

**CITY CRANE**

**KATO KR-22H**

## KATO KR-22H CITY CRANE CRANE

### Major Specifications Crane Module

|   |                 |   |
|---|-----------------|---|
| Name                                      |                 | 22 ton hoisting rough terrain crane   |
| Model                                     |                 | Kato KR-22H   |
| • Crane Performance                       |                 |   |
| Maximum total rated load                  | 6.70m boom      | 22,000kg x 3.0m (7 cables)  |
|   | 11.00m boom     | 12,000kg x 6.0m (4 cables)  |
|   | 15.20m boom     | 12,000kg x 5.5m (4 cables)  |
|   | 21.60m boom     | 8,000kg x 6.5m (3 cables)   |
|   | 28.00m boom     | 6,000kg x 7.0m (2 cables)   |
|   | 5.00m jib       | 3,100kg x 11.0m (1 cable)   |
|   | Rooster sheave  | 3,400 kg (1 cable)  |
| Boom length                               |                 | 6.7m – 28.0m  |
| Jib length                                |                 | 5.0m  |
| Maximum lift above ground level           |                 | 28.7m (boom)<br>34.1m (jib)   |
| Lifting rope speed                        | Main hoist      | 118m/min (4 <sup>th</sup> tier)   |
|   | Secondary hoist | 102m/min (2 <sup>nd</sup> tier)   |
| Hook speed                                | Main            | (Rope cable no. – 7) 16.8m/min (4 <sup>th</sup> tier)   |
|   | Secondary       | (Rope cable no. – 1) 102.0m/min (2 <sup>nd</sup> tier)  |
| Boom hoisting range                       |                 | –10° – 81°  |
| Boom raising time                         |                 | 0° – 81°/33sec  |
| Boom extension time                       |                 | 6.7m – 28.0m/73 sec   |
| Swivelling speed                          |                 | 2.6rpm  |
| Rear end swing radius                     |                 | 2.420m (slide sheave)<br>2.140m (counterweight)   |
| • Crane module equipment and construction |                 |   |
| Boom format                               |                 | Box 6-level hydraulic telescopic  |
| Jib format                                |                 | Box 1-level boom compartment storage type   |
| Boom telescope                            |                 | Combination use of hydraulic cylinder and wire ropes<br>2 & 3-level isometric, and 4, 5 & 6-level isometric telescopic                      |
| Boom hoisting unit                        |                 | Hydraulic cylinder direct pressing type   |
| Lifting rope unit                         |                 | 2 single winches, oil motor drive– spur gear reduction system<br>Automatic brake (stepping brake, free lowering and power lowering devices) |
| Swivelling unit                           |                 | Oil motor drive – planetary gear reduction system (built in negative brake)<br>Free lock switch type  |
| Swivelling circle                         |                 | Ball bearing type   |
| Outrigger unit                            | Format          | All hydraulic Hmodel (float and vertical cylinder combination)  |
|   | Reach width     | 5,800mm (maximum reach)   |
|   |                 | 4,600mm (intermediate reach)  |
|   |                 | 3,400mm (intermediate reach)  |
| 2,040mm (minimum reach)                   |                 |   |
| Rope                                      |                 |   |
|   | Main hoist      | SeS (48) + 6 x WS (31) f 16mm x 100m  |
|   | Secondary hoist | IWRC 6 x Fi (29) f 16mm x 75m   |

## KATO KR-22H CITY CRANE CRANE

|                      |  |               |
|----------------------|--|---------------|
| • Hydraulics         |  |               |
| Oil pumps            | Double variable plungemodel, gear + plungemodel  |               |
| Oil motor            | Lifting  | Axial plunger |
|                      | Swivelling   | Axial plunger |
| Control bub          | Multiple auto recovery (hydraulic compensated flow control valve)  |               |
| Cylinder             | Double acting  |               |
| Oil reserve          | 400 l  |               |
| • Safety Devices     |  |               |
|                      | ACS (overload protection and voice alarm), work scope restriction unit, outrigger reach width auto detector, boom natural lowering prevention unit, overlift prevention unit, drum hold safety unit, auto brake, irregular winding prevention unit, hydraulic safety valve, outrigger lock, angle indicator, swivelling warning light, hydraulic fluid overheat alarm, hydraulic fluid filter blockage alarm |               |
| • Standard Equipment |  |               |
|                      | Hydraulic dehumidifying air conditioner, AM/FM clock radio, drum rotation indicator, intermittent ceiling wiper (with washer)  |               |
| • Optional Equipment |  |               |
|                      | Winch monitoring camera, TV receiver   |               |

