# CONCRETE SOLUTIONS. ALWAYS









ES 85 ZT ES 85 SB ES 90 UR ES 95 TR Engine 4TNV98 Engine power 46,3 kW - 63,2 H Operating weight 9.000 kg Engine 4TNV98 Engine power 46,3 kW - 63,2 H Operating weight 8.300 kg

Engine 4TNV98 Engine power 46,3 kW - 63,2 HP Operating weight 9,100 kg

Engine 4TNV98 Engine power 46,3 kW - 63,2 HP Operating weight 9,900 kg





# **EUROCOMACH®**





## Plus Points Eurocomach

- 5 "True zero tail swing", turning through 360° in just 3.11 m and keeping the boom swing tower almost within the tracks
- 6 16 valve engine with electronically controlled external water-cooled EGR (complies with emission control regulations until 2016)
- 7 Advanced Load sensing hydraulics with reduced flow rate at minimum and maximum pressure (25% reduction in fuel consumption)
- Closed centre, Flow Sharing control valve (precise simultaneous movements regardless of load and engine speed)
- 8 Radiators in "parallel"
  with suction fan for increased
  cooling efficiency
  - Side mounted engine, rear control valve and tanks (reductions in length of pipes and loss of pressure)

- 9 Excellent visibility (looking up, over track and on the right of the dozer blade)
- 10 "Floating" side consoles
  with "double sliding" seat
  (Independent adjustments
  without vibrations transmitted
  from the deck)

Electro-proportional controls for accessories and swing (including triple articulation and demolition breaker, cutter head and cutter)



#### **FEATURES**

- 1 Exceptional versatility with 4 Versions (monobloc, with or without swing, triple articulation, side digging boom). Three undercarriages (5 roller, 6 roller, adjustable up to 3m wide). Three counter weights (standard, additional internal or external)
- 2 Lifting cylinder of large diameter and high pressure for excellent lifting capacity: 2860 kg (blade up, 360°, 3m, 0H)
- 3 Low centre of gravity, wide track, unique features: pulling power at tracks 7809 daN, torque and rotation speed 2106 daN with 12 rpm
- 4 Exceptional transportability, including in container with a 2.56 m cab



Extremely unobstructed deck (with handy footrests)

Easy to read electronic dashboard (malfunction and maintenance signals, fault memory)

- 11 Satellite Geoservice
  as standard (checks of locating, operating status, machine diagnostic functionality)
  with alarm notification via email or telephone
- (as standard)
- 13 Low boom offset
  (less strain on the swing bearing)

Hydraulically dampened end of travel on swing and safety valve to prevent leakage

14 Automatic gear downshift under strain

- 15 Battery with rare charge indicator
  - Lower protection on swivel joint (as standard)
- 16 Strong sheet metal covers with automatic closure

Customised paintwork

Fine details and finishes

Care taken over layout, supports and protection of the electrical and hydraulic circuits, for resale value

# Unparalleled versatility



### Version ES 85 ZT with swing

 the basis of the "true" zero tail swing Midi Excavator for working with no worries about what's behind



### Version ES 95 TR with swing and triple articulation

- greater digging depth
- higher working height
- digging near to the vehicle
- vertical wall near to the vehicle
- lifting near to the vehicle









#### **Customised paintwork**



#### Variable track (up to 3 m)

- exceptional increase in stability
- normal width for transportation (2.32 m)



### Exclusive 6 rollers steel track with central guide

- lower specific pressure, longer life of the chassis and greater comfort for the operator







#### **Version ES 90 UR** offset boom at the side of cabin

- specifically for side digging
- "total" zero tail swing (booms, bucket and rear of turret)



Hydraulic quick coupling plate: the plate fixed to the boom guides the supply pipeline and, depending on the bucket position, (open or closed) rises or lowers. The system allows any hydraulic quick coupling available on the market to be used.



#### **Additional standard** hydraulic functions

- demolition breaker and aguger (1 or 2 way)
- cutters and crushers (1 way, 100 l/min at 200 MPa constant)
- swinging buckets (2 way low capacity)
- grabs with rotor (2 way with flow diverter from the bucket)







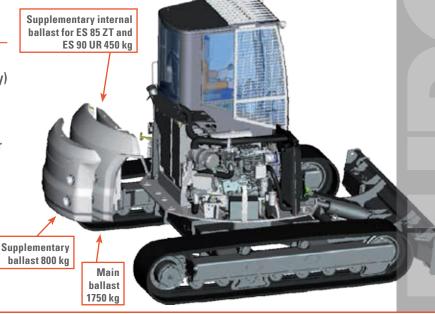
#### **Version ES 85 SB** boom at the side of cabin

- a traditional excavator, but with zero tail swing





#### Various ballasts to increase stability but without compromising space requirements (internal ballast)



# Top of the category performance

Torque and rotation speed at the top of the category 2106 daN and 12 rpm



High rotation speed also in slope.



