SCHAEFF

A YANMAR BRAND

COMPACT MIDI-EXCAVATOR

TC125

SUPPORTING YOUR SUCCESS

Top performance in a compact design

Schaeff midi-excavators close the gap between mini and large excavators. As a 12.5-ton machine, the TC125 is just as capable, easy to control and comfortably equipped as a large excavator. It also boasts all of the advantages of a compact design with short rear end – whether you are working on a construction site in the city, building roads or handling materials.

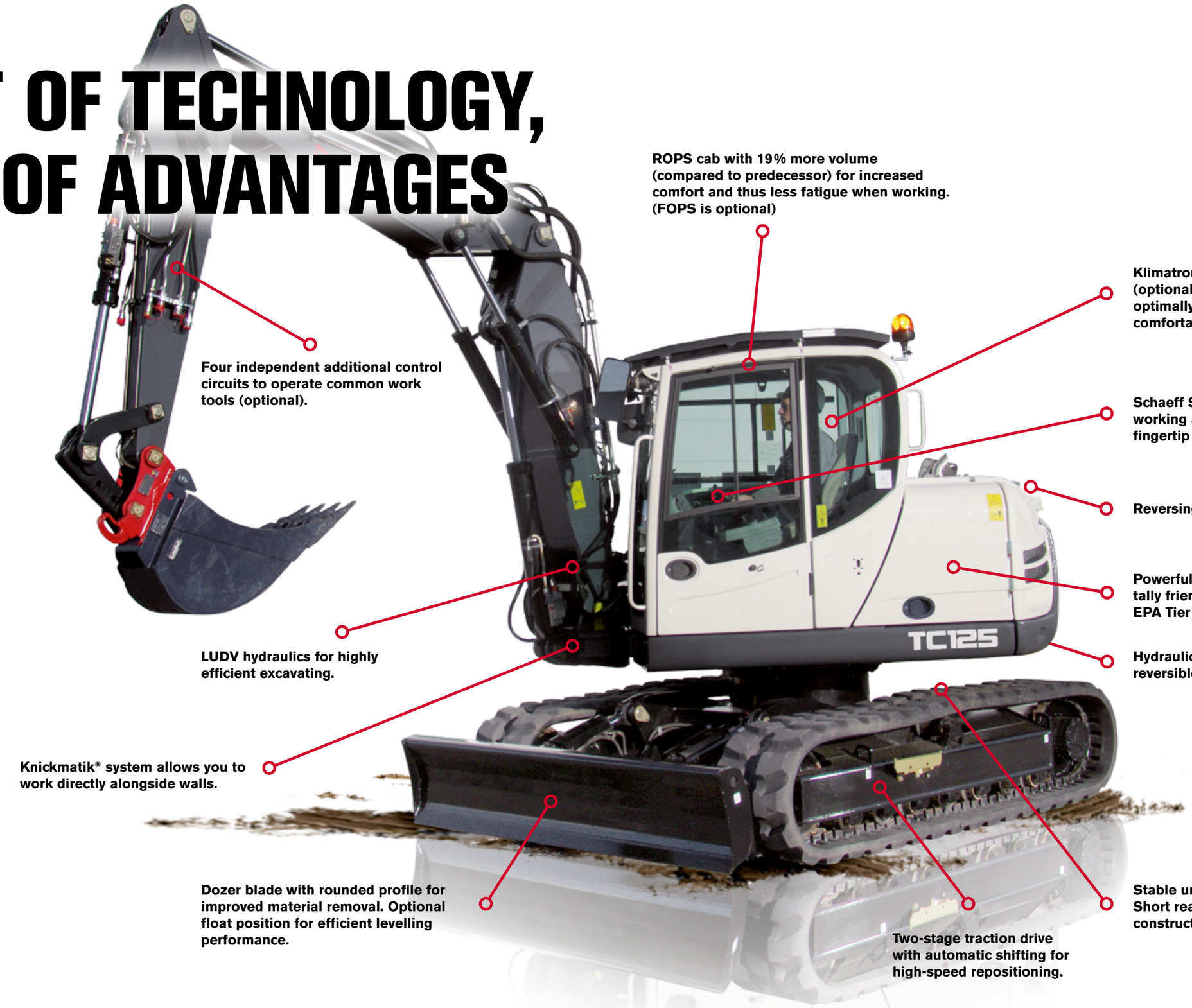
The TC125 is both economical and environmentally friendly thanks to the latest engine generation with EU Stage IV / EPA Tier 4 Final. The integrated Schaeff Smart Control System increases efficiency, allowing the operator to optimally adjust excavator performance to a wide range of applications. This minimises energy losses and saves time.

