

Hi-Ratio Compound Pulleys



Hi-Ratio Compound Pulleys for .25 and .5 HP drives provide economy and exceptional efficiency at speed ratios up to 7 to 1. Pulley faces are made of highly durable plastic containing special additives to ensure long service life.

The pulley itself is comprised of two parts, either of which can be used independently. These are:

1. HR-2 Variable Speed Pulley Assembly which is needle-bearing mounted on a hardened and ground countershaft. It requires a control of some type for operation.
2. HRB-2 Control Base. On the majority of applications, this base eliminates the necessity for a pivoted motor base to maintain proper belt tension.

Operating Principle

The Hi-Ratio Pulley is needle-bearing mounted on a hardened and ground crankshaft. Speed variation is accomplished by moving the countershaft between the driving and driven sheaves. Movement towards the driver (Fig. 1) reduces the driven speed. Movement away from the driver (Fig. 2) increases the driven speed..

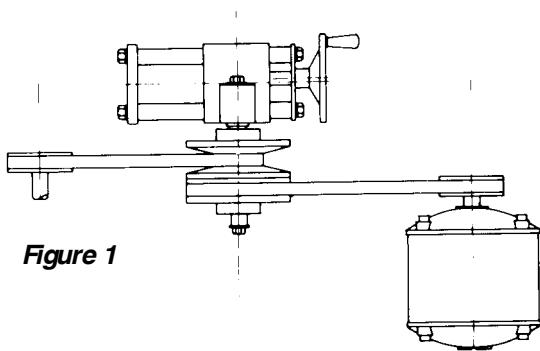


Figure 1

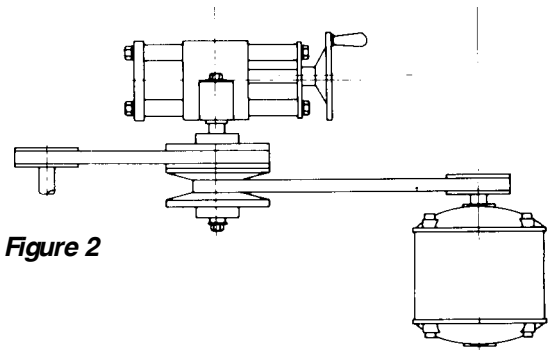


Figure 2

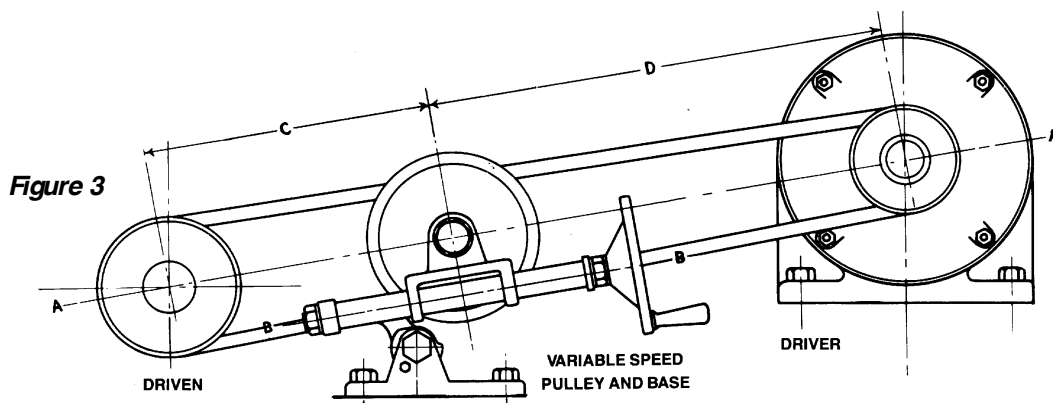
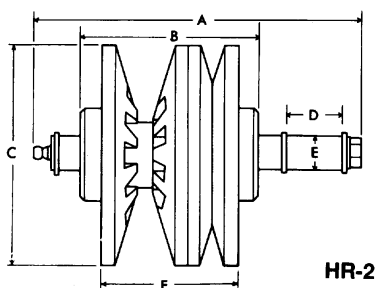


Figure 3



HR-2

Engineering Data

Hi-Ratio Pulleys	Ratio	Belt Size	Max. P.D.	Min. P.D.	Mean P.D.	Movement Required for Max. Speed Range	A	B	C	D	E	F	Approx. Wts.	
													With Shaft	Without Shaft
145HR-2	6-1	4L,A	4.60	1.875	3.25	2.125	6.5	3.875	4.75	1.19	.75	2.875	2.5 lbs.	1.75 lbs.
165HR-2	7.2-1	A	6.50	2.40	4.50	3.375	8.06	4.75	6.75	1.69	1.0	3.875	6 lbs.	4 lbs.

