

# GRASSLAND HARROW GS

THE NO. 1 HARROW FOR  
GRASSLAND TREATMENT



## BENEFITS

### THIS MAKES THE AP V GRASSLAND HARROW UNIQUE

APV Grassland Harrows are characterised by the combination of two rows of strong and two rows of slightly cranked spring tines - a unique feature in agricultural engineering.



### ADVANTAGES OF APV GRASSLAND HARROW

- Due to the shape and numerous adjustment possibilities, you achieve the optimal harrow pattern with all the requirements.
- Combine the APV Grassland Harrow with your APV Pneumatic Seeder. The following models are suitable for use: PS 120 M1, PS 200 M1 and PS 300 M1
- Use the spring-mounted levelling plate (available as an accessory) to level out molehills and other unevenness.
- Combine up to four working steps in one (levelling, tilling, seeding, re-tilling).
- You can also use the Grassland Harrow in arable farming and apply field fodder with it.

### VERSATILE USE

Benefits from the results of the Grassland Harrow:

- Levelled molehills and levelled grassland
- Removal of weeds and thatching
- Open and aerated soil
- Space for the germination of valuable fodder plants
- Perfect reseeding<sup>1</sup>
- Nitrogen release approx. 10 - 15 kg per crossing

<sup>1</sup> In combination with an APV Pneumatic Seeder

## GRASSLAND HARROW GS

### THE CULTIVATION HARROW FOR GRASSLAND TREATMENT

High quality basic fodder is an important source of energy in the dairy industry. The APV Grassland Harrow pulls out unwanted grasses, creates space for high quality seeds and aerates the soil. Thus, the harrow stimulates the natural formation and the germination of a diverse plant stock. In combination with a Pneumatic Seeder, you can till your fields in one working process and seed grasses and legumes. In this way, you control the relationship between grasses, legumes and herbs. Improve your grassland stock and increase your yields with APV's Grassland Harrow.



### THE KEY ASPECT: THE TINES

Whether the harrow operates aggressively or finely, at which speed the tines achieve optimum results and how wide the field of application of the harrow is, it all depends on the nature of the tines as well as their adjustment. The tines of APV's Grassland Harrow have been specially developed for the diverse requirements of grassland treatment. The harrow combines cranked spring tines in two different thicknesses. The tine rows create a unique harrow frame. Further information on the tines can be found on page 9.

### USE THE FULL POTENTIAL

With the appropriate accessories, you can carry out the following operations in addition to tilling:

- **Levelling:** Use the spring-mounted levelling plate to level out molehills and unevenness.
- **Tilling:** The basic equipment of the Grassland Harrow comprises four rows of tines for tilling. The front two rows are the actual working area. The 10 mm or 12 mm thick tines tear the sward and free the grassland of weeds and thatching. The rear two rows with 8 mm tines separate the soil from the torn weeds and produce a fine soil. This is unique in agricultural engineering.
- **Seeding:** You can combine the Grassland Harrow with different APV seeders, such as the APV Pneumatic Seeder PS 120 M1, PS 200 M1 or PS 300 M1. APV offers you a wide range of hopper sizes: As versatile as your requirements.



# GS 300 M1 - THE COMPACT CULTIVATION IMPLEMENT

The GS 300 M1 has a working width of 3 metres. It can be used by small tractors from 27 hp. Perform up to four operations with the GS 300 M1. Also reduce soil compaction and fuel consumption.

## TECHNICAL DATA

↗ Working width	3 m
↓ Tines	40 units (10 mm or 12 mm), 60 units (8 mm)
⚖ Weight (Full Edition)	530 kg
⊙ Feeler wheels (16.0/6.5-8" tyres)	2 wheels
🔧 Attachment category	CAT 2 / CAT 2N
🏎 Tractor power	from 20 kW / 27 hp

**⚠ You can assemble your Grassland Harrow free from the basic machine with basic equipment. Select the GS 300 M1 plus your desired accessories. 90 % of our customers opt for the Full Edition, which covers all requirements (see page 5).**

## ITEMS INCLUDED

The standard scope of delivery of the GS 300 M1 includes:

