

Metallipalvelu Hartikainen Oy is a versatile engineering workshop founded in Juuka, Finland in 2006. In addition to the subcontracting services, the company has own product ranges for industrial and agricultural contracting segment. We also offer on-site steel structure assembly services.

As a result of audited performance, we have the following certificates:

manufacturing of load bearing structures



manufacturing Rajax landmarks according to SFS4940







IKAINEN OY





Metallipalvelu Hartikainen (MPH) is a subsidiary of Tampereen Konepajat Oy. The Group employs 250 professionals in ten factories at different locations in Finland.

MPH designs, manufactures and sells it's products for contractors and agricultural users under brand name MPH products. The products are grader, screw leveler, bale trailer, heavy equipment trailer, snow blower, ditch plough, small wood collector and mulcher.



Metallipalvelu Hartikainen has certified ISO9001 management and ISO14001 environmental management systems.



The Production facilities consist of 2500 m2 steel structure manufacturing workshop with 5 ton crane capacity. For assembly we have a dedicated 800 m2 factory building. Third facility we have is a state of the art paint shop with environmentally safe wet painting technologies.

CONSTRUCTION

Durable products for demanding conditions



GRADER 5.3

The multipurpose trailed grader for leveling roads, agricultural fields, peat production areas and other areas. High strength steel is used in manufacturing of the equipment to ensure a long service life also in harsh operating conditions. All functions are hydraulically adjustable. The wings are equipped with overload valves to prevent damages in case of collisions. Both wings can be individually adjusted and the frame can be tilted to enable cambering.

Optional equipment:

- Wing extensions
- Double-tilt leveling laser
- Trimble GPS height automation
- Pin blades
- Firefighting equipment
- Extra-long cylinders for wings
- Stone collector including 2x800 kg additional weights (road version), total weight 4000 kg





TECHNICAL SPECIFICATIONS

GRADER 5.3

| Maximum working width | 4,5 / 5,3 m |
|-----------------------|-----------------------|
| Transport width | Under 3 m if required |
| Length | 7,0 m |
| Weight | 2 900 · 4 000 kg |
| Hydraulics | 3 pcs 2-action valves |

GRADER 7.0

MPH Grader 7.0 trailed grader is intended for the same use as the smaller MPH Grader 5.3. The difference is that this bigger grader has two-element wings and the maximum working width is 7.8 meters. Thanks to the versatile hydraulics controls, the two-element wings are easy to use and quick to swing to the transport position. And of course it's bigger and heavier than the smaller grader.

Optional equipment:

- Double-tilt leveling laser
- Trimble GPS height automation





TECHNICAL SPECIFICATIONS

GRADER 7.0

| Maximum working width | 7,8 m |
|-----------------------|-------------------------|
| Transport width | Under 3,9 m if required |
| Length | 7,2 m |
| Weight | 5 080 kg |
| Hydraulics | 4 pcs 2-action valves |

DITCH PLOUGH

MPH

The ditch plough is a cost-effective alternative for opening and cleaning ditches on the agricultural and peat production areas. It can also be used for making ditches in forests for drainage. Since no power from PTO is required, the ditch plough operates with low fuel consumption. It's productivity is superior to other ditching methods since the driving speed can be up to 8 km/h. The ditch plough has versatile hydraulics controls for the plowing angle, depth, side wings and the cutter disc. The equipment works well also on stony and woody areas and is designed to withstand the high loads of the modern large tractors.





TECHNICAL SPECIFICATIONS

MP-[DITCH PLOUGH]

| Maximum width of the ditch | 1,4 m |
|----------------------------|-----------------------|
| Maximum depth of the ditch | 1,3 m |
| Weight | 1 300 kg |
| Hydraulics | 3 pcs 2-action valves |

SCREW LEVELER

The robust screw leveler that can be hydraulically adjusted to 3,5 m wide road transport position. Long frame structure reduces significantly the risk of sideways jump. The screw element is made of a wear proof steel including a self-sharpening edge. The power train is equipped with an over-torque limiter.



MPH



TECHNICAL SPECIFICATIONS



| Working width | 6,0 m |
|------------------------|-----------------------|
| Transport width | 3,5 m |
| Length | 8,8 m |
| Screw diameter | 0,65 m |
| Required engine output | 80–180 kW |
| Weight | 4 000 kg |
| Hydraulics | 3 pcs 2-action valves |

EXTENSION BOOM

14.85 3

Extension boom for increasing 21 ton excavator reach for maintaining and cleaning the water treatment structures, dredging of dikes, rivers, lakes etc.

