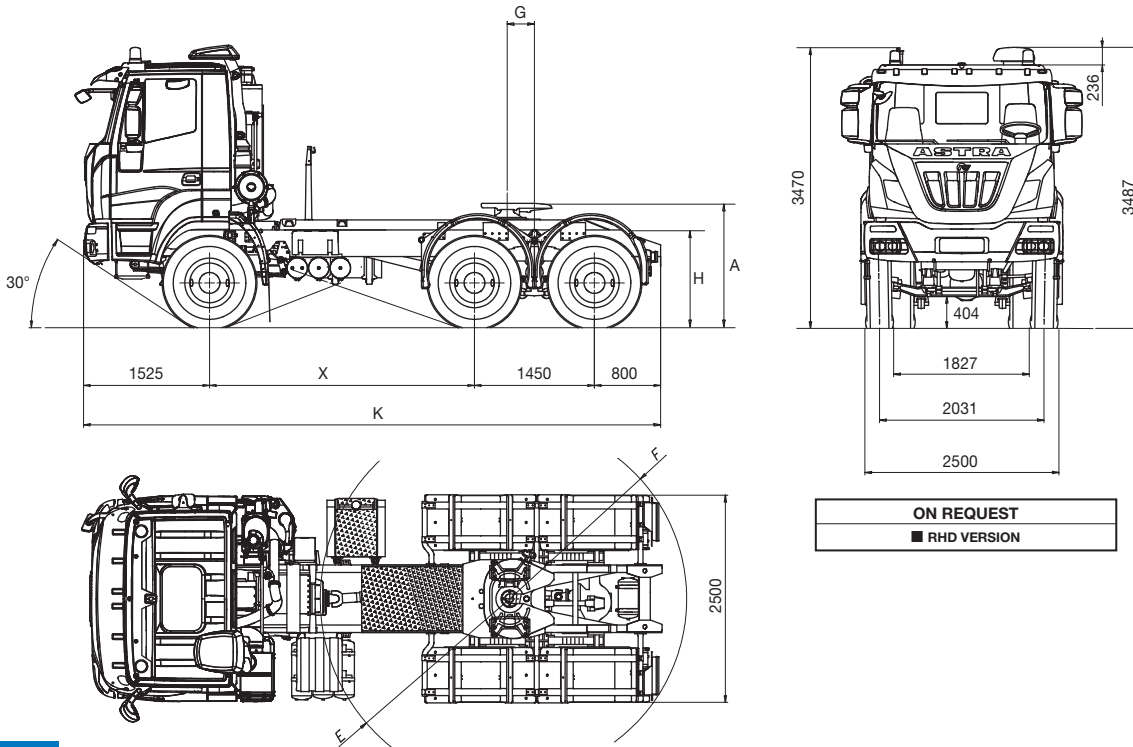


HD9

tractor 6x4
64.38T / 64.42T / 64.44T / 64.48T / 64.54T

DIMENSIONS (mm) short cab (Tyres 13R22.5 156/150G)

X	G(1)	E(1)	F(1)	K	H		fifth wheel 3"1/2 OPT A		TURNING DIAMETER	
					UNLOADED	LOADED	UNLOADED	LOADED	SIDEWALKS	WALL TO WALL
3200	300	2320	2170	6975	1192	1129	1506	1446	14200	15900
3500	300	2620	2170	7275					15100	16800
3800	300	2920	2170	7575					16100	17800

(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.


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	Fifth Wheel	Tractor	Gross Combination Weight
3200	5202	5228	10430	8000	8500 9000(1)	32000	29570	40000 (2)	104000
3500	5225	5225	10450				29550		
3800	5264	5241	10505				29495		

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

(1) With tyres 1st axle 385/65R22,5160J or 365/85R20164G. Other tyres available, subject to the Astra technical office approval.

(2) HD9 64.48T and HD9 64.54T only at max speed 50 km/h. Higher speeds/loads are allowed with load/speed reductions subject to the Astra Technical office approval.



ENGINES

CURSOR 13 turbo intercooler euro 3 diesel injection/cycle with electronic unit injection pumps. Single block head, four valves per cylinder, light alloy pistons. Total displacement: 12.882 cm³. Bore for stroke: 135 x 150 mm. 6 in-line cylinders. Water cooling. Viscostatic cooling fan. Dry air filter with safety cartridge. Vertical muffler

	64.38T	64.42T	64.44T	64.48T	64.54T
Model	IVECO F3B	IVECO F3B	IVECO F3B	IVECO F3B	IVECO F3B
Max. power (EEC)	280 kW (380 cv)	309 kW (420 cv)	324 kW (440 cv)	353 kW (480 cv)	397 kW (540 HP)
Corresponding rpm	1900 giri/min				
Max. torque (EEC)	1800 Nm (184 kgm)	1900 Nm (194 kgm)	2100 Nm (214 kgm)	2200 Nm (220 kgm)	2.350 Nm (240 kgm)
Corresponding rpm	1.000-1.440 giri/min				1.000-1.690
Turbine	WG Waste Gate			VGT variable geometry	