- functional counter-rotation on compacted or frozen ground
- automatic gear downshift under strain



2,32 m







**Swing** 

85 cm

bearing

diameter



Minimum disalignment of swing, less stress for slewing bearing



### INTELLIGENT DESIGN... to keep consumptions down

the close proximity of the tank, pump and hydraulic control valve reduces loss of pressure with shorter and better arranged pipes (reliability and efficiency)



### INTELLIGENT DESIGN... to cut down heat

The side mounted engine "detached" from the cab, just like the hydraulic oil tank and the control valve at the rear (not under the deck), prevent the heat transmission to the driving station.





Beneath the deck are just electrical parts and the air filter which do not "heat" the footplate.



## MONO PUMP WITH "TRUE" LOAD SENSING ADJUSTMENT... to reduce consumption by 25%



### Reduced flow rate with joysticks in neutral

With the joysticks not being used the pump automatically reverts to almost zero displacement, saving fuel, without unnecessarily drawing oil from the tank. This regulation is impossible on fixed displacement or gear pumps.

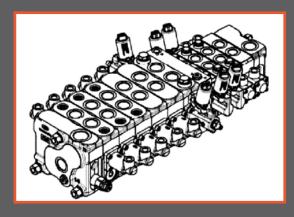
### Reduced flow rate at maximum pressure

"True" Load sensing adjustments operate the pump at almost zero displacement when maximum pressure has been reached too: in this way no oil is leaked through the relief valves when attempts are made to carry out excavations that are too demanding. The power saved is equal to the total vehicle rating (46.3 kW), this heat is not therefore dissipated into the hydraulic oil, saving more fuel.

The side mounted engine is separated from the cab in all versions. The deflector and sound insulating baffles inside the cover send the heat of the radiator fan towards the rear of the machine. Appropriately, only the front side window slides open, furthest away from the ventilation grill.

