

## R 70 Technical Data.

Diesel and LP Gas Trucks

R 70-16 compact

R 70-18 compact

R 70-20 compact

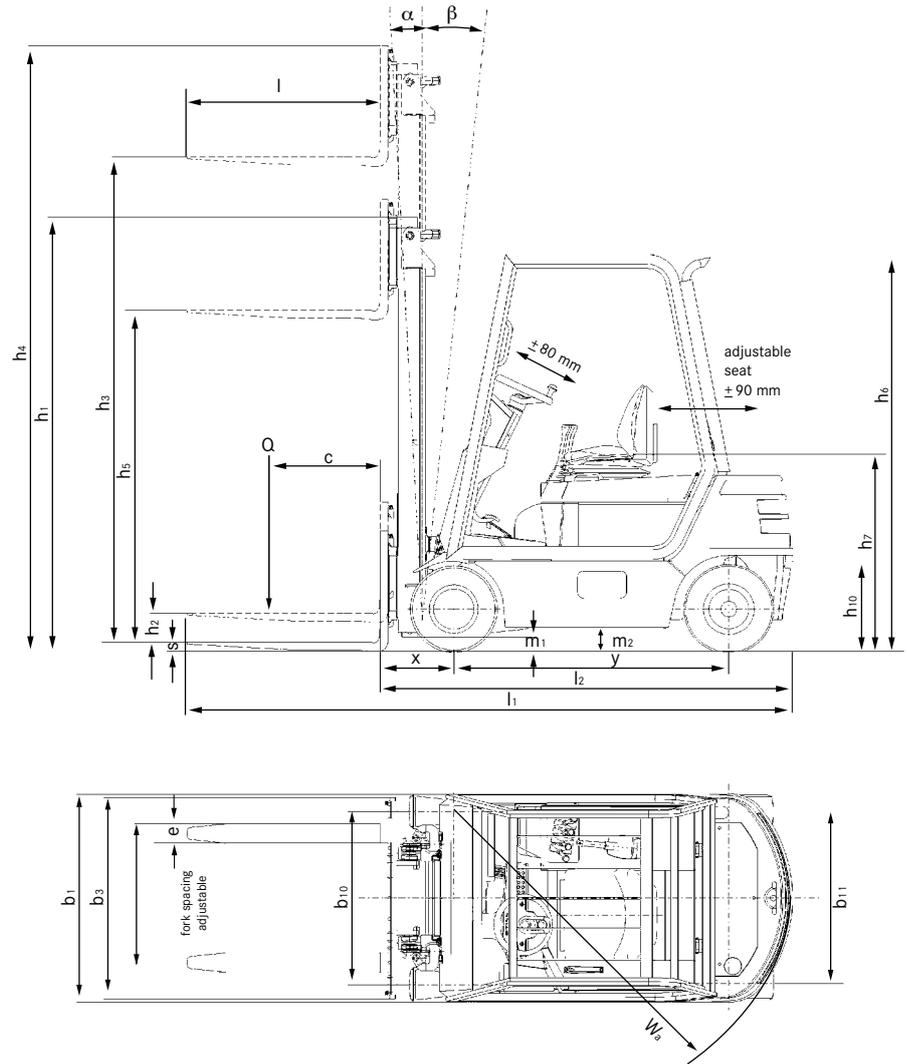


# R 70 Technical Data.

In accordance with VDI guidelines 2198, this specification applies to the standard model only.  
Alternative tyres, mast types, ancillary equipment, etc. could result in different values.

