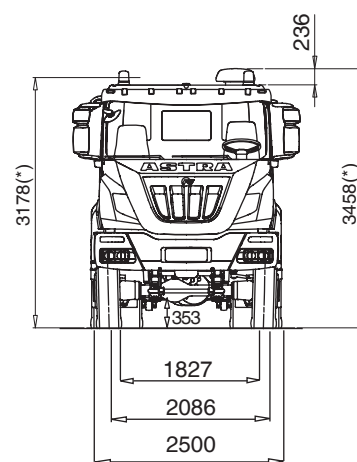
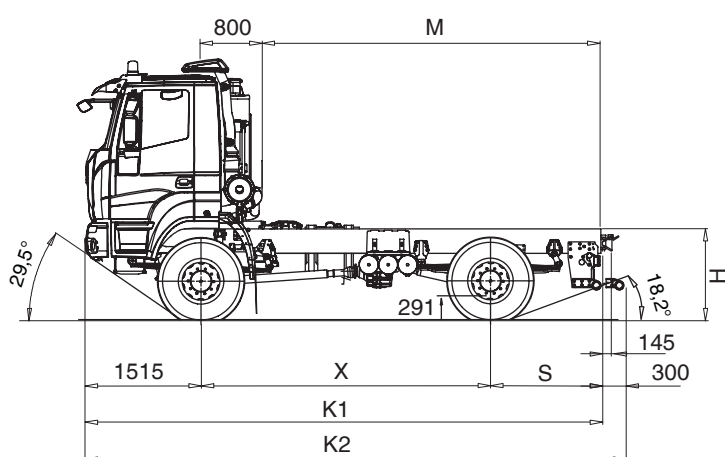


chassis 4x4
44.41 / 44.44 / 44.48



(*) Unloaded



DIMENSIONS (mm) (Tyres 315/80R22.5 156/150K)

X	K1	K2	M	S	H		TURNING DIAMETER	
					UNLOADED	LOADED	BETWEEN SIDEWALKS	WALL TO WALL
3800	6775	7075	4450	1450	1210	1103	14400	16000
4200	7575	7875	5250	1850			15700	17300
4600	8375	8675	6050	2250			17000	18600
5100	8875	9175	6550	2250			18600	20200



WEIGHT (kg)

Distribution net weight (*)			Max. technical weight			
1 st axle	2 nd axle	net weight	1 st axle	2 nd axle	Gross Vehicle weight	Gross Combination Weight
5360	2537	7897	8000 8500(1) 9000(1)	13000	22000 (2)	55000
5354	2592	7946				
5357	2659	8016				
5395	2654	8049				

Weight including oil, fuel, spare wheel, driver Kg.75

(1) With tyres 1st axle 385/65R22,5 160 J or 365/85R20164G. Other tyres available, subject to the Astra technical office approval.

(2) Only for HD9 44.48 at max speed 50 Kph. Michelin/Pirelli tyres. Higher speed are allowed with load reductions subject to the Astra Technical office approval.



ENGINES

CURSOR 13 turbo intercooler diesel injection/cycle with electronic unit injection pumps. 6 in-line cylinders. Single block head, four valves per cylinder, light alloy pistons. Total displacement: 12.882 cm³. Bore for stroke: 135 x 150 mm. Water cooling. Viscostatic cooling fan. Dry air filter with safety cartridge. Vertical muffler. Emissions according to **€ 5** regulation norms SCR (Selective Catalytic Reduction) system composed of catalytic muffler, AdBlue-tank, injection and control system.

	44.41	44.44	44.48
Model	IVECO F3B E3681D	IVECO F3B E3681G	IVECO F3B E3681F
Max. power (EEC)	302 kW (410 HP)	324 kW (440 HP)	353 kW (480 HP)
Corresponding rpm	1.900 rpm	1.900 rpm	1.900 rpm
Max. torque (EEC)	1.900 Nm (194 kgm)	2.200 Nm (224 kgm)	2.300 Nm (234 kgm)
Corresponding rpm	1.000-1.440 rpm	1.000-1.440 rpm	1.000-1.440 rpm
Turbine	WG Waste Gate	VGT variable geometry	



GEARBOX

Manual ZF Ecosplit4 technology gearbox with servoshift, 16 synchronised forward speeds + 2 reverse:
16S2220 TO for HD9 44.41/ HD9 44.44 and **16S2520 TO** for HD9 44.48.

