

# SULKY



**NEW**

> 08/2009 - GB



# X44







# New "Arable farm" X12-44 range: Full of innovations !

Better plant nourishment, better field applications right to the border : these are the agronomic aims. From an economic point of view, the continuing rise in fertiliser prices encourages you to control each kilogram applied. You are therefore looking for solutions to **simplify settings**, while guaranteeing a high level of results at harvest.

SULKY, a true **specialist** when it comes to fertiliser spreading, is always ready to listen to farmers and fertiliser manufacturers suggestions which lead to the best courses of action for the SULKY R&D department.

The new X 12-44 range has, like no other before to this day, a panoplie of exclusive innovations. Find out how SULKY's simple and high performance technology can be of **direct use** to your crops, the Environment and especially your gross profit !

## summary

- **X36 and X44:** 7 new models, 4 levels of "high technology" options.....4/5
- Innovations in spread pattern **quality:** the Epsilon System® .....6/7
- "Latest generation" **continuous weighing** with the all new VISION-X control box .....8/9
- Border spreading: the new "intelligent" TRIBORD 3D border device .....10/11
- Fertiliser flow: highly accurate and **rate control** .....12/13
- An innovative design bringing more **ease of use** .....14/15

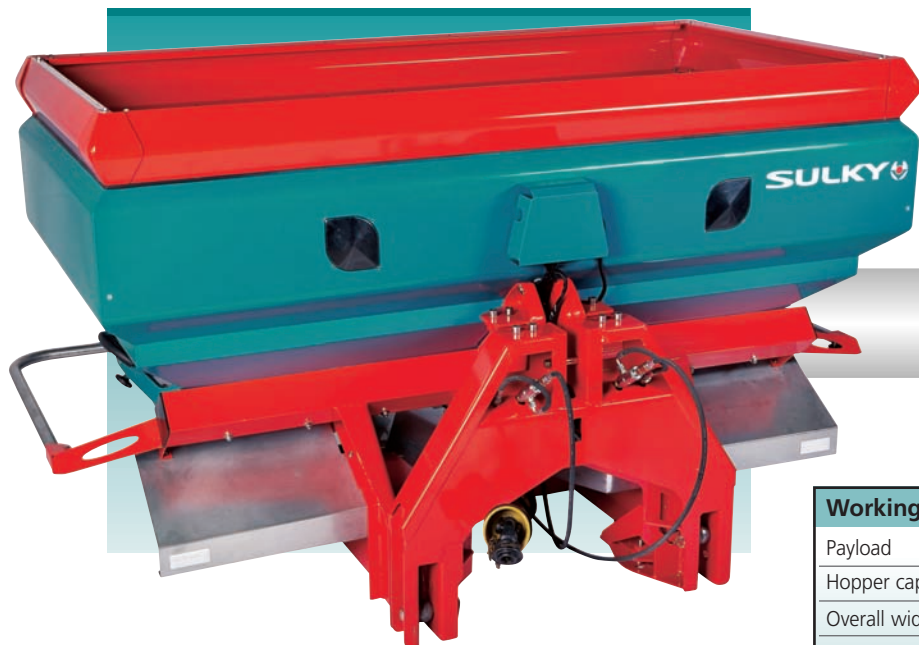


## 7 new "high technology" models

**X36** : adjustable spreadwidth from 12 up to 36 metres <sup>(1)</sup>



**3000 I model**



**2500 I model**

**Payload: 3000 kg**

1900 l • 2500 l (2.31 m loading width)

2600 l • 3000 l (2.81 m loading width)

Working width	12 - 36 m			
Payload	3 000 kg			
Hopper capacity (level)	1 900 l	2 500 l	2 600 l	3 000 l
Overall width	2,70 m		2,98 m	
Loading width	2,31 m		2,81 m	
Loading height	1,23 m	1,41 m	1,48 m	1,52 m
Loading depth	1,17 m			
Max flow rate	520 kg/min			
Weight (approx.)	430 kg	460 kg	470 kg	475 kg

(1) With a fertiliser whose fertiliser characteristics are adapted to large width spreading

