

# HYDRO-PNEUMATIC SUBSOILERS





# SUBSOILERS: INNOVATION MADE PERFECT

## OUR HISTORY

VITTORIO PEGORARO

In the years immediately after the First World War, Vittorio Pegoraro drew on his in-depth knowledge of farmers' needs to build his first agricultural machinery with intelligent, innovative solutions.

Initially, everything was designed and built by hand in the small workshop next door to his home, but thanks to his excellent ideas and high construction quality, very popular with the clientele, Vittorio soon became well known in the agricultural mechanisation sector.

In the '70s, the first prototype subsoilers began to appear on the Italian market. Signifying an improvement in farming methods and economic returns, subsoiling soon attracted farmers' interest.

Grasping the subsoiler's importance at once, with the aid of his sons Vittorio started in-depth research to optimise it, and offered the market the first subsoiler with bolted modular frame. This lightweight but very rugged machine had a crucial new feature: the shear bolt.



This solution, essential to prevent the problem of shank failure in heavy-duty situations, is still used by most constructors today.

These subsoilers were quickly successful throughout Europe, and Vittorio and his sons, constantly working to support farmers, came up with another innovation: franter rollers. Initially introduced to support the subsoiler, the two rollers at the rear perform crucial initial surface tillage, for optimal soil levelling. The effective job they do also reduces the amount of subsequent tillage required, and is a major aid in burying crop residues.

Nowadays, the features introduced to subsoilers by Vittorio Pegoraro are viewed as essential and are used the world over to ensure optimal results.



# WE DEVELOPED A COMPLETE SYSTEM, BECAUSE HAVING THE BEST STEEL ISN'T ENOUGH FOR US.

The "ALPEGO INSIDE" label, seen on all our machines, certifies the **exceptional quality** of Alpego products. A perfect combination of **top quality raw materials**, a **sustainable painting process** and **certified welding**; all to guarantee **exceptional lifetime and lasting quality**.

### HIGH STRENGTH STEEL

All Alpego machines use **the best steel to reduce the weight and increase performance**, fully optimising both consumption and running costs. This also has a huge impact on environmental sustainability.

### CERTIFIED WELDING

The outstanding useful life of Alpego structural components has been guaranteed for over twenty years by effective **welding according to standardised processes certified by the Italian Institute of Welding**.

### ECO PAINTING

In Europe, this unique system allows **every component to be painted according to the most suitable process, while protecting the environment**. Our water-based and powder paints **produce no VOC** (volatile organic compounds) emissions.





# Benefits of subsoiling

Subsoiling cuts costs compared to conventional tillage



Alpego subsoilers perform various farming functions, with multiple benefits.

Mattia Trevini  
Agronomist



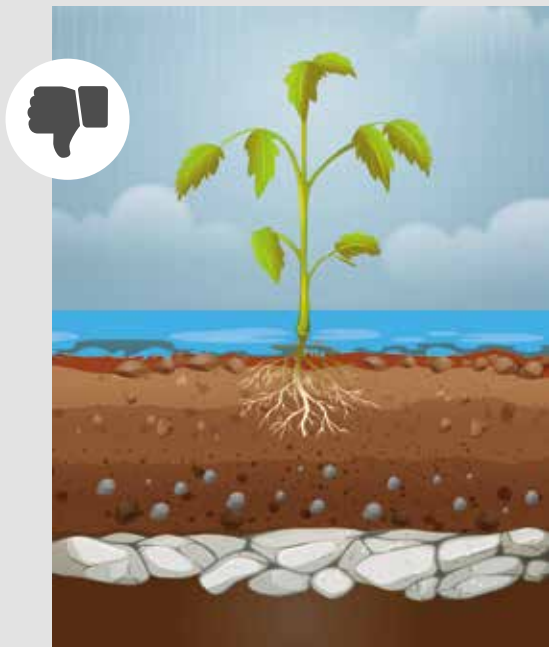
# Why choose Alpego subsoilers?

Three solutions, one machine

The Alpego range of subsoilers was the first to introduce a wide range of tools for different types of tillage. This versatility enables the use of various cultivation techniques.

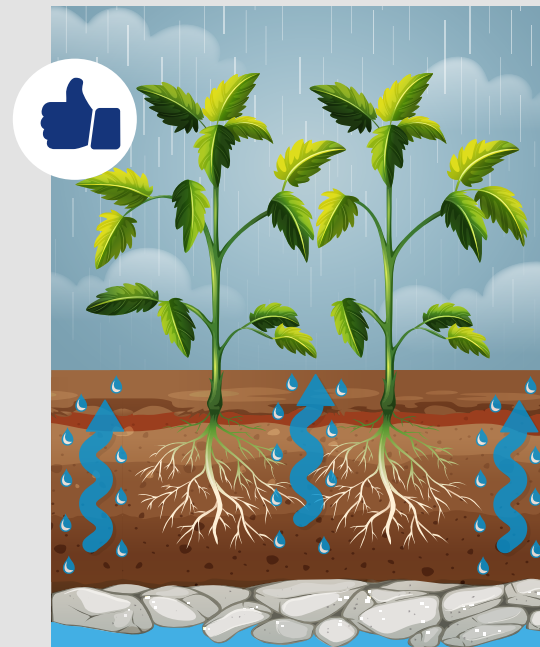


## CONVENTIONAL TILLAGE



All conventional tillage methods require longer working times and high fuel consumption and have drawbacks in agronomic terms: limited water drainage, reduction in capillarity, loss of yield and thus lower earnings.

## ALPEGO SUBSOILERS



Subsoiling is a tillage technique that requires shorter working times, and therefore saves fuel. In agronomic terms, subsoiling improves water drainage, enhances capillarity, and provides multiple benefits to crops with higher yields, meaning higher earnings.



### CRAKER SHANK

The curved shank penetrates the ground gradually, reducing the draft force required, and improves mixing of the soil both in depth and on the surface, by overturning the clods.



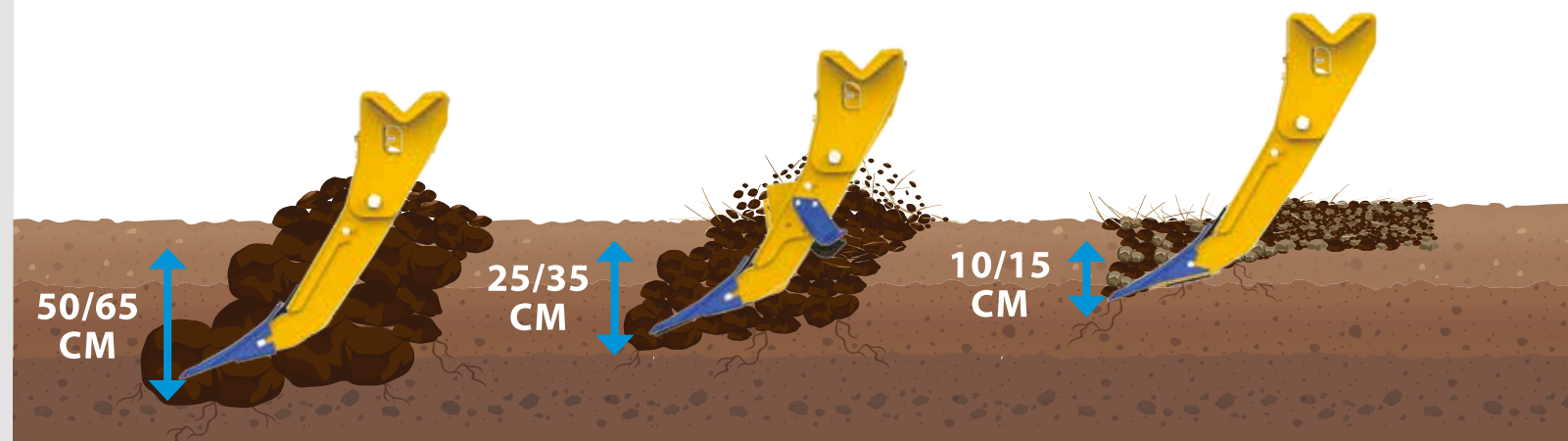
### CLOD-SHATTERING FINS

Accessory designed by Alpego with adjustable side fins to enable better crumbling and turnover of the topsoil. They also effectively cut the root systems of weeds or crop residues.



### DEK PLOUGHSHARE

Dek ploughshares are designed to provide surface tillage even with crop residues present. Their conformation ensures effective tillage across the entire width of the machine and is ideal for depths of up to 15 cm.