F JATKOPUOMI

Hydraulic hose's support enables the use of a hydraulic pump or a tilt/rotator in front of the boom.



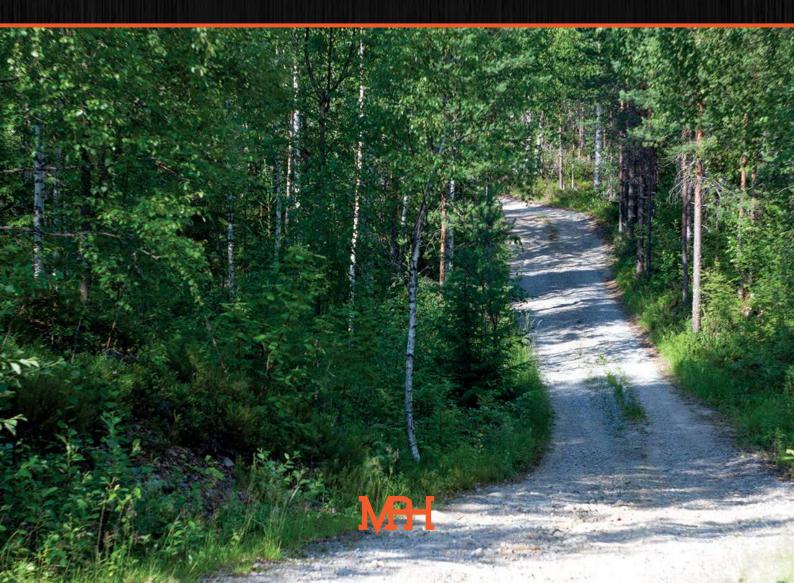




TECHNICAL
SPECIFICATIONSConstruction BOOMLength4 mSwing angle168°Swing angleNTP-10Hydraulic cylinder100/60*1000Mass900 kgDimensions (L x W x H)4,3 x 0,45 x 0,9 m



When Security, Safety and Flexibility are required for transportation



BALE TRAILER

MPH Bale Trailer is used for collecting and transporting round bales effectively. It is easy to load and unload the bales with the trailer's own mechanism. Due to the efficient design, the user does not need to tie up the load or exit the cabin during the work cycle.

The trailer is safe to use and does not damage the load/bales in any way during the transport. The size of the load space is adjustable according to the size of the bale.

Air brakes available as an option.





TECHNICAL SPECIFICATIONS



| Load space | 10 bales |
|------------|--------------|
| Length | 8,3 m |
| Width | 2,55 m |
| Height | 3 m |
| Weight | 3 800 kg |
| Tyres | 550/45 R22,5 |

TRAILER 21

A DR DUGHE

EC 160DL

MPH Trailer 30 and 30XL have got a "little brother". The total weight of the 2-axle trailer is 21 tons and the load capacity in its size class is a fine 17.5 tons. With this trailer, a 16-ton excavator can be transported with accessories without any problems.

MPH Trailer 21 has proven accessories from the larger "big brothers".

MPH Trailer 21 has a fixed drawbar and a drawbar eye that rotates. MPH Trailer 21 also comes with extension, work and road tractor lights.



TECHNICAL SPECIFICATIONS

TRAILER 21

| Robust axle system | Wheels 8x215/75/17,5, M+S (10 bolts) |
|---------------------|---|
| Load capacity | 17,5 t |
| Loading length | Length 7,2 m |
| Height | 0,93 m |
| Width | 2,55 m |
| Drawbar | Fixed |
| Lock points | 22 pcs |
| Ramps | Spring-loaded, made from S650MC, yield strength 650 MPa |
| Brakes | Hydraulic brakes on each axle, handbrake |
| Transport locations | On the front slot, places for load straps, shovel, iron bar and brush |
| Drawbar eye | Rotating, permissible load 3000 kg |
| Load deck | Pressure impregnated wooden floor (thickness 50 mm) |
| Hose holder | On drawbar |

VOLVO



MPH Trailer 21 is intended for demanding transfer of agricultural and earthmoving machinery.

The axle construction is durable and the brakes are hydraulic. Separate parking brake.

The ramps are made of high-strength steel (S650MC) and the yield strength is 650 MPa.

The front slot has a transport place for mounting accessories.

Load capacity 17.5 tons, total weight 21 tons.





| OPTIONS |
|------------------------------|
| Track guides |
| Lights |
| Ramps |
| Ramp reductions |
| Triangle platform |
| Tool box |
| Brakes |
| Bale equipment |
| eductions e platform c |

TRAILER 30

Heavy duty MPH Trailer 30 with 30 ton total weight for agriculture and construction machine and their equipment transport.