- GS 300 M1
- Two frontal tine rows: cranked tines with a thickness of 10 or 12 mm
- Two rear tine rows: cranked tines with a thickness of 8 mm
- Two feeler wheels

## ACCESSORIES

- Spring-mounted levelling plate (approx. 100 kg)
- Warning signs + lighting GS (approx. 5 kg)
- Operating hour counter
- Mounting kit for PS 120 - 300 M1 on GS 300 M1
- Sensor set: wheel sensor + linkage sensor top link GS
- Platform kit for GS (approx. 10 kg)
- Accessory kit adjustment spindle GS 300 M1
- Front mounting bracket<sup>1</sup> GS 300 M1 (incl. mounting kit for PS 120 - 300 M1)
- Warning signs + lighting GS front mounting bracket
- Platform kit for GS 300 M1 front mounting bracket

<sup>1</sup> Any visible impairments should be remedied by suitable measures! Front axle loads can be exceeded!

## YOUR BENEFITS

- Spring-mounted levelling plate (available as accessory) for levelling molehills or irregularities.
- Followed by two harrow sections with cranked spring tines of various thicknesses. This combination is unique in agricultural engineering.
- Every harrow section can be used at various relative thicknesses. This achieves optimal soil adjustment.
- Simple tine adjustment of the 3rd and 4th row.
- Can also be used in arable farming!

Can be used with Pneumatic Seeders with electric fan PS 120 M1, PS 200 M1 and PS 300 M1.

- Best lateral distribution over the entire working width
- Precise sowing of the seeds, independent of the wind

## FULL EDITION

The scope of delivery of the fully equipped GS 300 M1 includes:

- Two frontal tine rows: cranked tines with a thickness of 10 mm
- Two rear tine rows: cranked tines with a thickness of 8 mm
- PS 200 M1 with electric fan
- Control box 5.2
- Sensor set: wheel sensor + linkage sensor top link
- Mounting kit for Pneumatic Seeder (PS)
- Platform kit
- Parking supports
- Spring-mounted levelling plate
- Warning signs + lighting



# GS 600 M1 - THE IMPRESSIVE ALL-ROUNDER

The GS 600 M1 is suitable for the efficient treatment of grassland due to the larger working width of 6 metres. It is characterised by a high tilt adjustment and can also be used in difficult terrain. You can combine up to four operations with the GS 600 M1.

## TECHNICAL DATA

↗ Working width .....	6 m
↓ Tines .....	80 units (10 mm or 12 mm), 120 units (8mm)
⚖ Weight (Full Edition) .....	1,050 kg
⊙ Feeler wheels (16.0/6.5-8" tyres) .....	4 wheels
🔧 Attachment category .....	CAT 2
🚜 Tractor power .....	from 50 kW / 70 hp
🚜 Tractor power front <sup>1</sup> .....	from 75 kW / 100 hp

A single-acting control unit for folding is required

**⚠ You can assemble your Grassland Harrow free from the basic machine with basic equipment. Select the GS 600 M1 plus your desired accessories. 90 % of our customers opt for the Full Edition, which covers all requirements (see page 7).**

## ITEMS INCLUDED

The standard scope of delivery of the GS 600 M1 includes:

- GS 600 M1
- Two frontal tine rows: cranked tines with a thickness of 10 or 12 mm
- Two rear tine rows: cranked tines with a thickness of 8 mm
- Four feeler wheels
- Air hose attachment
- Parking supports (3 items)

## ACCESSORIES

- Spring-mounted levelling plate (approx. 220 kg)
- Warning signs + lighting GS (approx. 5 kg)
- Operating hours counter
- Sensor set: wheel sensor + linkage sensor top link GS
- Platform kit for GS (approx. 10 kg)
- Accessories kit adjusting spindle GS 600 M1
- Front mounting bracket<sup>1</sup> GS 600 M1 (incl. mounting kit for PS 120 - 300 M1)
- Warning signs + lighting GS front mounting bracket
- Platform kit for GS 600 M1 front mounting bracket

<sup>1</sup> Any visible impairments should be remedied by suitable measures! Front axle loads can be exceeded!

