B SERIES DUTY CYCLE (Table 9)
Uni-Lift Duty Limit at Full Rated Capacity and 80° F Ambient Temperature

MODEL and SIZE	RATIO	TPI	L2 - DUTY LIMIT SERVICE FACTOR @ VARIOUS RPM INPUT SPEEDS								
			50 RPM	115 RPM	172 RPM	345 RPM	600 RPM	870 RPM	1140 RPM	1725 RPM	2587 RPM
B-1	5:1	10	553	268	191	108	69	52	42	30	22
	10:1	20	584	303	223	134	90	70	58	43	32
B-2.5	6:1	24	575	293	188	103	63	46	37	26	18
	24:1	96	1022	520	353	203	132	101	83	61	46
B-5	6:1	12.66	351	220	115	62	38	28	22	15	
	24:1	50.66	658	417	227	129	84	63	52	38	
B-10	8:1	16.88	252	158	84	46	29	21	17	12	
	24:1	50.66	373	239	132	76	50	38	31	23	
B-20	8:1	16	190	120	63	35	22	16	12	9	
	24:1	48	284	181	100	58	38	29	24	17	
B-30	10 2/3:1	16	185	117	63	35	22	16	12		
	32:1	48	261	172	96	56	38	29	24		
B-50	10 2/3:1	10.66	105	66	36	20	13	9	7		
	32:1	32	143	96	54	32	22	17	14		
B-75	10 2/3:1	10.66	110	71	36	21	13	9	8		
	32:1	32	177	116	65	38	25	19	16		
B-100	12:1	12	130	82	46	26	17	12	10		
	36:1	36	185	124	71	43	29	23	18		

- Duty Limit Service factor (L_2) = Operating time allowed per hour. The numbers greater than 60 are theoretical values and exceed 100% duty, solely to provide base data for adjusting L_2.
- The L_2 values are based on Uni-Lifts loaded at rated capacity, operating in an ambient temperature of 80° F., with a maximum allowable temperature rise of 100° F.
- For ambient temperatures above 180° F or below -20° F, consult factory.
- For speeds not shown, use the next fastest RPM value.

1. Determine Adjusted Duty Limit : D_2

When the unit load is at rated capacity, and the ambient temperature is at 80° F, the L_2 value from the table equals D_2. If not, proceed to step 1A.

1A) For different temperature service, or a unit load less than rated capacity, use the following equation to determine the Adjusted Duty Limit Service Factor (D_2).

$$D_2 = \frac{(180 - T_A) \times P \times L_2}{100 \times P_4}$$

L_2 = Duty Limit Service Factor (see Table 9)
T_A = Ambient temperature (F°)   P=Rated capacity (lbs.)
P_4 = Maximum running load per actuator (lbs.)
P = Rated capacity of the Uni-Lift

2. Determine if Duty Cycle is acceptable:
If D_2 >= **60** minutes, the application is rated for continuous duty.
If D_2 >= D_1 then the application is acceptable.
If D_2 < D_1 then the duty cycle limit has been exceeded for this application. You must do one of the following: select larger size Uni-Lift, reduce load by adding additional Uni-Lifts, or reduce speed. If you reduce speed, you must recalculate V_1 and D_1 from the Technical Specifications page 47 steps 6 and 7.

EXAMPLE

A. Consider for an B-10 low ratio 8:1 operating in 100°F ambient temperature, 10,000 lbs. load, and 1725 RPM, with a rise of 30 inches and 25 cycles per hour:

$$D_1 = \frac{(2 \times Rise \times C_h)}{V_1}$$

$$D_1 = \frac{(2 \times 30 \times 25)}{102.2}$$

Duty time per hour = 14.76 minutes per hour

$$D_2 = \frac{(180 - 60) \times 20,000 \times 23}{100 \times 10,000}$$

Duty cycle limit = 55.2 minutes per hour

Since D_2 is greater than D_1 the application is OK for the duty cycle limit.