Lovejoy®
BY TIMKEN

Variable Speed Drives

IN THIS SECTION:

- Econoline Series
- Aluminoline Series
- WB Series
- Hexadrive Series
- Adjustable Motor Bases
- Companion Sheaves

Warnings

WARNING

Failure to observe the following warnings could cause the power transmission product to break and parts to be thrown with sufficient force to cause serious injury or death.

Selection. Do not exceed catalog ratings. Refer to the Lovejoy catalog for proper selection, sizing, horsepower, torque range, and speed range of these products.

Installation. Proper maintenance, handling, and shop practices are critical. Follow all installation instructions included with the product and provided by your equipment manufacturer, and all applicable federal, state, and local regulations concerning the safe operation and maintenance of manufacturing equipment.

Operation. Avoid sudden shock loads during start up and operation.

Do not operate a coupling assembly with improper alignment or bolt torque or with damaged or worn elastomeric elements. Inspect the assembly for these conditions shortly after initial operation and periodically thereafter.

The coupling assembly should operate quietly and smoothly. If the coupling assembly vibrates or makes a beating sound, shut down the equipment immediately and recheck the alignment.

Disclaimer

This catalog is provided solely to give you analysis tools and data to assist you in your product selection. Product performance is affected by many factors beyond the control of Lovejoy. Therefore, you must validate the suitability and feasibility of all product selections for your applications.

Lovejoy does not manufacture or sell power transmission products for elevators, man lifts, or other devices that carry people. We make no representation or warranty concerning such uses disclaim all liability for harm that might result from the use of our products in those applications.

Lovejoy products are sold subject to Lovejoy terms and conditions of sale (view at www.lovejoy-inc.com/resources), which include our limited warranty and remedy. Please consult with your Lovejoy engineer for more information and assistance.

Every reasonable effort has been made to ensure the accuracy of the information in this writing, but no liability is accepted for errors, omissions or for any other reason.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500 or email appleng@lovejoy-inc.com.

Table of Contents

Overview

Why Vary Speed?

Variable speed drives are needed because many applications are not run at the same speed all of the time, due to the surrounding conditions. Revolutions Per Minute (RPM) of the driven shaft need to be increased or decreased when there are changes in load conditions, application requirements, or other circumstances.

Variable speed belt drives achieve the versatility needed to maximize application efficiency and productivity while remaining an inexpensive solution. In the most typical installation, a belt connects a variable speed pulley to a driven sheave. The pulley is mounted on a motor shaft and the motor is at constant speed. Thus, the speed at the driven shaft is a ratio of the pitch diameters of the pulley and sheave.

Note: ■ For this catalog, Lovejoy terminology will refer to any variable pitch pulley as a "pulley" and to any non-variable pulley as a sheave, driven sheave, or companion sheave.

The RPM at the driven shaft is found by the following simple equation:

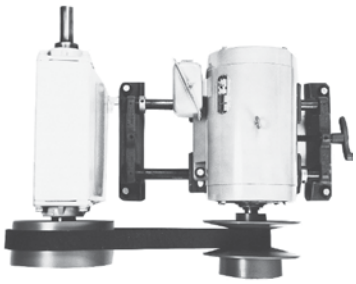
$N_D = N_d \times d/D$

Where N_D is the RPM at the driven shaft
N_d is the RPM of the driving shaft
d is the pitch diameter of the driver
D is the pitch diameter of the driven

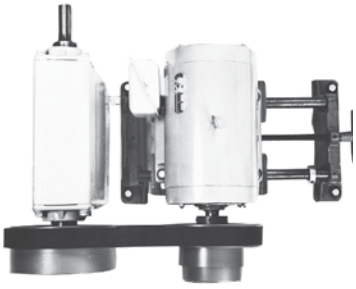
Since N_d is always a fixed RPM, it can then be seen that by changing the pitch diameter of either d or D, the driven RPM will change.

Common Drive Types

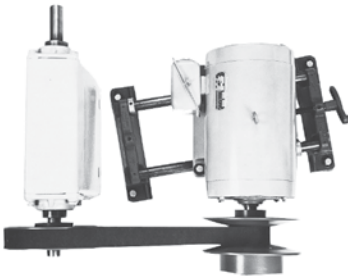
Adjustable Center V-V Drive



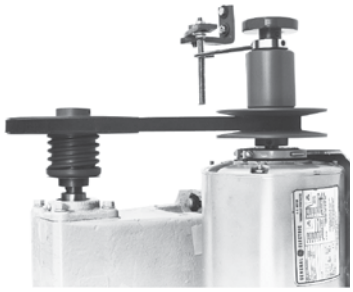
Adjustable Center V-Flat Drive Maximum Speed Position



Adjustable Center V-Flat Drive Minimum Speed Position



Adjustable Center Angle Mount Drive



Fixed Center Drive

Adjustable Center Drives

This type of belt drive consists of one pulley and one sheave. The pulley is spring-loaded and is usually mounted on the driver shaft. The driver is most often an electric motor which is mounted on an adjustable motor base that can be moved toward or away from the driven sheave. The springs in the pulley take up any slack in the belt when an adjustment is made.

Fixed Center Drives

This method of mounting requires no change in center distance between the driver and driven units. Because the shaft center-to-center distance does not change, this is called a fixed center drive. The usual arrangement has one pulley, the driver, which is mechanically adjustable.

⚠ WARNING

Failure to follow these cautions could create a risk of injury.

You must refer to page VSD-2 for Important Safety Instructions and Precautions for the selection and use of these products.
Failure to follow the instructions and precautions can result in severe injury or death.

Overview

Variable Speed Pulley Product Preview

Lovejoy offers variable speed belt drives from fractional through 30 horsepower. Each component is made with the quality and reliability that Lovejoy builds into all of its power transmission products.

Features

- Very economical and reliable method of speed change
- Allows the user to find the ideal speed without changing sheaves and belts.
- Can be used as a highly efficient belt tensioner, with no adjustment necessary
- Offers a form of "soft start," eliminating belt slip and premature wear on belt drives with inherent high torque start-up requirements

Econoline Series

The Econoline Pulley series provides reliable variable speed service with a proven design at an economical cost. Consisting of a wide selection of models, the Econoline series is ideal for both adjustable and fixed center drives using classic "A" and "B" (or 4L and 5L) section drive belts. This series also offers: driven speed ratios from 1.6 to 1 up to 2.7 to 1 and horsepower ranges from fractional through 5 HP @ 1,750 RPM motor speed.

Aluminoline Series

Aluminoline variable speed pulleys offer the best possible belt alignment with the least amount of overhung load. Used with "A" and "B" drive belts, these pulleys not only have anodized aluminum flanges which provide quiet operation with minimum vibration, but are rated for 1/3 through 1-1/2 HP motors. These two-side moveable pulleys offer greater speed ratios (up to 2.75 to 1).

WB Series

Pulleys in the WB series use wide variable speed belts for the most efficient transmission of torque through the widest possible speed range. This two-side moveable pulley series offers the best possible belt alignment when used with a grooved companion sheave.

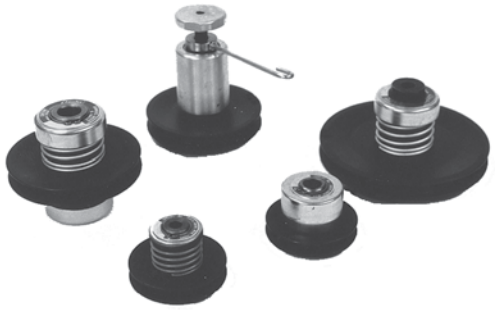
Hexadrive Series

Hexadrive pulleys are our most durable variable speed pulleys. The hexagon-shaped center shaft efficiently transmits torque through the six hex flats for top performance and long life. The surface of the shaft is covered with a resilient elastomer, which means there is no metal-to-metal contact on any sliding surface and lubrication is not necessary.

One-Side Moveable

1/3 Through 5 HP, "A" and "B" Belts

The Econoline Pulley series provides reliable variable speed service with a proven design at an economical cost. The wide selection of models feature compact size and reliability, which make them ideal for both adjustable and fixed center drives in all types of applications using classical "A" and "B" (or 4L and 5L) section drive belts.



Econoline Series

Features

- Driven speed ratio up to 7.6 to 1 (fixed center drive)
- Horsepower range from fractional through 5 HP @ 1,750 RPM motor speed
- Maximum bore capacity of 1-1/8 inches
- Flanges made of durable cast iron

Belt Selection

Econoline pulleys are designed specifically for "A" and "B" section drive belts, though they can also be used with "4L" and "5L" belts if necessary.

Adjustable Center Drives

An adjustable center drive using the Econoline variable speed driver pulley is an economical, efficient solution for many drive requirements. A wide range of sizes and horsepower ratings are available.

Standard "A" and "B" companion sheaves are recommended for use with Econoline adjustable center drives. Since Econoline pulleys have only one moveable flange and the companion sheaves are grooved, some misalignment of the belt can be expected and is acceptable for most drives.

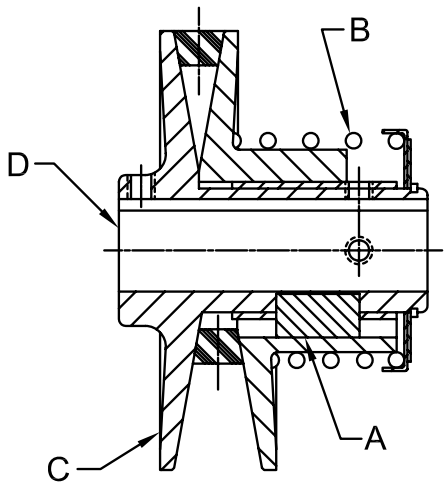
Fixed Center Drives

Econoline fixed center drives utilize the same type of spring-loaded pulley as an adjustable center drive, only it is normally mounted on the driven shaft. The driver pulley is of similar size and construction, but it is manually adjustable.

A fixed center drive consists of four component parts: the adjustable driver pulley, the spring-loaded driven pulley, the belt, and a Torque Arm Bracket (furnished by customer).

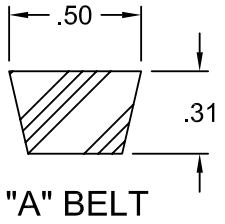
A variety of drive packages are available from the Econoline Series to suit your needs.

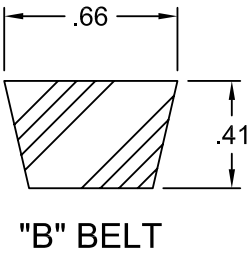
Econoline Series



Features

A Drive Key
B Spring
C Cast Iron Flanges
D Thru-bore and Keyway





Econoline Series - Inch Bore and Keyway UPC Number Selection Table

Model	Bore and Keyway					
	1/2	5/8	3/4	7/8	1	1 1/8
	No Keyway	3/16 x 3/32	3/16 x 3/32	3/16 x 3/32	1/4 x 1/8	1/4 x 1/8
3405	27809	27810	27811	N/A	N/A	N/A
3407	N/A	28713	27814	N/A	N/A	N/A
4005	27815	27816	27817	N/A	N/A	N/A
4007	27818	27819	27820	N/A	N/A	N/A
5010A	N/A	63771	N/A	N/A	N/A	N/A
5015A	N/A	42102	N/A	N/A	N/A	N/A
5010	N/A	63799	63789	63818	N/A	N/A
5015	N/A	63800	N/A	63764	N/A	N/A
6010	N/A	27832	27833	27834	27835	27836
6020	N/A	27837	27838	27839	27840	27841
6030	N/A	27842	27843	27844	27845	27846
7010	N/A	N/A	N/A	27850	27851	27852
7020	N/A	N/A	N/A	27855	27856	27857
7030	N/A	N/A	N/A	27860	27861	27862
7050	N/A	N/A	N/A	27865	27866	27867

Notes:
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.
- Consult Lovejoy customer service for availability of pulley/bore combinations not listed.

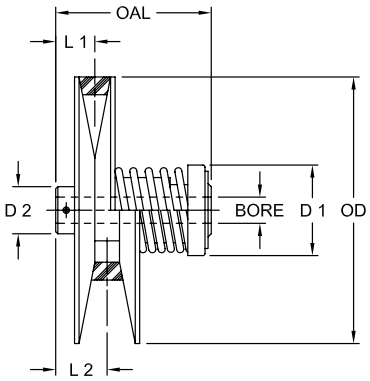
VSD

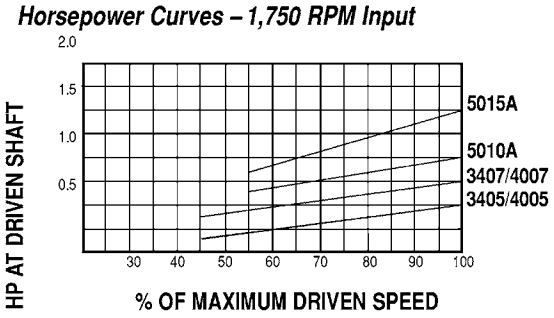
Econoline Spring – Pulley
Dimensional Data

Econoline Series

One-Side Moveable Adjustable Center Drives 1/3 through 1-1/2 HP "A" Belt

See pages VSD 34-36 for adjustable motor base selection.





Econoline Spring-Loaded Pulley Dimensional Data

Model	HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Ratio	PD Max in	PD Min in	Belt Type	OAL in	L1 in	L2 in	OD in	D1 in	D2 in	Total Travel in
3405	1/2	1/3	18	1.93:1	3.13	1.62	A	2.81	0.75	0.94	3.38	2.16	1.38	1.2
3407	3/4	1/2	27											
4005	1/2	1/3	18	2.31:1	3.75	1.62	A	2.81	0.75	0.94	4.00	2.16	1.38	1.6
4007	3/4	1/2	27											
5010A	1	3/4	36	1.81:1	4.75	2.62	A	3.50	0.75	0.92	5.00	2.50	1.50	1.6
5015A	1-1/2	1	54											

Econoline Adjustable Center Drives Sheave and Belt Selection Chart

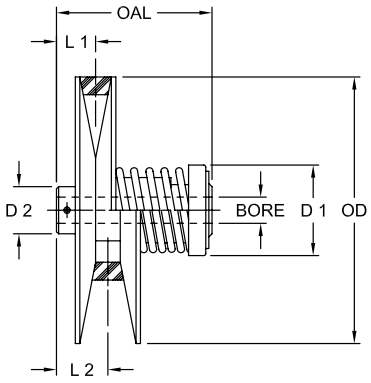
Driver Pulley	PD Driven Sheave	Driven Speed Range 1750 RPM Motor Max RPM	1750 RPM Motor Min RPM	1150 RPM Motor Max RPM	1150 RPM Motor Min RPM	"A" or "AX" Belt Type Minimum Center-to-Center Distance A26 in	A31 in	A33 in	A35 in	A38 in	A42 in	A46 in	A48 in	A51 in	A53 in	A55 in	A60 in	A62 in
3400 Series	4.0	1,370	710	900	465	8.0	10.5	11.5	12.5	14.0	16.0	18.0	19.0	20.5	21.5	22.5	25.0	26.0
	5.0	1,095	570	720	375	7.2	9.7	10.7	11.7	13.2	15.2	17.2	18.2	19.7	20.7	21.7	24.2	25.2
	6.0	910	475	600	310	6.3	8.9	9.9	10.9	12.4	14.4	16.4	17.4	18.9	19.9	20.9	23.4	24.4
	8.0	685	355	450	235	—	7.0	8.1	9.1	10.6	12.6	14.7	15.7	17.2	18.2	19.2	21.7	22.7
	10.0	545	280	360	190	—	—	—	7.2	8.7	10.8	12.8	13.9	15.4	16.4	17.4	20.0	21.0
	12.0	455	235	300	155	—	—	—	—	—	8.9	10.9	12.0	13.5	14.5	15.6	18.1	19.1
4000 Series	4.0	1,640	710	1,075	465	7.6	10.1	11.1	12.1	13.6	15.6	17.6	18.6	20.1	21.1	22.1	24.6	25.6
	5.0	1,310	570	860	375	6.7	9.3	10.3	11.3	12.8	14.8	16.8	17.8	19.3	20.3	21.3	23.8	24.8
	6.0	1,090	475	715	310	—	8.4	9.4	10.4	11.9	13.9	15.9	16.9	18.4	19.4	20.4	23.0	24.0
	8.0	820	355	540	235	—	6.6	7.7	8.7	10.2	12.2	14.2	15.2	16.7	17.8	18.8	21.3	22.3
	10.0	655	280	430	190	—	—	—	—	8.4	10.4	12.5	13.5	15.0	16.0	17.0	19.5	20.5
	12.0	545	235	360	155	—	—	—	—	—	8.5	10.6	11.6	13.1	14.2	15.2	17.7	18.7
5000A Series	4.0	2,075	1150	1,365	755	6.8	9.3	10.3	11.3	12.8	14.8	16.8	17.8	19.3	20.3	21.3	23.8	24.9
	5.0	1,660	920	1,090	605	6.0	8.5	9.5	10.5	12.0	14.0	16.0	17.0	18.5	19.5	20.5	23.0	24.0
	6.0	1,385	765	910	505	—	7.7	8.7	9.7	11.2	13.2	15.2	16.2	17.7	18.7	19.7	22.2	23.2
	8.0	1,040	575	680	380	—	—	—	8.0	9.5	11.5	13.5	14.5	16.0	17.0	18.0	20.6	21.6
	10.0	830	460	545	305	—	—	—	—	7.7	9.7	11.8	12.8	14.3	15.3	16.3	18.8	19.8
	12.0	690	385	455	255	—	—	—	—	—	—	9.9	11.0	12.5	13.5	14.5	17.1	18.1

