

Efficiency, Profitability, Safety

for excavators 1.5 - 33 tons

engcon[®]



Gen II

Q-Safe[™]

EC-Oil[™]

Innovative solutions increase our customers' profitability

For over 25 years, Engcon has manufactured and developed tiltrotators and today we are world leaders in this field. The name Engcon is synonymous with the tiltrotator - a fact we're very proud of, but we do so much more than this. We are working constantly on designing and developing new products that will make everyday life a little easier for you. With the market's widest product range, we can customize equipment to meet your specific needs and because we make all our own stuff - from control systems to hitches, buckets and attachments to EC-Oil automatic hydraulic connections - you only have one number to call.

Our smart solutions and increased efficiency have given our customers profitable choices coupled with world-class safety.

This is the latest issue of engcon's tool catalogue. In it you can read about EC233, our new tiltrotator for excavators up to 33 tons, the world's first automatic tilting system for tiltrotators, our new locking system, our powerful combi / timber grab and much more.

| engcon



engcon Quality Certification
SS-EN ISO 9001:2008



engcon Environmental Certification
SS-EN ISO 14001:2004

engcon reserves the right for any printing errors.
Functions and specifications may be changed without prior notice.



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engcon | Options that increase profit

Create your own Engcon system.

QSC | Standardized locking system
Use the same locking system across the fleet.

MIG2 | Joystick
Up to 7 buttons and 3 rollers per stick. Retrofittable on all control systems.

DC2 | Control system
Smartphone enabled for remote diagnostics and support.

ePS | engcon Positioning System
For all models EC209 and upwards. Works with all systems.

Q-SAFE-D | Quick hitch
Quick hitch with detachable function including EC-Oil connections. Grippers and sweeper roller are available now with others planned.

Q-SAFE | Excavator quick hitch
Excavator quick hitch with or without EC-Oil - for fast, automatic connection of hydraulic attachments. Ground pressure sensor, and slew and boom restriction as an option.

GRB | Grading beam
Hard wearing surfaces, adjustable roller and optional side extensions.

Top bracket | Bolted
Bolted - with and without EC-Oil. To connect Engcon and aftermarket attachments to the Q-Safe hitch system.

PP3200 | Compactor
Now with trenching blade and width extension kit.

GRD Detachable gripper

SWD Detachable sweeper roller

EC-Oil

EC-Oil

Side extensions



New tiltrotator for excavators up to 33 tonnes

- + 45 degree tilt angle for best access
- + Powerful construction with cast body
- + Prepared for ePS - engcon Positioning System
- + Tilt cylinders with check valves
- + Q-Safe as standard
- + Prepared for EC-Oil Automatic Oil Coupling System (Full Hydraulic Quick Mount)
- + Central lubrication system
- + High flow as standard



Over the past few years, Engcon has been upgrading its first generation tiltrotators and the latest heavyweight EC233 is now set to replace the EC30.

This spring, we are launching the EC233, a brand-new tiltrotator for excavators up to 33 tonnes. It is a so-called Generation 2 model, built according to the very latest tiltrotator technology. Its many features and characteristics include a 45-degree tilt angle for best access, robust design with cast body, a central lubrication system and heavy-duty shaft bearings for extended service life, ePS ready – the Engcon Positioning System for synchronization with an excavator guidance system for maximum efficiency. Standard equipment includes tilt cylinders with check (load holding) valves and the Q-Safe quick hitch for maximum safety.

“It will be Engcon’s most powerful tiltrotator yet. We have great confidence in the model as it was tested hard on big machines during the Swedish winter of 2016/2017,” says Fredrik Jonsson, Head of R&D at Engcon.

EC233 will be on show at exhibitions throughout this summer and during the autumn, the first delivery models will start rolling out. Full scale production is expected to start around the beginning of 2018.



Engcon tilts automatically with Leica Geosystems

Working in close collaboration with Engcon, the largest tiltrotator manufacturer in the world, Leica Geosystems has developed iXE CoPilot – a revolutionary new automatic tilt system for the latest Engcon tiltrotators. The Engcon's tilt function can be fully automated using iXE CoPilot software in combination with a Leica 2D or 3D excavator guidance system, Engcon's DC2 control system and ePS (Engcon Positioning System).

The excavator guidance system provides a digital three-dimensional drawing of an area to be dug, which is then displayed on a screen in the cab. The display also shows the excavator and the bucket position, how deep the operator needs to dig as well as the height and angle of any contours to be created. Equipped with the new auto-tilt facility, the digging system can control the tilt function on the tiltrotator automatically – saving operator time and effort. For safety purposes, the operator can manually override the automated control at any time. See the film about iXE CoPilot and Engcon:



youtube.com/watch?v=DnGP8fcRhtc&

- Technical specification for auto tilt of Engcon:**
- Tiltrotator models:** Engcon EC209, EC214, EC219, EC226, EC233 and EC30 with ePS*
 - Control system:** DC2
 - Guidance system:** Leica iXE2 and iXE3 + iXE CoPilot software

Meets the safety requirements of EN 13849-1: 2016
 * Engcon Positioning System is available on Engcon's tiltrotators either as a factory-fit or retrofit option.

” Our auto tilt system Leica iXE CoPilot together with an Engcon tiltrotator combines the best of both worlds when it comes to streamlining excavators

Nick Guadagnoli,
 Leica Geosystems



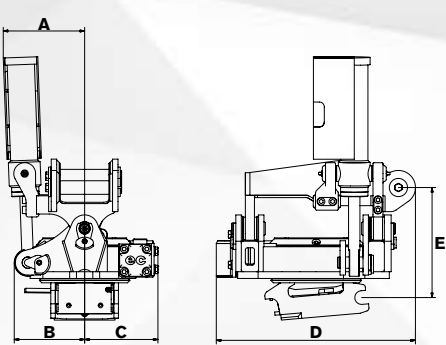
Tiltrotators | 1.5 to 33 tonnes

Engcon's tiltrotators are designed to fit most excavator types, including tracked and wheeled 360° machines as well as 180° backhoes.

The second generation tiltrotators feature a cast body which is stronger and lighter than the welded equivalents. It has been designed to be easier to service and has a greater tilt angle. With a shielded hydraulic motor and grease-filled swivel drive for better stop-start performance and environmental protection, the new series also boasts central lubrication.

Features and Benefits

- + 45° angle allows enhanced grading and offset digging
- + Central lubrication means faster daily pre-start routine
- + Strong tilt and rotational torque for more efficient excavation
- + Larger bearing surfaces for longer life and more hours between servicing
- + Redesigned housing allows faster and simpler servicing
- + New High Flow swivel with flow rates up to 100l/min increases range of usable attachments
- + Better hose routing prevents snagging and downtime.
- + Optimised valves for better fuel economy
- + Load retaining valves as standard – greater inbuilt safety
- + Cast bodies are lighter and stronger, giving better fuel efficiency and machine utilisation.