# X44 : adjustable working width from 12 up to 44 metres <sup>(1)</sup>



4000 l model

**Payload: 4000 kg**

2 400 l • 3200 l • 4000 l  
(2.81 m loading width)

Working width	12 - 44 m		
Payload	4 000 kg		
Hopper capacity (level)	2 400 l	3 200 l	4000 l
Overall width	2,98 m		
Loading width	2,81 m		
Loading height	1,26 m	1,44 m	1,62 m
Loading depth	1,32 m		
Max flow rate	520 kg/min		
Weight (approx.)	565 kg	600 kg	635 kg

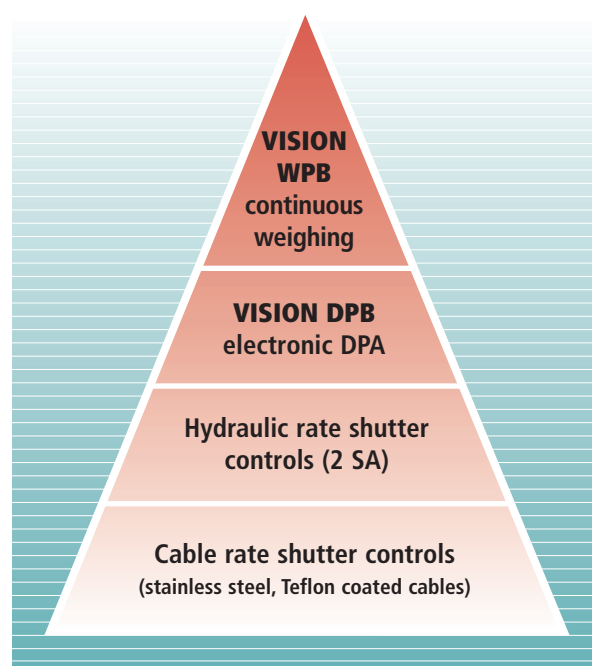
## Options ( ● Standard - ○ Optional - □ Specify when ordering)

	X36	X44
Cat. II and III device hitch with 3 positions	●	●
Parking stands for easier loading	●	●
540 rpm Walterscheid PTO shaft with friction clutch	●	●
3-year warranty gearboxes	●	●
Double-opening anti-clog sieves	●	●
Road lights built-in to hopper	●	●
Rate calibration kit and easy to read slide-rule	●	●
Overlap check kit and granulometer	●	●
Vertical setting indicator for top dressing	●	●
<b>TRIBORD 3D system with in-cab electric control</b>	●	●
Hopper extension	○	○
Folding hopper cover	○	○
VISION DPB rate proportional to forward speed	□	□
VISION WPB fully automatic weighing	□	□
GPS speed sensor (delivered with fixing plate)	○	○
Lateral, front and rear reflectors* (≥ 2.55 m) ≥	○	●
Anti-compaction baffles for Crystallised Ammonium Sulphate and Ray-grass	○	○
Storage wheels	○	○
Set of high resistance vanes	○	○
Pilot operated check valves for machine with hydraulic controls (2 DA) <sup>(2)</sup>	○	○
Stainless steel guard tube	●	●

(2) Standard on VISION DPB and VISION WPB models

\* French legislation (04/05/06) concerning farm machinery road transport

## X36 and X44 : A choice of 4 levels of control



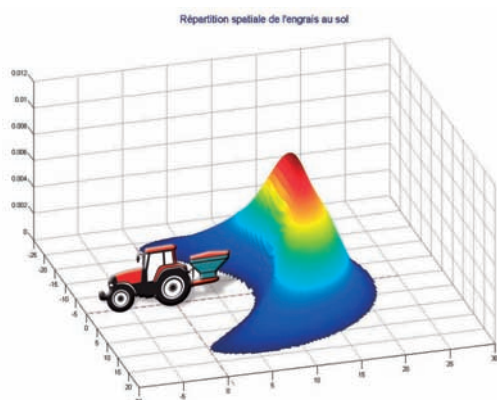
X44 HI-TECH (VISION WPB weighing + JUSTAX width control), request a leaflet

