

JOSKIN

EN

TRANS-PALM



www.joskin.com

*SUITED TO TRANSPORT
ON ALL TRACKS*

THE JOSKIN QUALITY: 6 Keys to Success



Strength of EXPERIENCE

FOUNDED IN 1968, the JOSKIN family business became A LEADER in the design and manufacture of agricultural machines. SPREAD OVER BELGIUM, POLAND AND FRANCE on a total surface area of almost 150,000 m², the JOSKIN production sites are EXPORTING TO MORE THAN 50 COUNTRIES.



TECHNICAL SKILLS within

VERY MODERN AND HIGHLY PRECISE TECHNIQUES are used: dynamic 3D simulation, automated lasers, folding presses, high tensile steel, hot-dip galvanization, automated continuous weldings.



Buy with CONFIDENCE





Technical Centre (Poland)



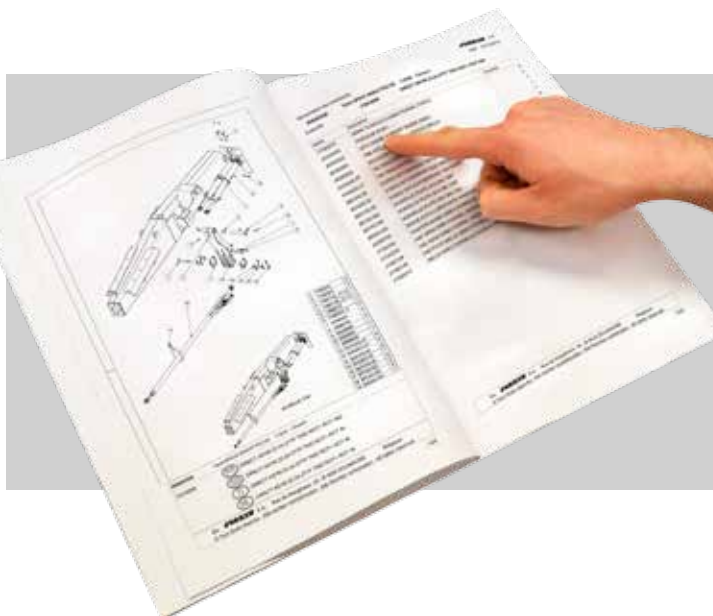
RESEARCH AND DEVELOPMENT

JOSKIN has its own industrial design offices and 3D static and dynamic engineering software. The production is standardized as much as possible in order to ensure a precise manufacturing and a deadline compliance, while proposing hundreds of options! Our technicians and dealers are constantly trained in our technical centres.



At the SERVICE of our customers

Our great strength: the AVAILABILITY OF SPARE PARTS at any time and anywhere. Thanks to our permanent stocks, we send your parts as quickly as possible. The JOSKIN dealers undertake to have a stock of the most important spare parts of the machines.



Individualized PARTS book

The PARTS BOOK and the USER'S MANUAL are provided in your language when purchasing a machine. The parts book includes drawings and references of the components mounted on your machine. Even years later, spare parts can be ordered efficiently!

Transport Range



ADVANCED TECHNIQUE

Thanks to the outstanding resistance of the high-tensile steel types selected by JOSKIN, the side reinforcements and the crosspieces under the body are now limited, or even useless, while keeping a high sturdiness! The high-tech manufacturing concept goes along with the use of production tools able to handle these steel sheets: 8 m laser cutting tables, 8.2 m press brakes with digital control, automatic folding angle correction device (making sure the steel plate is evenly folded on the whole length), 8 m welding robots, etc.



Lathe with digital control



Welding robot



Laser cutting table



Press brake with digital control

CAREFUL MANUFACTURING

JOSKIN tipping trailers are manufactured in accordance with the company's production philosophy. Many automated tools ensure a never-ending precision: turning and topping machines, saws, machining centres, lasers, folding machines, welding robots...

In the same way, the assemblies are exclusively mounted and welded on jigs. All components, including the body, are continuously welded. Surface treatment is very carefully carried out: the item is first cleaned by shot-blasting (projection of 2,500 kg of steel balls/minute) and then covered by an Ester Epoxy primer and finally a 2-component finishing coating. As part of the process, the paint is then dried at 60 °C.