* Applies with selection of QS45-QS80 upper tilt section
** Compatible with Leica Geosystems, Scan laser, Topcon, Trimble, Novatron, MOBA (2017); check compatibility with your excavator guidance system supplier.
*** Check compatibility with your excavator guidance system supplier.

TECHNICAL INFORMATION

Type	EC02B	EC204	EC206	EC209	EC214	EC219	EC226	EC233*	EC30
Width A: (mm)	from 180	267	286	266	320	396	426	501	527
Width B: (mm)	155	161	220	250	285	315	340	385	385
Width C: (mm)	160	169	219	273	303	310	340	385	385
Overall length D: (mm)	435	463	500	561	665	737	760	878	895
Construction height E: (mm)	from 245	from 310	from 380	from 425	from 457	from 480	from 500	from 673	from 657
Weight : (kg)	from 77	from 116	from 170	from 287	from 385	from 447	from 632	from 812	from 850
Tilt range:	2x40°	2x45°	2x45°	2x45°	2x45°	2x45°	2x45°	2x45°	2x40°
Recommended hydraulic flow SS5/SS10 (l/min):	25	30	40	60	80	120	120	120	120
Recommended hydraulic flow SS9 tilt/rotation: (l/min):	7/20	10/25	15/30	35/40	35/50	65/70	70/70	70/70	86/80
Max hydraulic pressure: (MPa)	22	22	22	22	22	22	22	25	22
Standard mountings:	S30	S40	S40, S45, S50	S45, QS45, S50, QS50	QS45, QS50, QS60	S60, QS60	S70, QS70	QS70, QS80, S2	S70, OS70, QS80, S2
Max bucket width recommended by engcon: (mm)	900	1 000	1 200	1 300	1 600	1 700	2 000	2 200	2 200
Max tensile stress: (kNm)	20	28	45	74	126	186	270	340	320
Base machine weight: (t)	1.5-2.5	2-4	4-6	6-9	9-14	14-19	19-26	24-33	22-32

*Series production scheduled for beginning of 2018

Q-SAFE-D, GRD & SWD

New quick hitch and smart accessories for maximum and safe freedom of choice

Already recognised as one of the world's safest quick hitch systems, Engcon have taken the initiative by increasing the practicality (and profitability) of the Q-Safe system still further. On larger sites with significant numbers of operatives moving around, enhanced safety features such as pin position detection, bucket grounding and boom restriction are already putting the Q-Safe system into the lead. See pages 14 & 15 for more details.

But in making the world's safest quick hitch, Engcon decided that there should also be a compelling commercial reason for its use within the Owner-Operator sector. This reason is EC-Oil, the automatic hydraulic connection that allows swift changeover of attachments such as flails, grabs, compactors, breakers and shears without having to turn off the engine, depressurise the system, uncouple hoses and all of the other time-consuming tasks associated with this activity. Engcon operators regularly change hydraulic attachments many times an hour to maximise their effectiveness and profitability, simply because they can: Changing an hydraulic attachment in under 15 seconds compared to the 10 minutes by conventional means does not need an accountant to calculate the payback for the investment in EC-Oil.

Safety and effectiveness combined

Now Engcon has taken the next step with the introduction of the QSD Hitch – a Q-Safe unit with a detachable function that accepts a special cassette on two high-strength hooks supplemented with a double rear locking mechanism. Not only does hitch lock in the event of mechanical failure, but the cassette is available as either a bolted version or with a quick release system. Critically, both the cassette and the all-new QSD hitch have matching male and female hydraulic ports to allow a new generation of hydraulic cassette mounted attachments to be used above and alongside the hydraulic or regular attachments mounted under the tiltrotator quick hitch.

Detachable Gripper Cassette (GRD)

To launch this system, Engcon have chosen two of their most popular options to work with the detachable

hydraulic cassette. The first, perhaps unsurprisingly, is the gripper. Codenamed GRD, this unit can be retrofitted to the new QSD hitch whereas previously it was necessary to order it as a fixed option at the time of the original Engcon order. Allowing Owner-Operators more financial flexibility to build their array of attachments over time, it helps future-proof their investment. Similarly, having a detachable gripper allows working in narrower areas where the rams of the fixed unit may otherwise interfere with obstructions.

The gripper is angled at 15 degrees to the body of the tiltrotator to provide a longer reach at full extension. Two versions are available – GRD10 for S45 systems and GRD20 for S60 systems.

Detachable Sweeper Roller Cassette (SWD)

Just as with the GRD gripper cassette, the SWD sweeper roller cassette can be retrofitted on the QSD hitch using the same hook and lock system. The action of locking the cassette also closes the hydraulic circuits, enabling the sweeper control through the cabin joysticks. As well as featuring a powerful, reversible hydraulic motor which allows the sweeper to operate in both directions, the arm is controlled by a hydraulic ram to raise and lower the sweeper as necessary. By mounting the SWD on the Engcon tiltrotator using the QSD hitch facility, this leaves the standard Q-Safe hitch below the tiltrotator free to carry a suitable bucket behind and underneath the sweeper in an excavator-sized 'dustpan and brush' arrangement.

The SWD system is designed with flexibility in mind. The narrowest version is adapted for cable applications, which facilitates excavation of existing cables or pipes and means fewer breakages are likely since the excavator can dig to the safe depth and then SWD sweeps down the rest.

Elsewhere on site, the SWD can be used for site cleaning duties; either brushing aside or, in conjunction with a suitably sized bucket, for removal of material. Wider brush versions are available (as are buckets) to suit the application in hand.

Heavy-duty carriers combined with a strong and robust locking mechanism and automatic hydraulic connection enables the QSD hitch to carry additional cassette-mounted hydraulic attachments.



GRD | Detachable gripper cassette



SWD | Detachable Sweeper roller cassette



EC-Oil is updated with newly developed electrical connectors



Maximum contact with new EC-Oil

As the only tiltrotator manufacturer to produce its own automatic hydraulic connection system, available as a factory option or retrofit, EC-Oil has gained rapid acceptance within the excavator community. Engcon's policy of continuous development has led to a completely new electrical connector with stronger, redesigned blades.

The new plug and socket design has 12 larger pins and has been tested with tens of thousands of connections in dirt, saltwater, snow, etc. during the winter of 2016/17; with outstanding results. Each blade is wedge-shaped and fits some 20mm into the spring-loaded socket, providing a self-cleaning effect and giving maximum contact.

