



MENART product sheet
Side-discharge Turner (Motorized)
MENART STM-32





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STM-32 introduction

MENART STM-32 self-propelled turner is the heir of several MENART machines designed in recent decades for the lateral turning of tabular heaps in order to optimize the space required on a composting platform.

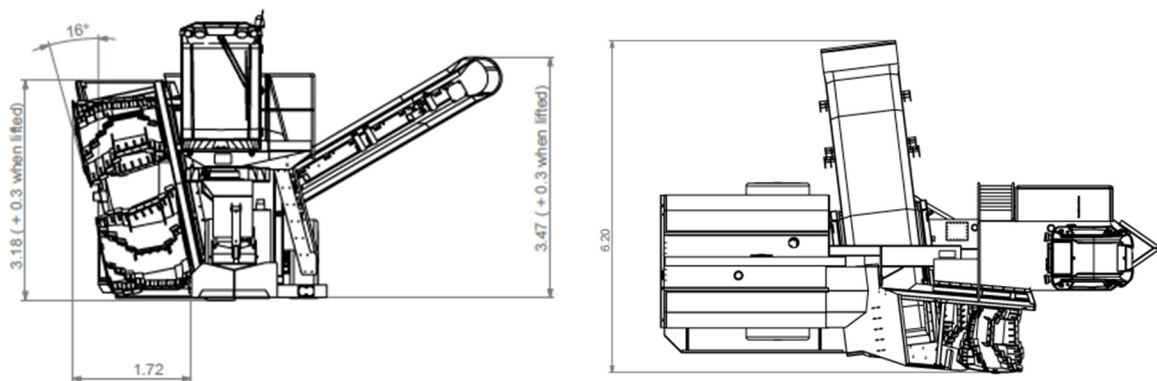
In contrast to conventional straddle turners designed for windrows, the side discharge turners allow to process tabular piles, higher than the windrows, and without space between the windrows. This reduces the surface area of the composting platform and thus minimizes civil works investment.

The STM-32 is a direct descendant of the 1032-MTRA on which some improvements have been added.



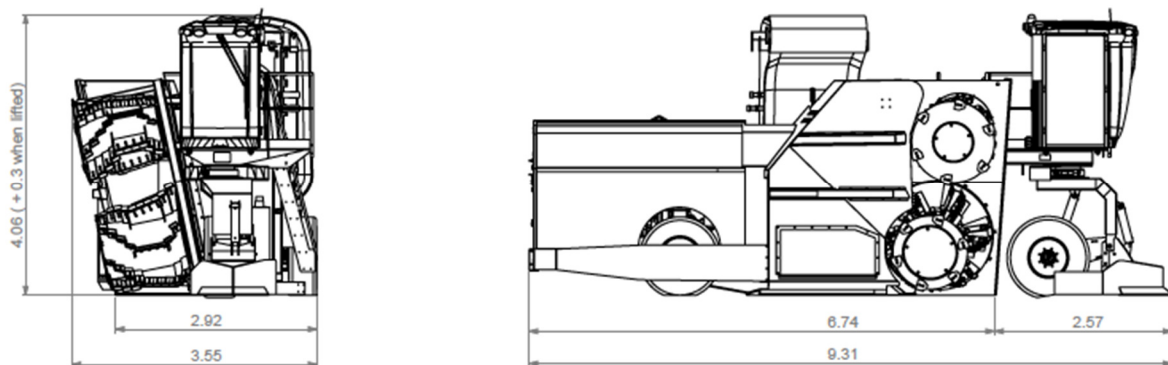
MENART STM-32 overall presentation

Work position



As you can see from the illustrations above, the STM-32 is equipped with a cab, 2 rotors, an evacuation conveyor, and the powerpack at the rear.

Travel position



In order to easily do manoeuvres on the composting pad, the discharge conveyor will fold over the top of the machine.



Cabin

MENART chooses its cabin suppliers with the greatest care. The cabins are modern, ergonomic and comfortable.

Standard equipment includes: adjustable ergonomic seat, interior temperature control (air conditioning and heating), anti toxic gas pressurization, gas filters, smoke filter, windshield wipers, exterior lighting for working in the dark, etc.

The cabin is designed and fixed to enjoy a perfect visibility in all directions.

The engine compartment is at the rear of the machine and well insulated to avoid noise, heat and smoke for the operator.



