	25.0	30.0	35.0	40.0
664	1452	440	962	BC72		8.8	9.8	10.8	11.8	12.8	13.8	14.8	15.8	16.8	18.8	19.8	24.8	29.8	34.8	39.8
612	1338	405	887	BC78		8.2	9.2	10.3	11.3	12.3	13.3	14.3	15.3	16.3	18.3	19.3	24.3	29.3	34.3	39.3
529	1156	350	766	BC90				9.3	10.3	11.3	12.3	13.3	14.3	15.4	17.4	18.4	23.4	28.4	33.4	38.4
485	1060	321	703	BC98					9.5	10.5	11.5	12.5	13.6	14.6	16.6	17.6	22.7	27.7	32.7	37.7
416	909	276	603	BC114							10.1	11.4	12.2	13.2	15.2	16.2	21.2	26.3	31.4	36.4
370	809	245	536	BC128									10.9	12.0	14.0	15.0	20.1	25.2	30.2	35.2
338	738	224	489	BC140											12.9	14.0	19.1	24.2	29.3	34.3
299	653	198	433	BC158												12.1	17.4	22.6	28.6	32.7
251	548	166	363	BC188													15.2	20.7	25.9	31.0
					B33	B35	B37	B39	B41	B43	B48	B47	B49	B51	B55	B57	B67	B77	B87	B97

USEFUL ENGINEERING FORMULAS

Horsepower

Horsepower (HP) is the rate of doing work. One HP is equal to raising 33,000 pounds one foot in one minute.

$$HP = \frac{Force \times FPM}{33{,}000}$$

$$HP = \frac{Torque\ (in\ Inch\text{-}Pounds) \times RPM}{63{,}025}$$

$$HP = \frac{Torque\ (in\ Foot\text{-}Pounds) \times RPM}{5{,}252}$$

Torque

Torque (T) is a turning movement or twisting effort.

$$T\ (in\ Inch\text{-}Pounds) = \frac{63{,}025 \times HP}{RPM}$$

$$= Force \times Lever\ Arm\ (in\ Inches)$$

$$T\ (in\ Foot\text{-}Pounds) = \frac{5{,}252 \times HP}{RPM}$$

$$= Force \times Lever\ Arm\ (in\ Feet)$$

Belt Speed

$$FPM = Diameter\ (in.) \times RPM \times .262$$

Revolutions Per Minute

$$RPM = \frac{FPM}{.262 \times Diameter\ (in.)}$$

Belt Drive Tensions

The effective tension (T_e) is the difference between the tight side tension (T_1) and the slack side tension (T_2). It is the force available for transmitting the load.

$$T_e = (T_1 - T_2) = \frac{HP \times 33{,}000}{FPM}$$

Belt Length

To determine the belt length to use for a V-belt drive when the center distance and sheave diameters are known:

$$L = 2C + 1.57\ (D + d) + \frac{(D - d)^2}{4C}$$

Flywheel Formulas

The weight of a cast iron rim (lbs.) = mean rim diameter (inches) × rim thickness (inches) × width of rim (inches) × .82.

The flywheel effect, commonly referred to as WR^2 or WK^2 can be figured for any rim in lb. ft.^{2}

WR^2 = Weight of rim (lbs.) × mean radius (feet)^2

$$T\ (in\ Inch\text{-}Pounds) = \frac{.039\ (N_2 - N_1)\ (WR^2)}{t}$$

V-Belt Drive Shaft Loads

To calculate the shaft loading resulting from the minimum belt tensions required to transmit a given torque:

$$Minimum\ Belt\ Pull\ (T_1 + T_2) = \left(\frac{2.5 - A_c}{A_c}\right) \times \left(\frac{33{,}000 \times Design\ HP}{FPM}\right)$$

The maximum belt pull will approximate 1.5 times the above value depending upon belt tensions.

Center Distance

To determine the actual center distance (C) on which a given V-belt drive will operate:

$$compute\ A = L - 1.57\ (D + d)$$

$$C = \frac{[A - h\ (D - d)]}{2}$$

The "h" factors are listed in the following table:

Center Distance Factor, "h"

$\frac{D-d}{A}$	h	$\frac{D-d}{A}$	h	$\frac{D-d}{A}$	h	$\frac{D-d}{A}$	h
0.00	0.00	0.16	0.08	0.30	0.16	0.43	0.24
0.02	0.01	0.18	0.09	0.32	0.17	0.44	0.25
0.04	0.02	0.20	0.10	0.34	0.18	0.46	0.26
0.06	0.03	0.21	0.11	0.35	0.19	0.47	0.27
0.08	0.04	0.23	0.12	0.37	0.20	0.48	0.28
0.10	0.05	0.25	0.13	0.39	0.21	0.50	0.29
0.12	0.06	0.27	0.14	0.40	0.22	0.51	0.30
0.14	0.07	0.29	0.15	0.41	0.23		