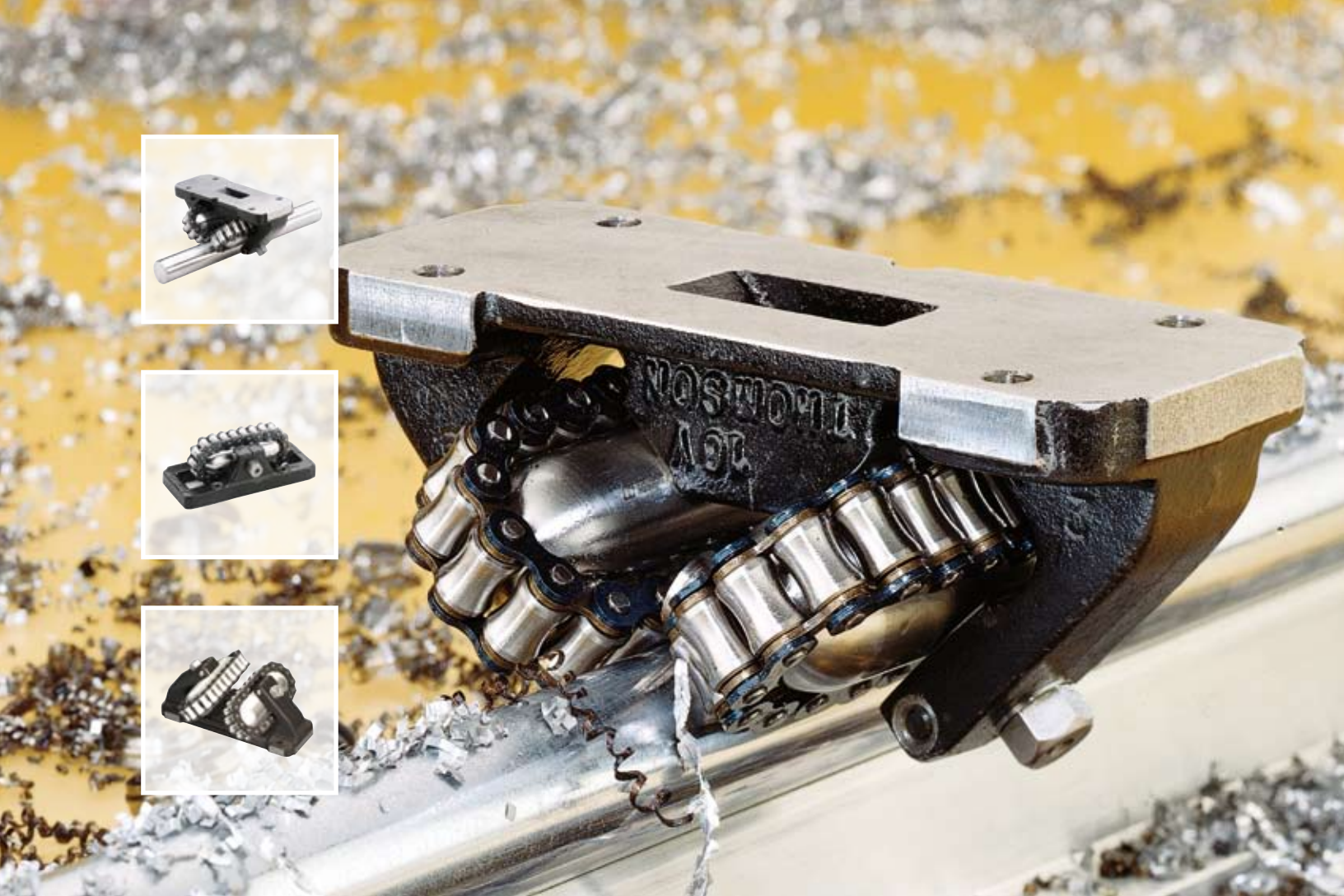




# Thomson RoundWay® Linear Roller Bearings

Designed to withstand extremes of load, speed, temperature and contamination.

