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*Photos available upon request*

**FURTHER INFORMATION:**

Timo Mattila  
Product Marketing Manager  
+358 40 356 8234  
timo.mattila@valtra.com

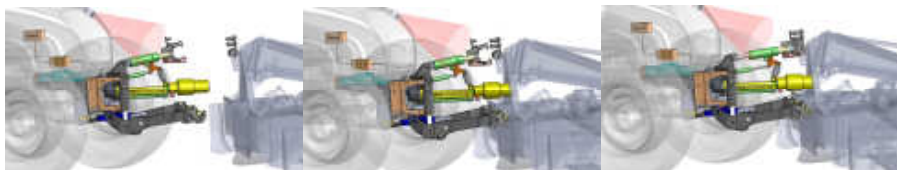
### **The new generation concept for hitching front implements from driver's seat, Valtra LH AutoLink**

Manually attaching and detaching implements is one of the riskiest and most time-consuming areas of tractor operation. The Valtra LH AutoLink makes this work much safer and easier, without compromising the time used for the operation. Valtra LH AutoLink and EcoPTO provide a fully mechanised solution for three-point mounting of front implements, including coupling of PTO shaft, hydraulics and electronics. The system also includes a power shift PTO transmission with three rotation speeds, optional change of rotating direction, overload protection and automatic free wheel clutch operation. All these operations are controlled from the operator's seat.

Hitching of implements, all related hydraulic and electric/electronic connectors without leaving the driver's seat has been on the agenda of the industry for years, in fact decades. The tractor already has many sensors and control systems and anyway, the tractor is the source of all mechanical, hydraulic and electric energy for the implements. The coupling of three-point linkage, hydraulic/electric connectors plus PTO shaft has been solved in a holistic way with Valtra LH AutoLink; the implement connection can be made from the driver's seat safely and effectively.

The intelligent EcoPTO offers more PTO speeds for front implements. The nominal PTO speed of 1000 rpm can be reached at a choice of engine speeds (1300, 1600 & 2000 rpm), giving better matching for a wider range of implements, not forgetting the remarkable fuel savings. The system can be further enhanced with an optional PTO shuttle to change the rotating direction. The integrated and pre-set automatic overload protection and free wheel clutch operations provide easy and automatic on line control of the driveline and implement running. Integrating all these operations to the transmission system makes a revolution in PTO drive shafts, providing impressive savings through rationalising the range of implement specific PTO drive shafts to just one shaft per tractor.

Valtra LH AutoLink is the first really complete and fully mechanised concept for front linkage coupling, where the driver can use a remote control unit to mount and disconnect the complete implement assembly, together with its PTO drive shaft, auxiliary hydraulics and even the electronic couplings. All achieved from the driver's seat and without touching any of the mounting parts. Valtra LH AutoLink and EcoPTO systems are modular in such a way that it is possible to use the EcoPTO alone without AutoLink and AutoLink without EcoPTO. Valtra LH AutoLink concept will be further developed in Valtra N Series tractors.



### **Valtra Versu, Direct and S Series in full serial production with advanced features**

Valtra Versu, Direct and S Series tractors are in full serial production with many advanced features. The new Valtra models were introduced last year and are now in serial after the production ramp up phase. During the ramp up period the new models have been updated with many new features such as an advanced manual drive mode (Direct), engine brakes during shuttle operation for smoother direction changes (Versu and Direct), advanced control of engine rpm and speed cruise with two memory locations for each, and many more.

The five-step powershift Versu models and stepless Direct models in both N and T Series are equipped with modular and modern Valtra transmissions. The four speed ranges of the Direct transmission have been adjusted to suit all types of tractor operation. Each range starts from 0 km/h (approx. A: 0-9, B: 0-18., C: 0-27, D: 0-50 km/h), with the top speed being achieved at 1600 engine rpm.