On request:

ZF 16S2320TD - ASTRONIC ZF 16AS2601OD for HD9 44.44.

		Speed [kph] calculated at maximum power rpm (Tyres 315/80 R22,5 156/150K)																		
		Gears																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	RM	RM	
ZF 16S2220TO - ZF 16S2520TO	Gear ratios	13.80	11.54	9.49	7.93	6.53	5.46	4.57	3.82	3.02	2.53	2.08	1.74	1.43	1.20	1.00	0.84	12.92	10.80	
	Rear axle ratio with transfer 1:1.0	3.793	9.0	10.8	13.1	15.7	19.1	22.8	27.3	32.6	41.3	49.2	59.9	71.6	87.1	103.8*	124.6*	148.0*	9.6	11.5
		4.229	8.1	9.7	11.8	14.1	17.1	20.5	24.5	29.3	37.0	44.2	53.7	64.2	78.1	93.1*	111.8*	133.0*	8.6	10.3
		5.009	6.8	8.2	9.9	11.9	14.4	17.3	20.6	24.7	31.2	37.3	45.4	54.2	66.0	78.6	94.4*	112.3*	7.3	8.7
		5.558	6.2	7.4	9.0	10.7	13.0	15.6	18.6	22.3	28.2	33.6	40.9	48.9	59.5	70.9	85.0	101.2*	6.6	7.9
		6.095	5.6	6.7	8.2	9.8	11.9	14.2	17.0	20.3	25.7	30.6	37.3	44.6	54.2	64.6	77.5	92.3*	6.0	7.2
		6.588	5.2	6.2	7.6	9.0	11.0	13.1	15.7	18.8	23.8	28.4	34.5	41.2	50.2	59.8	71.7	85.4	5.6	6.6
	Gear ratios	13.80	11.54	9.49	7.93	6.53	5.46	4.57	3.82	3.02	2.53	2.08	1.74	1.43	1.20	1.00	0.84	12.92	10.80	
	Rear axle ratio with transfer 1:1.6	3.793	5.6	6.7	8.2	9.8	11.9	14.3	17.0	20.4	25.8	30.8	37.4	44.8	54.5	64.9	77.9	92.7*	6.0	7.2
		4.229	5.1	6.1	7.4	8.8	10.7	12.8	15.3	18.3	23.1	27.6	33.6	40.1	48.8	58.2	69.8	83.2	5.4	6.5
		5.009	4.3	5.1	6.2	7.4	9.0	10.8	12.9	15.4	19.5	23.3	28.4	33.9	41.2	49.1	59.0	70.2	4.6	5.5
		5.558	3.9	4.6	5.6	6.7	8.1	9.7	11.6	13.9	17.6	21.0	25.6	30.5	37.2	44.3	53.1	63.3	4.1	4.9
6.095		3.5	4.2	5.1	6.1	7.4	8.9	10.6	12.7	16.0	19.2	23.3	27.9	33.9	40.4	48.5	57.7	3.8	4.5	
6.588		3.2	3.9	4.7	5.7	6.9	8.2	9.8	11.7	14.8	17.7	21.6	25.8	31.4	37.4	44.8	53.4	3.5	4.2	

(*) Max speed 90 km/h. Other speeds available, subject to the Astra technical office approval



P.T.O.

On request:

Gearbox	ZF16S2220TO-ZF16S2520TO	Max. torque	Application
P.T.O.	Ratio	Nm.	
ZF NH/1b	0,91/1,09:1	1000	For tipping unit pumps, pumps for cranes, ecc..
ZF NH/1c	0,91/1,09:1	1000	For tipping unit pumps, unit pumps for concrete, pumps for cranes, ecc..
ZF NH/4c	1,17/1,40:1	430	For tipping unit pumps, ecc..