The axel design is robust and automatically adjusted hydraulic brakes in each axle, including hand brake as standard option. The tyre frames are made for trailer construction.

The ramps are made of high strength steel and trailer has 26 pcs of tie down rings.

The drawbar has springs and drawbar eye is rotary and adjustable. MPH Trailer 30 is delivered with Led agriculture tractor lights. MPH Trailer 30 also comes with turn-on, work and road tractor lights. The tie down accessories have place on the front side.



SPECIFICATION - MPH TRAILER 30 JA 30XL

0

| Robust axle system | Wheels 12x215/75/17,5, M+S (10 bolts) |
|---------------------------|--|
| Load capacity (technical) | 25 tons (30XL 24 tons), total weight 30 tons |
| Loading length | 6.8 m (30XL 8.3 m), sloping section 1.4 m |
| Height | 930 mm |
| Width | 2,55 m |
| Drawbar | Sprunged |
| Locking points | Also in the middle, tot. 26 pcs |
| Ramps | Spring-loaded, made from S650MC, yield strength 650 MPa |
| Brakes | Hydraulic and adjustable brakes on each axle, handbrake |
| Transport locations | On the front slot, places for load straps, shovel, iron bar and brush |
| Drawbar eye | Adjustable and rotating, permis- sible load 3000 kg |
| Load deck | Impregnated wood |
| Hose holder | On drawbar |
| | |



MPH Trailer 30 has a wide range of accessories and can be installed to supplied product.

Tool boxes are available in both plastic and metal. Track guides are heavy-duty and can be installed to a supplied product.

Special lights can be supplied with MPH Trailer 30 as an accessory as required.

24 pieces of feed bales can be transported with bale equipment: Hydraulic side rails, support rails on front and back and triangle platform at back.





| OPTIONS | All options can be installed after- wards |
|-------------------|--|
| Deck extensions | Transport location for planks under deck, (255 = > 305cm) |
| Track guides | Removable and adjustable |
| Axle lift | Hydraulic, available for each axle |
| Lights | Lights for tractors over 40 km/h (10 pcs), extension (4 pcs) and work lights (4 pcs) |
| Ramps | Hydraulic |
| Ramp extensions | On both sides, can be installed on inner and outer edges |
| Triangle platform | At back of deck |
| Tool boxes | Plastic · 720x280x310mm, Steel · 1250x250x400 mm |
| Brakes | Air brakes |
| Bale equipment | Hydraulic sides e.g. for transport of feed bales |
| Indicator | Load indicator |

TRAILER 30XL

- MA-[LAWETH SOXL] --

Heavy-duty MPH Trailer 30XL with a total weight of 30 tons for agricultural and construction machinery as well equipment transportation.

Axle configuration and brakes are the same as in model MPH Trailer 30.

Materials, product components and accessories comply with MPH Trailer 30 features.

This product has 9,7 m max. loading length.

Both products have M-class tires (12x215 / 75 / 17.5).

SPECIFICATION - PLEASE TAKE A LOOK AT TRAILER 30









MPH Trailer 30XL has a wide range of accessories, as in MPH Trailer 30.

Safe transportation is ensured when MPH Trailer 30XL is equipped with bale equipment - 28 feed bales can be loaded with bale diameter of 1.2 m and max. weight 750 kg.

Bale equipment includes Triangle platform at back.

The new innovation for MPH Trailer 30XL is animal transport equipment.

OPTIONS - PLEASE TAKE A LOOK AT TRAILER 30









INFRASTRUCTURE

Products that contractors want



I'm Dig

SNOW BLOWER

MPH Snow Blower is developed in cooperation with the most demanding contractors and made for professional use. Snow blower is equipped with fixed spiral and throwing impellers or with centrifugal floating impeller wings. Its' structure is designed for maximum throughput of snow. Wear-resistant plastic in the inner surfaces of the side structure contribute to the smooth snow flow. Structure is designed with using high strength structural steels. The frame is short and wide from the back. This feature makes it easier for blowing snow in the narrow areas.