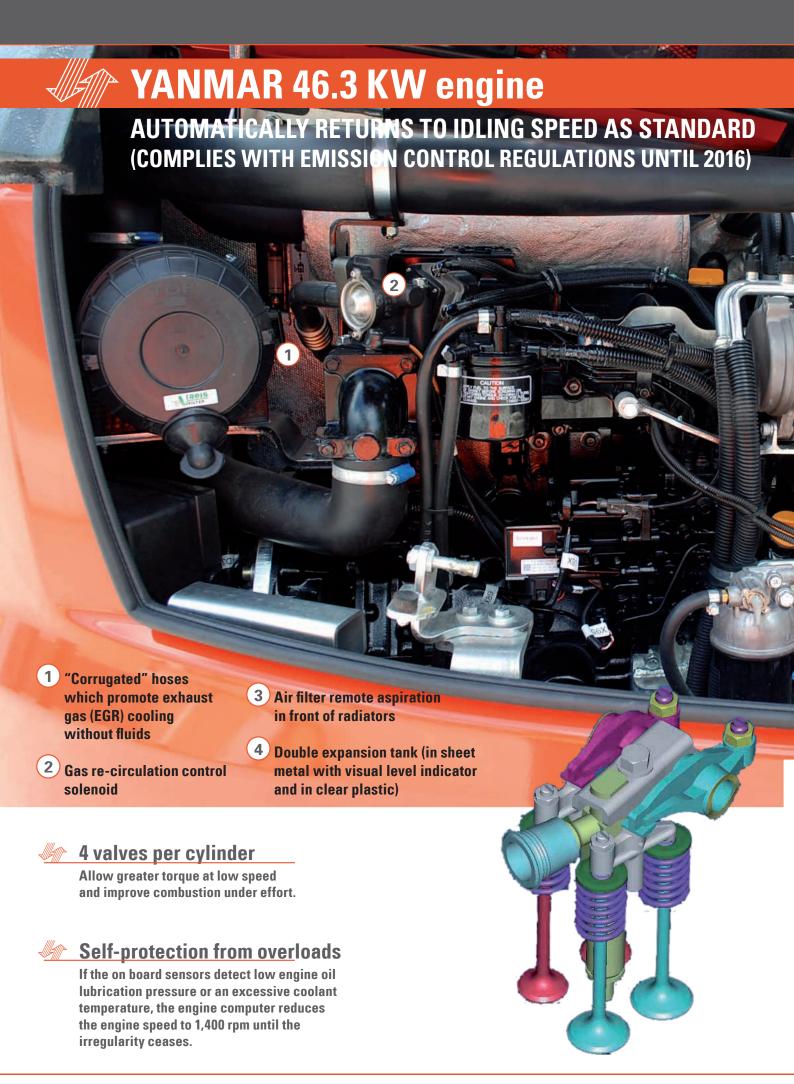


# COMPENSATED, CLOSED CENTRE, FLOW SHARING CONTROL VALVE...

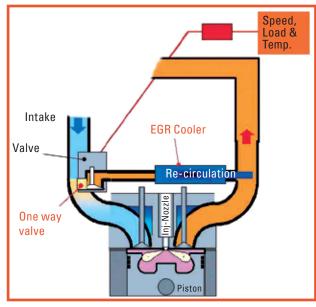


The bucket moves at a speed consistent with the distance the joystick travel.

The controls, even operated simultaneously, are directly proportional to the travel of the joysticks and are therefore independent of the load on the equipment and the engine speed. This results in very precise driving, in the simultaneous execution of several movements.







#### **EGR** control

#### (Exhaust Gas Recirculation)

The purpose of EGR: the recirculation of exhaust gas (by now inert), by reducing the combustion temperature, limits the emission of Nitrous Oxide (NOx – a toxic gas) which is proportional to it.

Advantages of electronically controlled EGR, with external cooled recirculation (compared to systems with continuous circulation, internal and not cooled):

- wear on exhaust valves is halved (they do not open twice per cycle)
- stable idle speed (gas is not recirculated in the cycles poor in oxygen)
- less recirculation (because the gas is cooled)

## Suction fan (MORE EFFICIENT)



### Large radiators "in parallel"



### Quality, Efficiency and Constructional

## SWING UNIT

Casting avoids complex welds in stressed areas (reliability).



Pipes "screwed" to the cylinder connections (not welded) making it easier to replace them if damaged.



The hydraulically dampened end of travel on the swing prevents stress to the structures and promotes driving comfort. The safety valve on the swing facilitates high rotation torque.



### FRIC

#### **FRICTION WELDING**

## OF THE HEADS TO THE CYLINDER RODS

Heads welded to the rods by "Friction" (welding of the solid section by casting, instead of simple welding of the outer circle) increases cylinder reliability and prevents coaxiality errors, which then damage the seals and create torsions.



The grease nipples on the connecting rods instead of the pins reduce the pumping stress (hardened grease) and do not weaken the solid section of the pin (reliability).



Alternating double and single flange rollers help to align the track on slopes. "Vertical" bolting of rollers to the chassis is typical of medium-large size excavators.





### Strength

## DETAILS FOR RELIABILITY, RESALE VALUE AND SAFETY



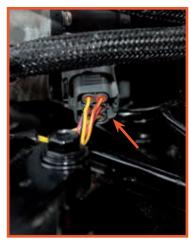
Waterproof membrane that prevents rust from forming in the exhaust pipe.



Sensor that indicates by means of a light if there is water in the filter.



Practical internal handle for lowering the cover.



IP67 watertight electrical connections.

### CARE TAKEN IN THE LAYOUT OF ELECTRICAL AND HYDRAULIC CIRCUITS AND THE FUEL SUPPLY



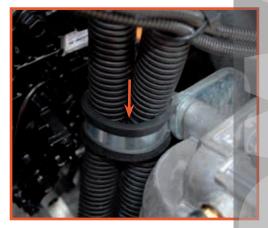
Accurate grinding of welded parts and cab bars.



Protective panels over swivel joint.



Linings fixed with press studs (not just glued in place).