The hydraulics of the Versu and Direct models has been praised by the farmers and contractors. The hydraulic system offers record-breaking 160 l/min output of hydraulic oil to up to six valves at the back of the tractor and three at the front. Hydraulic and transmission oils are separate, which balances the temperatures inside the transmission and reduces the risks of oil contamination.

Valtra S Series has also received a warm reception by the customers. Especially AGCO Sisu Power SCR (Selective Catalytic Reduction) engines have been praised because of their efficiency, low fuel consumption and up to 370 horsepower. The fuel consumption of the SCR engine is some 3-7 per cent lower than competitors. Not to speak of the environmental friendliness of the SCR engines, as SCR system converts nitrogen oxides to harmless nitrogen and water.

The new Valtra models share common, state-of-the-art precision farming systems like Auto-Guide<sup>2</sup> automatic steering and Isobus implement management. The new generation Auto-Guide<sup>2</sup> offers a new TopDock receiver with readiness not only for GPS, but also for Glonass and Galileo satellite signals, and a new console which can also be used for Isobus implement management.



## Valtra S with steer-by-wire TwinTrac

The TwinTrac reverse drive controls available on Valtra's S Series allow the tractor to be driven in reverse just as easily as forward operation. The combination of excellent visibility and advanced controls, most concentrated on the armrest, offers ideal ergonomics for reverse driving. Many implements benefit greatly from the higher level of manoeuvrability of the S Series when operated in reverse. Wide mowers and forest mulchers are typical examples of implements that can be utilised in this way – with improved efficiency compared to normal driving.

To facilitate reverse driving, a second steering wheel is located in the rear of the cab, along with the shuttle lever and pedals similar to the front. The steering column is adjustable in all directions, also sideways. Turning the seat to the rear automatically switches the rear steering and transmission controls to the right driving direction. The multifunction Valtra ARM armrest naturally turns with the seat.

Reverse driving is a well known Valtra feature. In the new S Series the system utilises a new type of orbitrol valve. The new valve responds to electronic commands, so there is no need for a separate steering valve or hydraulic pipe works on the rear side of the tractor cab. The steering commands are read by sensors and sent via CAN-bus to the steering valve.

The same technology also enables steering controlled by the AutoGuide<sup>2</sup> satellite navigation system, as well as Quick steering, which allows the reaction speed between turning the wheel and actual steering to be adjusted. Quick steering and readiness for AutoGuide<sup>2</sup> are standard features on the new Valtra S Series range of tractors.

The new electronic steering makes the reverse drive controls ergonomic and adjustable. The steering wheel can be adjusted both up and down and sideways, which makes it possible to fit different implement controls.

Reverse drive equipment is widely used on Valtra tractors. A high power PTO, all hydraulics and heavy-duty power lift are available when implements are fitted to the rear. Visibility to the implement and work area is excellent, so the work can be done efficiently with less stress on the driver. Mowing with wide mowers, forage harvesting, special cultivation and all forest work are typical tasks that can be performed more effectively with reverse drive or that cannot be performed at all with traditional forward driving.

All the driver needs to do to use reverse drive equipment is to turn the driver's seat. The TwinTrac reverse drive system can be ordered as a factory fitted option, which guarantees the same high levels of safety as the other tractor functions.



## Valtra's Versu, Direct, S and Advance models share a common user interface

Driving a tractor in work situations is not always an easy task. The vehicle can be moving in all directions and all the time changing acceleration. Furthermore, it is often necessary to hand over the valuable machine combination to an operator who has never driven it before. To meet this challenge Valtra has developed two main innovations: a new design-patented armrest control, and similar control functions on different transmissions.

The Valtra ARM armrest combines a solid handgrip with ergonomic push button, rocker switch, rotating knob and slide switch controls. No other control system on the market offers such a solid holding position for the operator's hand. This holding position is especially important in difficult terrain and in conditions where the operator has to concentrate on steering. In addition, the armrest can be easily lifted by means of a hand rail, which is especially useful when using Valtra's genuine TwinTrac reverse drive system that is available as option on N, T and S Series models.