## **EPSILON** : improvements in spread pattern

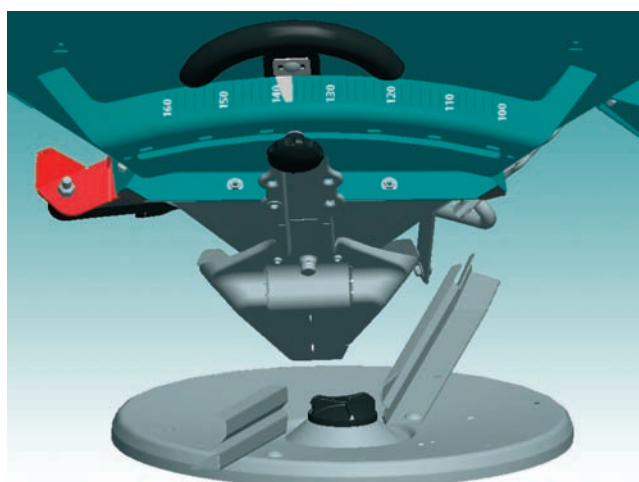


### Numeric technology helping "large width" spreading

The SULKY Research & Development team worked closely with the CEMAGREF\* around a CEMIB testing facility (Silver medal at SIMA 2007). A 3 dimensional numeric view showed, for the first time, the quality of a spread pattern with a number of different fertilisers.



\*Research Institute for farm engineering and the environment.



### The whole spreading system optimised

All the spreading components on the new SULKY X12-44 range have been **optimised** in a test centre : vane length, shape and position, the inclined chute smoothly accelerates fertiliser down to the vanes...





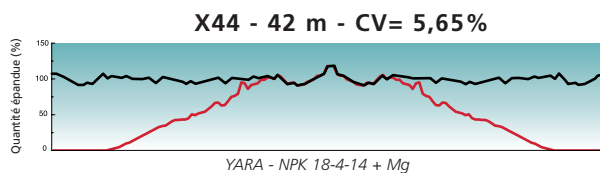
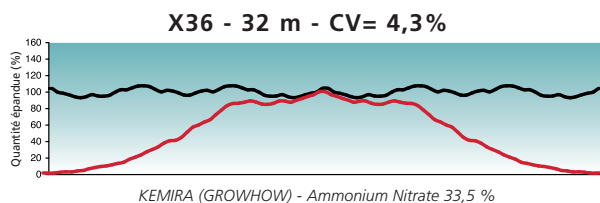
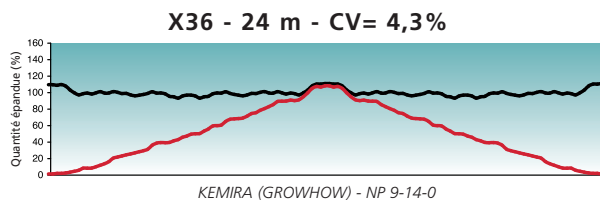
## 4 "true" fertiliser layers per disc

The patented design of the new Epsilon vanes has 3 objectives:

- Thoroughly canalise the granule flow once taken up by the vanes ;
- Keep this division all the way through the centrifugal acceleration, **independent of the required rate/ha** ;
- Develop 4 true fertiliser layers per disc, since each vane is a different length and has a specific notch ; the "C-shaped" lower hopper support and hemispherical stainless steel covers strengthen the Epsilon system efficiency.



*Twin channel vanes*



## Result : spread pattern accuracy and easy adjustment thanks to the multi-overlapping

Examining these official graphs obtained at the DIAS (Denmark) and CEMAGREF (France) testing centres, we can see **very large overlapping areas** by the triangular formed curves. Therefore, the Epsilon design brings you:

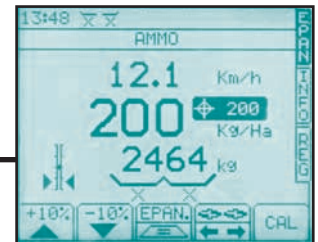
- An **impeccable transvers spread pattern**, with coefficients of variation close to 5% ;
- **Respect to granules**, which is indispensable for "large width" spreading (no dust) ;
- **Much less sensitivity towards setting errors**, varying fertiliser quality, driver error, even wind, for increased spreading accuracy in the field.