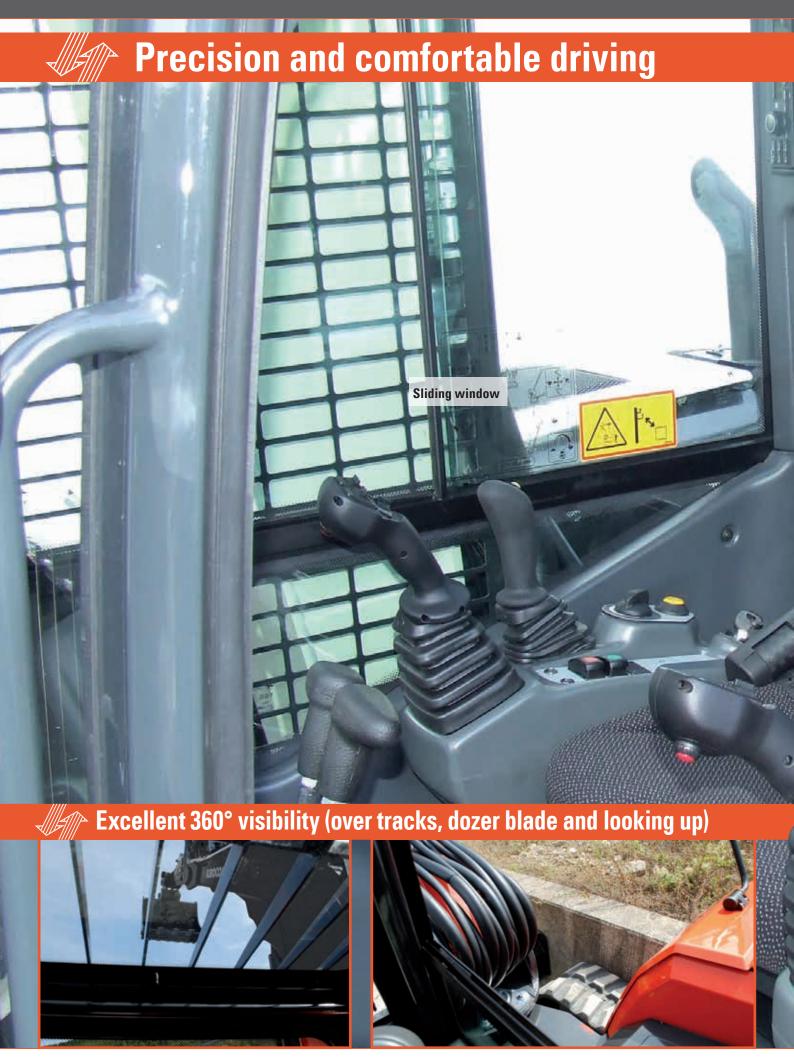
Anti-wear supports for corrugated cable sheaths.



Heat shrink sleeves for protection.



Protection where pipes are routed through the chassis.







Self winding sun shade.



Rear left sliding glass panel.





2 lights for the work area on the turret and 1 protected light under the boom.



Easily accessible main air filter.



Compartment inside cab for storing items and air circulation filter.

### **FLOATING SEAT AND SIDE CONSOLES** WITH INDEPENDENT ADJUSTMENT

#### Vehicle vibrations are not transmitted to the joysticks (precision driving)



#### Engine water high temperature YES Fault message with Intermittent 1400 number code 1400 YES **Engine oil low pressure** Fault message with Intermittent number code Fault message with 1400 Engine air filter blockage YES Intermittent number code N0 Water in fuel separator **Explicit fault message** Intermittent 1400 Broken throttle potentiometer N<sub>0</sub> **Explicit fault message** Intermittent Low hydraulic oil level N0 **Explicit fault message** Intermittent Anti-collision **Continuous** NO **Explicit fault message** intermittent



**Facilitates diagnostics** and maintenance with indicator lights, buzzers and coded or explicit messages on faults and periodic maintenance. Fault history, indication of blocked filters and low hvdraulic oil level.





### **ELECTRO-PROPORTIONAL**

## **CONTROLS FOR ACCESSORIES, SWING AND TRIPLE ARTICULATION**







Inertia-reel seat belt.



Rear view mirror.



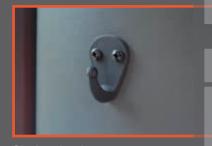
12 Volt socket.



Bulkhead light.



Bottle/glass holder and rear air vents.



Clothes hook.



### **DECK FREE FROM OBSTRUCTIONS**



### **JAMP EASY MAINTENANCE AND HIGH PERFORMANCE**



- 1) Air filter
- 2 Fuel filter
- **Engine oil filler cap**
- **Engine oil filter**
- Water/diesel separator filter with impurity sensor (dashboard light) and quick drain tap
- **Clear plastic** expansion tank
- **Metal expansion** tank with visual level indicator



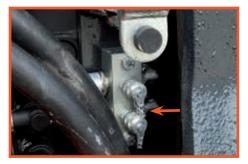
Battery isolator key to prevent battery running down during long downtimes.



Fuses in a waterproof compartment and connection for external computer diagnostics.



Compartment for frequently used tools.



Hydraulic pump pressure quick connectors.