### Carrier Module

|                           |   |          |
|---------------------------|---|----------|
| • Driving Performance     |   |          |
| Maximum speed             | 49km/h  |          |
| Hill-climbing performance | 0.6 (tan ?)   |          |
| Minimum turning radius    | 7.5m (2-wheel steering)   |          |
|                           | 4.7m (4-wheel steering)   |          |
| • Measurements & Weights  |   |          |
| Total length              | 8,460mm   |          |
| Total width               | 2,395mm   |          |
| Total height              | 3,400mm   |          |
| Wheel base                | 3,300mm   |          |
| Wheel tread               | Front wheels  | 1,970mm  |
|                           | Rear wheels   | 1,970mm  |
| Passengers                | 1   |          |
| Total carriage weight     | 23,705kg  |          |
|                           | Forward axle weight   | 11,840kg |
|                           | Rear axle weight  | 11,865kg |
| • Engine                  |   |          |
| Name                      | Mitsubishi 6D16-T (with turbo)  |          |
| Model                     | 6 cylinder, water cooled 4 cycles. Direct fuel-injected diesel engine |          |
| Total exhaust             | 7,545cc   |          |
| Maximum output            | 220ps/2,800rpm  |          |
| Maximum torque            | 65kg-m/1,600rpm   |          |

## KATO KR-22H CITY CRANE CRANE

| • Base driving equipment and construction |              |   |
|---|--------------|---|
| Driving formats                           |              | Switches between 2-wheel drive (4 x 2) and 4-wheel drive (4 x 4)  |
| Torque convertor                          |              | 3 elements. 1-level (with auto lock-up clutch)  |
| Transmission model                        |              | Auto and manual transmission  |
| Number of speeds                          |              | Four speeds when moving forward. Two speeds when moving backwards (Hi/low switch)   |
| Axle model                                |              | Full floating type (both front and rear axles)  |
| Main brake                                |              | 2 system pneumatic-hydraulic combination 4-wheel disc brake   |
| Parking brake                             |              | Mechanical & propeller shaft brake internal expanding type  |
| Auxiliary brake                           |              | Torque convertor lockup interlocking exhaust brake<br>Auxiliary braking unit for work   |
| Suspension                                | Front axle   | Coil spring 4-ring (with hydraulic lock cylinder)   |
|   | Rear axle    | Coil spring 4-ring (with hydraulic lock cylinder)   |
| Steering unit                             | Format       | All hydraulic power steering<br>With reverse steering correction mechanism  |
|   | Mode         | Forward 2wheel steering, 4wheel steering, crab steering, rear 2-wheel steering, independent front and rear wheel steering   |
| Tyre size                                 | Front wheels | 385/95 R25 170E ROAD  |
|   | Rear wheels  | 385/95 R25 170E ROAD  |
| Fuel tank                                 |              | 300 l   |
| • Safety Devices                          |              |   |
|   |              | Camera for reversing powered/electric remote controlled side mirrors, emergency steering unit, back wheel steering auto-lock device, over shift prevention unit, brake fluid leakage alarm, suspension lock unit, auxiliary brakes for work, over-run alarm, radiator liquid level alarm, air filter blockage alarm |

**KATO KR-22H CITY CRANE CRANE  
TOTAL RATED LOAD IN TONNES**

This document should be read in conjunction with the AML

| <b>Outrigger Maximum Reach (5.8 m) (Total Perimeter)</b> |              |               |               |               |               |
|--|--------------|---------------|---------------|---------------|---------------|
| <b>Boom Length<br/>Working Radius</b>                    | <b>6.7 m</b> | <b>11.0 m</b> | <b>15.2 m</b> | <b>21.6 m</b> | <b>28.0 m</b> |
| 3.0 m  | 22.00        | 12.00         | 12.00         | 8.00          |               |
| 3.5 m  | 20.00        | 12.00         | 12.00         | 8.00          |               |
| 4.0 m  | 17.00        | 12.00         | 12.00         | 8.00          | 6.00          |
| 4.5 m  | 15.00        | 12.00         | 12.00         | 8.00          | 6.00          |
| 5.0 m  |              | 12.00         | 12.00         | 8.00          | 6.00          |
| 5.5 m  |              | 12.00         | 12.00         | 8.00          | 6.00          |
| 6.0 m  |              | 12.00         | 11.50         | 8.00          | 6.00          |
| 6.5 m  |              | 11.30         | 10.60         | 8.00          | 6.00          |
| 7.0 m  |              | 9.70          | 9.40          | 7.85          | 6.00          |
| 8.0 m  |              | 7.35          | 7.20          | 7.10          | 5.90          |
| 9.0 m  |              | 5.70          | 5.60          | 6.35          | 5.35          |
| 10.0 m   |              |               | 4.50          | 5.25          | 4.80          |
| 11.0 m   |              |               | 3.60          | 4.35          | 4.30          |
| 12.0 m   |              |               | 2.90          | 3.65          | 3.85          |
| 13.0 m   |              |               | 2.30          | 3.05          | 3.40          |
| 14.0 m   |              |               |               | 2.60          | 2.90          |
| 15.0 m   |              |               |               | 2.20          | 2.50          |
| 16.0 m   |              |               |               | 1.80          | 2.10          |
| 17.0 m   |              |               |               | 1.50          | 1.80          |
| 18.0 m   |              |               |               | 1.20          | 1.55          |
| 19.0 m   |              |               |               | 1.00          | 1.30          |
| 20.0 m   |              |               |               | 0.85 (19.6 m) | 1.10          |
| 21.0 m   |              |               |               |               | 0.95          |
| 22.0 m   |              |               |               |               | 0.80          |
| 23.0 m   |              |               |               |               | 0.65          |
| 24.0 m   |              |               |               |               | 0.50          |
| 25.0 m   |              |               |               |               | 0.35          |
| <b>Hazardous Angle</b>                                   | -            | -             | -             | -             | -             |

