

 **HORSCH**

Pirk MP

INNOVATIVE FORWARDER TECHNOLOGY
FOR PROFESSIONAL FORESTRY USE





Pirk MP

CAN BE USED IN DIFFERENT SITUATIONS, EXTREMELY ROBUST AND DURABLE – EVEN FOR THE TOUGHEST TASKS

- Steering and articulated drawbar for maximum flexibility
- Up to 10 m crane range and 2.2 t lifting power possible
- 40 km/h homologation for road service possible as standard
- Extremely reliable and stable design
- Generous tyres up to 710 mm wide
- 2-wheel drive (2WD) or 4-wheel drive (4WD) possible
- Standard hydraulically extendable rear
- ISOBUS control
- LED work lighting with up to 10 headlights possible



A central focus of the HORSCH Pirk Forestry product portfolio is on robustness and durability. Especially with the highly demanding influences of forestry work, reliability, operational safety, and the performance of a machine are three essential characteristics that are indispensable. The Pirk trailers are characterized by a stable central tube frame construction, an adapted, protected bogie axle concept with high driving power, and a unique steering and articulated drawbar to meet these requirements.

The forwarder trailers MP in the weight classes from 16 to 20 t are ideal as a very flexible addition to a preceding harvester. Especially in smaller structures or with lower cubic meters of wood to be forwarded, the advantages of the tractor-forwarder combination outweigh those of a forwarder. Due to the standard option for a 40 km/h homologation for road service, the vehicle can be moved on roads comparatively quickly and cost-efficiently. The range of action can be significantly increased, especially in case of beetle infestation and wood volumes below 1 000 m³. At the same time, both the forwarding and the immediate transport of the infested material (bark beetle-infested or infestation-prone wood) can be carried out to a central storage site that meets the distance requirements for containing the bark beetle infestation.

The forwarder trailers are ideal for heavy-duty use in the forest by forestry companies as well as forest owners due to their high payload, professional and stable cranes with a wide range, efficient hydraulic control, and easy operation. With the option of a crane winch, remote control, or the use of a brushwood rack, the Pirk MP forwarder trailers are also ideal for motor-manual tree felling or problem tree felling, including the complete removal of trunk and branch material. Additionally, due to their flexibility on the road, the HORSCH Pirk machines are increasingly used for municipal or landscape maintenance tasks as well as for the maintenance of forest edges, routes, and field copses.



By lowering to the end stop, the drawbar is secured against lateral movement.



On field and forest tracks, the wagon is lifted via the hydraulic drawbar for more clearance.

Pirk steering and articulated drawbar



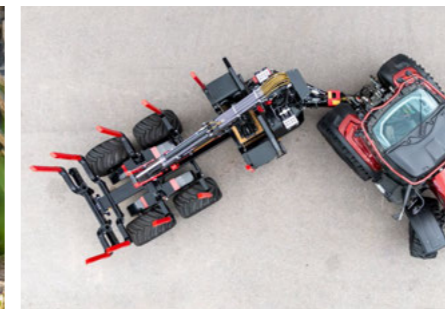
A central feature of the HORSCH Pirk machines is the hydraulically adjustable drawbar which allows for moving the trailers sideways by up to 104 cm ($\pm 33^\circ$ lateral steering angle) and which can be raised or lowered by \pm approx. 40 cm. The driver, thus, can control the trailer perfectly in difficult terrain and, for example, cross steep slopes or ditches. In addition, lowering the drawbar provides a much better view of the loading area during loading and unloading. This makes the loading process considerably easier, especially if the wagons are full or if two 3 m timber stacks are transported.

The drawbar lock for road transport can be operated comfortably in the cabin by activating the control unit by lowering the cylinders of the drawbar. No additional pin lock is required as the vehicle is centred by the mechanical end stop of the two hydraulic cylinders of the drawbar and is secured against lateral movement.

- Lateral offset by 104 cm and height adjustment of approx. 40 cm possible
- Heavy cardanic swivel joint for long service life and low wear of the frame and drawbar components
- Straight transfer of the vertical load via the drawbar cylinders to the linkage point for utmost protection of the drawbar pivot points
- Hydraulic support leg function is possible by moving the drawbar
- Internal hose lines for utmost protection when working in the forest



In the lowered position, the lateral skidding of the vehicle is prevented by the mechanical end stop of the cylinder.