Maintenance free battery with charge indicator. Self-bleeding electric pump to bleed air from the injection system.



Accumulator to allow pressure discharge from auxiliary pipelines with the engine off.

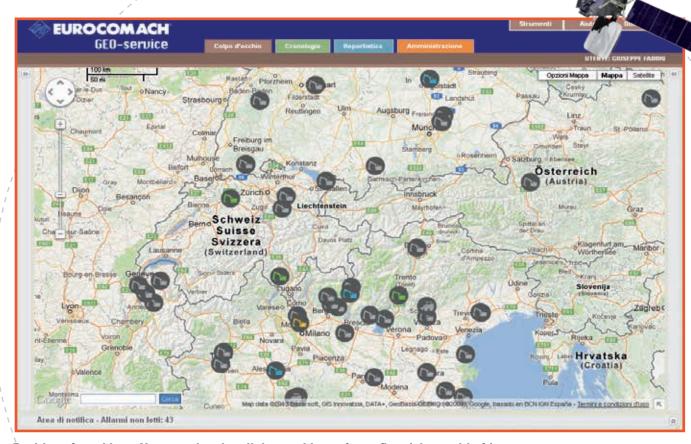


Fuel pump with automatic cut-off if over-full or no diesel in drum.



## Satellite monitoring system

### **Eurocomach GEO-SERVICE**

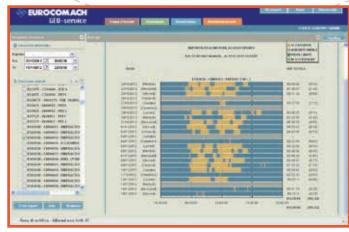


Position of machines: You can pinpoint all the machines of your fleet (also antitheft).





Maintenance
Management: You can
control the working
hours of the machines
of your fleet and at the
deadline of the service
you will be notified.

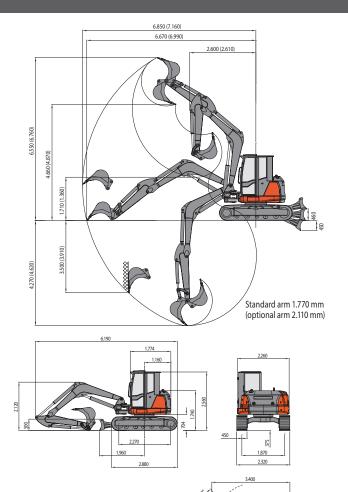


Alarm management: You can receive alarm notification both via SMS and e-mail as well as on the site GEO-service.

Operating machine hours: you have control of uptime and downtime of the machine.

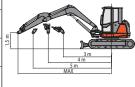
TECHNICALS SPI	ECIF	CATIONS		
Operating weight (with rubber track)	kg	9.000		
Operating weight (with steel track)	kg	9.320		
Max travelling speed	km/h	2,6 - 5,2		
Slew speed	rpm	12		
ENGINE				
Туре		YANMAR 4TNV98		
Power (2.200 rpm)	kW- HP	46,3 - 63,2		
Displacement	cc	3.319		
Number of cylinders	n°	4		
Cooling		water		
Consumption	lt/h	8,7		
Alternator	V (A)	12 (40)		
Battery	V (Ah)	12 (100)		
HYDRAULIC SYSTEM				
Circuit Type	Load sensing closed center system with flow sharing control valve			
Pump type	1 Is variable pump + 1 gear pump			
Pump displacement	cc	84+ 9		
Pump capacity	lt/min	185 + 20		
Max. circuit calibration pressure  Low flow (high flow) auxiliary	bar	290 - 200 - 35		
circuit: Max capacity		40 ÷ 60 (100)		
PERFORMANCES	bar	290 (200)		
Bucket breaking force (standard arm) ISO 6015	daN	5.500		
Arm breaking force (standard arm) ISO 6015	daN	4.350		
Traction force	daN	7.960		
Ground pressure with canopy (with rubber tracks)	kg/cm²	0,43		
Max slope		60% - 30°		
DIMENSIONS				
Total width	mm	2.320		
Max dumping height with cab standard arm (optional arm)	mm	4.660 (4.870)		
Total height	mm	2.560		
Rear rotation radius	mm	1.155		
Max digging depth standard arm (optional arm)	mm	4.270 (4.620)		
Digging arm length std (optional)	mm	1.760 (2.110)		
Tracks width	mm	450		
Rollers number (for each side)	n°	5/1 (rubber track) 6/1 (steel track)		
FILLINGS				
Fuel tank	It	105		
Hydraulic oil tank	It	90		
Hydraulic circuit capacity	It	120		
Cooling system capacity	It	25		
Engine oil	It	10		
CONTROLS				
Boom, dipper stick, bucket and turret swing	2 p	oilot joysticks		
Tracks mouvement (included counter rotation)	2	pilot levers		
Dozer blade	1	I pilot lever		
Auxiliary circuit (simple or double effect)	electroproportional switch on right joystick			
Boom swing	electroproportional switch on left joystick			

