

Masted forklifts
trucks

■ **MSI 20 T/25 T**
MSI 30 T/35 T

K SERIES

- Nominal capacity : 2000/2500/3000/3500 kg
- Lifting height 3 m to 6 m
- Kubota Turbo engine : 60 HP - 44 kW (EURO III)
- Hydrostatic transmission



*Photo non contractual

 **MANITOU**

MSI: MANITOU exclusive design

The MSI is a range of semi-industrial trucks with a capacity from 2 to 3.5 tonnes that are particularly manoeuvrable and flexible to use. It is stable and multi-purpose to enable it to work in both outside and indoor storage areas whether or not the ground has been consolidated.

● Direct access to the driver's compartment

To make life easier for the operator who is continually getting in and out of the cab MANITOU has designed a truck that can be accessed from either side with no step to climb.

The extremely compact MSI is available in the standard version that has an overall height of 2.10 m to the top of the cab or in the Buggie version just 1.99 m high.



● Exceptionally flexible in use

The design with large front wheels combined with hydrostatic transmission gives the MSI appreciably greater flexibility when driving on unfinished ground. The low pressure pneumatic tyres absorb the jolts that occur when driving over kerbs, pot-holes etc. and give good road-holding when driving on slippery ground.



The MSI is also extremely stable when laden/unladen and has a very short turning radius achieved by its new steering axle with integral steering cylinder.

● Robust components

The MANITOU manufactured solid bloc chassis and the components on the MSI are well engineered and treated against corrosion for an exceptionally long life.

• Ergonomically designed spacious driver's compartment

The MSI's suspended driver's compartment insulates the driver from vibrations. In the optional enclosed cab version, the adjustable steering column, the fabric-covered seat suspended on hydraulic shock-absorbers and ventilated heating all add to comfort.



Standard seat



Comfort seat with closed cab



A single lever close to the seat brings together the operations to lift, lower and tilt the mast (10°/12°). The MSI has an **automatic system to accelerate lifting the mast** which is independent of travel mode.

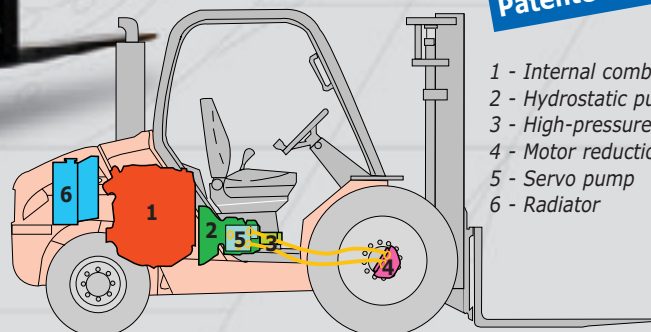
• Precise handling with hydrostatic transmission

Hydrostatic transmission offers **smooth and efficient handling accurately** and in complete safety.

Dynamic double braking system:

- braking by deceleration of the hydrostatic transmission
- dynamic braking with oil bath multidisc brakes

When parking, the braking is carried out partly by the negative brake (automatic when the engine stops).



Patented design

- 1 - Internal combustion engine
- 2 - Hydrostatic pump
- 3 - High-pressure hoses
- 4 - Motor reduction gear
- 5 - Servo pump
- 6 - Radiator

• Easy maintenance

The MSI gives exceptionally easy access to the engine components simplifying maintenance operations. An electro-hydraulic power unit **effortlessly tilts the cab forward**



You can chose from the MSI 20, 25, 30, 35 T

MANITOU offers models in a diesel version: MSI 20 T, MSI 25 T, MSI 30 T, MSI 35 T, or in a gas version: MSI 20 G, MSI 25 G, MSI 30 G to suit your kind of business. These models are also offered in a Buggy version (1.99 m overall height).



MSI 30 T
with fork locator.

In industry the MSI-G is the answer to handling in a closed environment (mushroom houses, greenhouses etc.). In logistics, the MSI-G Buggy is an effective handling tool for loading or unloading lorries.

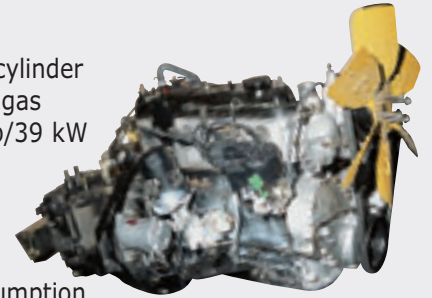


MSI 30 G with fixed reservoir
(standard version with gas bottle).



MSI 20 T Buggy
with re-handling bucket.

MSI - G:
(2 to 3 tonnes) the 4-cylinder TOYOTA 4Y single fuel gas engine, power is 53 hp/39 kW at 2200 rpm. This reliable and powerful engine does not emit soot, and provides low gas consumption.



MSI - T :
Kubota motor V2403-M
4 cylinder engine power:
60 HP/44 kW at 2700 rpm

These strong, reliable engines are designed to work cleanly, in accordance with anti-pollution regulations (Interim Tier 4/Stage III A).



MSI 30 T
cab with 4-fork
arrangement.



MSI 30 T
cab with rotating grab with reels.

models

• The tilting carriage: perfect versatility

The tilting carriage is an option that can be adapted for MSI trucks from 2 to 3.5 tonnes fitted with Duplex masts with All-round Vision (DVT). Adaptation for the T.I. carriage is carried out in the MANITOU factory.



The advantages of the T.I.

- Quick change for attachments.
- Increased performance using the forward tilt.
- A tilt angle of 66° enables a re-handling bucket to be used.
- Makes possible the use of a wide range of MANITOU attachments.
- Hydraulic locking in option.



