

Technical sheet :

# ***MSI 50 ST5***

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 **MANITOU**  
HANDLING YOUR WORLD

| Technical characteristics |   |           | Metric                   |
|---------------------------|---|-----------|--------------------------|
| 1.1                       | Manufacturer  |           | MANITOU                  |
| 1.2                       | Model Name  |           | MSI 50 ST5               |
| 1.3                       | Power source  |           | Diesel                   |
| 1.4                       | Operator type   |           | Seated                   |
| 1.5                       | Max. capacity   | Q         | 5000 kg                  |
| 1.6                       | Load center of gravity                                  | c         | 600 mm                   |
| 1.8                       | Load distance, centre of drive axle to fork             | x         | 701 mm                   |
| 1.9                       | Wheelbase   | y         | 2075 mm                  |
|                           | Standard mast reference of the machine                  |           | FVD 37                   |
| Weight                    |   |           |                          |
| 2.1                       | Service weight  |           | 8420 kg                  |
| 2.2                       | Weight on front axle (laden) / rear axle (laden)        |           | 11470 kg / 1660 kg       |
| 2.3                       | Weight on front axle (Unladen) / rear axle (Unladen)    |           | 3490 kg / 4820 kg        |
| Wheels                    |   |           |                          |
| 3.1                       | Tires type  |           | Pneumatic                |
| 3.2                       | Dimensions of front wheels                              |           | 315/70 R22,5 KMAX S      |
| 3.3                       | Dimensions of rear wheels                               |           | 225/75 R15 XZM           |
| 3.5                       | Number of front wheels / rear wheels                    |           | 2 / 2                    |
| 3.5.2                     | Number of drive wheels                                  |           | 2                        |
| 3.6                       | Front wheel gauge                                       | b10       | 1420 mm                  |
| 3.7                       | Rear wheel gauge  | b11       | 1142 mm                  |
| Dimensions                |   |           |                          |
| 4.7                       | Height of overhead guard (cabin)                        | h6        | 2440 mm                  |
| 4.8                       | Seat height/stand height                                | h7        | 1435 mm                  |
| 4.12                      | Height of towing bar (coupling height)                  | h10       | 605 mm                   |
| 4.19                      | Overall length  | l1        | 4584 mm                  |
| 4.20                      | Length to face of forks                                 | l2        | 3384 mm                  |
| 4.21                      | Overall width   | b1        | 1732 mm                  |
| 4.22                      | Forks section / width / length                          | s / e / l | 60 mm x 150 mm x 1200 mm |
| 4.23                      | Fork carriage ISO 2328 (class/form) A/B                 |           | 4A                       |
| 4.24                      | Fork carriage width                                     | b3        | 1670 mm                  |
| 4.31                      | Ground clearance below mast                             | m1        | 185 mm                   |
| 4.32                      | Ground clearance at centre of wheelbase                 | m2        | 220 mm                   |
| 4.33                      | Aisle Width for pallets 1000 x 1200 crossways           | Ast       | 5241 mm                  |
| 4.35                      | Turning radius  | Wa        | 2950 mm                  |
| Performances              |   |           |                          |
| 5.1                       | Travel speed (laden / unladen)                          |           | 20 km/h-20 km/h          |
| 5.2                       | Lifting speed (laden / unladen)                         |           | 0.37 m/s-0.39 m/s        |
| 5.3                       | Lowering speed (laden / unladen)                        |           | 0.48 m/s-0.34 m/s        |
| 5.5                       | Drawbar pull (Laden / Unladen)                          |           | 3393 daN / 2471 daN      |
| 5.7                       | Gradeability (laden / unladen)                          |           | 32 % / 29 %              |
| 5.10                      | Service brake   |           | Hydraulic                |
| Engine                    |   |           |                          |
| 7.1                       | Engine brand / model                                    |           | Deutz / TCD 2,9L         |
| 7.2                       | I.C. Engine power rating                                |           | 55 kW                    |
| 7.3                       | Rated speed   |           | 2200 rpm                 |
| 7.4                       | Number of cylinders / Capacity of cylinders             |           | 4 - 2900 cm³             |
| Miscellaneous             |   |           |                          |
| 8.1                       | Type of drive control                                   |           | Electronic               |
| 8.2                       | Working hydraulic pressure for attachments              |           | 230 bar                  |
| 8.3                       | Oil flow rate for attachments                           |           | 45 l/min                 |
| 8.4                       | Sound level at the driver's ear according to DIN 12 053 |           | 81 dB                    |