### **ES 85 ZT**





Opening arm from the rotation's center (m) Lifting capacity (kg) at 1.5 m height				
	3	4	5	MAX
Frontal and lowered dozer blade	4495	3045	2350	2085
Frontal and lifted dozer blade	2810	1760	1310	1000
Lateral	2860	1880	1320	1000

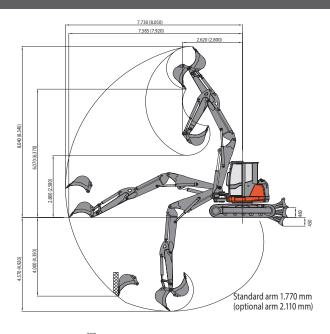


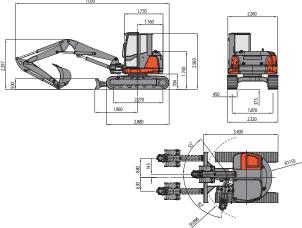
The lifting capacity is based on the ISO 10567 and it does not exceed more than the 75% of static tipping load or more than the 87% of the hydraulic lifting capacity of the machine.



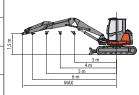
TECHNICALS SP	ECIF	ICATIONS		
Operating weight (with rubber track)	kg	9.900		
Operating weight (with steel track)	kg	10.220		
Max travelling speed	km/h	2,6 - 5,2		
Slew speed	rpm	12		
ENGINE				
Туре		YANMAR 4TNV98		
Power (2.200 rpm)	kW- HP	46,3 - 63,2		
Displacement	cc	3.319		
Number of cylinders	n°	4		
Cooling		water		
Consumption	lt/h	8,7		
Alternator	V (A)	12 (40)		
Battery	V (Ah)	12 (100)		
HYDRAULIC SYSTEM				
Circuit Type	Load sensing closed center system with flow sharing control valve			
Pump type	1 Is variable pump + 1 gear pump			
Pump displacement	cc	84+ 9		
Pump capacity	lt/min	185 + 20		
Max. circuit calibration pressure Low flow (high flow) auxiliary	bar	290 - 200 - 35		
circuit:  Max capacity		40 ÷ 60 (100)		
Max pressure	bar	290 (200)		
PERFORMANCES  Bucket breaking force (standard arm) ISO 6015	daN	5.500		
Arm breaking force (standard arm) ISO 6015	daN	4.350		
Traction force	daN	7.960		
Ground pressure with canopy (with rubber tracks)	kg/cm²	0,46		
Max slope		60% - 30°		
DIMENSIONS	'			
Total width	mm	2.320		
Max dumping height with cab standard arm (optional arm)	mm	6.070 (6.370)		
Total height	mm	2.560		
Rear rotation radius	mm	1.155		
Max digging depth standard arm (optional arm)	mm	4.570 (4.920)		
Digging arm length std (optional)	mm	1.760 (2.110)		
Tracks width	mm	450		
Rollers number (for each side)	n°	5/1 (rubber track) 6/1 (steel track)		
FILLINGS				
Fuel tank	It	105		
Hydraulic oil tank	It	90		
Hydraulic circuit capacity	It	120		
Cooling system capacity	It	25		
Engine oil	It	10		
CONTROLS				
Boom, dipper stick, bucket and turret swing	2 p	oilot joysticks		
Tracks mouvement (included counter rotation)	2	pilot levers		
Dozer blade	1	1 pilot lever		
Auxiliary circuit (simple or double effect)	electroproportional switch on right joystick			
Boom swing	electroproportional switch on left joystick			

### **ES 95 TR**





#### LIFTING CAPACITY Opening arm from the rotation's center (m) Lifting capacity (kg) at 1.5 m height MAX Frontal and lifted dozer blade

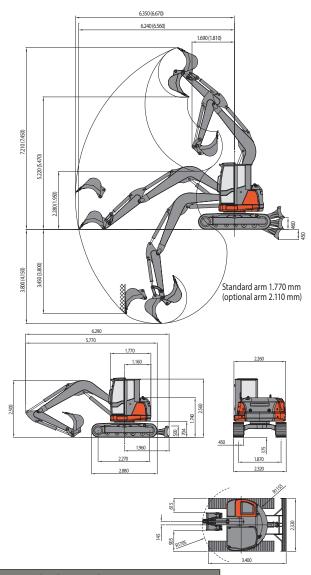


The lifting capacity is based on the ISO 10567 and it does not exceed more than the 75% of static tipping load or more than the 87% of the hydraulic lifting capacity of the machine.