Adapting to fit the T.I. carriage changes the truck's load chart- Please consult us.

The tilting carriage with sideshift

The tilting carriage with sideshift (T.I.D.L.) can be adapted for MSI trucks from 2 to 3 tonnes fitted with DVT masts.

The T.I.D.L. brings together the Tilting carriage (T.I.) and the Sideshift carriage (T.D.L.) operations.

Adaptation for the T.I.D.L is carried out in the MANITOU factory

A NEW IDEA FROM
MANITOU



Option



The advantages
of the T.I.D.L.

- Precise loading of pallets up to 100 mm movement on each side.
- Integral permanent sideways movement without loss of extra capacity*.
- Fast changing of attachments.
- Hydraulic locking in option.

* The same load chart as a truck fitted with T.I. depending on the model.



Hydraulic locking.



Manitou have the answer to your handling problems increasing versatility and your MSI's speed of operation.

MSI 20 - 25 - 30 - 35 T masts

| | MASTED MODEL | TYPE OF TRUCK | TOTAL LIFT | OVERALL MAST FOLDED | FREE LIFTING | OVERALL MAST IN USE | HEIGHT AT MAXIMUM CAPACITY | CAPACITY AT MAXIMUM HEIGHT | | TILT OF THE MAST |
|---------------------------------|--------------|---------------|------------|---------------------|--------------|---------------------|----------------------------|----------------------------|-------------|------------------|
| | | | (mm) | (mm) | (mm) | (mm) | (mm) | (kg) | | Front/Rear |
| ALL-ROUND VISION DUPLEX | 3,00 m | MSI 20-25 | 3030 | 2150 | 130 | 3831 | 3000 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3035 | | 135 | 3893 | | 3000 | 3000 - 3500 | |
| | 3,30 m | MSI 20-25 | 3330 | 2300 | 130 | 4131 | 3300 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3335 | | 135 | 4193 | | 3300 | 3000 - 3500 | |
| | 3,50 m | MSI 20-25 | 3530 | 2400 | 130 | 4331 | 3500 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3535 | | 135 | 4393 | | 3500 | 3000 - 3500 | |
| | 3,70 m | MSI 20-25 | 3730 | 2560 | 130 | 4531 | 3700 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3735 | | 135 | 4593 | | 3700 | 3000 - 3500 | |
| | 4,00 m | MSI 20-25 | 4030 | 2750 | 130 | 4831 | 4000 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 4035 | | 135 | 4893 | | 4000 - 3700 | 3000 - 3400 | |
| 4,50 m | MSI 20-25 | 4530 | 3000 | 130 | 5331 | 4000 | 1800 - 2200 | 1600 - 2200 | 10°/12° | |
| | MSI 30-35 | 4535 | | 135 | 5393 | | 4000 - 3700 | 2700 - 3100 | | 2500 - 3100 |
| 5,00 m | MSI 20-25 | 5030 | 3250 | 130 | 5831 | 4000 | 1500 - 1900 | 1300 - 1600 | 6°/6° | |
| | MSI 30-35 | 5035 | | 135 | 5893 | | 4000 - 3700 | 2400 - 2800 | | 2000 - 2700 |
| FREE LIFTING DUPLEX | 3,00 m | MSI 20-25 | 3040 | 2150 | 1393 | 3797 | 3000 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3045 | | 1396 | 3799 | | 3005 | 3000 - 3500 | |
| | 3,30 m | MSI 20-25 | 3340 | 2300 | 1543 | 4097 | 3300 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3345 | | 1546 | 4099 | | 3300 | 3000 - 3500 | |
| | 3,50 m | MSI 20-25 | 3540 | 2400 | 1643 | 4297 | 3500 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| MSI 30-35 | | 3545 | 1646 | | 4299 | 3500 | | 3000 - 3500 | 3000 - 3200 | |
| 3,70 m | MSI 20-25 | 3740 | 2560 | 1803 | 4497 | 3700 | 2000 - 2500 | 2000 - 2500 | 10°/12° | |
| | MSI 30-35 | 3745 | | 1806 | 4499 | | 3700 | 3000 - 3500 | | 3000 - 3200 |
| 4,00 m | MSI 20-25 | 4040 | 2750 | 1993 | 4797 | 4000 | 2000 - 2500 | 2000 - 2500 | 10°/12° | |
| | MSI 30-35 | 4045 | | 1996 | 4799 | | 4000 - 3700 | 3000 - 3400 | | 2800 - 3100 |
| ALL-ROUND VISION TRIPLEX | 3,30 m | MSI 20-25 | 3340 | 1840 | - | 4070 | 3300 | 2000 - 2500 | 2000-2500 | 10°/12 |
| FREE LIFTING TRIPLEX | 3,70 m | MSI 20-25 | 3740 | 1950 | 1221 | 4469 | 3700 | 2000 - 2500 | 2000 - 2500 | 10°/12° |
| | | MSI 30-35 | 3745 | 2050 | 1297 | 4500 | | 3700 | 3000 - 3500 | |
| | 4,00 m | MSI 20-25 | 4040 | 2050 | 1321 | 4769 | 4000 | 2000 - 2500 | 2000 - 2400 | 10°/12° |
| | | MSI 30-35 | 4045 | 2150 | 1397 | 4800 | | 4005 | 3000 - 3500 | |
| | 4,30 m | MSI 20-25 | 4340 | 2150 | 1421 | 5069 | 4300 - 4000 | 2000 - 2400 | 1900 - 2200 | 10°/12° |
| | | MSI 30-35 | 4345 | 2300 | 1547 | 5100 | | 4000 | 2800 - 2900 | |
| | 4,70 m | MSI 20-25 | 4740 | 2300 | 1571 | 5469 | 4000 | 1700 - 2100 | 1500 - 1900 | 10°/12° |
| | | MSI 30-35 | 4745 | 2400 | 1647 | 5500 | | 4000 | 2600 - 2400 | |
| 5,00 m | MSI 20-25 | 5040 | 2400 | 1671 | 5769 | 4040 | 1500 - 1900 | 1300 - 1600 | 6°/6° | |
| | MSI 30-35 | 5045 | 2560 | 1807 | 5800 | | 4000 | 2400 - 2800 | | 2000 - 2500 |
| 5,50 m | MSI 20-25 | 5540 | 2560 | 1831 | 6269 | 4000 | 1300 - 1500 | 1000 - 1200 | 6°/6° | |
| | MSI 30-35 | 5545 | 2750 | 1997 | 6300 | | 4000 | 1900 - 2300 | | 1500 - 1200 |
| 6,00 m | MSI 20-25 | 6040 | 2750 | 2021 | 6769 | 4000 | 1000 - 1200 | 600 - 800 | 6°/6° | |
| | MSI 30-35 | 6045 | 3000 | 2247 | 6800 | | 4000 | 1500 - 1900 | | 1100 - 1600 |