Special Features:

- Hydraulic hatches with shut-off valves
- Quick-adjusting support legs
- Bolt-mounted wear blades
- · Fixed auxiliary plates or hydraulic extra wings
- Also one reversible unloading hatch









TECHNICAL SPECIFICATIONS

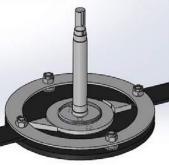


| Working width | 2,6 (2,9 and 4) m | |
|---------------------|--------------------------------|--|
| working whith | 2,0 (2,5 anu 4) ili | |
| Reduction gear for | 540 rpm PT0 | |
| | | |
| Throw base diameter | 102 cm | |
| Weight | 910 kg | |
| weight | 510 Kg | |



MPH Mulcher is intended for demanding contractor use, trimming for example the roadsides. The cutting head spins by a hydraulic motor and it is equipped with two or three interchangeable discs, that can be equipped either with blades or with chains. The cutting chains are quickly replaceable without any tools. The mulcher has an excavator or tractor boom fastening.









blade underside

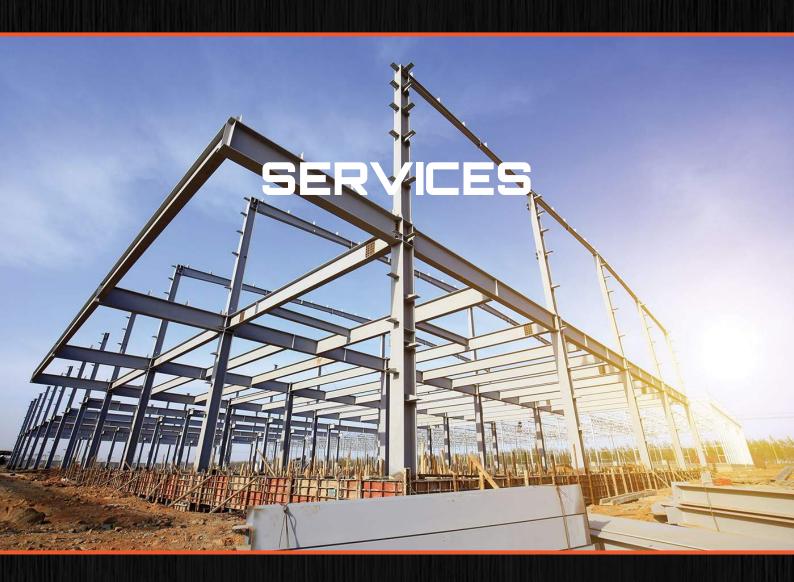


TECHNICAL S

Oil requirement

| TECHNICAL SPECIFICATIONS | |
|--------------------------|--|
| Working width | 1,7 m (two discs) or 2,25 m (three discs) |
| Weight | 510 kg |
| Hydraulic engine | Parker F12-60 |

110 l/min



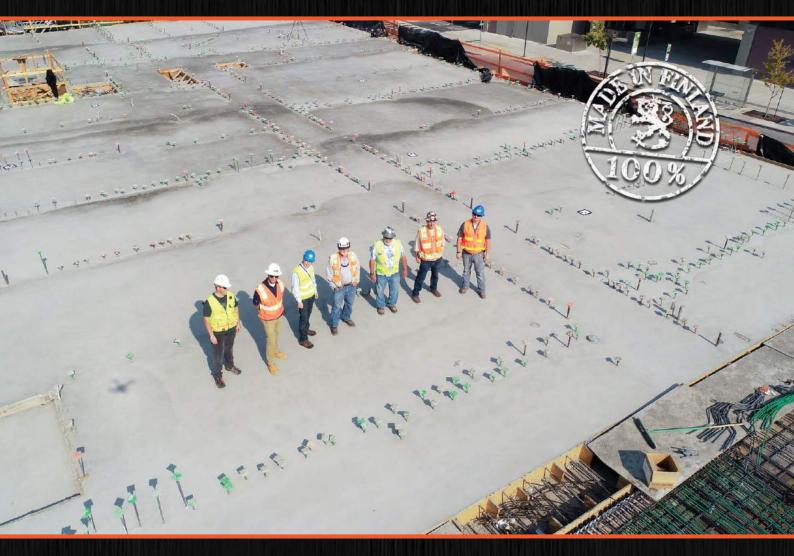
EN 1090 LOAD BEARING STRUCTURES

Steel beams, pillars, Steel stairs, railings and other certified products for industry and builders.

- SFSEN1090 EXC-1, EXC-2 and now also EXC-3 in accordance with load-bearing structures for construction and industry. The EXC-3 performance class expands delivery options to public locations.
- Load-bearing steel beam and column structures, steel stairs, railings, service levels, disabled ramps, bridge railings
- Fire protection painting of steel structures
- Production and final approval of the product audited by an external auditor
- CE approved load-bearing structures
 - We have been awarded the CPR-1140 EN 1090-1 certificate for the manufacture of steel structures



You will find comprehensive product information and images on our website www.mph-products.com



MPH (Metallipalvelu Hartikainen) <mark>is a</mark> subsidiary of Tampereen Konepajat Oy. We are a reliable partner!



METALLIPALVELU HARTIKAINEN OY

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