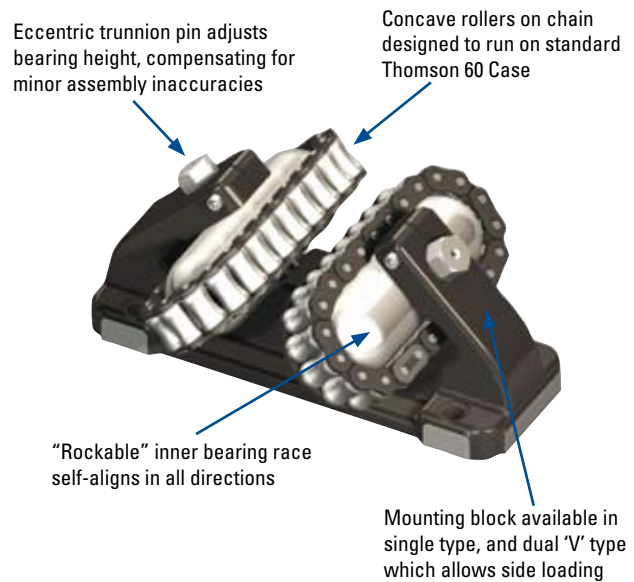
**THOMSON™**  
*Linear Motion. Optimized.*

## Thomson RoundWay® Linear Roller Bearings

The patented RoundWay Linear Roller Bearing operates on 60 Case® LinearRace shafting, with over 20 times the load capacity of a conventional linear ball bearing. RoundWay has the unique advantage of providing high load capacity without the installation costs typical of Profile Rail products with much greater resistance to environmental contaminants.

- Dynamic Load rating of up to 70,000 lbf (310,800 N)<sup>1</sup>
- Velocity up to 100 ft/s (31 m/s)
- Ability to handle exceptionally harsh environmental conditions
  - Extremely contaminant resistant
  - Maximum operating temperature of 500°F (260°C)
- Bearing height infinitely adjustable within up to  $\pm .030$ " ( $\pm .38$  mm)<sup>1</sup>
- Size range from  $\frac{1}{2}$ " to 4"
- Replacement parts available to reduce maintenance cost

(1) Applies to 6" RW "V" bearing



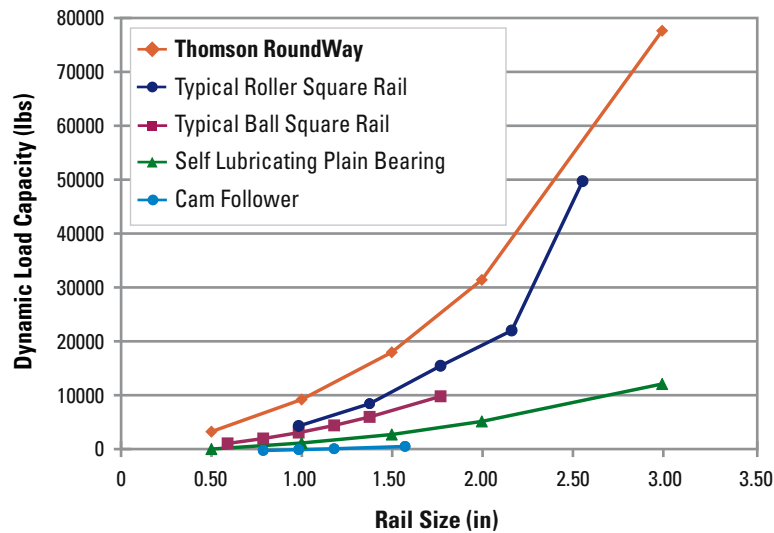
| Feature                                     |           | Advantage                                                                                                                                                                                                                                                                     | Application Benefits                                                                                                                                                                                                        |
|---------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Concave Rollers</b>                      | <b>1</b>  | Double maximum contact ellipse maximizes load capacity of an anti-friction linear bearing. Can carry loads up to 70,000 lbs per bearing at a 10 million inch L10 rated travel life.                                                                                           | Ideal for extremely high load applications.                                                                                                                                                                                 |
| <b>Chain-linked Rollers</b>                 | <b>2</b>  | Ability to travel at speeds up to 100ft/s. Conventional linear bearings and guides are limited to top speeds of 10 ft/s.                                                                                                                                                      | High speed automation systems - high speed belt drives, rack systems, etc., are no longer limited by the max. speed of linear bearings and guides.                                                                          |
|                                             | <b>3</b>  | Ability to operate in severely contaminated environments without protective bellows. There are no pockets where debris can accumulate to bind up the bearing.                                                                                                                 | Open roller assembly is suited for metal removal, paper and wood processing, and granite quarrying. Metal chips, paper flour, wood chips, and abrasive dust would normally destroy conventional linear bearings and guides. |
| <b>All Steel and Iron Construction</b>      | <b>4</b>  | Offers: <ul style="list-style-type: none"> <li>• High temperature capacity to 500°F</li> <li>• Rugged use</li> <li>• Increased rigidity.</li> </ul>                                                                                                                           | Durable in extreme environments.                                                                                                                                                                                            |
| <b>Circular Inner Race</b>                  | <b>5</b>  | Lateral self-alignment feature provides parallelism forgiveness. Rails for RoundWay bearings may be out of parallel as much as 0.1875". Ball Bushing Bearings require rails to be parallel within 0.0010". Profile Rail products require rails to be parallel within 0.0004". | Ideal for use in gantry systems where it is difficult to maintain 0.001" or better parallelism tolerances over long rail lengths that may be spread far apart.                                                              |
| <b>Eccentric Trunion Pin</b>                | <b>6</b>  | Enables: <ul style="list-style-type: none"> <li>• Pitch self-alignment</li> <li>• <math>\pm 0.030</math>" height adjustment which can be used to set preload in "locked-in" arrangements.</li> </ul>                                                                          | <ul style="list-style-type: none"> <li>• Self-alignment enables operation on inaccurate mounting surfaces</li> <li>• Preload benefits applications requiring maximum stiffness and minimal deflection.</li> </ul>           |
| <b>Recirculating Ground Roller Assembly</b> | <b>7</b>  | Ability to span across gaps in shaft.                                                                                                                                                                                                                                         | Assembly and packaging systems - quicker and more efficient pallet changing is now possible.                                                                                                                                |
|                                             | <b>8</b>  | Dynamic coefficient of friction of 0.005 and a height tolerance of $\pm 0.003$ ", the equivalent to standard linear bearing tolerances.                                                                                                                                       | Allows for energy efficient, high load and precision linear motion.                                                                                                                                                         |
|                                             | <b>9</b>  | Quieter, smoother operation than anti-friction linear bearings and guides. Low capacity nylon balls not necessary.                                                                                                                                                            | Minimal noise while still maintaining high load capacity and very low friction.                                                                                                                                             |
| <b>RoundRail Advantage</b>                  | <b>10</b> | Round shafts enable bearing to rotate thereby eliminating the potential for induced torsional stresses.                                                                                                                                                                       | Operates on inaccurate mounting surfaces                                                                                                                                                                                    |