Machine controls

From the cab, the operator controls the machine with 3 elements: a joystick, a steering wheel and a touch screen.



The joystick, positioned on the right seat armrests, control the following functions on the machine:

- Forward and backwards speed
- "Cruise control"
- Back wheels steering
- Rotors: On/off, rotation direction, speed adjustment
- Engine speed adjustment (RPM)



Inside the cab, a 10" color touch screen displays any relevant information:

- engine indicators (rpm, temperature, alarms...)
- hydraulic indicators (oil pressure, temperature, alarms...)
- rotors indicators (torque)
- fuel level
- hours worked
- maintenance services alarms

The touch screen also allows to intuitively control:

- Engine switch on and off,
- User setup
- Raising and lowering of the frame,
- Raising and lowering the front wheel and the track clearer,
- Raising and lowering the side discharge conveyor,
- Raising and lowering the deflector on conveyor,

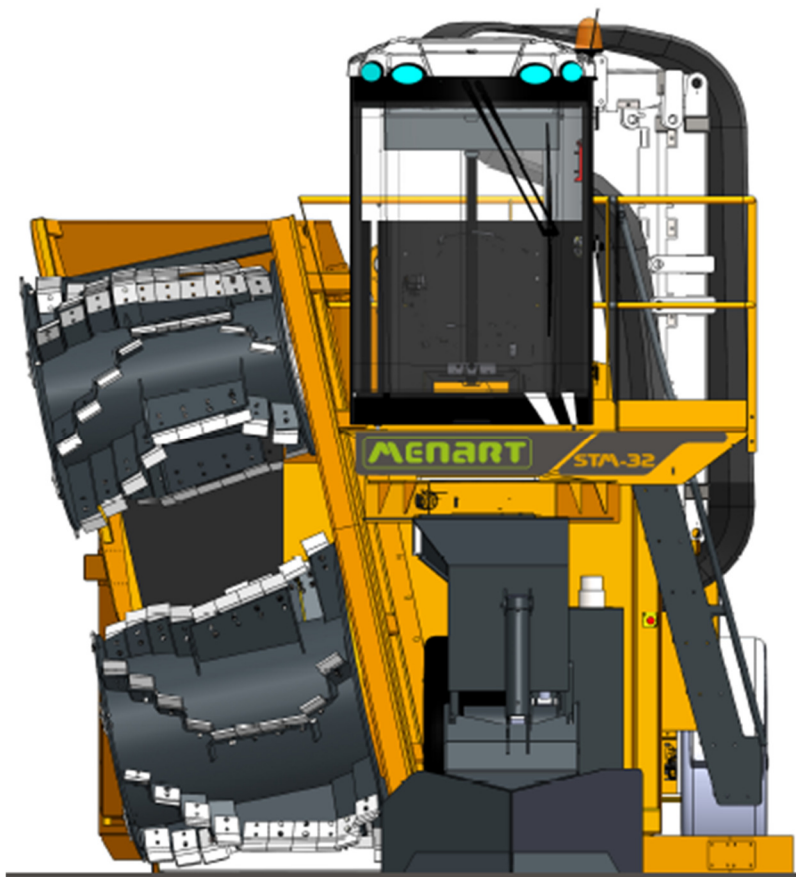


- Horn,
- ...

Switches in the cabin control:

- Lights,
- Windows wipers,
- Beacon
- Radio,
- Ventilation, heating and air conditioning

Rotors (drums)