# A complete range for every need

The right hydro-pneumatic subsoiler for every situation

The Alpego range of subsoilers benefits from high quality standards that guarantee outstanding performances and reliability even in the heaviest duty and teamed with high-power tractors. Constructed entirely from high strength steels, available with widths up to 5 metres and equipped with various solutions and accessories, they are able to meet all farmers' different needs.

Alpego subsoilers are designed for high speed operation, in what is known as "Velocitilling". The many benefits include shorter working times, impressive fuel savings and a high quality job.



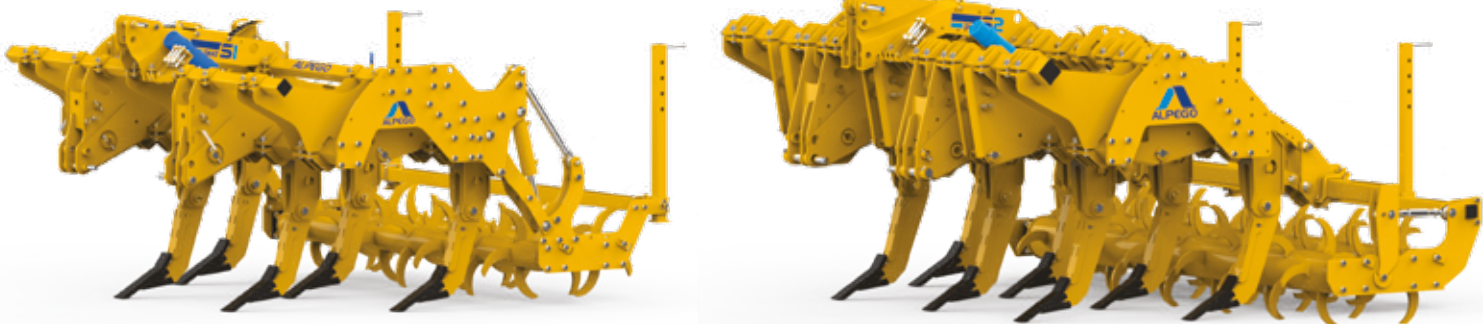
**SKAT S1**

Rigid mechanical subsoiler  
HP 130-250  
Page 14



**SKAT S2**

Rigid mechanical subsoiler  
HP 220-400  
Page 15



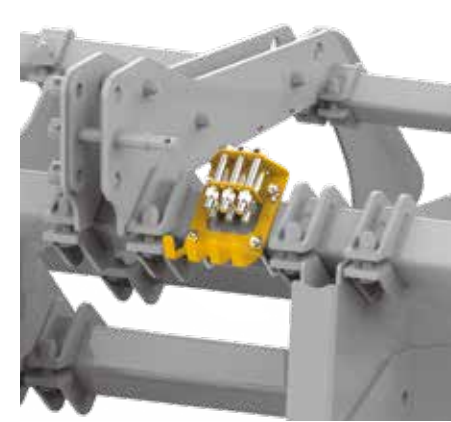
**SKAT MAX**

Folding hydro-pneumatic subsoilers  
HP 300-600  
Page 20-21



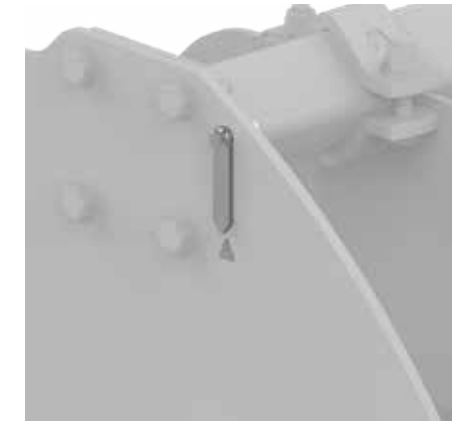
# Exclusive features

Technique and design for the new models



**BOLT HOLDER**

Spare bolt holder integrated in frame. (STANDARD)



**ANGLE GAUGE**

Angle gauge integrated in frame. Its internal and external positioning ensures visibility from the ground and from the driving seat. (STANDARD)



**DEPTH GAUGE**

Roller depth gauge clearly visible from the tractor driving seat. Available as standard on all hydraulically adjusted Franter rollers and on the modular parallelogram kit. (STANDARD)



**TELESCOPIC CLOD-RESTRICTING SIDE BOARDS**

Hydraulically controlled clod-restricting telescopic side boards, designed to make transport easier, width-adjustable and easily disabled when not required, for simple jobs with no problems for operator safety. (OPTIONAL)



**BOLTED FRAME**

High performance all-bolted frame. New side plate design for faster roller mounting. The high strength steel used provides the optimal trade-off between light weight and resistance.