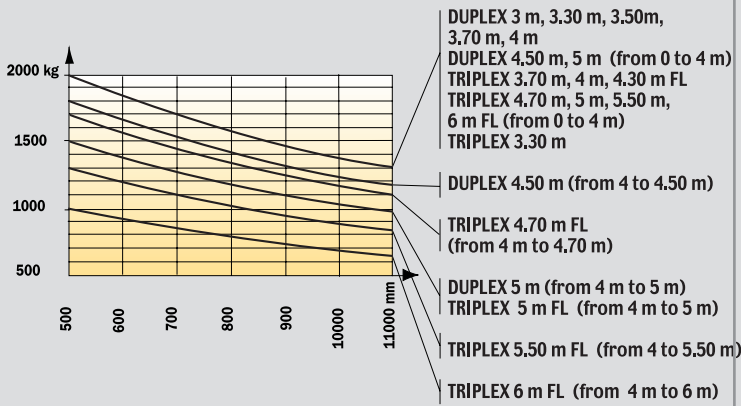
* Does not include the cabne

MSI 20 - 25 - 30 load charts Diesel and Gas

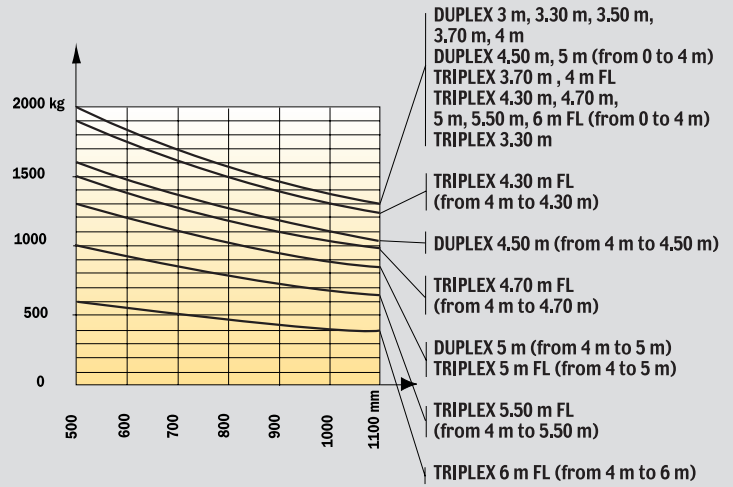
• MSI width with tyres 1320 mm (with TDL)

• MSI width with tyres 1320 mm (without TDL)