JOSKIN MANUFACTURING



ADAPTED SPECIAL AND HIGH-TENSILE STEEL

JOSKIN machines are completely made of high tensile steel. The constant search for the best steel quality/weight ratio has led to a significant decrease in the empty weight of the JOSKIN machines, while increasing their sturdiness. It is therefore possible to transport ever higher payloads.

The following table aims at comparing the general specifications of the steel types used by JOSKIN:

Specifications of the steel types used by JOSKIN vs. traditional steel

	Type of steel	Tensile limit (kg/mm ²)	Ultimate stress (kg/mm ²)
Traditional Steel	S235 or St 37-2 steel	23.5	40
	S355 or St 52-3 steel	35.5	48
JOSKIN agricultural tipping trailer	S420 steel	42	55
	S550 steel	55	61
	S690 steel	69	75
	HARDOX 450	120	140



STRONG AND LIGHT TIPPING TRAILERS

JOSKIN monocoque agricultural tipping trailers (Trans-CAP and Trans-SPACE) embody the new generation of tipping trailers completely made of high tensile steel.

Thanks to this fabrication concept, the empty weight is significantly reduced and therefore allows to transport still higher pay loads. Your vehicle will then pay off more quickly.

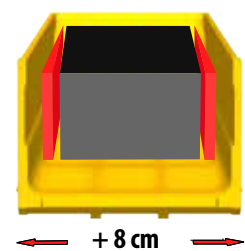
The body edges on the JOSKIN tipping trailers are smoothed off by successive folds of the two side sheets in order to limit the body/contents contact surface as much as possible when unloading. As a result, friction strains are significantly restricted too.



Press brake with digital control and 600 t pressure power

TAPERED BODIES

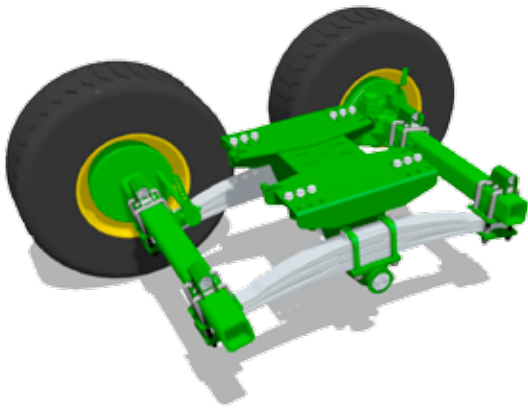
Next to being light and strong, it also has the particular feature of having a tapered body. It is indeed wider at the back than at the front (+ 8 cm), which ensures a quicker and easier unloading.



Trans-CAP / Trans-SPACE

RUNNING GEARS

A Tested Construction



JOSKIN running gears are designed to meet, in every situation and whatever the vehicle, the criteria of reliability, stability, comfort and safety both on roads and in the fields.

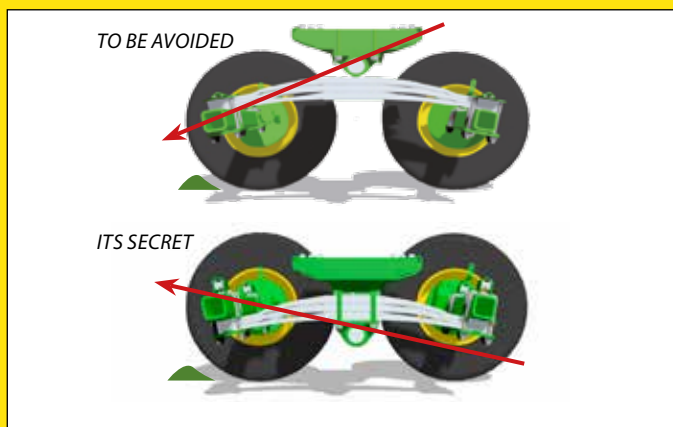
SINGLE AXLE SUSPENSION

Single-axle vehicles are standard fitted with a fixed axle and can be fitted with a running gear suspension with parabolic leaves.

JOSKIN ROLL-OVER BOGIE

Thanks to their design, double-axle vehicles with Roll-Over bogie offer an extra suspension system of the wheels and a larger contact surface with the ground. The bogie is made up of 2 axles linked by parabolic leaves and fixed to the chassis by means of a central point. It makes it possible to counterbalance the ground unevenness (up to +/- 240 mm).

