

LINEAR MOTION SOLUTIONS

Simplicity® Self-lubricated Bearings, Guides, Systems & Slides



High Load Capacity Linear Bearing Guide Systems



Hevi-Rail®

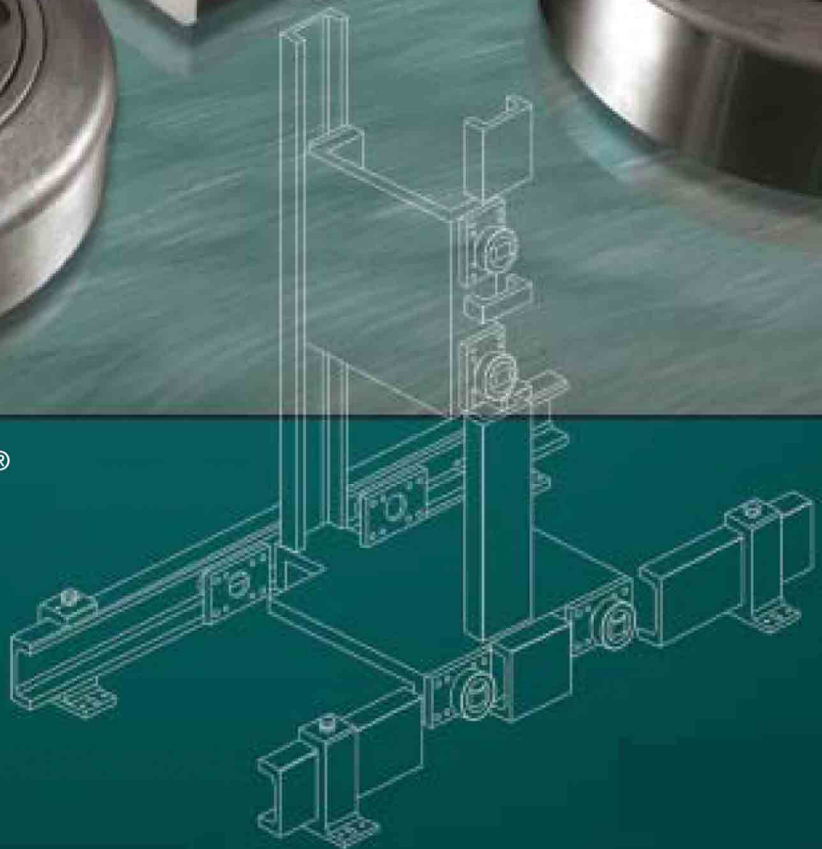


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Introduction

The Hevi-Rail® high load capacity linear bearing guide systems from Pacific Bearing provide high axial and radial load capacity for material handling, packaging, automotive, aerospace, steel, paper processing and many more industries and applications with medium to low precision requirements.

Features & Benefits

The economical Hevi-Rail® guide systems offer a lifetime of durability under continuous use. The easily interchangeable bearing components provide even dispersion of forces in the profile rails for longer system life and stability.

Linear Bearings

- Outer ring made of case-hardened steel
- Handles very high axial and radial loads
- Easily interchangeable components for less down-time

Profile Rails

- Standard length up to 6 meters
- Available sand blasted and lightly oiled
- U-channel and I-channel available

Flange Plates

- Simple mounting for bearings
- Can be ordered pre-welded to bearing

Clamp Flanges

- Adjustable
- Eliminates need for welding and straightening
- Easily adjustable parallelism

Applications

Some application examples:

- Telescoping applications (ex. overhead extending jib crane)
- Warehouse handling systems / other material handling

- Custom and standard lift units
- Large Shrink-wrap machinery
- Steel and coil handling
- Large variety of material handling



Technical Specifications

LINEAR BEARING FOR AXIAL & RADIAL LOADS

Prior to welding, disassemble bearing components.
To avoid cracks in welded joints, please use welding electrodes and core weld for unalloyed steel.

Materials:

Outer ring - Case-hardened steel UNI 20 MnCr 5 hardened at 60+2 HRC

Inner ring - Hardened steel En 31 - SAE 52100 hardened at 62-2 HRC

Cylindrical rollers - Flat ground heads are hardened steel, En 31 - SAE 52100, hardened at 59-64 HRC

Welding bolts - Low carbon steel

Bolt tolerance = 0.05 mm

Seals:

Bearings with fixed axial bearing (HVB-053 to HVB-063) - radial bearing has steel labyrinth and side guide roller with rubber seals

Bearings with eccentric adjustable axial bearing (HVBEA-454 to HVBEA-463) - Both radial and axial bearings utilize rubber seals (RS type)

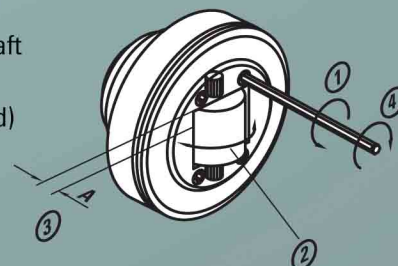
Lubrication:

Bearings are supplied lubricated with grease grade 3. Bearings from HVB-055 to HVB-063 can be relubricated with grease zerk.

Temperature: Resistant from -10°C to 80°C (14°F to 176°F)

Adjusting Axial Bearing (HVBEA-454 to HVBEA-463)

1. Remove front screws
2. Rotate axial bearing shaft
3. Check dimension A (repeat step 2, if needed)
4. Re-install front screws with Loctite®





Technical Specifications (cont.)

PROFILE RAILS

Materials: High quality steel, UNI FE 510.C. Standard length of 6 m (19.7 ft.). Optional sand blasted and/or lightly oiled.

The guide ways in the rails should be lightly greased and not painted.

CLAMP FLANGE

Material: Low carbon steel

Adjustable clamp

FLANGE PLATE

Materials: Low carbon steel

Special designs available, call factory.

Optional: Bearings pre-welded to flange plates.

BEARING LIFE CALCULATION

$$\text{Life (hrs)} = 0.7 * (c/p)^{3.33}$$

c = dynamic load factor (N)

p = actual radial load (N)

Linear Bearing System Selection (when used with Profile Rails HVR-S to HVR-6)

Use the following chart to select the bearings (fixed or adjustable), rails, flange plates and clamp flanges according to your system's maximum static radial and axial loading.

