REVA INDUSTRIES LIMITED

PRODUCT CATALOG

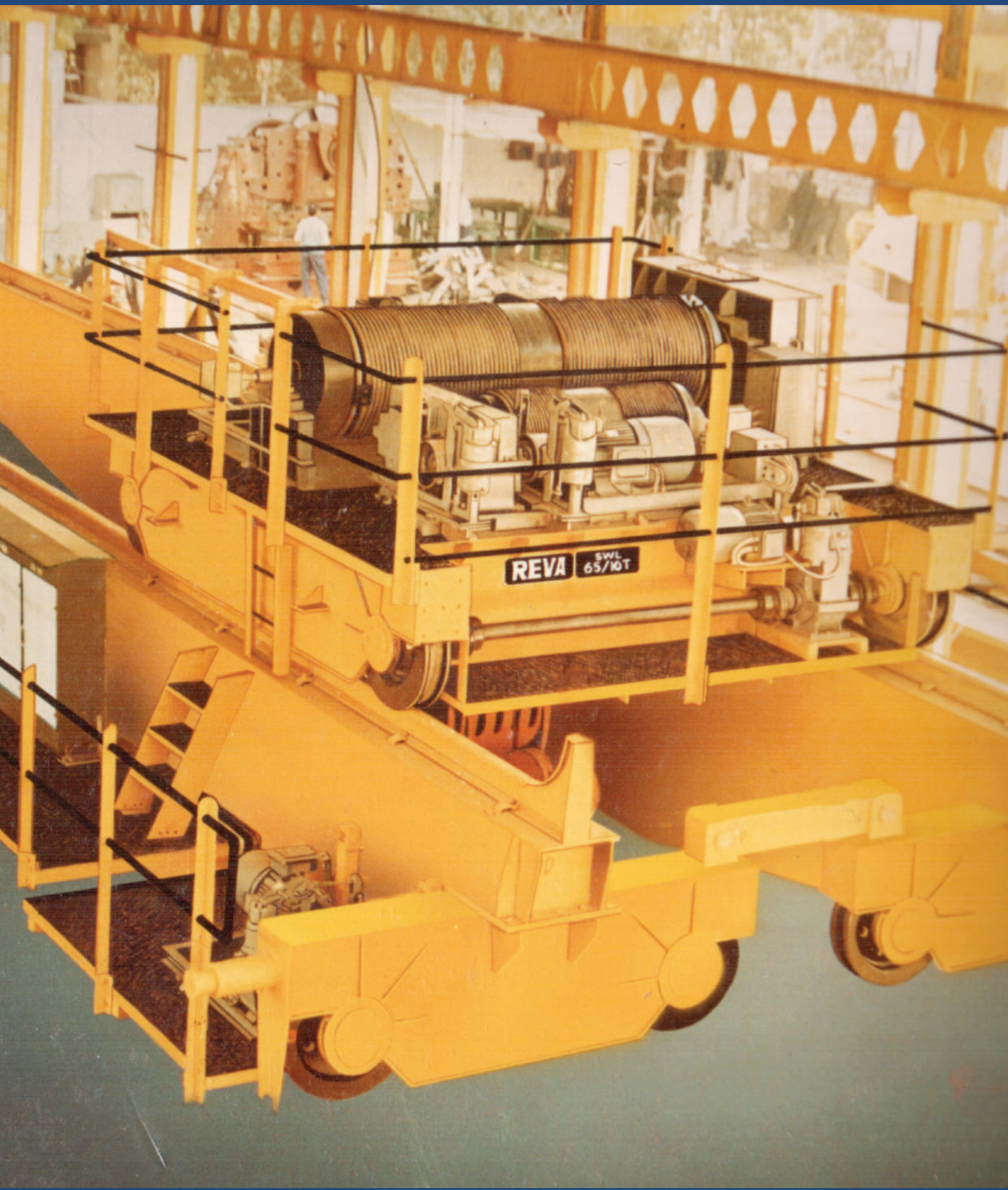
www.revacranes.com

REVA INDUSTRIES LIMITED

UNIT I: Plot No 28, Sector 25,
Faridabad - 121004, Haryana, India

UNIT II: Plot No 164, Sector 24,
Faridabad - 121005, Haryana, India

INDUSTRIAL CRANES



Industrial Cranes

Reva's Double Girder EOT Cranes are fine examples of practical, intelligent, reliable , economical and balanced solutions for Overhead Handling of loads. Be it for a foundry shop or a godown, our cranes have been designed and manufactured for all needs. By embracing high level of standardisation and continuous evolution of our components for the past 5 decades, we have come to serve an honourable clientele, which includes, BHEL, SAIL, Tata, L&T and many more.

Read on to know why Reva's cranes are your best bet!

End Carriages

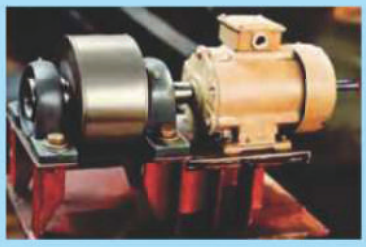
End Carriages are of standardised wheel bases in R-10 series. These Box shaped carriages are of welded construction with R-Block bearings. The fabricated end carriages are machined on a horizontal boring machine ensuring perfect axial alignment, parallelism and perpendicularity of the wheels individually and in pairs.The construction of R blocks is such that it is easy wheel maintenance/change. Rubber/spring buffers are supplied according to requirements.

Crane Wheels

The double flanged cylindrical wheels are made from high strength C55MH75 steel. Running surfaces are hardened to 26 HRC. The wheels run on self aligning antifriction roller bearings and have substantial flanges on either side of the machined running face. The wheels are shrunk fit onto their respective axles. The split housing design allow easy replacement of the wheels.

Travelling Machinery

Compact modular travelling machinery unit consists of a hollow output shaft gear box to be mounted directly on the wheel axle thus eliminating any chance of misalignment. These units are maintenance free and supplied with squirrel cage/slip ring motors with disc/electro-hydraulic thruster brakes. The gears and pinion in the travelling machinery are 100% helical, hardened acheiving 99% efficiency.