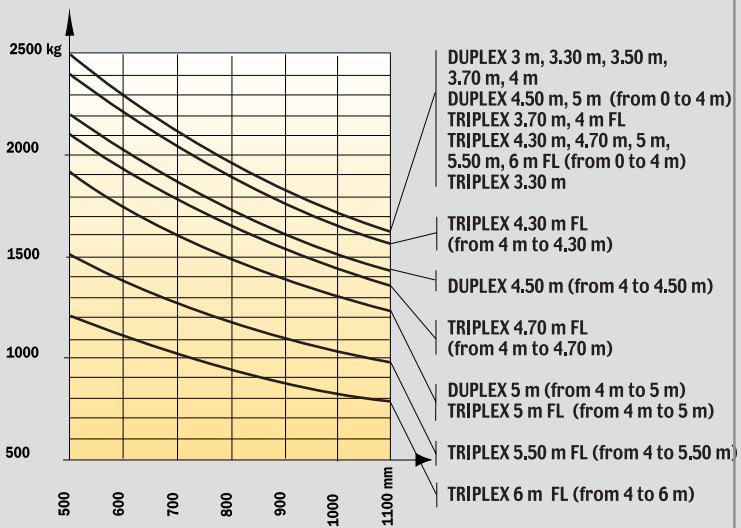
MSI 20 T/G



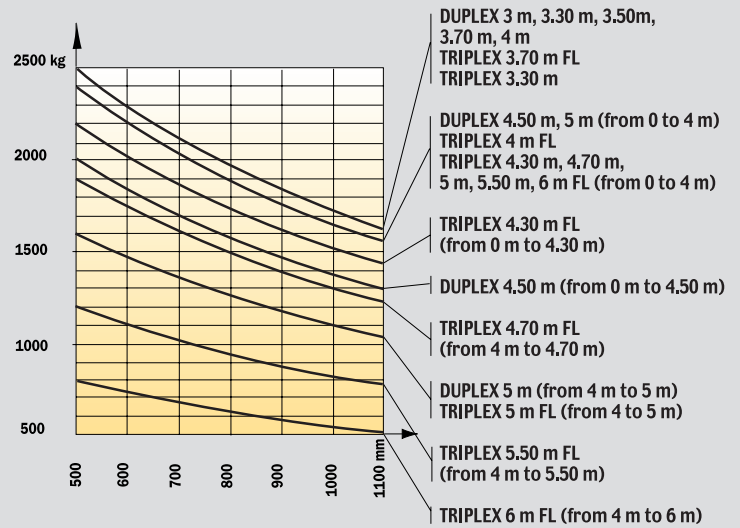
MSI 20 T/G



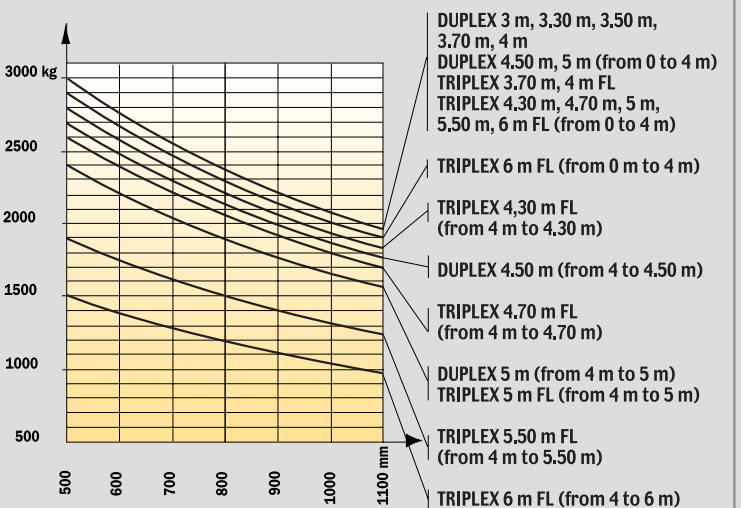
MSI 25 T/G



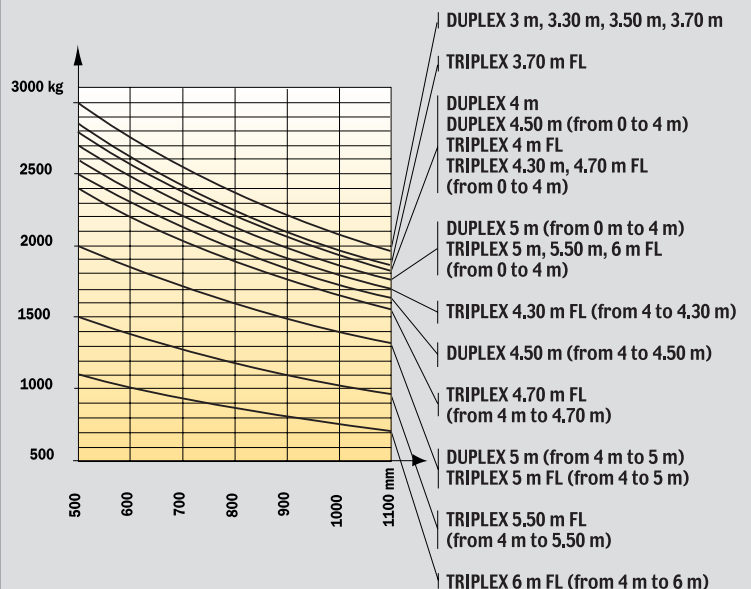
MSI 25 T/G



MSI 30 T/G



MSI 30 T/G

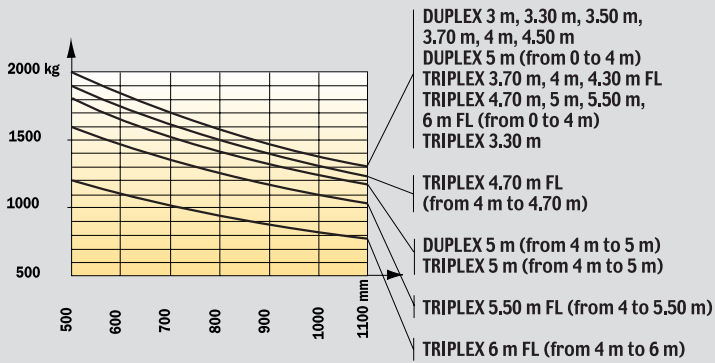


MSI 20 - 25 - 30 load charts Diesel and Gas

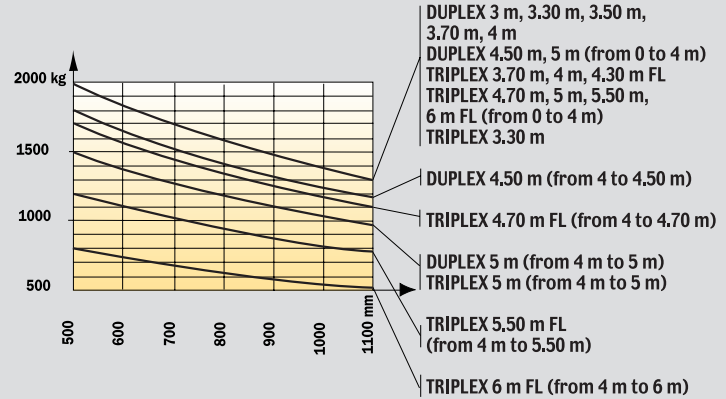
• MSI width with tyres 1500 mm (without TDL)