Utmost manoeuvrability due to large steering angle of the drawbar



The forwarder can be laterally shifted by up to 104 cm with the drawbar

Bogie transport wheels



Bogie transport wheels with a swivel range of up to $\pm 20^\circ$

The bogie axle concept impresses due to the lowest possible suspension to increase the stability of the vehicle. To prevent damage caused, for example, by branches, the axle is built solidly, all components are internal and completely encapsulated. For the bogie axles, a single axle drive (2WD) with 3 t shear force or a double axle drive (4WD) with up to 6 t shear force is available.

- Low suspension of the bogie axles for a low center of gravity and high stability
- Swivel range of the bogie axle up to $\pm 20^\circ$ ($\pm 17^\circ$ for 16 MP) in fully loaded condition and with the largest tyres possible
- Fully encapsulated design for maximum protection of all internal components
- Very robust design for maximum stability and durability
- Optional single-axle (2WD) or double-axle (4WD) drive available



Brake load adjustment at the drawbar



Pirk 20 MP in transport position

Traction drive

- Single-axle (2WD) or double-axle (4WD) drive possible
- Piston diaphragm wheel hub drive with a pressure of up to 350 bar
- Wheel drive active up to 6 km/h with a driving power of up to 6 t
- By disengaging every second piston in the wheel motor drive, operation up to approximately 12 km/h is possible with halved power
- Low-wear operation due to targeted hydraulic control which safely holds the pistons in the working position when the drive is active
- Immediate automatic deactivation of the drives by activating free return when driving speeds are exceeded
- Hydraulic differential lock possible with two-axle (4WD) drive



BlackBruin wheel drive on the rear axle of a Pirk 20 MP forwarder trailer

Power take-off (pto) shaft drive

All wagons with wheel drive or mounted crane are supplied with oil via a pto-shaft pump. It is integrated in the front part of the drawbar, protected from damage, and is driven by a short drive shaft with a wide-angle joint. For the traction drive, up to 350 bar of hydraulic oil pressure is provided.

- On-board hydraulics with certified bio-oil filling standard
- Load sensing controlled on-board hydraulics with 350 bar pressure for wheel drive for utmost efficiency



Pto-shaft pump installed in the drawbar for driving the onboard hydraulics

Cranes



The cranes for the MP forwarder trailers can be configured in different weight classes with ranges from 8 to 10 m to match the various trailer sizes. The hydraulic control is designed for smooth and fluid movements. Moreover, the speed of the individual movements remains constant, regardless of the load that has to be carried, even when controlling several functions simultaneously. For road transport, the double telescopic cranes can be placed on the frame if the vehicle is empty. This completely relieves the crane support and the swing gear.

- Double telescopic cranes with optimised crane kinematics adapted to the trailers
- Complete lowering and relieving of the crane on the loading platform is possible during empty drives
- Separate hydraulic control concept for fluid and smooth movements
- Control of several functions simultaneously at a constant speed regardless of the load that has to be carried
- Completely protected hose guide up to the crane tip



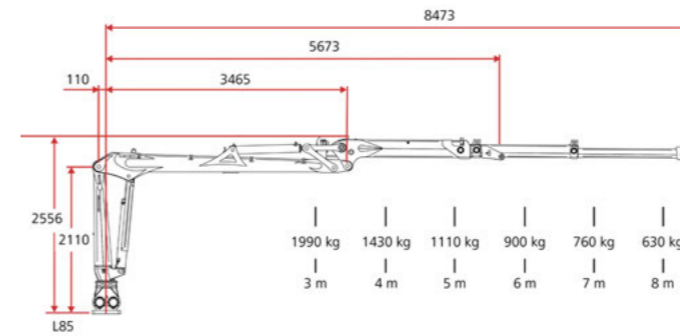
Swivel range up to 400° also allows for working in front of or next to the tractor



IB 9800.L10 with up to 10 m range and 2.2 t lifting power with an outreach of 4 m