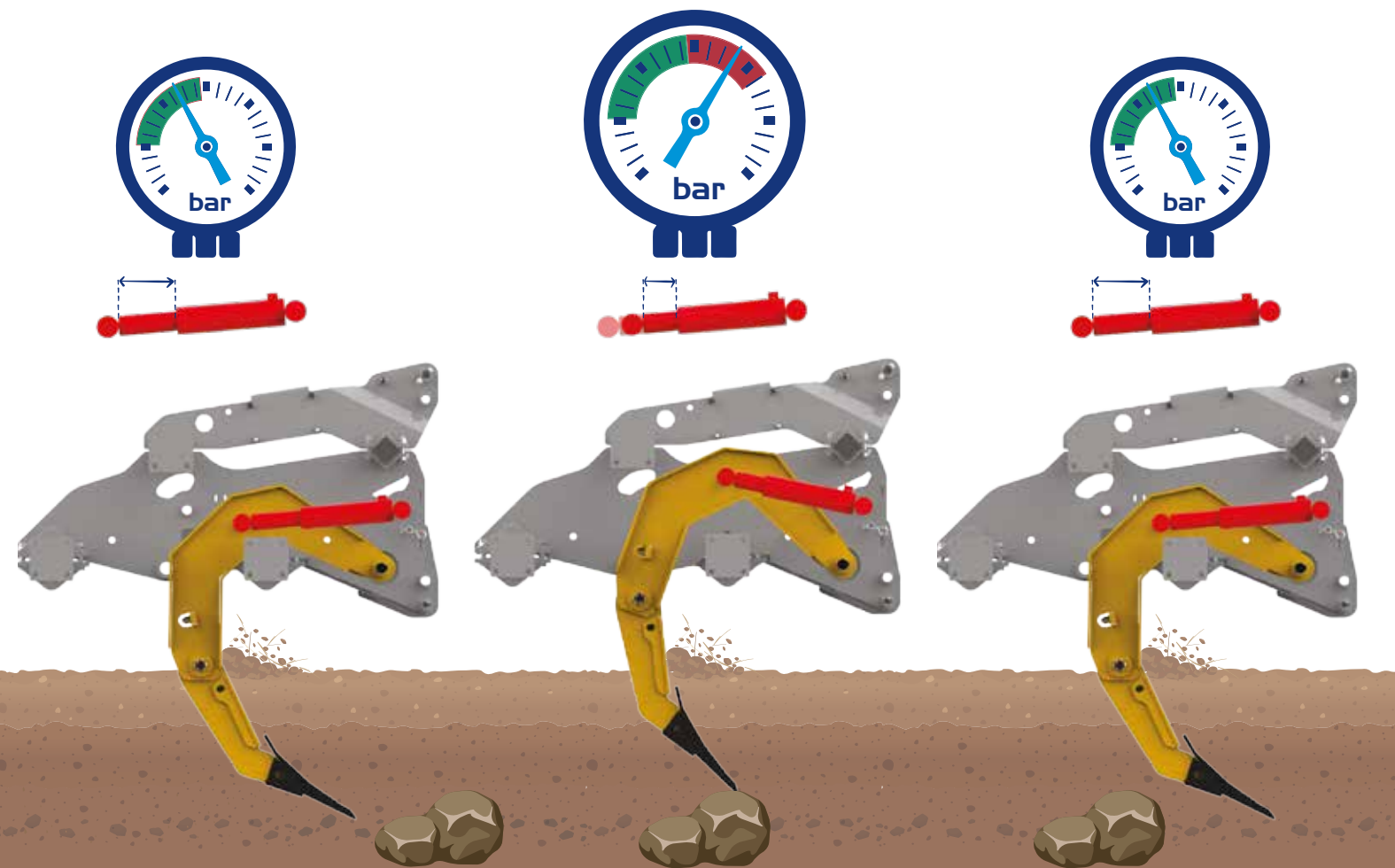


# SKAT technical characteristics

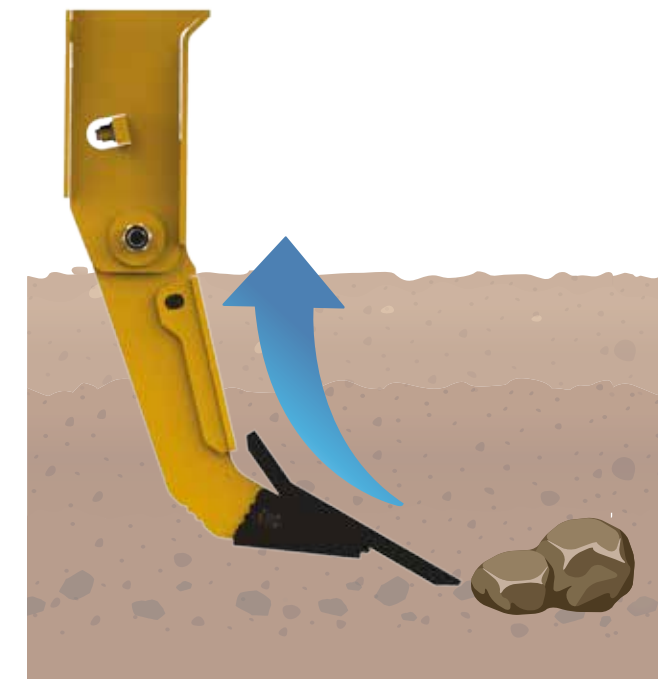
## Hydro-pneumatic system

### HYDRAULIC NO STOP

The system, comprising a nitrogen accumulator with regulator valve and a series of cylinders, one on each shank, enables the shanks to absorb shocks and stresses and return to place gradually, avoiding damage to the frame structure.



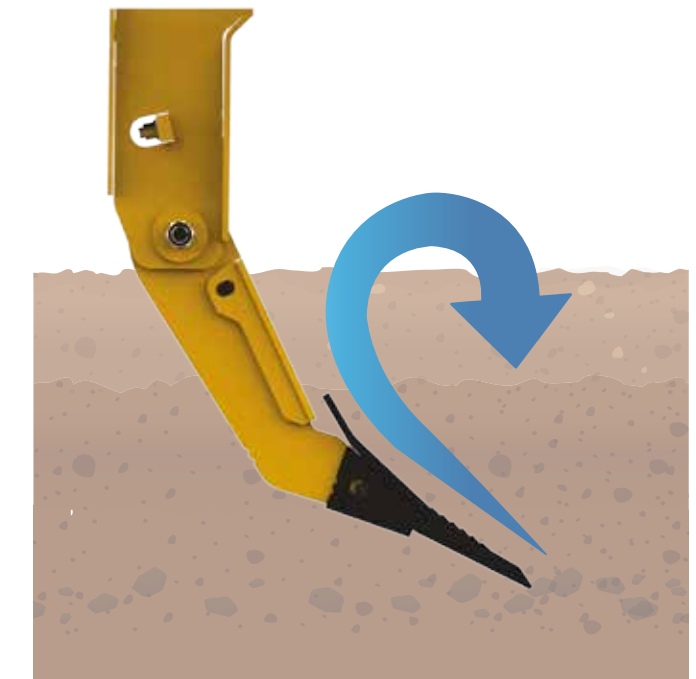
### ROCK SHANK (for very stony ground)



#### ROCK SHANK

Rock shank with reinforced hardwearing ploughshares, to overcome obstacles in very stony ground. The unusual angle prevents stones from being dragged to the surface.

### CRAKER SHANK (for heavy ground)

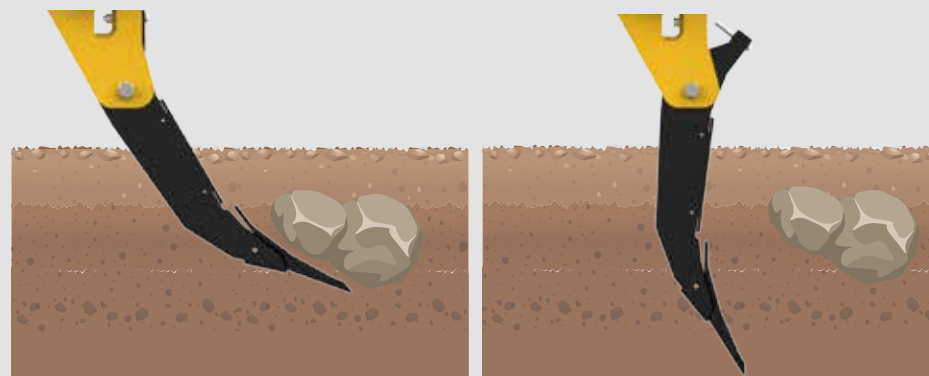


#### CRAKER SHANK

Suitable on heavy soils without too many stones. When combined with the SKAT hydro-pneumatic system, they provide excellent elasticity, meaning a longer machine lifetime and less stress on the tractor.

### SHEAR BOLT

In addition to the hydraulic NO STOP system, each shank is fitted with an easily replaceable shear bolt which breaks in case of excessive stresses to safeguard the machine's structure.



### LOW DISTURBANCE SHANKS

With Low Disturbance shanks, soil is aerated by lifting it without overturning its surface layer. They vibrate constantly during tilling for more effective decompacting. Ideal for drainage in all soil types.

**NEW**



# ALFAST

## Alpego Fast System



## Interchangeability

Quick, easy accessory changes

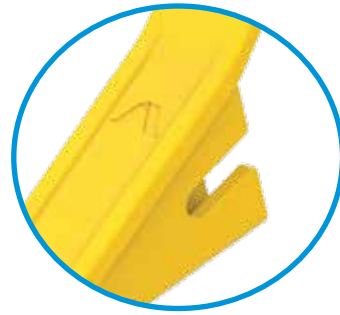
Alpego has always offered different accessories for different technical and farming solutions. With the ALFAST system, machines can be customised for all working conditions in just a few minutes, by replacing the standard ploughshare or shank guard with other accessories.

LOCKED



Reinforced shanks and ploughshares with exclusive ALFAST system

Alpego introduces an innovative ultra-fast ploughshare and accessory replacement system. With ALFAST, all you need is a hammer. No need to remove pins or screws. The patented system consists of a clip which moves to free or lock the accessory on the shank.