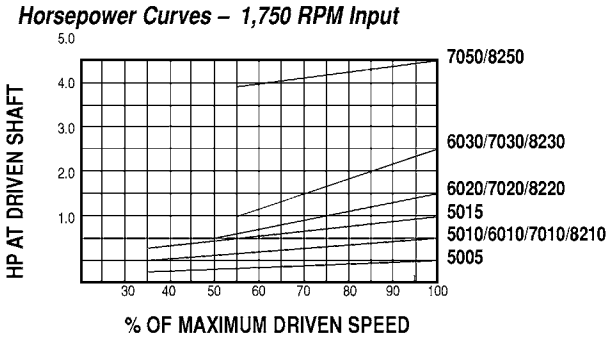
Econoline Spring – Pulley
Dimensional Data

Econoline Series

One-Side Moveable Adjustable Center Drives
1/2 through 5 HP "B" Belt

See pages VSD 62-64 for adjustable motor base selection.





Econoline Spring – Loaded Pulley Dimensional Data

Model	HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Ratio	PD Max in	PD Min in	Belt Type	OAL in	L1 in	L2 in	OD in	D1 in	D2 in	Total Travel in
5010	1	3/4	36	2.70:1	4.65	1.72	B	3.50	0.81	1.09	5.00	2.50	1.50	2.2
5015	1-1/2	1	54											
6010	1	3/4	36	2.10:1	5.65	2.69	B	4.13	0.95	1.19	6.00	3.13	1.88	2.2
6020	2	1-1/2	72											
6030	3	2	108											
7010	1	3/4	36	1.80:1	6.65	3.69	B	4.13	0.95	1.19	7.00	3.13	2.88	2.2
7020	2	1-1/2	72											
7030	3	2	108											
7050	5	3	180											

Econoline Adjustable Center Drives Sheave and Belt Selection Chart

Driver Pulley	PD Driven Sheave	Driven Speed Range 1750 RPM Motor Max RPM	1750 RPM Motor Min RPM	1150 RPM Motor Max RPM	1150 RPM Motor Min RPM	"B" or "BX" Belt Type Minimum Center-to-Center Distance B26 in	B31 in	B33 in	B35 in	B38 in	B42 in	B46 in	B48 in	B51 in	B53 in	B55 in	B60 in	B62 in
5000 Series	4.0	2,030	755*	1,330	495*	7.1	9.6	10.6	11.6	13.1	15.1	17.1	18.1	19.6	20.6	21.6	24.1	25.1
	5.0	1,625	605*	1,060	395*	6.3	8.8	9.8	10.8	12.3	14.3	16.3	17.3	18.8	19.8	20.8	23.3	24.3
	6.0	1,350	505*	885	330*	—	8.0	9.0	10.0	11.5	13.5	15.5	16.5	18.0	19.0	20.0	22.5	23.5
	8.0	1,015	380*	665	250*	—	—	7.3	8.3	9.8	11.8	13.8	14.9	16.4	17.4	18.4	20.9	21.9
	10.0	810	305*	530	200*	—	—	—	—	8.0	10.1	12.1	13.1	14.6	15.6	16.6	19.2	20.2
	12.0	675	255*	440	165*	—	—	—	—	—	—	10.3	11.3	12.8	13.8	14.8	17.4	18.4
6000 Series	5.0	1,975	945	1,300	620	—	8.0	9.0	10.0	11.5	13.5	15.5	16.5	18.0	19.0	20.0	22.5	23.5
	6.0	1,645	790	1,080	520	—	7.2	8.2	9.2	10.7	12.7	14.7	15.7	17.2	18.2	19.2	21.7	22.7
	8.0	1,230	590	810	390	—	—	—	7.6	9.1	11.1	13.1	14.1	15.6	16.6	17.6	20.1	21.1
	10.0	985	475	645	310	—	—	—	—	—	9.4	11.4	12.4	13.9	14.9	15.9	18.5	19.5
	12.0	820	395	540	260	—	—	—	—	—	—	9.6	10.6	12.2	13.2	14.2	16.7	17.7
7000 Series	6.0	1,930	1080	1,270	710	—	—	7.5	85.0	10.0	12.0	14.0	15.0	16.5	17.5	18.5	21.0	22.0
	7.0	1,660	925	1,090	610	—	—	—	7.7	9.2	11.2	13.2	14.2	15.7	16.7	17.7	20.2	21.2
	8.0	1,450	810	950	535	—	—	—	—	8.4	10.4	12.4	13.4	14.9	15.9	16.9	19.4	20.4
	10.0	1,160	650	760	425	—	—	—	—	—	—	10.7	11.7	13.2	14.2	15.2	17.7	18.7
	12.0	965	540	635	355	—	—	—	—	—	—	—	10.0	11.5	12.5	13.5	16.0	17.0

Note: ■ * indicates: Except on 7/8 and 1 inch bores.

Econoline Series

Fixed Center Drives
1/3 through 5 HP
"A" and "B" Belts

The Econoline fixed center drive uses a driver pulley that is manually adjustable. (Refer to the description of Econoline fixed center drives on page VSD-14). There are two types of controllable pulleys: the M type with a handwheel and built-in adjusting device, and the MLA type that uses an external control.

Econoline M Type

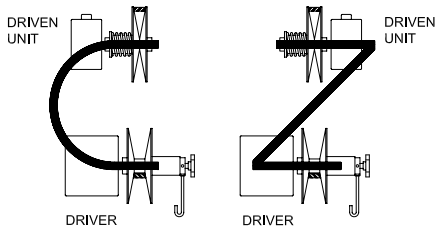
Econoline M Type Manual Pulleys - Inch Bore and Keyway UPC Number Selection Table

Model	Pd Max in	Pd Min in	HP Range[1]	Belt Type	Bore and Keyway 1/2 No Keyway	5/8 3/16 x 3/32	3/4 3/16 x 3/32	7/8 3/16 x 3/32	1 1/4 x 1/8	1-1/8 1/4 x 1/8
M-34	3.13	1.62	1/3-3/4	A	31582	31583	N/A	N/A	N/A	N/A
M-50	4.65	1.60	1/2-2	B	N/A	31587	31588	31589	N/A	N/A
M-60	5.65	2.34	1/2-3	B	N/A	N/A	31618	N/A	N/A	31621

Notes:
- 1 indicates: Horsepower and torque rating of each of these pulleys is dependent upon the driven spring-loaded pulley with which it is matched. Refer to Drive Selection chart on page VSD-19 for details.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

Econoline Series

Fixed Center Drives
1/3 through 5 HP
"A" and "B" Belts



Econoline M and MLA Drive Selection Table

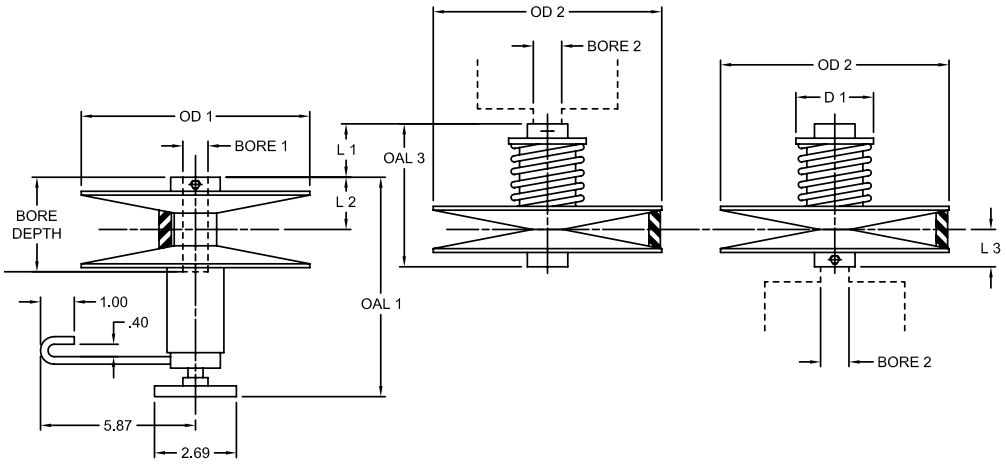
Pulley Model Combinations			Ratio	HP Ratings with 1750 RPM Motor		Driven Speed Ranges 1750 RPM Motor*		Max Torque Of Driven Pulley	Belt Type
	Driven Spring-Loaded								
Driver Manual	"Z"	"C"		Rating At 1750 To Max RPM of Driven Pulley HP	HP Rating At Min RPM of Driven Pulley HP	Min RPM	Max RPM	in-lb	
M34	3403	3403R	3.7:1	0.33	0.17	910	3380	12	A
	3405	3405R		0.50	0.25			18	
	3407	3407R		0.75	0.39			27	
M34	4005	4005R	3.0:1	0.50	0.22	760	2300	18	A
	4007	4007R		0.75	0.32			27	
M34	5005A	5005AR	2.6:1	0.50	0.17	600	1540	18	A
	5010A	5010AR		1.00	0.34			36	
	5015A	5015AR		1.50	0.51			54	
	4005	4005R	5.3:1	0.50	0.22	760	4050	18	A
	4007	4007R		0.75	0.32			27	
	5005A	5005AR	3.8:1	0.50	0.27	600	2280	18	A
	5010A	5010AR		1.00	0.55			36	
	5015A	5015AR		1.50	0.83			54	
M50	5005	5005R	7.6:1	0.50	0.17	610	4640	18	B
	5010	5010R		1.00	0.34			36	
	5015	5015R		1.50	0.52			51	
M50	6010	6010R	5.5:1	1.00	0.28	500	2760	36	B
	6020	6020R		2.00	0.57			72	
M50	7010	7010R	4.5:1	1.00	0.24	430	1940	36	B
	7020	7020R		2.00	0.48			72	
M60	5005	5005R	5.8:1	0.50	0.25	890	5190	18	B
	5010	5010R		1.00	0.50			36	
	5015	5015R		1.50	0.75			54	
M60	6010	6010R	4.8:1	1.00	0.41	730	3500	36	B
	6020	6020R		2.00	0.82			72	
	6030	6030R		3.00	1.23			108	
M60	7010	7010R	4.3:1	1.00	0.35	620	2660	36	B
	7020	7020R		2.00	0.70			72	
	7030	7030R		3.00	1.06			108	

Note: ■ * indicates: The driven speed ranges and resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distance, constant motor speed and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors. TO FIND THE DRIVEN SPEED RANGE WITH AN 1,150 RPM MOTOR, MULTIPLY BY 0.666.

VSD

Econoline Series

Fixed Center Drives
1/3 through 5 HP
"A" and "B" Belts



"M" Driver Pulley With Handwheel Control

C–Mount Driven Pulley (R)

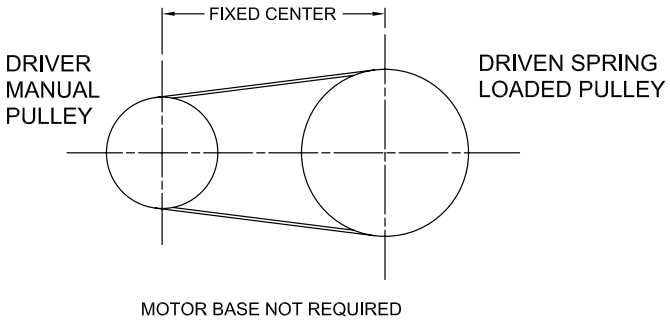
Z–Mount Driven Pulley

Econoline Fixed Center Dimensional Data

Model			Belt	Bore										OD1	OAL1	L2	Bore	OD2	OAL3	L3	D1	L1	OAL2	L	D
Driver	Driven Pulley		Size	Manual Bore1					Spring-Loaded Bore2								Depth								
Pulley	"C"	"Z"		in					in					in	in	in	in	in	in	in	in	in	in	in	in
M34	3400-R	3400	A	—	5/8	—	—	—	1/2	5/8	3/4	—	—	3.38	5.38	0.94	1.69	3.38	2.81	0.75	2.16	1.12	4.28	3.94	2.25
	4000-R	4000	A	—	5/8	—	—	—	1/2	5/8	3/4	—	—	3.38	5.38	0.94	1.69	4.00	2.81	0.75	2.16	1.12	4.28	3.94	2.25
	5000A-R	5000A	A	—	5/8	—	—	—	1/2	5/8	3/4	7/8	—	3.38	5.38	0.94	1.69	5.00	3.50	0.75	2.50	1.81	4.28	3.94	2.25
M50	5000-R	5000	B	—	5/8	3/4	7/8	—	1/2	5/8	3/4	7/8	—	5.00	5.69	1.06	2.00	5.00	3.50	0.81	2.50	1.62	4.62	4.12	2.25
	7000-R	7000	B	—	5/8	3/4	7/8	—	5/8	3/4	7/8	1	1-1/8	5.00	5.69	1.06	2.00	7.00	4.12	0.95	3.00	2.12	4.62	4.12	2.25
M60	5000-R	5000	B	5/8	3/4	7/8	1	1-1/8	1/2	5/8	3/4	7/8	—	6.00	6.69	1.23	2.75	5.00	3.50	0.81	2.50	1.46	5.50	5.00	2.75

VSD

Econoline Series



Center-To-Center Distance

Econoline Fixed Center Drives Belt Selection Table

Driver Pulley	Driven Pulley	Belt Size	Belt Size² Center-to-Center Distance												
			26	31	33	35	38	42	46	48	51	53	56	60	62
			in	in	in	in	in	in	in	in	in	in	in	in	in
M34	3400	A	9.9	12.4	13.4	14.4	15.9	17.9	19.9	20.9	22.4	23.4	24.4	26.9	27.9
	4000	A	9.3	11.9	12.9	13.9	15.4	17.4	19.4	20.4	21.9	22.9	23.9	26.4	27.4
	5000A	A	8.5	11.0	12.0	13.0	14.5	16.5	18.5	19.5	21.1	22.1	23.1	25.6	26.6
M50	5000	B	8.8	11.3	12.4	13.4	14.9	16.9	18.9	19.9	21.4	22.4	23.4	25.9	26.9
	6000	B	7.9	10.5	11.5	12.5	14.0	16.0	18.0	19.0	20.6	21.6	22.6	25.1	26.1
	7000	B	7.0	9.5	10.6	11.6	13.1	15.1	17.2	18.2	19.7	20.7	21.7	24.2	25.2
M60	5000	B	8.3	10.8	11.8	12.8	14.3	16.3	18.4	19.4	20.9	21.9	22.9	25.4	26.4
	6000	B	7.4	10.0	11.0	12.0	13.5	15.5	17.5	18.5	20.0	21.0	22.0	24.5	25.5
	7000	B	—	9.1	10.1	11.1	12.6	14.6	16.6	17.7	19.2	20.2	21.2	23.7	24.7

Notes:
- 2 indicates: "Belt Size" is NOT the same as belt pitch length, but refers to the Industry Standard length designation. For example, the M50/6000 drive package with a center distance of 12.5 inches would use a B35 belt.
- Center distances are based on installation with the belt in the Minimum PD position of the driver pulley and at the Maximum PD of the *driven* pulley.