Planetary Gear Boxes /Micro-Drives

Depending on customer needs the crane can be equipped with micro-drive using Reva's own well balanced planetary gear boxes for obtaining creep speeds (ratio 10:1 or 5:1) for hoisting, traveling and traversing motions. The planetary units have favourable volume to power ratio because of power sharing between gear meshes.

Brakes

Reva provides 100% Redundancy in Hoisting brakes by providing 2 brakes each of 150% of the required torque. The thruster brake are operated by an integral 3 phase squirrel cage motor. In travelling motions, electromagnetic disc brakes are mounted directly on motors. D.C brakes and other combinations for hoisting and other motions can be provided for specific application on request.

Controls

Pendant, cabin or radio remote operated cranes can be supplied in any mode or combination of modes. As a standard Trailing type Pendant is provided in Double Girder crane. Adequate protection by way of single phasing, phasing reversal, overloads , brakes are some of the standard features. Dynamic brakes suitable for slipring/squirrel cage motors for precise handling can also be supplied. The sheet steel-metal housings are constructed to accommodate the power and control circuits in a single cubicle having built-in cable trench underneath. The spacings and making are as per IS specification. Cranes with VVVFD control can help achieve stepless speed variation and have various inbuilt motor protections.

Cabin

Constructed from sheet-metal the cabins are suspended either on one side of the crane or in the middle. They are open types for indoor use or close types for outdoor use. Air conditioned cabins are also available. All cabins have a protective panel and controls are ergonomically placed for maximum comfort to the operator. Emergency switches too are provided.