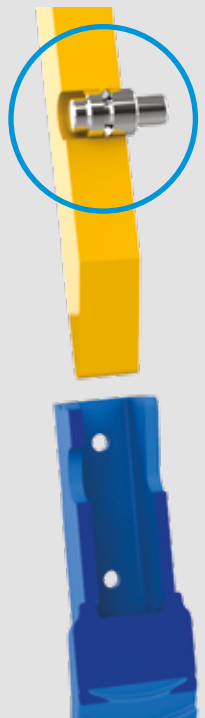


RELEASE

LOCK

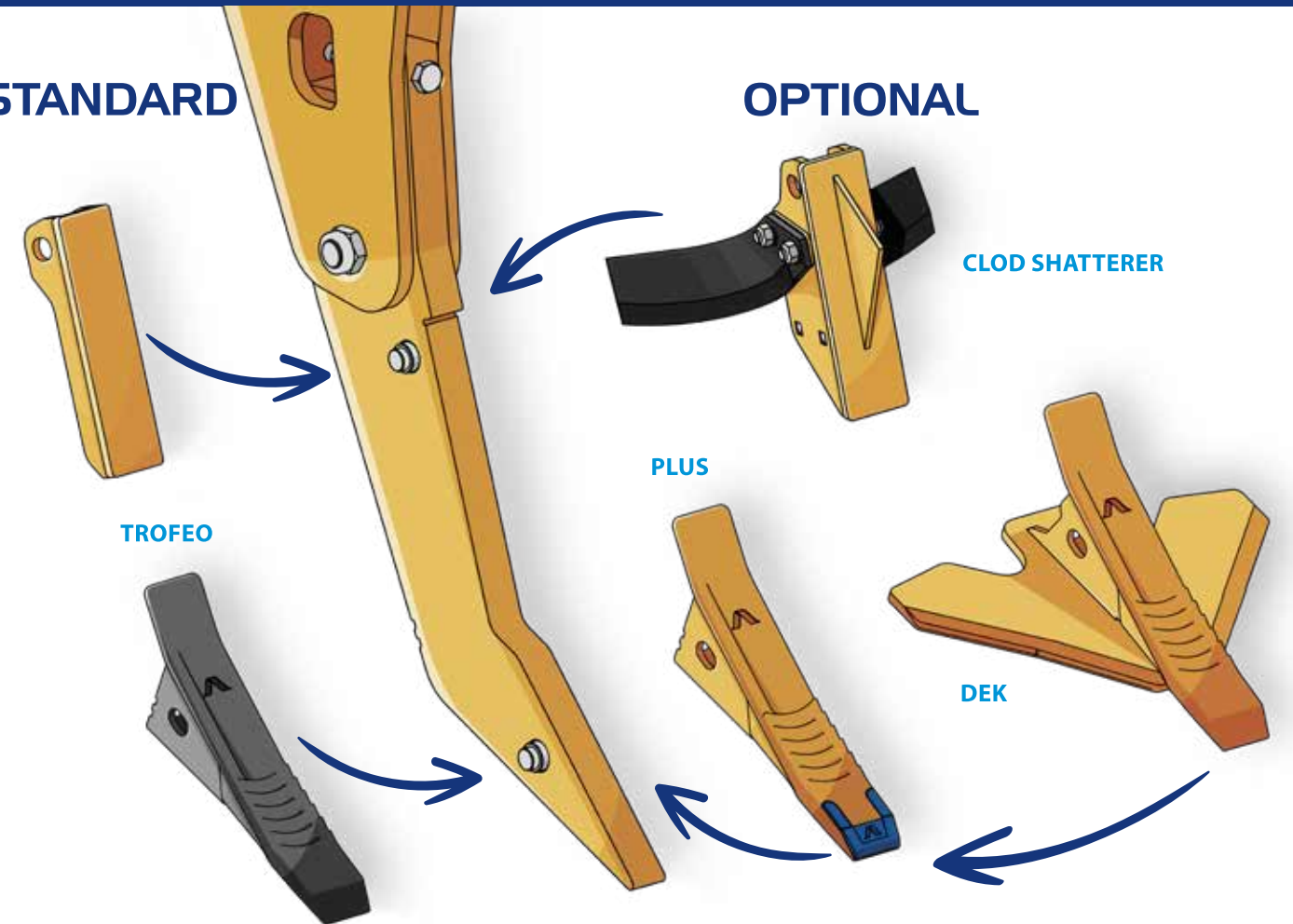


RELEASED



STANDARD

OPTIONAL

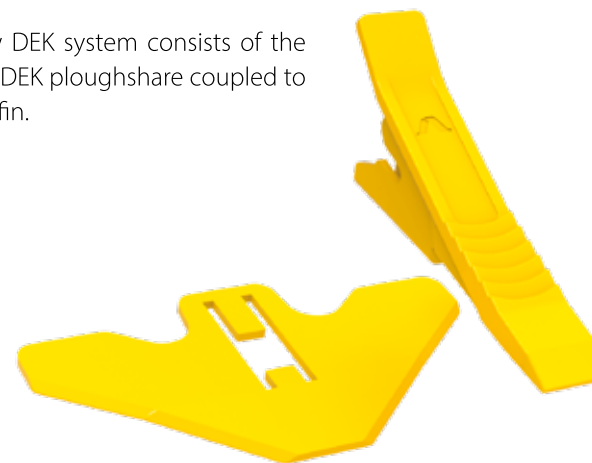
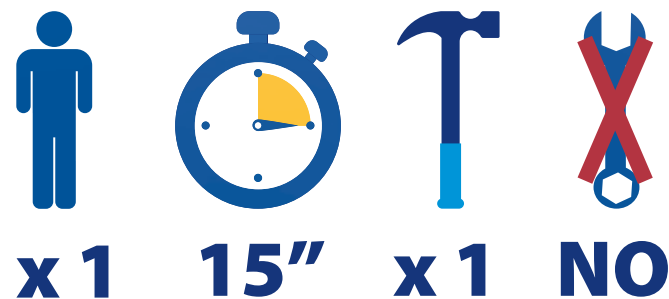


The advantages of the new ALFAST DEK system

The new DEK system consists of the TROFEO DEK ploughshare coupled to the DEK fin.

The coupled or single use of the two elements allows the operator to change operations in real time.

WHAT YOU NEED:



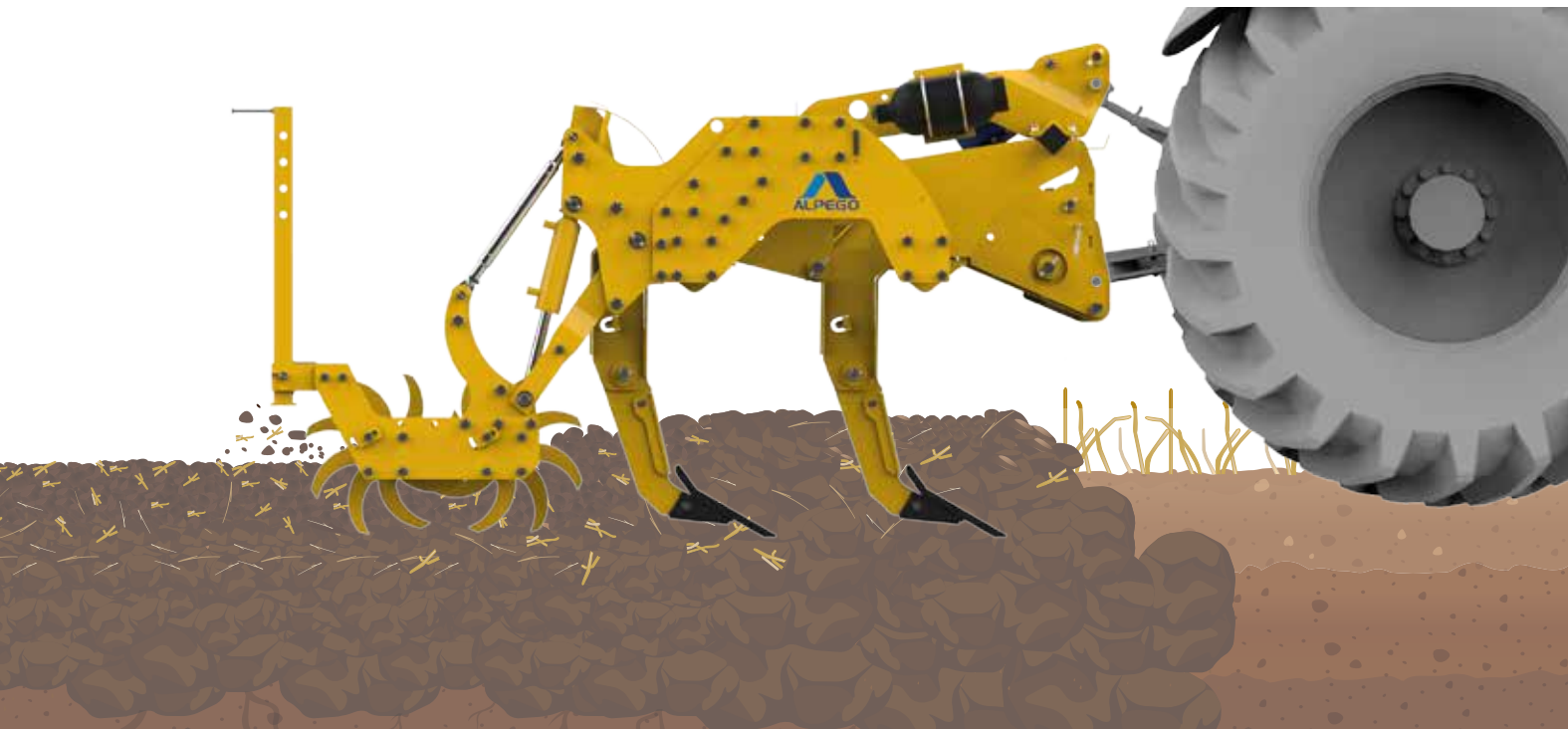
The advantage of this modular system is that the two elements can be reset separately.



# Franter Rollers

Essential for cutting subsequent tillage needs

Franter rollers, conceived and introduced onto the market by Alpego, provide crucial initial surface tillage, for optimal soil levelling. The combined work of the two toothed rollers reduces the amount of subsequent tillage required, and is a major aid in burying crop residues.



## AVAILABLE ROLLERS:



### MECHANICAL FRANTER ROLLER M12

M12 FRANTER roller ideal for loose soil. (Ø 140 mm)  
Mechanical depth adjustment.  
Featured on the following models: S1.

