POCLAIN HYDRAULICS

N°02

Poclain Driving Values for the Future

Hydrostatic transmission for Agriculture machines

Hydrostatic transmission for Agriculture machines

HIGH PERFORMANCE

500 BAR — Hydrostatic Power — Better efficiency — ↗ Max. pressure

ROAD DISPLACEMENT → FIELD DISPLACEMENT — ↗ Displacement Ratio

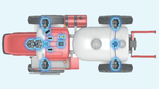
↗ Max Speed

power — ↗ Power

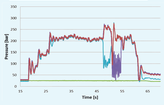
POCLAIN Hydraulics

Soil protection

To operate safely in every ground conditions without damaging the soils



TwinDrive – Evolution of pressure in 20% slope with roller



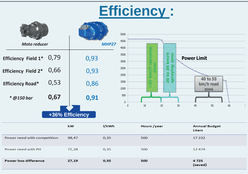
Productivity & Performances

- ✓ Up to 60 kph on the road, and up to 40 kph in the field
- ✓ Extreme grade ability Consistent Service, Parking & Secondary Brake.

The gain with Boosted Brake :

- ✓ Reduces braking distances
- ✓ A no-wear solution:
- ✓ Preserves diesel engines from over-speed :
- ✓ Easy incorporation into the machine

Efficiency :



	Moto-reducer	MHP27
Efficiency Field 1*	0,79	0,93
Efficiency Field 2*	0,66	0,93
Efficiency Road*	0,53	0,86
* @150 bar	0,67	0,91

+30% Efficiency

	$/Mt	L/Mt.	Hours /year	Annual Budget Liters
Power need with competition	98,47	0,35	500	17 232
Power need with PH	75,36	0,35	500	13 444
Power loss difference	27,19	0,35	500	4 788 (saved)

Cost of Ownership

The circuit in the field : 1 km in 2 directions

The road circuit : 14km

The gain with EcoDrive™

At 15 kph and 65 kph, the test machine equipped with EcoDrive™ software and the HIGH PERFORMANCE components demonstrate gains in term of instantaneous fuel consumption compared to the same machine with a standard software.

HIGH PERFORMANCE (blue curve) benchmark system (red curve)

Instantaneous fuel consumption

Cumulated fuel consumption

Temperature stabilization

- ✓ 20% by reducing in the hydrostatic transmission thanks to high efficiency components and in the ICE speed with the EcoDrive™ software.
- ✓ Low loses with increase of net power at wheels
- ✓ Downsizing

Reliability

- ✓ Direct drive solution with few rotating parts and robust mechanical sub components
- ✓ Wet discs friction brake with boosted hydrostatic braking lead to low wear device.
- ✓ A single fluid solution w/o frequent maintenance
- ✓ Easy & Efficient diagnostic

Driving comfort

Smoothness : Automatic or Sequential Seamless speed Shifting.

Innovative Design for suspension: A patent pending solution to combine wheel drive and suspension sliding rods with license agreements to OEM.

Quietness : Direct drive gearless wheel motors. Lower Engine RPM thanks to EcoDrive ™ software.

MHP Motor

1= First displacement 2= Second displacement 3= Third displacement		SC Distribution (B/S/Z)					
		MHP 20			MHP 27		
Max. Pressure	bar	600 500			600 500		
		1	2	3	1	2	3
Displacement	cm³/rev	2029	1268	507	2712	1695	678
Max speed	rpm	260	300	325	190	215	235
Max Power	kW	145	140	115	185	175	125

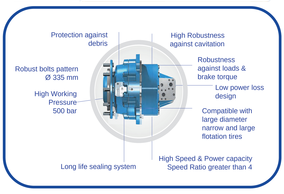
PW Pump

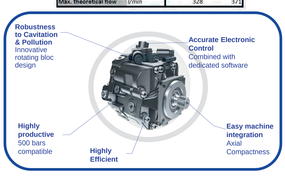
PWe Pump

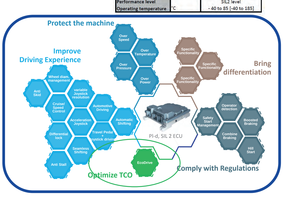
		PW/PWe085	PW/PWe056
Displacement	cm³	85,2	56,4
Max.peak pressure	bar	500	450
Max. intermittent speed	rpm	3850	3850
Max. theoretical flow	l/min	328	217

SDCT Controller

		SD-CT 200	SD-CT 300
Power supply	V	8 to 32	
Max. current	A	35 A	
Protection		IP67	
Microprocessor	MHz	32x8	
Inputs	AN4	11	17
	FREQ	3	0
	NINV	9	15
	STOR 1A	4	6
	STOR 1,6A	0	4
Outputs	PH/M 1A	6	0
	LSD 4A	0	3
	LSD 0,1A	3	3
Supply output	5V	1	
Microcontroller		2	
CAN Bus		3	
Certification		E13 10R-04 12834	
Performance level		ISo2 level	
Operating temperature	°C	-40 to 85 (-40 to 185)	







1st AXEMA-EurAgEng Conference

2017 February 25

Les rendez-vous Techniques AXEMA

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