For dimensional and detailed specifications for the system selected, simply refer to the corresponding page.

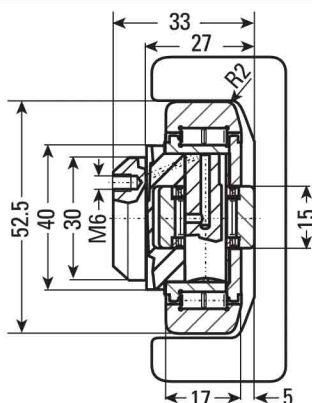
F[KN] Max Stat Radial	F[KN] Max Stat Axial	Combined Bearing Axial Bearing Fixed	Combined Bearing Axial Bearing Adjustable	Profile Rails	Clamp Flange	Flange Plate	Page No.
5.2	1.7	HVB-053	—	HVR-S	—	HVPS-1	2
7.2	2.4	HVB-054	HVBEA-454	HVR-0	HVC-0	HVP0-1	3
8.6	2.8	HVB-055	HVBEA-455	HVR-1, HVRI-07	HVC-1	HVP1-1	4
8.9	3.0	HVB-056	HVBEA-456	HVR-2	HVC-2	HVP2-1	5
8.9	3.0	HVB-057	HVBEA-457	HVRI-08	—	—	5
15.6	5.2	HVB-058	HVBEA-458	HVR-3, HVRI-09	HVC-3	HVP3-1	6
15.5	5.1	HVB-059	HVBEA-459	HVRI-10	—	—	7
16.5	5.5	HVB-060	HVBEA-460	HVRI-11	—	—	7
16.5	5.5	HVB-061	HVBEA-461	HVR-4	HVC-4	HVP4-1	8
23.5	7.8	HVB-062	HVBEA-462	HVR-5	—	HVP4-1	9
41.1	13.7	HVB-063	HVBEA-463	HVR-6	—	HVP6-1	9

For cantilevered loads, static verification calculations can be found on page 10.

WHEN USED WITH SHOWN PROFILE RAILS, System Max. Static Radial Load = 5.2 KN / 0.6 US Ton-Force
System Max. Static Axial Load = 1.7 KN / 0.2 US Ton-Force

*All dimensions in mm.

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-053



WEIGHT = 0.36 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 24 KN

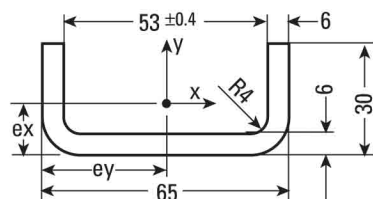
Max. static load = 33 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 10 KN

Max. static load = 14 KN

PROFILE RAIL U-CHANNEL HVR-S



WEIGHT = 5.3 Kg/m

MOMENT OF INERTIA

$$I_x = 5.2 \text{ cm}^4, I_y = 38.8 \text{ cm}^4$$

MOMENT OF RESISTANCE

$$W_x = 2.50 \text{ cm}^3, W_y = 11.90 \text{ cm}^3$$

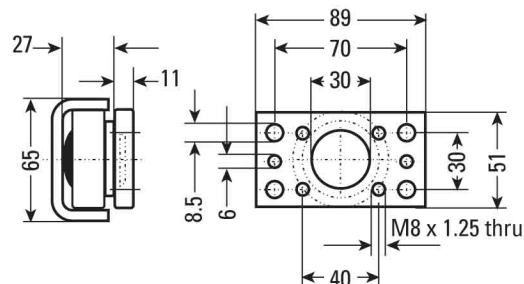
RADIUS OF INERTIA

$$i_x = 0.80 \text{ cm}, i_y = 2.40 \text{ cm}$$

DIST. TO CENTER OF GRAVITY

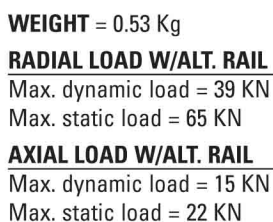
$$e_x = 0.94 \text{ cm}, e_y = 32.50 \text{ cm}$$

FLANGE PLATE HVPS-1

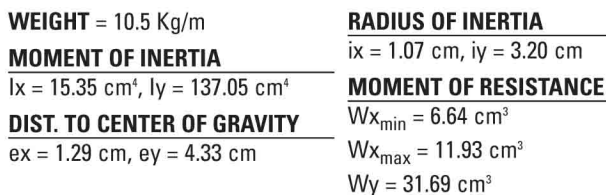




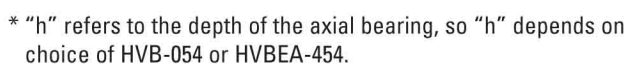
LINEAR BEARING WITH FIXED AXIAL BEARING HVB-054



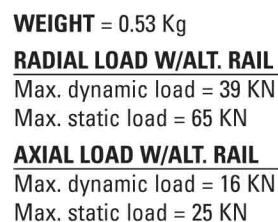
PROFILE RAIL U-CHANNEL HVR-0



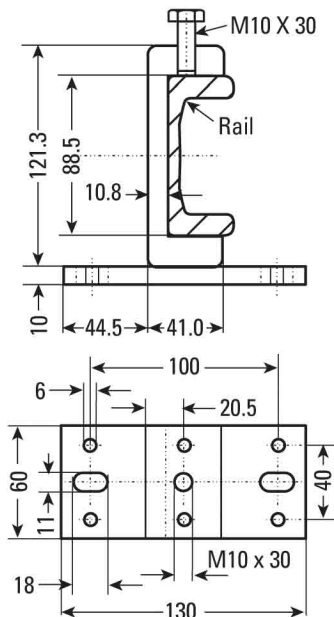
FLANGE PLATE HVPO-1



LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-454



CLAMP FLANGE HVC-0





LINEAR BEARING WITH FIXED AXIAL BEARING HVB-055



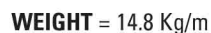
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 56 kN
Max. static load = 93 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 18 kN
Max. static load = 26 kN