### HYDRAULIC FRANTER ROLLER H12

H12 FRANTER roller ideal for loose soil. (Ø 140 mm)  
Hydraulic depth adjustment.  
Featured on the following models: S1.

### HYDRAULIC FRANTER ROLLER H22

H22 FRANTER roller also ideal for heavy soils. (Ø 194 mm)  
Hydraulic depth adjustment.  
Featured on the following models: S1 / S2.

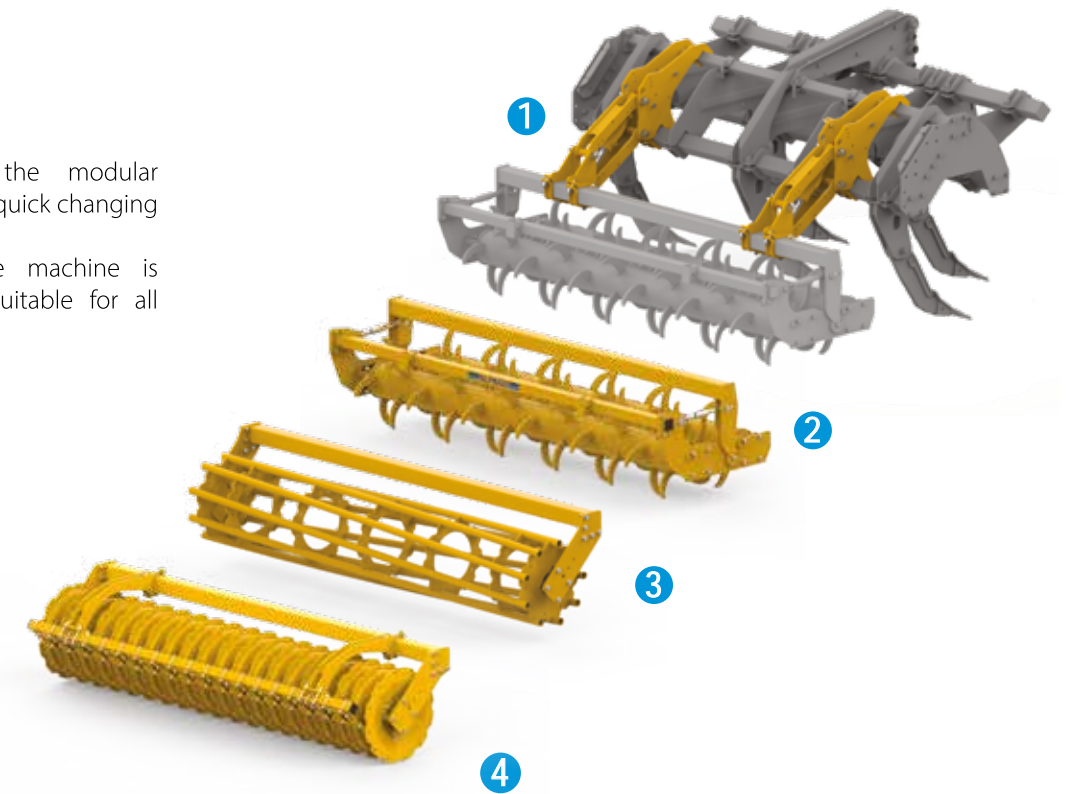
# Modular hydraulic parallelogram

Essential for cutting subsequent tillage needs

## ALTERNATIVE ROLLERS:

### 1 MODULAR HYDRAULIC PARALLELOGRAM KIT

Alpego has designed the modular parallelogram kit enabling quick changing of roller type. With this accessory, the machine is extremely versatile and suitable for all conditions.



### 2 H50 FRANTER ROLLER

H50 FRANTER roller ideal for all soil types; floats over the soft soil but crumbles hard soils very effectively. Hydraulic depth adjustment. (Ø 220 mm)  
Featured on the following models: S1 / S2 / SKAT MAX.

### 3 G6 CAGE ROLLER

CAGE G6 roller, ideal for dry, brittle and medium-density soils. (Ø 550 mm)  
Featured on the following models: S1 / S2 / SKAT MAX.

### 4 DR6 DISC ROLLER

DR6 DISC roller suitable for very hard soils. (Ø 600 mm)  
Featured on the following models: S1 / S2 / SKAT MAX.





# SKAT S1

## CUTTING-EDGE

Hydro-pneumatic subsoiler for depths up to 58 cm

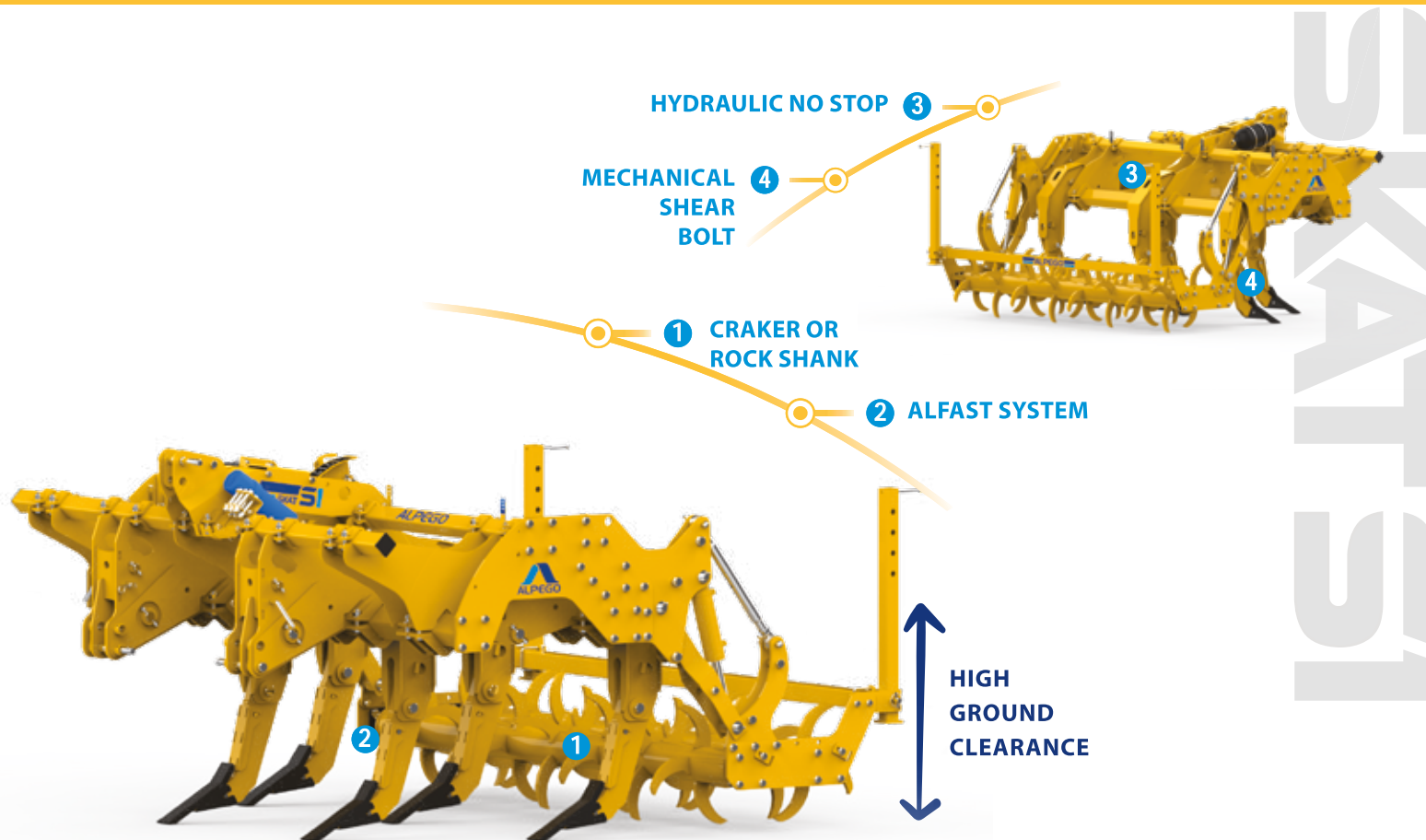
S1 hydro-pneumatic subsoiler, professional machine available with two front rollers with mechanical or hydraulic adjustment. Constructed in high-tensile steel and available in 3 different working widths of 2.5 - 3 - 3.5 m, it is ideal for tractors from 130 to 250 HP.

