

7 - Technical Specifications

1 - Engine

1.1 - General characteristics	460	470	480
Brand	AGCO POWER	AGCO POWER	AGCO POWER
Model	420DS	420DS	420DSA
Maximum power - ISO14396			
cv (kW)@2200 rpm	110 (82)	120 (89,4)	130 (97)
Maximum torque - ISO14396			
mkgf (Nm)@1400 rpm	43 (421)	46 (451)	50 (490)
PTO Maximum power - ISO14396			
cv (kW)@2200 rpm	93.5 (69.7)	99,7 (74,3)	113,0 (84,2)
Air intake	Turbo	Turbo	Turbo
	air / air system	air / air system	air / air system
Cylinder diameter	108 mm	108mm	108mm
Piston stroke	120 mm	120 mm	120 mm
Number of cylinders / displacement	4/4,400 cm ³	4/4,400 cm ³	4/4,400 cm ³
Injection order	1-2-4-3	1-2-4-3	1-2-4-3
Compression ratio	16,5:1	16,5:1	16,5:1
Engine dry weight	340 kg	340 kg	340 kg

1.2 - Lubrication system

Type Forced, with gear pump body. Oil filter with integral flow.

Heater exchanger Incorporated to filter head, on the left side.

Relief valve Incorporated to block, on the left side.

Quantity of filters 1

Minimum oil pressure Idling = 1 bar (14.5 psi)

Maximum speed = 4 bar (58psi)

1.3 - Cooling system

Radiator With vertical tubes and horizontal fins The system has a surge reservoir for coolant.

Engine coolant Drinkable water + Ethylene-glycol

Surge reservoir cap 0.75 bar (10.5 psi)

Water pump Centrifuge, driven by multi-V belt, self-stretched.

Thermostatic valve(s) - qty. 02

Temperature range kept: 79 to 83° C

1.4 - Air filtering system

Type Dry filter with 2 elements (primary and secondary). The system is equipped with: restriction indicator with warning light on the panel and automatic ejection system for the dust accumulated in the filter.



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1.5 - Fuel feeding system

Separating pre-filter	Separates the bigger impurities (up to 30 microns) and filters the water in the fuel.
Fuel filters	Fuel filter with parallel filtering of particles (up to 5 microns) and filters the water in the fuel. The separating pre-filters and main filtering element have a draining plug on the bottom. Use it to drain the water.
Feeding Pump	Diaphragm type, mounted on the right side of the engine . It also has a knob to perform the fuel system bleeding.
Fuel injection	pump Delphi, rotary- DP100 - Engine 420DS
Fuel cut	Through the solenoid mounted behind the fuel injection pump which operates directly over its governor.

2 - Electrical system - power and capacity

	460	470	480
Battery:			
Without cabin	100 A	100 A	100 A
Alternator:			
Without cabin	Iskra - 12 V / 55 A/h		
With cabin	Iskra - 12 V / 120 A/h		
Starter motor	Iskra - 12 V / 3.0 kw		
Instrument internal lighting: Consisting of light emitting diodes (LEDs)			
Glow plug (cold start aid - optional)			
Safety start switch	9 A		
	Standard in all models, prevents the start when the Reduced and Direct lever is set to neutral.		
Front service headlights (High beam)	60 W		
Front service headlights (Low beam)	55 W		
Rear service headlights	55 W		
Front auxiliary headlights (Standard tractors only)	55 W		
Tail lamp and brake lights	5 W		
Turn signal lamps (If equipped)	21 W		

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3 - Clutch

3a) Dual Clutch	Used in tractor with Power Take Off - PTO		
Transmission disc diameter*	330	330	330
PTO disc diameter	254	254	254
	NOTE: In dual clutch, the PTO disc is the second stage and its diameter is 254 mm. In this case, to operate with the PTO is necessary to adjust the clutch stopper to the 2nd stage.		
3b) Split torque*	Used in tractors with Independent Power Take Off - IPTO The disc diameter is the same as the dual clutch disc.		
Disc material (transmission)	Organic		
Optional	Cerametallic		
Bearing (collar) of all clutches	Constant contact type, unnecessary to adjust the pedal free travel.		
Clutch operation	Mechanical, through pedal and tie rod		

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4 - Gearbox

Type 12 x 4 synchronized type or Constant Mesch (constant engagement).

Control Through 2 side levers (side shift).

5 - Theoretic speeds achieved on the road

(In Km/h - engine in maximum power speed).

Table of theoretic speeds

Model / Version RPM / rear wheels	Gears											
	1 ^a	2 ^a	3 ^a	4 ^a	5 ^a	6 ^a	7 ^a	8 ^a	9 ^a	10 ^a	11 ^a	12 ^a
MF 460-12 speeds. 2200/23.1X30R1	2.1	2.8	3.6	4.7	6.0	7.7	8.8	11.4	14.7	19.1	24.4	31.6
MF470 2200 / 23.1X30R1	2.40	3.10	4.00	5.20	6.60	8.60	9.90	12.80	16.30	21.20	27.10	35.30
MF480 2200/23.1X30R1	1.90	2.50	3.20	4.20	5.30	6.90	7.90	10.20	13.10	17.00	21.70	28.20



NOTE:

The table above is for reference only, because the speed achieved by the tractors depend on its specific setting. Thus, always consult the decal fixed on the right side of the operation station (illustration) which contains several specific information for your tractor. See the instructions in Operation section about the interpretation of data on the decal.



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6 - Rear axle

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Crown / pinion reduction	3,889:1		
Differential lock	Through coupling sleeves: one is fixed in the differential satellite box and the other slides on the right half shaft grooves. The sliding sleeve is operated by a fork which in turn is operated mechanically by a pedal to the right of the operator.		
Final drives reduction	4,8:1	6,0:1	6,0:1

7 - Front axle

4 x 2 axle

Type	In 3 sections, gauge adjustable by a telescopic bar that allows the displacement in relation to the supporting gutter.
Toe-In	0 to 6,35 mm positive (all)
Maximum vertical judder	11° (all)
Camber / Caster	3° 30' / 0° (all)



Specifications common to all 4 x 4 axles, ZF and Carraro:

List of final drives	6,0:1
Wheels toe-in	0°
Maximum steering angle	50°

4 x 4 Axle - ZF:

Operation / model	Central / AS 3050
Bevel / gear ratio	3,721:1

4 x 4 Axle - CARRARO:

Operation / model	Central / 20.21
Bevel / gear ratio	3,74:1