Engcon's EC-Oil couplers are simple and strong. Each male and female coupler has just one O-ring which is easily accessible for replacement and the flat faces of the couplers are quick to clean.

All of this makes EC-Oil the most affordable hydraulic coupling system available in the market.

We've also improved the mounting of the couplers to allow for play in the hitches and brackets, meaning lower downtime and callouts. For this reason the new blocks are not compatible with earlier versions and can only be mounted to Q-Safe hitches and attachments delivered from the beginning of 2016.

New EC-Oil is compatible with Q-Safe brackets QS45, QS50, QS60, QS70 & QS80 sizes for 6-33 ton excavators. QS60 will be first with deliveries around mid-June after which other sizes will be introduced in the summer and autumn of 2017.



Security

Non
Accident
Generation

With Engcon,
it's never Safety or Profit

We believe safety and profit go hand in hand. If you design something to be safer at the outset, the costs are minimised and the benefits to the users and those around them pay for themselves many times over. By constantly innovating with safety as an absolute priority, you have the reassurance that choosing Engcon's products means it's one less thing for you to worry about.

Welcome to Non Accident Generation from Engcon

► **Q-Safe** | **EC-Oil** | **ePS** | **MIG2** | **QSC** | **DC2**



Quick coupler | **Q-SAFE**

The safest quick coupler in the world

Q-Safe is Engcon's newly-developed quick coupler. With advanced detection and control systems, Q-Safe hard-wires the manufacturer's operating instructions into the system, meaning the operator cannot accidentally drop attachments.

Q-Safe's control system requires ground contact to disengage attachments, when used in conjunction with the DC2 control system. Visible and audible warnings are activated when the hitch is in an unsafe (open) condition. Slew and boom control can be disabled during hitch operation as an option.

- Front and rear axle sensors detect when the attachment is not fully in place, initiating warning signals and disabling machine functionality (optional)
- Hydraulic safety valves, reinforced with strong return springs ensure that the hitch remains locked in the event of hydraulic failure
- The hitch controls require positive ground pressure (i.e. the attachment to be grounded) to allow the hitch to be opened.
- Q-Safe's systems effectively prevent the operator from accidentally deviating from the manufacturer's safe working instructions.



QLM | Q-Safe Light Module

QLM is a system used in conjunction with the Q-Safe hitch to warn the operator and others nearby that the hitch is in a potentially unsafe condition – for example when changing attachments – by providing a visible and audible warning from the

QLM unit mounted on the left hand side of the dipper.

As well as accurately detecting axle positions (i.e. both front and back pins are fully home and the hitch locked), the QLM can be set to allow hitch

operation only when there is positive ground pressure to ensure that the attachment is fully grounded before the hitch is opened.

QLM and Q-Safe can also be ordered with Boom and Slew control

as an option. This disables the boom and slew functions of the excavator when changing attachments, preventing the operator from moving buckets around the site without fully locking the hitch on both axles.

Hitch locking system | QSC

Standardised hitch operation across the fleet

If you have multiple excavators with operators that switch between machines, how do you prevent dropped buckets because of operator error arising out of confusion between the different hitch controls?

With around 20 different excavator manufacturers there is no agreed standard of hitch control. As an Owner-Operator, you may have three or four different makes of machine in use at any one time, with operators switching between excavators as the work demands. The operators will be fully trained and hold the appropriate licenses, but each time they change digger they have to adapt to the different hitch operating system and sequences. It's the equivalent of switching the accelerator and brake pedals around in a family car. At best, the operator takes more time to think about which button to press to change the attachment. At worst, he doesn't.....

Engcon believes passionately about excavator safety. Our Q-Safe hitch has already gained wide acceptance – and awards – for its innovation and enhanced automatic safety systems. Indeed, the QSC locking system has been developed by our Engineers to utilise the advanced features of Q-Safe, but in doing so they created a logical locking sequence that would apply to all hitch types, irrespective of manufacturer or model. From there it was a natural progression to create a control panel that was ergonomically clean, attractive, simple to understand and use and capable of retrospective fit across an excavator fleet.

The QSC locking system can not only improve the function of most quick hitch systems on the market today, but can also control hydraulic connection systems such as Oil Quick, EC-Oil etc. An important safety feature of the QSC locking system is that, as well as standardising the hitch operation across different machines, it also adds the requirement for positive ground pressure on the hitch/dipper before the hitch will operate. This means that

"It's comparable to having different positions for brake and accelerator pedals depending on the make of a car."

buckets must be grounded before the hitch can be opened, which in turn reduces the risk of personal injury caused by falling attachments.

When used in conjunction with the Engcon Q-Safe hitch, audible and visual alerts operate when the bucket axles are not in the correct (locked) position by using Q-Safe's in-built proximity sensors. It is an optional extra of this system that

the excavator's slew and boom functions can be disabled when the hitch is not fully closed.

The current European and UK (HSE) regulations require that, firstly, the hitch can't drop a bucket if the hydraulics fail, and that operators follow the manufacturer's safe working instructions. QSC and the Q-Safe quick hitch system deliver the former through advanced hydraulic and mechanical controls. This is the only quick hitch system in the world to deliver the second, automatically, by hard-wiring the safe working procedures into the sensors and controls. In short, the operator can't short-cut the system and has to work safely.



Q-Safe™ Quick Coupler

QS45–QS80/QS45-ECO–QS80-ECO:

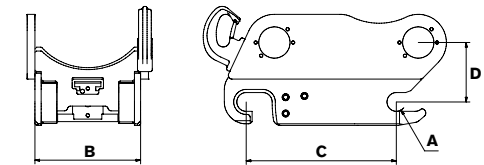
Q-Safe™ – the world's safest quick coupler!
For all excavators in the 6–33 ton weight class.

