Data Sheet

V - guide track and wheels

Mounting dimensions

Figure 1

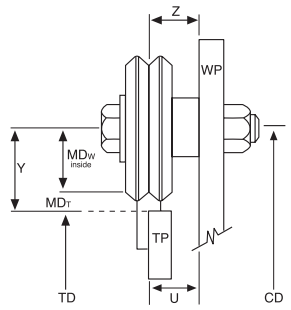


Figure 3

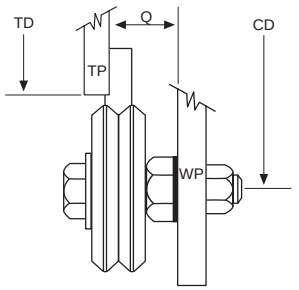


Figure 2

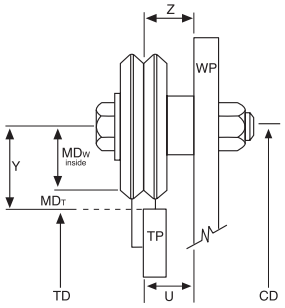


Figure 4

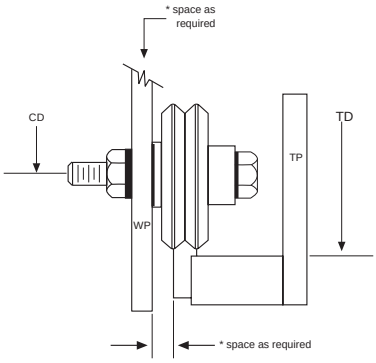
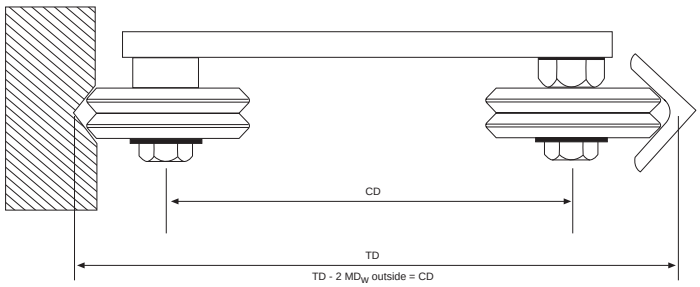


Figure 5



Legend

MD_W outside	= Mounting distance wheel, using outside Vee	WP	=	Wheel plate
MD_W inside	= Mounting distance, wheel, using inside Vee	TP	=	Track plate
MD_T	= Mounting distance, track	Z	=	Distance form WP to centre of wheel
TD	= Track distance	Q	=	Z + G
CD	= Centre distance	U	=	Z - G
Y	= MD_T + MD_W inside	G	=	Distance from TP to centre line of track

Dimensions

Size	Z	Q	U	Y
1	10.31	11.09	9.52	11.09
2	12.7	13.48	11.91	17.44
3	17.44	19.05	15.87	25.40
4	20.62	23.01	18.26	33.32

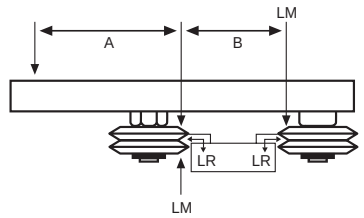
Load calculations

Examples

L = applied load (kg)/number of pairs of journals
LR = radial load on wheel (kg)
LM = moment load on wheel (kg)
A = dimensions (mm)
LM = dimensions (mm)
Fs = service factor

Inboard thrust loads

Figure 6



$LM_1 = \frac{L \times B}{A + B} \times Fs$

LM_2 = (L x Fs) - LM_1

Example: L = 22kg A = 100mm B = 160mm
Fs = 1 (normal service)

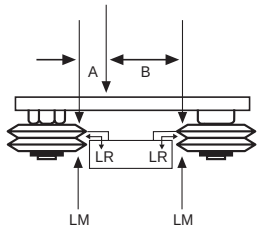
$LM_1 = \frac{22 \times 160}{100 + 160} \times 1 = 13.53kg$

LM_2 = (22 x 1) - 13,53kg = 8.47kg

LR = Greater of LM_1 and LM_2 compare these values to the moment and radial capacities.