PROFILE RAIL U-CHANNEL



MOMENT OF INERTIA

$$I_x = 27.29 \text{ cm}^4, I_y = 273.50 \text{ cm}^4$$

DIST. TO CENTER OF GRAVITY

$$e_x = 1.50 \text{ cm}, e_y = 5.16 \text{ cm}$$

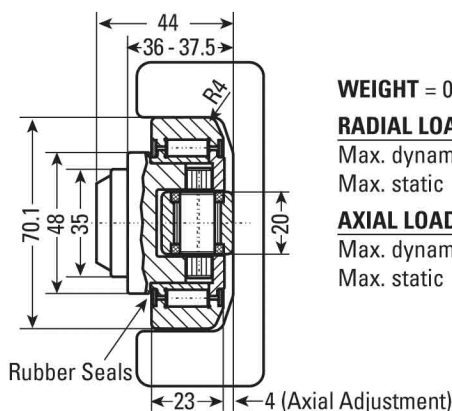
RADIUS OF INERTIA

$$i_x = 1.20 \text{ cm}, i_y = 3.81 \text{ cm}$$

MOMENT OF RESISTANCE

$$W_{x_{\min}} = 10.91 \text{ cm}^3$$
$$W_{x_{\max}} = 18.20 \text{ cm}^3$$
$$W_V = 53.00 \text{ cm}^3$$

CLAMP FLANGE HVC-1



WEIGHT = 0.80 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 56 kN
Max. static load = 93 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 16 kN
Max. static load = 25 kN

PROFILE RAIL I-CHANNEL HVRI-07



MOMENT OF INERTIA

 $I_x = 344.29 \text{ cm}^4, I_y = 57.63 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$$e_x = 4.90 \text{ cm. } e_y = 3.25 \text{ cm}$$

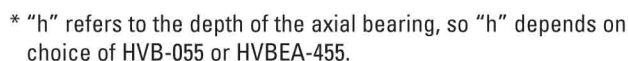
RADIUS OF INERTIA

 $i_x = 3.73 \text{ cm}, i_y = 1.52 \text{ cm}$

MOMENT OF RESISTANCE

$$W_X = 70.26 \text{ cm}^3, W_Y = 17.73 \text{ cm}^3$$

FLANGE PLATE HVP1-1



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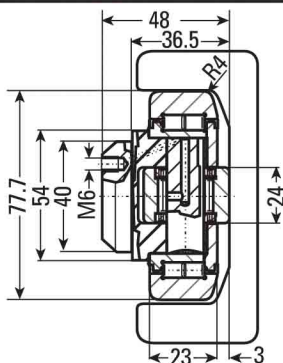
Linear Bearing Systems to 1.0 US Ton-Force

Hevi-Rail®
Heavy Duty Bearing Systems

WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 8.9 KN / 1.0 US Ton-Force**
System Max. Static Axial Load = 3.0 KN / 0.3 US Ton-Force

*All dimensions in mm.

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-056



WEIGHT = 1.00 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 59 KN

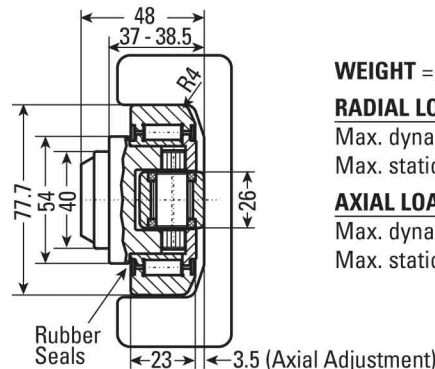
Max. static load = 102 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 20 KN

Max. static load = 32 KN

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-456



WEIGHT = 1.00 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 59 KN

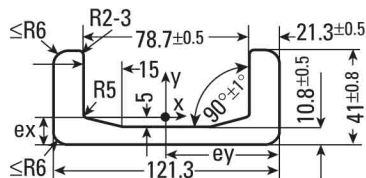
Max. static load = 102 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 23 KN

Max. static load = 36 KN

PROFILE RAIL U-CHANNEL HVR-2



WEIGHT = 20.9 Kg/m

MOMENT OF INERTIA

$I_x = 37.92 \text{ cm}^4$, $I_y = 493.58 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 1.54 \text{ cm}$, $e_y = 6.07 \text{ cm}$

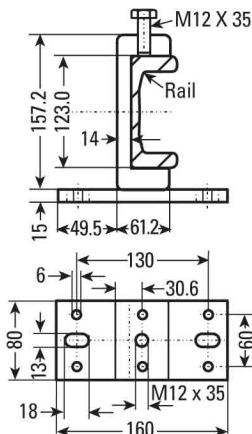
RADIUS OF INERTIA

$i_x = 1.19 \text{ cm}$, $i_y = 4.30 \text{ cm}$

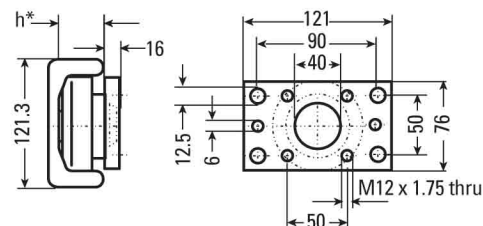
MOMENT OF RESISTANCE

$W_{x_{min}} = 14.83 \text{ cm}^3$, $W_{x_{max}} = 24.58 \text{ cm}^3$, $W_y = 81.38 \text{ cm}^3$

CLAMP FLANGE HVC-2



FLANGE PLATE HVP2-1

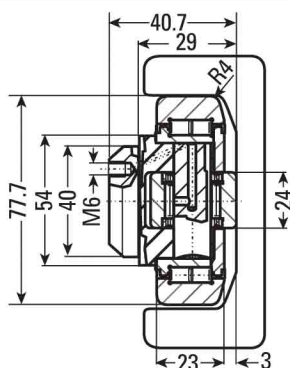


* "h" refers to the depth of the axial bearing, so "h" depends on choice of HVB-056 or HVBEA-456.

WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 8.9 KN / 1.0 US Ton-Force**
System Max. Static Axial Load = 3.0 KN / 0.3 US Ton-Force

*All dimensions in mm.