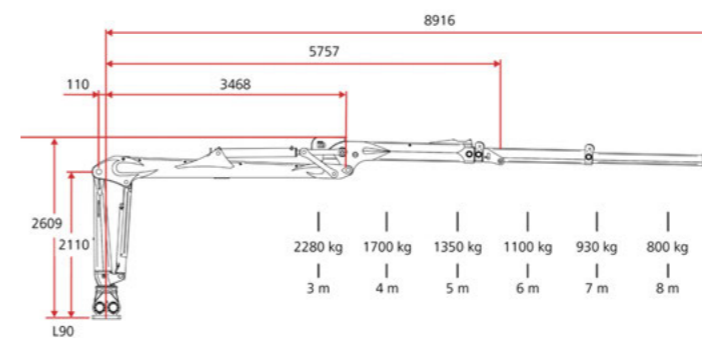


All cranes are equipped with a double telescopic extension.



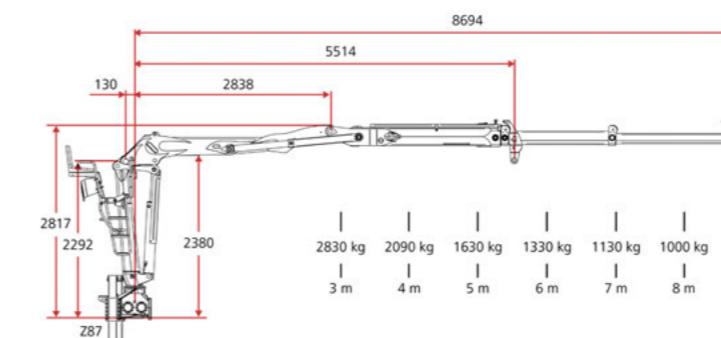
IB 6800.L85

- ONLY for Pirk 16 MP
- Double telescopic extension with a maximum range of 8.5 m
- 1 500 kg lifting capacity with 4 m outreach



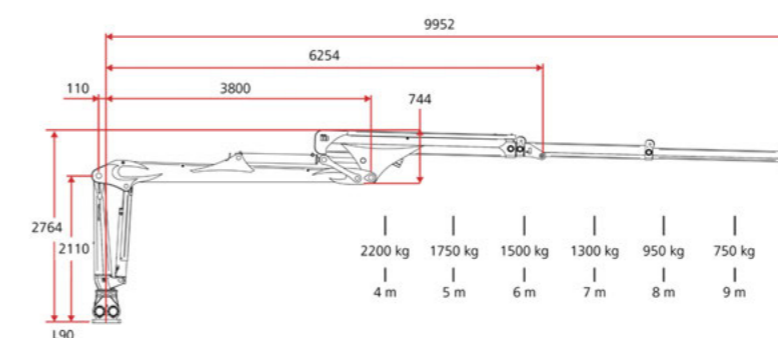
IB 7800.L90

- ONLY for Pirk 16 MP
- Double telescopic extension with a maximum range of 9.0 m
- 1 700 kg lifting capacity with 4 m outreach



IB 9000.Z87

- ONLY for Pirk 16 MP
- Z-crane: park position of the crane in front of the headboard
- Double telescopic extension with a maximum range of 8.7 m
- 2 090 kg lifting capacity with 4 m outreach



IB 9800.L10

- For Pirk 16 and 20 MP
- Double telescopic extension with a maximum range of 10 m
- 2 200 kg lifting capacity with 4 m outreach

Grapple



Grapple with various dimensions ideal for all activities in the forest

- Wood and brushwood grapple with opening widths from 155 to 188 cm
- Optional quick-change system for comfortable changing of tools
- Protected hydraulic lines and damped hydraulic cylinders
- Optimised design for highest solidity and maximum stability

Different grapples are available for the cranes of the Pirk forwarder trailers. Alternatively, a quick-change system for different tools can also be selected. The grapples are characterized by high stability and an optimised design to operate with minimal wear, safely, and efficient. The grapples can operate with a working pressure of up to a maximum of 250 bar.



High clamping area and firm grip for efficient loading operations



During road transport, the grapple is attached behind the vehicle

Extendable rear end

The forwarder trailers are equipped with a hydraulic push rear end. Thus, the last pair of stakes can be extended via a separate tractor control unit. Hydraulics and electrics are fully protected and integrated into the central tube frame. The cables are guided in a controlled way by a drag chain during extension and retraction to sustainably prevent damage and cable breaks. The length of the loading platform can be extended by 1.20 m when the rear is extended. A transport of two 3 m timber stacks is thus easily possible.