# SKAT S2

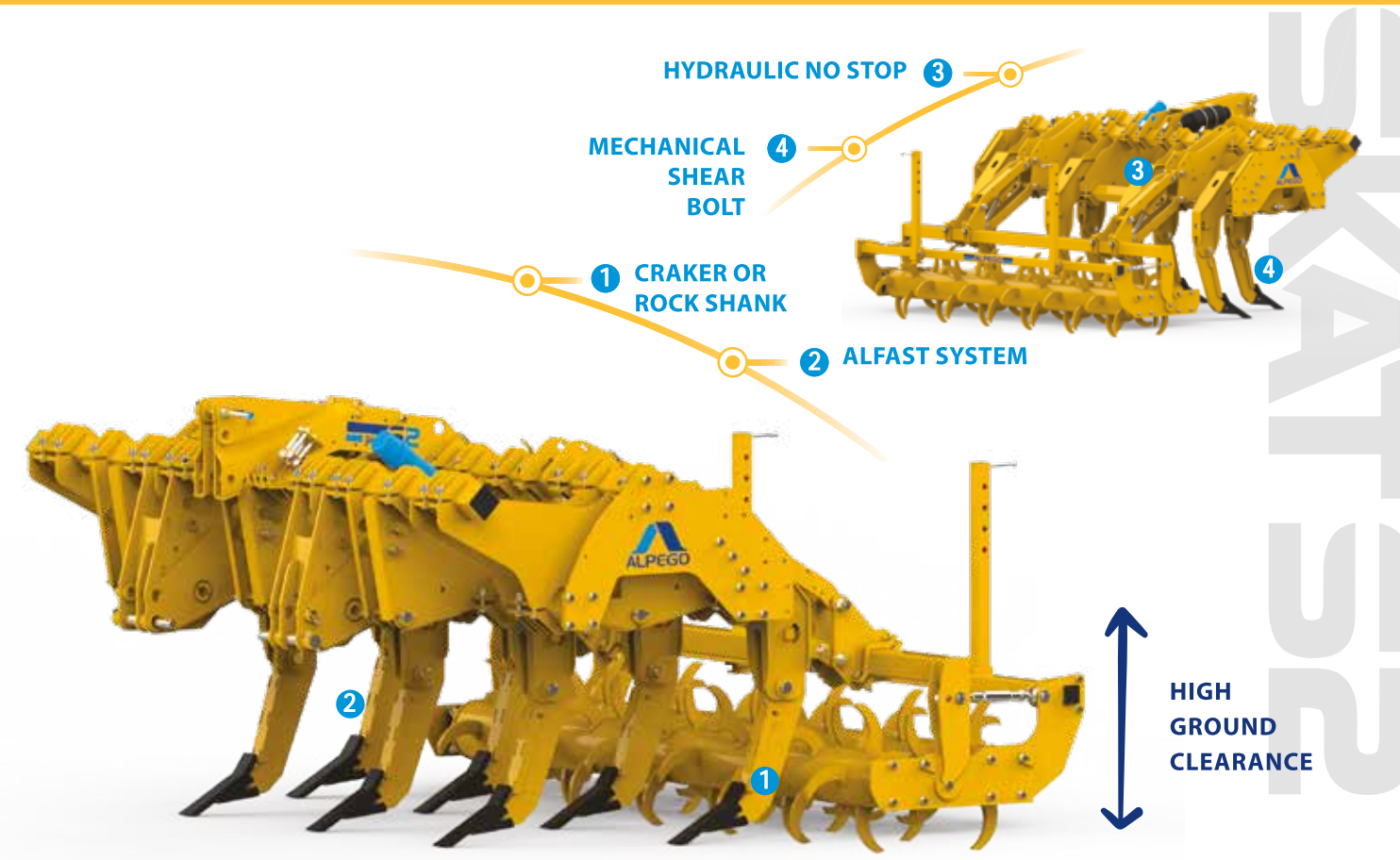
## STRONG

Hydro-pneumatic subsoiler for depths up to 65 cm

S2 model hydro-pneumatic subsoiler, super-professional, rugged machine available with two front rollers with hydraulic adjustment. Constructed entirely in high strength steel and available in no less than 3 different working widths of 3 - 3.5 and 4 m, it is ideal for tractors from 220 to 400 HP.



Model	SKAT S1 5-250	SKAT S1 7-300	SKAT S1 7-350
Working width (mm)	2500	3000	3500
Transport width (mm)	2505	3002	3495
Tractor power (HP)	130-250	140-250	140-250
Working depth (mm)	580	580	580
Shanks (no.)	5	7	7
Weight with mechanical Franter roller M12 + shank (Kg)	1555	1915	-
Weight with hydraulic Franter roller H12 + shank (Kg)	1575	1925	-
Weight with hydraulic Franter roller H22 + shank (Kg)	1715	2095	2240



Model	SKAT S2 7-300	SKAT S2 7-350	SKAT S2 9-400
Working width (mm)	3000	3500	4000
Transport width (mm)	3002	3495	3996
Tractor power (HP)	220-400	220-400	270-400
Working depth (mm)	650	650	650
Shanks (no.)	7	7	9
Weight with hydraulic Franter roller H22 + shank (Kg)	2720	2880	3255

**1 CRAKER OR ROCK SHANK**  
35 mm shank available in two different types to suit many needs.

**2 ALFAST SYSTEM**  
TROFEO forged ploughshares and shank guards with ultra rapid fitting and removal system.

**3 HYDRAULIC NO STOP**  
The system, comprising a nitrogen accumulator with regulator valve and a series of cylinders, one on each shank, enables the shanks to absorb shocks and stresses and return to place gradually, avoiding damage to the frame structure.

**4 MECHANICAL SHEAR BOLT**  
Safety bolt fitted on every shank; if the shank hits an obstacle, the bolt shears, protecting the machine's structure.

**EQUIPMENT**  
Linkage cat. 2 and 3 / Two support legs (mounted on the roller).

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Safety bolt fitted on every shank; if the shank hits an obstacle, the bolt shears, protecting the machine's structure.

**EQUIPMENT**  
Linkage cat. 3, 3 USA and 4N / Two support legs (mounted on the roller).



# SKAT MAX Innovative, why?

ISOBUS electronic control of all machine functions, no manual adjustment

ALPEGO SKAT MAX is the first precision subsoiler because:

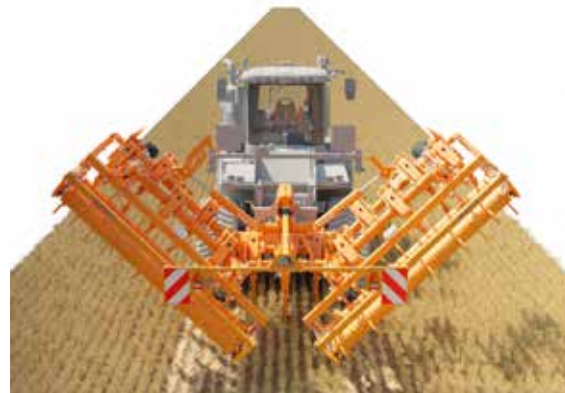
**uses fully electronic ISOBUS management.**

From the terminal, it is possible to manage the opening and closing of the machine, regulate the operating pressure, adjust the depth, receive warnings for broken safety bolts and save various functions.

The hydropneumatic safety system, controlled via ISOBUS, **reduces power absorption and fuel requirements, improving traction and hourly productivity.**

Controlled by a **Task Controller**, the SKAT MAX is enabled to receive orders for an automatic depth via a prescription map; **precise, geo-localised control** of the work with reduced risk of over-deepening, reduced time and fuel consumption.

The SKAT MAX is also equipped with an **innovative shank retraction** (patented); when closed for transport, the width is reduced to 2.8 metres in maximum safety, thanks to hydraulic compacting of the shanks and rollers.



## SAFE AND IMMEDIATE

All machine functions are managed instantly from the driver's seat and without manual adjustments.

## COMPACT

Compacting of the machine during transport that facilitates movement and increases safety.



# Advantages and features

The innovative solution for highly professional use

## ALPEGO SKAT MAX

A machine that performs several operations simultaneously, with simple adjustments from the driver's seat and multiple agronomic and mechanical advantages:

- Operator safety thanks to fully electronic operations from the driver's seat
- Less stress for the operator thanks to numerous automatic and memorised functions
- Increased road safety thanks to space-saving shanks compacting
- Remote positioning, mapping and function checks available
- Reduces working time and fuel demand
- Reduced soil compaction, increased drainage and increased fertility
- Reduced costs and increased profits



## VIDEO ANIMATION

Scan the QR Code to see the SKAT MAX at work.