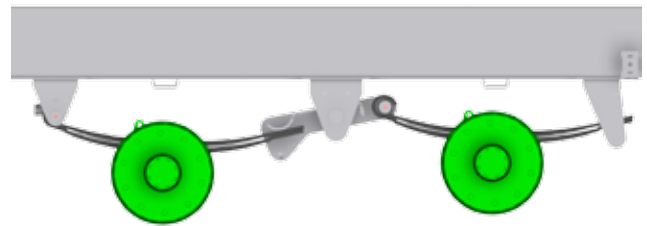
Thanks to the position of the cross-axis under the leaves and the upper position of the axles at the ends of the leaves, the drawline pushes the front axle over the obstacle. The traction power needed is therefore reduced. That is why this system is advised in case of intensive use on uneven ground.



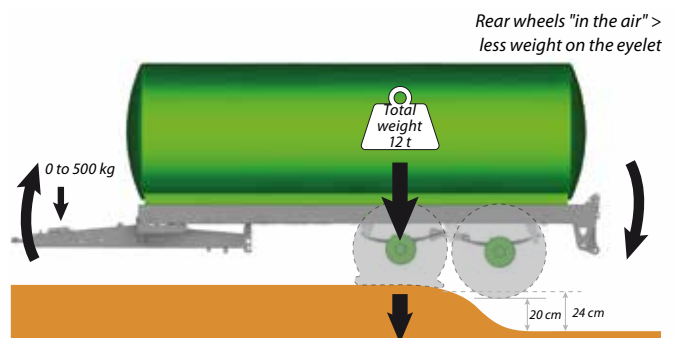
JOSKIN assembles its own bogies, thereby offering personally adapted ones to suit your vehicle. The distance between the leaves and the axle square are elements adaptable to each machine. Moreover, all JOSKIN boggies are bolted and adjustable.



TANDEM/TRIDEM: DESCRIPTION OF A TRADITIONAL TANDEM WITH RODS



- Low cost
- Low clearance ($\pm 8 - 8$ cm)
- Higher traction needed:
 - more hp needed
 - increased consumption
- Low obstacle clearance potential



- Weight of the whole vehicle supported by one single axle!
- Wheel and axle overloading
- Maximum leaf crushing
- Too high strains on leaf supports, axes, etc.

In order to lessen the impact of these elements, JOSKIN has developed its own hydraulic running gear: Hydro-Tandem + Hydro-Tridem.



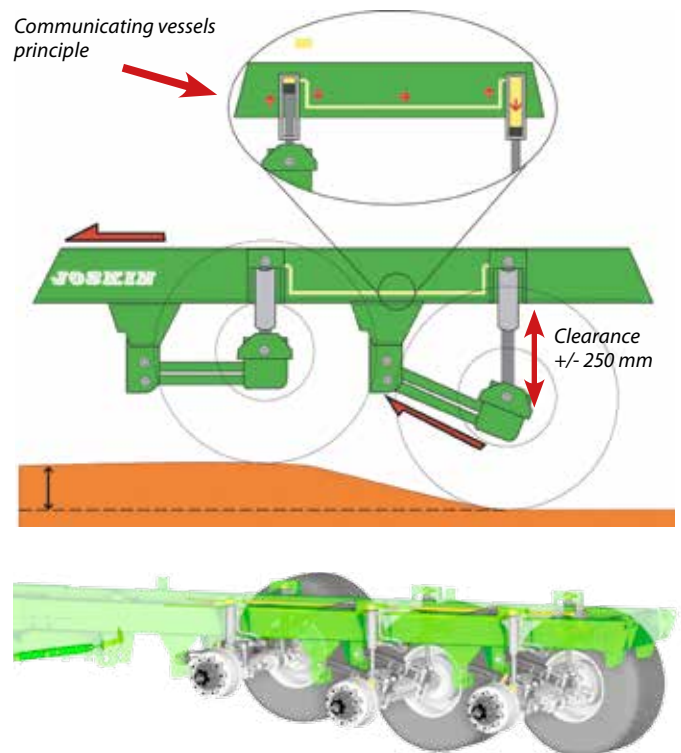
JOSKIN HYDRAULIC RUNNING GEARS: HYDRO-TANDEM/HYDRO-TRIDEM

Simplicity, clearance and stability: these are the three key specifications of the Hydro-Tandem/Tridem running gear. It combines the following advantages: the axles can easily be pulled over obstacles and they are semi-independent. That is why they allow a significant clearance (up to +/- 250 mm).