Every Schaeff midi-excavator incorporates 50 years of skill, expertise and development. Our experience comes together in our products: You get an intuitively operated, productive machine which allows you to efficiently complete all of your tasks in the most varied of locations.

Technical data

Operating weight	11.3-12.5 t
Engine performance	85 kW (116 hp)
Bucket capacity	149-477 l
Max. digging depth	4.91 m
Reach	7.99-8.65 m

A LOT OF TECHNOLOGY, LOTS OF ADVANTAGES



ROPS cab with 19% more volume (compared to predecessor) for increased comfort and thus less fatigue when working. (FOPS is optional)

Four independent additional control circuits to operate common work tools (optional).

Klimatronic: Air conditioning (optional) with very high output and optimally distributed air vents for a comfortable work environment.

Schaeff Smart Control for efficient working and operation, incl. Schaeff fingertip control.

Reversing camera as standard

Powerful, economical and environmentally friendly engine with EU Stage IV / EPA Tier 4 Final.

LUDV hydraulics for highly efficient excavating.

Hydraulic, temperature-controlled reversible fan for efficient cooling.

Knickmatik® system allows you to work directly alongside walls.

Dozer blade with rounded profile for improved material removal. Optional float position for efficient levelling performance.

Two-stage traction drive with automatic shifting for high-speed repositioning.

Stable under high load capacities. Short rear end – ideal for tight construction sites.

EFFICIENT ENGINE, ECONOMICAL OPERATION

The engine

The Schaeff TC125 midi-excavator is powered by an engine which conforms with EU Stage IV / EPA Tier 4 Final. Exhaust gas aftertreatment reduces pollutants by up to 90%, as well as nitrogen oxide (NOx), hydrocarbons (HC) and particulate matter. We achieve this with an improved combustion and injection system and a diesel oxidation catalytic converter (DOC). The engine manages without a particulate filter.