## Simple, logical, accurate : width adjustment through a moveable chute

- **"Stepless" adjustment** of the fertiliser placement point on the discs : by moving up the graduated quadrant, the spread width increases, and vice versa.
- **Large quadrants** (in synthetic corrosion resistant material) that are easy to read while standing and user-friendly levers.
- **Safety** : no need to move/adjust discs or vanes.

## "Latest generation" continuous weighing with the new VISION-X control box



Main menu



Information menu



Setting menu

Exclusive to  
**SULKY**

### Huge time savings and accuracy to within a kilo !

- Automatic in-cab rate calibration
- Electronic DPA automatically adjusting the rate shutter opening to the forward speed
- Exclusive to SULKY : **two regulation levels** ; in static mode if the fertiliser is unknown or in dynamic mode to start the application with a know and stored fertiliser ;
- TRIBORD 3D "border" device controlled through the box
- **On-screen information available** : fertiliser quantity left in the hopper, distance (m) or area (ha) that can be covered with the remaining load, forward speed, area covered (ha)...
- **Application traceability** by saving your operations either onto an SD card (not supplied), or into the control boxes internal memory (up to 75 operations).
- Possibility of saving up to 8 different products (fertilisers, seeds).
- Manual rate/ha modulation during spreading, LH/RH individually or together.



### GPS speed sensor (option) :

Very easy to use, it is placed on the tractor roof. Connected to the VISION-X control box, the speed read is insensitive to wheel-slip.





## The SULKY weighing system : a strong and compact system

- Reduced overhang (only 12 cm) to keep overall balance and tractor adherence ;
- One, factory calibrated, "stainless steel" weigh cell totally protected and built-in to the frame and so not a multiplication of different reference points ;
- Built-in device to compensate "weight" information on hills or rough surfaces
- A **10-ton weigh cell capacity**, so 6 tons over the maximum carrying payload to guarantee long-life

## Quick and accurate, especially on headlands : dual controls for shutter opening

### 1st Control :

- **Electric** controls for rate adjustments (new stainless steel ram rods) ;

### 2nd Control :

- **Hydraulic**, controls, with pilot operated check valves, for opening/closing the shutters

### Your benefits :

- At headlands, the hydraulic controls guarantee that the shutters are opened/closed instantly, avoiding any risk of under or over-dosing this area ;

- Productivity : in case the usual tractor fitted with the electronics is unavailable, you have the possibility of returning to manual controls (the electric actuators fold out of the way) ;
- To work on only one side, completely closing one or other of the shutters remains possible.



1- Electric controls



2- Hydraulic controls

## Easy to use and completely ready for precision farming techniques : the VISION-X control box

- A new, more modern design
- **Numeric keypad** for quick and intuitive programming of operations
- A large and clear screen, Windows compatible and direct access through 3 scroll-down menus (Setting, Spreading, Information)
- **Completely GPS compatible** : large number of references available with the main brands (Greenstar, Agrimap+, Agrocom, Satplan, Farmstar...)
- **Integrated SD card reader** : storage of field operations (traceability of your operations is only limited by the size of the SD card) and/or field map reading for inter-field rate modulation (exclusive to SULKY)
- The "extra" with SULKY : possibility of using the VISION-X control box with a seed drill (interfield seedrate modulation), *please contact us for more information.*



**The VISION DPB or electronic DPA version** : controls more than just rate proportional to forward speed, but also the TRIBORD 3D control, manual rate modulation, on-screen information concerning speed, area (ha) and tonnage spread (kg)... Thanks to the built-in SD card reader, this version of the VISION-X control box is pre-fitted for traceability and precision farming techniques.