Given the design of the JOSKIN Hydro-Tandem/Hydro-Tridem, the ground pressure is perfectly distributed over the wheels. The ground is therefore less compressed, which allows to spare its structure. The stability of the vehicle will therefore also be significantly improved. Each axle is pulled by leaves attached to a fixing element that is located ahead of the assembly.

Four or six hydraulic rams are placed two by two or three by three on both sides of the chassis. Those of a same side are linked to each other in closed circuit and the oil flow takes place according to the communicating vessels principle. The independence of the circuits on each side of the vehicle, combined with the incompressible properties of oil, ensures a perfect side stability and prevents swaying. This explains why the vehicle is less likely to tilt when driving in bends and on hills.

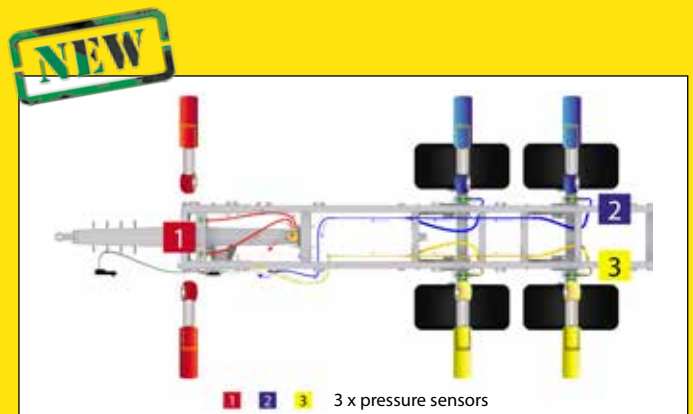
The first lifting axle is standard mounted on all Hydro-Tridem vehicles.



DYNAMIC WEIGHING SYSTEM ON HYDRAULIC SUSPENSION

Vehicles fitted with a hydraulic hitching suspension and a hydraulic running gear can be fitted with this device.

Two pressure sensors located on the hydraulic circuit of the running gear, as well as one on the hitching suspension, are connected to a computer on the running gear. These sensors send cable signals so that the weight can be displayed on a screen in the tractor cabin. Another screen can be installed on a loader or on the vehicle in order to see the load weight at any time. This system is also compatible with Isobus and can be controlled through the Isobus terminal that replaces in this case the separate screen. It is available on tipping trailers, muck and slurry spreaders, multi-purpose and silage trailers.



RUNNING GEARS

Steering Axles



To improve the comfort and security, it is possible to choose between a free or self steering axle system.

FREE STEERING AXLE (STEERING WHEN DRIVING FORWARD)

The free steering axle follows the direction determined by the tractor. The oscillation range is +/- 15° depending on the tyre size. To drive on the road (> 15 km/h) or reverse, an hydraulic device ensures a powerful locking and a perfect alignment of the rear axle with the front axle, which thereby ensures the safety of the carriage. A shock-absorber stands for the stability of the free steering axle by preventing significant vibrations.

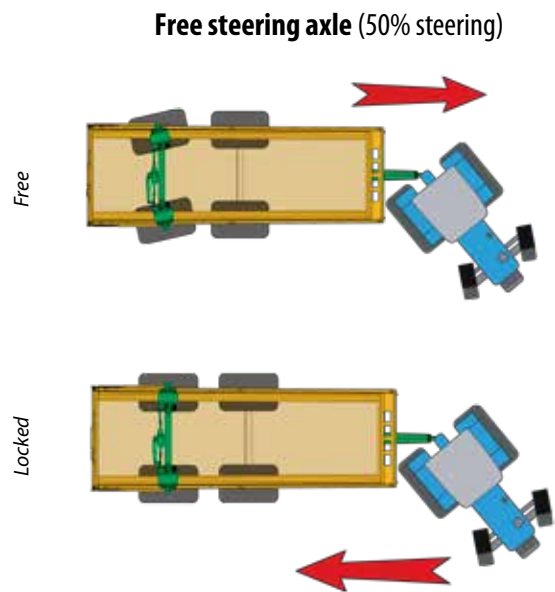


Free steering axle

DOUBLE FREE STEERING AXLE (STEERING WHEN DRIVING FORWARD)

The self-tracking free steering axle proposed by JOSKIN offers the possibility to keep the advantages of the classical free steering axle, both when driving forward and reversing!