|                 |   |  | STILL   |                      | STILL                |                      | STILL       |              |      |      |
|-----------------|---|--|---|----------------------|----------------------|----------------------|-------------|--------------|------|------|
|                 |   |  | R 70-16   | R 70-16 T            | R 70-18              | R 70-18 T            | R 70-20 C   | R 70-20 C    |      |      |
| Characteristics | 1.1                                     | Manufacturer   |   |                      |                      |                      |             |              |      |      |
|                 | 1.2                                     | Manufacturer's model designation                             |   |                      |                      |                      |             |              |      |      |
|                 | 1.3                                     | Power supply – electric, diesel, petrol, gas, mains electric |   | diesel               | LPG                  | diesel               | LPG         | diesel       | LPG  |      |
|                 | 1.4                                     | Type of control – hand, pedestrian, stand-on, rider seated   |   | rider seated         |                      | rider seated         |             | rider seated |      |      |
|                 | 1.5                                     | Carrying capacity / load                                     | Q   | kg                   | 1600                 | 1800                 | 2000        |              |      |      |
|                 | 1.6                                     | Load centre  | c   | mm                   | 500                  | 500                  | 500         |              |      |      |
|                 | 1.8                                     | Load distance  | x   | mm                   | 368                  | 368                  | 379         |              |      |      |
|                 | 1.9                                     | Wheelbase  | y   | mm                   | 1450                 | 1450                 | 1495        |              |      |      |
|                 | Weight                                  | 2.1  | Weight  |                      | kg                   | 2640                 | 2800        | 3090         |      |      |
| 2.2             |   | Axle loadings laden front                                    |   | kg                   | 3780                 | 4065                 | 4464        |              |      |      |
| 2.2.1           |   | Axle loadings laden rear                                     |   | kg                   | 460                  | 505                  | 626         |              |      |      |
| 2.3             |   | Axle loadings unladen front                                  |   | kg                   | 1220                 | 1220                 | 1292        |              |      |      |
| 2.3.1           |   | Axle loadings unladen rear                                   |   | kg                   | 1420                 | 1580                 | 1798        |              |      |      |
| Wheels   Tyres  |   | 3.1  | Tyres – rubber (V), superelastic (SE), pneumatic (L), polyurethane (PE) |                      |                      | SE/L                 | SE/L        | SE           |      |      |
|                 | 3.2                                     | Tyre size – front  |   |                      | 18 x 7-8 (16 PR)     | 18 x 7-8 (16 PR)     | 200/50-10   |              |      |      |
|                 | 3.3                                     | Tyre size – rear   |   |                      | 18 x 7-8 (16 PR)     | 18 x 7-8 (16 PR)     | 18 x 7-8    |              |      |      |
|                 | 3.5                                     | Wheels – number front (x = drive wheel)                      |   |                      | 2x                   | 2x                   | 2x          |              |      |      |
|                 | 3.5.1                                   | Wheels – number rear (x = drive wheel)                       |   |                      | 2                    | 2                    | 2           |              |      |      |
|                 | 3.6                                     | Track width – front  | b <sub>10</sub>   | mm                   | 927                  | 927                  | 903         |              |      |      |
|                 | 3.7                                     | Track width – rear   | b <sub>11</sub>   | mm                   | 895                  | 895                  | 895         |              |      |      |
| Dimensions      | 4.1                                     | Tilt angle, mast / fork carriage forwards                    |   | degrees              | 3                    | 3                    | 3           |              |      |      |
|                 | 4.1.1                                   | Tilt angle, mast / fork carriage backwards                   |   | degrees              | 9                    | 9                    | 9           |              |      |      |
|                 | 4.2                                     | Closed height  | h <sub>1</sub>  | mm                   | 2210                 | 2210                 | 2260        |              |      |      |
|                 | 4.3                                     | Free lift  | h <sub>2</sub>  | mm                   | 150                  | 150                  | 150         |              |      |      |
|                 | 4.4                                     | Lift height  | h <sub>3</sub>  | mm                   | 3330                 | 3330                 | 3350        |              |      |      |
|                 | 4.5                                     | Height, mast raised  | h <sub>4</sub>  | mm                   | 3980                 | 3980                 | 4000        |              |      |      |
|                 | 4.7                                     | Height to top of overhead guard (cabin)                      | h <sub>6</sub>  | mm                   | 2070                 | 2070                 | 2070        |              |      |      |
|                 | 4.8                                     | Seat height  | h <sub>7</sub>  | mm                   | 980                  | 980                  | 980         |              |      |      |
|                 | 4.12                                    | Coupling height  | h <sub>10</sub>   | mm                   | 465                  | 465                  | 465         |              |      |      |
|                 | 4.19                                    | Overall length   | l <sub>1</sub>  | mm                   | 2948                 | 2988                 | 3075        |              |      |      |
|                 | 4.20                                    | Length to front face of forks                                | l <sub>2</sub>  | mm                   | 2148                 | 2188                 | 2275        |              |      |      |
|                 | 4.21                                    | Overall width  | b <sub>1</sub>  | mm                   | 1048                 | 1048                 | 1098        |              |      |      |
|                 | 4.22                                    | Fork thickness   | s   | mm                   | 40                   | 40                   | 40          |              |      |      |