**KATO KR-22H CITY CRANE CRANE  
TOTAL RATED LOAD IN TONNES**

This document should be read in conjunction with the AML

| <b>Outrigger Intermediate Reach (4.6 m) (Laterally)</b> |              |               |               |               |               |
|---|--------------|---------------|---------------|---------------|---------------|
| <b>Boom Length<br/>Working Radius</b>                   | <b>6.7 m</b> | <b>11.0 m</b> | <b>15.2 m</b> | <b>21.6 m</b> | <b>28.0 m</b> |
| <b>3.0 m</b>  | 22.00        | 12.00         | 12.00         | 8.00          |               |
| <b>3.5 m</b>  | 20.00        | 12.00         | 12.00         | 8.00          |               |
| <b>4.0 m</b>  | 17.00        | 12.00         | 12.00         | 8.00          | 6.00          |
| <b>4.5 m</b>  | 15.00        | 12.00         | 12.00         | 8.00          | 6.00          |
| <b>5.0 m</b>  |              | 12.00         | 12.00         | 8.00          | 6.00          |
| <b>5.5 m</b>  |              | 10.00         | 10.00         | 8.00          | 6.00          |
| <b>6.0 m</b>  |              | 8.50          | 8.40          | 8.00          | 6.00          |
| <b>6.5 m</b>  |              | 7.20          | 7.10          | 7.90          | 6.00          |
| <b>7.0 m</b>  |              | 6.20          | 6.10          | 6.85          | 6.00          |
| <b>8.0 m</b>  |              | 4.65          | 4.55          | 5.30          | 5.65          |
| <b>9.0 m</b>  |              | 3.60          | 3.50          | 4.20          | 4.50          |
| <b>10.0 m</b>   |              |               | 2.70          | 3.40          | 3.70          |
| <b>11.0 m</b>   |              |               | 2.05          | 2.75          | 3.05          |
| <b>12.0 m</b>   |              |               | 1.50          | 2.25          | 2.55          |
| <b>13.0 m</b>   |              |               | 1.05          | 1.85          | 2.10          |
| <b>14.0 m</b>   |              |               |               | 1.45          | 1.75          |
| <b>15.0 m</b>   |              |               |               | 1.10          | 1.45          |
| <b>16.0 m</b>   |              |               |               | 0.85          | 1.15          |
| <b>17.0 m</b>   |              |               |               | 0.60          | 0.90          |
| <b>18.0 m</b>   |              |               |               | 0.40          | 0.70          |
| <b>19.0 m</b>   |              |               |               |               | 0.50          |
| <b>20.0 m</b>   |              |               |               |               | 0.35          |
| <b>Hazardous Angle</b>                                  | -            | -             | -             | 18°           | 38°           |

**KATO KR-22H CITY CRANE CRANE  
TOTAL RATED LOAD IN TONNES**

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| <b>Outrigger Intermediate Reach (3.4 m) (Laterally)</b> |              |               |               |               |               |
|---|--------------|---------------|---------------|---------------|---------------|
| <b>Working Radius \ Boom Length</b>                     | <b>6.7 m</b> | <b>11.0 m</b> | <b>15.2 m</b> | <b>21.6 m</b> | <b>28.0 m</b> |
| <b>3.0 m</b>  | 22.00        | 12.00         | 12.00         | 8.00          |               |
| <b>3.5 m</b>  | 15.20        | 12.00         | 12.00         | 8.00          |               |
| <b>4.0 m</b>  | 11.40        | 11.00         | 10.00         | 8.00          | 6.00          |
| <b>4.5 m</b>  | 8.95         | 8.60          | 8.40          | 8.00          | 6.00          |
| <b>5.0 m</b>  |              | 6.95          | 6.85          | 7.00          | 6.00          |
| <b>5.5 m</b>  |              | 5.75          | 5.65          | 6.20          | 6.00          |
| <b>6.0 m</b>  |              | 4.80          | 4.70          | 5.40          | 5.30          |
| <b>6.5 m</b>  |              | 4.05          | 3.95          | 4.65          | 4.70          |
| <b>7.0 m</b>  |              | 3.45          | 3.35          | 4.00          | 4.15          |
| <b>8.0 m</b>  |              | 2.50          | 2.40          | 3.05          | 3.30          |
| <b>9.0 m</b>  |              | 1.80          | 1.70          | 2.35          | 2.65          |
| <b>10.0 m</b>   |              |               | 1.10          | 1.85          | 2.10          |
| <b>11.0 m</b>   |              |               | 0.60          | 1.40          | 1.65          |
| <b>12.0 m</b>   |              |               |               | 1.00          | 1.30          |
| <b>13.0 m</b>   |              |               |               | 0.65          | 0.95          |
| <b>14.0 m</b>   |              |               |               | 0.50 (13.5 m) | 0.70          |
| <b>15.0 m</b>   |              |               |               |               | 0.45          |
| <b>Hazardous Angle</b>                                  | -            | -             | 30°           | 42°           | 53°           |