Rope System

The drums are made of seamless steel pipes or pipes fabricated from plates tested as per ATSM/IS. The drum is coupled to the gearbox and this facilitates easy removal and maintenance. Wire rope is fixed with double slot camps. Nonrotating, high strength special Hyflex wire ropes, manufactured for use on hoisting equipment, are used with safety as per IS standards.

Hooks & Sheaves

Hooks can be plain shank trapezoidal section or ramshorn type. Sheaves are of cast iron or of fabricated construction mounted on antifriction bearings. Forged/rolled steel sheaves are used against specific requirement.

Hooks are fixed with thrust bearings in well-designed Cross Heads for maximum manoeuvrability. Each hook is proof load tested as per IS:15560

Quality Assurance

All cranes, its assemblies, sub-assemblies are tested as per a Standard Quality Plan including proof load & over load test. Various stage inspections as per standard QAP can be witnessed if needed.

An example:

Load Q=25 t
Hoisting Speed V=6m/min
Average hoisting height
H = 8m
Number of work cycles
N = 8/hr.
Daily working time
T = 8h
Load Spectrum : Medium
Average operating time per day

$$t = \frac{4 \times H \times N \times T}{V \times 60} (h) = \frac{4 \times 8 \times 8 \times 8}{6 \times 60} = 5.7h < 8h$$

Number of starts per hour, when two extra start-ups are estimated for each normal start

F = 4 x 16 x 3 = 192/h<240/hr.

Accordingly hoist group selected class III as per IS:3177/3Am as per FEM

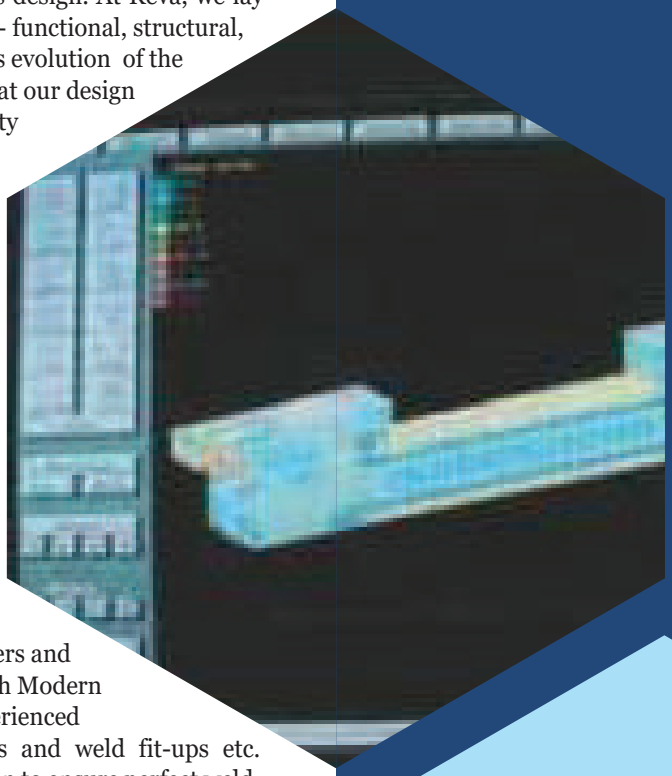
Criteria for Crane hoisting type according to working conditions

Load spectrum	Average daily operating time (h/day)		
LOAD % 100 63 40 Light 10 40 50 Time %	≤ 4	≤ 8	≤ 16
LOAD % 100 63 40 Medium 10 40 50 Time %	≤ 2	≤ 4	≤ 8
LOAD % 100 40 Heavy 50 50 Time %	≤ 1	≤ 2	≤ 4
LOAD % Severe 50 Time %	≤ 0.5	≤ 1	≤ 2
Hoist group	CI-II/ FEM 1 Am	CI-III/FEM 2Am	CI-IV/FEM 3 Am
Duty factor	25% CDF	40% CDF	50% CDF
Duty cycles	16-25 c/h	26-35 c/h	36-45 c/h
Starts	≤ 150 /h	≤ 240 /h	≤ 300 /h

Should your selection be other than class III (IS:3177) or 3 Am(FEM), please refer to us.

