VPTO
Variable Power Takeoff
Powersplit Transmission

Powertrain

Power | Power Distribution | **Hydraulic Pumps** | Control Valves | **Hydraulic Motors** | **Torque/Speed Transmission** | Motion



The VPTO transmission is a continuously variable transmission designed to convert a constant PTO input speed of up to 1000 rpm into an output speed range from 0 to 1400 rpm.

As the input shaft accelerates from standstill to its maximum speed, the transmission ratio approaches infinity, resulting in extremely low thermal load on the PTO clutch of the driving vehicle (e.g., agricultural tractors). The transmission ratio between the input and output shafts is controlled by adjusting the displacement of the hydraulic pump and hydraulic motor.

Design characteristics

- **Hydrostatic/mechanical power-split transmission**
- **In case of overload at output shaft automatic adjustment of transmission ratio**
- **„Overdrive-function" available – Input speed 1000 rpm – output speed 1300 rpm**

Product advantages

- **Stepless adjustment of output speed from standstill to 1400 rpm at constant input speed**
- **Low torque at input shaft during acceleration phase due to infinite transmission ratio → no thermal stress on the tractor PTO clutch**
- **Wear-free variator system**
- **High efficiency due to mechanical–hydrostatic power-split design**
- **Automatic ratio adjustment to lower speeds in case of overload – protects system components**

General technical data

Nominal size	1400	1800
Recommended feed mixer size	25 – 45 m^3	45 – 60 m^3
Nominal input power	150 kW (205 hp)	190 kW (260 hp)
Maximum input power	180 kW (245hp)	220 kW (300 hp)
Nominal input speed	1000 rpm	1000 rpm
Permissible input speed range	800 - 1090 rpm	800 - 1090 rpm
Rated input torque	1400 Nm	1800 Nm
Max input torque	1700 Nm	2050 Nm
Transmission ratios	∞ to 0,71	∞ to 0,77
Output speed	0 - 1400 rpm	0 - 1300 rpm
Max output torque	5100 Nm	6700 Nm
Hydropump/-motor	CPV-065 / CMV-085	CPV-085 / CMV-115
Electronic interface	CAN-J1939	CAN-J1939
Supply Voltage	12 V DC	12 V DC
Dry Weight	323 kg	343 kg

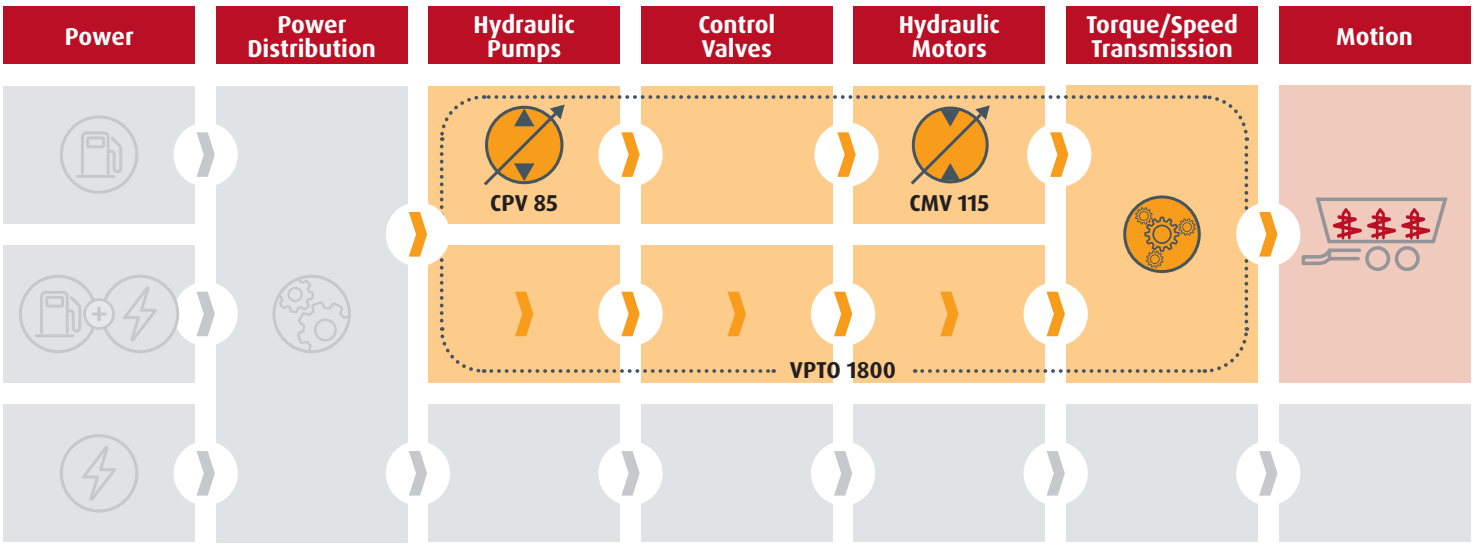
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Application example

Trailed Feed Mixer



180 – 220 **Input Power** [Range, kW]



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