- Multi-layered safety system:
 - Hydraulic safety system works through sensing the tool or attachment is in ground contact to be able to operate the quick hitch lock.
 - Check valves and powerful return springs prevent the hitch opening in the event of hydraulic failure.
 - The control system detects when the hitch is open, or the axles not fully engaged and triggers both audible and visible warnings as well as disabling excavator functions.
- Front and rear axle sensors detect when the attachment is not fully in place, initiating warning signals and disabling machine functionality (optional)
- Hydraulic safety valves, reinforced with strong return springs ensure that the hitch remains locked in the event of hydraulic failure
- The hitch controls require positive ground pressure (i.e. the attachment to be grounded) to allow the hitch to be opened.
- Q-Safe's systems effectively prevent the operator from accidentally deviating from the manufacturer's safe working instructions.
- Q-Safe QS45, QS60, QS70 and QS80 are factory prepared for EC-Oil for automatic hydraulic and electrical connectivity within the hitch
- Distributes the digging forces through the hitch body, rather than the hydraulic ram
- Longer 'shark-jaws' for easier and safer collection of tools
- Low construction height and low weight
- Lifting hook safety classified in accordance to EN ISO 12100-1/A1:2009 and EN ISO 12100-2/A1:2009



Model	QS45	QS50	QS60	QS70	QS80
Axle diameter A: (mm)	Ø45	Ø50	Ø60	Ø70	Ø80
Width B: (mm)	290	270	340	450	590
Length C: (mm)	430	430	480	600	670
Construction height D: (mm)*	140	140	170	190	270
Weight: (kg)*	100	105	180	290	370
Recommended hydraulic pressure open/closed (MPa)	21–25	21–25	21–25	21–25	21–25
Max pressure: (MPa)	21	21	21	21	21
Base machine weight: (t)	6–11	6–11	12–19	16–30	25–33

* Depending on machine bracket



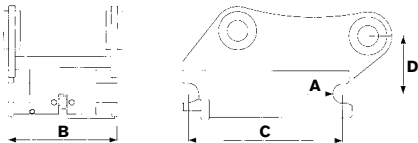
Quick couplers

S30–S80, S1–S3



For all excavators in the 1–33 ton weight class

- Available with mechanical or hydraulic locking
- Distributes the digging forces through the hitch body, rather than the hydraulic ram
- Shallow construction height and low weight
- Type approved lifting hook (not S30 and S40)



Model	S30/150	S30/180	S40/200	S40/240	S45	S50	S60	S70	S80	S1	S2/27	S3
Axle diameter A: (mm)	Ø30	Ø30	Ø40	Ø40	Ø45	Ø50	Ø60	Ø70	Ø80	Ø70	Ø80	Ø100
Width B: (mm)	150	180	200	240	290	270	340	450	590	400	450	620
Length C: (mm)	200	230	300	300	430	430	480	600	670	750	810	870
Construction height D: (mm)*	110	110	110	110	140	140	170	190	220	130	170	230
Weight: (kg)*	10	10	25	25	45	50	125	210	310	170	215	300
Max pressure: (MPa)	21	21	21	21	21	21	21	21	21	21	21	21
Base machine weight: (t)	1–2	1–2	2–6	2–6	6–11	6–11	12–19	16–30	25–33	18–26	22–32	25–33

* Depending on machine bracket

EC-Oil™ Adapter brackets

GS45-ECO, GS50-ECO, GS60-ECO, GS70-ECO and GS80-ECO

For all excavators in the 6–33 ton weight class

- Allows hydraulic attachments to be connected and operated below an Engcon tiltrotator or a Engcon Q-Safe machine hitch
- Can be fitted to Hammers, Mulchers, Piling hammers, Screening buckets, Tree shears and other attachments
- Adapted for tiltrotator geometry



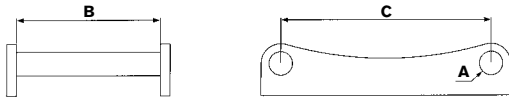
Model	GS45	GS50	GS60	GS70	GS80
Axle diameter A: (mm)	Ø45	Ø50	Ø60	Ø70	Ø80
Width B: (mm)	290	270	340	450	590
Length C: (mm)	430	430	480	600	670
Suitable for Engcon Quick Hitch:	S45	S50	S60	S70	S80

Adapter brackets

GS30–GS80

For all excavators in the 1–33 ton weight class

- Allows existing attachments to be connected and operated below an Engcon tiltrotator or a Engcon Q-Safe machine hitch
- Can be fitted to Buckets, Grabs and other attachments
- Adapted for tiltrotator geometry



Model	GS30/150	GS30/180	GS40/200	GS40/240	GS45	GS50	GS60	GS70	GS80
Axle diameter A: (mm)	Ø30	Ø30	Ø40	Ø40	Ø45	Ø50	Ø60	Ø70	Ø80
Width B: (mm)	150	180	200	240	290	270	340	450	590
Length C: (mm)	200	230	300	300	430	430	480	600	670
Suitable for Engcon Quick Hitch:	S30	S30	S40	S40	S45	S50	S60	S70	S80



Quick attachment changing | **EC-Oil™**

EC-Oil™ is Engcon's system for automatic connection of hydraulics, electronics and central lubrication to any hydraulic attachments, and is specially designed for our new series of tiltrotators and Q-Safe quick hitch.

Because we manufacture our own equipment; tiltrotators, hitches, control systems and attachments, all of our stuff is designed to work together.

EC-Oil is born of the same philosophy; designed to fit securely within the Q-Safe hitch system, either as a machine hitch or underneath the tiltrotator, it gives the operator supreme flexibility and efficiency in every task that they undertake. Hydraulic attachments (teleforks, grabs, compactors and so on) can be changed in under 15 seconds without leaving the cab. The connector blocks, which include not only

the oil flow and return circuits, but also central lubrication and electrical connectors, fit safely within the hitch with no exposed hoses to snag or rub. When used in conjunction with the new High Flow swivel (ECHF) on the EC214 tiltrotator series and above, demanding hydraulic work tools such as grass flails and the like can be attached underneath the tiltrotator using Engcon's adapter brackets.

It's also possible to mount the tiltrotator underneath a Q-Safe hitch with EC-Oil on the machine's dipper. This allows the tiltrotator to be detached when necessary – for example when maximum breakout forces are required, for narrow trenching, or when a breaker is being used.

Pressure tested to 400 bar, the connectors are amongst the toughest on the market and are designed to be dis- and reconnected at full machine pressure.

Fully hydraulic quick couplers



Combine as required:

Use the quick coupler (1) or a directly attached tiltrotator (2) separately to connect tools or in combination (3) to benefit from the tiltrotator's flexibility while retaining the ability to quickly disconnect it when maximum breakout force is needed. Efficient and effective!



Engcon tools | Hydraulic



Engcon tools | Non-hydraulic



Hydraulic attachment bracket

Adapt it for your **existing tools**



Detachable Gripper


GRD10 GRD20

The detachable gripper cassette (GRD) is an alternative to the conventional fixed gripper which can be retrofitted to the Q-Safe-D hitch.

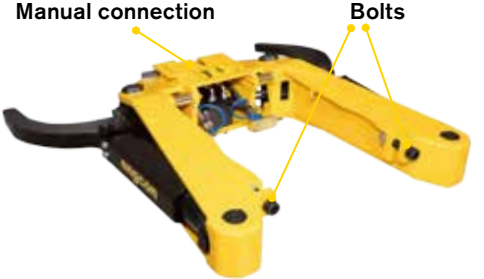
This means it can purchased separately as your needs change and your business grows. By being detachable, it can be removed as needed to allow the tiltrotator to be used in narrow trenches or to save weight (and fuel).