Design

The strength of any product is ensured by its design. At Reva, we lay special emphasis on the all aspects of design - functional, structural, aesthetic and economic. There is a continuous evolution of the components and of the production processes at our design department, to give you improved functionality and new features in the product line.
We are fully equipped with CIM facility and dynamic design programmes which allow optimised designs for different requirements.
We are abreast with latest international standards and practices in material handling. Renowned academic institutions also help in upgrading the products.
FEM technique is used to design the structures of the crane. Alongside is the picture of the behaviour of the traverser end-carriage with the application of load.

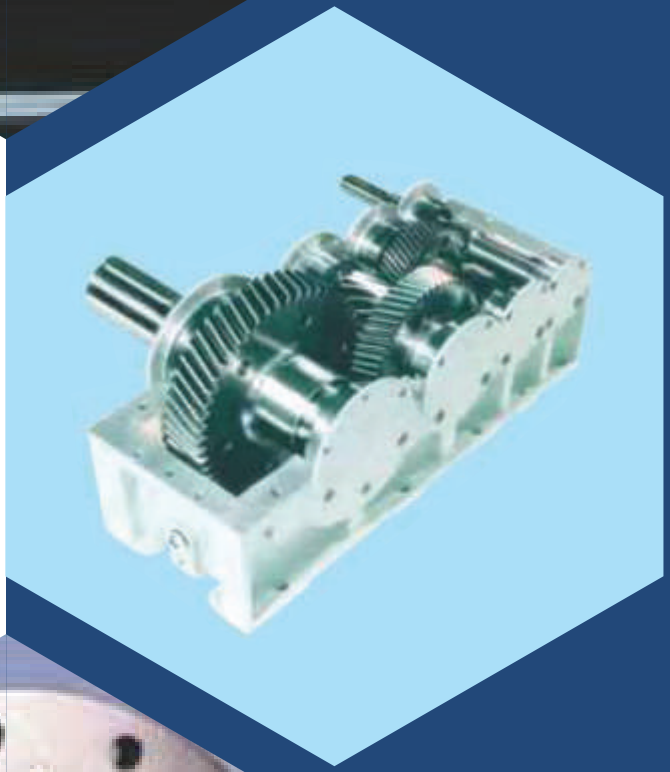


Structure

Tested steel plates to IS:2062 Gr. A or B are obtained directly from the main steel producers and cut to needed sizes, All weldings are done with Modern day welding machines and qualified and experienced welders ensuring proper edge preparations and weld fit-ups etc. Further radiography is used for weld in tension to ensure perfect weld. Certain percentage of tillet weld is subjected to DPT (dye penetrant test). We have used techniques to avoid distortion and reduce stress concentrations. Proper comber is provided for long life of the girders.