**KATO KR-22H CITY CRANE CRANE**  
**TOTAL RATED LOAD IN TONNES**  
This document should be read in conjunction with the AML

| <b>Outrigger Minimum Reach (2.04 m) (Laterally)</b> |              |               |               |               |               |
|---|--------------|---------------|---------------|---------------|---------------|
| <b>Boom Length<br/>Working Radius</b>               | <b>6.7 m</b> | <b>11.0 m</b> | <b>15.2 m</b> | <b>21.6 m</b> | <b>28.0 m</b> |
| <b>3.0 m</b>  | 7.80         | 7.50          | 7.00          | 7.00          |               |
| <b>3.5 m</b>  | 6.10         | 5.80          | 5.40          | 5.60          |               |
| <b>4.0 m</b>  | 4.80         | 4.50          | 4.30          | 4.55          | 3.80          |
| <b>4.5 m</b>  | 3.80         | 3.50          | 3.40          | 3.80          | 3.80          |
| <b>5.0 m</b>  |              | 2.80          | 2.70          | 3.20          | 3.25          |
| <b>5.5 m</b>  |              | 2.20          | 2.10          | 2.65          | 2.75          |
| <b>6.0 m</b>  |              | 1.70          | 1.60          | 2.25          | 2.35          |
| <b>6.5 m</b>  |              | 1.30          | 1.20          | 1.85          | 2.00          |
| <b>7.0 m</b>  |              | 0.90          | 0.80          | 1.55          | 1.70          |
| <b>8.0 m</b>  |              |               |               | 1.00          | 1.20          |
| <b>Hazardous Angle</b>                              | -            | 30°           | 55°           | 62°           | 69°           |



**KATO KR-22H CITY CRANE CRANE  
TOTAL RATED LOAD IN TONNES**

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| <b>Outrigger Maximum Reach (5.8 m)</b> |                                   |                       |
|--|-----------------------------------|-----------------------|
| <b>Boom Angle<br/>(°)</b>              | <b>Working<br/>Radius<br/>(m)</b> | <b>Load<br/>(ton)</b> |
| 81.0                                   | 4.0                               | 3.10                  |
| 73.0                                   | 8.5                               | 3.10                  |
| 68.8                                   | 11.0                              | 3.10                  |
| 65.0                                   | 13.0                              | 2.65                  |
| 60.0                                   | 15.5                              | 2.20                  |
| 57.0                                   | 17.0                              | 2.00                  |
| 56.0                                   | 17.4                              | 1.85                  |
| 50.0                                   | 20.1                              | 1.25                  |
| 45.0                                   | 22.1                              | 0.90                  |
| 40.0                                   | 23.9                              | 0.65                  |
| 35.0                                   | 25.6                              | 0.45                  |
| 30.0                                   | 27.1                              | 0.30                  |
| <b>Hazardous<br/>Angle</b>             | 25°                               |                       |

| <b>Outrigger Intermediate Reach (4.6 m)</b> |                                   |                       |
|---|-----------------------------------|-----------------------|
| <b>Boom Angle<br/>(°)</b>                   | <b>Working<br/>Radius<br/>(m)</b> | <b>Load<br/>(ton)</b> |
| 81.0  | 4.0                               | 3.10                  |
| 73.0  | 8.5                               | 3.10                  |
| 68.8  | 11.0                              | 3.10                  |
| 65.0  | 13.0                              | 2.30                  |
| 60.0  | 15.4                              | 1.55                  |
| 57.0  | 16.8                              | 1.20                  |
| 56.0  | 17.2                              | 1.10                  |
| 50.0  | 19.9                              | 0.60                  |
| 45.0  | 22.0                              | 0.30                  |
| <b>Hazardous<br/>Angle</b>                  | 42°                               |                       |

| <b>Outrigger Intermediate Reach (3.4 m)</b> |                                   |                       |
|---|-----------------------------------|-----------------------|
| <b>Boom Angle<br/>(°)</b>                   | <b>Working<br/>Radius<br/>(m)</b> | <b>Load<br/>(ton)</b> |
| 81.0  | 4.0                               | 3.10                  |
| 73.0  | 8.5                               | 3.10                  |
| 68.8  | 10.8                              | 1.90                  |
| 65.0  | 12.7                              | 1.25                  |
| 60.0  | 15.0                              | 0.65                  |
| 57.0  | 16.5                              | 0.35                  |
| 56.0  | 16.9                              | 0.30                  |
| <b>Hazardous<br/>Angle</b>                  | 54 °                              |                       |

