


DIMENSIONS (mm)

X	K	G (1)	E (1)	F (1)	H		A (2)		TURNING DIAMETER (wall to wall)
					unloaded	loaded	unloaded	loaded	
3500	7275	300	2670	2170	1252	1189	1572	1509	17400
3800	7575	300	2970						18300
4100	7875	300	3270						19300

(Tyres 13R22.5)

(1) Standard fifth wheel position. Other positionings are possible, subject to Astra technical office approval. In case of different positioning the GVW of the vehicle may change.

(2) With swivelling fifth wheel: +100 mm.


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	Fifth Wheel	Gross Combination Weight
3500	5430	5418	10848	8000 (1)	32000 (2)	40000 (2)	29152	121500
3800	5470	5413	10883	9000 (1) (2)			29117	
4100	5504	5406	10911	10000 (3)			29089	

(*) Weight including oil, fuel, spare wheel, driver Kg.75, with 13R22.5 tyres.

(1) With tyres on front axles 385/65R22.5 or 325/95R24 and reinforced springs (OPT).

(2) With tyres 325/95R24 or max speed limited to 70 km/h depending on tyre type and brand.

(3) With Kessler front axle and max speed limited to 70 km/h, depending on pneus type and brand.

Higher speeds are allowed with load reductions subject to Astra technical office approval.

Other tyres available, subject to Astra technical office approval.

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



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.

	66.38T	66.42T	66.44T	66.48T	66.54T*
Model	CURSOR 13	CURSOR 13	CURSOR 13	CURSOR 13	CURSOR 13
Max power (EEC)	280 kW (380 HP)	309 kW (420 HP)	324 kW (440 HP)	353 kW (480 HP)	397 kW (540 HP)
Corresponding rpm	1.900 rpm				
Max torque (EEC)	1.800 Nm (183 kgm)	1.900 Nm (194 kgm)	2.100 Nm (214 kgm)	2.200 Nm (224 kgm)	2.350 Nm (240 kgm)
Corresponding rpm	1.000-1.440 rpm				1.000-1.690 rpm
Turbine	WG Waste Gate		VGT Variable Geometry Turbine		

*Requires additional engine radiator, for extremely hot climate (>42°C).



GEARBOX

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

ZF16S2220TO: HD9 66.38T / HD9 66.42T

ZF16S2520TO: HD9 66.44T / HD9 66.48T / HD9 66.54T

On request:

ZF16S2320TD: HD9 66.38T / HD9 66.42T / HD9 66.44T / HD9 66.48T

ZF ASTRONIC 16AS2630TO: HD9 66.42T / HD9 66.44T / HD9 66.48T / HD9 66.54T

ALLISON HD4700: HD9 66.44T / HD9 66.48T / HD9 66.54T (wheelbase >= 4100 mm)

ZF WSK440 + 16S251: HD9 66.54T (wheelbase >=3800 mm)

		Speed [kph] calculated at maximum power rpm																		
		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	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
	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	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	69.0	4.5	5.4
		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, etc..
ZF NH/1c	0.91/1.09:1	1000	For tipping unit pumps, unit pumps for concrete, pumps for cranes, etc.
ZF NH/4c	1.17/1.40:1	430	For tipping unit pumps, etc.
ZF N221/10B-PL + NL/1c	1.75/2.09:1+0.91/1.09:1	560+600	double PTO for concrete pumps

ZF NMV 221 Power take-off (ratio 1.55:1) max available torque 1300 Nm for concrete pumps.

ZF NMV 221 Power take-off (ratio 0.98:1) max available torque 2000 Nm for concrete pumps.

Multipower power take-off (ratio 1.29:1) max available torque 900 Nm for concrete mixers.

Parker Chelsea 870 XAF power take-off (ratio 1.67:1) max available torque 908 Nm for Allison gearbox.

Parker Chelsea 870 XBF power take-off (ratio 1,56:1) max available torque 854 Nm for Allison gearbox.

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

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 BOX

Mechanical with two ratios. Helical spur gears, mounted on three propeller shafts, engaged with each other. Lockable differential by pneumatic control from driver seat.

	380 / 420 / 440 / 480 HP	540 HP
Model	IVECO TC2200	STEYR VG2700
Transmission ratio	1:1 - 1:1.6	1:0.913 - 1:1.407
Front/rear torque distribution ratio	1:2.2	1:2.6

AXLES

FRONT

1st axle driving and steering, with double reduction: central by bevel gear, final by planetary gear in wheel hubs.

On request:

Cross-axle differential lock.