## YOUR BENEFITS

- Spring-mounted levelling plate (available as accessory) for levelling molehills or irregularities.
- Followed by two harrow sections with cranked spring tines of various thicknesses. This combination is unique in agricultural engineering.
- Every harrow section can be used at various relative thicknesses. This achieves optimal soil adjustment.
- Simple tine adjustment of the 3rd and 4th row.
- Can also be used in arable farming!

Can be used with Pneumatic Seeders with electric fan PS 120 M1, PS 200 M1 and PS 300 M1.

- Best lateral distribution over the entire working width
- Precise sowing of the seeds, independent of the wind

## FULL EDITION

The scope of delivery of the fully equipped GS 600 M1 includes:

- Two frontal tine rows: cranked tines with a thickness of 10 mm
- Two rear tine rows: cranked tines with a thickness of 8 mm
- PS 300 M1 with electric fan
- Control box 5.2
- Sensor set: wheel sensor + linkage sensor top link
- Mounting kit for Pneumatic Seeder (PS)
- Platform kit
- Spring-mounted levelling plate
- Warning signs + lighting





## ADDED VALUE

### HEALTHY SURFACES BRING ADDED VALUE IN THE STABLE

High-quality animal feeds increase the welfare of the animals and the quality of the milk. By using the GS you can get the optimum yield from your grassland. Grassland management leads to a better stock: Bad grasses are pulled out and space is created for high quality feed grasses, herbs and legumes.

### FOR MAXIMUM QUALITY AND YIELD

Gain the potential of your fields. With the Grassland Harrow from APV you get the optimum out of your grassland and improve your field stocks. The Grassland Harrow removes unwanted grasses, aerates the soil and stimulates the natural formation of a multiplicity of plant stocks.



## TECHNICAL DETAILS



### #01 SHAPE OF THE TINES



#### *Desired tilling results*

- Long tines create a high passage and allow faster driving with less problems in connection with blockage.



### #02 THICKNESS OF THE TINES



#### *Perfect cooperation<sup>1</sup>*

The harrow consists of four tine rows:

- The two frontal tine rows are equipped with cranked 10 mm (optional 12 mm) spring tines. These tear the sward and remove unwanted grasses, thatching as well as mosses.
- The two rear tine rows are equipped with cranked 8 mm spring tines. These separate the soil from the tilled material, work seed into the soil and produce a fine soil (soil closure for the seed).



<sup>1</sup> APV exclusively offers the combination of two rows of strong and two rows of weaker spring tines. This is unique in harrow technology.





## #03 INCLINE ADJUSTMENT OF THE TINES



- Easy adjustment of the aggressiveness of the strong front tines using the feeler wheels.
- You can adjust the inclination of the 8 mm tines in the third and fourth tine rows using the bracket with the hole pattern (4 stage adjustment range of 33° in 11° steps).

Our recommendation:

- For hard and dry ground, choose a steep tilt of the tine (= aggressive processing - small movement of the tine).
- For light and soft ground, choose a flat tilt of the tine (= gentle processing - large movement of the tine)<sup>1</sup>.



## #04 SWIVEL AND LOCKABLE FRONT FEELER WHEELS



*Suitable for slopes at the highest level*

- The swivel and lockable front feeler wheels make the Grassland Harrow suitable for slopes. Thus, the GS is protected from being pulled downhill.

<sup>1</sup> Pay attention to the contact pressure. When the tines are set too flat, hardly any soil tillage occurs.



## #05 COMBINATION POSSIBILITIES WITH THE PNEUMATIC SEEDER



*Combination with your seeder*

- You can combine the APV Grassland Harrow with the Pneumatic Seeder PS 120 M1 - PS 300 M1 with electric, hydraulic or PTO shaft fan.



## #06 ROBUST AND DURABLE



- Till 1,000 hectares of grassland with the GS 600 M1 without exchanging a tine<sup>2</sup>.



*"The GS 600 M1 Full Edition immediately convinced me with its high impact power and the perfect tilling result through the use of two tine strengths. With the hydraulic fan I am very flexible in the scope of application, such as the seeding of catch crops in arable farming."*

*Nikolaus Franzl, Eco-farmer from Bavaria*

<sup>2</sup> APV Harrows are made of special spring steel. We point out that the service life of the tines is influenced by the soil structure.