## KATO KR-22H CITY CRANE HYDRAULIC CRANE

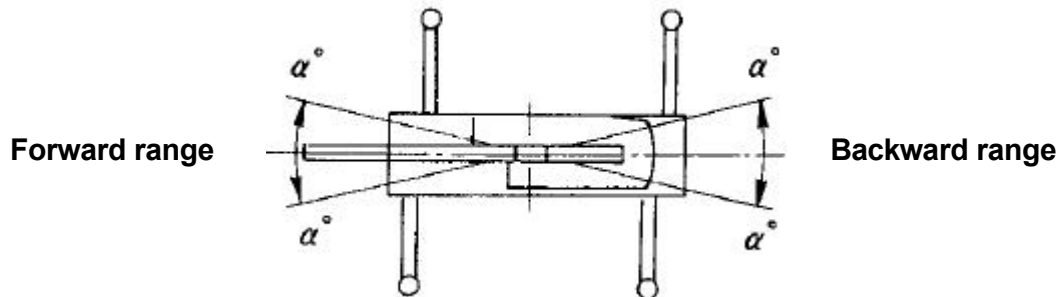
### CAUTIONS – WHEN USING THE OUTRIGGER

1. The total rated load tables display the maximum load under warranty in a state where the machine is set level on level and firm ground and includes the weight of the hook and other hoisting accessories.

The sections boxed in bold (  ) are set out according to the machinery's strength. Other areas are set out according to the machine's degree of stability.

|                  |                  |                 |
|------------------|------------------|-----------------|
| <b>HOOK TYPE</b> | <b>22,000 kg</b> | <b>3,400 kg</b> |
| <b>WEIGHT</b>    | <b>160 kg</b>    | <b>60 kg</b>    |

2. Since the working radius is based on the actual values including the flex of the boom, please ensure work is carried out with the working radius as the standard.
3. Total rated loads below the bold lines do not exceed 75% of tipping load.
4. The jib working radius displays values when work is carried out with a jib attached to a 28.0 m boom. Please use just the boom angle as the standard when doing jib work with booms of other lengths.
5. Lateral lifting performance differs according to the outrigger's reach. Consequently, please carry out work for the respective reach conditions according to the total rated load tables. For forward and backward lifting performance, please carry out work according to the total rated load table for the outrigger maximum reach.



|                        |                           |                           |               |
|------------------------|---------------------------|---------------------------|---------------|
| Outrigger reach status | Intermediate reach (4.6m) | Intermediate reach (3.4m) | Minimum reach |
| Area $\alpha^\circ$    | 35                        | 20                        | 3             |

6. Please do not carry out jib work at the outrigger minimum reach.
7. The total rated load for the rooster sheave is equivalent to the value after subtracting the 22 tonne hook weight (160 kg) from the total rated boom load and the limit shall be 3,400 kg.
8. When the boom length exceeds the stipulated length, please carry out work at the total rated load for either the stipulated length, or at a length for a boom which is one step longer, whichever is the smaller total rated load.
9. When carrying out boom work with a jib or with a rooster sheave attached, in addition to the weight of accessory hoists, please subtract 440 kg from the total rated load when a jib is attached or 90 kg when a rooster sheave is attached.
10. The hazardous angle for booms in each work situation is as per the tables. Please exercise sufficient caution since the crane can topple over even without any load if the boom is lower than the hazardous angle.

11. The number of standard hook cables is as per the table below. However, when using a number of cables other than for the standard hook, please use a limit of 3,300 kg for each wire rope.

|                       |      |              |       |       |                    |
|-----------------------|------|--------------|-------|-------|--------------------|
| Boom length           | 6.7m | 11.0 – 15.2m | 21.6m | 28.0m | Jib/rooster sheave |
| No. of lifting cables | 7    | 4            | 3     | 2     | 1                  |

12. The total rated load tables do not include the impact of wind. Please halt work when the instantaneous wind speeds exceeds 10m/sec.
13. When carrying out work that exceeds the total rated load and when the crane has not been used correctly, it will topple over or get damaged. In these instances, the crane's warranty is invalidated.

**KATO KR-22H CITY CRANE CRANE**  
**TOTAL RATED LOAD IN TONNES**  
This document should be read in conjunction with the AML

| <b>Not using the Outrigger</b> |            |                 |             |                 |             |                 |
|--------------------------------|------------|-----------------|-------------|-----------------|-------------|-----------------|
| <b>Fixed Hoisting</b>          |            |                 |             |                 |             |                 |
| Working Radius (m)             | 6.7 m Boom |                 | 11.0 m Boom |                 | 15.2 m Boom |                 |
|                                | Forward    | Total Perimeter | Forward     | Total Perimeter | Forward     | Total Perimeter |
| 3.0                            |            | 6.00            |             | 5.50            |             | 5.20            |
| 3.5                            | 8.50       | 4.50            | 8.50        | 4.10            | 8.00        | 3.80            |
| 4.0                            | 8.50       | 3.30            | 8.50        | 3.20            | 8.00        | 3.00            |
| 4.5                            | 7.50       | 2.55            | 7.20        | 2.55            | 6.50        | 2.40            |
| 5.0                            |            |                 | 6.10        | 2.00            | 5.40        | 1.90            |
| 5.5                            |            |                 | 5.10        | 1.55            | 4.55        | 1.50            |
| 6.0                            |            |                 | 4.25        | 1.20            | 3.85        | 1.15            |
| 6.5                            |            |                 | 3.55        | 0.90            | 3.30        | 0.85            |
| 7.0                            |            |                 | 3.00        | 0.65            | 2.80        |                 |
| 8.0                            |            |                 | 2.15        |                 | 2.05        |                 |
| 9.0                            |            |                 | 1.55        |                 | 1.50        |                 |
| 10.0                           |            |                 |             |                 | 1.00        |                 |
| 11.0                           |            |                 |             |                 | 0.60        |                 |
| Hazardous Angle                | -          | -               | -           | 30°             | 30°         | 56°             |

