



# SELECTION & PERFORMANCE TABLE

### Selection example : (For type BL and BLM)

To select a worm gear box for the following application:

**Load torque** = 27 N.m. **Out-put RPM** = 70.

**Duty conditions** : (a) Light loading, (b) 60 Starts/Hour, (c) 20 Hrs/Day

1. Refer Table 1 and get the Duty factor “**K**” = **1.38** for the specified duty conditions.

2. Calculate permissible out put torque of the gear box.

$$M2 = K \times \text{Load torque} = 1.38 \times 27 = \mathbf{37.3 \text{ N.m.}}$$

3. To select the gear box model and the power of the drive motor refer Table No. 2.

Under the vertical column for **N2 = 70 RPM** (Ratio **i = 20 : 1**) read various torque values, Select the row which gives a figure nearest to the calculated torque which is **M2 = 37.3 N.m.**

4. The nearest torque value is 39 N-m. has two options of gear boxes. One is with gear box model **BL 40 20 ...** and second is with **BL 50 20...**

**Table 1**

DUTY CONDITIONS				
LOADING	STARTS / HOURS	HOURS / DAY		
		2	8	20
Light Duty	Up to < 30	0.83	1.08	1.25
	Between 30 to 60	←0.92	←1.15	←1.38
	100 or more	1.03	1.25	1.45
Medium Duty	Up to < 30	1.08	1.28	1.48
	Between 30 to 60	1.18	1.38	1.58
	100 or more	1.28	1.48	1.68
Heavy Duty	Up to < 30	1.28	1.48	1.68
	Between 30 to 60	1.38	1.62	1.82
	100 or more	1.55	1.75	1.95

**Table 2**

GEAR BOX			Speed Ratio (I)															
			7.5	10	15	20	25	30	40	50	60	80	100					
Box Size	Fr. Sz.	Hp	N2 RPM (At Motor Speed N1 = 1400 RPM)															
			187	140	93	70	56	47	35	28	23	17.5	14					
			MAXIMUM OUT-PUT TORQUE M2 (N-m)															
30	63 B5	0.25	8	10	14	1.8	20											
40			8	10	15	19	23	26	32	38								
50										32	38	44	53	55				
40	71 B5	0.35	11	14	20	26	31	36	44									
50			11	14	21	26	32	36	45	53	60	65	55					
63													77	85				
40	71 B5	0.50	16	21	30	39												
50			16	21	31	39	47	54	66	73								
63										70	83	95	114	118				
40	80 B5	0.75	24.5	32														
50			25	32	46	59												
63					46	60	72	80	104	123								
75									108	129	146	180	180					
50	80 B5	1.00	34	44	63													
63			33	44	63	82	99	109	143									
75								116	147	176	200							
90										184	212	257	270					
63	90S B5	1.50	49	65	93	121												
75			49	66	95	122	149	170	216									
90										225	271	311						
110												324	410	460				
75	90L B5	2.00	67	90	130	167	200	230										
90							209	236	306	369								
110										375	442	490						
130												547	652					
90	100L B5	3.00	101	133	193	251	307	346										
110			101	133	192	256	316	355	462	550								
130										567	660	803						
110	112M B5	5.00	170	225	326	429	530	597										
130			172	223	330	431	529	606	793	907								

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