A sensor on the axle detects the driving direction of the vehicle and allows the system to automatically lock one of the two hydraulic rams to make sure the axle works properly. With this configuration, the user does not have to intervene; the automatic free steering axle works autonomously, both when driving forward and reversing.



Double free steering axle



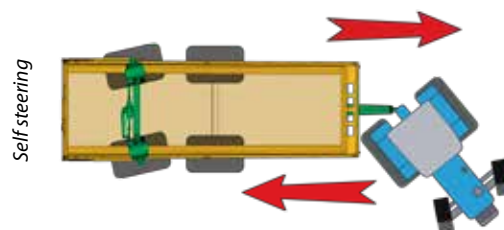
SELF STEERING AXLE(S) (STEERING WHEN DRIVING FORWARD AND REVERSING)

The self steering axle is an important safety component as it keeps your vehicle in the tractor driving line. JOSKIN triple-axle vehicles are standard fitted with a double self steering system (first and last axles) operating in both directions (forward and reverse).

The hydraulic axle ram is operated by a sensor cylinder linked to the tractor by a hitching rod with quick coupling. This one is anchored to the drawbar by means of a knee-joint and controls the hydraulic circuit operating the steering cylinder. The system is balanced by the compensated hydraulic rams that apply the same force in both directions. The circuit is fitted with a one-piece set-up unit including a pressure gauge, two nitrogen accumulators, an aligning valve and a calibrating circuit.

Thanks to its device that automatically corrects the position of the vehicle to take it out of ruts, the self steering system turns out to be the safest and easiest solution.

Self steering axle (100% steering)



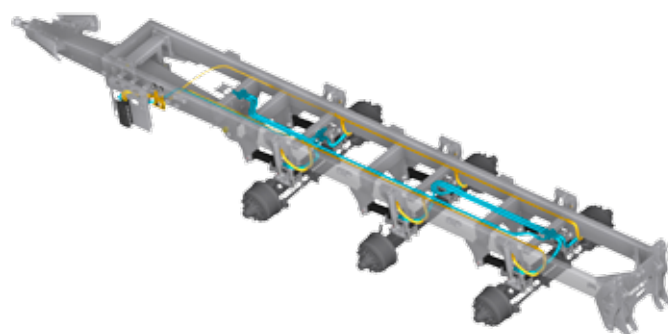
Self steering axle

ELECTRONIC SELF STEERING SYSTEMS (STEERING WHEN REVERSING AND DRIVING FORWARD)

The electronic steering systems also use hydraulic rams on the axles and keep the same hitching point to the tractor as traditional models, but they are controlled by a microcomputer, via an angular sensor on the drawbar. Unlike the others, they adapt the steering angle in proportion to the speed. The trailer is therefore stable during road transportation and remains particularly easy to handle during manoeuvres.

To sum up, its advantages are:

- manoeuvrability and stability (in case of speed increase, lowering of the degree of the steering angle and locking at 50 km/h);
- no effort between the tractor and the vehicle, especially when reversing;
- possibility to manoeuvre the trailer so as to get out of a complicated situation thanks to a control box in the cabin (option).





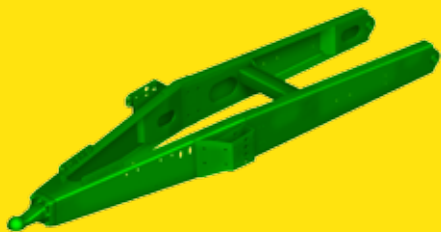
JOSKIN has designed a new trailer for the harvesting of palm fruits. Based on the successful Trans-CAP, this trailer is simple, sturdy and can face all types of tracks. The sprung drawbar ensures a significant flexibility and protects the driver from shocks.

SPECIFICATIONS:

- Tapered monocoque body.
- 900mm wide chassis made of closed profiles to provide the machine with a significant sturdiness.
- Single or double axle;
- Payload from 10 to 12 t on single axle and from 12 to 16 t on double axle.