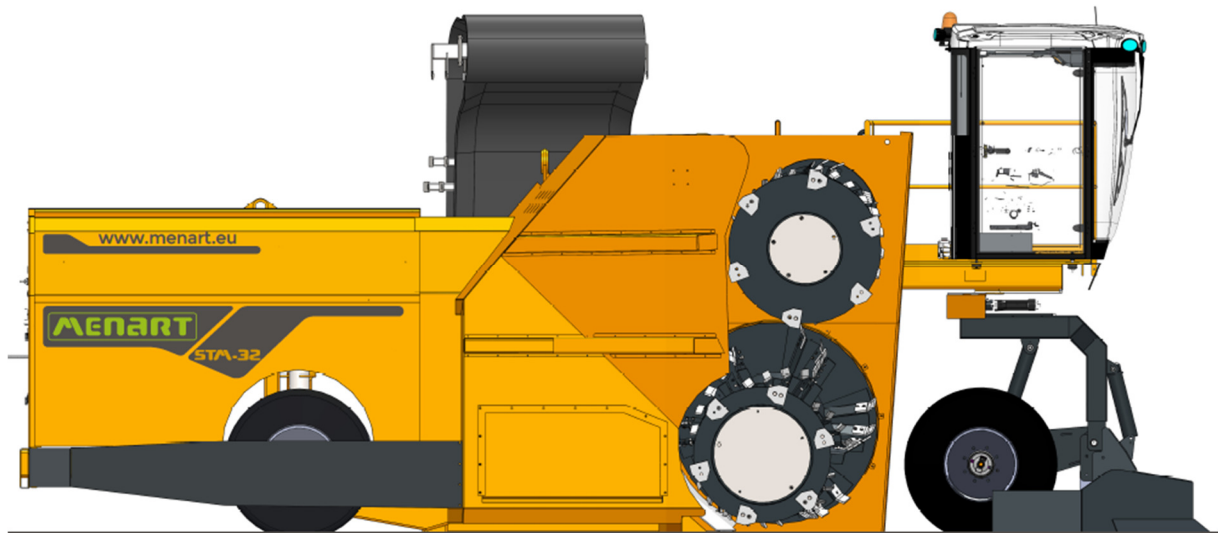
The STM-32 turner is equipped with 2 conical rotors. Each one equipped with several paddles and external disc with blades. They attack the pile aggressively, and they project the matter backwards. The compost is collected on a large belt conveyor, ensuring the side transfer of the matter and reconstituting a new heap away.

Highlights:

- The aeration and mix are excellent;
- Simple mechanics, no breakdown;



- Rotor with paddles. Compare to elevating face technology, maintenance is made easier, quicker and more affordable;
- Clean cut. Thanks to the rotor cage angle, there is no avalanche risk.



Side discharge conveyor



The side conveyor is particularly robust.

A specific device located in its lower part makes it possible to distribute the matter in a regular layer in order to maintain the good centring of the belt and to optimize its flow.

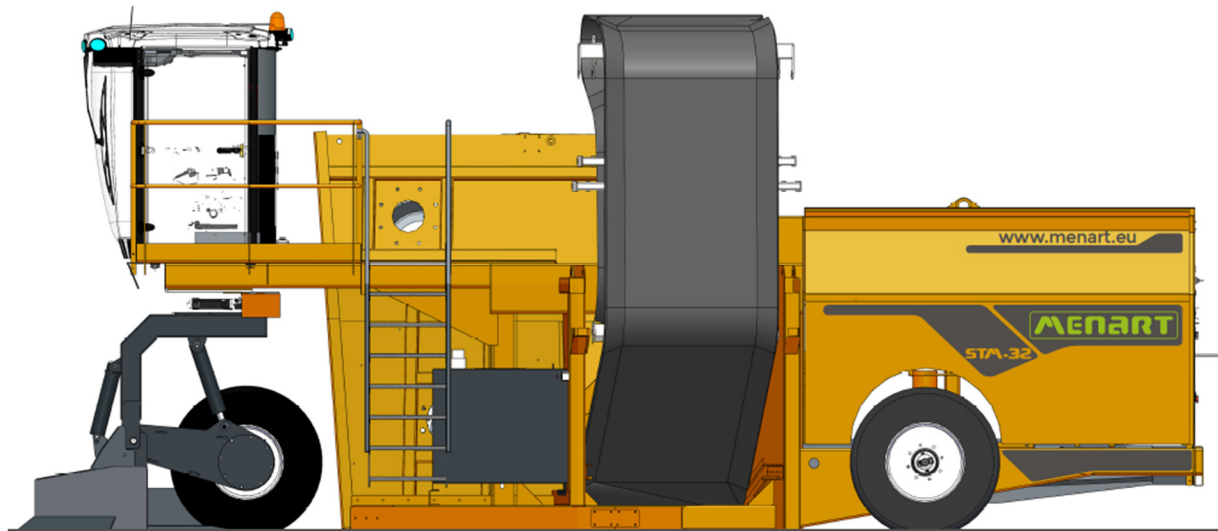
The driving drum with large diameter makes it possible to reach very high outputs at the same time as it preserves the rubber belt from fatigue.

This conveyor is hinged and folding in three parts by two pairs of hydraulic cylinders, reducing the overall width of the machine during maneuvers.



Lubrication points of the conveyor are centralized to make the service easy.