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-057



WEIGHT = 0.90 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 59 KN

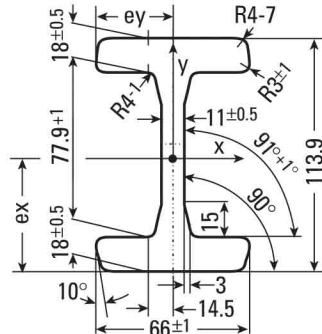
Max. static load = 102 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 20 KN

Max. static load = 32 KN

PROFILE RAIL I-CHANNEL HVRI-08



WEIGHT = 25.3 Kg/m

MOMENT OF INERTIA

$I_x = 597.54 \text{ cm}^4$, $I_y = 76.79 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 5.70 \text{ cm}$, $e_y = 3.30 \text{ cm}$

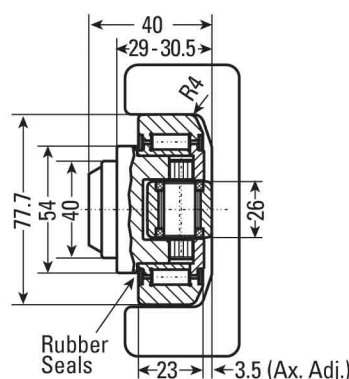
RADIUS OF INERTIA

$i_x = 4.24 \text{ cm}$, $i_y = 1.54 \text{ cm}$

MOMENT OF RESISTANCE

$W_x = 104.92 \text{ cm}^3$, $W_y = 23.27 \text{ cm}^3$

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-457



WEIGHT = 0.87 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 59 KN

Max. static load = 102 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 23 KN

Max. static load = 36 KN



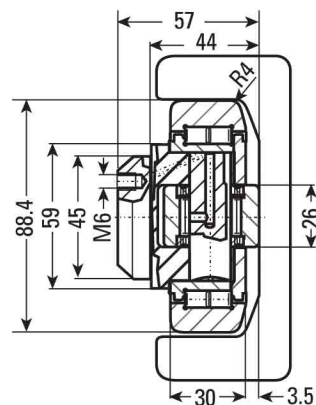
Linear Bearing Systems to 1.7 US Ton-Force



WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 15.6 kN / 1.7 US Ton-Force**
System Max. Static Axial Load = 5.2 kN / 0.6 US Ton-Force

*All dimensions in mm.

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-058



WEIGHT = 1.62 Kg

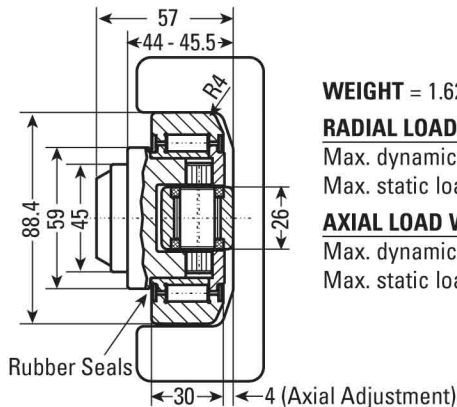
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 85 kN
 Max. static load = 134 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 27 kN
 Max. static load = 44 kN

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-458



WEIGHT = 1.62 Kg

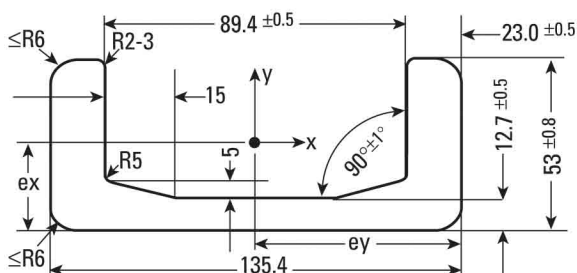
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 85 kN
 Max. static load = 134 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 23 kN
 Max. static load = 36 kN

PROFILE RAIL U-CHANNEL HVR-3



WEIGHT = 28.6 Kg/m

MOMENT OF INERTIA

$I_x = 89.47 \text{ cm}^4$, $I_y = 865.23 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 1.99 \text{ cm}$, $e_y = 6.77 \text{ cm}$

RADIUS OF INERTIA

$i_x = 1.57 \text{ cm}$, $i_y = 4.87 \text{ cm}$

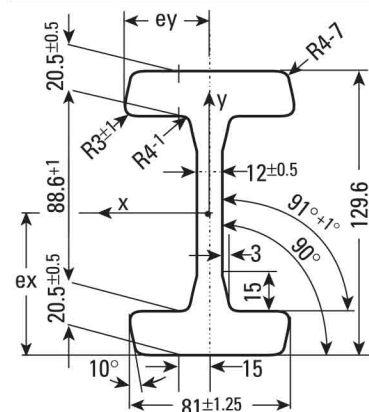
MOMENT OF RESISTANCE

$W_{x_{min}} = 27.03 \text{ cm}^3$

$W_{x_{max}} = 44.96 \text{ cm}^3$

$W_y = 127.80 \text{ cm}^3$

PROFILE RAIL I-CHANNEL HVRI-09



WEIGHT = 34.1 Kg/m

MOMENT OF INERTIA

$I_x = 1037.22 \text{ cm}^4$, $I_y = 161.89 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 6.48 \text{ cm}$, $e_y = 4.05 \text{ cm}$

RADIUS OF INERTIA

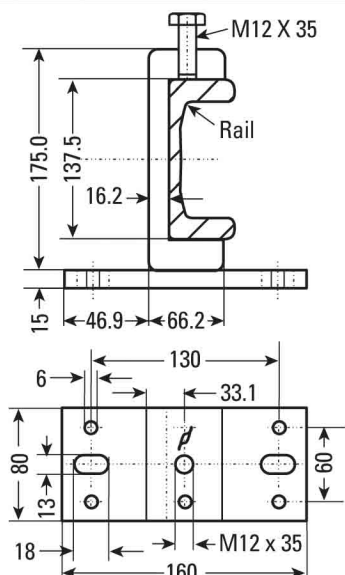
$i_x = 4.89 \text{ cm}$, $i_y = 1.93 \text{ cm}$

MOMENT OF RESISTANCE

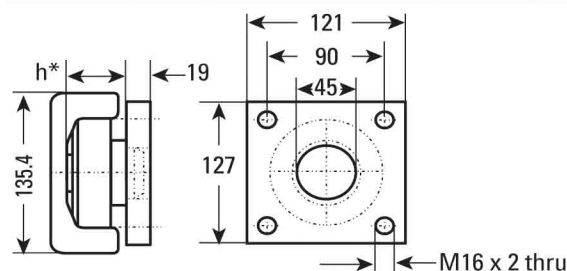
$W_x = 160.07 \text{ cm}^3$

$W_y = 39.97 \text{ cm}^3$

CLAMP FLANGE HVC-3



FLANGE PLATE HVP3-1



* "h" refers to the depth of the axial bearing, so "h" depends on choice of HVB-058 or HVBEA-458.