# ACCESSORIES



## #01 LEVELLING PLATE<sup>1</sup>



*Level grassland for optimal processing*

- The height-adjustable, spring-mounted levelling plate eliminates rough bumps in the grassland.
- The height adjustment is made by two bolts at the hole pattern.
- The levelling plate is guided by the feeler wheels. This ensures quiet and uniform tilling quality.



## #02 ADJUSTMENT SPINDLE FOR LEVELLING PLATE



*Comfortable adjustment*

- GS 300 M1: The height of the levelling plate can be adjusted using the adjustment spindle.
- GS 600 M1: The middle levelling plate can be adjusted using the adjustment spindle. The height of the outer levelling plates is adjusted manually by means of bolts using the hole pattern.



## #03 WARNING SIGNS AND LIGHTING<sup>1</sup>



*Safety comes first*

- Warning panels with lights are available as accessories for safe driving.

<sup>1</sup> Included in the Full Edition!

# GRASSLAND HARROW



## #04 MOUNTING KIT FOR PS<sup>1</sup>



*In one working process*

- For the installation of a Pneumatic Seeder PS 120 M1 - PS 300 M1 with electric fan, the mounting kit available as an accessory (GS 300 M1) is required. This is included as standard with the GS 600 M1.
- The PS is placed on this attachment and fixed together with the counter plate.



## #05 PLATFORM KIT<sup>1</sup>



*Convenient access*

- A suitable platform kit is available as an accessory to easily get to the Pneumatic Seeder.



## #06 OPERATING HOURS COUNTER



*It counts*

- A vibration sensor detects the vibrations of the machine and starts the operating hours counter.

<sup>1</sup> Included in the Full Edition!



## ACCESSORIES

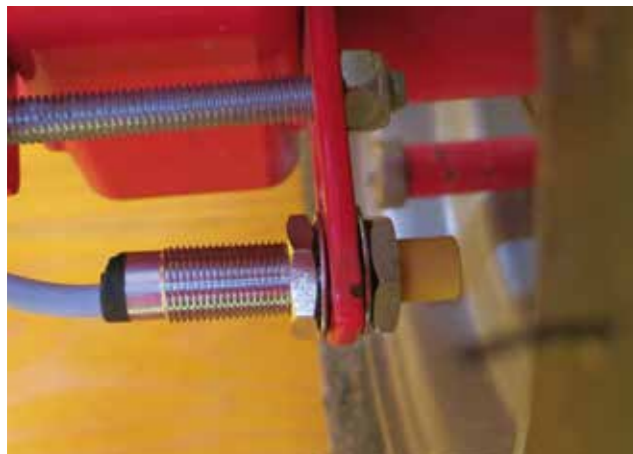


### #07 SENSOR SET WHEEL SENSOR + LINKAGE SENSOR TOP LINK<sup>1</sup>



#### *Linkage sensor top link*

- For the automatic stopping and loosening of the seeding shaft, we offer the linkage sensor top link, which is mounted on one of the two upper guide holes of the GS.



#### *Wheel sensor*

- The wheel sensor available in the set is used for the automatic adjustment of the seeding shaft speed to the actual driving speed.



### #08 FRONT MOUNTING BRACKET



#### *The optimal addition*

- The Grassland Harrow can also be equipped with a front mounting bracket on request.
- The front mounting bracket offers the possibility to combine the Grassland Harrow with a roller at the rear.

<sup>1</sup> Included in the Full Edition!

## FROM USER TO ENTREPRENEUR



### COMPANY HISTORY

For Jürgen Schöls, it was clear from the outset that his heart beats for agriculture. This is why he took over the parental farm and continues to run it today. As a farmer and handyman, he developed his Single Disc Spreader in 1997. He realised that his optimisation had potential and founded APV - Technische Produkte GmbH.

The first APV machines were hand-made by the young entrepreneur and today he employs about 150 people. The whole company works according to the motto: EVERYTHING IS POSSIBLE! Give again and again; then good comes back! The dynamic company questions, takes nothing as a given and optimises good products already in existence.

**„Every modern farmer uses APV technology on the farm.“**

*Vision of the Managing Director, CEO*

More information on our website [www.apv.at](http://www.apv.at).

#### **Imprint**

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# *Innovations for the Future*

*- since 1997 -*



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