GEARBOX

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

ZF16S2220TO: HD9 64.38T/HD9 64.42T / HD9 64.44T

ZF16S2520TO: HD9 64.48T/HD9 64.54T

On request:

ZF16S2320TD: HD9 64.38T/HD9 64.42T/ HD9 64.44T/ HD9 64.48T

ZF ASTRONIC 16AS2601OD: HD9 64.44T/ HD9 64.48T/ HD9 64.54T

		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	6.3	7.5	9.1	10.9	13.3	15.8	19.0	22.5	28.7	34.1	41.7	49.5	60.6	72.0	86.6	103.0	6.7	8.0
		4.229	5.6	6.7	8.2	9.7	11.9	14.2	17.0	20.2	25.7	30.6	37.4	44.4	54.4	64.6	77.7	92.4	6.0	7.2
		5.009	4.8	5.7	6.9	8.2	10.1	11.9	17.1	10.4	21.7	25.8	31.6	37.5	45.9	54.6	65.6	78.0	5.1	6.0
		5.558	4.3	5.1	6.2	7.4	9.1	10.8	15.4	9.3	19.6	23.3	28.5	33.8	41.4	49.2	59.1	70.3	4.6	5.4
		6.095	3.9	4.6	5.7	6.8	8.3	9.8	14.0	8.5	17.9	21.2	26.0	30.8	37.7	44.8	53.9	64.1	4.2	5.0
6.588	3.6	4.3	5.3	6.3	7.6	9.1	13.0	7.9	16.5	19.6	24.0	10.9	34.9	41.5	49.8	59.3	3.9	4.6		
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	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	103.0	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		

(*) 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, etc
ZF NH/1c	0,91/1,09:1	1000	For tipping unit pumps, pumps for cranes, unit pumps for concrete, etc
ZF NH/4c	1,17/1,40:1	430	For tipping unit pumps, etc
ZF N221/10bpl+N353/1c	1,75/2,09:1+0,91/1,09:1	560+600	Double PTO for concrete pumps



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".



AXLES

FRONT

Steering, hot moulding in high tensile steel. Wheel stud protection.

REAR

Two tandem drive axles. Double reduction: central with crown wheel and pinion and final by epicyclical group in wheel hubs.

2nd axle with torque distributor to the two rear axles.

Lockable differentials by pneumatic control from driver 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

1st axle, parabolic springs, n° 4 leaves 24x90 mm, with shock absorbers and stabilizer bar.

On request:

Parabolic springs, n° 5 leaves 24x90 mm.

REAR

Parabolic springs, swivelling on central pin: n° 4 leaves 40x100 mm, supplemented by 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.



CHASSIS

Special steel with high elasticity limit, two flat and parallel side members width 820 mm., C section 320x90x10mm, 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 and 3rd axles, toolbox.

On request:

Rapid attachment for compressed air for tyres'inflation.

Rear manoeuvring hook.

Fixed 3½" fifth wheel.

Swivelling 3½" fifth wheel.

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 + 1 with 20 litres. ABS system and EBL (Electronic Brake Limiter).



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.

Height and inclination mechanical adjustable steering wheel.



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
12 00 R 20 156/150G 315/80 R 22,5 156/150G	S	D
365/85 R 20 164G(*)	S	
13 R 22,5 156/150G 12 00 R 20 156/150G		D
365/80 R 20 160K(*) 385/65 R 22,5 158K(*)	S	
315/80 R 22,5 156/150G		D

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 9.276 cm². ABS system.

Service brake: Pedal controlled air brake, acting on all wheels, three independent circuits, one for 1st axle, one for 2nd and 3rd axle and another for the semi-trailer.

Emergency brake: Incorporated in service brake.

Parking brake: Mechanical spring-type with pneumatic control acting on 2nd and 3rd axle wheels.

IVECO BRAKE TURBO engine brake:

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

HD9 440/480/540 cv braking power 295 kW (408 cv)

On request:

Hydraulic intarder (HD9 64.38T and HD9 64.42T excluded).

1st axle immobiliser system.

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

HD9 380/420 cv

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.
 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:

170 Ah accumulators;
 160 Ah tropicalized accumulators;
 170 Ah tropicalized 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
Integral PTO oil	3
Intermediate axle with final red. oil	27
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, semi-trailer turn indicators, rotating lights, cab lifted, axles differential locked, differential lock, front brakes air pressure low, rear brakes air pressure low, semi-trailer brakes air pressure low, 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, 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