|                 | 4.22.1                                  | Fork width   | e   | mm                   | 80                   | 80                   | 80          |              |      |      |
|                 | 4.22.2                                  | Fork length  | l   | mm                   | 800                  | 800                  | 800         |              |      |      |
|                 | 4.23                                    | Fork carriage to DIN 15173 – class / form A or B             |   |                      | ISO II B             | ISO II B             | ISO II B    |              |      |      |
|                 | 4.24                                    | Fork carriage width  | b <sub>3</sub>  | mm                   | 1040                 | 1040                 | 1040        |              |      |      |
|                 | 4.31                                    | Ground clearance beneath mast, laden                         | m <sub>1</sub>  | mm                   | 84                   | 82                   | 94          |              |      |      |
|                 | 4.32                                    | Ground clearance at centre of wheelbase                      | m <sub>2</sub>  | mm                   | 120                  | 120                  | 120         |              |      |      |
|                 | 4.33                                    | Aisle width for pallets 1000 x 1200 wide                     | A <sub>st</sub>   | mm                   | 3495                 | 3530                 | 3617        |              |      |      |
| 4.34            | Aisle width for pallets 800 x 1200 long | A <sub>st</sub>  | mm  | 3695                 | 3730                 | 3817                 |             |              |      |      |
| 4.35            | Outer turning radius                    | W <sub>a</sub>   | mm  | 1927                 | 1962                 | 2038                 |             |              |      |      |
| 4.36            | Inner turning radius                    | b <sub>13</sub>  | mm  |                      |                      |                      |             |              |      |      |
| Performance     | 5.1                                     | Speed laden  |   | km/h                 | 22                   | 22                   | 22          |              |      |      |
|                 | 5.1.1                                   | Speed unladen  |   | km/h                 | 22                   | 22                   | 22          |              |      |      |
|                 | 5.2                                     | Lift speed laden   |   | m/s                  | 0.54                 | 0.54                 | 0.51        |              |      |      |
|                 | 5.2.1                                   | Lift speed unladen   |   | m/s                  | 0.58                 | 0.58                 | 0.57        |              |      |      |
|                 | 5.3                                     | Lowering speed laden   |   | m/s                  | 0.6                  | 0.6                  | 0.6         |              |      |      |
|                 | 5.3.1                                   | Lowering speed unladen                                       |   | m/s                  | 0.45                 | 0.45                 | 0.47        |              |      |      |
|                 | 5.5                                     | Rated drawbar pull laden                                     |   | N                    | 12000                | 12000                | 12000       |              |      |      |
|                 | 5.5.1                                   | Rated drawbar pull unladen                                   |   | N                    | 7180                 | 7180                 | 7180        |              |      |      |
|                 | 5.7                                     | Gradeability laden   |   | %                    | 27                   | 27                   | 27          |              |      |      |
|                 | 5.7.1                                   | Gradeability unladen   |   | %                    | 25                   | 25                   | 25          |              |      |      |
|                 | 5.9                                     | Acceleration time laden                                      |   | s                    | 4.5                  | 4.6                  | 4.7         |              |      |      |
| 5.9.1           | Acceleration time unladen               |  | s   | 4                    | 4.1                  | 4.2                  |             |              |      |      |
| 5.10            | Brakes                                  |  |   | electric / hydraulic | electric / hydraulic | electric / hydraulic |             |              |      |      |
| Engine          | 7.1                                     | Engine manufacturer  |   |                      | Volkswagen           | Volkswagen           | Volkswagen  |              |      |      |
|                 | 7.1.1                                   | Type   |   |                      | ADG                  | ADF                  | ADG         | ADF          |      |      |
|                 | 7.2                                     | Engine rated power to ISO 1585                               |   | kW                   | 30                   | 31                   | 30          | 31           | 33   | 34   |
|                 | 7.3                                     | Rated rpm  |   | 1/min                | 2400                 | 2400                 | 2400        | 2400         | 2600 |      |
|                 | 7.4                                     | No. of cylinders   |   |                      | 4                    | 4                    | 4           | 4            | 4    |      |
|                 | 7.4.1                                   | Displacement   |   | cm <sup>3</sup>      | 1896                 | 1800                 | 1896        | 1800         | 1896 | 1800 |
| 7.5             | Fuel consumption                        |  | l/h   |                      |                      |                      |             |              |      |      |
| Other           | 8.1                                     | Drive control  |   |                      | Stilltronic          | Stilltronic          | Stilltronic |              |      |      |
|                 | 8.2                                     | Operating pressure for attachments                           |   | bar                  | 230                  | 250                  | 230         |              |      |      |
|                 | 8.3                                     | Oil flow for attachments                                     |   | l/min                |                      |                      |             |              |      |      |
|                 | 8.4                                     | Average noise peak at operator's ears                        |   | dB(A)                | 76                   | 76                   | 76          |              |      |      |
|                 | 8.5                                     | Trailer coupling, type / DIN                                 |   |                      | pin                  | pin                  | pin         |              |      |      |