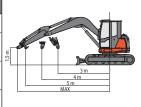


Operating weight (with rubber track)	kg	8.300		
Operating weight (with steel track)	kg	8.620		
Max travelling speed	km/h	2,6 - 5,2		
Slew speed	rpm	12		
ENGINE				
Туре		YANMAR 4TNV98		
Power (2.200 rpm)	kW- HP	46,3 - 63,2		
Displacement	СС	3.319		
Number of cylinders	n°	4		
Cooling		water		
Consumption	lt/h	8,7		
Alternator	V (A)	12 (40)		
Battery	V (Ah)	12 (100)		
HYDRAULIC SYSTEM				
Circuit Type	Load sensing closed center system with flow sharing control valve			
Pump type	1 Is variable pump + 1 gear pump			
Pump displacement	СС	84+ 9		
Pump capacity	lt/min	185 + 20		
Max. circuit calibration pressure	bar	290 - 200 - 35		
Low flow (high flow) auxiliary circuit:  Max capacity	lt/min	40 ÷ 60 (100)		
Max pressure	bar	290 (200)		
PERFORMANCES Bucket breaking force				
(standard arm) ISO 6015	daN	5.500		
Arm breaking force (standard arm) ISO 6015	daN	4.350		
Traction force	daN	7.960		
Ground pressure with canopy (with rubber tracks)	kg/cm²	0,41		
Max slope		60% - 30°		
DIMENSIONS				
Total width	mm	2.320		
Max dumping height with cab standard arm (optional arm)	mm	5.220 (5.470)		
Total height	mm	2.560		
Rear rotation radius	mm	1.155		
Max digging depth standard arm (optional arm)	mm	3.800 (4.150)		
Digging arm length std (optional)	mm	1.760 (2.110)		
Tracks width	mm	450		
Rollers number (for each side)	n°	5/1 (rubber track) 6/1 (steel track)		
FILLINGS		o, i (Steel Hack)		
Fuel tank	It	105		
Hydraulic oil tank	lt .	90		
Hydraulic circuit capacity	It	120		
	lt .	25		
		20		
Cooling system capacity	I+	10		
Cooling system capacity Engine oil	It	10		
Cooling system capacity		10		
Cooling system capacity  Engine oil  CONTROLS  Boom, dipper stick, bucket and turret swing  Tracks mouvement	2 p	oilot joysticks		
Cooling system capacity  Engine oil  CONTROLS  Boom, dipper stick, bucket and turret swing	2 p			
Cooling system capacity  Engine oil  CONTROLS  Boom, dipper stick, bucket and turret swing  Tracks mouvement (included counter rotation)	2 F	pilot joysticks		

### **ES 85 SB**



#### LIFTING CAPACITY Opening arm from the rotation's center (m) Lifting capacity (kg) at 1.5 m height 3 5 MAX Frontal and lowered dozer blade 4270 3130 2540 2390 Frontal and lifted dozer blade 3282 2070 1485 1340

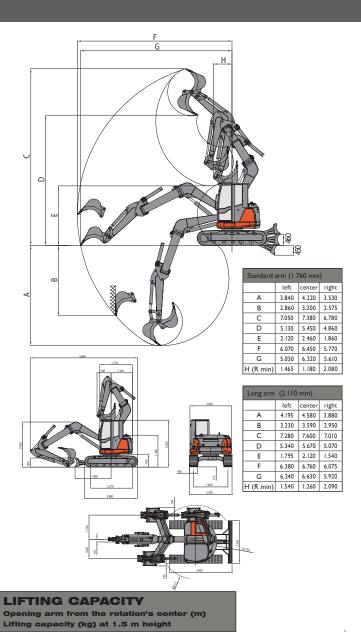


The lifting capacity is based on the ISO 10567 and it does not exceed more than the 75% of static tipping load or more than the 87% of the hydraulic lifting capacity of the machine.