THE REVERSIBLE FAN

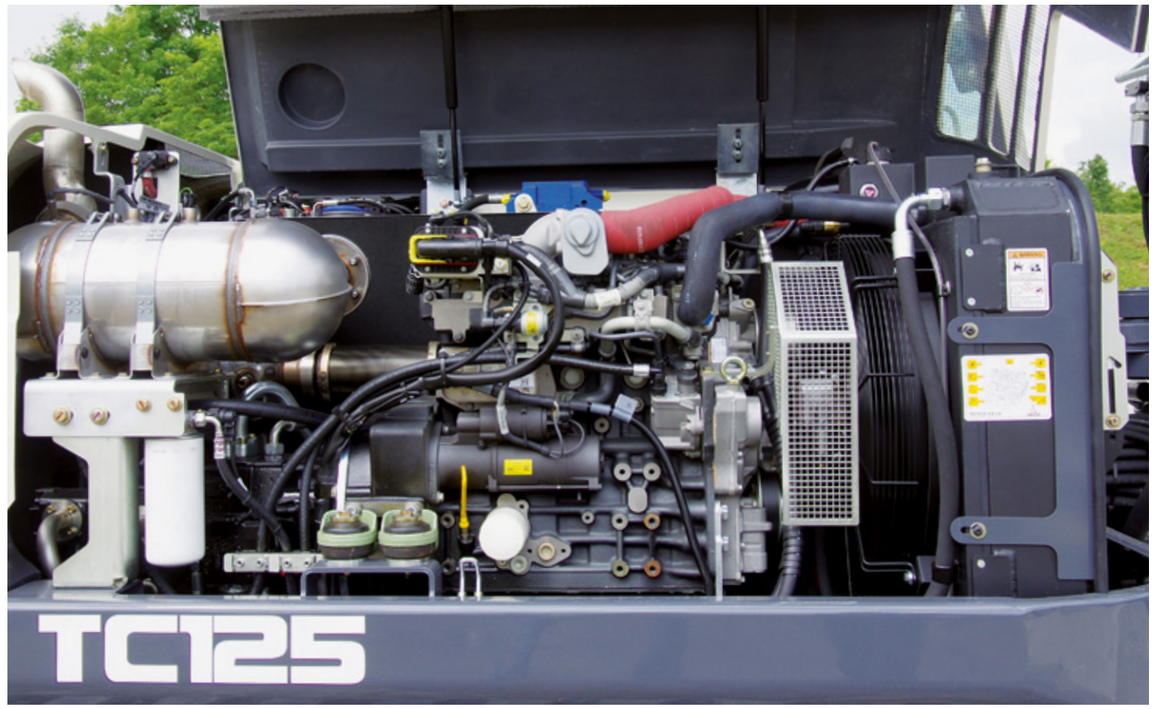
The hydraulically operated reversible fan is temperature-controlled. The cooling capacity is automatically adapted to the cooling requirement. The fan only runs when necessary. This saves fuel and reduces wear. The operator can manually switch on the fan if required. Cleaning by reversing takes place either automatically or manually.

THE AUTOMATIC IDLE FUNCTION

The automatic idle function (optional) saves fuel. In the event of inactivity, the engine switches to idle speed – thus reducing emissions and operating costs.

AUTOMATIC ENGINE SHUTDOWN

The shutdown time can be freely selected by the operator (optional).



HIGHLY COMFORTABLE, PRODUCTIVE OPERATOR

The cab

Comfort in the cockpit: The Schaeff high-performance cab offers excellent visibility, plenty of space and clearly arranged instruments. This helps the operator to stay on task – even on tough days.

DISPLAY AND INSTRUMENTS

For a better overview and more comfort – working functions and machine information are arranged centrally and are visible at a glance. Data is displayed with smartphone-style "tiles". The antireflective 7" screen is very clearly arranged and is also used as the monitor for the reversing camera installed as standard.

THE KEYPAD

Extra-wide button surfaces allow reliable operation even when wearing gloves. Can be used to operate the optional immobiliser.

THE SIDE WINDOW

The side window with manual sliding mechanism and special ventilation position ensures highly pleasant ventilation of the interior. The ventilation position is a clever solution which does not allow any water to enter the cab even in rainy and windy conditions.

PREMIUM UPGRADE

- You can customise your Schaeff midi-excavator exactly to your needs with a wide variety of comfort-related premium options such as an operator's seat with air suspension.

PRECISE OPERATION, FULL CONTROL

**A clear overview for optimal machine control:
Simple and effective controls allow every operator to control the machine productively and reliably. All controls are intuitive to operate and precisely matched to the different working cycles.**

Schaeff Smart Control

Schaeff Smart Control gives the operator maximum control over the excavator. A large number of excavator functions can be adjusted precisely to suit the operator and construction site. This makes operation of the excavator more efficient and productive.

MACHINE CONTROL EXAMPLES

- **Hydraulic control circuits** can be operated quickly. The delivery rates of the control circuits are adjusted on a percentage basis via the bar graph depending on the application and work attachment, even during continuous operation.
- **Eco Mode** is activated at the touch of a button.
- **Climate control**
  The heating and defrosting functions can be adjusted precisely to the desired conditions, automatic air conditioning optional.