| <b>Not using the Outrigger</b>                         |            |                 |             |                 |             |                 |
|--|------------|-----------------|-------------|-----------------|-------------|-----------------|
| <b>Driving while suspending a load (under 2 km/hr)</b> |            |                 |             |                 |             |                 |
| Working Radius (m)                                     | 6.7 m Boom |                 | 11.0 m Boom |                 | 15.2 m Boom |                 |
|  | Forward    | Total Perimeter | Forward     | Total Perimeter | Forward     | Total Perimeter |
| 3.0  |            | 4.80            |             | 4.40            |             | 4.00            |
| 3.5  | 6.80       | 3.60            | 6.40        | 3.30            | 5.90        | 3.00            |
| 4.0  | 6.80       | 2.65            | 6.40        | 2.55            | 5.90        | 2.40            |
| 4.5  | 6.00       | 2.05            | 5.50        | 2.05            | 5.00        | 1.90            |
| 5.0  |            |                 | 4.75        | 1.50            | 4.30        | 1.40            |
| 5.5  |            |                 | 4.10        | 1.05            | 3.65        | 1.00            |
| 6.0  |            |                 | 3.40        | 0.65            | 3.10        | 0.60            |
| 6.5  |            |                 | 2.85        |                 | 2.65        |                 |
| 7.0  |            |                 | 2.40        |                 | 2.25        |                 |
| 8.0  |            |                 | 1.65        |                 | 1.60        |                 |
| 9.0  |            |                 | 1.00        |                 | 1.00        |                 |
| 10.0   |            |                 |             |                 | 0.50        |                 |
| Hazardous Angle  | -          | -               | -           | 42°             | 35°         | 60°             |

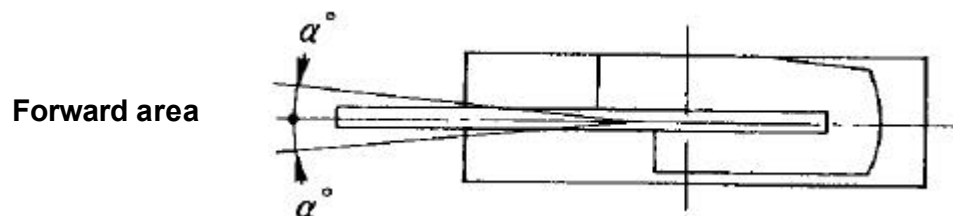
## KATO KR-22H CITY CRANE HYDRAULIC CRANE

### CAUTIONS – WHEN NOT USING THE OUTRIGGER

1. The total rated load tables display the maximum load under warranty for this crane when tyre air pressure is at the specified pressure on firm and level ground and the suspension lock cylinders have been contracted to a minimum. The values include the weight of the hook and other hoisting accessories.

The sections boxed in bold (  ) are set out according to the machinery's strength. Other areas are set out according to the machine's degree of stability. (The stipulated tyre air pressure is 9.0 kg/cm<sup>2</sup>).

2. Since the working radius is based on the actual values including the flex of the boom, please ensure work is carried out with the working radius as the standard.
3. Total rated loads below the bold lines do not exceed 75% of tipping load.
4. The total rated loads differ according to forward performance or entire perimeter performance. Please exercise due caution when swivelling from the forward area to a lateral area since there is a risk of overload.



| Crane work | Fixed hoisting | Driving while suspending a load |
|------------|----------------|---------------------------------|
| Area a°    | 1              | 1                               |

5. The total rated load for the rooster sheave is equivalent to the value after subtracting the 22 tonne hook weight (160 kg) from the total rated boom load and the limit shall be 3,400 kg.
6. Please do not carry out boom work, jib work or free lowering work when the boom length exceeds 15.2m.
7. Please carry out fixed crane work with the parking brake active.
8. When driving while suspending a load, turn the high/low switch to "ON" (low range) and have the shift lever at speed 1.
9. While driving while suspending a load, keep the load close to the ground so that it does not sway and proceed at under 2 km/hr. In particular, exercise caution with cornering, sudden acceleration and sudden braking.
10. Do not carry out crane work when driving while suspending a load.
11. The hazardous angle for booms in each work situation is as per the tables. Please exercise due caution since the crane can topple over even without any load if the boom is lower than the hazardous angle.