Power take off at flywheel (ratio 1,29:1) max available torque 900 Nm for concrete mixers.



TRANSFER

Mechanical with two ratios. It consists of a series of helical spur gears, mounted on three shafts, engaged with each other. Differential can be locked by pneumatic control.

Transmission ratio:

1:1 - 1:1,6

Front/rear torque distribution ratio:

1:2,2

Technical data and general specifications - validity to be checked according to each individual country.

CLUTCH

Single dry plate, diameter 17". Pull type engagement with diaphragm spring. Hydro-pneumatic power steering engagement control, with driven disk wear recovery slave cylinder.

On request: Ceramic clutch 17"

AXLES

FRONT

Steering cast iron type; with dual reduction, central by pinion-crown gear, side by means of epicycloidal assembly in wheel hubs.

On request:

Lockable differential by pneumatic control from driver's seat.

REAR

engine axle with dual reduction, central with bevel gear pair, final in wheel hubs by means of epicycloidal assembly . Differential lockable with pneumatic control from driver's seat.

On request:

Rear-axle ratio 1:4,229

Rear-axle ratio 1:5,009

Rear-axle ratio 1:5,558

Rear-axle ratio 1:6,095

Rear-axle ratio 1:6,588

SUSPENSIONS

FRONT

Parabolic springs with bushings, n° 4 leaves 24x90 mm, with hydraulic shock absorbers.

Standard stabilizer bar.

On request:

Reinforced parabolic springs, n° 5 leaves 24x90 mm.

Extra-reinforced conventional springs, n° 10 leaves, 15x90mm.

REAR

Parabolic springs with bushings, n° 4 leaves 24x90 mm, + 1 leaf 50x90 mm, with telescopic shock absorbers and standard stabiliser bar.

CHASSIS

Special steel with high elasticity limit, two flat and parallel side members (width 820 mm.), C section (320x70x8mm), cross members riveted to the frame.

R.B.M. (Rail Bending Moment): 143.149 Nm (14.592 Kgm).

Steel front bumpers with headlamp protection grids, front manoeuvring hook, rear underrun bar, steel fuel tank capacity 300 litres.

On request:

Rapid attachment for compressed air for tyres'inflation.

Rear underrun bar in set back position.

Extra long underrun bar for concrete mixer.

Rear manoeuvring hook.

Rear automatic towing hook.

Rubber mudguards on 2nd axle.

Side windlass for spare wheel.

STEERING

Hydraulic power steering ZF 8098 with variable ratio 1:22.2/1:26.2. Hydraulic pump with gears flanged to engine. Steering linkage with self lubricating floating joints. Steering column adjustable in height and angle.

PNEUMATIC SYSTEM

Two-cylinder 630 cc compressor , APU (Air Processing Unit) that includes: regulation valve set at 10.3 bar, drier, 4-way safety valve, pressure reduction valve for parking circuit and services. 3 air tanks, capacity 30 litres + 2 with 20 litres. ABS system and EBL (Electronic Brake Limiter).

TYRES

FRONT: 315/80R22,5 156/150 K Single tubeless

REAR: 315/80R22,5 156/150 K Twin tubeless

Spare wheel on the chassis.

Other Possible combinations:

TYRES	ASSEMBLY	
	FRONT	REAR
13 R 22,5 156/150G	S	D
12 00 R 20 156/150G		
385/65 R 22,5 160J*	S	
315/80 R 22,5 156/150K		D
365/85 R 20 164G*	S	S
395/85 R 20 168G*	S	S

S single

D double

(*) Mandatory with 9 ton front axle load.

BRAKES

Front and rear "duo-duplex" self-adjusting wedge type brakes with automatic play take-up.

Total net braking surface 5.874 cm². ABS.

Service brake: Pedal controlled air brake, acting on all wheels.