Schaeff fingertip control

With the Schaeff "fingertip" control system, electro-proportional operation of the hydraulic functions is particularly simple thanks to a thumbwheel on the joystick. The operator can therefore meter the oil flow from "zero" to "full" extremely precisely, which makes it easier to actuate attachments such as a clamshell bucket, swing bucket or sweeper.

CLEVER DESIGN, HUGE BENEFITS

Chassis and drive technology

A well designed chassis forms the foundation for good working performance. The Schaeff chassis is characterised by its extremely robust design, high level of stability, powerful driving characteristics and individual configurations to match the task at hand.

AUTOMATED GEARSHIFT

- The Autoshift transmission performs automatic, pressure controlled shifting between the speed ranges – particularly helpful for levelling work.

DOZER BLADE

- The rounded form of the blade ensures excellent material movement during levelling work. The optional float position provides additional support. Furthermore, Schaeff offers an extra wide dozer blade, which is perfectly matched to the track width. To clean the construction site, for example, work with the bucket can thus be done directly against the blade.

CRAWLER TRACKS AND HANDLING CHARACTERISTICS

- The steel tracks installed as standard are the right solution for rough terrain. The large contact area resulting from their design ensures comfortable handling characteristics. Rubber tracks are available optionally for special purposes. Independent and individually controllable track motors ensure precise manoeuvring.

VARIOUS CRAWLER TRACK OPTIONS

- Depending on the terrain and application:
  - **Rubber tracks** – for asphalt and soft surfaces.
  - **Standard steel tracks** – robust on rough terrain.
  - **Wide steel tracks** – lower ground pressure when working on softer ground.
  - **Combined "Roadliner" track** has proven its worth on very different types of terrain. To minimise costs, only the rubber-coated steel plates have to be changed when worn – not the entire track.

TRACK MAINTENANCE

- The tracks run alternately on the inside and outside of the rollers to minimise wear. The rollers are greased for life and sealed, resulting in very minimal maintenance requirements. The drive motors, transmission, piping and hoses are protected from damage by the floor panel. This panel can be opened if necessary in order to access the components from underneath.

PRODUCTIVE WORK

Strong boom and hydraulics

The Schaeff boom systems are perfect for three things: reach, digging depth and all common tool attachments.

BOOM SYSTEMS

A variety of boom systems and dipper arms allow the TC125 to be customised to your individual requirements.

- **Mono boom:**
  The mono boom achieves particularly fast working cycles. Thanks to its robust design, it also copes effectively with high loads.
- **Articulating boom:**
  With outstanding vertical digging depth, long reach and considerable discharge heights, the articulating boom suits a wide range of different requirements.

CYLINDERS

All cylinders are equipped with end position damping for vibration-free working. To protect against damage, the boom cylinders are top-mounted.

DIPPER ARM

The extended dipper arm (optional) extends the reach and digging depth and is supplied in a standard or long version.

KNICKMATIK®

The ability to tilt the boom to the side makes it possible to work even on extremely cramped construction sites. The total articulation angle is 120°. **Special advantage:** It is possible to work across the entire track width on both sides without having to reposition the machine. The Knickmatik® cylinders are protected against collision damage.

HYDRAULICS

Thanks to four independent control circuits, the TC125 Midi-Excavator performs even better with work attachments. The operator controls a tilt-rotator with hydraulic quick-attach system plus a hydraulically powered tool such as a sorting grab, asphalt cutter or rotary cutter. The control circuits do not influence each other. All working cycles and functions can be operated simultaneously and independently of each other. Due to the servo-assisted controls, working cycles are smooth and more comfortable.

OPERATION OF WORK ATTACHMENTS

The hydraulic pump provides a delivery rate of approx. 190 l/min to power work attachments. The machine achieves faster working cycles for more productivity.