SPECIFICATIONS:

- The body made of 4mm thick HLE 420 high tensile steel is not fitted with a rear door but with a scow rear end for an easy unloading.
- The harvesting of palm fruits for example requires a manual loading. That is why several body heights are available to allow a quick and easy loading.
- It is suited to difficult tracks.



HITCHING

The Trans-PALM is fitted with an open drawbar that, given its structure, ensures a very good weight/resistance ratio. Its wide fixing points (same width as the chassis) further improve the manoeuvrability and provide a perfect stability to the vehicle.

EASY TRANSPORT

The Trans-PALM tipping trailer was designed to be packaged in containers, which increases the transport possibilities while reducing the freight costs. As an example, up to 4 units of Trans-PALM 4500/7C65 can be put in one 40" container.



SPECIFICATIONS

	Width: 900 mm
	Steel sections:
Chassis	- Trans-PALM 4500 and 5000: 250 x 100 x 6 mm - Trans-PALM 5500: 300 x 100 x 6 mm - Trans-PALM 6000: 300 x 100 x 8 mm
Body	Floor and side walls in 4 mm HLE 420 steel
Running gear	- 4500C and 5000C: single axle - 5000BC to 6500BC: Roll-Over bogie
Max. wheel dimensions	Ø 1,518 mm / width 788 mm

TRANS-PALM

Strong and Reliable
Body from 10 to 16 t



DESIGNED FOR MANUAL LOADING



WELDED SLOPING
REAR WALL FOR EASY
UNLOADING.

MODELS

	Models ⁽¹⁾	DIN volume (m ³)	Payload (t)	Inner body dimensions (m)			Axle(s): □ (mm) - track (mm) - studs	Brakes (mm)	Hydr. ram (l)
				Length under-above	Width front-rear	Height			
single axle	4500/7C65	6,60	10	4,49 – 4,72	2,18 – 2,26	0,65	ADR 90x1900-8G	350 x 90	15
	5000/7C65	7,40	12	4,97 – 5,19	2,18 – 2,26	0,65	ADR 100x2000-10G	400 x 80	18
	5000/14C125	14,10	12	4,97 – 5,25	2,18 – 2,26	1,25	ADR 130x2000-10G	406 x 120	18
double axle	5000/7BC65	7,40	12	4,97 – 5,19	2,18 – 2,26	0,65	ADR 2x100x2000-8G	350 x 60	18
	5000/14BC125	14,10	12	4,97 – 5,25	2,18 – 2,26	1,25	ADR 2x100x2000-8G	350 x 60	18
	5500/8BC65	8,20	14	5,44 – 5,67	2,18 – 2,26	0,65	ADR 2x100x2000-10G	400 x 80	23
	5500/15BC125	15,50	14	5,44 – 5,72	2,18 – 2,26	1,25	ADR 2x100x2000-10G	400 x 80	23
	6000/9BC65	8,90	16	5,92 – 6,14	2,18 – 2,26	0,65	ADR 2x100x2000-10G	400 x 80	30
	6000/17BC125	16,80	16	5,92 – 6,20	2,18 – 2,26	1,25	ADR 2x100x2000-10G	400 x 80	30

⁽¹⁾ The first 4 figures refer to the average length, the next 2 ones to the DIN volume without extensions and the last 3 ones to the height of the monocoque body.

MONOCOQUE AGRICULTURAL TIPPING TRAILERS

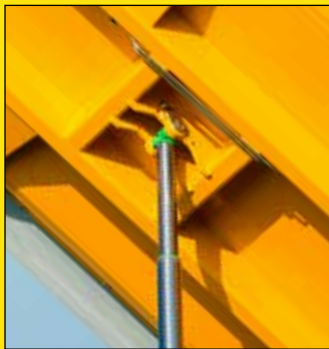
General points



SAFE TIPPING

The **position of the tipping ram on the front part** of the chassis allows to reduce the stresses to the body and makes the vehicle as stable as possible.

Standard mounted on all models of the JOSKIN tipping trailer range, the **safety valve**, which is directly placed on the tipping ram, prevents the body from unexpectedly falling down (e.g. when hydraulic hoses break). The **double oscillating frame** on which the ram is mounted allows to compensate the torsions due to the tipping strains and effectively protects the trailer from distortions.