VSD

Aluminoline Series

Two-Side Moveable
1/3 through 1-1/2 HP
"A" and "B" Belts

Aluminoline variable speed pulleys are designed for the best possible belt alignment with the least amount of overhung load. Flanges are made of a lightweight, corrosion-resistant aluminum, which is hard-coat anodized for long life. The aluminum flanges provide quiet operation with minimum vibration. These pulleys are used with classical "A" and "B" drive belts.

Aluminoline pulleys offer maximum service when lubricated through a convenient grease fitting located on the end of the pulley shaft.

Aluminoline Series Pulley

Features

- Ratings for 1/3 through 1-1/2 HP motors
- Unique "intermeshing" flange design
- Greater speed ratios (up to 2.75 to 1) with a narrow-belt adjustable center drive than any other pulley

Typical "V-V" Adjustable Center Drive

Belt Selection

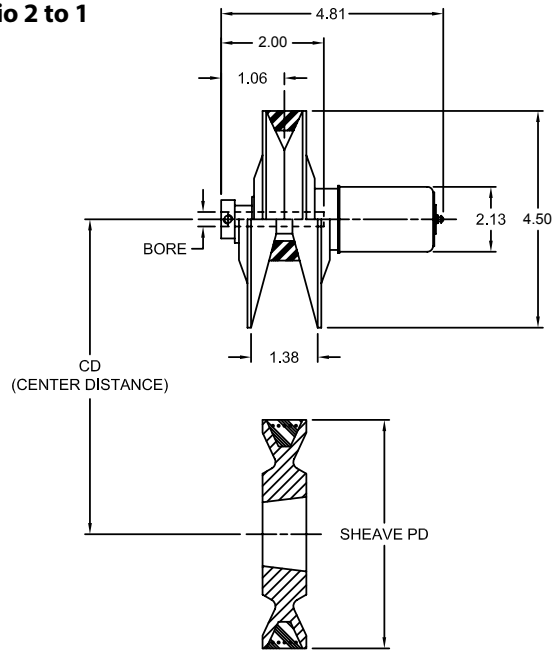
Aluminoline variable speed pulleys are designed to drive standard "A" and "B" section belts. Due to the intermeshing flange design, it is best to use a wrapped belt or one without cogs.

Adjustable Center Drives

The typical adjustable center drive consists of the Aluminoline pulley mounted on the motor shaft, a companion sheave on the driven shaft, an adjustable motor base and a belt. Standard "A" and "B" fixed diameter sheaves should be used as driven companion sheaves. Belt alignment will be maintained throughout the speed range because the Aluminoline pulleys are two-side moveable. Due to the minimal bottom contact area of "A" and "B" belts, flat driven sheaves are NOT recommended.

Aluminoline Series

Two-Side Moveable Adjustable Center Drives
1/2 HP
"A" Belt
Ratio 2 to 1

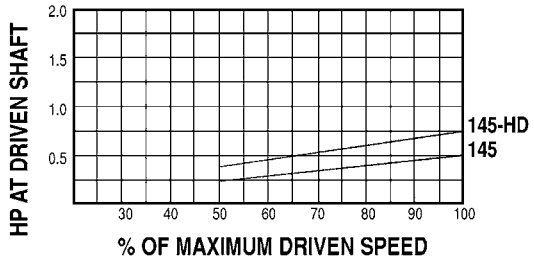


Model 145 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18523	1/2	2.10	4.25	18	1/2	1/3
18525	5/8					
18526	3/4					

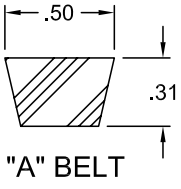
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown in the tables.

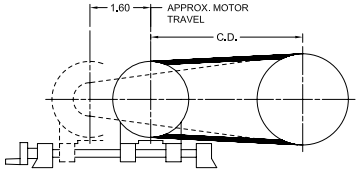
Horsepower Curves – 1,750 RPM Input



145 Driven Sheave Selection Table

PD Driven Sheave in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 145 in-lb
4.0	920	1,855	605	1,220	17
5.0	735	1,485	485	975	21
6.0	615	1,235	405	810	25
8.0	460	925	305	610	34
10.0	370	740	245	485	42
12.0	310	615	205	405	50





NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 135,
	200
	SMB - 143
56, 143T	SMB - 143
	145 / 60

145 Belt Selection Chart

PD Driven Sheave in	Minimum Center Distance by Selected Sheave Size "A" Belt Size[1] A26 (27.3) in	A31 (32.3) in	A33 (34.3) in	A35 (36.3) in	A38 (39.3) in	A42 (43.3) in	A46 (47.3) in	A48 (49.3) in	A51 (52.3) in	A53 (54.3) in	A55 (56.3) in	A60 (61.3) in	A62 (63.3) in
4.0	7.2	9.7	10.7	11.7	13.2	15.2	17.2	18.2	19.7	20.7	21.7	24.2	25.2
5.0	6.4	8.9	9.9	10.9	12.4	14.4	16.4	17.4	18.9	19.9	20.9	23.4	24.4
6.0	—	8.1	9.1	10.1	11.6	13.6	15.6	16.6	18.1	19.1	20.1	22.6	23.6
8.0	—	—	7.3	8.3	9.8	11.9	13.9	14.9	16.4	17.4	18.4	20.9	21.9
10.0	—	—	—	—	8.0	10.1	12.1	13.1	14.6	15.7	16.7	19.2	20.2
12.0	—	—	—	—	—	—	10.3	11.3	12.8	13.8	14.9	17.4	18.4

Note: ■ 1 indicates: These are nominal belt sizes. The number in parentheses is the actual pitch length.

VSD

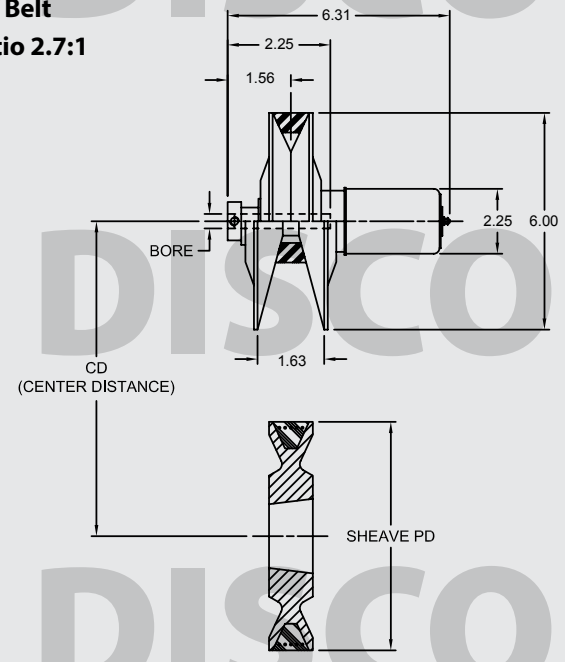
Aluminoline Models 160 (Discontinued)

Item Selection

PLEASE NOTE: The Aluminoline Models 160 are discontinued. Contact Lovejoy Application Engineering for substitution options. This page is for informational purposes only.

Aluminoline Series

Two-Side Moveable Adjustable Center Drives
3/4 HP
"A" Belt
Ratio 2.7:1

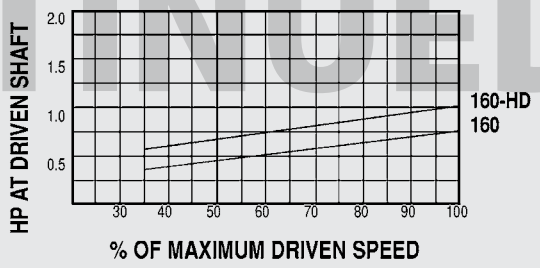


Model 160 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18572	1/2	2.10	5.75	27	3/4	1/2
18573	5/8					
18574	3/4					

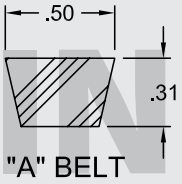
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown in the tables.

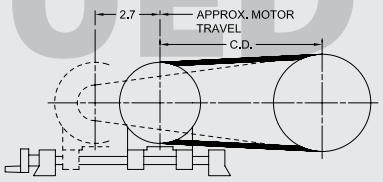
Horsepower Curves – 1,750 RPM Input



160 Driven Sheave Selection Table

PD Driven Sheave in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 160 in-lb
4.0	920	2,515	605	1,650	19
5.0	735	2,010	485	1,320	24
6.0	615	1,675	405	1,100	28
8.0	460	1,255	305	825	38
10.0	370	1,005	245	660	47
12.0	310	835	205	550	56





NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 135, 200
	SMB - 143
56, 143T	SMB - 143
	145 / 60

160 Belt Selection Chart

PD Driven Sheave in	Minimum Center Distance by Selected Sheave Size "A" Belt Size[1] A26 (27.3) in	A31 (32.3) in	A33 (34.3) in	A35 (36.3) in	A38 (39.3) in	A42 (43.3) in	A46 (47.3) in	A48 (49.3) in	A51 (52.3) in	A53 (54.3) in	A55 (56.3) in	A60 (61.3) in	A62 (63.3) in
4.0	5.9	8.4	9.4	10.5	12.0	14.0	16.0	17.0	18.5	19.5	20.5	23.0	24.0
5.0	—	7.7	8.7	9.7	11.2	13.2	15.2	16.2	17.7	18.7	19.7	22.2	23.2
6.0	—	—	7.9	8.9	10.4	12.4	14.4	15.4	16.9	17.9	18.9	21.4	22.4
8.0	—	—	—	—	8.8	10.8	12.8	13.8	15.3	16.3	17.3	19.8	20.8
10.0	—	—	—	—	—	9.1	11.1	12.1	13.6	14.6	15.6	18.1	19.1
12.0	—	—	—	—	—	—	—	10.3	11.8	12.8	13.9	16.4	17.4

Note: ■ 1 indicates: These are nominal belt sizes. The number in parentheses is the actual pitch length.

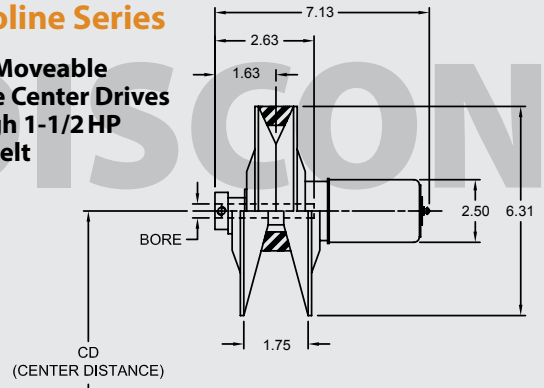
Aluminoline Models 170, 175 and 180 (Discontinued)

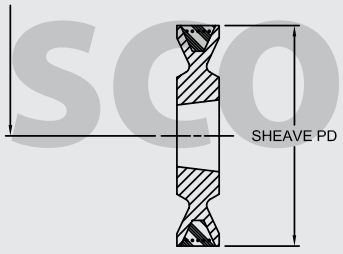
Item Selection

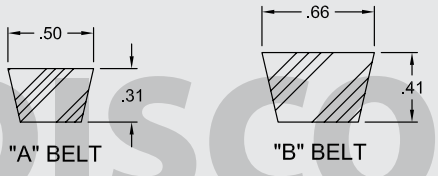
PLEASE NOTE: The Aluminoline Models 170, 175 and 180 are discontinued. Contact Lovejoy Application Engineering for substitution options. This page is for informational purposes only.

Aluminoline Series

Two-Side Moveable Adjustable Center Drives
1/2 through 1-1/2 HP
"A" & "B" Belt
Ratio 2.7:1







Model 170 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Belt Series	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18617	5/8	2.24	6.06	A	27	3/4	1/2
18618	3/4	2.24	6.06	A			
18619	7/8	2.34	5.96	B			

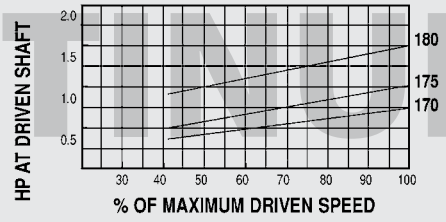
Model 175 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Belt Series	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18645	5/8	2.24	6.06	A	36	1	3/4
18646	3/4	2.24	6.06	A			
18647	7/8	2.34	5.96	B			

Model 180 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Belt Series	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18675	5/8	2.24	6.06	A	54	1-1/2	1
18676	3/4	2.24	6.06	A			
18677	7/8	2.34	5.96	B			

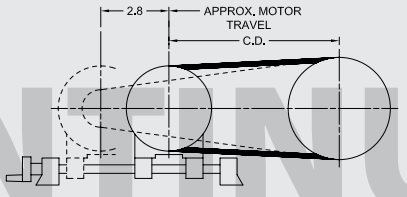
Horsepower Curves – 1,750 RPM Input



170 / 175 / 180 Driven Sheave Selection Table

PD Driven Sheave in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 170 in-lb	175 in-lb	180 in-lb
4.0	1,025	2,605	675	1710	19	24	35
5.0	820	2,085	535	1370	24	30	45
6.0	685	1,735	450	1140	28	36	54
8.0	515	1,300	340	855	38	48	72
10.0	410	1,040	270	685	48	60	90
12.0	345	865	225	570	56	75	112

Note: ■ Using an "A" section belt with the 170 / 175 / 180 series will actually increase the driven speed range. The maximum driven speed will be slightly higher and the minimum speed will be slightly lower.



NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 135,
	200
143T	SMB - 143
	145 / 60
145T	SMB - 184
	301

170 / 175 / 180 Belt Selection

PD Driven Sheave in	Minimum Center Distance by Selected Sheave Size "B" Belt Size[1] B31 (32.8) in	B33 (34.8) in	B35 (36.8) in	B38 (39.8) in	B42 (43.8) in	B46 (47.8) in	B48 (49.8) in	B51 (52.8) in	B53 (54.8) in	B55 (56.8) in	B60 (61.8) in	B62 (63.8) in
4.0	8.5	9.5	10.5	12.0	14.0	16.0	17.0	18.5	19.5	20.5	23.0	24.0
5.0	—	8.8	9.8	11.3	13.3	15.3	16.3	17.8	18.8	19.8	22.3	23.3
6.0	—	—	9.0	10.5	12.5	14.5	15.5	17.0	18.0	19.0	21.5	22.5
8.0	—	—	—	8.9	10.9	12.9	13.9	15.4	16.4	17.4	19.9	20.9
10.0	—	—	—	—	9.2	11.2	12.2	13.7	14.7	15.7	18.2	19.2
12.0	—	—	—	—	—	—	10.4	11.9	13.0	14.0	16.5	17.5

Note: ■ 1 indicates: These are nominal belt sizes. The number in parentheses is the actual pitch length.

Wide Variable Speed Belts

1/3 through 15 HP

Pulleys in the WB series use wide variable speed belts for the most efficient transmission of torque through the widest possible speed range. These pulleys are two-side moveable for the best possible belt alignment when used with a grooved companion sheave. However, the location of the belt centerline close to the bore end of the pulley reduces the overhung load on motor bearings and seals. Precision-calibrated springs maintain correct pressure, keeping the belt properly tensioned and minimizing belt slip.