MSI 50 ST5 - Dimensional drawing



## Characteristics of masts and residual capacities

| Full Visibility Duplex (FVD)                              |    | FVD 30 | FVD 33 | FVD 35 | FVD 37 | FVD 40 | FVD 45 | FVD 50 |
|---|----|--------|--------|--------|--------|--------|--------|--------|
| $\alpha$ - Mast/fork carriage tilt, forward               | °  | 10     | 10     | 10     | 10     | 10     | 10     | 10     |
| $\beta$ - Mast/fork carriage tilt, backward               | °  | 12     | 12     | 12     | 12     | 12     | 12     | 12     |
| h1 - Mast lowered height                                  | mm | 2425   | 2575   | 2675   | 2775   | 2925   | 3175   | 3425   |
| h3 - Mast lifting height                                  | mm | 3000   | 3300   | 3500   | 3700   | 4000   | 4500   | 5000   |
| h4 - Mast extended height                                 | mm | 3972   | 4272   | 4472   | 4672   | 4972   | 5472   | 5972   |
| Residual capacity at max height                           | kg | 5000   | 5000   | 5000   | 5000   | 5000   | 5000   | 5000   |
| Residual capacity with hooked-on side shift at max height | kg | 5000   | 5000   | 5000   | 5000   | 5000   | 5000   | 5000   |
| Height at max capacity                                    | mm | 3000   | 3300   | 3500   | 3700   | 4000   | 4500   | 5000   |
| Height at max capacity with hooked-on sideshift           | mm | 3000   | 3300   | 3500   | 3700   | 4000   | 4500   | 5000   |

| Free Lift Triplex (FLT)                                   |    | FLT 37 | FLT 40 | FLT 43 | FLT 45 | FLT 47 | FLT 50 | FLT 55 | FLT 60 |
|---|----|--------|--------|--------|--------|--------|--------|--------|--------|
| $\alpha$ - Mast/fork carriage tilt, forward               | °  | 10     | 10     | 10     | 10     | 10     | 10     | 10     | 10     |
| $\beta$ - Mast/fork carriage tilt, backward               | °  | 12     | 12     | 12     | 12     | 12     | 12     | 12     | 12     |
| h1 - Mast lowered height                                  | mm | 2175   | 2275   | 2375   | 2450   | 2510   | 2625   | 2775   | 2950   |
| h2 - Mast free lift                                       | mm | 1258   | 1358   | 1458   | 1533   | 1593   | 1708   | 1858   | 2033   |
| h3 - Mast lifting height                                  | mm | 3700   | 4000   | 4300   | 4500   | 4700   | 5000   | 5500   | 6000   |
| h4 - Mast extended height                                 | mm | 4672   | 4972   | 5272   | 5472   | 5672   | 5972   | 6472   | 6972   |
| Residual capacity at max height                           | kg | 5000   | 5000   | 5000   | 5000   |        |        |        | 4300   |
| Residual capacity with hooked-on side shift at max height | kg | 5000   | 5000   | 5000   | 5000   |        |        |        |        |
| Height at max capacity                                    | mm | 3700   | 4000   | 4300   | 4500   | 2500   | 2500   | 2500   | 2500   |
| Height at max capacity with hooked-on sideshift           | mm | 3700   | 4000   | 4300   | 4500   |        |        |        |        |



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