## RoundWay Load, Speed and Performance Capabilities

The RoundWay's rigid all-steel construction makes it ideal for unforgiving environments

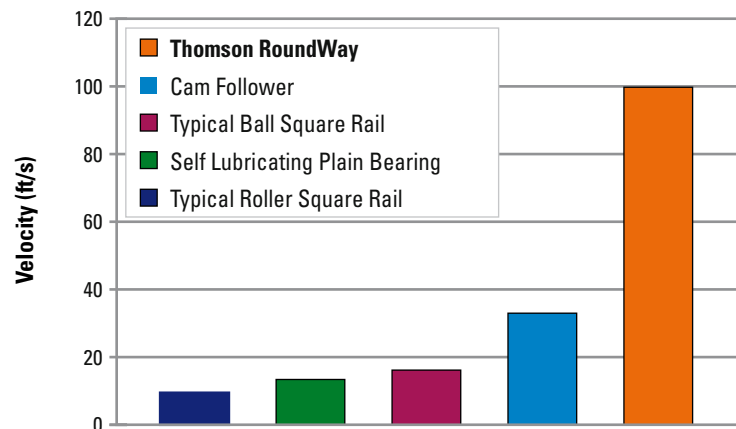
| Environment       | Cam Follower | Self-Lubricated Plain Bearing | Typical Ball Profile Rail | Thomson RoundWay |
|-------------------|--------------|-------------------------------|---------------------------|------------------|
| Load Capacity     | Poor         | Good                          | Very Good                 | Excellent        |
| Maximum Speed     | Good         | Fair                          | Fair                      | Excellent        |
| Contaminants      | Good         | Very Good                     | Fair                      | Excellent        |
| Impacts/Vibration | Poor         | Very Good                     | Very Good                 | Excellent        |
| High Temperature  | Fair         | Very Good                     | Fair                      | Excellent        |