Work attachments

High versatility due to numerous options and work attachments. Tried and tested tools:

- **Light material bucket**
- **Standard bucket**
- **Ditch cleaning bucket**
- **Swing bucket**
- **Hydraulic rotary cutters**
- **Ripper tooth**
- **Breaker adapter**
- **Load hook**
- **Load hook, bolt-on**
- **Mechanical quick-attach mechanism**
- **Hydraulic quick-attach mechanism**
- **Pallet fork**

MINIMISE DOWNTIME

Service

To ensure that your Schaeff TC125 is up and running again quickly, all service and maintenance work on your machine is kept as simple as possible. Daily work can be performed from the ground to save time.

- Refuelling is simple and time-saving thanks to the easily accessible service flap.
- The engine bonnet can be opened easily thanks to large pneumatic springs. The starter motor, alternator, battery, injection pump as well as the fuel and air filters are easily accessible.
- A service strip with the electrical centre is integrated into the service steps: all relays and fuses can thus be accessed easily from the ground. The flap can be opened without the use of tools.
- None of the main hydraulic components are installed under the cab. Tilting the cab is not necessary.

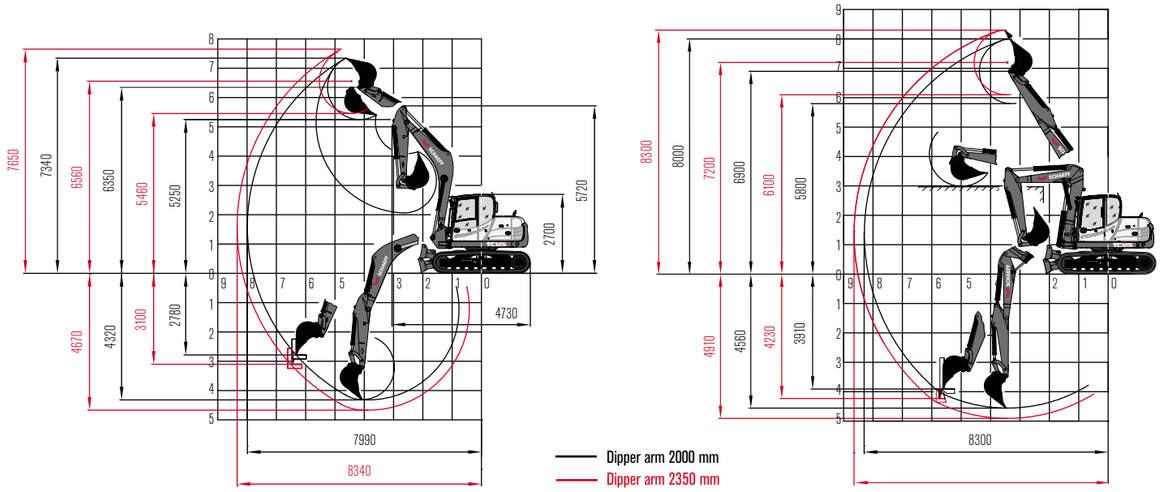
DIAGNOSTIC CONNECTOR

The diagnostic connector for engine and machine data speeds up maintenance and servicing thanks to better communication between man and machine. CAN bus data is shown on the display.

A FURTHER ADVANTAGE

- We will promptly supply any genuine Schaeff part to your dealer – wherever they are in the world.

WORKING RANGE & DIMENSIONS: MONO BOOM / ARTICULATING BOOM



Dipper arm 2000 mm
Dipper arm 2350 mm

LIFTING CAPACITIES

Bucket hinge height		Load radius from centre of ring gear									
Dipper arm 2000 mm		3.0 m		4.0 m		5.0 m		6.0 m		6.6 m	
Mono boom		End	Side	End	Side	End	Side	End	Side	End	Side
3.0 m	S	–	–	3.20	3.00	2.60	1.90	2.40	1.40	2.20	1.10
	T	–	–	2.90	2.50	2.10	1.80	1.70	1.30	1.30	1.00
1.5 m	S	–	–	5.40	2.40	3.50	1.80	2.80	1.30	2.50	1.00
	T	–	–	3.00	2.20	2.10	1.60	1.60	1.20	1.20	1.00
0 m	S	7.40	4.10	5.60	2.30	4.00	1.60	2.70	1.30	2.70	1.10
	T	5.70	4.00	2.80	2.10	2.00	1.50	1.50	1.10	1.20	1.00
- 0.9 m	S	–	–	5.80	2.30	4.00	1.60	3.10	1.30	2.90	1.20
	T	–	–	2.90	2.10	2.00	1.50	1.50	1.20	1.40	1.10