• MSI width with tyres 1500 mm (with TDL)

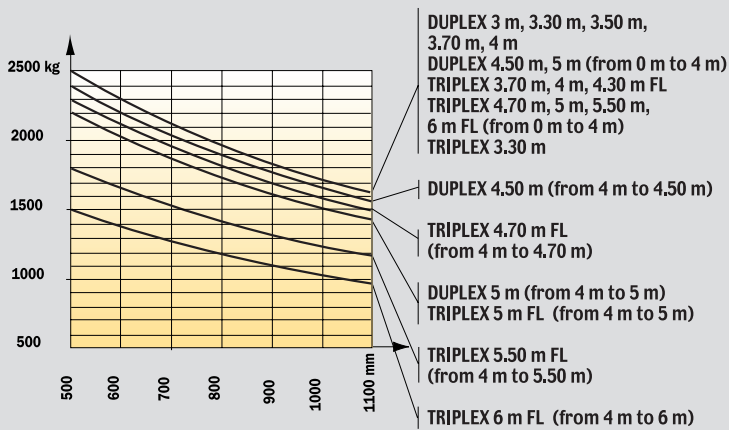
MSI 20 T/G



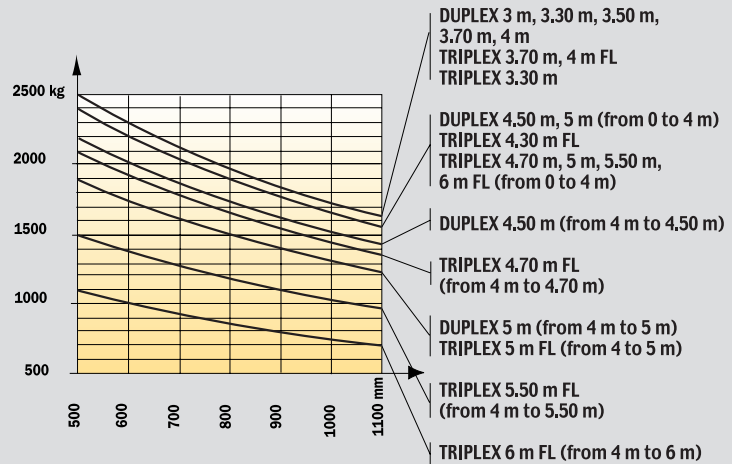
MSI 20 T/G



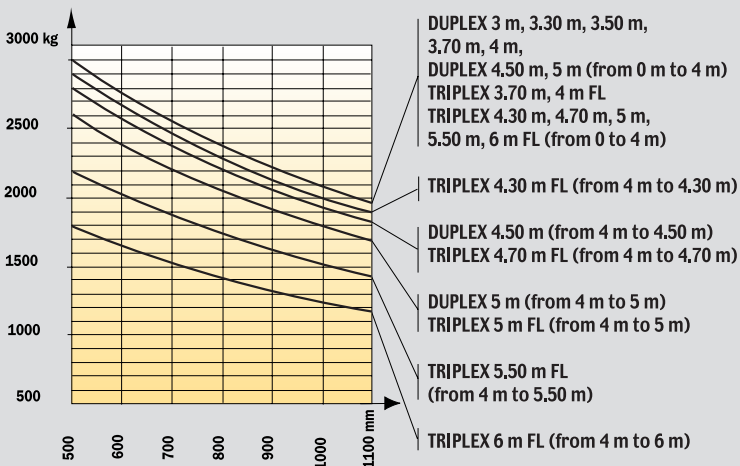
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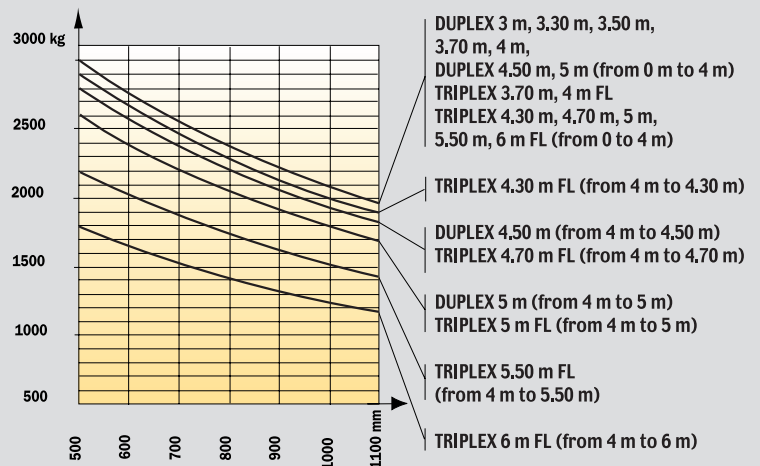
MSI 25 T/G