The gripper is angled at 15 degrees to the plane of the tiltrotator for maximum reach. Two sizes are available; GRD10 for QSD45 hitches and GRD20 for QSD60 hitches.

Engcon's detachable gripper cassette comes in two different versions: Quick lock - GRD10Q and GRD20Q; or Manual - GRD10M and GRD20M. Both fit Q-Safe-D quick couplers, which are now the standard hitch.



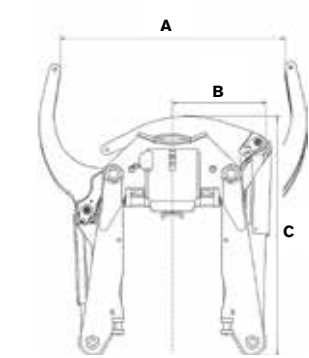
Quick connection



Manual connection
Bolts

GRD10Q and GRD20Q (Q for Quick)
The gripper cassette is locked and the hydraulics connected in one single movement using a 32 mm open-ended spanner. This means fitting or removing the unit can be done in less than a minute.

GRD10B and GRD20M (M for Manual)
The grip cassette locks onto the back part of the quick coupler with nuts and bolts. The hydraulics are connected by hand with the hose connections supplied.



Specifications

Type	GRD10	GRD20
Fits hitch types:	QSD45	QSD60
Largest grip width A: (mm)	610	820
Width B: (mm)	270	355
Length C: (mm)	720	870
Clamping force (point-point) at 21 MPa: (kg)	1,497	2,234
Max load (kg):	1,500	2,000
Weight (kg)*	96	142
Max hydraulic pressure (MPa)	22	22

Table 1. *Depending on bracket

Detachable Sweeper

SWD45 SWD60

The detachable sweeper cassette (SWD), like the GRD, may be retrofitted to the Q-Safe-D hitch and used either for sensitive applications like cable sweeping, for vertical applications such as pile cleaning or, in conjunction with a tiltrotator-mounted bucket below and behind the sweeper, for cleaning large floor areas.

SWD is available in a variety of widths and, as well as having a powerful hydraulic motor to drive the sweeper roller, has a hydraulic ram to allow it to be raised or lowered with respect to the bucket.

Specifications

Type	SWD45	SWD60
Fits hitch types:	QSD45	QSD60
Width, wide brush: (mm)	1,600	1,600
Width, narrow brush: (mm)	430	430
Largest brush diameter: (mm)	915	915
Smallest brush diameter: (mm)	600	600
Max. weight (kg)	186	210
Oil flow min/max: (l/min)	20/60	20/60

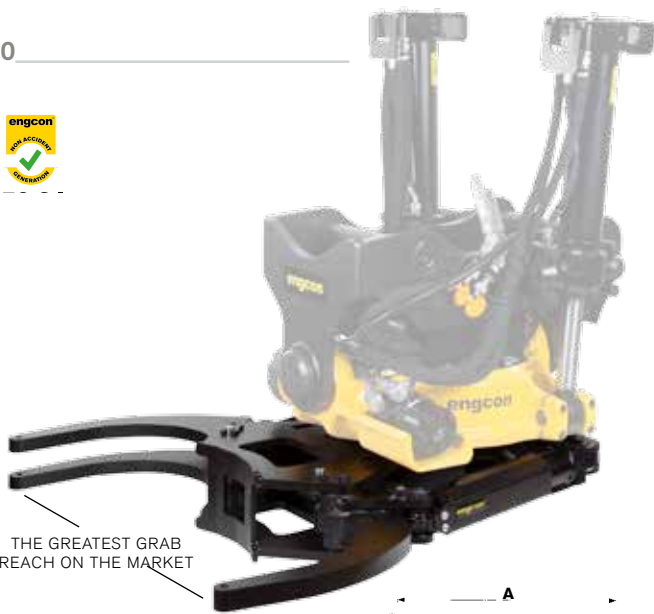


Integrated Gripper

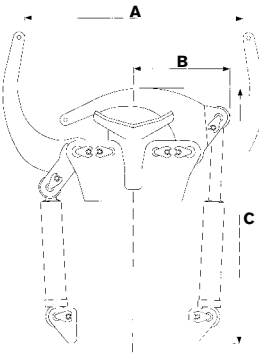
GR05-GR30

Integrated Gripper for tiltrotators and rotators 3-33 tons

- The gripper arms are made from high-tensile steel for strength and low weight
- Safe lifting with check valves in each grab cylinder
- The perfect workmate on the site
- Versatile handling of posts, kerbstones and other objects
- Especially useful for pipelaying and manhole positioning
- Available for tiltrotator/rotator EC204, EC209, EC214, EC219, EC226, EC233 and EC30
- 3 finger claws as standard
- Complies with European safety standards



THE GREATEST GRAB REACH ON THE MARKET



Specifications

Model	GR05	GR10	GR20B	GR30**
Largest grip width A: (mm)	350	610	820-950*	1,080
Width B: (mm)	200	270	350	440
Length C: (mm)	585	760	910	980
Weight: (kg)	50	70	85	148
Max. hydraulic pressure: (MPa)	22	22	22	22
Clamping force at 210 bar: (kg)	1,654	1,497	2,234	1,956

* Depending on tiltrotator quickhitch.
S60GR20, QS60GR20 & S1GR20: 820 mm
S70GR20, QS70GR20 & S2GR20: 950 mm
**GR30 only fits S80 and S3 hitches

Integrated Gripper

GR20R2

Integrated Gripper for EC214 and EC219*

The GR20R2 integrated gripper is especially suited to heavy-duty applications such as the railway industry, where rails or sleepers need to be repositioned.