Valtra's second innovation is the introduction of similar control functions on different transmissions. Altogether four different transmissions can be controlled by this system:

- 1: The three-step powershift transmission on Valtra Advance models
- 2: The five-step highly automated powershift transmission on Valtra Versu models
- 3: The sophisticated CVT transmission on Valtra Direct models
- 4: A new generation of the first and trendsetting CVT transmission used in tractors on Valtra S models

The first three transmissions were developed and are built at AGCO's Suolahti factory, whereas the last was developed and is built at AGCO's Marktobendorf factory.

In the industry there has never been such a possibility to operate such a wide range of products, partly made in different factories, using one user interface. For a customer with several tractors, a contractor or fleet owner, this makes it much easier to interchange between tractors and drivers. In addition, the learning time for new operators is shorter.

These four Valtra model ranges also share the state-of-the-art Advance II hydraulics and optional Auto-Guide<sup>2</sup> automatic steering system. Advance II hydraulics offer full electronic control and very high output, as well as separate oil for the working hydraulics on Versu, Direct and S models. The new Auto-Guide<sup>2</sup> automatic steering system featuring satellite navigation with hands-free operation also offers a new and simplified user interface, as well as many improved features compared to earlier systems. The new console can also be used for ISOBUS compatible implement management.



## Valtra celebrates 30<sup>th</sup> anniversary of co-operation between Volvo BM and Valmet

This autumn Valtra celebrates the 30<sup>th</sup> anniversary of co-operation between Volvo BM and Valmet. Valtra (formerly Valmet) acquired Volvo BM tractor operations 30 years ago.

The tractor market in Europe became saturated at the end of the 1970s and Volvo BM made a strategic decision to concentrate on construction machinery. In March 1978, Per Gyllenhammar, Managing Director of AB Volvo, invited the Managing Director of Valmet, Jaakko Ihamuotila, for negotiations and a Letter of Intent was published on November 14<sup>th</sup>, 1978. The final agreement was signed on 1<sup>st</sup> October 1979. This cooperation agreement was the biggest industrial deal between Sweden and Finland so far.

The deal was favourable to both parties. Volvo BM left the tractor business, but delivered cabs and transmission parts to Valmet, enabling a smooth structural change in production. Valmet entered new market areas, the most important being the Scandinavian countries, the Netherlands, France and some overseas markets. Valmet could increase its production volume at the Suolahti, Finland plant, and conditions were favourable for the Linnavuori, Finland engine plant (now AGCO SISU POWER).

Technically, Volvo BM had more experience with partial powershift transmissions, while Valmet was experienced in synchronised transmissions and 4WD solutions. Both were forerunners in safety cab technology, Volvo emphasising comfort, Valmet ergonomics.

The new jointly-developed tractor, the Volvo BM Valmet, got the best of both. For example, the cab was developed in tight collaboration with the Volvo BM Hallsberg cab factory, the new Valmet engine D Series by Valmet Linnavuori works. The design was by Volvo Product Design in Gothenburg, led by the legendary chief designer Jan Wilsgaard, who was in charge of Volvo car design from the Volvo Amazon to the 700 Series. The Volvo BM Valmet tractors were introduced to the press at Eskilstuna in May, 1982 and the production started in Suolahti plant in Finland late 1982.

The most important outcome of the cooperation was the process that joined two industrial cultures, the values of Volvo, quality and safety, combined with the innovativeness and precision manufacturing methods of Valmet. The leading principles were Scandinavian quality, reliability, flexibility and respect for customers.

The recently launched innovations, Valtra Versu with the ultimate powershift and unique driving experience as well as the easy to use Valtra Direct with the Nordic CVT, designed and produced by Valtra, are the latest evidences of the Scandinavian heritage. Uniquely customised, with specific and demanding customer applications they offer high level of performance, reliability and productivity. They are based on this historic agreement, signed 30 years ago.