WB pulleys can be used on both adjustable and fixed center drives. They offer maximum service when lubricated through a convenient grease fitting and occasionally run through the speed range.

Features

- Sizes range from 6 to 13 inches in diameter
- Ratings to 15 HP
- Made of durable cast iron flanges (if greater than 1 HP)
- Lightweight, corrosion-resistant anodized aluminum flanges on Models 245 and 260
- Precision balanced for smooth operation

Belt Selection

WB pulleys offer optimum speed ratios because they are used with wide variable speed belts. Pulley flanges are designed to match standard belt angle and width, so each pulley model must be matched to the correct belt to insure full speed range and maximum torque capacity.

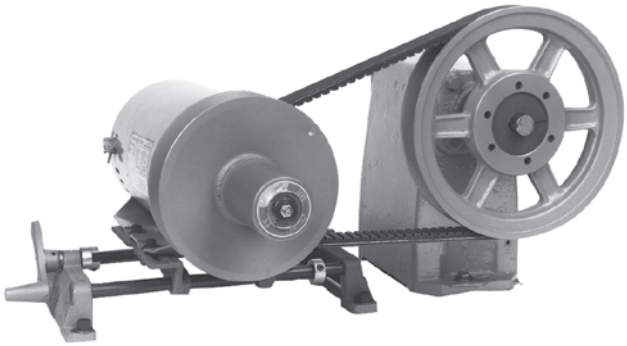
Adjustable Center Drives

The typical adjustable center drive consists of: the WB pulley mounted on the motor shaft; a grooved companion sheave mounted with a bushing on the driven shaft; an adjustable motor base; and a variable speed belt. A wide range of pulley sizes and horsepower ratings are available from the WB series to fit the system requirements, and Lovejoy offers the correct drive belt, companion sheave, bushing, and motor base to complete the package.

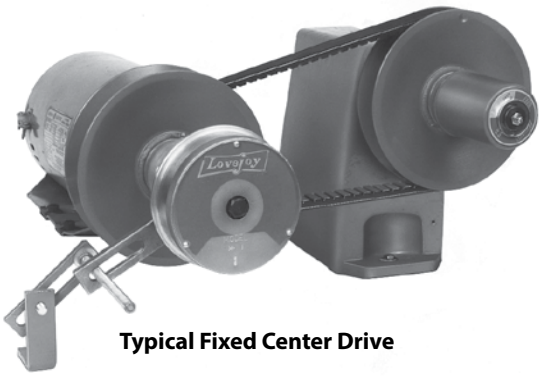
Fixed Center Drives

Fixed center, or compound, drives offer greater driven speed ranges in a compact space. A fixed center drive consisting of a WB spring-loaded pulley and an adjustable pulley to match offers the best possible package for "C" mount configurations where zero offset is critical. Zero offset means that the driver and driven units are in line with one another, and the driven pulley is mounted in such a way that the belt rides as close as possible to the driven unit. This reduces overhung load and provides a smoother running drive. Three WB fixed center drive packages are available, from 1/3 through 3 HP.

WB Series Pulley



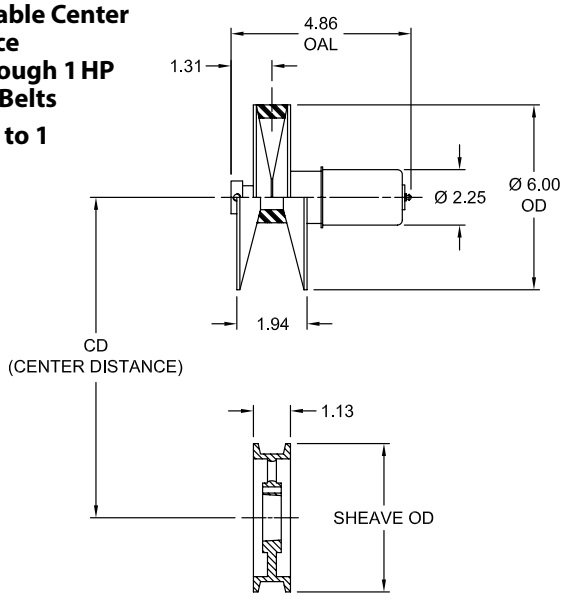
Typical Adjustable Center Drive



Typical Fixed Center Drive

WB Series

Two-Side Moveable Adjustable Center Distance
1/3 through 1 HP
1422V Belts
Ratio 3 to 1



Model 245 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18698	1/2	1.90	5.80	18	1/2	1/3
18700	5/8					
18702	3/4					

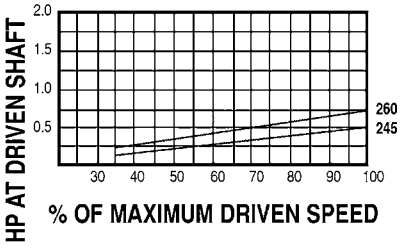
Model 260 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18721	1/2	1.90	5.80	27	3/4	1/2
18724	5/8					
18726	3/4					

245 / 260 Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque	
UPC Number	Model	PD in	OD in	1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	245 in-lb	260 in-lb
19493	1422G5.5SH	5.3	5.5	630	1,915	415	1,255	16	25
19495	1422G6SH	5.8	6.0	575	1,750	380	1,150	18	27
19497	1422G7SH	6.8	7.0	490	1,490	325	980	21	32
19499	1422G8SH	7.8	8.0	430	1,300	280	855	24	36
19503	1422G10SH	9.8	10.0	340	1,035	225	680	30	46

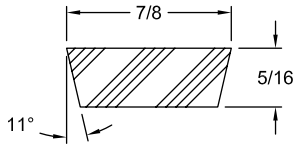
Horsepower Curves – 1,750 RPM Input



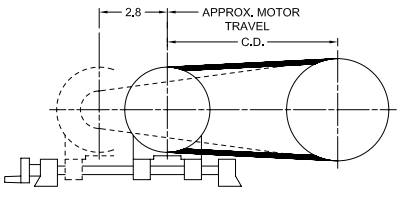
245 / 260 Belt Selection Table

Belt Size	Center Distance by Selected Sheave Size 1422G-5.5SH in	1422G-6SH in	1422G-7SH in	1422G-8SH in	1422G-10SH in
1422V300	6.3	—	—	—	—
1422V340	8.3	7.9	7.1	—	—
1422V360	9.3	8.9	8.1	7.3	—
1422V400	11.3	10.9	10.1	9.3	—
1422V420	12.3	11.9	11.1	10.3	8.6
1422V460	14.3	13.9	13.1	12.3	10.6
1422V480	15.3	14.9	14.1	13.3	11.6
1422V540	18.3	17.9	17.1	16.3	14.6
1422V600	21.3	20.9	20.1	19.3	17.6
1422V660	24.3	23.9	23.1	22.3	20.6
1422V720	27.3	26.9	26.1	25.3	23.6
1422V780	30.3	29.9	29.1	28.3	26.6

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



1422V BELT



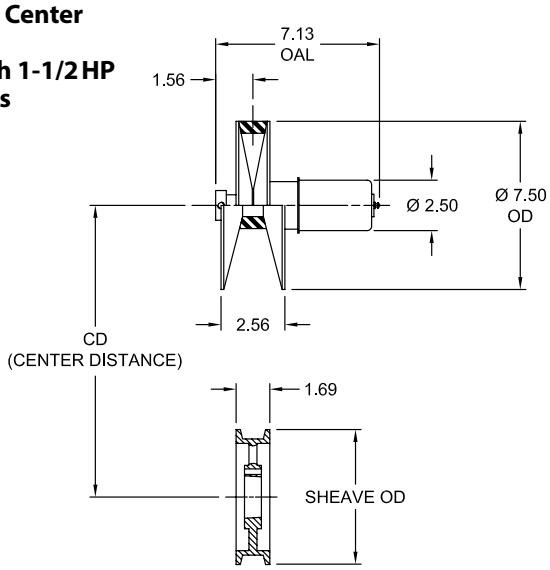
NEMA Motor Frame	Recommended Motor Bases
143T, 145T 185T, 184T	301 or SMB - 184

VSD

WB Series

Two-Side Moveable Adjustable Center Distance
3/4 through 1-1/2 HP
1922V Belts

Ratio 3 to 1



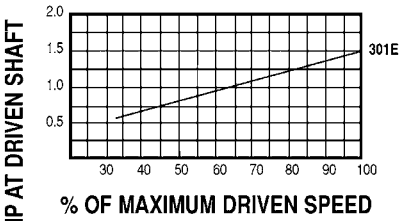
Model 301E Spring-Loaded Driver Pulley

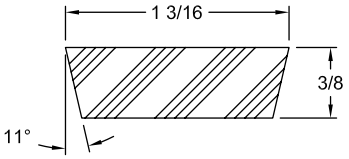
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18761	5/8	2.42	7.28	54	1 to 1-1/2	3/4 to 1
18763	3/4					
18764	7/8					

301E Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque
				1750 RPM Motor		1150 RPM Motor		
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	301E in-lb
19520	1922G7SK	6.78	7.0	625	1,875	410	1,230	50
19522	1922G8SK	7.78	8.0	545	1,635	360	1,075	58
19523	1922G9SK	8.78	9.0	485	1,450	320	950	65
19524	1922G10SK	9.78	10.0	435	1,300	285	855	73
19528	1922G12SK	11.78	12.0	360	1,080	240	710	87
19529	1922G14SK	13.78	14.0	310	920	205	605	102
19531	1922G16SK	15.78	16.0	270	805	180	530	117

Horsepower Curves – 1,750 RPM Input



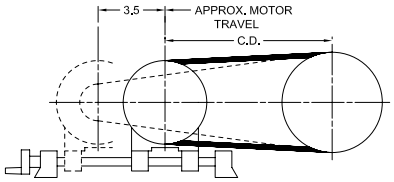


1922V BELT

301E Belt Selection Table

Belt Size	Center Distance by Selected Sheave Size						
	1922G-7SK in	1922G-8SK in	1922G-9SK in	1922G-10SK in	1922G-12SK in	1922G-14SK in	1922G-16SK in
1922V403	9.1	8.3	—	—	—	—	—
1922V443	11.1	10.3	9.5	—	—	—	—
1922V484	13.2	12.4	11.6	10.7	—	—	—
1922V526	15.3	14.5	13.7	12.8	11.1	—	—
1922V544	16.2	15.4	14.6	13.7	12.0	—	—
1922V604	19.2	18.4	17.6	16.7	15.1	13.3	—
1922V646	21.3	20.5	19.7	18.9	17.2	15.4	13.6
1922V666	22.3	21.5	20.7	19.9	18.2	16.4	14.6
1922V686	23.3	22.5	21.7	20.9	19.2	17.5	15.7
1922V706	24.3	23.5	22.7	21.9	20.2	18.5	16.7
1922V726	25.3	24.5	23.7	22.9	21.2	19.5	17.7
1922V806	29.3	28.5	27.7	26.9	25.2	23.5	21.7
1922V966	37.3	36.5	35.7	34.9	33.2	31.5	29.8

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 200, 135 SMB - 143
56, 143T	SMB - 143 145 / 60

VSD

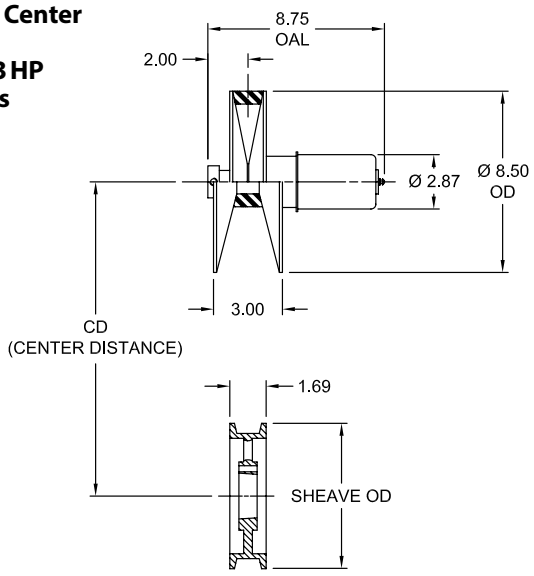
WB Models 3030E

Item Selection

WB Series

Two-Side Moveable Adjustable Center Distance
2 through 3 HP
2322V Belts

Ratio 3 to 1



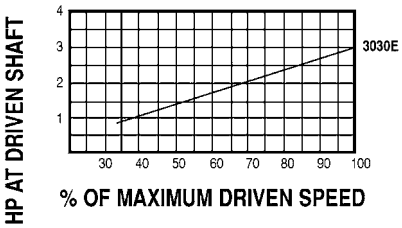
Model 3030E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18937	7/8	2.70	8.25	108	3	2
18940	1-1/8					

3030E Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque
				1750 RPM Motor		1150 RPM Motor		3030E
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb
19538	2322G7SK	6.75		700	2,135	460	1,405	88
19540	2322G8SK	7.75	8.0	610	1,860	405	1,220	101
15944	2322G9SK	8.75	9.0	540	1,650	355	1,080	115
19546	2322G10SK	9.75	10.0	485	1,480	320	970	128

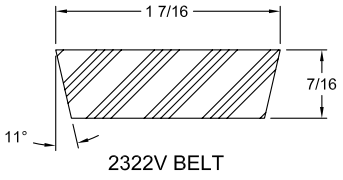
Horsepower Curves – 1,750 RPM Input

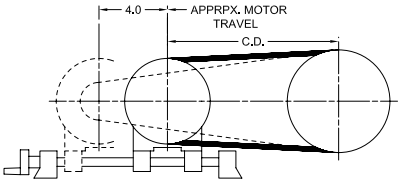


301E Belt Selection Table

Belt Size	Center Distance by Selected Sheave Size						
	2322G-7SK in	2322G-8SK in	2322G-9SK in	2322G-10SK in	2322G-12SK in	2322G-14SK in	2322G-16SK in
2322V481	12.2	11.5	10.7	9.9	—	—	—
2322V521	14.2	13.5	12.7	11.9	—	—	—
2322V541	15.2	14.5	13.7	12.9	11.2	—	—
2322V601	18.2	17.5	16.7	15.9	14.2	12.5	—
2322V621	19.3	18.5	17.7	16.9	15.2	13.5	—
2322V661	21.3	20.5	19.7	18.9	17.2	15.5	13.8
2322V681	22.3	21.5	20.7	19.9	18.3	16.5	14.8
2322V701	23.3	22.5	21.7	20.9	19.3	17.6	15.8
2322V721	24.3	23.5	22.7	21.9	20.3	18.6	16.8
2322V801	28.3	27.5	26.7	25.9	24.3	22.6	20.8
2322V826	29.5	28.7	28.0	27.1	25.5	23.8	22.1
2322V886	32.5	31.7	31.0	30.2	28.5	26.8	25.1
2322V1001	38.3	37.5	36.7	35.9	34.3	32.6	30.9
2322V1271	51.8	51.0	50.2	49.4	47.8	46.2	44.5

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.