### Bearing Dynamic Load Capacity<sup>(1)</sup>



The RoundWay 'V' dynamic load capacity exceeds other bearing technology types

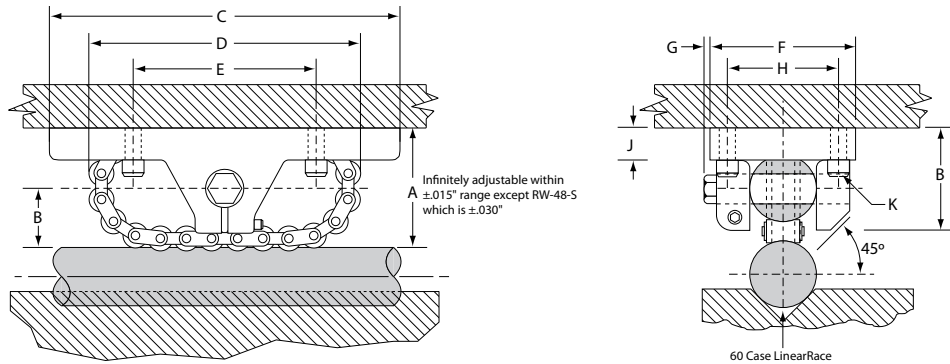
### Maximum Bearing Velocity



The RoundWay's chain guided rollers allow it to travel at incredibly high speeds – up to almost 70 mph!

(1) As calculated per ISO 14728-1, based on 10 million inches of travel at a speed of 30ft/min

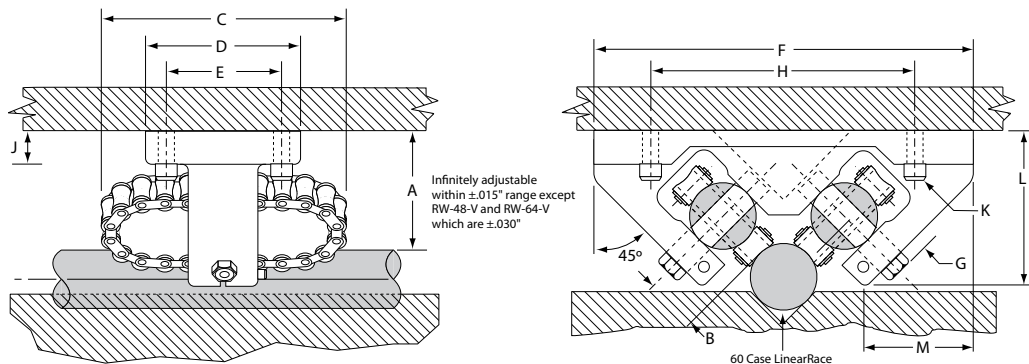
## RoundWay Specifications



## RoundWay Linear Roller Bearings (Single Type) and 60 Case LinearRace (Dimensions in inches)

| Part Number      |                    | Nom. Dia. | A    | B    | C    | D     | E    | F    | G   | H    | J    | K    |      | L    | Bearing Mass lb | Dynamic <sup>(1)</sup> Load Capacity lb <sub>f</sub> |
|------------------|--------------------|-----------|------|------|------|-------|------|------|-----|------|------|------|------|------|-----------------|------------------------------------------------------|
| RoundWay Bearing | 60 Case LinearRace |           |      |      |      |       |      |      |     |      |      | Bolt | Hole |      |                 |                                                      |
| RW-8-S           | 1/2 L PD           | .500      | 1.00 | .45  | 3.0  | 2.38  | 1.50 | 1.25 | .19 | .94  | .31  | #6   | .16  | .88  | .50             | 970                                                  |
| RW-16-S          | 1 L PD             | 1.000     | 1.75 | .80  | 5.0  | 3.75  | 2.50 | 2.13 | .25 | 1.63 | .50  | #10  | .25  | 1.50 | 2.20            | 3020                                                 |
| RW-24-S          | 1 1/2 L PD         | 1.500     | 2.50 | 1.15 | 6.5  | 5.38  | 3.50 | 2.88 | .31 | 2.13 | .63  | .31  | .38  | 2.13 | 5.60            | 6020                                                 |
| RW-32-S          | 2 L PD             | 2.000     | 3.25 | 1.50 | 8.5  | 7.38  | 4.50 | 3.63 | .38 | 2.75 | .75  | .38  | .44  | 2.88 | 12.40           | 12360                                                |
| RW-48-S          | 3 L PD             | 3.000     | 5.00 | 2.30 | 13.0 | 11.00 | 7.00 | 6.00 | .50 | 4.25 | 1.25 | .63  | .69  | 4.25 | 48.00           | 24000                                                |

(1) Dynamic Load Capacity is based on 10 million inches of travel.