The models depicted in this brochure may contain special parts or attachments which are not supplied as standard.

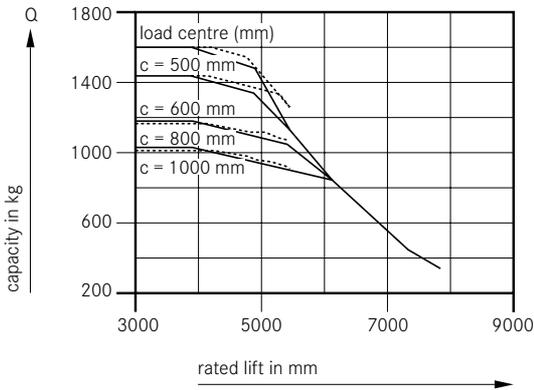


### Mast types.

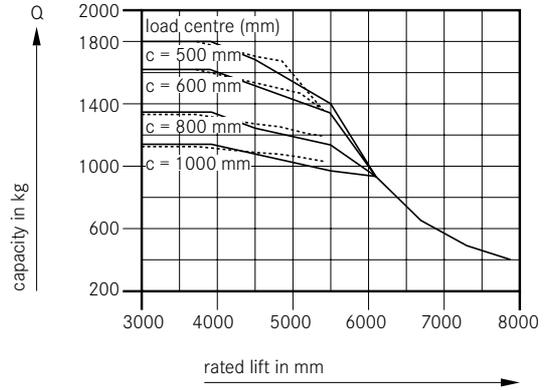
|                 |                     | Telescopic mast                |           |           |           | HiLo mast |           | Triple mast |           |
|-----------------|---------------------|--------------------------------|-----------|-----------|-----------|-----------|-----------|-------------|-----------|
| R 70-16 (T)     | Rated lift          | h <sub>3</sub>                 | 2630-2830 | 2930-3930 | 4030-4330 | 4430-5430 | 2775-2875 | 2975-4075   | 4020-8020 |
|                 | Closed mast height  | h <sub>1</sub>                 | 1860-1960 | 2010-2510 | 2560-2710 | 2760-3260 | 1860-1910 | 1960-2510   | 1860-3260 |
|                 | Free lift           | h <sub>2</sub> /h <sub>5</sub> | 150       |           |           |           | 1230-1280 | 1330-1880   | 1230-2630 |
|                 | Raised mast height  | h <sub>4</sub>                 | 3280-3480 | 3580-4580 | 4680-4980 | 5080-6080 | 3425-3525 | 3625-4725   | 4670-8670 |
|                 | Angle of tilt       | v/h                            | 3/6       | 3/9*      | 3/6       | 3/6       | 3/6       | 3/9*        | 3/6       |
|                 | Overall width       | b <sub>1</sub>                 | 1084      |           |           | 1164      | 1084      |             | 1164      |
|                 | Track width, front  | b <sub>10</sub>                | 927       |           |           | 1007      | 927       |             | 1007      |
|                 | Overall length      | l <sub>2</sub>                 | 2148      |           |           |           | 2148      |             | 2169      |
|                 | Load distance       | x                              | 368       |           |           |           | 368       |             | 389       |
|                 | Working aisle width | A <sub>rit</sub>               | 3495/3695 |           |           |           | 3495/3695 |             | 3516/3716 |
| R 70-18 (T)     | Rated lift          | h <sub>3</sub>                 | 2630-2830 | 2930-3930 | 4030-4330 | 4430-5430 | 2675-2775 | 2875-3975   | 3870-7870 |
|                 | Closed mast height  | h <sub>1</sub>                 | 1860-1960 | 2010-2510 | 2560-2710 | 2760-3260 | 1860-1910 | 1960-2510   | 1860-3260 |
|                 | Free lift           | h <sub>2</sub> /h <sub>5</sub> | 150       |           |           |           | 1212-1262 | 1312-1862   | 1230-2630 |