## Border spreading : the new "intelligent" TRIBORD 3D device



Exclusive to  
**SULKY**

### To relieve the "headache" caused by borders !

Without leaving the tractor cab, you are now able to adapt your border spreading to your field, preserving the environment while keeping up your yields :

- If one of your borders is alongside a water course, a residential area, a road or public pathway, follow the **environmental recommendations** (European norm EN 13 739), even if it means an under-dose on the last couple of metres.
- If the border in question, which could be long, is next to another cultivated field, the **exclusive SULKY TRIBORD 3D innovation** avoids wasting fertiliser ; especially, with the "eco-intensive" mode, from the cab, you **keep up your yields** and grain quality !

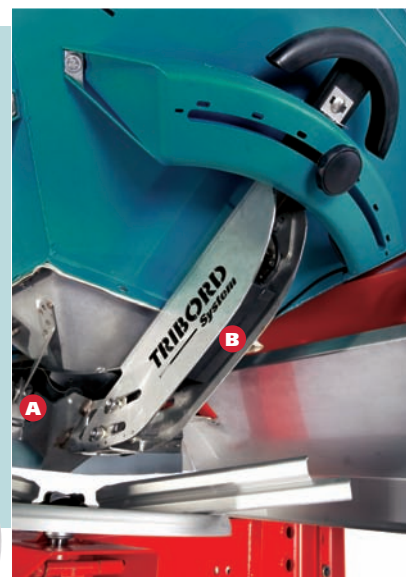
### The SULKY technical choice : a specific spreading vane

- Very easy to use : no settings are necessary for different fertilisers or working widths used (the TRIBORD 3D is **completely integrated** to the SULKY X36 and X44 system settings)
- Excellent spreading evenness, since a **vane preserves fertiliser granulation** ; other devices available on the market use deflectors that deviate forcibly the fertiliser trajectory ; they can also take up another tractor spool-valve.

**A** Moveable chute

**B** Electric actuator

**C** Specific short border vane





# TRIBORD 3D

## Finally, an in-cab controlled system to choose between border spreading modes

- Supplied as standard on the SULKY X36 and X44 fertiliser spreaders ; electric controls with one lever or directly through the VISION control box\*.
- An electric actuator moves the fertiliser placement point so as to feed, on the border side, a special TRIBORD 3D vane (permanently fitted on the disc)

"Full width" button

"Eco-intensive border" button

"Environmental" button



Full width



Eco-intensive border

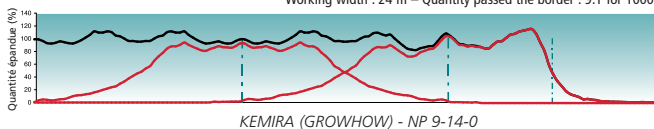


Environmental border

- **Red button : strict "environmental border" mode ;** the TRIBORD 3D short vane completely cuts feed to the longest vane and the result is in accordance with the official European norm EN 13 739 (tolerance of only 3 for 1000 granules passed the cultivated area)
- **Yellow button : new "eco-intensive border" mode ;** through an intermediate position for the electric actuator, the TRIBORD 3D vane substitutes by 75% the longest vane. Your border will get 100% of the rate up to about two meters from the edge.
- **Green button : return to initial settings for "full width" spreading with high accuracy and large widths.**

### X36 – "eco-intensive" border

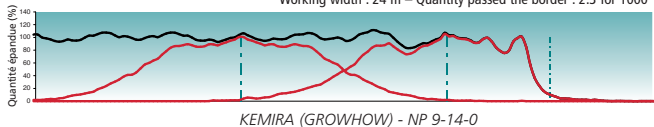
Working width : 24 m – Quantity passed the border : 9.1 for 1000



TRIBORD 3D, "eco-intensive" function (yellow button) : the environment is taken into account and, any under-dose, penalising yield or final quality along the border, is avoided.

