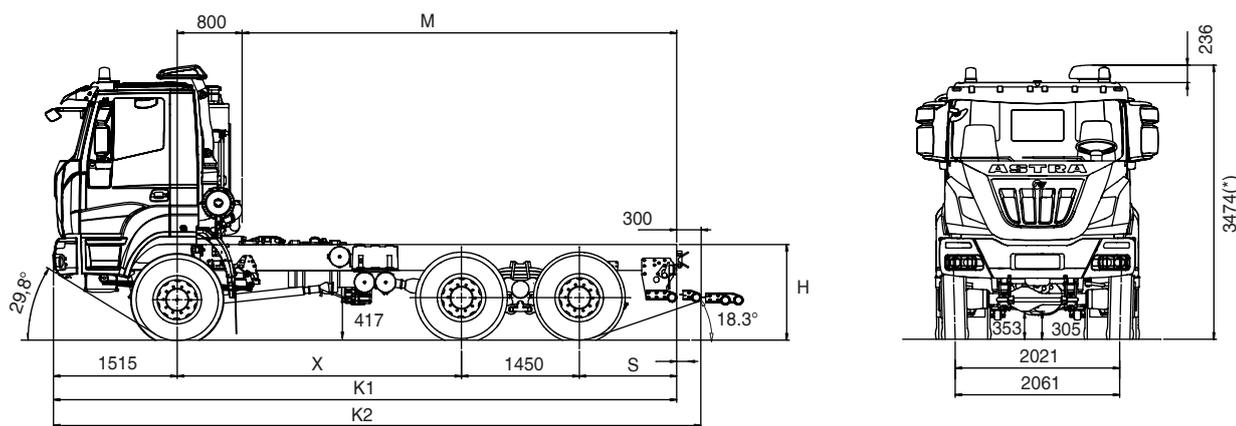


chassis 6x6
66.41 / 66.44 / 66.48 / 66.52 / 66.56



DIMENSIONS (mm) (Tyres 13R22,5 156/150G)

X	K1	K2	M max (*)	S	S ON REQUEST	H		TURNING DIAMETER (wall to wall)
						UNLOADED	LOADED	
3500	7675	7975	5350	1200		1252	1189	17400
3800	7975	8275	5650	1200				18300
4100	8275	8575	5950	1200	1500-1900			19300
4500	8675	8975	6350	1200	1900-2600			20600

(*) M max.: indicative value to be confirmed by bodybuilder



WEIGHT (kg)

X	Distribution net weight (*)			Max. technical weight				
	1 st axle	2 nd +3 rd axle	net weight	1 st axle		2 nd +3 rd axle	Gross Vehicle weight	Gross Combination weight
3500	5495	4963	10458	8000 8500 (1)	9000 (1)	32000	41000 (2)	104000
3800	5541	4953	10493					
4100	5580	4941	10521					
4500	5637	4941	10579					

(*) Weight including oil, fuel, spare wheel, driver Kg. 75

(1) With tyres 1st axle 385/65R22,5 160 J, reinforced springs (OPT). Other tyres available, subject to the Astra technical office approval.

(2) Only for HD9 66.48, HD9 66.52 and HD9 66.56 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.

	66.41	66.44	66.48	66.52	66.56
Model	IVECO F3B E3681D	IVECO F3B E3681G	IVECO F3B E3681F	IVECO F3B E3681E	IVECO F3B E3681A
Max. power (EEC)	302 kW (410 HP)	324 kW (440 HP)	353 kW (480 HP)	382 kW (520 HP)	412 kW (560 HP)
Corresponding rpm	1.900 rpm	1.900 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)	2.400 Nm (245 kgm)	2.500 Nm (255 kgm)
Corresponding rpm	1.000-1.440 rpm	1.000-1.440 rpm	1.000-1.440 rpm	1.000-1.440 rpm	1.000-1.690 rpm
Turbine	WG Waste Gate	VGT variable geometry			



GEARBOX

Manual ZF Ecosplit 4 technology gearbox with servoshift, 16 synchronised forward speeds + 2 reverse:

ZF16S2220TO: HD9 66.41/HD9 66.44

ZF16S2520TO: HD9 66.48/HD9 66.52/HD9 66.56

On request:

ZF16S2320TD: HD9 66.41/HD9 66.44/ HD9 66.48

ASTRONIC ZF16AS2601OD: from 440CV

ALLISON HD4700: from 440 CV (wheelbase >4100mm)

		Speed [kph] calculated at maximum power rpm maximum																		
		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	16.41	13.80	11.28	9.49	7.76	6.53	5.43	4.57	3.59	3.02	2.47	2.08	1.70	1.43	1.19	1.00	15.36	12.92	
	Rear axle ratio with transfer 1:1.0	3.793	7.5	8.9	10.9	13.0	15.8	18.9	22.5	27.0	34.1	40.7	49.5	59.2	72.0*	85.9*	103*	122.7*	8.0	9.5
		4.229	6.7	8.0	9.7	11.7	14.2	16.9	20.2	24.2	30.6	36.5	44.4	53.1	64.6	77.0*	92.4*	110.0*	7.2	8.6
		5.009	5.7	6.8	8.2	9.8	11.9	14.3	17.1	20.4	25.8	30.8	37.5	44.8	54.6	65.0	78.0*	92.9*	6.0	7.2
		5.558	5.1	6.1	7.4	8.9	10.8	12.9	15.4	18.4	23.3	27.8	33.8	40.4	49.2	58.6	70.3*	83.7*	5.4	6.5
		6.095	4.6	5.6	6.8	8.1	9.8	11.7	14.0	16.8	21.2	25.3	30.8	36.8	44.8	53.4	64.1	76.3*	5.0	5.9
		6.588	4.3	5.1	6.3	7.5	9.1	10.9	13.0	15.5	19.6	23.4	28.5	34.1	41.5	49.4	59.3	70.6*	4.6	5.5
	Gear ratios	16.41	13.80	11.28	9.49	7.76	6.53	5.43	4.57	3.59	3.02	2.47	2.08	1.70	1.43	1.19	1.00	15.36	12.92	
	Rear axle ratio with transfer 1:1.6	3.793	4.7	5.6	6.8	8.1	9.9	11.8	14.1	16.9	21.3	25.5	31.0	37.0	45.0	53.7	64.4	76.7	5.0	6.0
		4.229	4.2	5.0	6.1	7.3	8.8	10.6	12.6	15.1	19.1	22.8	27.8	33.2	40.4	48.1	57.8	6	8.8	5 5.3
		5.009	3.5	4.2	5.1	6.1	7.5	8.9	10.7	12.8	16.1	19.3	23.4	28.0	34.1	40.6	48.8	58.0	3.8	4.5
		5.558	3.2	3.8	4.6	5.5	6.7	8.0	9.6	11.5	14.6	17.4	21.1	25.3	30.7	36.6	43.9	52.3	3.4	4.1
		6.095	2.9	3.5	4.2	5.1	6.1	7.3	8.8	10.5	13.3	15.8	19.3	23.0	28.0	33.4	40.1	47.7	3.1	3.7
6.588		2.7	3.2	3.9	4.7	5.7	6.8	8.1	9.7	12.3	14.7	17.8	21.3	25.9	30.9	37.1	44.1	2.9	3.4	

(*) 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..

ZF NMV1 221 Power take-off (ratio 1,55:1) max available torque 1300 Nm for concrete pumps (only with gearbox ZF16S2220TO wheelbase > 3800mm).

ZF NMV 221 Power take-off (ratio 0,98:1) max available torque 2000 Nm for concrete pumps (only with gearbox ZF16S2220TO wheelbase > 3800mm).

Power take off at flywheel (ratio 1,29:1) max available torque 900 Nm for concrete mixers (wheelbase > 3800mm).

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"



TRANSFER

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

Transmission ratio: 1:1 - 1:1,6
Front/rear torque distribution ratio: 1:4,0



AXLES

FRONT

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

On request:

Differential lockable by pneumatic control from driver's seat.
Kessler front axle:

Version	Weight on 1 st axle	Available axle ratio	Pneus
HD9 K	8 t @90 Km/h	5,01; 5,384; 5,866; 6,28	13 R22.5; 12.00 R20; 14.00 R20

REAR

Two drive axles in tandem. Double reduction: central with bevelled pair, final in the wheel hubs by means of epicycloidal assembly. 2nd axle with distributor which distributes the torque between the two axles. Differential lockable by pneumatic control from driver's seat. Tandem assembled to the chassis by reaction rods with silentblock.

