



MACHINE CONSTRUCTION

AGRICULTURE IRRIGATION EARTH MOVING

AP ROAD MAINTENANCE MACHINES



**attachment graders - grader planes
tractor planes**

Grader Planes

The AP Grader Plane is perfectly suitable for the profiling and levelling of paved and unpaved roads and paths that are constructed of loose bulk materials like sand, ground, pebbles or gravel. Due to the universally adjustable blade all sorts of road profiles, like a roof profile, can be made in only one single pass.

Optionally the Grader Plane can be equipped with a roadside milling machine, a side plough and removable sides. These options can be controlled simultaneously during profiling.

Standard equipment

- Hydraulic blade adjustment
- Hydraulic angle adjustment
- Hydraulic swivel adjustment
- Changeable Hardox knives 25 mm
- Certified 3-points linkage
- Ripper tines
- Hydraulic wheel set
- Load sensing hydraulic control
- Delivered with approval certificate EU regulation 167/2013 and thereby providing the possibility to apply for a licence plate



Behind the two-part grader blade it gives two beams on which **ripper tines** can be mounted. The ripper tines can be hydraulically controlled to pull materials loose.

Options

- Side plough
- Roadside milling machine 900mm
- APMB-1 control box
- Removable sides, including storage rack
- Sprayed in a (RAL) color of choice

The AP Grader Plane can optionally be equipped with removable **sides**. On both sides the blade will then be provided with sides in order to keep more materials in front of the blade. Thanks to the set of sides no material can get lost to the sides. At the bottom of the side it gives a movable part that follows the profiling with a support skid. When the sides are not being used they can be stored in the storage rack that is supplied as standard.

The optional **side plough** can be used to plough a drainage channel / trench to prevent water puddles on the road profile. An advantage is the possibility to use the grader blade for profiling in the same track, however at an appropriate speed, walking space (<5 km/h).



Instead of ploughing a ditch it is also possible to mill a raised verge to improve the draining. A high roadside can lead to poor draining and the growth of plants and grasses. To solve that problem the AP Grader Plane can optionally be equipped with a **roadside milling machine**.

Technical specifications Grader Planes

Type	Working width cm	Blade height cm	Max. speed km/h	Weight kg
GP 70/3500	350	70	40	2900 - 4380

Necessary

- Power supply 1 x 12V
- Load sensing
- 1 Double functioning hydraulic free return valve (when equipped with optional roadside milling machine)
- Floating position on tractor
- Necessary hydraulic power : 20 l./min. - 160 bar (max. 80 l./min. - 210 bar)
- Tractor with an empty curb weight of at least 8000 kg and a three-point linkage cat. III



Attachment Graders

The AP Attachment Graders are extremely well suited for precision grading of surfaces in for instance road construction and forestry. Thanks to the forward driving direction the driver has a good view on the work. A significant advantage is that the tractor/skid-steer/wheel loader drives on the already slid lane so in the first pass deviations in the result are minimal, the driver's comfort is optimum and it is possible to drive at high speed.

The grader blade can directly be put on the desired depth. In only a half pass a flat subsoil is ready so one can immediately start working or driving. When the grader blade is adjusted to slope it is possible to create a roof profile of for instance a sand or gravel road in one single pass, forwards and backwards.

The AP Attachment Grader is easy to couple to each self-propelled vehicle and is easy to operate by manual, laser or GPS control.

Standard equipment

- Changeable Hardox knives
- Height, side shift and blade rotation
- Black-white valves incl. joystick control
- 2 Stainless steel receiver masts
- Electric/hydraulic control

Options

- 100% Proportional control
- APMB-1 box (always proportional)
- Laser control and components
- AP slope sensor
- Topcon sonic tracker
- Machine receivers
- Extendable masts with scaling
- Safety valves for harsh conditions
- Hydraulic doors
- Fixed sides (curved)
- Hardox knife as blade protection incl. storage
- Sprayed in a (RAL) color of choice