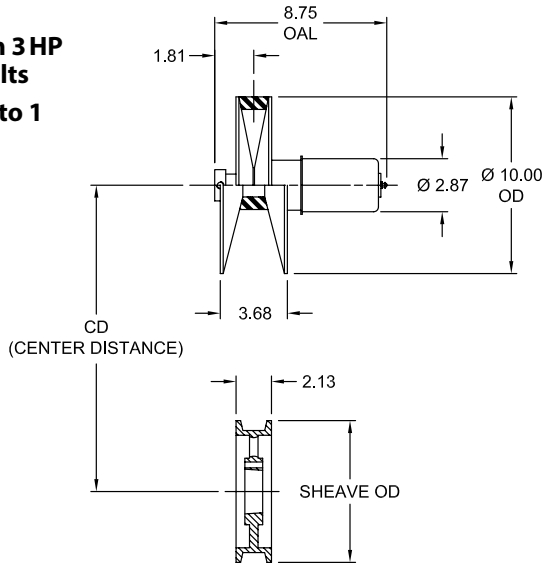
NEMA Motor Frame	Recommended Motor Bases
143T, 145T	SMB - 184 or 302-3
182T, 184T	

VSD

WB Series

Two-Side Moveable Adjustable Center Distance
2 through 3 HP
2926V Belts

Ratio 3.4 to 1



Model 303E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18814	7/8	2.80	9.70	108	3	2
18819	1-1/8					

303E Driven Sheave Selection Table

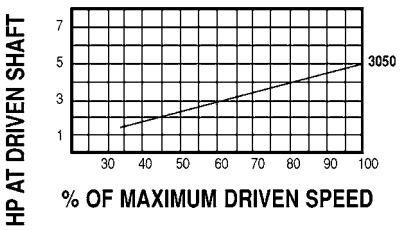
Grooved Driven Sheave				Driven Speed Range				Driven Torque
				1750 RPM Motor		1150 RPM Motor		303E
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb
19561	2926G8SK	7.7	8.0	640	2,200	420	1,445	86
19563	2926G9SK	8.7	9.0	565	1,950	370	1,280	97
19565	2926G10SK	9.7	10.0	505	1,750	335	1,150	108
19567	2926G12SK	11.7	12.0	420	1,450	280	950	130
19569	2926G14SK	13.7	14.0	360	1,235	235	810	153
19572	2926G16SK	15.7	16.0	315	1,080	205	710	175
19575	2926G18SK	17.7	18.0	280	955	185	630	197

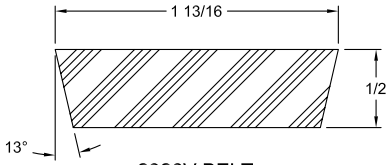
303E Belt Selection Table

Belt Size	Center Distance by Selected Sheave Size						
	2926G-7SK in	2926G-8SK in	2926G-9SK in	2926G-10SK in	2926G-12SK in	2926G-14SK in	2926G-16SK in
2926V486	10.6	9.8	—	—	—	—	—
2926V546	13.6	12.8	12.1	—	—	—	—
2926V606	16.6	15.8	15.1	13.5	—	—	—
2926V646	18.6	17.8	17.1	15.5	13.8	—	—
2926V666	19.6	18.8	18.1	16.5	14.8	13.1	—
2926V686	20.6	19.8	19.1	17.5	15.8	14.1	—
2926V726	22.6	21.8	21.1	19.5	17.8	16.1	14.3
2926V786	25.6	24.8	24.1	22.5	20.8	19.1	17.4
2926V856	29.1	28.3	27.6	26.0	24.3	22.6	20.9
2926V906	31.6	30.8	30.1	28.5	26.8	25.2	23.4
2926V966	34.6	33.8	33.1	31.5	29.8	28.2	26.4
2926V1086	40.6	39.8	39.1	37.5	35.8	34.2	32.5
2926V1146	43.6	42.8	42.1	40.5	38.9	37.2	35.5

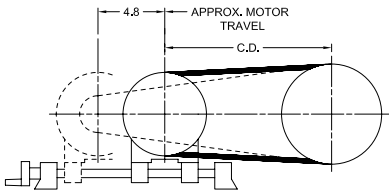
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Horsepower Curves – 1,750 RPM Input





2926V BELT

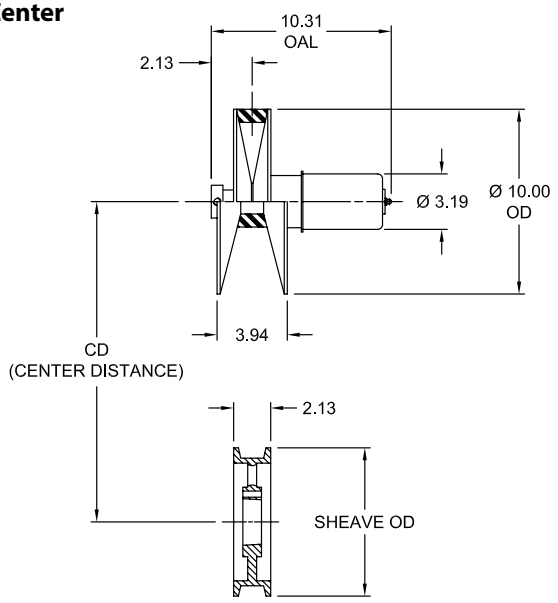


NEMA Motor Frame	Recommended Motor Bases
143T, 145T	302-3 or
185T, 184T	SMB - 184

VSD

WB Series

Two-Side Moveable Adjustable Center Distance
5 HP
2926V Belts
Ratio 3 to 1



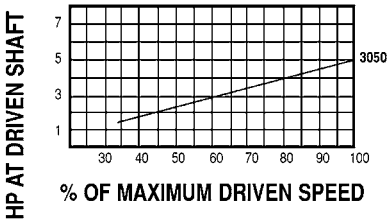
Model 3050E Spring-Loaded Driver Pulley

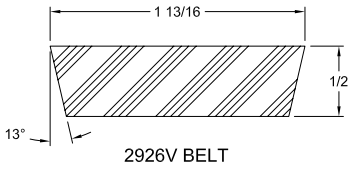
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18988	1-1/8	3.20	9.70	180	5	3
18990	1-3/8					

3050E Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque
				1750 RPM Motor		1150 RPM Motor		3050E
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb
19561	2926G8SK	7.7	8.0	730	2,200	480	1,445	143
19563	2926G9SK	8.7	9.0	645	1,950	425	1,280	161
19565	2926G10SK	9.7	10.0	580	1,750	380	1,150	180
19567	2926G12SK	11.7	12.0	480	1,450	315	950	217
19569	2926G14SK	13.7	14.0	410	1,235	270	810	254
19572	2926G16SK	15.7	16.0	360	1,080	235	710	291

Horsepower Curves – 1,750 RPM Input

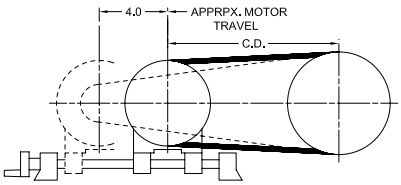




3050E Belt Selection Table

Belt Size	Center Distance by Selected Sheave Size						
	2926G-8SK in	2926G-9SK in	2926G-10SK in	2926G-12SK in	2926G-14SK in	2926G-16SK in	2926G-18SK in
2926V486	10.6	9.8	—	—	—	—	—
2926V546	13.6	12.8	12.1	—	—	—	—
2926V606	16.6	15.8	15.1	13.5	—	—	—
2926V646	18.6	17.8	17.1	15.5	13.8	—	—
2926V666	19.6	18.8	18.1	16.5	14.8	13.1	—
2926V686	20.6	19.8	19.1	17.5	15.8	14.1	—
2926V726	22.6	21.8	21.1	19.5	17.8	16.1	14.3
2926V786	25.6	24.8	24.1	22.5	20.8	19.1	17.4
2926V856	29.1	28.3	27.6	26.0	24.3	22.6	20.9
2926V906	31.6	30.8	30.1	28.5	26.8	25.2	23.4
2926V966	34.6	33.8	33.1	31.5	29.8	28.2	26.4
2926V1086	40.6	39.8	39.1	37.5	35.8	34.2	32.5
2926V1146	43.6	42.8	42.1	40.5	38.9	37.2	35.5

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



NEMA Motor Frame	Recommended Motor Bases
184T, 213T	305-8 or
215T, 254T	SMB - 254

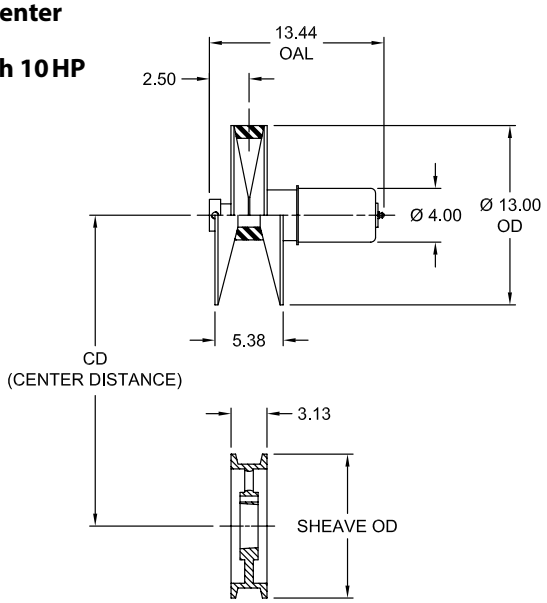
WB Models 3075B, 3100B and 3150B

Item Selection

WB Series

Two-Side Moveable Adjustable Center Distance
7-1/2 through 10 HP
4430V Belts

Ratio 3 to 1



Model 3075B Spring-Loaded Driver Pulley

UPC Number	Bore	PD		Torque Capacity	HP Rating	
		Min	Max		1750 RPM	1150 RPM
	in	in	in	in-lb		
53010	1-3/8	4.25	12.60	270	7-1/2	5

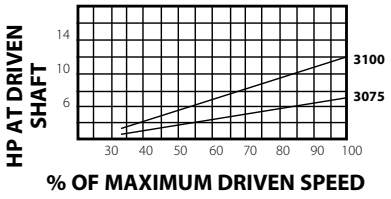
Model 3100B Spring-Loaded Driver Pulley

UPC Number	Bore	PD		Torque Capacity	HP Rating	
		Min	Max		1750 RPM	1150 RPM
	in	in	in	in-lb		
53013	1-3/8	4.25	12.60	360	10	7-1/2

3075B / 3100B Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque	
				1750 RPM Motor		1150 RPM Motor		3075B	3100B
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb
19600	4430G10.4SF	10.0	10.4	745	2,205	490	1,145	215	285
19604	4430G12SK	11.6	12.0	645	1,900	425	1,245	249	330

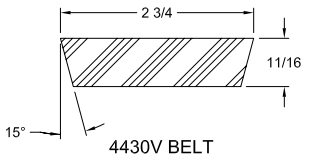
Horsepower Curves 1,750 RPM Input

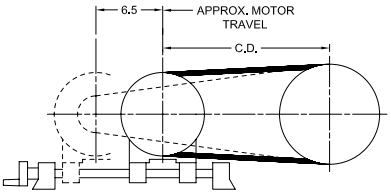


3075B / 3100B Belt Selection Table

Belt Size	Center Distance by Selected Sheave Size	
	4430G-10.4SF in	4430G-12SK in
4430V555	—	—
4430V600	12.7	—
4430V660	15.2	14.0
4430V718	18.1	16.9
4430V760	20.2	19.0
4430V790	21.7	20.5
4430V850	24.7	23.5
4430V910	27.7	26.5
4430V970	30.7	29.5
4430V1030	33.7	32.5
4430V1090	36.7	35.5
4430V1150	39.7	38.5
4430V1320	48.2	47.0
4430V1610	62.7	61.5

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.





NEMA Motor Frame	Recommended Motor Bases
184T, 213T 215T, 254T	SMB - 254 or 305-8
215T, 254T, 256T, 284T, 286T, 324T	310-30

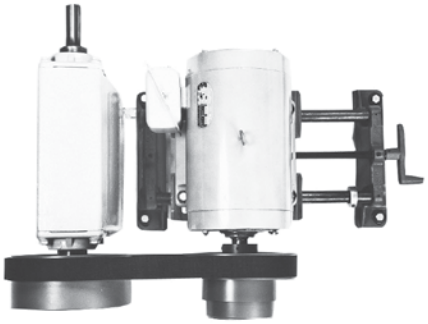
VSD

Hexadrive Series

Overview

1/3 through 30 HP
Wide Variable Speed Belts

Hexadrive pulleys are the most durable variable speed pulleys available. The hexagon-shaped center shaft efficiently transmits torque through the six hex flats for maximum performance and long life. Internal drive keys, which tend to wear and shorten pulley life, are not required. In addition, because a resilient elastomer covers the shaft and eliminates metal to metal contact, no lubrication is necessary. The flanges are made of cast iron to provide a long-wearing belt contact area, and are precision-balanced for smooth operation.

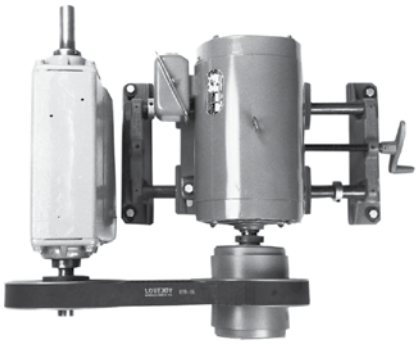


Typical V-Flat Drive

Features

- Two styles available: one-side moveable for V-Flat drives and two-side moveable for V-V drives
- Uses variable speed belts
- Sizes range from 6 inches up to 12-1/2 inches in diameter
- Maximum rating of 30 HP @ 1,750 RPM
- Spring-loaded models have an easy removal feature.

Hexadrive pulleys are available for adjustable center drives. This is the ultimate product for applications in hostile environments. Some typical applications include: agricultural equipment, food packaging machines, air handling systems, textile spinning frames, foundry snag grinders, mixers, and pumps.



Typical V-V Drive

Belt Selection

Hexadrive pulleys offer optimum speed ratios because they are used with wide variable speed belts. The pulley flanges are designed to match standard belt angle and width, so each pulley model must be matched to the correct belt to insure full speed range and maximum torque capacity.

Adjustable Center Drives

An adjustable center drive system consists of a spring-loaded Hexadrive pulley, a fixed diameter companion sheave and bushing, an adjustable motor base, and a variable speed belt. Two types of drive packages are available—the V-V and the V-Flat drives. The V-V drive includes a two-side moveable Hexadrive pulley driving to a grooved companion sheave. The V-Flat drive utilizes a one-side moveable Hexadrive pulley driving to a flat-faced companion sheave. For a complete explanation of V-V and V-Flat drives, refer to page VSD-4, and to order bushings, see page SF-17. Generally, a V-V drive offers greater torque capacity, while a V-Flat drive is more compact and economical.

Easy Removal Feature

All Hexadrive spring-loaded pulleys are designed with an easy removal feature, which minimizes the chance of damage to the pulley or shaft. This damage can result from hammering and prying on the pulley.

While this feature is built into the smaller pulleys, all 5 HP and larger pulleys require the use of our Easy Removal Kit accessory because they feature "through bores." The kit consists of a special nut and retaining ring that fit into the counterbore end of the pulley, retaining ring pliers, and a threaded puller rod. Two types of kits are available – the table below shows the correct kit for each pulley model.