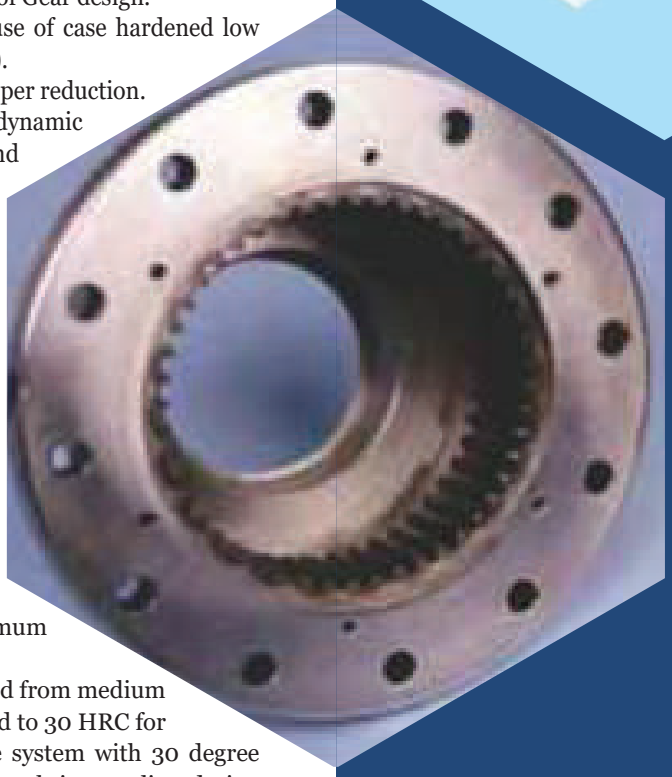
Gear Boxes

Gear boxes and couplings are the heart of any crane and are responsible for the reliability factor. Reva therefore, chose to manufacture vital crane components in house, ensuring their quality, compatibility and serviceability. The gear unit use hardened helical gears in R 20 series, which run silently with good lubrication and are vibration-free steel fabricated stress relieved or graded cast iron housing. The gear units have long life and are almost maintenance free. All gears, pinions in gear boxes conform to DIN-8/AGMA-12 tolerances.
The design of gears and pinions is verified with the help of the software from CMTI based on the Buckingham Method of Gear design.
The weight/power ratio is optimised by the use of case hardened low carbon-alloy steel of high strength (58-62 HRC).
The gear reduction efficiency is as high as 99% per reduction.
Computer aided design based on Buckingham dynamic load equation is adopted by Reva for pinions and gears for compact and robust gear boxes with safety factor > 1.25. The pinions are integral with shafts for better strength characteristics ensuring life of 40000 hours or more.



Couplings

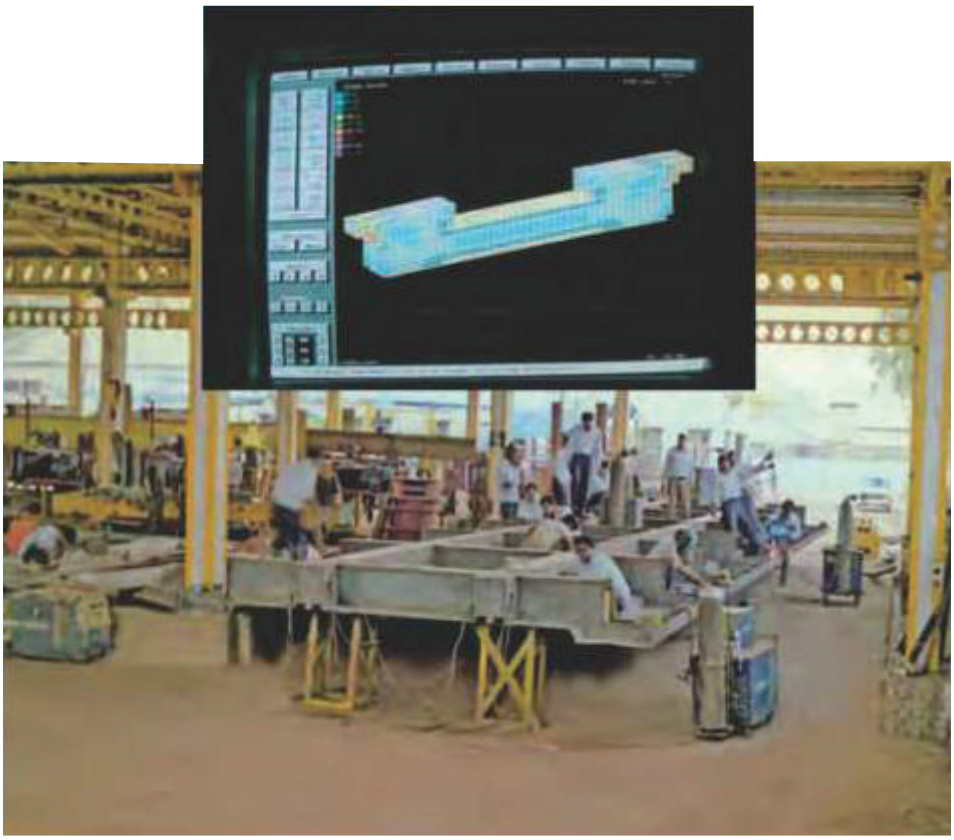
Reva's flexible geared couplings meets the acceptance norms, set forth in IPSS:1-01-005-86 specification followed the Indian Steel Industry.
The couplings are known for the highest possible torque transmission capability, great mechanical flexibility and ease of compensation for angular, parallel and axial misalignments of connected shafts with minimum power loss.
Gear Hubs and outer sleeves are manufactured from medium carbon steel. The teeth are induction hardened to 30 HRC for longer life and are generated by an involute system with 30 degree pressure angle, making a quantum breakthrough in coupling design and performance. The coupling parts and gears are interchangeable.