## RoundWay Linear Roller Bearings (Dual Type) and 60 Case LinearRace (Dimensions in inches)

| Part Number      |                    | Nom. Dia. | A    | B    | C     | D    | E    | F     | G   | H     | J    | K    |      | L    | M    | Bearing Mass lb | Dynamic <sup>(1)</sup> Load Capacity lb <sub>f</sub> |
|------------------|--------------------|-----------|------|------|-------|------|------|-------|-----|-------|------|------|------|------|------|-----------------|------------------------------------------------------|
| RoundWay Bearing | 60 Case LinearRace |           |      |      |       |      |      |       |     |       |      | Bolt | Hole |      |      |                 |                                                      |
| RW-8-V           | 1/2 L PD           | .500      | 1.00 | .45  | 2.38  | 1.38 | 1.00 | 3.00  | .19 | 2.25  | .31  | #8   | .19  | 1.38 | .69  | 1.10            | 1370                                                 |
| RW-16-V          | 1 L PD             | 1.000     | 1.75 | .80  | 3.75  | 2.25 | 1.63 | 5.75  | .25 | 4.0   | .50  | #10  | .25  | 2.38 | 1.56 | 4.90            | 4300                                                 |
| RW-24-V          | 1 1/2 L PD         | 1.500     | 2.50 | 1.15 | 5.38  | 2.75 | 2.00 | 7.88  | .31 | 6.0   | .63  | .31  | .38  | 3.38 | 2.13 | 11.70           | 8600                                                 |
| RW-32-V          | 2 L PD             | 2.000     | 3.25 | 1.50 | 7.38  | 3.50 | 2.50 | 9.75  | .38 | 7.5   | .75  | .38  | .44  | 4.38 | 2.50 | 25.20           | 17500                                                |
| RW-48-V          | 3 L PD             | 3.000     | 5.00 | 2.30 | 11.00 | 5.50 | 4.00 | 15.50 | .63 | 12.00 | 1.25 | .63  | .69  | 7.00 | 4.25 | 90.00           | 35000                                                |
| RW-64-V          | 4 L PD             | 4.000     | 6.50 | 3.00 | 14.88 | 7.00 | 5.00 | 19.25 | .75 | 15.00 | 1.50 | .75  | .81  | 8.63 | 5.00 | 193.00          | 70000                                                |

(1) Dynamic Load Capacity is based on 10 million inches of travel.



## RoundWay Linear Bearings Used Across Numerous Industries:

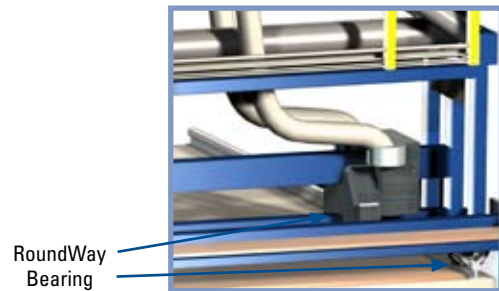


**Steel Processing**  
**Heavy Assembly**  
**Refineries**  
**Woodworking**



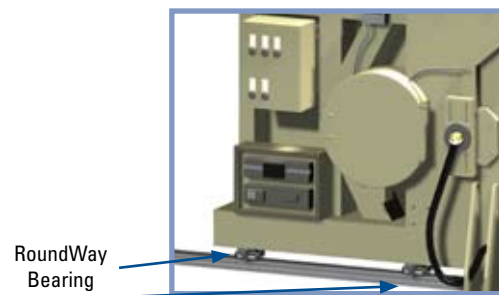
### Application: Fiberglass Saw

- Designed using (4) Roundway 32V bearings benefits:
  - High load capacity – 2 ton load
  - High contamination resistance – fiberglass particles
  - Minimal installation time - 60 Case LinearRace shafting can be mounted slightly out or parallel, eliminating the need for costly alignment procedures



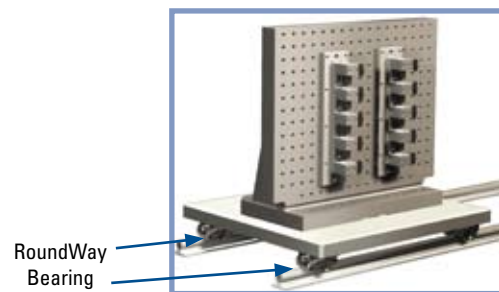
### Application: UV Curing System

- Designed using (4) Roundway 32V bearings benefits:
  - High load capacity - 8 ton load
  - High contamination resistance – rubber dust
  - Minimal replacement costs – Roundway bearing components can be replaced without replacing bearing mount



### Application: Machining Pallet Transfer

- Designed using (4) RoundWay 24V bearings benefits:
  - Long life – bearings in operation for 14 years without replacement
  - Bearing spans .080" gap between shafting in part loading area and transfer station



*Let Thomson help define the optimal linear motion solution for your application. We offer the broadest range of linear guides and components including Linear Ball Bushing® Bearings, Profile Rail Bearings, RoundWay Bearings and complete linear motion systems.*



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