H & J SERIES DUTY CYCLE (Table 6)
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
H 1/4	5:1	20	870	412	291	164	107	79	64	46	34
	10:1	40	1380	678	475	263	169	130	105	76	55
H 1/2	5:1	20	429	205	145	85	54	40	32	24	18
	10:1	40	705	336	236	132	85	65	52	38	28
J 3/4	5:1	40	220	105	73	46	27	21	17	13	9
	5:1	20	201	97	67	44	25	19	15	11	7
J 1	5:1	20	330	161	115	66	41	30	24	18	12
	10:1	40	508	243	172	94	61	46	39	28	17
J 2	6:1	24	211	102	74	48	30	22	18	13	9
	8:1	32	261	126	88	54	34	26	21	16	12
	12:1	48	340	164	117	67	45	34	27	20	15
J 5	5.33:1	16	102	51	36	24	15	11	9	6	
	12:1	36	172	85	60	36	24	17	15	11	
	24:1	72	201	98	75	45	31	24	19	15	
J 10	6:1	18	87	48	36	24	20	12	9	6	
	12:1	36	130	63	46	28	18	13	12	8	
J 20	8:1	16	72	36	26	17	11	8	6	4	
	16:1	32	117	57	41	27	16	12	10	7	
J 25	9:1	18	64	32	23	17	10	7	5		
	18:1	36	106	46	38	22	14	11	9		
J 40	20:1	30	81	39	29	17	12	9	8		

- 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 6)
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 32 steps 6 and 7.

EXAMPLE

A. Consider for an J-5 low ratio 5:33:1 operating in 120°F ambient temperature, 5,000 lbs. load, and 600 RPM, with a rise of 20 inches and 5 cycles per hour:

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

$$D_1 = \frac{(2 \times 20 \times 5)}{37.5}$$

Duty time per hour = 5.33 minutes per hour

$$D_2 = \frac{(180 - 100) \times 10,000 \times 15}{100 \times 5,000}$$

Duty cycle limit = 18 minutes per hour

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