Easy Removal Kit

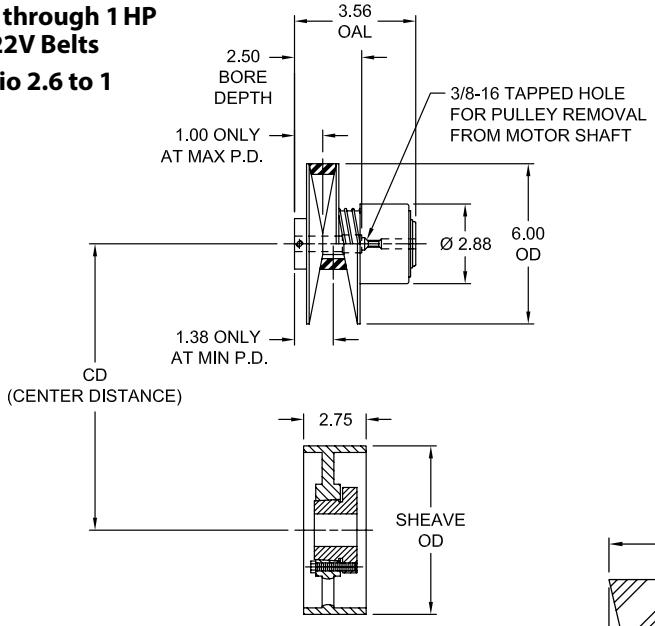
UPC Number	Easy Removal Kit Model Number	For Pulley Model Number
685144 20723	030880H	12904, 12905, 12907, 22904, 22905, 22907, 32904, 32905
685144 20726	020979H	13207, 13210, 13220, 13230, 23207, 23210, 23220, 23230, 14407, 14410, 14420, 14430, 24407, 24410, 24420, 24430, 34407, 34410, 34420

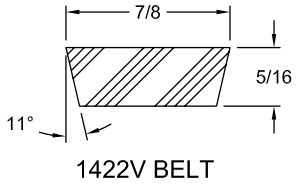
Hexadrive Model 11401

Item Selection

Hexadrive Series

One-Side Moveable Adjustable Center Distance
1/3 through 1 HP
1422V Belts
Ratio 2.6 to 1



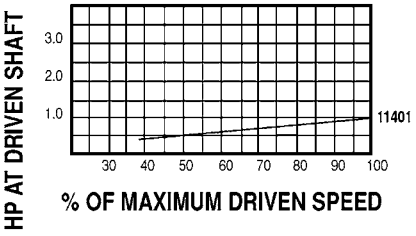


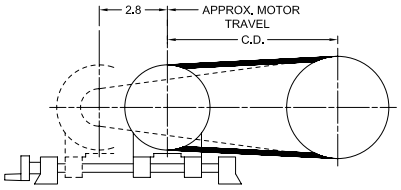
Model 11401 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
35796	5/8	2.21	5.80	36	1	3/4
20761	7/8					

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Horsepower Curves – 1,750 RPM Input





11401 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 11401 in-lb
19656	2.75F4SD	4.42	875	2,295	575	1,505	23
19660	2.75F6SD	6.42	605	1,580	395	1,035	34
19662	2.75F7SD	7.42	525	1,365	345	900	39
19664	2.75F8SD	8.42	460	1,205	305	790	45
19666	2.75F9SD	9.42	415	1,075	270	705	52
19668	2.75F10SD	10.42	375	970	245	640	57
19672	2.75F12SD	12.42	315	815	205	535	70
19674	2.75F14SF	14.42	265	700	180	460	80
19676	2.75F16SF	16.42	240	615	155	405	93

NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 200
43T	145 / 60, SMB 143

11407 / 11401 Belt Selection Table

Belt Size	Minimum Center Distance by Selected Sheave Size 2.75F4SD in	2.75F6SD in	2.75F7SD in	2.75F8SD in	2.75F9SD in	2.75F10SD in	2.75F12SD in	2.75F14SF in	2.75F16SF in
1422V300	6.9	—	—	—	—	—	—	—	—
1422V360	9.9	8.4	7.6	—	—	—	—	—	—
1422V420	13.0	11.4	10.6	9.7	8.9	—	—	—	—
1422V480	16.0	14.4	13.6	12.8	11.9	11.0	—	—	—
1422V540	19.0	17.4	16.6	15.8	14.9	14.1	12.3	10.4	—
1422V660	25.0	23.4	22.6	21.8	20.9	20.1	18.4	16.6	14.7
1422V720	28.0	26.4	25.6	24.8	24.0	23.1	21.4	19.6	17.8
1422V780	31.0	29.4	28.6	27.8	27.0	26.1	24.4	22.6	20.8

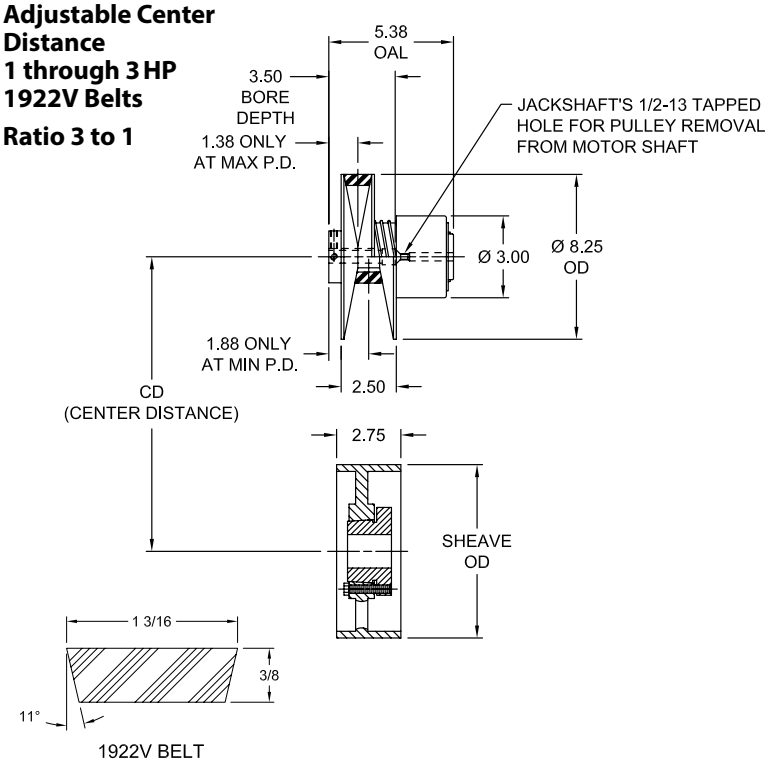
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Hexadrive Models 11901 and 11903

Item Selection

Hexadrive Series

One-Side Moveable Adjustable Center Distance
1 through 3 HP
1922V Belts
Ratio 3 to 1



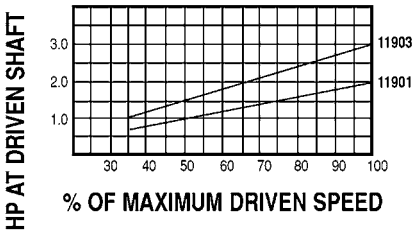
Model 11901 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
20771	7/8	2.70	8.03	54	1-1/2	1
20774	1-1/8					

Model 11903 Spring-Loaded Driver Pulley

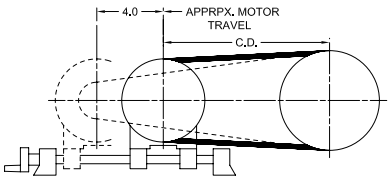
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
20828	7/8	2.70	8.03	108	2 to 3	1-1/2 to 2
20831	1-1/8					

Horsepower Curves – 1,750 RPM Input



11901 / 11903 Driven Sheave Selection Table

Flat Driven Sheave			Driven Speed Range				Driven Torque	
			1750 RPM Motor		1150 RPM Motor		11901	11903
UPC Number	Model	PD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb
19660	2.75F6SD	6.54	720	2,145	475	1,410	34	68
19662	2.75F7SD	7.54	630	1,860	415	1,225	40	80
19664	2.75F8SD	8.54	555	1,645	360	1,080	45	90
19666	2.75F9SD	9.54	495	1,470	325	965	54	108
19668	2.75F10SD	10.54	450	1,330	295	875	60	120
19672	2.75F12SD	12.54	380	1,120	250	735	72	144
19674	2.75F14SF	14.54	325	965	215	635	85	170
19676	2.75F16SF	16.54	285	850	185	555	96	192
19678	2.75F18SF	18.54	255	755	170	495	108	216



NEMA Motor Frame	Recommended Motor Bases
56, 143T	145 / 60, SMB 143
145T, 182T	301, SMB 184

11901 / 11903 Belt Selection Table

Belt Size	Minimum Center Distance by Selected Sheave Size								
	2.75F6SD in	2.75F7SD in	2.75F8SD in	2.75F9SD in	2.75F10SD in	2.75F12SD in	2.75F14SF in	2.75F16SF in	2.75F18SF in
1922V403	8.7	—	—	—	—	—	—	—	—
1922V443	10.7	9.9	9.1	—	—	—	—	—	—
1922V484	12.7	12.0	11.2	10.4	9.5	—	—	—	—
1922V544	15.7	15.0	14.2	13.4	12.6	10.9	—	—	—
1922V646	20.8	20.1	19.3	18.5	17.7	16.0	14.2	—	—
1922V686	22.8	22.1	21.3	20.5	19.7	18.0	16.3	14.5	—
1922V726	24.8	24.1	23.3	22.5	21.7	20.0	18.3	16.5	14.7
1922V806	28.8	28.1	27.3	26.5	25.7	24.0	22.3	20.6	18.7

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

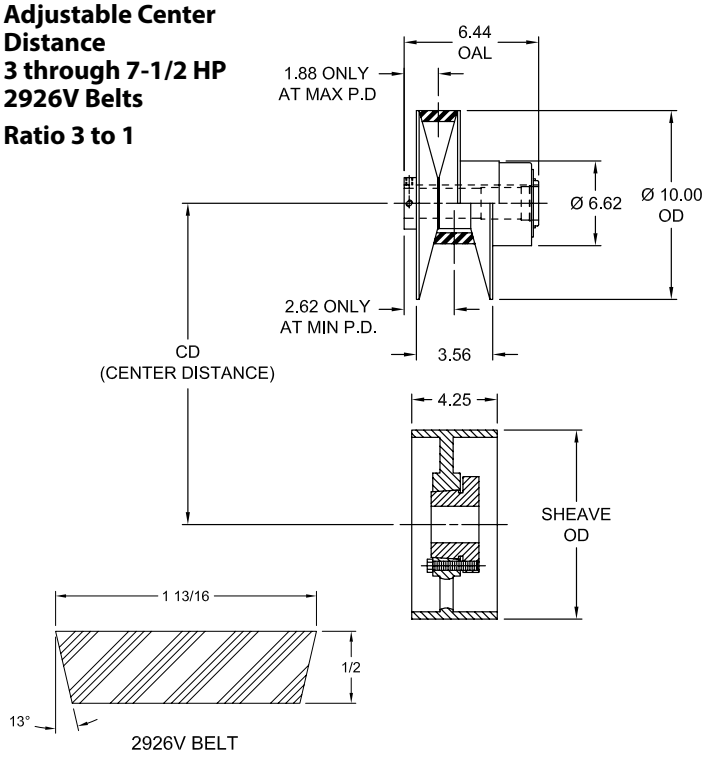
Hexadrive Models 12905 and 12907

Item Selection

Hexadrive Series

One-Side Moveable Adjustable Center Distance
3 through 7-1/2 HP
2926V Belts

Ratio 3 to 1



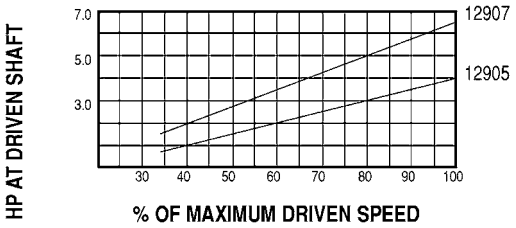
Model 12905 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21870	1-1/8	3.28	9.70	180	5	3
37350	1-3/8					

Model 12907 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37336	1-1/8	3.28	9.70	270	7-1/2	5
21876	1-3/8					

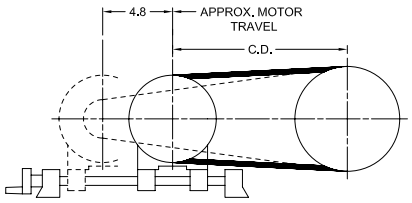
Horsepower Curves – 1,750 RPM Input



12905 / 12907 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 12905 in-lb	12907 in-lb
19630	4.25F8SD*	8.7	660	1,950	435	1,280	126	*
19634	2.75F10SD	10.7	540	1,585	355	1,040	166	252
19639	2.75F12SF	12.7	455	1,335	300	875	200	302
19641	2.75F14SF	14.7	390	1,155	260	755	233	353
19643	2.75F16SF	16.7	345	1,015	230	665	266	403
19645	2.75F18SF	18.7	310	905	205	595	300	453
19647	2.75F20SF	20.7	280	820	185	535	333	504

Note: ■ * indicates: That 4.25F8SD is NOT recommended for use with 7-1/2 HP drive. This combination could cause belt slippage.



NEMA Motor Frame	Recommended Motor Bases
56, 143T	145- 60, SMB 143
145T, 182T	301, SMB 184

12905 / 12907 Belt Selection Table

Belt Size	Minimum Center Distance by Selected Sheave Size 2.75F8SD in	2.75F10SD in	2.75F12SD in	2.75F14SF in	2.75F16SF in	2.75F18SF in	2.75F20SF in
2926V486	9.8	—	—	—	—	—	—
2926V546	12.8	11.3	—	—	—	—	—
2926V606	15.8	14.3	12.6	—	—	—	—
2926V666	18.8	17.3	15.6	13.9	—	—	—
2926V726	21.8	20.3	18.6	17.0	15.2	—	—
2926V786	24.8	23.3	21.6	20.0	18.3	16.5	—
2926V856	28.3	26.8	25.2	23.5	21.8	20.0	18.2
2926V906	30.8	29.3	27.7	26.0	24.3	22.5	20.8
2926V966	33.8	32.3	30.7	29.0	27.3	25.6	23.8

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

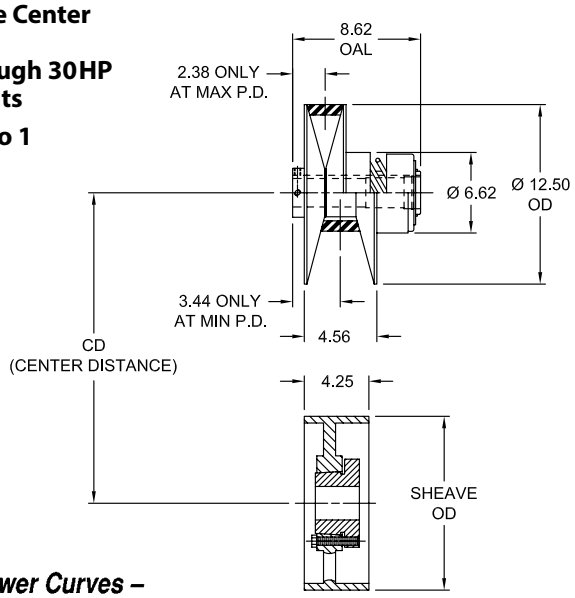
Hexadrive Models 14420 and 14430

Item Selection

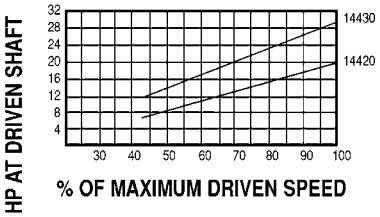
Hexadrive Series

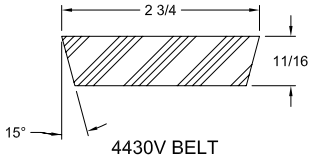
One-Side Moveable Adjustable Center Distance
7-1/2 through 30HP
4430 V Belts

Ratio 2.7 to 1



Horsepower Curves – 1,750 RPM Input



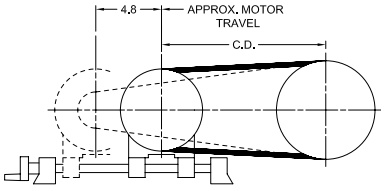


Model 14420 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21994	1-3/8	4.43	12.10	720	7-1/2 to 20	10 to 15
21996	1-5/8					

Model 14430 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
22006	1-5/8	4.43	12.10	1,080	25 to 30	20 to 25
22007	1-7/8					



14420 / 14430 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 14407 in-lb	14410 in-lb	14420 in-lb	14430 in-lb
19639	4.25F12SF	13.0	600	1,630	395	1,070	243	324	*	*
19641	4.25F14SF	15.0	520	1,410	340	925	283	378	756	1,134
19673	4.25F16SF	17.0	460	1,245	300	815	324	432	864	1,296
19645	4.25F18SF	19.0	410	1,115	270	730	364	486	972	1,458

NEMA Motor Frame	Recommended Motor Bases
213T, 215T	305-8, SMB 254
254T	310-30, SMB 254
256T, 284T	310-30
286T, 324T	