Bucket hinge height		Load radius from centre of ring gear									
Dipper arm 2000 mm		3.0 m		4.0 m		5.0 m		6.0 m		7 m	
Articulating boom		End	Side	End	Side	End	Side	End	Side	End	Side
3.0 m	S	–	–	3.40	3.30	2.70	2.40	2.30	1.60	2.10	1.10
	T	–	–	3.20	3.20	2.60	2.00	2.00	1.50	2.00	1.10
1.5 m	S	5.00	5.00	4.50	2.60	3.20	2.30	2.60	1.50	2.00	1.10
	T	4.60	5.00	3.40	2.50	2.80	2.30	1.90	1.50	1.40	1.10
0 m	S	7.40	4.10	4.40	2.60	3.50	1.90	2.80	1.40	2.00	1.00
	T	5.70	4.00	3.40	2.60	2.40	1.80	1.80	1.30	1.30	1.00
- 0.6 m	S	8.00	4.00	4.90	2.60	3.60	1.90	2.70	1.40	–	–
	T	5.50	3.90	3.40	2.50	2.40	1.80	1.70	1.30	–	–

All values in tons (t) were determined acc. to ISO 10567 and include a stability factor of 1.33 or 87% of the hydraulic lifting capacity.
All values were determined with quick-attach system but without bucket. If work attachments are attached, the deadweights of the attachments must be deducted from the permissible operating loads.
Working equipment: rubber crawlers.
Abbreviations: S = Supported by blade, T = Travelling

DIMENSIONS

Fig. 1:
Working envelope

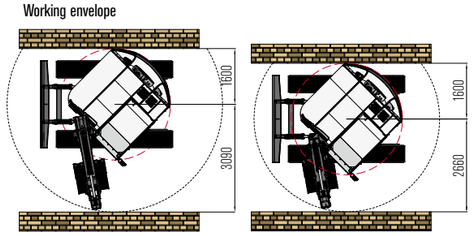
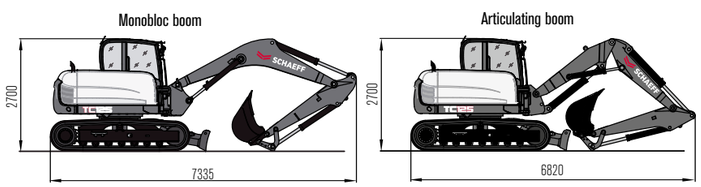


Fig. 3:
Transport position



TECHNICAL DESCRIPTION

TC125

ENGINE

Manufacturer, model	Deutz, TCD3.6 L4
Type	4-cylinder, turbo diesel engine with charge air cooling, EU Stage IV / Tier4 Final
Combustion	4-stroke, Common Rail injection
Displacement	3600 cm^3
Power output according to ISO 9249 at 2000 rpm	85 kW (116 hp)
Torque	400 Nm at 1600 rpm
Cooling system	Water

ELECTRICAL SYSTEM

Supply voltage	12 V
Battery	12 V / 135 Ah
Alternator	14 V / 95 Ah
Starter	12 V / 4.0 kW

TRACTION DRIVE

Hydrostatic drive with planetary reduction gears on sprocket drives. Multi-disc brake acting as parking brake, automatically bled. 2-stage variable displacement motor, full power shift.

2 speed ranges:

Travel speed, forward and reverse	0 – 2.7 / 5.4 km/h
Gradeability	> 60 %
Drawbar pull, 1st / 2nd speed range	8358 / 4253 daN

UNDERCARRIAGE

Maintenance-friendly B4 track-type undercarriage with triple grouser plates or rubber crawlers. Idler suspension with hydraulic crawler-chain tensioning.