- Hydraulically extendable by 1.20 m
- Lighting system integrated into the push rear end, no manual adjustment required for road transport
- Loading of two 3 m timber stacks possible without any problems



Push rear end fully extended



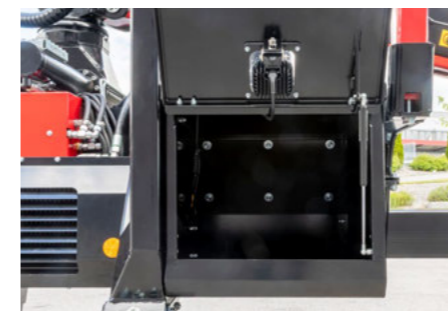
A-column support integrated into the front grid



Tyres up to 710 mm wide and a diameter of 117 cm



For optimal rear visibility even when fully loaded



Large storage compartment for complete forestry equipment



WorkLight: protected crane headlight as an option



Protected installed lighting system

TECHNICAL DATA



Pirk MP	16 MP	20 MP	20 MP S
Transport width (m)	2,46 - 2,46	2,52 - 2,74	2,52 - 2,74
Transport height empty (m)	3,36 - 3,61	3,40 - 3,40	3,40 - 3,40
Transport length empty (m)	6,94	6,78	6,34
Max. permissible total weight (t)	16	20	20
Max. admissible axle load	6 500 (1. axle) + 6 500 (2. axle)	8 000 (1. axle) + 8 000 (2. axle)	8 000 (1. axle) + 8 000 (2. axle)
Max. admissible vertical load (kg)	3000	4000	4000
Drawbar swivel range (°)	± 33	± 33	± 33
Drawbar max. lateral offset (cm)	104	104	104
Drawbar stroke (mm)	± 440	± 440	± 440
Central tube frame W x H (mm)	300 x 200	400 x 200	400 x 200
Length of the loading area (m)	4.23 (with extended rear 5.43)	4.26 (with extended rear 5.46)	4.46 (with extended rear 5.66)
Front grid area (m²)	3,10	3,70	3,70
Tyres	600/40 R 22.5 or 600/50 R 22.5 or 710/40 R 22.5	600/40 R 22.5 or 600/50 R 22.5 or 710/40 R 22.5	600/40 R 22.5 or 600/50 R 22.5 or 710/40 R 22.5
Transport wheels	Bogie	Bogie	Bogie
Bogie pendulum path (°)	± 17	± 20	± 20
Track width (mm)	1900	1900	1900
Max. thrust of the traction drive (t)	3 (2WD), 6 (4WD)	3 (2WD), 6 (4WD)	3 (2WD), 6 (4WD)
Horsepower requirement (kW/hp)	90/120	110/150	90/120
Power take-off (pto) shaft drive	Load Sensing pump (1 3/8" - Z6)	Load Sensing pump (1 3/8" - Z6)	Load Sensing pump (1 3/8" - Z6)
On-board hydraulics system pressure (Bar)	Max. 320	Max. 320	Max. 320
DA control devices pto-shaft drive	2 DA drawbar, 1 DA push rear end	2 DA drawbar, 1 DA push rear end	2 DA drawbar, 1 DA push rear end
Implement attachment ball head	K80	K80	K80

CRANES

Cranes	IB 6800.L85	IB 7800.L90	IB 9800.L10	IB 9000.Z87	Palfinger M80 F101
Lifting capacity with 4 m reach (kg)	1500	1700	2200	2090	1880
Swing torque net (kNm)	19	20	26	26	29
Swivel range (°)	400	400	400	425	385
Maximum range (m)	8,50	9,00	10,00	8,70	10,10
Crane weight (kg)	1500	2000	2250	2250	1760
Lift moment net (kNm)	60	69	88	91	75
Maximum operating pressure (Bar)	210	220	240	230	240
Crane winch tractive power (t)	2,2	2,2	2,2	---	---



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All specifications and diagrams are approximate and not binding. Technical features and design are subject to change.

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