14420 / 14430 Belt Selection Chart

Belt Size	Minimum Center Distance by Selected Sheave Size 4.25F12SF in	4.25F14SF in	4.25F16SF in	4.25F18SF in	4.25F20SF in	4.25F24SF in
4430V660	13.3	—	—	—	—	—
4430V718	16.2	14.6	—	—	—	—
4430V790	19.8	18.2	16.5	—	—	—
4430V850	22.8	21.2	19.5	17.8	—	—
4430V910	25.8	24.2	22.5	20.8	19.1	—
4430V970	28.8	27.2	25.5	23.8	22.1	—
4430V1030	31.8	30.2	28.5	26.9	25.1	21.5
4430V1090	34.8	33.2	31.6	29.9	28.2	24.6

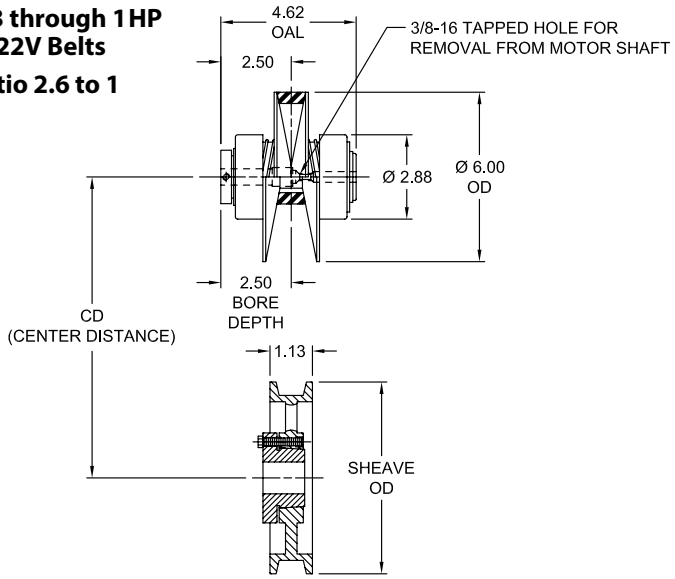
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

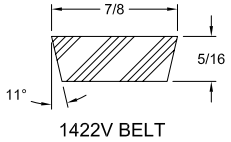
Hexadrive Model 21401

Item Selection

Hexadrive Series

Two-Side Moveable Adjustable Center Distance
1/3 through 1 HP
1422V Belts
Ratio 2.6 to 1

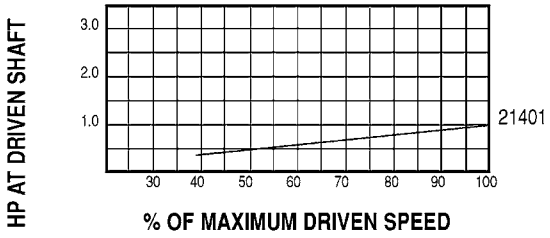


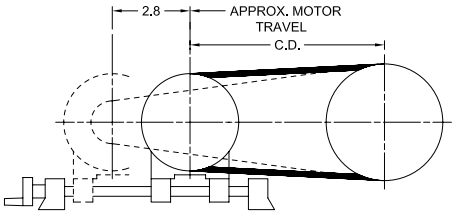


Model 21401 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
35797	5/8	2.21	5.80	36	1-1/2 to 1	1/3 to 3/4
21107	7/8					

Horsepower Curves – 1,750 RPM Input





NEMA Motor Frame	Recommended Motor Bases
48, 56	48/56, 200
	135, SMB 143
143T	145-60
	SMB 143

21401 Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1550 RPM Motor Min RPM	1550 RPM Motor Max RPM	Driven Torque 21407 in-lb	21401 in-lb
19493	1422G5.5SH	5.3	730	1,915	480	1,255	26	34
19495	1422G6SH	5.8	670	1,750	440	1,150	28	38
19497	1422G7SH	6.8	570	1,490	375	980	34	44
19499	1422G8SH	7.8	500	1,300	330	855	39	51
19503	1422G10SH	9.8	395	1,035	260	680	49	64

21401 Belt Selection Table

Belt Size	Minimum Center Distance by Selected Sheave Size 1422G-5.5SH in	1422G-6SH in	1422G-7SH in	1422G-8SH in	1422G-9SH in	1422G-10SH in
1422V300	6.3	—	—	—	—	—
1422V360	7.3	8.9	8.1	7.3	—	—
1422V420	12.3	11.9	11.1	10.3	9.4	8.6
1422V480	15.3	14.9	14.1	13.3	12.4	11.6
1422V540	18.3	14.9	17.1	16.3	15.4	14.6
1422V660	24.3	23.9	23.1	22.3	21.5	20.6
1422V720	27.3	26.9	26.1	25.3	24.5	23.6
1422V780	30.3	29.9	29.1	28.3	27.5	26.6

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

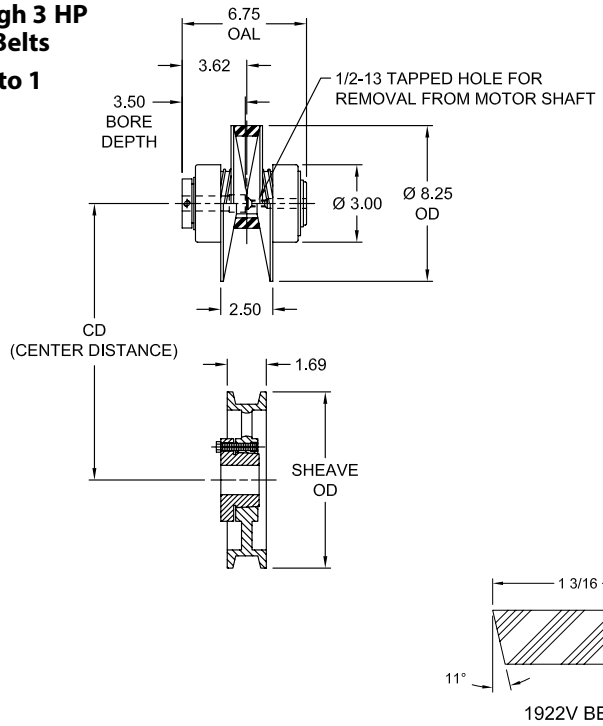
Hexadrive Model 21903

Item Selection

Hexadrive Series

Two-Side Moveable Adjustable Center Distance
1 through 3 HP
1922V Belts

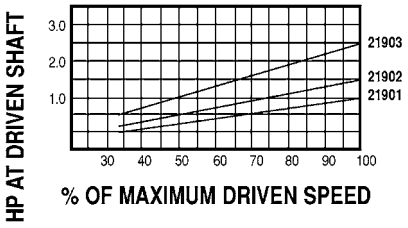
Ratio 3 to 1



Model 21903 Spring-Loaded Driver Pulley

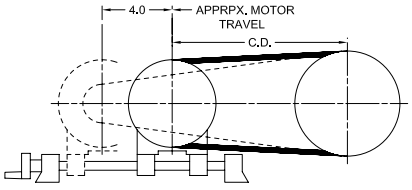
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21141	7/8	2.70	8.03	108	1-1/2 to 3	1 to 2
21143	1-1/8					

Horsepower Curves – 1,750 RPM Input



21903 Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 21903 in-lb
19520	1922G7SK	6.78	700	2,070	460	1,360	92
19522	1922G8SK	7.78	610	1,805	400	1,185	104
19523	1922G9SK	8.78	540	1,600	355	1,050	120
19524	1922G10SK	9.78	485	1,435	315	940	132
19528	1922G12SK	11.78	400	1,190	265	780	160
19529	1922G14SK	13.78	345	1,020	225	670	186
19531	1922G16SK	15.78	300	890	200	585	212



NEMA Motor Frame	Recommended Motor Bases
56, 143T	145-60, SMB 143
145T, 182T	301, SMB 184

21903 Belt Selection Table

Belt Size	Minimum Center Distance by Selected Sheave Size 1922G7SK in	1922G8SK in	1922G9SK in	1922G10SK in	1922G12SK in	1922G14SK in	1922G16SK in
1922V403	8.5	—	—	—	—	—	—
1922V443	10.2	9.7	8.9	—	—	—	—
1922V484	12.5	11.8	11.1	10.2	—	—	—
1922V544	15.6	14.8	14.1	13.2	11.5	—	—
1922V646	20.7	19.9	17.1	18.3	16.6	14.9	13.1
1922V686	22.7	21.9	23.1	20.3	18.6	16.9	15.2
1922V726	24.7	23.9	26.1	22.3	20.6	18.9	17.2
1922V806	28.7	27.9	29.1	26.3	24.7	23.0	21.2

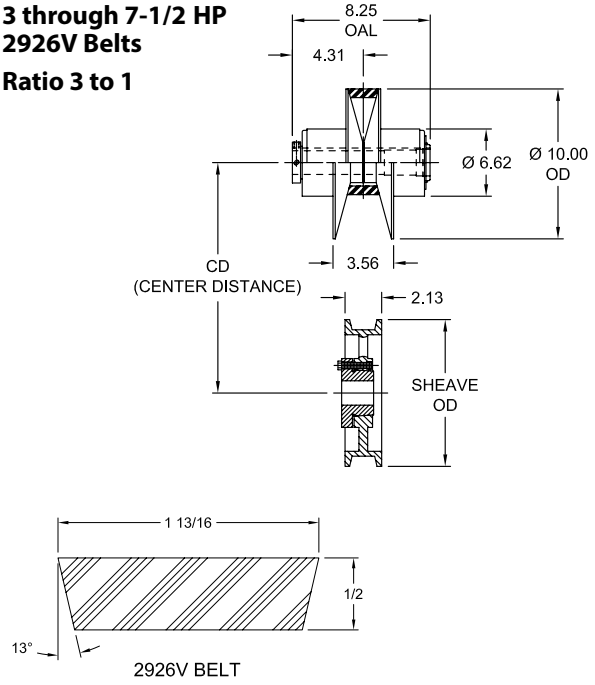
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Hexadrive Models 22905 and 22907

Item Selection

Hexadrive Series

Two-Side Moveable Adjustable Center Distance
3 through 7-1/2 HP
2926V Belts
Ratio 3 to 1



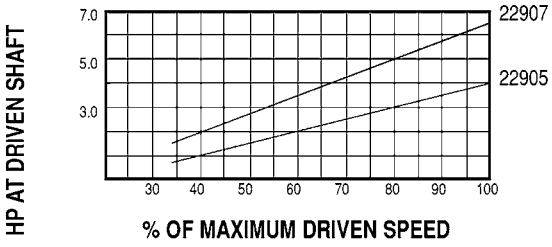
Model 22905 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37334	1-1/8	3.28	9.70	180	5	3
37335	1-3/8					

Model 22907 Spring-Loaded Driver Pulley

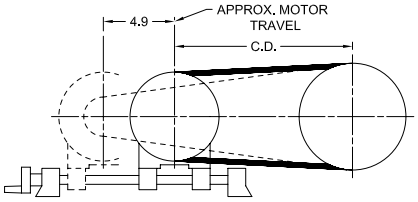
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37338	1-1/8	3.28	9.70	270	7-1/2	5
37339	1-3/8					

Horsepower Curves – 1,750 RPM Input



22905 / 22907 Driven Sheave Selection Table

Grooved Driven Sheave			Driven Speed Range				Driven Torque	
			1750 RPM Motor		1150 RPM Motor		22905	22907
UPC Number	Model	PD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb
19561	2926G8SK	7.7	7445	2,205	490	1,445	142	215
19563	2926G9SK	8.7	660	1,950	435	1,280	161	243
19565	2926G10SK	9.7	595	1,750	390	1,150	180	271
19567	2926G12SK	11.7	495	1,450	325	950	216	327
19569	2926G14SK	13.7	420	1,235	275	810	253	383
19572	2926G15SK	15.7	370	1,080	240	710	290	440



NEMA Motor Frame	Recommended Motor Bases
184T	305-8, SMB 184
213T, 215T	305-8, SMB 254

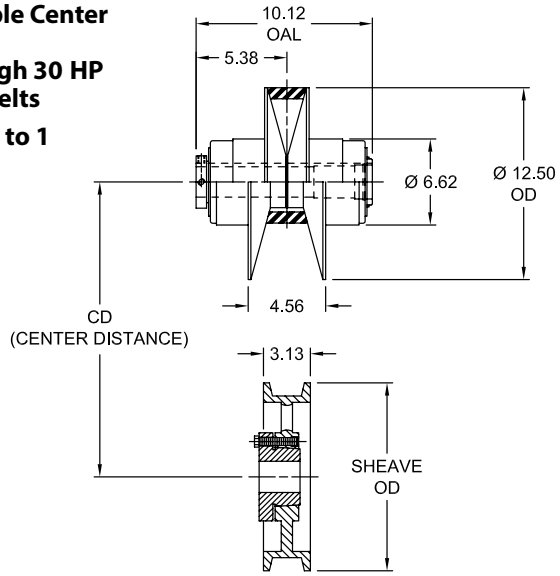
22905 / 22907 Belt Selection Table

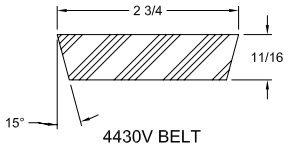
Belt Size	Minimum Center Distance by Selected Sheave Size					
	2926G8SK in	2926G9SK in	2926G10SK in	2926G12SK in	2926G14SK in	2926G16SK in
2926V486	10.6	9.8	—	—	—	—
2926V546	13.6	12.8	12.1	—	—	—
2926V606	16.6	15.8	15.1	13.5	—	—
2926V666	19.6	18.8	18.1	16.5	14.8	—
2926V726	22.6	21.8	21.1	19.5	17.8	16.1
2926V786	25.6	24.8	24.1	22.5	20.8	19.1
2926V856	29.1	28.3	27.6	26.0	24.3	22.6
2926V906	31.6	30.8	30.1	28.5	26.8	25.2
2926V966	34.6	33.8	33.1	31.5	29.8	28.2

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Hexadrive Series

Two-Side Moveable Adjustable Center Distance
20 through 30 HP
4430 V Belts
Ratio 2.7 to 1

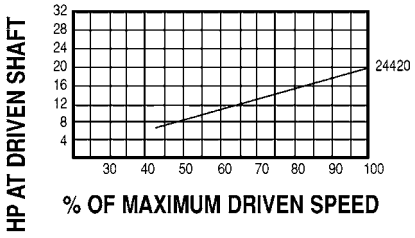




Model 24420 Spring-Loaded Driver Pulley

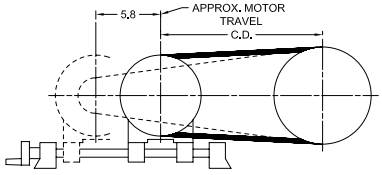
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
22042	1-3/8	4.43	12.10	720	15 to 30	10 to 25
22043	1-5/8					
22045	1-7/8					

Horsepower Curves – 1,750 RPM Input



24420 Driven Sheave Selection Table

Grooved Driven Sheave			Driven Speed Range				Drven Torque			
	Model	PD	1750 RPM Motor		1150 RPM Motor		24407	24410	24420	24430
UPC Number		in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb	in-lb	in-lb
19600	4430G10.4SF	10.0	775	2,115	510	1,390	225	300	600	900
19604	4430G12SK	11.6	670	1,825	440	1,200	260	348	696	1,044



NEMA Motor Frame	Recommended Motro Bases
213T, 215T	305-8, SMB 254
254T	310-30, SMB254
256T, 284T	310-30
286T, 324T	310-30

24420 Belt Selection Table

UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 4430G10.4SK in	4430G12SK in
23403	4430V660	15.6	14.4
23407	4430V718	18.5	17.3
23413	4430V790	22.1	20.9
23414	4430V850	25.1	23.9
23416	4430V910	28.1	26.9
23418	4430V970	31.1	29.9
23421	4430V1030	34.1	32.9
23423	4430V1090	37.1	35.9

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Adjustable Motor Bases

Sliding and Tilting Bases

Lovejoy offers four basic types of motor bases to satisfy requirements of space, convenience, interchangeability, motor frame size, and economy.