### X36 – "environmental" border

Working width : 24 m – Quantity passed the border : 2.3 for 1000



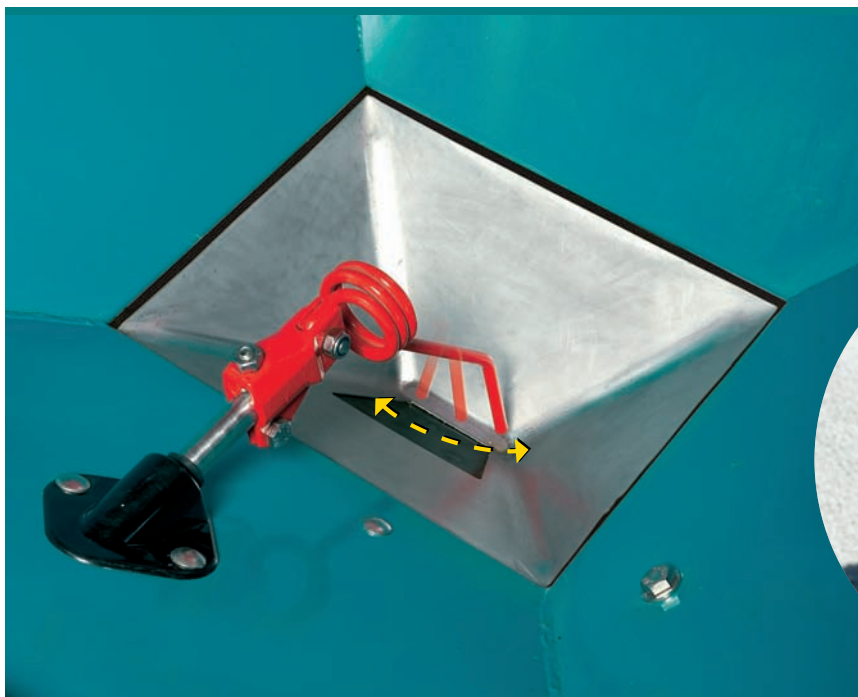
TRIBORD 3D, "environmental" function (red button) : the official norm EN 13 739 is respected (less than 3 for 1000 granules passed the border).

\*on X36 VISION DPB and WPB or X44 VISION DPB or WPB models.



## Fertiliser flow : high accuracy and rate control

✓ Up to 520 kg/minute !



Exclusive to  
**SULKY**



### Better than an agitator : the SULKY oscillating rate regulator

■ **Patented**, the SULKY regulator has been further improved to ensure an optimal fertiliser flow over time in both half-hoppers of the X36 and X44 ;

- When encountering resistance, for example when the shutters are closed on headland manoeuvres, the coils on the upper part of the spring **absorb** the oscillating movement of the regulator time ;
- **Result** : gentle flow of fertiliser granules (no dust when re-starting, or accumulation on shutters in damp conditions).



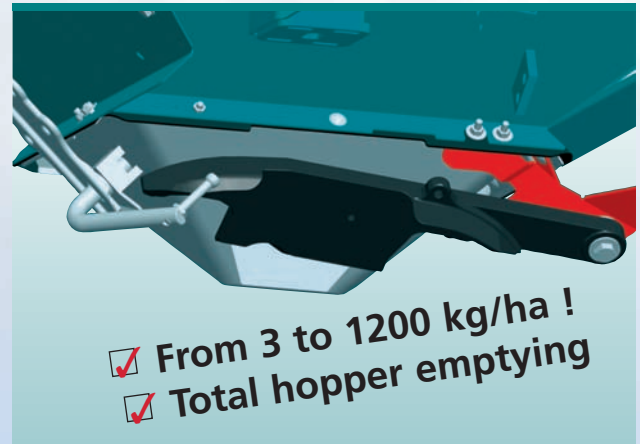
Just as an example, here are some performances that the SULKY R&D department obtained during **intensive spreading tests** :

- up to 820 kg/ha at 12 km/h on 28 metres (N-P-K Compound fertiliser) ;
- up to 350 kg/ha at 18 km/h on 44 metres (quality ammonium nitrate).



### Simple and easy manual rate adjustment

- User-friendly controls ;
- Large, easy to read, graduated quadrant (made from hardened plastic) ;
- Marks easy to read while standing.