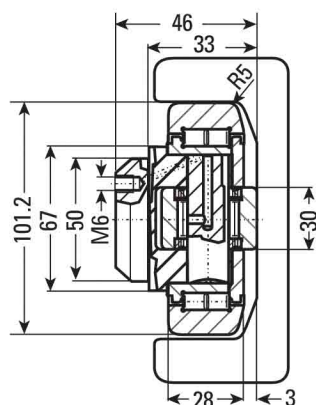


Linear Bearing Systems to 1.8 US Ton-Force

Hevi-Rail®
Heavy Duty Bearing Systems

WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 15.5 kN / 1.7 US Ton-Force**
System Max. Static Axial Load = 5.1 kN / 0.6 US Ton-Force

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-059



WEIGHT = 1.80 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 92 kN

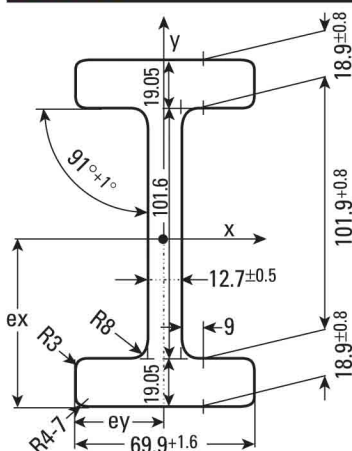
Max. static load = 153 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 32 kN

Max. static load = 50 kN

PROFILE RAIL I-CHANNEL HVRI-10



WEIGHT = 30.9 Kg/m

MOMENT OF INERTIA

$I_x = 1078.01 \text{ cm}^4$, $I_y = 104.38 \text{ cm}^4$

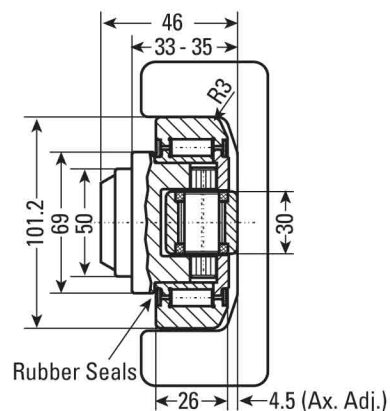
DIST. TO CENTER OF GRAVITY

$e_x = 6.99 \text{ cm}$, $e_y = 3.49 \text{ cm}$

MOMENT OF RESISTANCE

$W_x = 154.33 \text{ cm}^3$, $W_y = 29.89 \text{ cm}^3$

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-459



WEIGHT = 1.74 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 91 kN

Max. static load = 140 kN

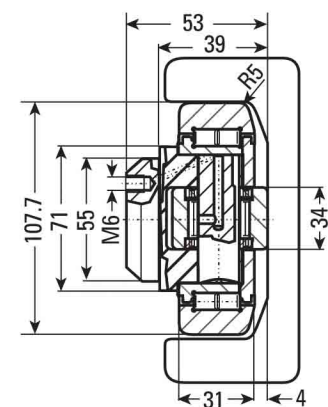
AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 32 kN

Max. static load = 50 kN

WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 16.5 kN / 1.8 US Ton-Force**
System Max. Static Axial Load = 5.5 kN / 0.6 US Ton-Force

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-060



WEIGHT = 2.30 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 100 kN

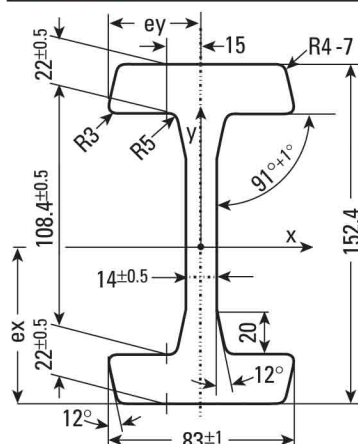
Max. static load = 174 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 39 kN

Max. static load = 66 kN

PROFILE RAIL I-CHANNEL HVRI-11



WEIGHT = 40.5 Kg/m

MOMENT OF INERTIA

$I_x = 1670.08 \text{ cm}^4$, $I_y = 184.52 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 7.62 \text{ cm}$, $e_y = 4.15 \text{ cm}$

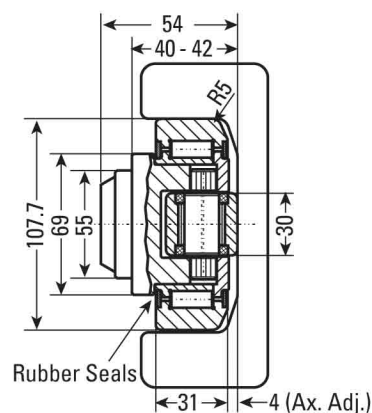
RADIUS OF INERTIA

$i_x = 5.69 \text{ cm}$, $i_y = 1.91 \text{ cm}$

MOMENT OF RESISTANCE

$W_x = 219.17 \text{ cm}^3$, $W_y = 44.46 \text{ cm}^3$

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-460



WEIGHT = 2.27 Kg

RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 100 kN

Max. static load = 174 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 32 kN

Max. static load = 50 kN



Linear Bearing Systems to 1.8 US Ton-Force

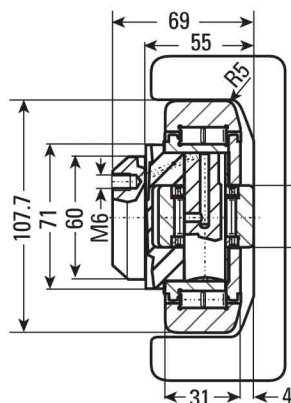
Hevi-Rail®
Heavy Duty Bearing Systems

WHEN USED WITH
SHOWN PROFILE RAILS,

System Max. Static Radial Load = 16.5 kN / 1.8 US Ton-Force
System Max. Static Axial Load = 5.5 kN / 0.6 US Ton-Force

*All dimensions in mm.