On request:

Rear-axle ratio 1:3.793
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, 4 leaves 24x90 mm, with hydraulic shock absorbers. Standard stabilizer bar.

On request:

Semi elliptical reinforced springs. 10 leaves 15x90 mm.
Extra-reinforced parabolic springs, n° 5 leaves 24x90 mm.

REAR

Parabolic springs, swivelling on central pin: 4 leaves 40x100 mm, with torque bars and stiffening brackets.

On request:

stabilizer bar on 2nd axle.
stabilizer bar on 3rd axle.
Extra-reinforced conventional springs, n° 10 leaves 25x100 mm. Mandatory for heavy duty use.



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.



TYRES

FRONT: 13R22,5 156/150 G Single tubeless

REAR: 13R22,5 156/150 G Twin tubeless

Spare wheel on the chassis.

Other Possible combinations:

TYRES	ASSEMBLY	
	FRONT	REAR
315/80 R 22,5 156/150K	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
525/65 R 20,5 173F		S

S single

D double

(*) Mandatory with 9 ton front axle load.

Other tyres available, subject to Astra technical office approval.



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).



CHASSIS

In steel with high elasticity limit consisting of two flat parallel side members (width 820 mm.) with C section (320x90x10 mm), jointed by nailed R.B.M. (Rail Bending Moment) cross members : 202.020 Nm (20.593 Kgm.).

Front bumpers in steel 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 and 3rd axle.

Side windlass for spare wheel.



BRAKES

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

Total net braking surface 9.276 cm². ABS.

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

Solo vehicles, two independent circuits, one for 1st axle, one for 2nd and 3rd axle; 1st category wheels anti-lock system.
Towing vehicles, three independent circuits, one for 1st axle, one for 2nd and 3rd 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 and 3rd axle wheels.

IVECO BRAKE TURBO engine brake:

HD9 410 braking power 200 kW (272 cv)

HD9 440/480/520/560 braking power 255 kW (347 cv)

On request:

Hydraulic interarder (66.44 / 66.48 / 66.52 / 66.56).

1st axle immobiliser system.

OFF/ROAD button for excluding ABS



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 electrical circuit breaker.
 Anti-block system ABS with 4-conduits and 4-electric valves-electronic 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).
 Headlamp geometry corrector .
 Electrical provision for outfitters.
 Provision for diagnostics.
 Provision for radio/cb (without speakers)
 Glow plug for cold start.
On request:
 170 Ah tropicalised accumulators;
 Reverse alarm;
 Electric main current cut-off switch.



CAB

White cab built in galvanized pressed steel with hydraulic tilting up to 60°. 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. Compressed air quick coupling for cab cleaning. 4-speed ventilation and heating system with air recirculation system. 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.
 White 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
Power steering oil	1
Cab tipping oil	0,5
Transfer oil 66.41-66.44-66.48	6,5
Transfer oil 66.52-66.56	13
Front axle with final red. oil	6,5
Intermediate axle with final red. oil	27
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 the time and energies needed for production's purposes. Dashboard and ergonomic instrument board contain the function buttons and the identification commands.

Indicator lights: engine oil low pressure, alternator charging low, main beam lights, side lights, engine warm-up, rear fog light, hazard lights, tractor turn indicators, trailer turn indicators (if applicable), rotating lights, cab lifted, axles differential locked, differential lock, front brakes air pressure low, rear brakes air pressure low, trailer brakes air pressure low (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 oil level low, rear view mirrors heated (if applicable), tractor ABS, trailer ABS (if applicable), main steering circuit failure, steering auxiliary circuit failure, low ureas' level.

ASTRA Veicoli Industriali

Via Caorsana, 79
 29100 Piacenza (Italy)
 Tel. ++39-523/5431
 Fax ++39-523/59.17.73
 www.astraspa.com

DEALER