Sliding "SMB" Type

Models: SMB143, SMB184, and SMB254

SMB motor bases are extremely low profile and made of strong, lightweight steel, plated for protection against rust and corrosion. A folding knurled adjusting handle replaces the common round handwheel to offer easy speed adjustment with minimum effort and no tools. Adjustable maximum and minimum speed stops are included. The adjusting handle is easily removed for the addition of a sprocket or universal joint to adapt to existing control methods.

Features

- Three sizes available to fit NEMA motor frames from fractional through 15 horsepower
- Slotted for standard NEMA motor frame mounting, but can be drilled for special mounting sizes to offer flexibility of design

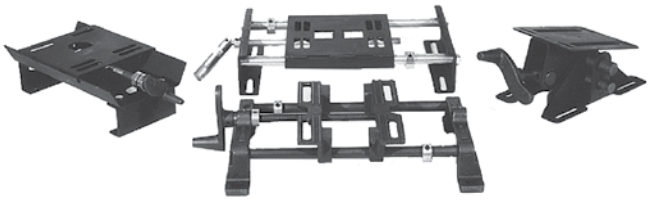
Sliding Cast Iron Type

Models: 135, 145-60, 301, 302-3, 403, 305-8 and 310-30

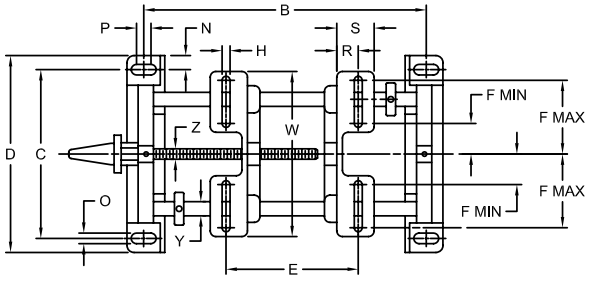
The original Lovejoy design, made of durable cast iron and steel.

Features

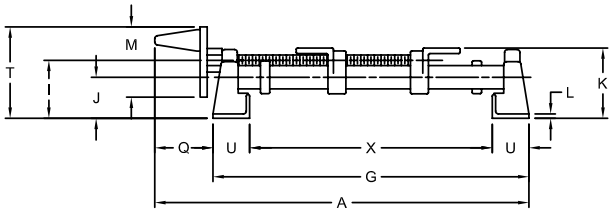
- Models are available to accommodate motors from fractional through 30 horsepower
- The independent, slotted motor mounting rails offer great flexibility of design, as they can be used to mount NEMA motor frames as well as IEC motors and other products (gearmotors, gear reducers, etc.)
- Adjustable maximum and minimum speed stops are included



Adjustable Motor Bases



Sliding Cast Iron Base Upper View



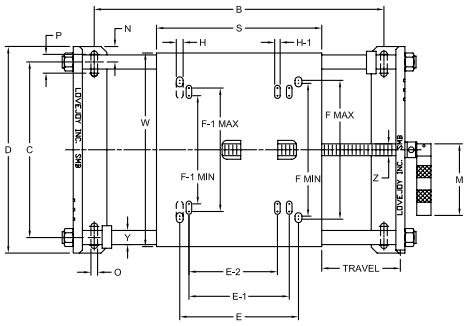
Sliding Cast Iron Base Side View

VSD

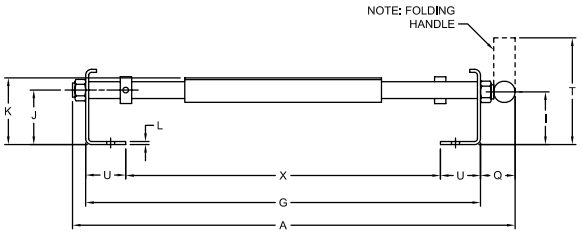
Motor Base SMB

Dimensional Data

Adjustable Motor Base



SMB (Steel) Base Upper View



SMB (Steel) Base Side View

Sliding Cast Iron Bases (Drawing on page VSD-34)

Model	135	145-60	301	302-3	403	305-8	310-30
UPC Number	19714	19718	19763	19781	19902	19809	19816
A	13-1/4	16-1/8	18-1/2	19-3/8	21-3/8	27-7/8	31
B	9-7/8	12-5/8	15-1/8	16	18	23-5/8	25-1/4
C	6-1/8	7-7/8	8-1/2	8-1/2	8-1/2	11-7/8	14-1/4
D	7	8-3/4	10	10	10	14	15-1/2
E max	8	10	13	13-7/8	15-7/8	20	22
E min	2-1/8	2-3/4	3	3	3	4	5-3/8
F max	2-1/4	3-7/16	3-7/8	3-7/8	3-7/8	5-7/16	6-1/2
F min	13/16	1-5/16	1-7/8	1-7/8	1-7/8	2-5/8	2-7/8
G	11-1/8	13-7/8	16-3/8	17-1/4	19-1/4	25-1/4	27-3/8
H slot	3/8	13/32	13/32	13/32	13/32	9/16	5/8
I	1/16	2-1/2	3	3	3	4-1/4	4-1/4
J	3/8	1-3/4	2-1/8	2-1/8	2-1/8	2-7/8	3-3/4
K	2-1/2	3	3-1/2	3-1/2	3-1/2	5	6-1/4
L	5/16	3/8	3/8	3/8	3/8	1/2	3/4
M	2-1/2	4-1/8	4-1/8	4-1/8	4-1/8	6	6
N	7/16	7/16	3/4	3/4	3/4	1-1/16	5/8
O slot	3/8	13/32	1/2	1/2	1/2	1/2	3/4
P	3/8	9/32	1/2	1/2	1/2	3/4	3/4
Q	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	2-5/8	3-5/8
R	5/8	13/16	13/16	13/16	13/16	1-7/16	1-9/16
S	1-1/8	1-3/8	1-1/2	1-1/2	1-1/2	2-3/4	3-3/8
T	3-1/4	4-3/4	5	5	5	7-1/8	7-1/8
U	1-1/4	1-1/4	2	2	2	3	2-3/16
W	5-5/8	8	9-5/16	9-5/16	9-5/16	12-1/2	15
X	8-5/8	11-3/8	13-3/8	13-1/4	15-1/4	19-1/4	23
Y (dia)	1/2	5/8	7/8	7/8	7/8	1-1/4	1-5/8
Z (dia)	3/8	1/2	5/8	5/8	5/8	3/4	1

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

SMB Bases

Model	SMB 143	SMB 184	SMB 254
UPC Number	40212	40213	40214
A	15-3/4	19-1/2	28-5/8
B	12-5/8	15-1/6	23-5/8
C	6	7-1/4	10-3/8
D	8-3/4	10	14
E	5-1/2	7-1/2	10
E-1	4-1/4	5-1/2	8-1/2
E-2	—	—	7-1/2
F max	4-15/32	6-7/32	8-29/64
F min	1-21/32	3-3/4	7-61/64
F-1 max	—	6-5/16	7-1/4
F-1 min	—	2-9/16	5-3/8
G	13-7/8	17-3/8	26
H	—	13/32	9/16
H-1	13/32	11/32	7/16
I	1-7/8	2	2-1/8
J	1-15/16	2	2-1/4
K	2-1/2	2-5/8	3-7/32
L	7/64	9/64	3/16
M	3-1/2	3-1/2	4-1/2
N	1-3/8	1-3/8	1-13/16
O	13/32	13/32	33/64
P	1-7/8	1-3/4	2-1/2
Q	1-13/32	1-3/4	2-5/16
S	7	9	13
T	5-1/8	5-3/16	7-1/8
U	1-1/4	2	2-1/2
W	7-1/4	9	12-3/4
X	11-3/8	13-3/8	21
Y (dia)	5/8	3/4	1-1/4
Z (dia)	1/2-13	5/8-11	1-5
Travel	5-5/8	7	11-1/4

Motor Base Selection Guide

	200A, 200B	48/56	135	145-60	SMB 143	301, 302-3 403	SMB 184	305-8	SMB 254	310-30
NEMA Motor Frame Size	48	48	48	56	48, 56	143T, 145T	143T, 145T	184T, 213T	184T, 213T	215T, 254T
	56	56	56	143T	143T	182T, 184T	182T, 184T	215T	215T, 254T	256T, 284T
										286T, 324T

Adjustable Motor Bases

Sliding Dovetail Type

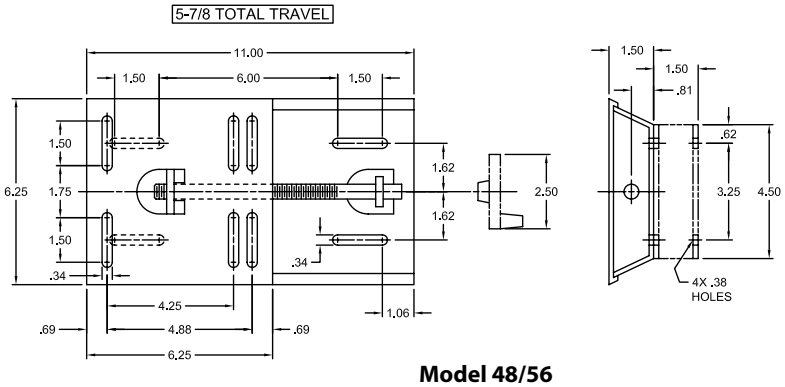
Models: 48/56 LA and 48/56 LB

These are the most compact, lowest-priced sliding motor bases offered by Lovejoy.

Features

- Easy motor mounting and speed adjustment due to the one-piece top plate, which is slotted for NEMA 48 and 56 motor frames
- So cost efficient they can be used as belt tensioning bases
- Tough steel construction makes them exceptionally durable

The Model 48/56 LA comes with a convenient hexagon head adjusting screw for use with your adjustable or socket wrench for fast speed change, and has a profile height of only 1-1/2 inches. The Model 48/56 LB is equipped with a handwheel and riser blocks that make tool-free adjustment quick and easy.



Model 48/56

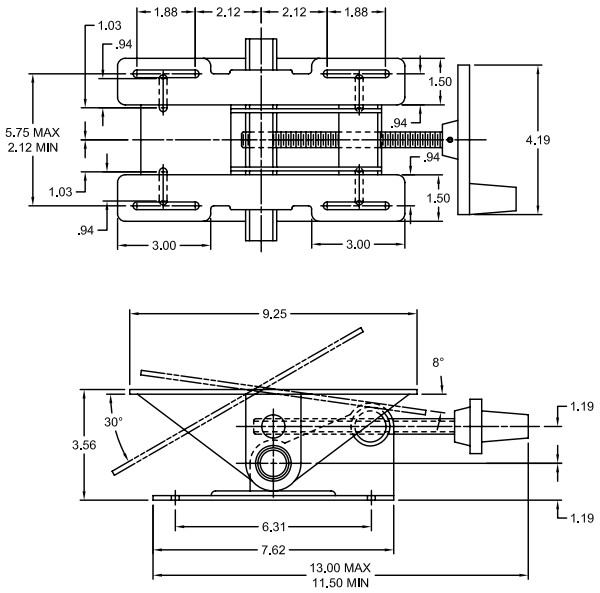
Tilting Type

Model: 200

This economical bases featues pivotal rather than sliding movement and is designed for use with NEMA 48 and 56 motor frames.

Features

- Less space is required to move the motor through the entire speed range because of the use of tilting motor rails
- Ideal for belt tensioning and for easy belt change with cone step pulleys
- Can be mounted in any position for added versatility



Model 200

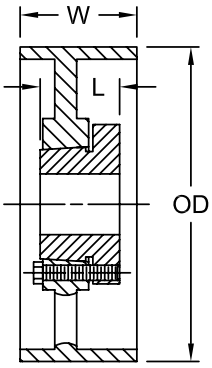
VSD

Companion Sheaves

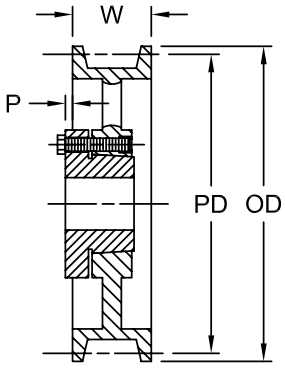
Flat and Grooved Types for Variable Speed Belts

Lovejoy companion sheaves are made of durable cast iron to assure best possible wear at the belt contact area. Grooved sheaves, for use with V-V adjustable center drives, are machined to match the belt width and angle of standard variable speed belts for optimum efficiency. The spoked design provides strength and light weight.

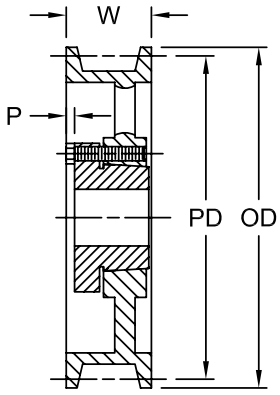
All companion sheaves are precision balanced for smooth running. The sheaves are bored to accept standard type tapered bushings for ease of installation, best possible shaft grip and removal from the shaft without damage to any of the parts.



Flat



Grooved Type 1



Grooved Type 2

Flat Companion Sheave Dimensional Data

UPC Number	Model	W in	Bushing	L in	OD in	Weight lbs
19660	2.75F6SD	2.75	SD	1.81	6.0	6.0
19662	2.75F7SD	2.75	SD	1.81	7.0	7.0
19664	2.75F8SD	2.75	SD	1.81	8.0	8.0
19666	2.75F9SD	2.75	SD	1.81	9.0	9.0
19672	2.75F12SD	2.75	SD	1.81	12.0	18.0
19634	4.25F10SD	4.25	SD	1.81	10.0	16.0
19639	4.25F12SF	4.25	SF	2.06	12.0	28.0

Notes:
- Sheave weights do not include bushing. Sheaves are suitable for operation at speeds up to 6,500 FPM.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

VSD

Grooved Companion Sleeves
Dimensional Data

Dimensional drawings on page VSD-37.

Grooved Companion Sheaves Dimensional Data

Belt Series	Model	UPC Number	Bushing	W in	P in	OD in	PD in	Weight lbs	Type
1422V	1422G5.5SH	**19493**	SH	1.13	0.38	5.5	5.3	2.5	1
1422V	1422G7SH	**19497**	SH	1.13	0.38	7.0	6.8	3.0	1
1422V	1422G8SH	**19499**	SH	1.13	0.38	8.0	7.8	4.0	1
1922V	1922G7SK	**19520**	SK	1.69	0.44	7.0	6.8	8.0	1
1922V	1922G8SK	**19522**	SK	1.69	0.44	8.0	7.8	8.0	1
1922V	1922G9SK	**19523**	SK	1.69	0.44	9.0	8.8	9.0	1
1922V	1922G10SK	**19524**	SK	1.69	0.44	10.0	9.8	8.0	1
2322V	2322G7SK	**19538**	SK	1.69	0.44	7.0	6.8	7.0	1
2322V	2322G8SK	**19540**	SK	1.69	0.44	8.0	7.8	7.0	1
2322V	2322G9SK	**19544**	SK	1.69	0.44	9.0	8.8	8.0	1
2322V	2322G10SK	**19546**	SK	1.69	0.44	10.0	9.8	8.0	1
2926V	2926G8SK	**19561**	SK	2.13	0.19	8.0	7.7	8.0	1
2926V	2926G9SK	**19563**	SK	2.13	0.19	9.0	8.7	8.0	1
2926V	2926G10SK	**19565**	SK	2.13	0.19	10.0	9.7	10.5	1
2926V	2926G12SK	**19567**	SK	2.13	0.19	12.0	11.7	11.0	1
2926V	2926G14SK	**19569**	SK	2.13	0.19	14.0	13.7	13.5	1
2926V	2926G16SK	**19572**	SK	2.13	0.19	16.0	15.7	17.0	1
4430V	4430G10.4SF	**19600**	SF	3.13	0.13	10.4	10.0	22.0	2
4430V	4430G12SK	**19604**	SK	3.13	0.25	12.0	11.6	19.0	2

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.