MSI 30 T/G

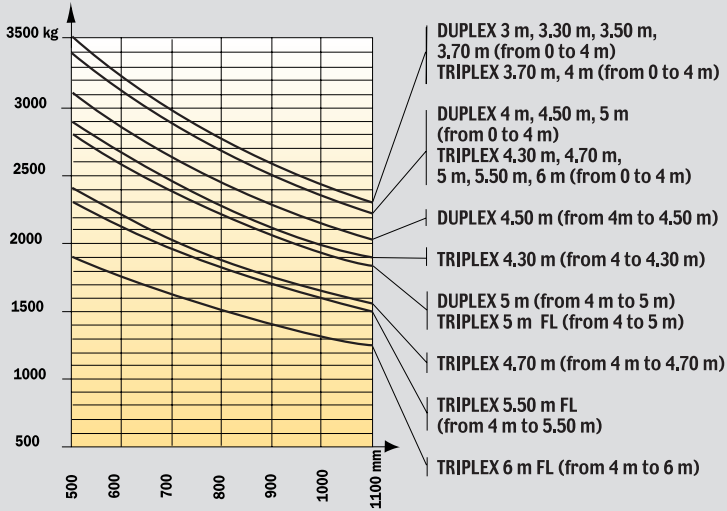


MSI 30 T/G

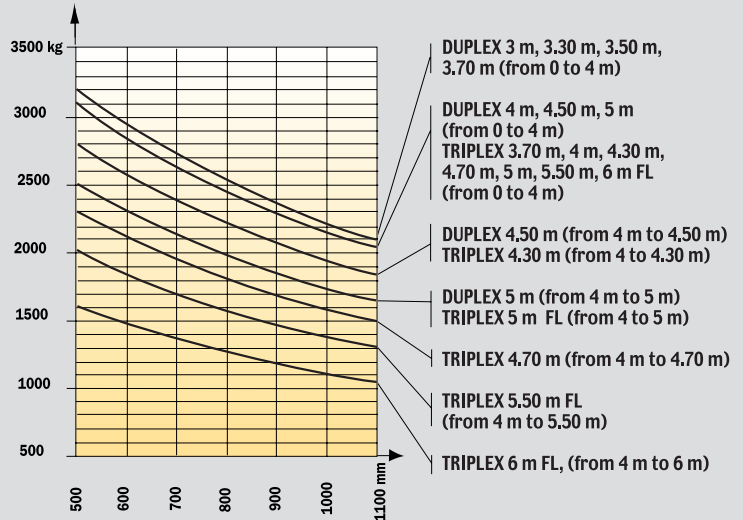


MSI 35 T load charts (Diesel only)

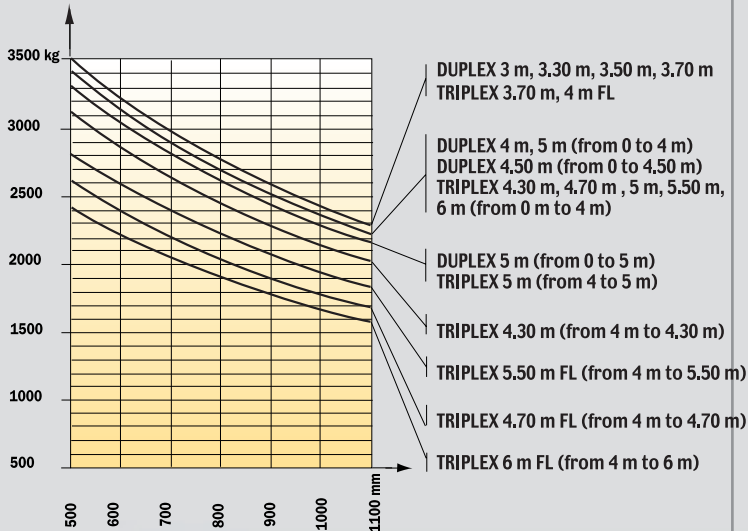
• MSI width with tyres 1320 mm (without TDL)



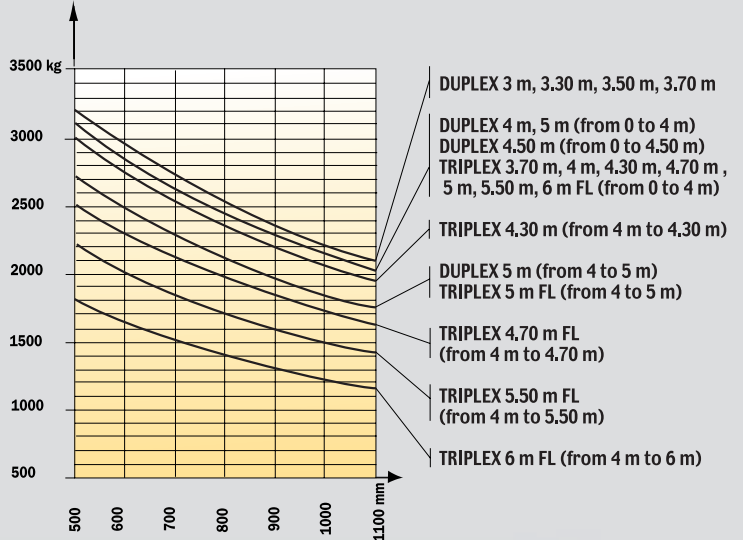
• MSI width with tyres 1320 mm (with TDL)
















• MSI width with tyres 1500 mm (without TDL)



• MSI width with tyres 1500 mm (with TDL)



Tyres MSI 20 T/G - 25 T/G - 30 T/G - 35 T

| | Versions | | Casing | Tyre width (mm) | Overall machine width (mm) | |
|-------------------------|----------------------------|------------|-----------------------------------|-----------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Standard Fitting | Industrial | Front | 275/70 R22.5 RHS | 277 | 1323 |  |
| | | Rear | 7.00 x 12 14 PR IC 40 | 192 | 1294 |  |
| Optional Fitting | Wide industrial | Front | 275/70 R22.5 RHS II | 277 | 1523 |  |
| | All-purpose or Industrial | Rear | 27 - 10 - 12 14 PR IC 12 * | 252 | 1393 |  |
| | Industrial | Rear | 700 R12 136 A5 XZM | 191 | 1293 |  |
| | Flexible solid tyre | Front | 8.25 - 20 - CSE SC 15 | 253 | 1310 |  |
| | | Rear | 7.00 - 12 CSE SC 10 | 207 | 1309 |  |
| | All-purpose (except 3.5 T) | Front | 10.5 R20 14 PR MPT 80 134 G | 266 | 1322 |  |
| | | Front | 12.0 x 18 12PR T 86 | 309 | 1423 |  |
| | Wide all-purpose | Front | 10.5 R 20 14PR MPT 80 134 G | 266 | 1522 |  |
| | | Front | 15.5/55 R 18 SP PG 7 14 PR | 374 | 1540 |  |
| | Extra wide all-purpose | Front | 15.5/55 R 18 SP PG 7 14 PR (A) | 374 | 1650 |  |
| Field (2 T/2.5 T only) | Front | 280/80 R20 | 289 | 1345 |  | |