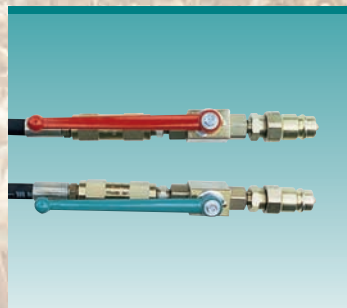
### An improved shutter shape

- The new shutter shape allows "stepless" rate adjustment from **3 to 1200 kg/ha**, without fitting any extra accessories
- **Complete emptying**, right to the last kilogram, thanks to the stainless steel, one-piece, pressed hopper base (no welds)
- Shutter on an angled surface : **whatever pressure applied by the quantity left in the hopper** (after transport with a full load for example), your rate/hectare remains reliable.

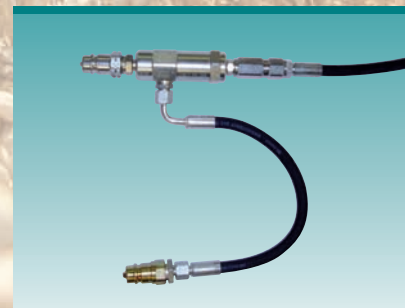
### Rate shutter controls : make your choice !



**Cable controls** : simple, this system enables each shutter, or both at the same time, to be opened/closed progressively.



**Hydraulic controls** with two SA spool-valves (T-junction 1 SA optional).



**Hydraulic controls with two DA**, standard on models fitted with the VISION-X control box. This set-up guarantees that the shutters are maintained closed even with leaking tractor hydraulics (1 DA T-junction optional).



## A new design for easier use



A lot of thought has been put into the V-shaped, rear folding hopper cover with a standard side mounted lever on the X36 and X44 facilitating opening and closing.



Rate calibration kit



X12-44 slide-rule



[www.sulky-burel.com](http://www.sulky-burel.com)

### Manual calibration : easier than ever

- Tool-less disc removal
- Rate calibration kit installed in a few seconds
- New, large format slide-rule
- Updated setting charts available in the manuals or on our internet site [www.sulky-burel.com](http://www.sulky-burel.com).
- Overlap kit and granulometer standard to check fertilisers and settings in your actual working conditions.



Overlap check kit



### Hitching and cleaning : more time saved

- **HEL\* steel frame** providing the ideal compromise between strength and payload
- **Large opening device hitch** helping with safety when coupling/decoupling (optional storage wheels)
- **Waltersheid PTO shaft** with friction clutch supplied as standard
- **Clear design** (reduced fertiliser retention areas) enables total cleaning, long working life and an increased second-hand value.



### Uncompromised safety

- **Standard features** include rear road lights positioned high for maximum visibility and better protection against fertiliser dust or damage
- **Cast steel, anti-shock extension corners**
- **Hopper access ladder**
- **Stainless steel protection guard tube** answering to safety norms

### 13-step long-life protection

- **Careful preparation** of future painted parts through a degreasing and passivation tunnel
- **Robot controlled, total dip** of all parts into a bath of primer
- **Final 3 layers of paint** applied with respect to the latest environmental norms
- **Extensif use of stainless steel** : Epsilon System®, TRIBORD 3D system, deflectors, hydraulic connections, nuts & bolts...



**All our departments  
are working for your  
success.**



**Today, SULKY is France's leading manufacturer of seed drills and fertiliser spreaders.**

As a manufacturer and a provider of service, our first aim is that our machinery continues providing farmers with more productivity and quality.

Your order is tailor made to meet your needs in terms of yield. It remains for us to ensure delivery as soon as possible, to explain to you how it works and to secure the supply of spare parts for maintaining your machines. We are ready.

Our dealers are there to help you realise the benefits of your SULKY machine. Our engineers will back them up with additional advice and draw up the necessary instruction books.

Customer service is our priority.

**Drilling or fertiliser spreading, we are  
always on your side.**



**[www.sulky-burel.com](http://www.sulky-burel.com)**

**SULKY**

*The seed drill and fertiliser  
spreader specialists*

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