Solo vehicles, two independent circuits, one for 1st axle, one for 2nd; 1st category wheels anti-lock system.

Towing vehicles, three independent circuits, one for 1st axle, one for 2nd axle and another for the trailer; 1st category wheels anti-lock system.

Emergency brake: Incorporated in service brake.

Parking brake: Manual spring-type mechanical with pneumatic control acting on 2nd axle wheels.

IVECO BRAKE TURBO engine brake:

HD9 410 braking power 200 kW (272 cv)

HD9 440/480 braking power 255 kW (347 cv)

On request:

1st axle immobiliser system.

OFF/ROAD button for excluding ABS for speed < 15 kph.

Hydraulic interarder (44.44 / 44.48).



ELECTRICAL SYSTEM

Voltage: 24 V
 Alternator generator 90 A - 28 V (2520 W).
 Accumulators: 2 in series, 170 Ah.
 Starter motor 24 V 5,5 kW.
 Mechanically controlled battery cut out.
 Anti-block system ABS with 4-conduits and 4-electric valveselectronic system.
 Phonic wheels and sensors on 1st and 2nd axle.
 1 electrical joint 7-pole(ISO 7638) for trailer ABS(if applicable).
 1 electrical joints 15-pole(ISO 12089-4091) for trailer lighting (if applicable).
 Electrical provision for outfitters.
 Provision for diagnostics.
 Provision for radio/cb (without speakers)
 Glow plug for cold start.

On request:

170 Ah tropicalised accumulators;
 Offset trim lights;
 Electrically controlled battery cut out;
 Reverse alarm.



CAB

White cab built in galvanised pressed steel with hydraulic tilting up to 60°. Tested on the most demanding off road routes. Cab suspension with 4 helicoidal springs with coaxial shock absorbers and integrated dampers, anti-roll bar and end-of-stroke pads. Tinted electric door windows. Internal panels completely washable and fireproof. 4-speed ventilation and heating system with air recirculation system. Collapsible first step.
 Air suspended 3-way adjustable driver seat with seat belts. Mechanical passenger seat with seat belts.

On request:

Air conditioning with anti-pollen filter;
 Cab rear window;
 Car radio RDS, CD;
 Car radio RDS, CD with steering wheel controls;
 Car radio RDS, CD, MP3 Bluetooth technology;
 External sun visor;
 Extra cab colour: to be specified in the order;
 Heated and electric powered rear view mirrors.
 Remote controlled and centralized closing of doors;
 Roof hatch;
 Rotating lights on top of the cab;
 Engine hood with central mask in IC575 colour.



SERVICE DATA(I)

Engine oil sump and filters	28
Gearbox oil: ZF 16S2220TO/ZF 16S2520TO	13
Power steering oil	8,5
Cab tipping oil	1
Clutch circuit oil	0,5
Transferer oil	6,5
Front axle with final red. oil	6,5
Rear axle with final red. oil	16
Cooling system water	33
Diesel	300
AD Blue	45



INSTRUMENTATION

Trip Computer multifunction display. Multiplex electronic system for fundamental information for the driver: average speed, consumption and general information about the main components for ideal use of the vehicle.

It also allows to carry out the daily controls on the vehicle at any moment, thus optimizing productivity in terms of time saving . Dashboard and ergonomic instrument board contain the function buttons and the identification controls

Indicator lights: engine oil low pressure, low alternator charge, main beam lights, side lights, engine warm-up, rear fog light, hazard lights, tractor turn indicators, trailer turn indicators (if applicable), rotating lights, lifted cab, axles differential locked, differential lock, front brakes low air pressure, rear brakes low air pressure, trailer brakes low air pressure (if applicable), parking brake engaged, splitter (reduction on), slow speeds (1-4/9-12), power take-off on (if applicable) air filters clogged, power steering low oil level, heated rear view mirrors (if applicable), tractor ABS, trailer ABS (if applicable), main steering circuit failure, auxiliary steering circuit failure, low ureas' level.

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