|                 | Raised mast height  | h <sub>4</sub>                 | 3280-3480 | 3580-4580 | 4680-4980 | 5080-6080 | 3343-3443 | 3543-4643   | 4670-8670 |
|                 | Angle of tilt       | v/h                            | 3/6       | 3/9*      | 3/6       | 3/6       | 3/6       | 3/9*        | 3/6       |
|                 | Overall width       | b <sub>1</sub>                 | 1084      |           |           | 1164      | 1084      |             | 1164      |
|                 | Track width, front  | b <sub>10</sub>                | 927       |           |           | 1007      | 927       |             | 1007      |
|                 | Overall length      | l <sub>2</sub>                 | 2188      |           |           |           | 2188      |             | 2209      |
|                 | Load distance       | x                              | 368       |           |           |           | 368       |             | 389       |
|                 | Working aisle width | A <sub>rit</sub>               | 3530/3730 |           |           |           | 3530/3730 |             | 3551/3751 |
| R 70-20 compact | Rated lift          | h <sub>3</sub>                 | 2550-2750 | 2850-3850 | 3950-4150 | 4250-5350 | 2670-2770 | 2870-3870   | 3970-4370 |
|                 | Closed mast height  | h <sub>1</sub>                 | 1860-1960 | 2010-2510 | 2560-2660 | 2710-3260 | 1860-1910 | 1960-2460   | 2510-2710 |
|                 | Free lift           | h <sub>2</sub> /h <sub>5</sub> | 150       |           |           |           | 1230-1280 | 1330-1830   | 1880-2080 |
|                 | Raised mast height  | h <sub>4</sub>                 | 3200-3400 | 3500-4500 | 4600-4800 | 4900-6000 | 3320-3420 | 3520-4520   | 4620-5020 |
|                 | Angle of tilt       | v/h                            | 3/6       | 3/9*      | 3/6       | 3/6       | 3/6       | 3/9*        | 3/6       |
|                 | Overall width       | b <sub>1</sub>                 | 1098      |           |           | 1178      | 1098      |             | 1178      |
|                 | Track width, front  | b <sub>10</sub>                | 903       |           |           | 990       | 903       |             | 990       |
|                 | Overall length      | l <sub>2</sub>                 | 2275      |           |           |           | 2275      |             | 2298      |
|                 | Load distance       | x                              | 379       |           |           |           | 379       |             | 401       |
|                 | Working aisle width | A <sub>rit</sub>               | 3617/3817 |           |           |           | 3617/3817 |             | 3639/3839 |