Outboard thrust loads

Figure 7



$LM_1 = \frac{L \times A}{A} \times Fs$

LM_2 = (L x Fs) + LM_1

Example: L = 22kg A = 150mm B = 100mm
Fs = 1 (normal service)

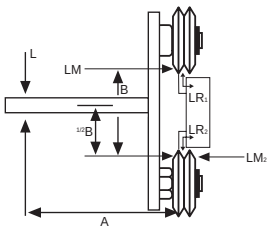
$LM_1 = \frac{22 \times 150}{100} \times 1 = 33kg$

LM_2 = (22 x 1) - 13.53kg = 55kg

LR = greater of LM_1 or LM_2, compare these values to the moment and radial capacities

Combined radial and thrust loads

Figure 8



$LM_1 = \frac{L \times A}{B} \times Fs$

LR_1 = (L x Fs) + LM1

LM_1 = LM_2

Example: L = 22kg A = 150mm B = 250mm
Fs = 1 (normal service)

$LM_1 = \frac{22 \times 150}{250} \times 1 = 13.2kg$

LR = (22 x 1) + 13.2kg = 35.2kg

Compare these values to the moment and radial capacities.

Application Notes

1. The flatness, straightness, and parallelism of the plate or bar to which the track is bolted are what determine the accuracy of the system. Cold finished or extruded bar or plate is adequate for many applications. Greatest accuracy is obtained by using material that has been ground flat and parallel on the mounting surfaces. The edge where the track mounts should be chamfered approximately 0.5mm x 45° to accommodate the slight radius on the inside of the track mounting shoulder.

2. When constructing track systems longer than 6096mm the joints on parallel tracks should be staggered for greater accuracy and smoothness.

3. Since the circumference of the wheel is greater at the major diameter than the minor diameter, there is a constant wiping action on the track, which gives a self-cleaning effect. If possible, a thin coating of extreme pressure grease should be applied to the track contact surface for longest life. As the hardness of the contaminants approaches that of the track and wheels the wear rate will increase. A value for this can only be determined by experiment.

4. The stationary bushings determine the alignment of the system. They should carry the major load if possible.

Figure 9

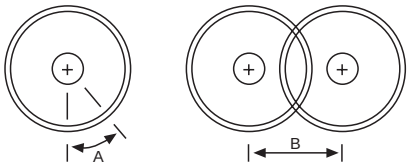
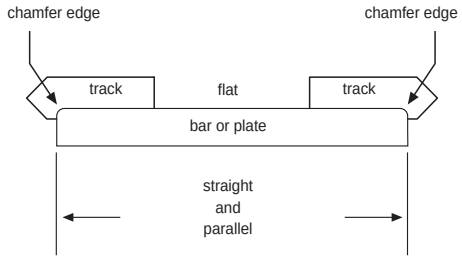


Figure 10



5. Normal adjustment is obtained by rotating the eccentric bushing until the wheel can just be turned against the track. If the bushing is overtightened it can exert a force greater than the load rating of the wheel.

6. The wheels should be mounted so that the load is predominantly radial if possible.

7. Oscillating motion resulting in less than full rotation of the wheel under load can cause accelerated wear of the bearing balls and raceways. The chart below gives recommended angles of rotation (A) and corresponding values of linear travel (B) for the wheels.

Wheel size	1	2	3	4
A	75	73	75	69
B	10.41	16.25	25.14	30.48

Size 1	**RS Stock Number**	**Size 3**	**RS Stock Number**
Track - 500mm	258-9987	Track - 1000mm	259-0050
Track - 1000mm	258-9993	Track - 2000mm	259-0066
Track - 2000mm	259-0016	Guide wheel	259-0117
Guide wheel	259-0094	Concentric bushing	259-0202
Concentric bushing	259-0189	Eccentric bushing	259-0151
Eccentric bushing	259-0139		

Size 2	**RS Stock Number**	**Size 4**	**RS Stock Number**
Track - 500mm	259-0022	Track - 1000mm	259-0072
Track - 1000mm	259-0038	Track - 2000mm	259-0088
Track - 2000mm	259-0044	Guide wheel	259-0123
Guide wheel	259-0101	Concentric bushing	259-0218
Concentric bushing	259-0195	Eccentric bushing	259-0173
Eccentric bushing	259-0145		

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