Advantages:

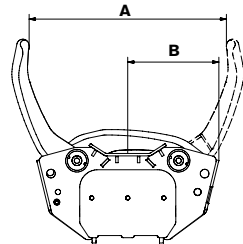
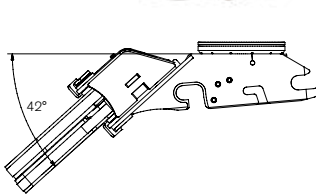
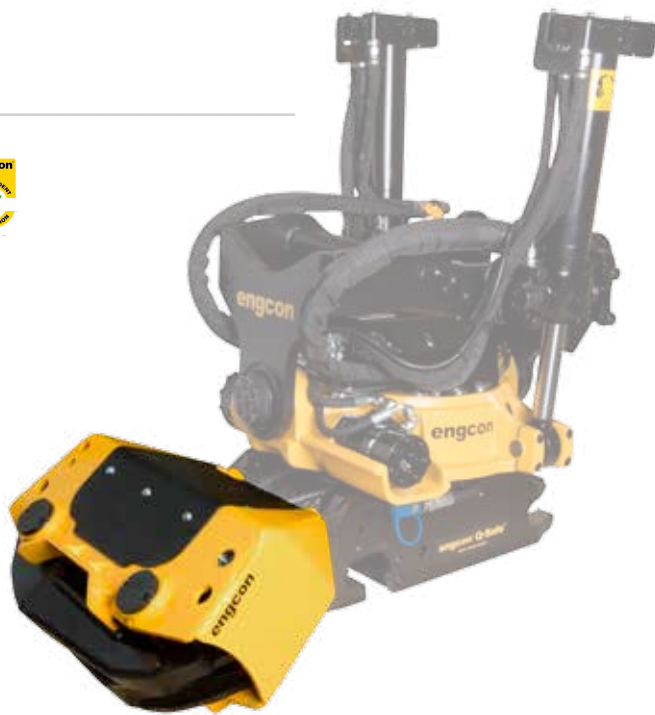
- Robust construction designed for heavy and difficult usage, such as in the railway industry.
- Angled down up to 42 degrees
- Large reach – 820 mm
- Protected cylinders

* Standard attachment combinations: S45, S50, S60 and SMP2
Not possible: S1 and S2. Other attachment combinations on request.

Specifications

Model	GR20R2
Largest grip width A: (mm)	820
Width B: (mm)	380
Length C: (mm)	Depending on the top bracket
Weight: (kg)	140
Clamping force at 21 Mpa: (kg)	1,750
Angled at 35-42° depending on the bracket	
Detachable	
Protected cylinders	

Note! GR20R2 cannot be combined with all tool brackets on the market. Contact Engcon for further information.



Sorting and handling grab

SK05, SK10, SK15, SK20, SK30

For all excavators in the 3-33 ton weight classes

- The grab's claws are fitted with reversible wear bars
- Load valve and pressure accumulator maintain grab force for extended periods to ensure safe lifting (SK)
- turn Complies with European safety standards
- Expander bushings in major joints
- Swedish engineering for excellent geometry and problem-free operation
- Bolt-on bracket/mounting makes switching brackets easy
- Bolt-on bracket/mounting means dealers need keep fewer timber grabs of the same size in stock.

Accessories

- Tooth kit
- Closed sides
- EC-Oil automatic hydraulic connection



SK15 with EC-Oil connection



SK20 with teeth (accessory)

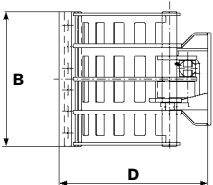
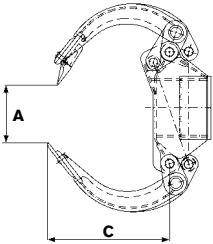


SK20 with closed sides (accessory)

Specifications

Model	SK05	SK10	SK15	SK20	SK30
Grab width A: (max. mm)	1,110	1,660	1,790	1,990	2,575
Grab width A: (min. mm)	0	0	0	0	0
Cutting width B: (mm)	505	715	860	860	1,170
Jaw length C: (mm)	460	680	790	870	1,180
Height D: (mm)	580	790	960	1,070	1,360
Gripping force: (kN)	8,7	15	19	25	45
Pressure: (MPa)	21	21	21	21	21
Weight: (kg)	180	325	540	620	1,195
Base machine weight: (t)	3–6	6–12	12–16	16–22	22–33

Supplied with or without upper bracket, or with rotator depending on the customer's requirements.



Timber/Combi grab

TG25HD–TG55HD

Timber Grab, Heavy Duty Together with the tiltrotator, engcon's new TGHD timber grab is the ultimate tool for round timber handling and light sorting tasks. The grabs, which are reinforced with high strength steel wear bars with a hardness of 400 Brinell for longer service life, can be used with a large variety of hitches.

Advantages:

- High strength steel grab arms for maximum service life
- Grab tip wear bars with 400 Brinell hardness for best durability
- A non-return valve built into the hydraulic cylinder and an accumulator mounted directly onto the cylinder without hoses keeps the load safe and secure should any pressure drop occur.
- Expander bolts in joints prevent unnecessary play
- Bolt-on bracket/mounting makes it easy to switch brackets as needed.



Specifications

Model	TG25HD	TG28HD	TG42HD	TG55HD
Weight: (kg)	195	360	595	1 070
Max load: (kg)	3 000	5 000	6 000	10 000
Max opening: (mm)	1 450	1 540	1 900	2 375
Width: (mm)	460	595	677	802
Grip area: (m²)	0,25	0,28	0,42	0,55
Recommended machine weight: (tonnes) (permanent installation)	4–9	9–14	12–19	19–26

These values apply regardless of the attachment on the grab.

Pallet forks

GH1000–GHH1200



Forklift frame for excavators

Engcon's pallet forks/forklift frames –
A robust and cleverly engineered design for best visibility.
Tempered forks guarantee a long service life.

NB! Always consult the applicable safety instructions for using the pallet fork on each individual machine. When using the pallet fork together with a tiltrotator, a check valve must be fitted to the tiltrotator.

The tilt cylinders on Engcon's generation 2 tiltrotators are factory-prepared for check valves and are consequently simple to retro-fit.

* GH = mechanical spreading,
GHH = hydraulic spreading



Specifications

Model	GH1000	GH1000	GH1200	GH1200	GH1200	GHH1200	GHH1200	GHH1200
Width: (mm)	1 000	1 000	1 200	1 200	1 200	1 200	1 200	1 200
Fork: (mm)	100x40x1 200	100x40x1 200	125x45x1 200	125x45x1 200	125x45x1 200	125x45x1 200	125x45x1 200	125x45x1 200
Weight: (kg)	180	180	280	310	310	310	310	310
Bracket:	S45	S50	S60	S70	S1	S50	S60	S1
TP500	2,9 T	2,9 T	4,7 T	4,7 T	4,7 T	4,7 T	4,7 T	4,7 T

Ground vibrators/compactor plates

PP350, PP600, PP950

For all excavators in the 6–33 ton weight class

- Packing disc in hard-wearing steel
- Side plating for levelling-off filler material
- Open short ends for easy cleaning of the top of the compactor plate
- Joined together with rubber elements positioned for effective insulation of the vibrators combined with adequate stiffness for grading
- The vibrator unit and hydraulic parts are well-protected inside the side plates
- Can be fitted with optional mounting bracket
- Complete with flow valve
- Complies with European safety standards
- Supplied as standard without mounting bracket and machine hoses
- Tandem-connected weights

Specifications

Model	PP350	PP600	PP950
Packing power: (kg)	3,500	6,000	9,500
Weight incl bracket: (kg)	390	620	900
Length A: (mm)	890	1,050	1,270
Width B: (mm)	620	720	900
Height C: (mm)	450	520	600
Pack surface: (m2)	0,42	0,58	0,90
Hydraulic flow: (lpm)	68	120	120



Best in test

Engcon's ground vibrator PP600 proved the best result in an impartial test conducted by geologist Dr. H. Seeliger in Kassel, Germany.

