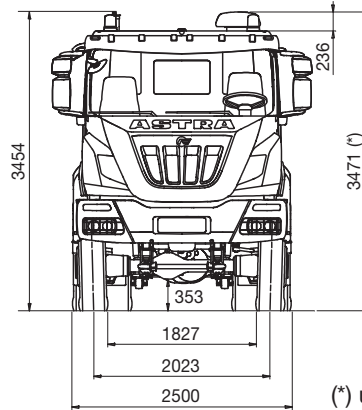
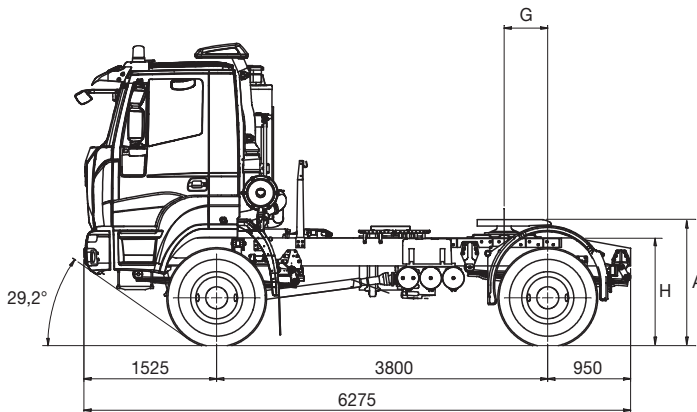
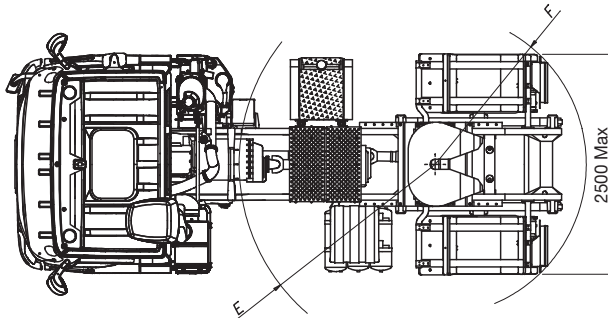


HD9

tractor 4x4 44.38T / 44.42T / 44.44T / 44.48T



(*) unloaded



ON REQUEST
■ RHD VERSION



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

X	K	G (1)			H		A (2)		E (1)		F (1)		TURNING DIAMETER	
		STD	UNLOADED	LOADED	UNLOADED	LOADED	STD	STD	front radius	rear radius	SIDEWALKS	WALL TO WALL		
													UNLOADED	LOADED
3800	6275	500	1208	1124	1433	1349	2245	1765	14400	1600				

(1) Standard fifth wheel position. In case of different positioning needs, the quote may change in relation with the technical GVW of the vehicle. Values to be confirmed in combination with the semitrailer.

(2) Fifth Wheel h 185 mm (opt)



WEIGHT (kg)

X	Distribution net weight (*)			Max technical weight					
	1 st axle	2 nd axle	NET WEIGHT	1 st axle	2 nd axle	Fifth Wheel	Tractor	Gross Combination Weight	
3800	5530	2690	8220	8000	8500 (1) 9000 (1)	13000	12780	21000 (2)	55000

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

(1) With tyres 1st axle 385/65R22,5160 J or 365/85R20144G. Other tyres available, subject to the Astra technical office approval.

(2) HD9 44.48T only at max speed 50 km/h. Michelin/Pirelli tyres. Higher speeds/loads are allowed with load/speed reductions, subject to the Astra Technical office approval.



ENGINES

CURSOR 13 F3B turbo intercooler euro 3 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

	44.38T	44.42T	44.44T	44.48T
Model	IVECO F3B	IVECO F3B	IVECO F3B	IVECO F3B
Max. power (EEC)	280 kW (380 HP)	309 kW (420 HP)	324 kW (440 HP)	353 kW (480 HP)
Corresponding rpm	1900			
Max. torque (EEC)	1800 Nm (184 kgm)	1900 Nm (194 kgm)	2100 Nm (214 kgm)	2200 Nm (224 kgm)
Corresponding rpm	1000-1440			
Turbine	WG Waste Gate		VGT variable geometry	



GEARBOX

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

ZF 16 S 2220 TO: HD9 44.38T / HD9 44.42T / HD9 44.44T

ZF 16 S 2520 TO: HD9 44.48T

On request:

ZF 16 S 2320 TD: HD9 44.38T/HD9 44.42T/ HD9 44.44T

		Speed [kph] at maximum power(*)																		
		Gears																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	RM1	RM2	
ZF16S2320TD	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	3.793	3.8	4.5	5.5	6.6	8.1	9.6	11.5	13.7	17.4	20.7	25.3	30.1	36.8	43.7	52.6	62.6	4.1	4.8
		4.229	3.4	4.1	5.0	5.9	7.2	8.6	10.3	12.3	15.6	18.6	22.7	27.0	33.0	39.2	47.1	56.1	3.7	4.3
		5.009	2.9	3.4	4.2	5.0	6.1	7.3	8.7	10.4	13.2	15.7	19.2	22.8	27.9	33.1	39.8	47.4	3.1	3.7
		5.558	2.6	3.1	3.8	4.5	5.5	6.5	7.9	9.3	11.9	14.1	17.3	20.5	25.1	29.9	35.9	42.7	2.8	3.3
		6.095	2.4	2.8	3.5	4.1	5.0	6.0	7.2	8.5	10.8	12.9	15.8	18.7	22.9	27.2	32.7	38.9	2.5	3.0
6.588	2.2	2.6	3.2	3.8	4.6	5.5	6.6	7.9	10.0	11.9	14.6	17.3	21.2	25.2	30.3	36.0	2.3	2.8		
ZF 16S2220TOZF 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	3.793	4.5	5.4	6.6	7.9	9.6	11.5	13.7	16.4	20.7	24.7	30.1	35.9	43.7	52.1	62.6	74.5	4.8	5.8
		4.229	4.1	4.9	5.9	7.1	8.6	10.3	12.3	14.7	18.6	22.2	27.0	32.2	39.2	46.8	56.1	66.8	4.3	5.2
		5.009	3.4	4.1	5.0	6.0	7.3	8.7	10.4	12.4	15.7	18.7	22.8	27.2	33.1	39.5	47.4	56.4	3.7	4.4
		5.558	3.1	3.7	4.5	5.4	6.5	7.8	9.3	11.2	14.1	16.9	20.5	24.5	29.9	35.6	42.7	50.8	3.3	4.0
		6.095	2.8	3.4	4.1	4.9	6.0	7.1	8.5	10.2	12.9	15.4	18.7	22.4	27.2	32.4	38.9	46.3	3.0	3.6
6.588	2.6	3.1	3.8	4.5	5.5	6.6	7.9	9.4	11.9	14.2	17.3	20.7	25.2	30.0	36.0	42.9	2.8	3.3		

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



P.T.O.

On request:

Gearbox	ZF16S2220TO ZF16S2520TO	Mx. 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...



CLUTCH

Single dry plate, diameter 17". Pull type engagement with diaphragm spring.

Hydro-pneumatic power steering engagement control, with driven disc 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 propeller 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



AXLES

FRONT

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

On request:

Lockable differential by pneumatic control from driver's seat.

REAR

Driving axle with dual reduction, central with bevel gear pair, final in wheel hubs by means of epicycloid assembly.

Lockable differential with pneumatic control from driver seat.

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, n° 4 leaves 24x90 mm, with shock absorbers and stabilizer bar.

On request:

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

REAR

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



CHASSIS

Special steel with high elasticity limit, two flat and parallel side members width 820 mm., C section 320x70x8 mm, cross members riveted to the frame. Steel front bumpers with headlamp protection grids, front manoeuvring hook, rear underrun bar, steel fuel tank capacity 300 litres.

Fifth wheel helper frame, spot and side alighting step.

Rubber mudguards on 2nd axle, toolbox.

On request:

Rapid attachment for compressed air for tyres' inflation.

Rear manoeuvring hook.

Fixed 2" fifth wheel h 150.

Fixed 2" fifth wheel h 185.

Front bumper climbing step.

Side winch for spare wheel.



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.

ABS system and EBL (Electronic Brake Limiter)



STEERING

ZF 8098 hydraulic power steering on front axle wheels with variable ratio 1:22.2/1:26.2.

Steering rods with self-lubricating joints.

Height and inclination mechanically adjustable steering wheel.



TYRES

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

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

Other Possible combinations:

TYRES	ASSEMBLY	
	FRONT	REAR
13 R22.5 156/150G 12.00 R20 156/150G	S	D
385/65 R22.5 160J*	S	
315/80 R22.5 156/150K		D
365/85 R20 164G*	S	S
395/85 R20 168G*	S	S
525/65 R20.5 173F		S

S single

D double

Other tyres available, subject to the Astra technical office approval.

* Mandatory with 9t 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 system.

Service brake: Pedal controlled air brake, acting on all wheels, three independent circuits, one for 1st axle, one for 2nd axle and another for the semi-trailer.

Emergency brake: Incorporated in service brake.

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

IVECO BRAKE TURBO engine brake:

HD9 380/420 HP braking power 200 kW (272 HP)

HD9 440/480 HP braking power 295 kW (408 HP)

On request:

Hydraulic intarder (HD9 44.38T and HD9 44.42T excluded).

1st axle immobiliser system.

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

HD9 380/420 HP

Front and rear "simplex" self-adjusting brake system.

No ABS system.

No hydraulic intarder.



ELECTRICAL SYSTEM

Voltage: 24 V
 Alternator generator 90 A - 28 V (2520 W).
 Accumulators: 2 in series, 160 Ah.
 Starter motor 24 V 5,5 kW.
 Mechanically controlled electrical circuit breaker.
 Phonic wheels and sensors on 1st and 2nd axle.
 1 electrical joint 7-pole (ISO 7638) for semi-trailer ABS.
 1 electrical joint 15-pole (ISO 12089-4091) for semi-trailer lighting.
 Electrical provision for bodybuilders.
 Provision for diagnostics.
 Provision for radio/cb (without speakers).
 Glow plug for cold start.

On request:

160 Ah tropicalized accumulators;
 170 Ah accumulators;
 170 Ah tropicalized accumulators;
 220 Ah accumulators; Reverse alarm;



CAB

White cab built in galvanized pressed steel with hydraulic tilting up to 60°. Cab suspension with 4 helical springs with coaxial shock absorbers and integrated dampers, anti-roll bar and end-of-stroke pads. Tinted electric door windows. Mechanical rear view mirrors, wide angle mirrors and front view mirror. Internal panels completely washable and fire-proof. 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, MP3 Bluetooth technology.
 External sun visor.
 Extra colour cab: 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 ZF16S2220TO/ZF16S2520TO:	13
Power steering oil	8,5
Cab tipping oil	1
Clutch circuit oil	0,5
Transfer oil	6,5
Front axle with final red. oil	6,5
Rear axle with final red. oil	16
Cooling system water	33
Diesel	300



INSTRUMENTATION

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), ABS, semi-trailer ABS, main steering circuit failure, steering auxiliary circuit failure.

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DEALER

Characteristics and equipment are subject to changes without prior notice.

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