Kessler front axle:

Version	Max technical weight on 1 st axle (ton)	Available axle ratio
HD9 K	8	5.01; 5.47; 5.96; 6.28
	9 (with reinforced suspension)	
	10 (with reinforced suspension and steering system)	

REAR:

Two driving axles in tandem, with double reduction: central with bevel gear, final by planetary gear in wheel hubs, inter-axle and cross-axle differential lock. Tandem linked to the chassis by reaction rods with silentblocks.

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, 4 leaves 24x90 mm, with hydraulic shock absorbers.

Standard stabilizer bar.

On request:

Reinforced parabolic springs, 5 leaves 24x90 mm.

(Mandatory with 9t version).

REAR

Parabolic springs, swivelling on central pin: 4 leaves 40x100 mm.

On request:

Stabilizer bar on 2nd axle.

Stabilizer bar on 3rd axle.

Extra-reinforced conventional springs, 10 leaves 25x100 mm.

CHASSIS

Special steel with high tensile strength limit, two flat and parallel side members (width 820 mm.), C section (320x90x10 mm), cross members bolted to the frame.

R.B.M. (Rail Bending Moment): 202.020 Nm (20.593 Kgm.). Steel front bumpers with headlamp protection grids, front manoeuvring hook, steel fuel tank capacity 300 litres. Fifth wheel helper frame, spot and side alighting step. rubber mudguards on 2nd and 3rd axles.

On request:

Rapid pneumatic connection for tyre inflation.

Rear manoeuvring hook.

Fixed 3½" fifth wheel.

Swivelling 3½" fifth wheel.

Front bumper climbing step.

Side winch for spare wheel.

TYRES

FRONT: 13R22.5 156/150 K Single tubeless

REAR: 13R22.5 156/150 K Twin tubeless

Spare wheel on the chassis.

Other possible combinations:

TYRES	ASSEMBLY	
	FRONT	REAR
12.00R20 156/150G	S	D
315/80R22.5 156/150K		
385/65R22.5 160J (*)	S	
315/80R22.5 156/150K		D
325/95R24 162/160K (*) (**)	S	D
12.00R24 160/156G (*)		
16.00R20 173G (*) (**)	S	S
16.00R20 173G (*) (**)	S	
24R20.5 176F		S
24R20.5 176F (*) (**)	S	S
14.00R20 164G (*) (**)	S	S
14.00R20 164/160G (*) (**)	S	D
395/85R20 168G (*) (**)	S	
525/65R20,5 173F		S
395/85R20 168G (*) (**)	S	S

S single

D double

(*) Mandatory with 9 ton front axle load.

(**) Mandatory with 10 ton front axle load.

Other tyres available, subject to the 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 + 1 with 20 litres. ABS system and EBL (Electronic Brake Limiter).

BRAKES

Front and rear drum brakes, Duo-Duplex with automatic slack adjuster.

ABS + EBL 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: Integrated 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 HP braking power 255 kW (342 HP).
 HD9 440/480/540 HP braking power 300 kW (402 HP).
On request:
 Hydraulic intarder (only for AS-Tronic gearbox)
 1st axle immobiliser system.
 OFF/ROAD button for excluding ABS for speed < 15 kph.

Front and rear "simplex" brakes NO ABS (only for manual gearbox w/out Intarder, engine power up to 420 HP).
 Front and rear "duo duplex" brakes NO ABS (only for manual gearbox w/out Intarder).

STEERING

ZF 8098 quadrilateral power steering on front axle wheels with variable ratio 1:22.2/1:26.2 with auxiliary cylinder.
 Circuit with main hydraulic pump on engine and emergency pump on gearbox. Steering rods with self-lubricating joints.
 Height and inclination mechanical adjustable steering wheel.

SERVICE DATA(I)

Engine oil sump and filters	28 (+2.5)
Gearbox oil	14.5
Power steering oil.....	8.5
Cab tipping oil	1
Clutch circuit oil	0.5
Integral PTO oil	3
Transferer oil 66.38-66.42-66.44-66.48.....	6.5
Transferer oil 66.54	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

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.
 1 electrical joint 7-pole (ISO 7638) for trailer ABS (if applicable).
 1 electrical joint 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:
 225 Ah accumulators.
 Reverse alarm.

CAB

Standard white short cab (AD) 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.
 Mechanical rear view mirrors, wide angle mirrors and front view mirror. 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:
 RHD.
 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.
 Long cab (AT) with interior equipment (seats and beds) on request.
 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), tractor ABS, semi-trailer ABS, main steering circuit failure, steering auxiliary circuit failure.

<p>ASTRA Veicoli Industriali Via Caorsana, 79 29122 Piacenza (Italy) Tel. +39-0523/54311 Fax +39-0523/591773 www.iveco-astra.com</p>	<p>DEALER</p>
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Characteristics and equipment are subject to changes without prior notice.

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