IECHNICALS SPE		CATION	
Operating weight (with rubber track)	kg	9.100	
Operating weight (with steel track)	kg	9.420	
Max travelling speed	km/h	2,6 - 5,2	
Slew speed	rpm	12	
ENGINE			
Туре		YANMAR 4TNV98	
Power (2.200 rpm)	kW- HP	46,3 - 63,2	
Displacement	cc	3.319	
Number of cylinders	n°	4	
Cooling		water	
Consumption	lt/h	8,7	
Alternator	V (A)	12 (40)	
Battery	V (Ah)	12 (100)	
HYDRAULIC SYSTEM		annaine alabad	
Circuit Type	Load sensing closed center system with flow sharing control valve		
Pump type	1 Is variable pump + 1 gear pump		
Pump displacement	СС	84+ 9	
Pump capacity	lt/min	185 + 20	
Max. circuit calibration pressure	bar	290 - 200 - 35	
Low flow (high flow) auxiliary circuit:  Max capacity	lt/min	40 ÷ 60 (100)	
Max pressure	bar	290 (200)	
PERFORMANCES			
Bucket breaking force (standard arm) ISO 6015	daN	5.500	
Arm breaking force (standard arm) ISO 6015	daN	4.350	
Traction force	daN	7.960	
Ground pressure with canopy (with rubber tracks)	kg/cm²	0,45	
Max slope		60% - 30°	
DIMENSIONS			
Total width	mm	2.320	
Max dumping height with cab standard arm (optional arm)	mm	5.450 (5.670)	
Total height	mm	2.560	
Rear rotation radius	mm	1.155	
Max digging depth standard arm (optional arm)	mm	4.220 (4.580)	
Digging arm length std (optional)	mm	1.760 (2.110)	
		450	
Tracks width	mm	400	
Tracks width  Rollers number (for each side)	mm n°	5/1 (rubber track) 6/1 (steel track)	
		5/1 (rubber track)	
Rollers number (for each side)		5/1 (rubber track)	
Rollers number (for each side)	n°	5/1 (rubber track) 6/1 (steel track)	
Rollers number (for each side)  FILLINGS  Fuel tank	n°	5/1 (rubber track) 6/1 (steel track)	
Rollers number (for each side)  FILLINGS  Fuel tank  Hydraulic oil tank	n° It	5/1 (rubber track) 6/1 (steel track) 105	
Rollers number (for each side)  FILLINGS  Fuel tank  Hydraulic oil tank  Hydraulic circuit capacity	n° It It	5/1 (rubber track) 6/1 (steel track) 105 90 120	
Rollers number (for each side)  FILLINGS  Fuel tank  Hydraulic oil tank  Hydraulic circuit capacity  Cooling system capacity	n° lt lt lt lt	5/1 (rubber track) 6/1 (steel track) 105 90 120 25	
Rollers number (for each side)  FILLINGS  Fuel tank  Hydraulic oil tank  Hydraulic circuit capacity  Cooling system capacity  Engine oil	n°  It  It  It  It	5/1 (rubber track) 6/1 (steel track) 105 90 120 25	
Rollers number (for each side)  FILLINGS  Fuel tank  Hydraulic oil tank  Hydraulic circuit capacity  Cooling system capacity  Engine oil  CONTROLS  Boom, dipper stick, bucket	n°  It  It  It  It  It  It  2 p	5/1 (rubber track) 6/1 (steel track) 105 90 120 25	
Rollers number (for each side)  FILLINGS  Fuel tank  Hydraulic oil tank  Hydraulic circuit capacity  Cooling system capacity  Engine oil  CONTROLS  Boom, dipper stick, bucket and turret swing  Tracks mouvement	n° lt lt lt lt lt 2 p	5/1 (rubber track) 6/1 (steel track)  105 90 120 25 10	
FILLINGS Fuel tank Hydraulic oil tank Hydraulic circuit capacity Cooling system capacity Engine oil CONTROLS Boom, dipper stick, bucket and turret swing Tracks mouvement (included counter rotation)	n°  It  It  It  It  It  2 p	5/1 (rubber track) 6/1 (steel track)  105 90 120 25 10  billot joysticks pilot levers	

### **ES 90 UR**



The lifting capacity is based on the ISO 10567 and it does not exceed more than the 75% of static tipping load or more than the 87% of the hydraulic lifting capacity of the machine.

Frontal and lowered dozer blade

Frontal and lifted dozer blade

MAX







#### Sampierana S.p.a.

47021 S.Piero in Bagno (FC) via Leonardo da Vinci, 40

Tel +39 0543.904211

Fax +39 0543.918520

www.eurocomach.com



COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV = ISO 9001 =