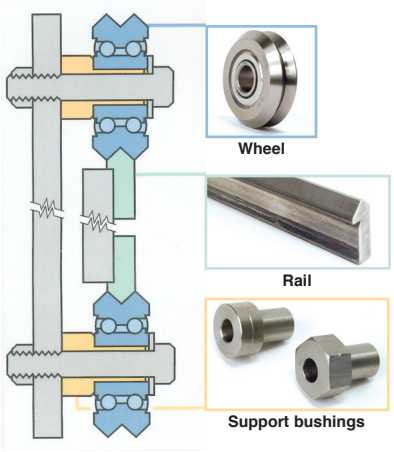
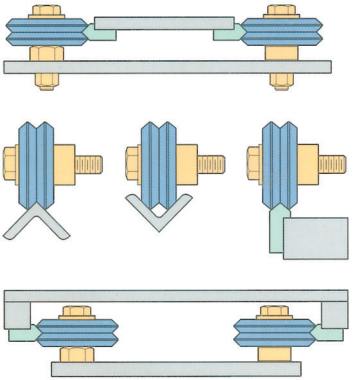
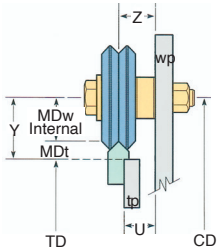
Examples of typical mounting arrangements

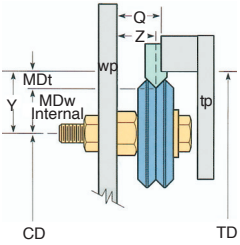


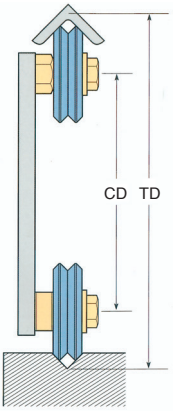


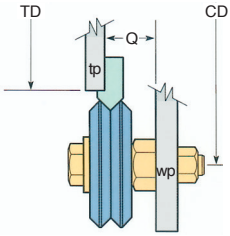
HEPCO

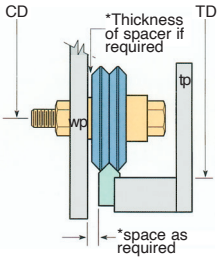
Mounting dimensions











External assembly dimensions
TD + 2Y = CD

Internal mounting formula
TD + 2 Y = CD
Where CD is less than wheel diameter, guide wheels must be offset for proper clearance

TD – 2MDw exterior = CD

Legend

- MDw external= Wheel mounting distance based on external V
- MDw internal= Wheel mounting distance based on interior V
- MDt = rail mounting distance
- TD = distance between rails
- CD = centre distance between wheel axles
- Y = MD T + MDw internal
- wp = Wheel plate
- tp = Track plate
- Z = Distance from wp to centre of wheel
- Q = Z + G
- U = Z – G
- G = Distance from tp to centre line of rail

	Z	Q	U	Y
Size 1	10,31	11,09	9,52	11,09
Size 2	12,70	13,48	11,91	17,44
Size 3	17,44	19,05	15,87	25,40
Size 4	20,62	23,01	18,26	33,32

Examples

- L = load (kg)
- LR = radial load per wheel (kg)
- LM = axial load per wheel (kg)
- A = dimensions (mm)
- B = dimensions (mm)
- Fs = service factor (see **HW** guide wheel)

Centred axial load

- LM1 = $\frac{L \times B}{A + B}$ x Fs
- LM2 = (L x Fs) - LM1

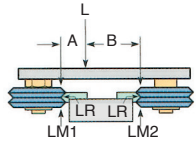
Example :

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

LM1 = $\frac{22 \times 160}{100 + 160}$ x 1 = 13,53kg

LM2 = (22 x 1) - 13,53 = 8,47kg

LR = higher than LM1 or LM2, compare these values to axial and radial capacities of **HW** guide wheels.



Offset loads

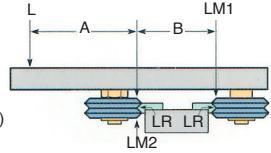
- LM1 = $\frac{L \times A}{B}$ x Fs
- LM2 = (L x Fs) + LM1

Example:

L = 22kg, A = 150mm, B = 100mm, Fs = 1 (normal use)

LM1 = $\frac{22 \times 150}{100}$ x 1 = 33kg

LM2 = (22 x 1) + 33 = 55kg



Combined axial and radial loads

- LM1 = $\frac{L \times A}{B}$ x Fs
- LR1 = (L x Fs) + LM1
- LM1 = LM2

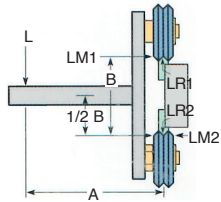
Example:

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

LM1 = $\frac{22 \times 150}{250}$ x 1 = 13.2kg

LR1 = (22 x 1) + 13.2 = 35.2kg

Compare these values to the axial and radial capacities given for HW guide wheels



Rails and rail supports

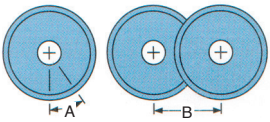
1- The straightness, flatness, and parallelism of the rail supports determine the system accuracy. Laminated or cold-drawn material is generally sufficient. A higher accuracy is however obtained by using a support with ground surfaces and edges. The edges receiving the rail must be chamfered by about 0.5mm at 45°, in order to fit with the round-off of the rail flange.

2- For continuous or heavy loads, we recommend you use **HTT** type rails with treated tracks. For prototypes or light and intermittent loads, untreated **HTS** type rails are often sufficient.

3- When constructing track systems longer than 6 metres, the joints on parallel tracks should be staggered for greater accuracy and smoothness.

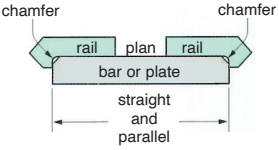
Lubrication

4- As the wheel circumference is greater on the external diameter than on the internal diameter, this results in the wheel wiping the rail, which produces a self cleaning effect. We recommend you apply a film of grease, which will increase the working life of both wheels and rails.



Assembly and wheel alignment

5- The (fixed) concentric bushes determine the system alignment. They should be placed on the side with the heaviest load.



6- A normal adjustment can be obtained by turning the eccentric bushing until the wheel is in contact with the rail and can still turn between the thumb and index finger. If the bushing is screwed too tight, it may exert a pressure on the wheel that exceeds admissible values.

7- We advise you assemble the wheel in such a way that the radial loads are predominant.

8- Do not use half-rail guide based system for applications where a system failure could cause a serious accident or injury.

9- Oscillating motion resulting in less than one full revolution of the wheel under load can cause accelerated wear on the internal bearing elements. The table below indicates the minimum angles of rotation recommended (A) and the corresponding linear displacement (B).

Wheel size	HW-1	HW-2	HW-3	HW-4
A	75°	73°	75°	69°
B	10,41	16,25	25,14	30,48