Ground vibrators/compactor plates

PP3200



Accessories: Widening plates, trenching blade, specially adapted pack cushions for, for example, packing in sheet-pilings.

For all excavators in the 6–16 ton weight class

- Low flow requirement (35 litres) allows the PP3200 to be run directly through the tiltrotator
- Perfect combination to use with EC-Oil
- Variable working width
- Specially adapted pack cushions
- Packing disc in hard-wearing steel
- Side plating for levelling-off filler material
- Open short ends for easy cleaning of the top of the compactor plate
- Joined together with rubber elements positioned for effective insulation of the vibrators combined with adequate stiffness for grading
- The vibrator unit and hydraulic parts are well-protected inside the side plates
- Can be fitted with optional mounting bracket
- Complies with European safety standards
- Supplied as standard without mounting bracket and machine hoses

Specifications

Model	PP3200
Packing power: (kg)	3,200
Weight incl bracket: (kg)	470
Length A: (mm)	1,000
Width B: (mm)	500–700
Height C: (mm)	590
Pack surface: (m2)	0.4–0.56
Hydraulic flow: (lpm)	35

Rotating brushes

SR800–2000

Engcon's rotating brushes – make the most of what the excavator has to offer and open previously unthought of possibilities in a wide range of speciality areas. Regardless of whether you're sweeping sand, gravel or dirt, this will very quickly become a favourite tool that you just won't be able to function without.

In the wintertime you'll find areas such as road crossings, footpaths, railtrack points, cabin and container roofs, balcony roofs and more, where snow normally has to be cleared manually. In the summer the brush is used for collecting road sand and gravel, brushing grassed areas, foundations, rocks and more. The only limit is your imagination.

A hydraulic motor provides the power, and has a chain drive which enables the brush rotation speed to be adjusted. The open design allows unsurpassed service-friendly access, and the standard polypropylene brushes can be replaced quickly and easily.

Specifications

Model	SR800	SR1300	SR1600	SR1800	SR2000
Width: (mm)	800	1,300	1,600	1,800	2,000
Weight incl bracket: (kg)	210	240	260	275	290
Oil flow min/max: (l/min)	20/60	20/60	20/60	20/60	20/60



Grading beam

GRB1250–GRB3000

With Engcon's grading beam, you can grade large areas quickly and efficiently.

The Grading Beam comes with optional detachable side extensions. These help to contain the soil or other graded material within the width of the beam.

Tall, central bracket mounting ensures that material is kept out of the hitch mechanism.

What is more, Engcon's grading beam has a leading edge of cutting steel and wear bars under the entire structure. This means a long life, making the grading beam even more profitable. The compactor roller can be raised and lowered to achieve the best setting for your particular need.

Engcon's grading beam comes in three different widths to cover almost any need for efficient grading.

The grading beam provides cost effective flexibility as it shares the same bolt pattern as Engcon's other tools, allowing the brackets to be interchanged.

Specifications

Model	GRB1250	GRB1500	GRB 2000	GRB 2500	GRB 3000
Width: (mm)	1250	1500	2000	2500	3000
Depth (without extensions): (mm)	962	1000	1000	1000	1000
Height (without mounting): (mm)	275	387	387	387	387
Diameter (roller): (mm)	178	245	245	245	245
Weight: (kg)	195	306	482	563	645



Benefits

- More efficient surface grading gives greater profitability
- Robust design
- Bolted bracket/mounting
- Cutting steel at the leading edge
- Wear bars under the entire structure
- Extendable side beams

N.B. Engcon's grading beam is even more efficient in combination with a tiltrotator, but it is then important to consider the loads that the tiltrotator will be subjected to. Use the grading beam for the purpose for which it is designed – surface grading. Large quantities of material can be moved quickly and efficiently with Engcon's bucket programme.



Tools to take on the toughest of tasks

Engcon offers a wide range of tools and attachments, adapted to your specific needs. The tools and attachments are manufactured in high-quality steel and are designed to provide the greatest flexibility and crack resistance. The wear and cutting steel has a hardness of around 500 Brinell. We also reinforce our tools with Hardox on the most exposed positions to manage an extra tough load.



Buckets

- None of Engcon's buckets are designed with 'hooks' making it possible to 'cheat' when moving tools and attachments, for example by hooking a bucket tooth onto it. This implies an obvious risk for the bucket to slide off the hook of the bucket carrying the other buckets.

Grading bucket

GB01–GB29

For all excavators in the 1.5–33 ton weight class

Engcon's grading bucket – Optimised together with experienced contractors for use together with the tiltrotator. Chamfered corners from the bottom up to the ceiling to avoid "colliding" with house walls and other objects that can potentially be damaged by the rotating bucket. Conical form for easier filling and an adapted angle of 16 degrees between mounting and bottom to more easily rotate the bucket without losing the material being moved.



Features Engcon grading bucket

- 1 Chamfered corners to avoid collision
- 2 Tiltrotator-adapted ceiling angle
- 3 Hardox-reinforcements on other wear surfaces
- 4 Conical form for easier filling and better release
- 5 Wear and cutting steel - 500 brinells hardness

Specifications

Model	GB01	GB02	GB02	GB02	GB03	GB04	GB04	GB05	GB05	GB06	GB06	GB08	GB08	GB08	GB08	GB11	GB11	GB11
Volume: (l)	55	90	130	130	150	200	200	250	250	300	300	370	370	400	400	450	500	500
Width: (mm)	800	900	900	900	1 100	1 000	1 000	1 200	1 200	1 200	1 200	1 300	1 300	1 400	1 400	1 400	1 400	1 400
Weight: (kg)	60	75	80	85	110	135	140	145	155	155	160	260	260	255	265	320	370	370
Attachment:	S30	S30	S30	S40	S40	S40	S45	S40	S45	S40	S45	S45	S50	S40	S45	S45	S45	S50