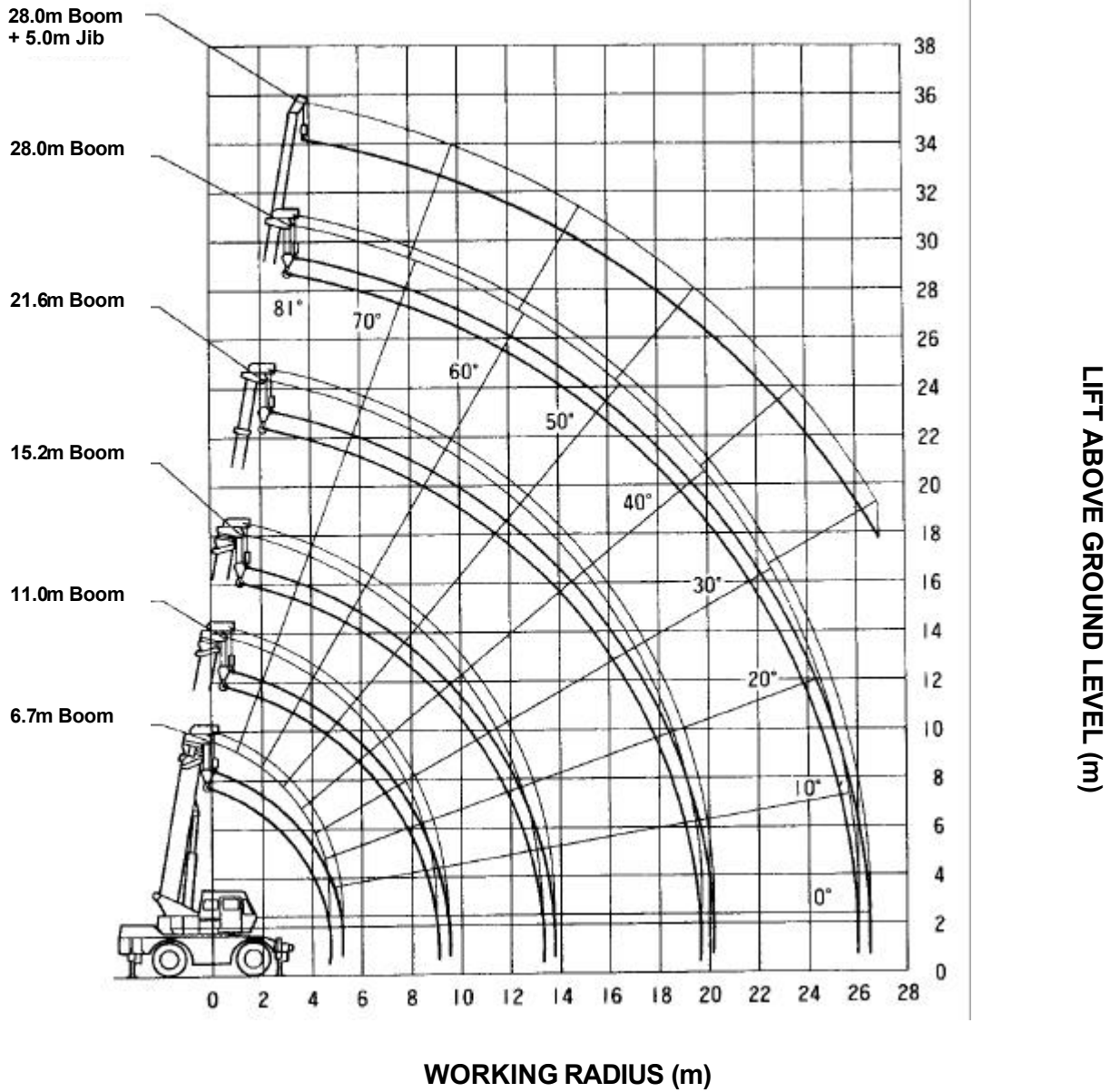
12. The number of standard hook cables is as per the table below. However, when using a number of cables other than for the standard hook, please use a limit of 3,300 kg for each wire rope.

|                       |      |              |                |
|-----------------------|------|--------------|----------------|
| Boom length           | 6.7m | 11.0 – 15.2m | Rooster sheave |
| No. of lifting cables | 7    | 4            | 1              |

13. When carrying out work that exceeds the total rated load and when the crane has not been used correctly, it will topple over or get damaged. In these instances, the crane's warranty is invalidated.

**KATO KR-22H CITY CRANE CRANE  
TOTAL RATED LOAD IN TONNES**

**WORKING RANGE DIAGRAM**

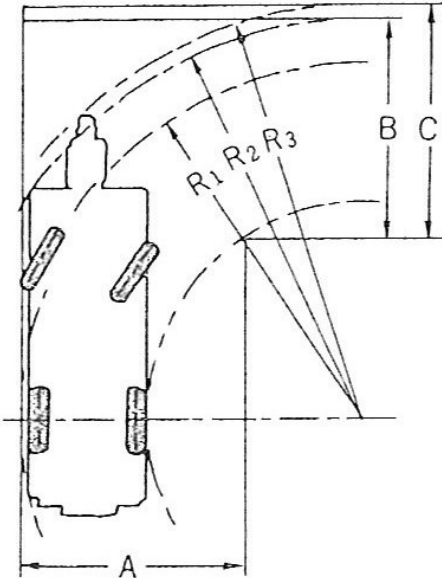


- Notes:**
1. This figure does not include boom or jib flexing.
  2. This figure shows the outrigger maximum reach (full perimeter)