The Reva Advantage

Reva Heavy Duty Industrial Cranes

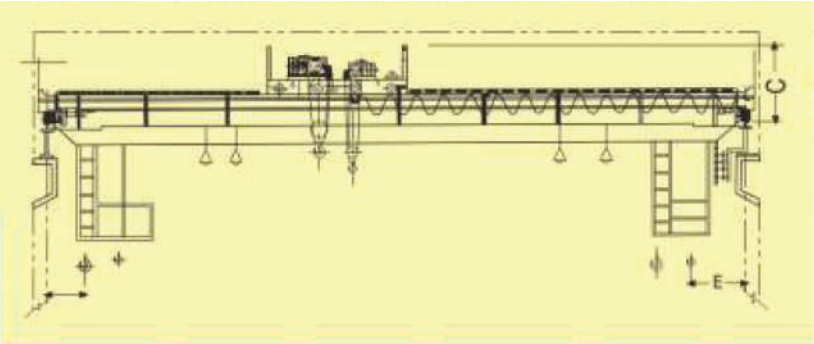
- In-house manufacturing of 100% crane components ensure high performance reliability
- Standardised modular components and assemblies, permit easy replaceability and save on expensive down time
- In-house testing of components and assemblies done as per QAP to ensure safety and reliability
- Lower headrooms with optimised construction and lighter weight cranes
- Cranes conforming to FEM, DIN and BS Standards can also be delivered.

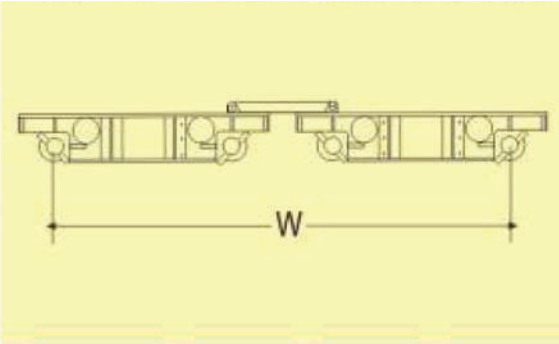


We promise to give your business the elevation it deserves, in just 7 days!

Contact Us: mkt@revacranes.com | +91-98994-84744

Indoor, Cabin operated with Auxiliary Hoist, Double Hook, Double Girder EOT Crane.