Machine access



The ladder is fixed behind the cabin and the front wheel, thus keeping it safe, clean and in good condition, and gives access to the catwalk.

Powerpack



The engine is Caterpillar make. It is electronically regulated with intercooling, water-cooled. The engine conforms to the most recent emission standards and has low noise levels.



Cooling radiators are situated at the back of the machine, beside each other, and do not need to be dismantled to be cleaned. They have been placed at man height and maintenance can be done rapidly and easily.

The fan for the coolant radiator of the engine is equipped with a reversible fan in order to blow out the dust and optimize the cooling. Radiator has a fine mesh grid to avoid clogging.

An hour meter and a gauge that indicates the maintenance frequencies for the diesel engine are installed with a connection for diagnostic computer control (optional).

Hydraulic features

Hydraulic circuits:

- 1) Upper rotor (Plunger-type hydraulic variable pump + Fixed displacement high torque radial piston motor + gear reducer)
- 2) Lower rotor (Plunger-type variable pump + Fixed displacement high torque radial piston motor + gear reducer)
- 3) Constant flow discharge conveyor (Load Sensing variable pump + hydraulic motor)
- 4) Driving wheels x3 (Plunger-type hydraulic variable pump + hydraulic motors + gear reducers)
- 5) Steering system (standard hydraulic pump)
- 6) Oil cooler (standard hydraulic pump)
- 7) Hydraulic jacks : discharge conveyor position; and eight more machine movements. (standard hydraulic pump)

Most of hydraulic hoses are placed inside the machine body frame in order to have a better protection against tearing.

On starting the engine the Menart electronic control locks all working functions until the required temperature is reached. This protects the hydraulic components and to safeguard the high performance of the machine.

The cooling fan for the hydraulic circuit is operated by hydraulic motor and is combined with reversible fan equipment.



Traction and Steering



unique front wheel

Rear steering wheels

The machine uses a 3-WD hydrostatic transmission. The grip is optimized.

An articulated track clearer is placed in front of the wheel in order to clean the path and improve the wheel grip.

Control is made with a steering wheel and a joystick. All necessary functions have been gathered on the joystick and the touch-screen to control the machine driving and movements.

Hydraulically controlled brakes in the hydraulic circuit are able to stop the machine quickly by use of the joystick control. In reverse drive a safety indicator horn is automatically activated.

The hydrostatic steering is very light in use. There is a unique front direction control wheel. The rear wheels are also steering.

Thanks to three steering wheels, the turning radius of the machine is very short. The steering control allows also the possibility to drive in crab so that one can maintain the rotors in the heap of compost.



Accessories and options

Cameras devices (optional)

a) Display + One camera

Included: A camera placed above the right track clearer + an additional screen in the cabin that transmits the camera image.

This is an appreciated safety feature when the machine works in confined buildings with the risk of hitting poles.



b) Display + 4 cameras for “bird view” effect

Included: 4 cameras placed on the machine + a computer + an additional screen in the cabin that transmits the image of the machine from above (bird view) and all around (360°).

This is the premium version of the previous option, much more complete and efficient to avoid obstacles when manoeuvring.





Online remote monitoring (optional)

MENART can equip its machines with a relay that allows monitor equipment activity connected to remote computer such as :

- Worked hours;
- Routes and movements;
- Live failure warning;
- Remote monitoring;
- Remote interventions (software upgrades, parameter modifications, etc.)

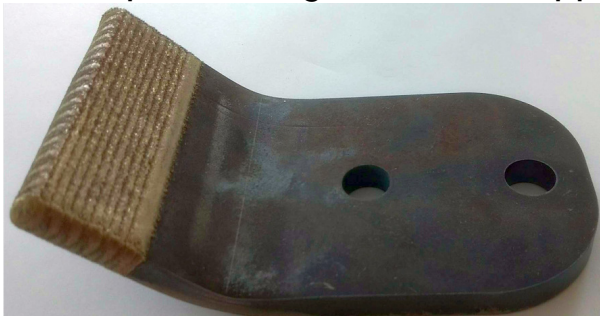
Rotor wear parts

a) Standard paddles



High-strength steel (400 or 500 HB depending on machine model)

b) Optional tungsten carbide tipped paddles



Standard pallets reinforced with a tungsten carbide laser projection (2 to 3 mm).

Advantages compared to the standard pallet: 3 to 4 times longer service life.

c) Blades

Blades are located on the outside tip of the rotors in order to cut the heap.