Technical specifications Attachment Graders

Type	Twister I	Twister II	Twister III	Tornado	Hurricane
Wheel loader requirements	< 1,8	1,5 - 3,6	3,2 - 5,5	4,5 - 10	< 18
Blade width mm	1600/1800	200/2200/ 2400	2400/2600/ 2800	2200/2600/ 3000	3000/3300/ 3600
Blade height mm	400	450	450	580	580
Overall length mm*	2110	2500	2500	3700	4400
Overall height mm	1100	1300	1300	1700	2200
Wheel base mm	1100	1200	1200	1600	1600
Blade rotating angle	25° l/r	30° l/r	30° l/r	46° l/r	50° l/r
Height/thickness knife mm	100x16	100x16	100x16	150x15	150x15
Range side shift mm	+300/-300	+400/-400	+400/-400	+450/-450	+600/-600
Cutting angle blade °	-5/0/5/10	-10/-5/0/5/10	-10/-5/0/5/10	-10/30	-10/30
Elevation range mm	285	300	300	600	700
* exclusive of quick attachments					

Necessary

- Power supply 1 x 12V
- 1 Double functioning hydraulic free return valve
- Necessary hydraulic power : 30 l./min. - 160 bar (max. 60 l./min. - 200 bar)



Twister



Tornado



Hurricane

Attachment Graders

Tractor Planes

The AP Tractor Plane is used for the levelling and repairing of sandy paths, verges, slopes, ditches etc. Thanks to the hardened Hardox knife and the optimal blade curing only a low necessary power is required.

This solid machine can be adjusted electrically/hydraulically from the tractor at every possible way, which makes it possible to work under any desired angle. The swiveling wheels (depth adjustment) are infinitely adjustable by spindle adjustment.

Standard equipment

- Changeable Hardox knife
- Electric/hydraulic control
- Quadruple black/white controlled valve block
- Joystick box (black/white)
- Infinitely adjustable depth adjustment

Options

- 100% Proportional control
- APMB-1 control box (always proportional)
- Laser control
- Set of sides
- Broadening part L = 250 mm
- Hydraulically adjustable wheels
- Ripper tines with special 3-point linkage
- Lightening
- Sprayed in a (RAL) color of choice



With the optional **ripper tines** the ground can be cultivated (at rough and uneven surfaces), either preceding or in the same pass to obtain a looser structure. This increases the capacity of the AP Tractor Plane.



Technical specifications Tractor Planes

Type	Blade width cm	Blade height cm	Adjustment of drawbar	Blade adjustment	Slope adjustment
TS 2000	200	65	30° L & R	30° L & R	20° L & R
TS 2250	225	65	30° L & R	30° L & R	20° L & R
TS 2500*	250	65	30° L & R	30° L & R	20° L & R
TS 2750*	275	65	30° L & R	30° L & R	20° L & R
TS 3000*	300	65	30° L & R	30° L & R	20° L & R
* also available as Plus model					

Necessary

- Power supply 1 x 12V / 10 amp.
- 1 Double functioning hydraulic free return valve
- Necessary hydraulic power : 20 l./min. - 160/180 bar (max. 80 l./min. - 200 bar)

Tractor Plane model Plus

The **Plus model** is a combination of the AP Tractor Plane and the AP Grader Plane. This is a perfect profiling machine for large projects where laser control is not required.

Standard equipment model Plus

- Hydraulically adjustable finishing knife
- Changeable Hardox knife
- Electric/hydraulic control
- 100% Proportionally controlled valve block, incl. accumulator and cables
- Ripper tines
- Lighting, wideness safety signs and license plate holder



Options model Plus

- APMB-1 control box
- Sides (curved)
- Sprayed in a (RAL) color of choice

Tractor Plane model Plus



About AP

In our modern building the machines are built from the beginning to the end. We consider quality of paramount importance. We have experienced employees, two fully automated welding robots, an automated warehouse, advanced sandblasting and spraying installations and a healthy amount of knowledge and enthusiasm.

Since 1979 years AP has specialised in the development and construction of **agricultural machines**, **irrigation machines** and **earth moving machines**. Our range of products is very diverse; through years of experience and intensive contact with dealers and users we continuously attempt to improve the machines and to meet the wishes of our customers.

Last but not least we have an excellent development department where customer specific products are designed and constructed.



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Dream machine