

## **TECHNICAL SPECIFICATION**

### **1 Scope**

The scope of supply covers Design, Engineering, Manufacturing, Supply, and erection, and commissioning of one number, Rail In-Motion Weigh Bridges of Pit less Design in RDSO guide line.

### **2. Standards**

The components of the Weigh Bridges will be designed, manufactured, assembled and tested as per relevant BIS and RDSO guideline.

### **3.General Information**

- |                         |                                  |
|-------------------------|----------------------------------|
| (a) Type                | : Pitless Rail In-Motion Weigh   |
| (b) Weighing Capacity   | : 140 Tone for individual Wagon. |
| (c) Ambient Temperature | : 55 Deg Celsius                 |
| (d) Humidity            | : 95 %                           |

### **4. Specification of the Weigh Bridge**

- |                             |   |
|-----------------------------|---|
| (a) Type of Weigh Bridge    | : Rail In-Motion of Pit less design   |
| (b) Weighing Capacity       | : 140 Tone for individual Wagon.  |
| (c) Load cell               | : Strain gauge  |
| (d) Type of Weighing        | : Axle  |
| (e) Weighing speed          | : 15 KM / Hr  |
| (f) Direction of Weighment  | : Bi Direction  |
| (g) Type of Wagon           | : All types of standard Wagons of Indian Railways.  |
| (h) No of Axles             | : 2, 4 Axles wagons   |
| (i) Axle Load               | : 45 Tone (Maximum)   |
| (k) Anti roll back facility | : will be provided to take care of the effect of roll back at the time of weighing so that the reverse movement of the stopping train will not have any effect on the orderly recording of each wagon in the train. |
| (l) Increment               | : Selectable 100/200 Kg   |
| (m) Accuracy                | : $\pm 0.5$ % for wagon, $\pm 0.25$ % for complete rake   |
| (n) Power Supply            | : 230 V, $\pm 10$ %, single phase 50 Hz   |

## **Weightrack India Private Limited**

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## **5. Hermitically Sealed Rail Sensors**

The load sensors will be of strain gauge type and hermitically sealed. The strain gauges will conform to OIIML. The Strain gauges will be environmentally insensitive to dampness, polluted environment and shall be suitably temperature compensated to take care of temperature variations ranging from 0 to 70

Deg Celsius. The output signals from the load cells will be high enough to make it insensitive to the Electrical disturbances.

- |  |                                     |
|--|-------------------------------------|
| (a) Type                               | : Strain gauge, hermitically sealed |
|  | : IP 67                             |
| (b) Protection class                   |                                     |
| (c) No of strain gauges per Weigh Rail | : 2                                 |
| (d) Safe over load withstand capacity  | : 150 % rated capacity              |
| (e) Ultimate over Load                 | : 300 % of rated capacity           |
| (f) Surge protection                   | : In built                          |
| (g) Rated output                       | : 2 mv / V                          |

## **6. GLOBAL Make Weigh Rails**

- |  |                |
|--|----------------|
| (a) Size of Weigh Rail                 | : 52/60 KG / M |
| (b) Length of Weigh Rail               | : 5.5 meters   |
| (c) No of Weigh Rails per Weigh Bridge | : 2 No's       |

Rated Capacity	45 Tone Axle load	Rated Excitation Maximum Excitation Bridge Resistance Temperature Effects.	15V AC /DC 25V AC/DC 700 Ohms (Nominal)
Full Scale Output (m V/V)	2 mv/v	Span / degree C (of load)	+/- 0.006%
Tolerance on Output (FSO)	+/- 0.25%	Span / degree C (of load)	+/- 0.006%
Zero Balance (FS)	+/- 0.1mv/v	Zero/degree C (FSO)	+/- 0.008%
Non-Linearity (FSO)	<+/- 0.100%	Combined Error (FSO)	<+/- 0.085%
Hysteresis (FSO)	<+/-0.080%	Safe Overload (FSO)	150%
Non-Repeatability (FSO)	<+/-0.060%	Ultimate Overload (FSO)	300%
Creep (FSO) in 30 min	<+/- 0.020%	Protection Class	IP 67
Operating Temperature Range	-20 degree C to + 70 degree C		

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