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-061



WEIGHT = 2.82 Kg

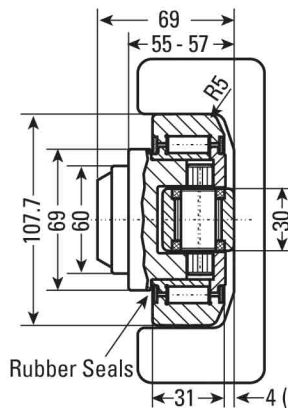
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 100 kN
Max. static load = 174 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 39 kN
Max. static load = 66 kN

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-461



WEIGHT = 2.82 Kg

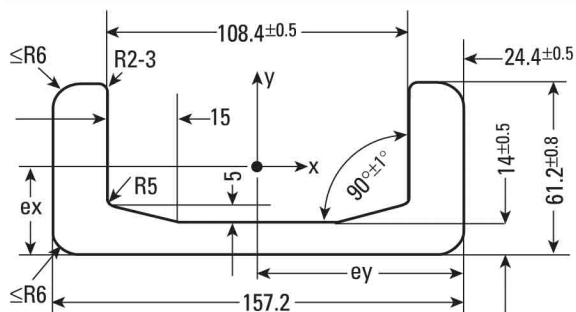
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 100 kN
Max. static load = 174 kN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 32 kN
Max. static load = 50 kN

PROFILE RAIL U-CHANNEL HVR-4



WEIGHT = 35.9 Kg/m

MOMENT OF INERTIA

$I_x = 150.98 \text{ cm}^4$, $I_y = 1,494.32 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 2.25 \text{ cm}$, $e_y = 7.86 \text{ cm}$

RADIUS OF INERTIA

$i_x = 1.82 \text{ cm}$, $i_y = 5.72 \text{ cm}$

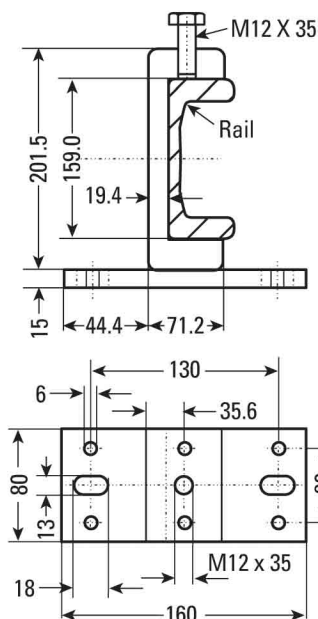
MOMENT OF RESISTANCE

$W_{x_{min}} = 39.00 \text{ cm}^3$

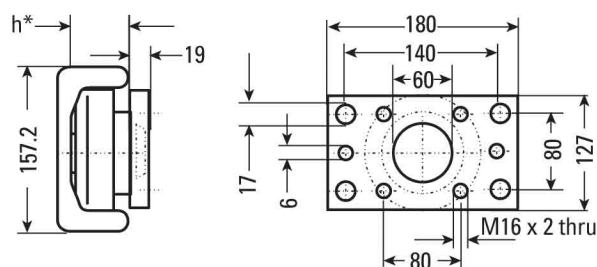
$W_{x_{max}} = 67.13 \text{ cm}^3$

$W_y = 190.12 \text{ cm}^3$

CLAMP FLANGE HVC-4



FLANGE PLATE HVP4-1



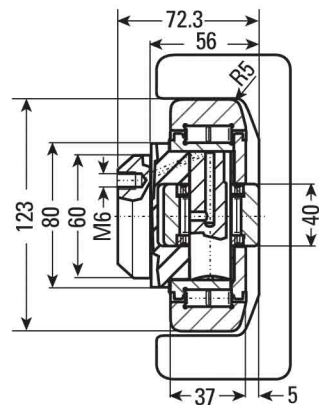
* "h" refers to the depth of the axial bearing, so "h" depends on choice of HVB-061 or HVBEA-461.

Linear Bearing Systems to 4.6 US Ton-Force

Hevi-Rail®
Heavy Duty Bearing Systems

WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 23.5 KN / 2.6 US Ton-Force**
System Max. Static Axial Load = 7.8 KN / 0.9 US Ton-Force

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-062



WEIGHT = 4.50 Kg

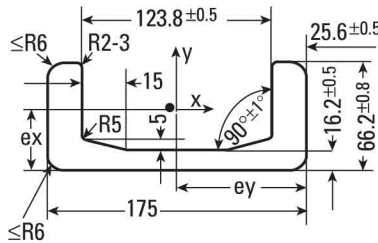
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 135 KN
Max. static load = 242 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 47 KN
Max. static load = 90 KN

PROFILE RAIL HVR-5



WEIGHT = 42.9 Kg/m

MOMENT OF INERTIA

$I_x = 205.84 \text{ cm}^4$, $I_y = 2,185.32 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 2.37 \text{ cm}$, $e_y = 8.75 \text{ cm}$

RADIUS OF INERTIA

$i_x = 1.94 \text{ cm}$, $i_y = 6.32 \text{ cm}$

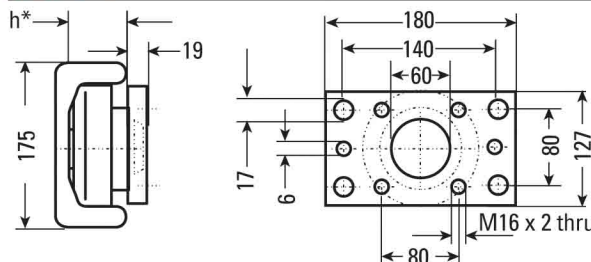
MOMENT OF RESISTANCE

$W_{x_{min}} = 48.42 \text{ cm}^3$

$W_{x_{max}} = 86.89 \text{ cm}^3$

$W_y = 249.75 \text{ cm}^3$

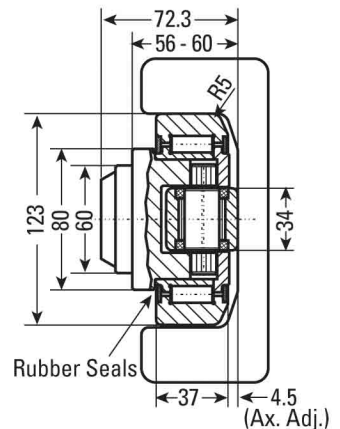
FLANGE PLATE HVP4-1



* "h" refers to the depth of the axial bearing, so "h" depends on choice of HVB-062 or HVBEA-462.