(A) Optional snow chains * With front width higher than 1500 mm

Equipments

STANDARD EQUIPMENT

- Carriage 1260 mm (FEM IIA or III A)
- Driver protection:
 - Tinted windscreen and rear window
 - Front and rear wipers
 - Front windscreen washer
 - Skai seat
 - Safety belt
- Command post switched by electrohydraulic control
- Battery cut-off switch
- Hydraulic inching cut-out
- Driver presence detection

OTHER OPTIONAL EQUIPMENT

Mast and accessories:

- Wide choice of forks
- Different carriage sizes
- Load back rests
- Hydraulic outlets for accessories
- Quick-release couplings
- Side-shift carriages
- Tiltable carriages with mechanical or hydraulic lock
- Fork positioners

- Agricultural buckets
- Rehandling or earth moving buckets

Cab and driver comfort:

- Driver protection without windscreen
- Complete cab with side doors:
 - Tinted windscreen and rear window
 - Front and rear wipers
 - Front windscreen washer
 - Fabric seat
 - Safety belt
 - Internal rear-view mirror
 - Heating
- More comfortable seats (fabric or pneumatic)
- Sliding bay on right-hand door
- Document holder
- Car radio or support
- Reversed controls
- Hydraulic inching cut-out
- Foot-controlled reversing mechanism

Safety:

- Rotating lamp
- Road lighting adjustment
- Internal and external rear-view mirror adjustment
- Working lights (front or rear)

- Reversing light
- Back-up alarm buzzer
- Balancing valve on tilt cylinders
- Load shock absorber
- Foam inflation
- Emergency circuit-breaker
- Gasoil anti-theft cap
- Anti-puncture liquid

Difficult environment and medium:

- Gas tank or gas bottle
- Wide choice of tyres (industrial, multipurpose, all terrain, solid flexible...)
- Cyclonic or self-cleaning prefilter
- Prefilter heightener

Cold countries:

- Gasoil heater
- Extra heating

Special offers (some examples):

- Specific accessories
- Anti-theft systems
- Speed limiter
- Catalytic exhaust
- Spark-guard

...

MSI 20/25/30/35 T MSI 20/25/30 G



Load capacity

at 500 mm load centre

| | |
|-----------------|---------|
| MSI 20 T/G..... | 2000 kg |
| MSI 25 T/G..... | 2500 kg |
| MSI 30 T/G..... | 3000 kg |
| MSI 35 T..... | 3500 kg |



Standard lifting height

3.30 m



Tyres

| | |
|------------|-----------------------|
| Front..... | 275/70 R 22,5 RHS |
| Rear..... | 7.00 x 12 14 PR IC 40 |



Forks (mm)

| | |
|----------------------------------|----------|
| Length..... | 1100 |
| Width x thickness..... | 100 x 45 |
| Maximum space between forks..... | 1260 |



Hydraulic brakes



Kubota Turbo engine (Euro III)

| | |
|---------------------------|-------------------------------------------------|
| Type..... | V 2403-M-T- E3B (Interim Tier 4/Stage III A) |
| Capacity..... | 4 cylinders 2434 cm ³ |
| Power (ISO TR 14396)..... | 60 HP/44 kW |
| Maximum torque..... | 165 Nm at 1600 t/mn |
| Direct injection | |
| Water cooling | |

Toyota LPG engine

| | |
|---------------------------|----------------------------------|
| MSI 20 G/25 G/30 G..... | Type: 4 Y |
| Capacity..... | 4 cylinders 2237 cm ³ |
| Power (ISO TR 14396)..... | 53 HP/39 kw |
| Maximum torque..... | 162 Nm at 1800 r.p.m. |



HYDROSTATIC REXROTH Transmission

| | |
|--------------------------------------|--------------|
| Wheel drive..... | 2 |
| Electro-magnetic reversing shift | |
| Speeds forward/reverse..... | 1/1 |
| Maximum travel speed..... | 20 km/h |
| Travelling up a slope when unloaded: | |
| MSI 20/25/30/35 T..... | 33/31/24/29% |
| Travelling up a slope when loaded: | |
| MSI 20/25/30/35 T..... | 37/32/29/29% |



Hydraulic system

| | |
|--------------------|------------------|
| Steering pump..... | 125 bars/77 l/mn |
|--------------------|------------------|



Capacities

| | |
|-------------------------------|---------|
| Cooling system..... | 10 l. |
| Engine oil..... | 9.5 l. |
| Hydrostatic transmission..... | 95 l. |
| Fuel tank..... | 73.5 l. |



Weight (with forks)