Engineering Data • Hi-Ratio Pulleys

Model	Horse Power Max. Min.		MOTOR OR DRIVER TO HI-RATIO PULLEY					HI-RATIO PULLEY TO DRIVEN SHAFT				
			RPM.	Sheave P.D.	Center Distance	Belt Size	Belt Pitch Length	Center Distance	Belt Pitch Length	Sheave P.D.	Driven RPM Max. Min.	
145 HR-2	.5	.25	1750	2.4	13.75	A	36.4	11.75	32.4	2.4	4290	715
								13.25	39.4	4.8	2120	360
								15.75	44.4	6.0	1720	286
								15.0	49.4	9.0	1145	191
								18.5	52.4	12.0	860	143
145 HR-2	.5	.25	1750	3.0	13.25	A	36.4	13.25	36.4	3.0	4290	715
								13.25	39.4	4.8	2680	445
								15.75	44.4	6.0	2145	358
								15.0	49.4	9.0	1430	238
								18.5	52.4	12.0	1070	179
145 HR-2	.5	.25	1750	3.6	12.875	A	36.4	14.25	39.4	3.6	4300	715
								13.25	39.4	4.8	3680	600
								15.75	44.4	6.0	2572	430
								15.0	49.4	9.0	1715	286
								18.5	52.4	12.0	1286	215
165 HR-2	1							11.75	36.4	3.6	3920	540
											2370	330
											1690	262
165 HR-2	1										1185	165
											4700	650
											2844	395
											1890	262
165 HR-2	1										1422	198
											4700	650
											2485	345
							15.25	56.4	12.0	1650	230	

DISCONTINUED

The output speeds are examples of the many possible variations obtainable. By using other sheave diameters on the driven shaft, many additional variations are possible. Use the formula below to derive speed ranges not covered by the table.

145 HR-2

Max. RPM of Driven = $\frac{\text{P.D. Driver}}{\text{P.D. Driven}} \times 2.43 \text{ Motor x RPM.}$

Min. RPM of Driven = $\frac{\text{P.D. Driver}}{\text{P.D. Driven}} \times .41 \times \text{Motor RPM.}$

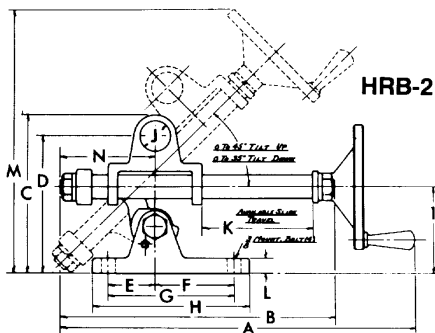
145 HR-2

Max. RPM of Driven = $\frac{\text{P.D. Driver}}{\text{P.D. Driven}} \times 2.70 \text{ Motor x RPM.}$

Min. RPM of Driven = $\frac{\text{P.D. Driver}}{\text{P.D. Driven}} \times .37 \times \text{Motor RPM.}$

HRB-2 Base

All dimensions are in inches



Hi-Ratio Control Bases	145HRB-2	165HRB-2
A	11.75	11.75
B	9.125	9.125
C	5.375	5.375
D	4.625	4.625
E	1.5	1.5
F	2.5	2.5
G	4	4
H	5	5
I	3	3
J	.75	1
K	4.25	4.25
L	.5	.5
M	9.25	9.25
N	2.625	2.625
O	2.5	2.5
P	3.625	3.625
Q	1.75	1.75
R	2	2
S	0	0
T	4	4
Approx. Weight	8.5	8.5