*All dimensions in mm.

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-462



WEIGHT = 3.90 Kg

RADIAL LOAD W/ALT. RAIL

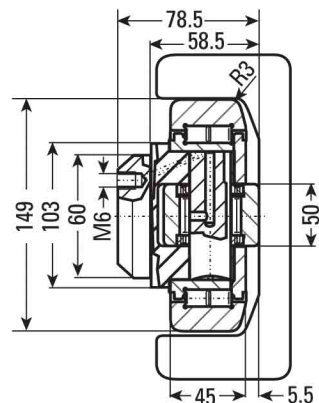
Max. dynamic load = 135 KN
Max. static load = 242 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 41 KN
Max. static load = 72 KN

WHEN USED WITH SHOWN PROFILE RAILS, **System Max. Static Radial Load = 41.1 KN / 4.6 US Ton-Force**
System Max. Static Axial Load = 13.7 KN / 1.5 US Ton-Force

LINEAR BEARING WITH FIXED AXIAL BEARING HVB-063



WEIGHT = 6.52 Kg

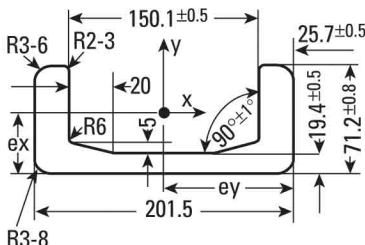
RADIAL LOAD W/ALT. RAIL

Max. dynamic load = 183 KN
Max. static load = 353 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 82 KN
Max. static load = 131 KN

PROFILE RAIL HVR-6



WEIGHT = 52.3 Kg/m

MOMENT OF INERTIA

$I_x = 269.52 \text{ cm}^4$, $I_y = 3,423.08 \text{ cm}^4$

DIST. TO CENTER OF GRAVITY

$e_x = 2.40 \text{ cm}$, $e_y = 10.08 \text{ cm}$

RADIUS OF INERTIA

$i_x = 2.01 \text{ cm}$, $i_y = 7.17 \text{ cm}$

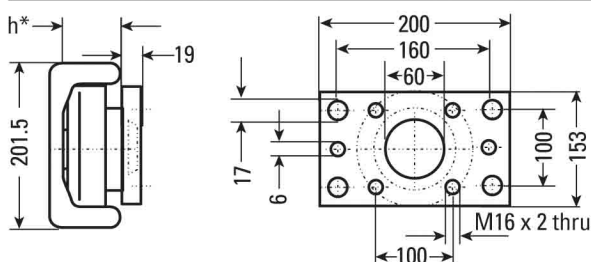
MOMENT OF RESISTANCE

$W_{x_{min}} = 57.15 \text{ cm}^3$

$W_{x_{max}} = 112.11 \text{ cm}^3$

$W_y = 339.76 \text{ cm}^3$

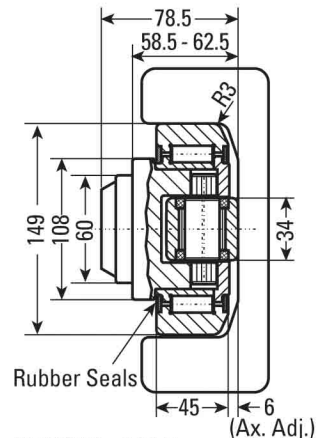
FLANGE PLATE HVP6-1



* "h" refers to the depth of the axial bearing, so "h" depends on choice of HVB-063 or HVBEA-463.

*All dimensions in mm.

LINEAR BEARING WITH ECCENTRIC ADJUSTABLE AXIAL BEARING HVBEA-463



WEIGHT = 6.50 Kg

RADIAL LOAD W/ALT. RAIL

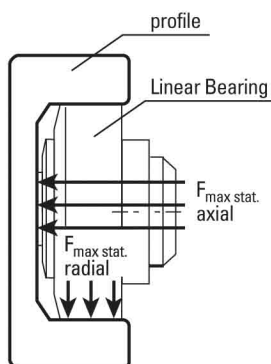
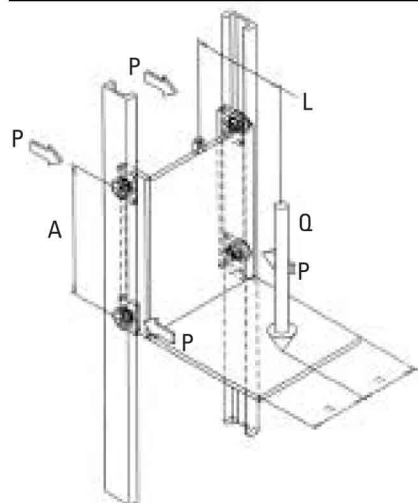
Max. dynamic load = 183 KN
Max. static load = 353 KN

AXIAL LOAD W/ALT. RAIL

Max. dynamic load = 41 KN
Max. static load = 72 KN



Calculation of Fmax for Cantilevered Loads



Q = Load capacity (N)

L = Load distance to suspension point (mm)