Anchoring point of the hydraulic ram on the body

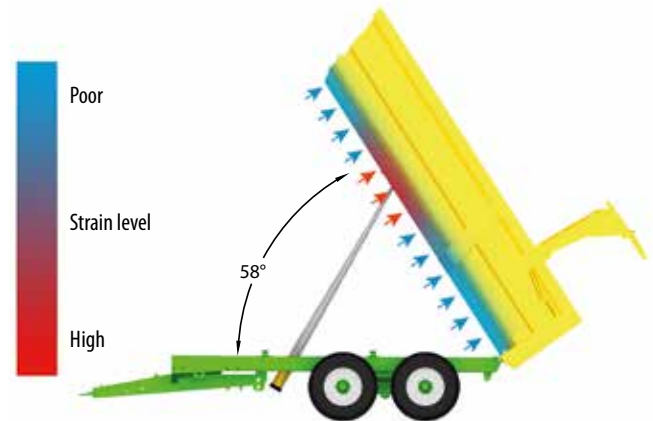


Double oscillating frame in which the ram is placed

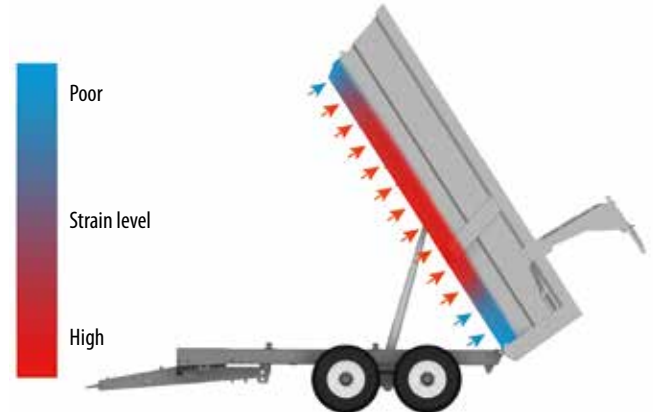
BRAKING SYSTEM

In order to adapt your machine in the best possible way to the braking system of your tractors, it is possible to choose between **hydraulic, air or dual (hydraulic/air) braking system**. The air braking system is part of the standard equipment on triple-axle models and also allows you to choose a proportional system regulating the braking power in proportion to the load.

JOSKIN PRINCIPLE



OTHER



TIPPING STABILIZER

The tipping stabilizer with weight transfer system (or its pre-equipment) is standard mounted on Hydro-Tandem and Hydro-Tridem.

On a Roll-Over bogie, two rams are connected to the chassis. When tipping, the circuit will exert a pressure on the rear axle of the bogie in order to lock it in its position and in this way stabilize the tipping trailer.



MONOCOQUE AGRICULTURAL TIPPING TRAILERS

Common options

EXTENSIONS

Each body can be fitted with an aluminium extension(s) (250 or 500 mm high) and/or grated silage extensions. The different models can also be combined.



Aluminium extensions



Silage extensions

COVER WITH MANUAL WINDING

This cover winds around a long tube from the front to the back of the body, resting on a structure made up of three bolted arches and two supports, at the front and at the back. Three ratchet straps are fixed on the side of the tipping trailer, on the two supports and on the central arch, which allow to fold and unfold the cover uniformly.

This system provides a good sealing thanks to the support on the rear door, thereby preventing water from entering the body.



HITCHING

BOLTED EYELET

Although each vehicle is standard equipped with an appropriate eyelet, JOSKIN proposes different alternatives so as to adapt to your needs, whatever the case: fixed (\varnothing 40 mm or 50 mm), swivel, knee-joint or swivel knee-joint eyelet.



PARKING STANDS

According to the model, the JOSKIN machines of the "Transport" range are fitted either with an adjustable manual stand, a hydraulic stand or a retractable skid.



Retractable skid



Hydraulic stand

SIGHT WINDOWS

The front wall of the monocoque tipping trailers is standard fitted with four perspex sight windows.

As an option, it is also possible to choose one single sight window. These two models can also be protected by galvanized rods.



Standard sight windows



Optional sight window

JOSKIN



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