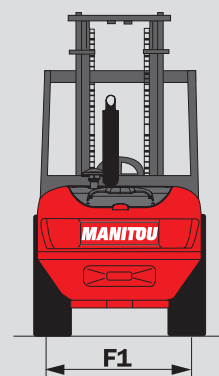
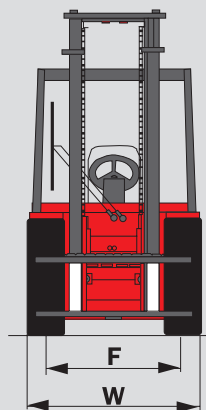
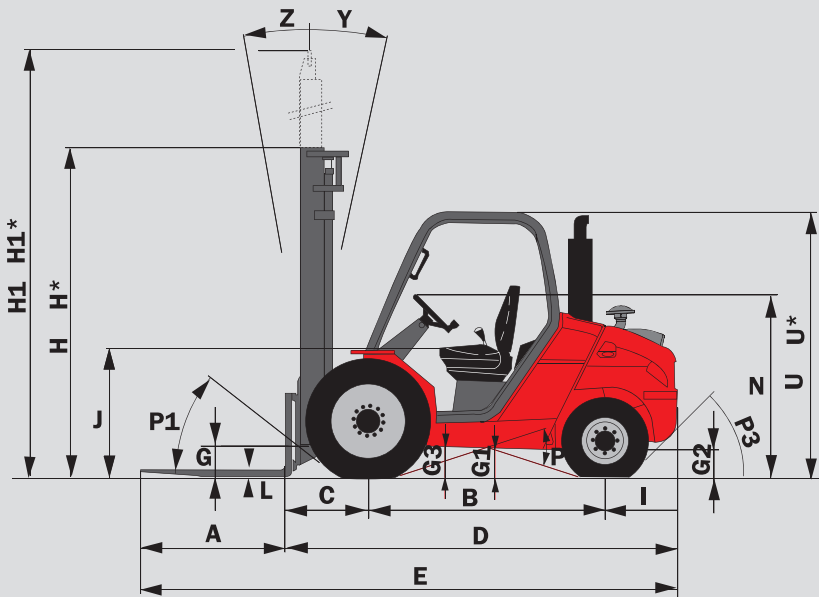
| | |
|------------------------|------------------------|
| MSI 20/25/30/35 T..... | 3860/4160/4820/4980 kg |
| MSI 20/25/30 G..... | 3470/4045/4425 kg |

Overall width1.32 m

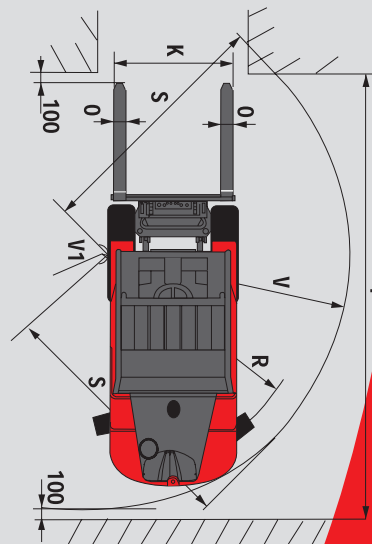
Overall height (mast lowered).....2.30 m

Overall length.....4.04/4.04/4.08/4.13 m

Ground clearance215 mm



| | MSI 20 T/G +BUGGIE | MSI 25 T/G +BUGGIE | MSI 30 T/G +BUGGIE | MSI 35 T +BUGGIE |
|-----|-----------------------|-----------------------|-----------------------|---------------------|
| A | 1100 | 1100 | 1100 | 1100 |
| B | 1800 | 1800 | 1800 | 1800 |
| C | 625 | 625 | 630 | 630 |
| D | 2945 | 2945 | 2980 | 3030 |
| E | 4045 | 4045 | 4080 | 4130 |
| F | 1046 | 1046 | 1046 | 1046 |
| F1 | 1102 | 1102 | 1102 | 1102 |
| G | 270 | 270 | 270 | 270 |
| G* | 240 | 240 | 240 | 240 |
| G1 | 260 | 260 | 260 | 260 |
| G1* | 260 | 260 | 260 | 260 |
| G2 | 215 | 215 | 215 | 215 |
| G2* | 230 | 230 | 230 | 230 |
| G3 | 270 | 270 | 270 | 270 |
| H | 2300 | 2300 | 2300 | 2300 |
| H* | 1950 | 1950 | 2050 | 2050 |
| H1 | 4131 | 4131 | 4193 | 4193 |
| H1* | 4470 | 4470 | 4500 | 4500 |
| I | 520 | 520 | 550 | 600 |
| J | 1025 | 1025 | 1025 | 1025 |
| K | 1260 | 1260 | 1260 | 1260 |
| L | 40 | 40 | 45 | 45 |
| N | 1450 | 1450 | 1450 | 1450 |
| O | 100 | 100 | 100 | 125 |
| P1 | 49,5° | 49,5° | 49,5° | 49,5° |
| P2 | 40,5° | 40,5° | 40,5° | 49,5° |
| P3 | 44° | 44° | 40° | 40° |
| R | 2310 | 2310 | 2310 | 2330 |
| S | 2545 | 2545 | 2580 | 2590 |
| T | 4525 | 4525 | 4560 | 4595 |
| U | 2105 | 2105 | 2105 | 2105 |
| U* | 1990 | 1990 | 1990 | 1990 |
| V | 2600 | 2600 | 2635 | 2665 |
| V1 | 150 | 150 | 150 | 100 |
| W | 1323 | 1323 | 1323 | 1323 |
| Y | 12° | 12° | 12° | 12° |
| Z | 10° | 10° | 10° | 10° |



This equipment described in this leaflet may be standard, optional, or unavailable, depending on the versions. For more details, contact your MANITOU dealer.

H - H1 - R = Standard
H*-(Triplex 3,70 m) H1* = Option

U* = MSI 20/25 BUGGIE
G* - G1* - G2* = loaded



MANITOU BF SA

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