## KATO KR-22H CITY CRANE CRANE TOTAL RATED LOAD IN TONNES

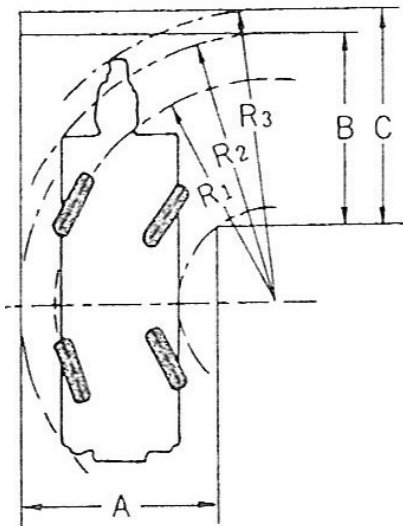
### Width of Theoretical Minimum Intersecting Aisle

- **Turning right with 2-wheel steering**



- $R_1 = 7.50\text{m}$   
(Minimum turning radius)
- $R_2 = 8.43\text{m}$   
(Vehicle body turning radius)
- $R_3 = 8.73\text{m}$   
(Boom tip turning radius)
- $A = 4.64\text{m}$  (entry aisle width)
- $B = 4.64\text{m}$  (vehicle body exit aisle width)
- $C = 4.95\text{m}$  (boom tip exit aisle width)

- **Turning right with 4-wheel steering**



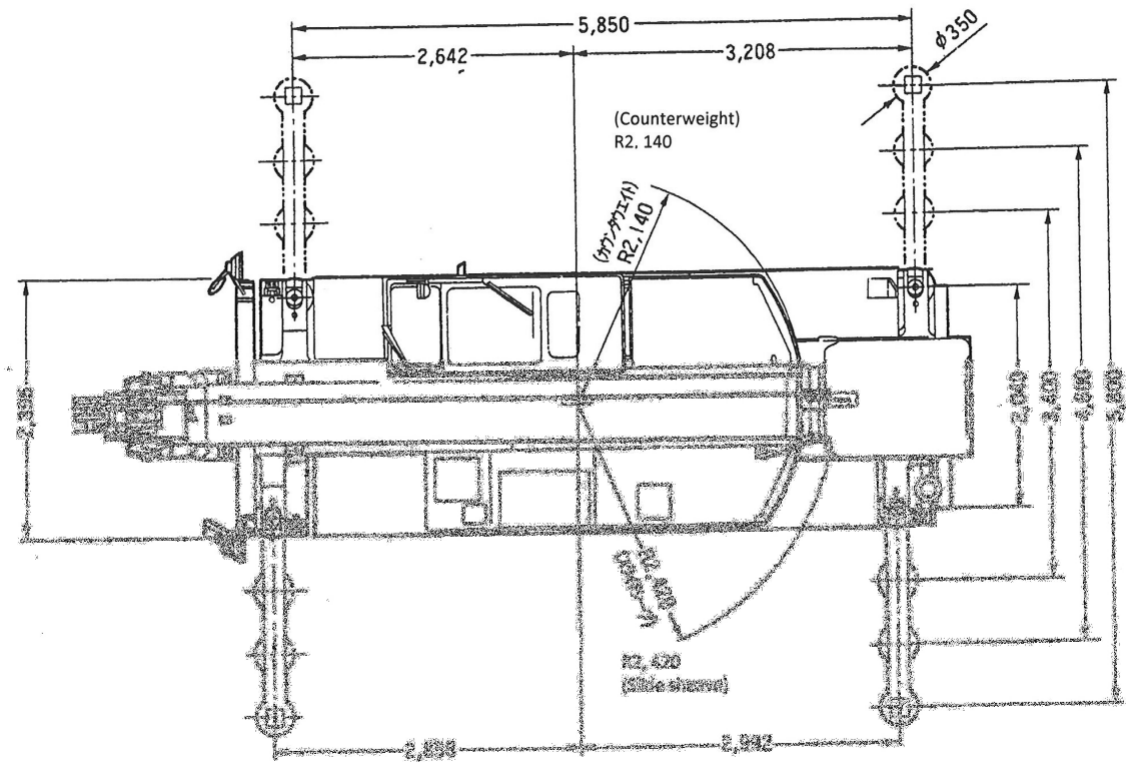
- $R_1 = 4.70\text{m}$   
(Minimum turning radius)
- $R_2 = 5.67\text{m}$   
(Vehicle body turning radius)
- $R_3 = 6.18\text{m}$   
(Boom tip turning radius)
- $A = 4.05\text{m}$  (vehicle body entry aisle width)
- $B = 4.05\text{m}$  (vehicle body exit aisle width)
- $C = 4.56\text{m}$  (boom tip exit aisle width)

**NB:** The above numbers are calculated values.

- Fully equipped (compulsory automobile inspection registration weight), the KR-22H meets the B criteria of the basic access criteria. Please store the hook in the set location when driving.



Scale: 1/100 units (mm)



Scale: 1/100 units (mm)