Width of rubber crawlers / steel crawlers	500 / max. 800 mm
Total length (sprocket - idler)	2628 / 2608 mm
Total length (undercarriage)	3345 mm

DOZER BLADE

Independent of drive train, sensitive control via separate hand lever.

Width x height	2500 x 510 mm
Dozer cut below ground	400 mm
Dozer lift above ground	500 mm
Slope angle	35°

STEERING

Independent individual control of crawler chains, also in opposite sense. Sensitive control provided by servo-assisted hand levers combined with foot pedals. Full drawbar pull even when cornering.

SWING SYSTEM

Hydrostatic drive with 2-stage planetary gear and axial piston fixed displacement motor, also acts as wear-resistant brake. In addition, spring-loaded multi-disc brake acting as parking brake.

Swing speed	0 – 10 rpm

KNICKMATIK®

Lateral parallel adjustment of boom arrangement at full dig depth.

Angle of articulation / lateral adjustment left	65° / 855 mm
Angle of articulation / lateral adjustment right	56° / 995 mm

FILLING QUANTITIES

Diesel tank capacity	240 l
Hydraulic system (incl. tank)	230 l
AdBlue tank	10 l

OPERATING DATA, STANDARD EQUIPMENT

Operating weight (mono boom) acc. to ISO 6016	11500 kg
Operating weight (articulating boom) acc. to ISO 6016	11300 kg
Undercarriage (steel crawlers) 500 mm	+310 kg
Transport dimensions: Mono boom / articulating boom (L x H)	7350 x 2700 / 6820 x 2700
Total width with dozer blade	2500 mm
Total height (top of cab)	2870 mm
Ground clearance	420 mm
Uppercarriage tailswing	1600 mm
Uppercarriage frontswing (mono boom)	2660 mm
Working envelope 180° (mono boom)	4260 mm
Working envelope 360° (mono boom)	5320 mm
Bucket digging force acc. to ISO 6015 (mono boom)	81,500 N
Ripping force acc. to ISO 6015 (mono boom / articulating boom)	61,000 N
Ground pressure (rubber crawlers, mono)	0.36 daN/cm^2
Ground pressure (steel crawlers, mono)	0.37 daN/cm^2
Ground pressure (rubber crawlers, artic.)	0.35 daN/cm^2
Ground pressure (steel crawlers, artic.)	0.36 daN/cm^2

HYDRAULICS

Working hydraulics: Axial-piston variable displacement pump with load sensing, coupled with load-independent flow distribution (LUDV). Simultaneous, independent control of all movements. The fine control range is maintained in all load conditions.

Max. pump capacity	190 l/min
Max. working pressure	350 bar

The thermostatically controlled oil circuit ensures that the oil temperature is promptly reached and avoids overheating. Hydraulically powered fan with reversing function. Return filter installed in oil tank allows for eco-friendly replacement of filter elements.

Triple gear pump for all positioning movements, pivoting of uppercarriage and hydrostatic fan.

Max. pump capacity	38 + 38 + 38 l/min
Max. working pressure	230 bar

Control circuit for work attachments (proportionally operated):

Pump capacity, adjustable up to max.	20 – 120 l/min
Max. working pressure	350 bar

Two servo-assisted joystick controls (ISO) for excavator operations.

CAB

Spacious, soundproof, full-view ROPS steel cab. Sliding window in driver door. Safety glazing, green tinted thermal windows. Thermal roof window, bronze tinted. Panoramic rear-end window. Pneumatic spring-assisted front window, can be retracted under the cab roof. Ventilation position by tilting front window. Window washing system. Stowage compartment. Prepared for radio installation. Left-hand outside mirror.

Cab heater with front window defrosting by coolant heat exchanger with stepless blower. Fresh air and air recirculation filter.

Operator's seat MSG 85 (comfort version), hydraulic damping, high backrest, tilt-adjustable armrests, fore/aft isolator, mechanical lumbar support. Lap belt.