Anti-puncture tires (optional)

From less to most efficient :

- a) Standard tires with kevlar reinforcements.
- b) Standard tires with injection of anti-leakage product (expanded foam).
- c) Solid rubber tires (non-inflatable).

Cabin options

- a) Premium seat:
Driver seat with air suspension.

Lubrication options

- a) Centralized lubrication:
Grouping of lubrication points into a single point. Simplified manual lubrication. Saving time.
- b) Automatic centralized lubrication:
Same as the previous option with the addition of lubrication by an automated pump. No human intervention is required except to recharge the grease reservoir.

Start-up and scheduled maintenance kit

MENART offers ready-to-use kits for machine maintenance up to 1000 working hours, as well as a start-up kit.



Spec sheet

Designation EN		STM-32 (self-propelled)
General data	unit	
Weight	kg	15000
Transport		
Length	m	9,31
Width	m	3,55
Height	m	4,06
Working position		
Length	m	9,31
Width	m	6,2
min Height - machine on ground	m	4,06
max Height - machine lifted	m	4,36
Engine drive		
Brand and model (Stage V)		CAT C9.3B
Brand and model (Tier 3 final & Stage III)		CAT C9.3B
Power	kw/hp	280 / 375
Number of cylinders / cubic capacity		six cylinder turbodiesel 9300 cc
Max rotating speed	rpm	2000
Diesel tank	L	530
Alternator	A	95
Reversible fan for automatic cleaning		Incl.
Traction		
Circulation speed	km/h	up to 13
Working speed	km/h	up to 3
Number of wheels		3
Number of driving wheels		3
Number of steering wheels		3
Steering angle left and right	°	90
Inner rotation diameter	m	2,1
Outer rotation diameter	m	5,6
Front tyre		445/70 R22,5 XF
Rear tyres		405/70 R24 14



Working capacity		
Rotor cage height - machine on the ground	m	3,18
Rotor cage height - machine lifted	m	3,48
Lifting capacity	cm	30
Pile max height	m	3,5
max cross section	m ²	4,176
Upper rotor drum		
Length	m	1,2
Max diameter (with paddles)	m	1,3
Number of paddles		60
Number of cutting blades		6
Hardox-type paddles		Incl.
Tungsten carbide tipped paddles		option
Rotation speed	rpm	up to 65
Transmission		hydraulic
Lower rotor drum		
Length	m	1,23
Max diameter (with paddles)	m	1,65
Number of paddles		60
Number of cutting blades		6
Hardox-type paddles		Incl.
Tungsten carbide tipped paddles		option
Rotation speed	rpm	up to 90
Transmission		hydraulic
Discharge side-conveyor		
Conveyor Width	m	1,4
Conveyor Length	m	6,3
Conveyor discharge Height	m	3,47 (+ 30cm)
Conveyor Belt Speed	m/s	6,5
Driving drum diameter	mm	450
Hydraulics circuit		
Reversible fan for automatic cleaning		Incl.
Tank volume	L	300
Number of pumps		7



Cabin		
Controls		Joystick x 1 + touch screen 10" + steering wheel
Front lights		4
Rear lights		2
Radio		Incl.
Air conditioning		Incl.
Gas filters		Incl.
Pressurization kit + class IV filter		Incl.
Adjustable and ergonomic seat		Incl.
Pneumatic suspension premium seat		Option.
Emergency stop integrated in the seat		Incl.
Folding seat for visitor		N/A
Wipers		Front
Safety and comfort		
Hydraulic obstruction filter indicators in the cabine		On screen
Diesel level indicator		On screen
Engine indicators in the cabin (oil pressure, temperatures...)		On screen
Rotating beacon		Incl.
Sound alarm		Incl.
Emergency stop hit point		Incl.
hour counter		On screen
fuel gauge		On screen
rpm counter		On screen
Standard painting		2 coats of 2-component acrylic polyurethane anti-rust primer + 2 top coats of 2-component polyurethane paint. 160 µm thickness.
Accessories and options		
Anti puncture tyres		option
Front clearer (adjustable height)		Incl.
Cameras alternative / Display + one camera		option
Cameras alternative / Display + 4 cameras for "bird view"		option
Centralized lubrication		option
Automatic centralized lubrication		option



Tractor-driven MENART STT-32

Ask for further information about our Side-discharge tractor-driven turner :