## REDUCED WORKING TIME AND LOWER FUEL DEMAND

The precise depth control avoids unnecessary overworking. The shank profile and hydropneumatic system further reduce power demand.



## AGRONOMIC KEY

The automatic depth control reduces loss of fertility and organic matter.



## PERFECT TILLING

Bolt breakage sensors prevent untilled areas and pressure management from the driver's seat allows the use of mappings with automatic management.



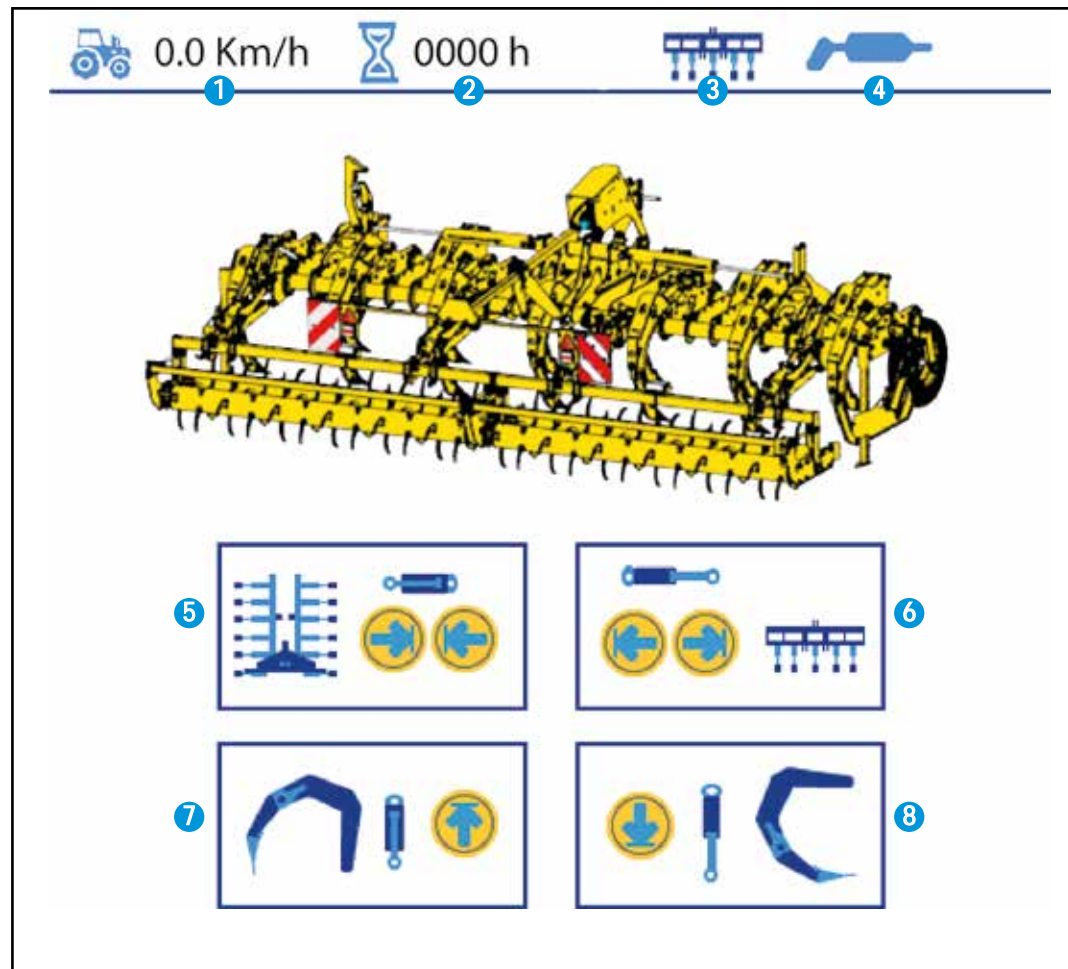
### ALPEGO INTELLIGENCE MOVE

Alpego SKAT MAX uses a fully electronic ISOBUS A.I. MOVE management system that allows the machine's functions and movements to be managed directly from the tractor's monitor.

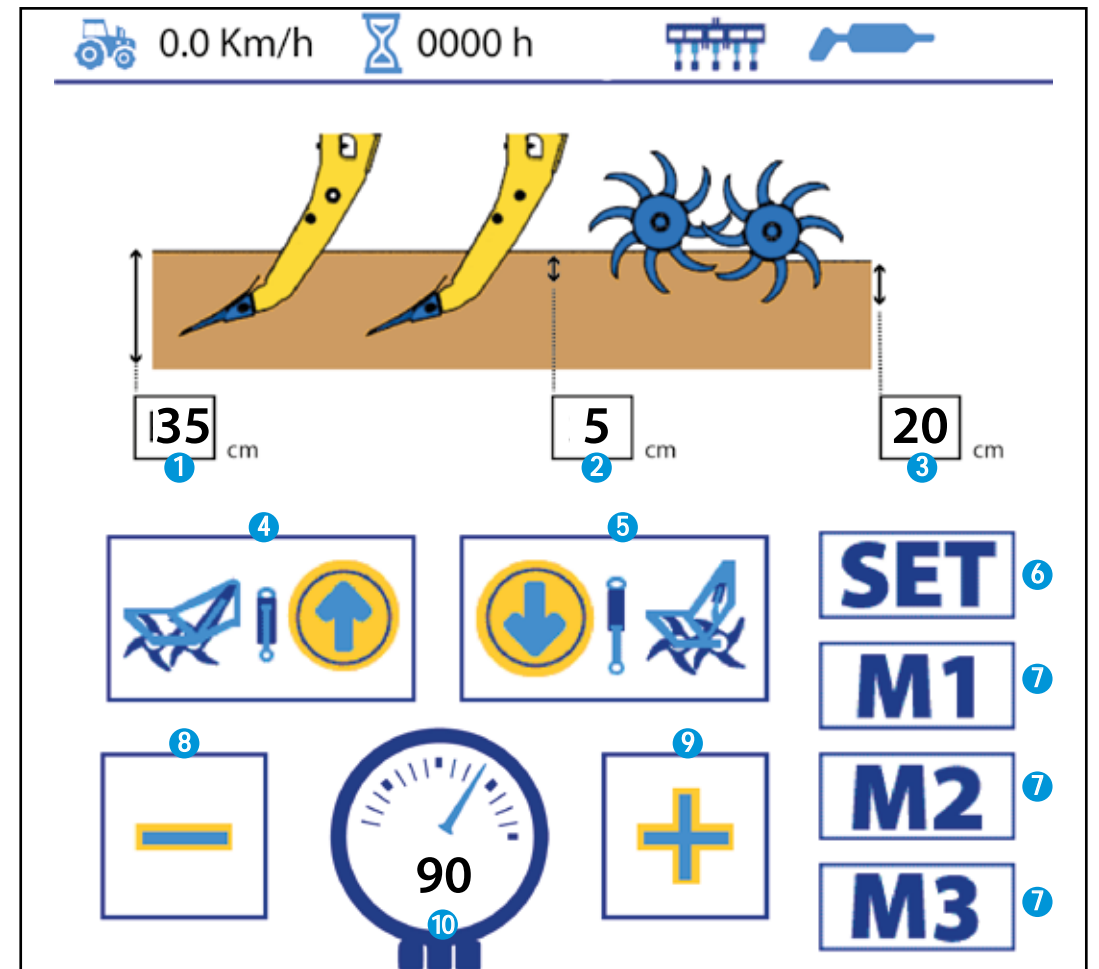
## AI-MOVE



## AI-MOVE



- 1 FORWARD SPEED
- 2 MACHINE HOURS
- 3 MACHINE STATUS
- 4 SERVICE INTERVALS
- 5 SUBSOILER CLOSURE
- 6 SUBSOILER OPENING
- 7 SHANKS RETRACTION
- 8 SHANKS OPENING



- 1 WORKING DEPTH (CM)
- 2 ROLLER SINKING (CM)
- 3 ROLLER RIDGES (CM)
- 4 INCREASING WORKING DEPTH
- 5 WORKING DEPTH REDUCTION
- 6 SET
- 7 MEMORIES
- 8 REDUCTION OF WORKING PRESSURE
- 9 INCREASING WORKING PRESSURE
- 10 WORKING PRESSURE