Instrument panel on the right-hand side of the operator's seat with visual & acoustic warning device, hour-meter and safety module.

Working floodlights Halogen H-3.

Sound level values in compliance with EC directives.

Sound power level L_{WA}	100 dB (A)
Sound pressure level L_{pA}	74 dB (A)

Sound level values measured according to directive 2000/14/EC and EN474.

Effective values of acceleration for entire body	below 0.5 m/s^2
Effective values of acceleration for hand-arm	below 2.5 m/s^2

WORK ATTACHMENTS

BUCKETS

Bucket, QAS	400 mm wide, capacity 149 l
Bucket, QAS	500 mm wide, capacity 200 l
Bucket, QAS	600 mm wide, capacity 254 l
Bucket, QAS	700 mm wide, capacity 308 l
Bucket, QAS	800 mm wide, capacity 364 l
Bucket, QAS	900 mm wide, capacity 421 l
Bucket, QAS	1000 mm wide, capacity 477 l
Ditch-cleaning bucket, QAS	1500 mm wide, capacity 371 l
Swing bucket, QAS	1500 mm wide, capacity 371 l
Swing bucket, QAS	1800 mm wide, capacity 430 l

GRABS

Clamshell grab GS 3325, grab swing brake	set of shells 325 mm wide, capacity 150 l
Clamshell grab GS 3400, grab swing brake	set of shells 400 mm wide, capacity 200 l
Clamshell grab GS 3500, grab swing brake	set of shells 500 mm wide, capacity 250 l
Clamshell grab GS 3600, grab swing brake	set of shells 600 mm wide, capacity 325 l
Ejector	

OTHER WORK ATTACHMENTS

Ripper tooth / QAS (1 tooth)	Quick-change adapter for hydraulic breaker
Hydraulic breaker	Bolt-on load hook for bucket rod
Auger	Load hook integrated in quick-attach system
Further work attachments available on request	

OPTIONAL EQUIPMENT

BOOM OPTIONS

Articulating boom, with dipper arm 2000 mm
Articulating boom, with dipper arm 2350 mm
Mono boom, with dipper arm 2000 mm
Mono boom, with extended dipper arm 2350 mm

CRAWLER TRACK OPTIONS

Rubber crawler track, 500 mm wide
Rubber-coated steel crawler track 'Roadliner', 500 mm wide
Steel crawler tracks up to 800 mm wide

SUPPORT SYSTEMS

Front dozer blade, long version

HYDRAULICS

Second control circuit (e.g. for sorting grab)	Biodegradable hydraulic oil / ester-based HLP 68 (Panolin)
Open return	Dozer blade float position
Schaeff 'Fingertip' control incl. second additional control circuit on left joystick	Schaeff 'Fingertip' control incl. third additional control circuit on left joystick
Conversion kit from ISO controls to Schaeff controls	Switching from ISO to SAE controls

DIESEL ENGINE

Diesel particulate filter

DRIVER'S CAB

Lighting package: Double beam working floodlight - cab-mounted rear centre, working floodlight cab-mounted - front right	FOPS roof window grille
Additional boom-mounted working floodlight	Radio set installation kit
Yellow rotating beacon	Sliding window on right-hand side

OPERATOR'S STAND

Operator's seat MSG 95 (premium version), air suspension, high backrest and tilt-adjustable armrests, fore/aft isolator, seat and backrest heating, pneumatic lumbar support	
Klimatronic	Thermoelectric cool box

OTHER OPTIONAL EQUIPMENT

Additional rear weight 480 kg	Anti-theft device (immobilizer)
Quick-attach system, mechanical (genuine Lehnhoff system), type MS08	Quick-attach system, hydraulic (genuine Lehnhoff system), type MS08
Hydraulic installation for quick-attach system	Electrical refuelling pump
Diesel stationary heater with fresh air circulation and timer	Boom-mounted working floodlight
Special paintwork/adhesive films	Other additional equipment available on request

SCHAEFF
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