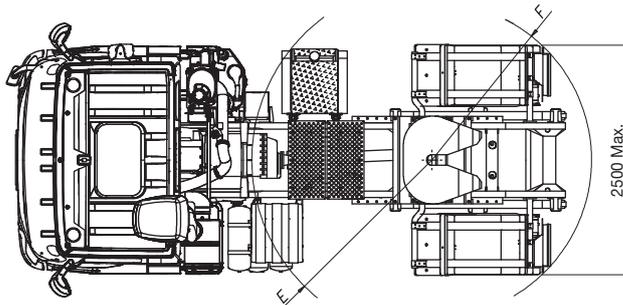
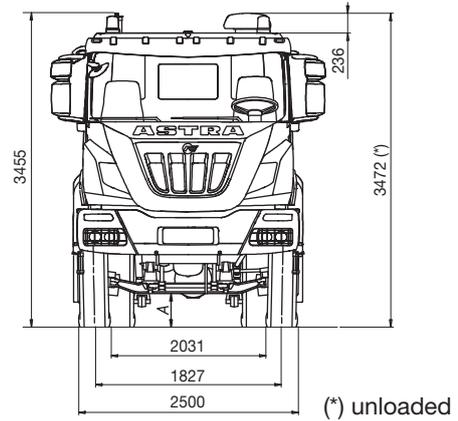
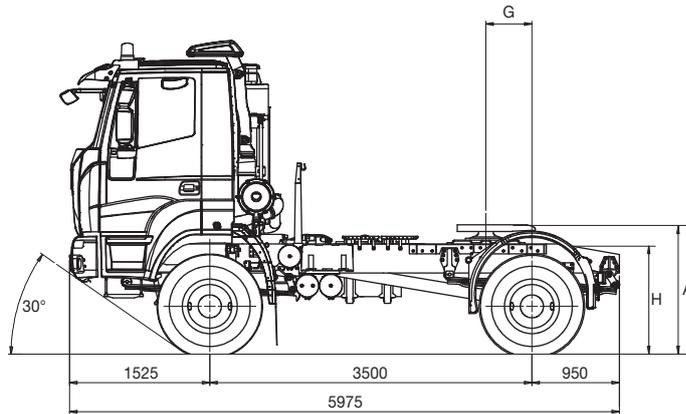


# HD9

## tractor 4x2 42.38T / 42.42T / 42.44T / 42.48T



ON REQUEST  
■ RHD VERSION



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

X	K	G (1)		H		A (2)		E (1)	F (1)	TURNING DIAMETER	
		STD	UNLOADED	LOADED	UNLOADED	LOADED	front radius	rear radius	SIDEWALKS		WALL TO WALL
									STD	STD	
3500	5975	500	1145	1134	1455	1343	1945	1765	12900	14600	

(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 <sup>st</sup> axle	2 <sup>nd</sup> axle	NET WEIGHT	1 <sup>st</sup> axle		2 <sup>nd</sup> axle	Fifth Wheel	Tractor	Gross Combination Weight
3500	5095	2605	7700	8000	8500 (1) 9000 (1)	13000	13300	21000 (2)	55000

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

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

(2) HD9 42.48T 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 cm<sup>3</sup>. Bore for stroke: 135 x 150 mm. Water cooling. Viscostatic cooling fan. Dry air filter with safety cartridge. Vertical muffler

	42.38T	42.42T	42.44T	42.48T
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 42.38T/ HD9 42.42T / HD9 42.44T

**ZF 16 S 2520 TO:** HD9 42.48T

**On request:**

**ZF 16 S 2320 TD**

		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	<b>Gear ratios</b>	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	
	<b>Rear axle ratio</b>	3.793	6.1	7.3	8.9	10.5	12.9	15.3	18.4	21.9	27.9	33.1	40.5	48.1	58.9	70.0	84.1	100.1	6.5	7.7
		4.229	5.5	6.5	8.0	9.5	11.6	13.7	16.5	19.6	25.0	29.7	36.3	43.2	52.8	62.8	75.4	89.8	5.8	6.9
		5.009	4.6	5.5	6.7	8.0	9.8	11.6	14.0	16.6	21.1	25.1	30.7	36.4	44.6	53.0	63.7	75.8	4.9	5.9
		5.558	4.2	4.9	6.1	7.2	8.8	10.5	12.6	14.9	19.0	22.6	27.7	32.8	40.2	47.8	57.4	68.3	4.4	5.3
		6.095	3.8	4.5	5.5	6.6	8.0	9.5	11.5	13.6	17.3	20.6	25.2	29.9	36.6	43.6	52.3	62.3	4.1	4.8
6.588	3.5	4.2	5.1	6.1	7.4	8.8	10.6	12.6	16.1	19.1	23.3	27.7	33.9	40.3	48.4	57.6	3.8	4.5		
ZF 16S2220TOZF 16S2520TO	<b>Gear ratios</b>	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	
	<b>Rear axle ratio</b>	3.793	7.3	8.7	10.5	12.6	15.3	18.3	21.9	26.2	33.1	39.6	48.1	57.5	70.0	83.4	100.1	119.1	7.7	9.3
		4.229	6.5	7.8	9.5	11.3	13.7	16.4	19.6	23.5	29.7	35.5	43.2	51.6	62.8	74.8	89.8	106.9	6.9	8.3
		5.009	5.5	6.6	8.0	9.6	11.6	13.9	16.6	19.8	25.1	30.0	36.4	43.6	53.0	63.2	75.8	90.2	5.9	7.0
		5.558	4.9	5.9	7.2	8.6	10.5	12.5	14.9	17.9	22.6	27.0	32.8	39.3	47.8	56.9	68.3	81.3	5.3	6.3
		6.095	4.5	5.4	6.6	7.9	9.5	11.4	13.6	16.3	20.6	24.6	29.9	35.8	43.6	51.9	62.3	74.1	4.8	5.8
6.588	4.2	5.0	6.1	7.3	8.8	10.6	12.6	15.1	19.1	22.8	27.7	33.1	40.3	48.0	57.6	68.6	4.5	5.3		

(\*) 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 semitrailer pumps, crane pumps, ecc...
ZF NH/1c	0,91/1,09:1	1000	For tipping semitrailer pumps, crane pumps, ecc...
ZF NH/4c	1,17/1,40:1	430	For tipping semitrailer pumps, crane 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".



## AXLES

### FRONT

Steering, hot moulding in high tensile steel.

Wheel stud protection.

### REAR

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

Lockable differential with pneumatic control from driver's 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 leaf 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 2<sup>nd</sup> 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

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 6.184 cm<sup>2</sup>.

ABS system.

**Service brake:** Pedal controlled air brake, acting on all wheels, three independent circuits, one for 1<sup>st</sup> axle, one for 2<sup>nd</sup> axle and another for the trailer.

**Emergency brake:** Incorporated in service brake.

**Parking brake:** Mechanical spring-type with pneumatic control acting on 2<sup>nd</sup> axle wheels.

### IVECO BRAKE TURBO engine brake:

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

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

### On request:

Hydraulic intarder (HD9 42.38T and HD 42.42T excluded).

1<sup>st</sup> axle immobiliser system.

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



## 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.

Manual battery cut-out.

Phonic wheels and sensors on 1<sup>st</sup> and 2<sup>nd</sup> 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:

170 Ah accumulators;

170 Ah tropicalised 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.



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



## 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
Rear axle with final red. oil .....	16
Cooling system water.....	33
Diesel.....	300

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