

AFD Maximum Carriage Load Calculations – Ball Bearings/Heavy-Duty Roller Bearings

AFD310/70/1000

W= Maximum Force (N) (max. applied force + process equipment weight)

D= Load Overhang distance (mm)

1 lbf. = 4.45 N

L= Bearing Load (N)

1 in. = 25.4 mm

⊕ = Concentrated Load Position

1 N = 0.102 kg

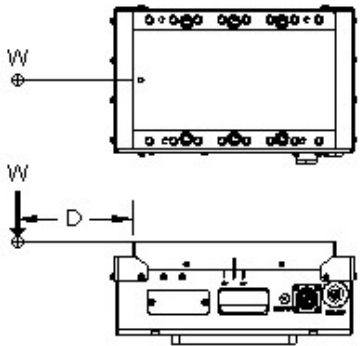
CASE 1

Standard Ball Bearings:

$$L = \frac{W \times (D + 175)}{504} < 65$$

Heavy-duty Roller Bearings:

$$L = \frac{W \times (D + 175)}{252} < 530$$



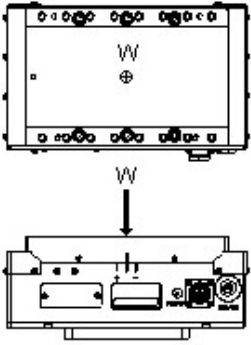
CASE 2

Standard Ball Bearings:

$$L = \frac{W}{30} < 65$$

Heavy-duty Roller Bearings:

$$L = \frac{W}{15} < 530$$



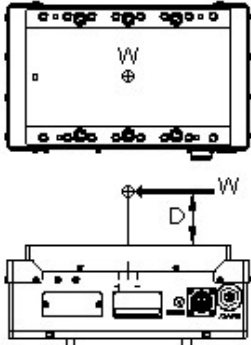
CASE 3

Standard Ball Bearings:

$$L = \frac{W \times (D + 28)}{504} < 65$$

Heavy-duty Roller Bearings:

$$L = \frac{W \times (D + 28)}{252} < 530$$



AFD620/80/1100

W = Maximum Applied Force (N)

D = Load Overhang (mm)

L = Bearing Load (N)

⊕ = Concentrated Load Position

1 lbf. = 4.45 N

1 in. = 25.4 mm

1 N = 0.102 kg

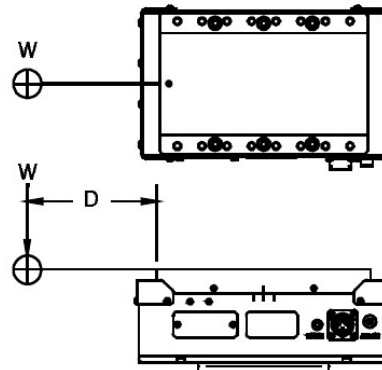
Case 1

Standard Ball Bearings:

$$L = \frac{W \times (D + 248)}{616} < 150$$

Heavy-duty Roller Bearings:

$$L = \frac{W \times (D + 248)}{308} < 1300$$



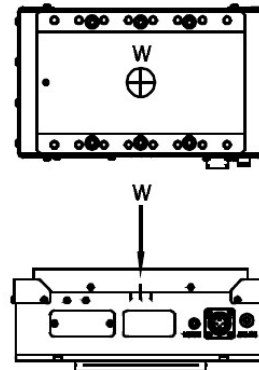
Case 2

Standard Ball Bearings:

$$L = \frac{W}{24} < 150$$

Heavy-duty Roller Bearings:

$$L = \frac{W}{12} < 1300$$



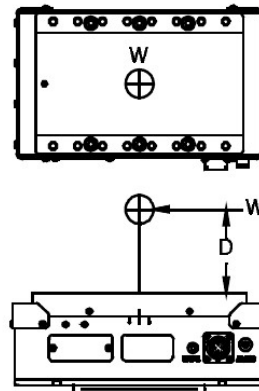
Case 3

Standard Ball Bearings:

$$L = \frac{W \times (D + 35)}{616} < 150$$

Heavy-duty Roller Bearings:

$$L = \frac{W \times (D + 35)}{308} < 1300$$



AFD1240/90/1200

W = Maximum Applied Force (N)

D = Load Overhang (mm)

L = Bearing Load (N)

⊕ = Concentrated Load Position

1 lbf. = 4.45 N

1 in. = 25.4 mm

1 N = 0.102 kg

Case 1

Standard Ball Bearings:

$$L = \frac{W \times (D + 320) < 260}{1008}$$

Heavy-duty Roller Bearings:

$$L = \frac{W \times (D + 320) < 2500}{504}$$

Case 2

Standard Ball Bearings:

$$L = \frac{W < 260}{30}$$

Heavy-duty Roller Bearings:

$$L = \frac{W < 2500}{15}$$

Case 3

Standard Ball Bearings:

$$L = \frac{W \times (D + 36) < 260}{1008}$$

Heavy-duty Roller Bearings:

$$L = \frac{W \times (D + 36) < 2500}{504}$$