# SKAT MAX

EXCLUSIVE

Folding subsoiler  
for depths up to 65 cm

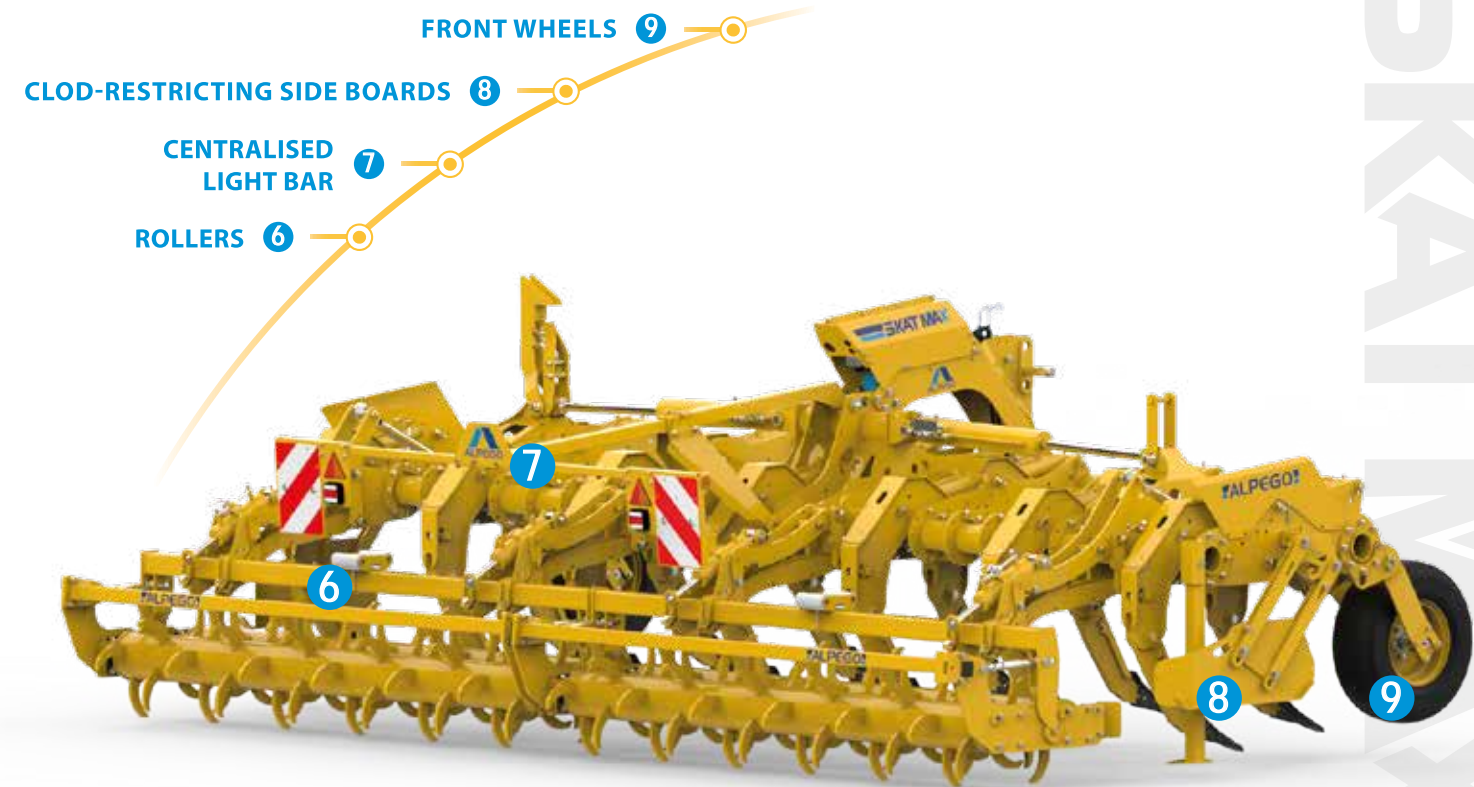
The SKAT MAX folding hydropneumatic subsoiler is the innovative solution for highly professional use. Equipped with ISOBUS electronics, ALFAST system and hydraulically adjustable roller as standard. Available in 5 and 6 m sizes, it is suitable for tractors with very high power ratings from 300 to 600 HP.



TRANSPORT  
WIDTH <2.80 M



- 1 CRAKER OR ROCK SHANK
- 2 ALFAST SYSTEM
- 3 FRAME
- 4 HYDRAULIC SYSTEM
- 5 SHEAR BOLT



- 6 ROLLERS
- 7 CENTRALISED LIGHT BAR
- 8 CLOD-RESTRICTING SIDE BOARDS
- 9 FRONT WHEELS

Model	SKAT MAX 500	SKAT MAX 600
Working width (mm)	5060	5980
Transport width (mm)	2780	2780
Tractor power (HP)	300 - 500	400 - 600
Working depth (mm)	650	650
Shanks (no.)	11	13
Weight with hydraulic Franter roller H50 (Kg)	4590	5240

**1 CRAKER OR ROCK SHANK**  
35 mm shank available in two different types to suit many needs.

**2 ALFAST SYSTEM**  
TROFEO forged ploughshares and shank guards with ultra rapid fitting and removal system.

**3 FRAME**  
Highly robust 3-section high-strength steel frame  
Road transport closure <2.8m thanks to unique shanks retraction system.

**4 HYDRAULIC SYSTEM**  
Closing mechanism with hydraulic system, automatic release and safety hooks.

**5 SHEAR BOLT**  
Hydraulic NO STOP safety system that allows the shanks to absorb shocks and stresses with a gradual return, preventing damage to the frame structure. In addition to the hydraulic NO STOP system, each shank is fitted with an easily replaceable shear bolt which breaks in case of excessive stresses to safeguard the machine's structure.

**6 ROLLERS**  
Hydraulic depth adjustment with modular parallelogram that can also fit other types of roller (FRANTER H50 / G6 / DR6).

**7 CENTRALISED LIGHT BAR**  
Centralised headlamp bar, complete with reflective side tables and LED lighting as standard.

**8 CLOD-RESTRICTING SIDE BOARDS**  
Clod-restricting telescopic side boards.

**9 FRONT WHEELS**  
Cushioned front wheels controlled by a parallelogram from the roller for optimum stability.

**EQUIPMENT**  
Category 4<sup>n</sup> cat. USA linkage / TROFEO quick-fitting ploughshares / Hard-wearing shank guard / Damped front wheels / Hydraulic locking system with hydraulic release of the safety hook opening / Rear reflective panels with lights.



# Choosing the ploughshare

The right ploughshare for every situation



## TROFEO



Trofeo ploughshare, with an exclusive design, variable thickness and reinforced tip and forged special steel structure, increases the useful life by 20%. The grooves in the upper face of the ploughshare fill with soil and consequently reduce wear thanks to the soil-soil contact.

## TROFEO WEARPROOF



WEARPROOF ploughshare with special hard-wearing surface treatment to guarantee a prolonged life and optimal working performance for much longer than the standard version.

## TROFEO PLUS



TROFEO PLUS ploughshare with a special Tungsten carbide plates positioned on the tip. This ploughshare is recommended for use in very tough, heavy-duty conditions. The plate enables the tip to preserve its effective length over time, ensuring greater maintenance of the working depth compared to standard ploughshares.

Ploughshares	S1	S2	SKAT MAX
TROFEO	ALFAST	ALFAST	ALFAST
TROFEO WEARPROOF	ALFAST	ALFAST	ALFAST
TROFEO PLUS	ALFAST	ALFAST	ALFAST

# Choosing the accessory

The right accessory for every situation



CLOD-SHATTERING FINS



DEK PLOUGHSHARE



PAIR OF REAR WHEELS



TELESCOPIC CLOD-RESTRICTING SIDE BOARDS



REFLECTIVE SIDE TABLES WITH REAR LIGHTS



REAR ROLLER

Accessories and rollers	S1	S2	SKAT MAX
Clod-shattering fins	ALFAST	ALFAST	ALFAST
DEK ploughshare	ALFAST	ALFAST	ALFAST
Pair of rear wheels			
Telescopic clod-restricting side boards			
Reflective side tables with rear lights			
M12 Mechanical Franter Roller			
H12 Hydraulic Franter Roller			
H22 Hydraulic Franter Roller			
H50 Hydraulic Franter Roller			
G6 Cage Roller			
DR6 Disc Roller			

Accessory

Standard

Not available



### FOLDABLE POWER HARROWS

120 - 500 HP



### RIGID POWER HARROWS

35 - 320 HP



### SUBSOILERS

75 - 600 HP



### ROTARY TILLERS AND STONE BURIERS

65 - 430 HP



### SEED DRILLS

85 - 320 HP



### FRONT HOPPERS

120 - 500 HP



### CULTIVATORS

120 - 300 HP



### FLAIL MOWERS

40-220 HP