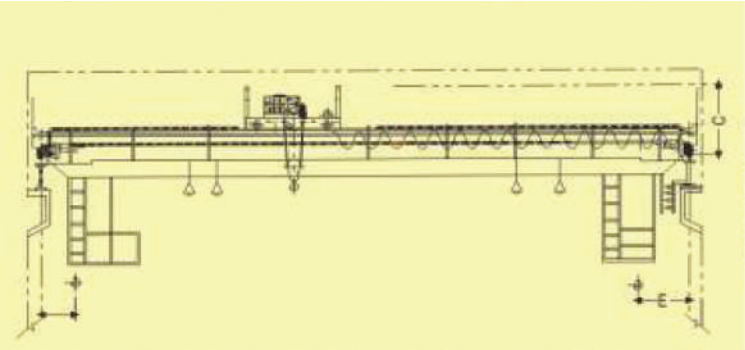


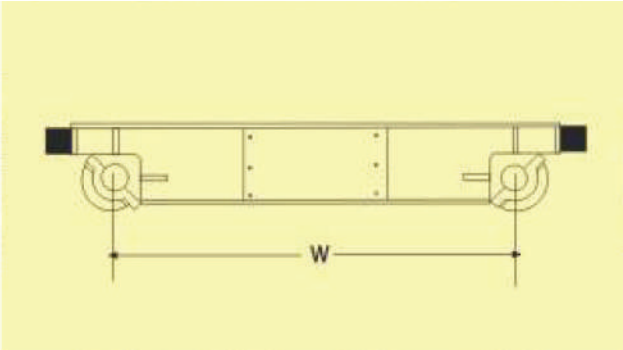


Main hoist capacity	Auxillary capacity	Span	Lift	Weight(approx.)(t)		Crane height C	Hook approach	Corner load	Wheel base W
(t)	(t)	(m)	(m)	Crabe	Crane	(m)	(m) E	(t)	(m)
10	2.5	16	8	3.6	16.	1.9	1.11	19	3.2
12.5	3.15	16	10	4.3	18	2	1.2	22.5	3.6
16	4	16	10	5.4	20	2	1.3	26.5	3.6
20	5	16	10	6.4	22	2.3	1.4	31.5	4.5
25	6.3	16	10	7.2	24	2.5	1.4	37.5	4.5
31.5	8	16	12.5	9	28	2.7	1.5	47.5	4.5
40	10	16	12.5	11	31	2.9	1.6	56	4.5
50	12.5	16	12.5	13	34.5	3.2	1.7	67	5.5
63	16	16	12.5	15	38.5	3.5	1.8	80	5.5
80	20	16	16	19	46	3.8	1.9	100	5.5
100	25	16	16	23	53	4.1	2	125	6.3
125	31.5	16	16	27.1	60	4.5	2.1	150	7.1
160	40	16	20	34	73	4.9	2.3	190	7.1

1. A corner load is the sum of wheel load in a single corner.
2. Crane height is total distance from the top of Gantry Rail to the topmost point of Crab.

Indoor, Cabin operated, Single Hook, Double Girder EOT Crane.





Capacity (t)	Span (m)	Lift (m)	Weight(approx.)(t) Crabe	Crane	Craneheight * C (m)	Hook approach (m) E	Corner * load (t)	Wheel base W (m)
3.15	16	6.3	1	11.2	1.3	0.9	9	3.2
4	16	8	1.4	12.1	1.4	0.9	10.5	3.2
5	16	8	1.6	12.8	1.5	1	12	3.2
6.3	16	8	1.9	13.6	1.6	1	13.5	3.2
8	16	8	2.3	14.5	1.7	1.1	16	3.2
10	16	8	2.7	15.5	1.9	1.1	18	3.2
12.5	16	10	3.2	17	2	1.2	21	3.6
16	16	10	4	18.7	2.2	1.3	25	3.6
20	16	10	4	20.4	2.3	1.4	30	4.5
25	16	10	5.3	22	2.5	1.4	35.5	4.5
31.5	16	12.5	6.7	25.2	2.7	1.5	44.5	4.5
40	16	12.5	8	27.8	2.9	1.6	53	4.5
50	16	12.5	9.5	30.6	3.2	1.7	63	5.5
63	16	12.5	11	34	3.5	1.8	75	5.5
80	16	16	14	40	3.8	1.9	95	5.5
100	16	16	17	46	4.1	2	120	6.3
125	16	16	20	52	4.5	2.1	140	7.1
160	16	20	25	62	5	2.3	180	7.1

1. A corner load is the sum of wheel load in a single corner.
2. Crane height is total distance from the top of Gantry Rail to the topmost point of Crab.

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