\* with front screen max. backwards tilt 6° \* with spotlight on top 1° less backwards tilt

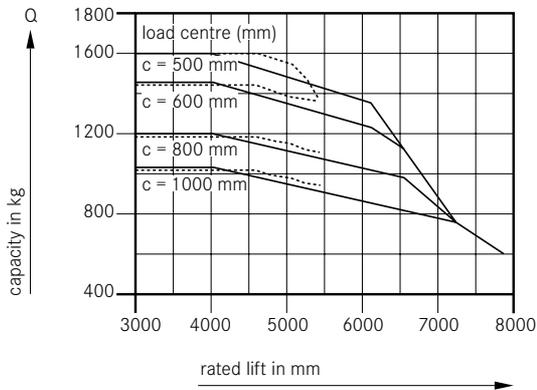
Capacity Chart R 70-16 Tele and Triple mast – pneumatic



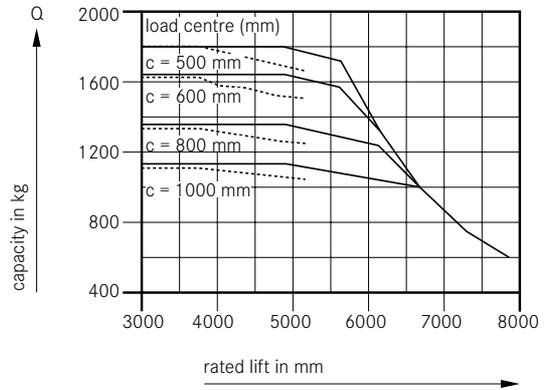
Capacity Chart R 70-18 Tele and Triple mast – pneumatic



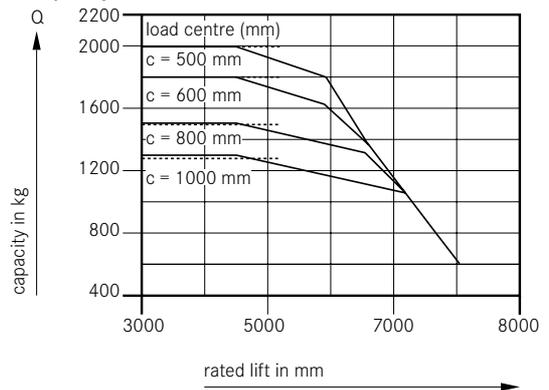
Capacity Chart R 70-16 Tele and Triple mast – SE tyres



Capacity Chart R 70-18 Tele and Triple mast – SE tyres



Capacity Chart R 70-20c Tele and Triple mast – SE tyres



— Triple mast  
 ..... Telescopic mast

## Drive.

The engine powers a generator which in turn provides current to the drive motor via an electronic speed and power regulator. This electric drive has the following advantages:

- The truck holds the speed set by the foot pedal. It makes no difference whether it is travelling up hill or down. This makes for safe driving and simplifies operation.
- Because the travel speed is controlled independently of the lift speed, fast hoisting and slow driving (inching) can take place at the same time without special equipment. This is completely free of wear, saves on operating costs and simplifies operation.
- Wear free braking down to a standstill and holding the truck in position when at rest is achieved through the drive. Even when the floor is far from level, the R 70 will remain stationary until the drive pedal is depressed. Holding the truck with the brake pedal is not necessary. This simplicity of operation reduces strain on the driver, who can concentrate fully on positioning the fork tips or the load.
- A higher turn round of goods and greater safety are benefits of the STILL drive unit with electronic speed and

acceleration control. At any time the driver can adjust the driving characteristics to suit changing load or application conditions, or to satisfy safety requirements, e.g. for the transport of pallets of drinks.