P = Suspension point

A = Bearing distance (mm) recommended 500–1000 mm

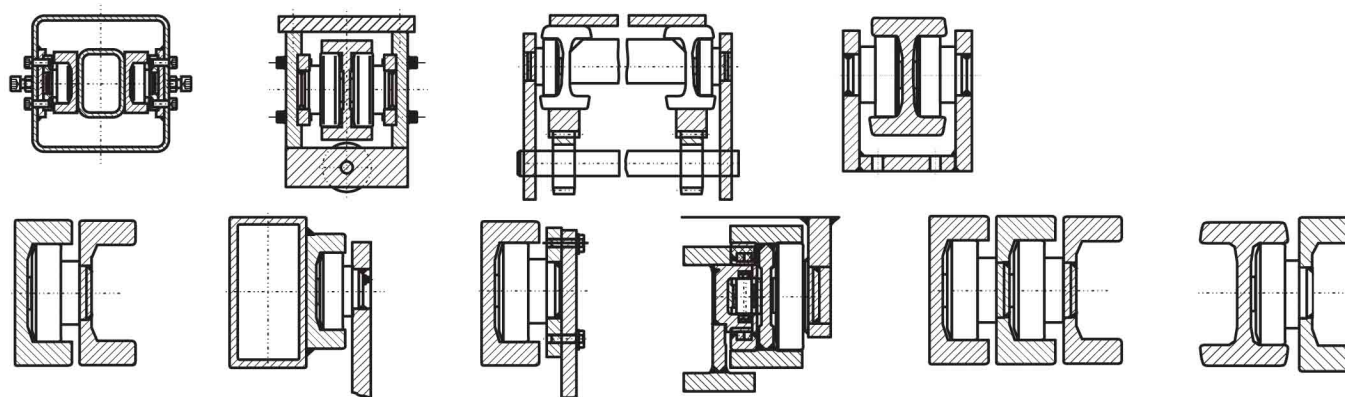
Formula:

$$F_{\max \text{ stat radial}} [\text{N}] = \frac{Q \cdot L}{2 \cdot A}$$

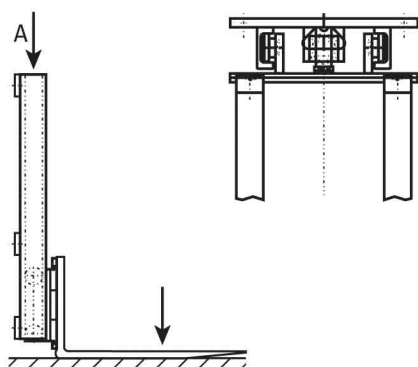
To avoid wearout in the rail, which is not hardened, the pressure between bearing and rail should be max. $P_{\text{zul}} = 860 \text{ N/mm}^2$ for Profile Rails HVB-0 to HVB-6.

$P_{\text{zul}} = 750 \text{ N/mm}^2$ for all profile rails. Indicated here are $F_{\max \text{ stat radial}} + \text{axial}$ for each bearing.

Possible Mounting Configurations



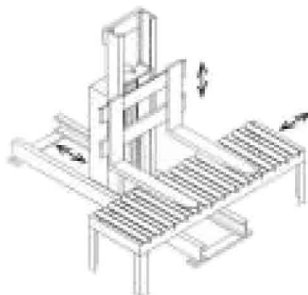
Lifting Units



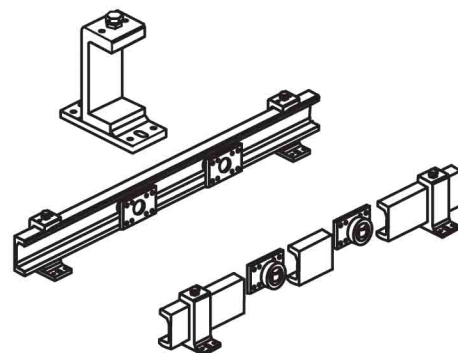
Horizontal Telescope



Handling Units

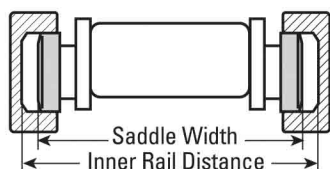


Adjustable Clamp System



System Design Suggestions

1. The overall system clearance should be 1.524 mm to 3.048 mm



Inner Rail Distance =
Saddle Width + (1.524 mm
to 3.048 mm)

2. Verify that the Axial bearing is aligned parallel to the rail; especially in vertical operations.



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Self-lubricating Linear Plane Bearings with engineered-to-match steel and ceramic coated shafting, pillow blocks, pre-drilled support rails, and NEW integrated 1-piece rail and shaft.

- No lubrication required
- Fully interchangeable
- Tolerates temperature extremes
- Cannot catastrophically fail

simplicity®



Self-lubricating miniature linear guides

- Fully size interchangeable with industry standard sizes
- Lengths up to 3600 mm (12 ft.)
- No lubrication required
- Tolerates temperature extremes

**mini®
rail**



Combination axial and radial load heavy-duty rolling element bearings and rails

- Economical assembly
- Bearing components are easily interchangeable
- Even dispersion of load

Hevi-Rail®
Heavy Duty Bearing Systems



Rolling element linear guides

- Precision tolerances +/- .0254 mm over entire rail length
- Simple design for fast, easy installation
- Lightweight, durable construction
- Also available as drawer slides and belt drive systems

redi-rail®



2-piece self-lubricating guide/slide systems

- Dampens vibration & shock loads
- No lubrication required
- Tolerates temperature extremes
- Customize with ball or lead screws, belt drives & more

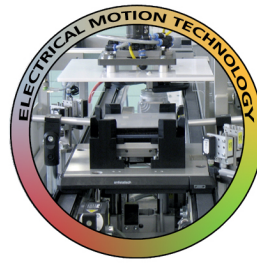
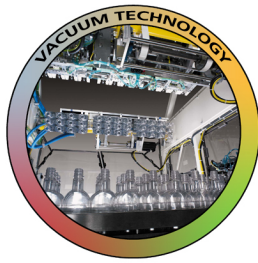
dolphin guides®



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An entrepreneurial mechanical engineer, Bob Schroeder, founded Pacific Bearing in 1983 with Simplicity®, the world's first self-lubricating plane bearing. Mr. Schroeder's vision was then, and still is today, to simplify linear motion applications and reduce costs for industrial motion control consumers worldwide. This ideal has been realized and embraced today by Pacific Bearing's 100+ employees that engineer, manufacture, market and sell innovative linear guide systems and components.



We look forward to your application.

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