- Resilient engine mountings mean that no vibrations are transmitted to the truck.
- The inherent qualities of electric drive: high reliability, long life and low maintenance costs.

# R 70 Technical Data.



Service brake.

## Service brake.

- The service brake is a maintenance-free, multiple disc brake which runs in an oil bath and is thus free of wear. The truck is silent in operation and will never need new brake linings.
- The multiple disc brake is encapsulated to protect it from dirt and water.
- Re-adjustment is a thing of the past.
- Thanks to the maintenance-free, silent, multiple disc brake, the normal servicing costs for brakes are done away with. This means that overall maintenance costs on the R 70-20 compact are reduced by up to 30%.

## Electrics.

The modern electrical system works digitally. The exchange of information between electrical assemblies, e.g. between the drive controller and the cockpit, is achieved using the CAN bus system already used successfully in road vehicles. The number of cables and plug connectors is reduced in comparison with the previous system and the reliability increased. In addition to this, the ease with which additional electrical equipment can be fitted is greatly enhanced.

## Driver's compartment.

Constant research and development have decisively improved the driver's compartment in the R 70:

- The cockpit has an LCD display plus a pre-selection facility for the drive characteristics. The driver can select the most suitable acceleration or braking and travel speeds from five pre-set options. Simple changes to the software allow the drive parameters to be adjusted to suit the application conditions and the turnover of goods.
- Foot pedals arranged as they are in a car.\* No familiarisation needed.
- The driving characteristics of the R 70 allow the truck to be held on a gradient or on uneven roadways without touching the hand or foot brakes. This means, for example, less damage when loading or unloading lorries.
- Roomy foot well with inclined floor plate and non-slip rubber matting.
- Automotive style hand brake is fitted to the right of the driver's seat.
- Operation is made simpler and easier for the driver because driving and braking are regulated with just the drive pedal.
- Adjustable steering column plus longitudinal and rake adjustment of the seat provide an extremely comfortable



Driver's compartment.

working position for any physique.

- The driver is protected from vibrations which could damage his health by the
  - resiliently mounted drive unit
  - rubber mounting for driver's compartment
  - damped seat, adjustable to the driver's weight.

## Mast.

STILL clear view masts in Telescopic, HiLo and Triplex designs for every application:

- Telescopic: The mast suitable for most applications. Economical mast design. The hoist chains are run in protective guide rails. This prevents noise and increases chain life.
- HiLo: For high stacking under low ceilings. Utilises the space right up to the roof.
- Triplex: For applications with low doorways and greater stacking heights. Utilises the space right up to the roof.
- Fork carriage: Completely redesigned for this truck, gives a clear view onto the load being picked up, thanks to its optimised profiles. The hydraulic hoses for attachments are run in the dead visibility area of the mast sections - with no hose reels - for wear-free operation.

## Steering.

The free moving, fully hydraulic power steering provides great manoeuvrability and thus a high turn round of goods.

## Overhead guard.

The overhead guard is available in different designs so that the R 70 is adaptable to the widest variety of applications and driver requirements. A cab can be easily retro-fitted to the version of the R 70 with a roof cover.

## Safety.

The STILL clear view mast and good all round visibility give the driver the best security against running into objects. The new R 70 complies with all applicable EC safety requirements and regulations. It thus carries the "CE" symbol.

## Quality.

All forklift trucks from STILL comply with the ISO 9001 quality standard. They are carefully constructed and manufactured. The materials used are checked to stringent standards.

\* available with twin pedal control if required.



Further information on the R 70 is available  
on our website: [www.still.de/R70](http://www.still.de/R70)

STILL GmbH  
Berzeliusstrasse 10  
D-22113 Hamburg  
Telephone: +49 (0)40 / 73 39-0  
Telefax: +49 (0)40 / 73 39-16 22  
[info@still.de](mailto:info@still.de)  
[www.still.de](http://www.still.de)

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