Model	GB13	GB13	GB14	GB15	GB15	GB17	GB17	GB17	GB20	GB20	GB20	GB20	GB22	GB24	GB24	GB29	GB29	GB29
Volume: (l)	600	600	650	750	750	900	900	900	1 100	1 100	1 100	1 100	1 250	1 400	1 400	1 600	1 600	1 600
Width: (mm)	1 600	1 600	1 600	1 600	1 600	1 700	1 700	1 700	1 700	1 700	1 700	1 700	1 900	2 000	2 000	2 000	2 000	2 000
Weight: (kg)	450	490	460	660	690	700	740	730	940	980	970	980	1060	1 150	1 150	1 460	1 490	1 460
Attachment:	S60	S1	S60	S60	S1	S60	S70	S1	S60	S70	S1	S2	S70	S70	S2	S70	S80	S2

Cable bucket

CB01–CB25

For all excavators in the 1.5–33 ton weight class

engcon's cable bucket – developed for precision excavation with minimal width for e.g. cables or other services requiring narrow trenches. Its deep profile means better accessibility beneath intersecting cables and pipes and also allows deep trenching without any need for the tiltrotator to go below surface level

engcon's cable buckets are available in two models – Standard and tapered (C)

Standard is the conventional type with straight side plates for excavating ditches with vertical sides.

The **tapered model** has a narrower blade than the standard cable bucket but with the same width top, producing a narrower trench bottom with slightly sloping sides.

engcon's cable buckets are made from high-quality steel. As with other engcon buckets, the wear bars and other exposed surfaces have a hardness of 500 Brinell.



Standard



Tapered (C)

A tooth kit is available as an optional extra and comes factory-fitted.



Tooth kit, type Cat

Blade teeth provide smooth ditch bottoms

Specifications

Model	CB01	CB02	CB03	CB03	CB05	CB05	CB05	CB08	CB08	CB08
Volume: (l)	35	60	90	90	130	130	130	155	155	155
Width: (mm)	240	290	290	290	340	340	340	400	400	400
Weight: (kg)	25	35	55	55	70	85	85	83	95	95
Attachment:	S30	S30	S30	S40	S40	S45	S50	S40	S45	S50

Model	CB10	CB10C	CB15	CB15C	CB15	CB15C	CB20	CB20	CB20	CB25	CB25
Volume: (l)	160	130	350	350	350	350	400	400	400	550	550
Width: (mm)	460	300	560	300	560	300	660	660	660	600	600
Weight: (kg)	160	170	290	255	320	285	320	360	360	590	615
Attachment:	S50	S50	S60	S60	S1	S1	S60	S70	S1	S70	S80

Gripper-adapted bucket series

A new gripper-adapted bucket series has been developed in parallel with the new GRD detachable grab. The rear of the bucket is designed with a recess that aligns with the grab's torque reaction bar so that it then functions as an extended support for the item being gripped, such as a pole or pipe.



Riddle bucket

SB02–SB29

Riddle buckets that are designed for fast and easy sorting operations.

The riddle buckets requires no hydraulics, they are built in high quality steel where the cutting and steel rods have a hardness of 500 Brinell – same high quality as all other Engcon buckets. All for maximum efficiency and long life use.



Specifications

Model	SB02	SB02	SB02	SB04	SB06	SB08	SB11	SB14	SB15	SB17	SB20	SB24	SB29
Volume: (l)	90	130	130	200	300	370	500	650	750	900	1100	1400	1600
Width: (mm)	900	900	900	1000	1200	1300	1400	1600	1600	1700	1700	2000	2000
Weight: (kg)	80	86	91	144	166	292	320	442	628	697	920	1 046	1 268

Water/Drainage bucket

TB09–TB16

For all excavators in the 10–21 ton weight class

Engcon's water & sewerage bucket – specially designed for excavating water and sewerage channels, and other service tasks calling for a deep-digging bucket with a slightly lower design, and where a cutting edge without teeth is required. The water and sewerage bucket is, as with the other buckets in Engcon's range, reinforced with Hardox on the most exposed positions.

Specifications

Model	TB09	TB12	TB12	TB14	TB14	TB14	TB14	TB16	TB16	TB18	TB21
Volume: (l)	350	500	500	600	600	650	650	700	700	900	1 100
Width: (mm)	700	800	800	800	800	830	830	900	900	900	1 100
Weight: (kg)	250	325	340	510	520	525	520	550	550	750	1 075
Attachment:	S50	S45	S60	S60	S1	S60	S1	S60	S70	S70	S70



Deep-digging bucket

DB01–DB32

For all excavators in the 1.5–33 ton weight class

Engcon deep-digging bucket – Robust construction for tough jobs. A favourite for anyone needing to excavate and dig in difficult conditions where fast penetration and easy filling are prioritised, for example in trenching and other mass transfers requiring capacity. Available with or without teeth

The bucket may be fitted with the following accessories on request:

- Tooth kit*
- Tooth holder
- Blade teeth

* The standard tooth kit for installation on Engcon buckets is a Cat J tooth system. For other tooth systems, check availability with Engcon.



Specifications

Model	DB01	DB02	DB02	DB02	DB03	DB05	DB05	DB05	DB05	DB05	DB05	DB05	DB05	DB05	DB06	DB06	DB07
Volume: (l)	50	70	90	90	120	60*	60*	90*	90*	160	120*	120*	120*	120*	200	200	80*
Width: (mm)	400	450	550	550	550	305*	305*	458*	458*	600	610*	610*	915*	915*	600	600	305*
Weight: (kg)	35	50	55	60	75	65*	76*	82*	93*	100	100*	113*	133*	153*	125	140	112*
Attachment:	S30	S30	S30	S40	S40	S40	S40	S40	S40	S40	S40	S40	S40	S40	S40	S45	S45

Model	DB07	DB07	DB07	DB07	DB07	DB07	DB07	DB07	DB09	DB11	DB11	DB12	DB12	DB12	DB12	DB12	DB12
Volume: (l)	80*	120*	120*	160*	160*	250	240*	240*	350	400	400	500	230*	230*	300*	300*	500
Width: (mm)	305*	458*	458*	610*	610*	700	915*	915*	700	700	700	800	458*	458*	610*	610*	800
Weight: (kg)	135*	135*	158*	158*	189*	210	206*	244*	230	280	300	320	233*	256*	276*	299*	340
Attachment:	S45	S45	S45	S45	S45	S45	S45	S45	S45	S45	S60	S45	S60	S60	S60	S60	S60

Model	DB12	DB12	DB12	DB12	DB13	DB14	DB16	DB18	DB18	DB21	DB23	DB26	DB26	DB29	DB29	DB32
Volume: (l)	450*	450*	600*	600*	600	650	750	900	900	1100	1250	1400	1400	1600	1600	1600
Width: (mm)	915*	915*	1220*	1220*	850	900	1000	1000	1000	1100	1200	1300	1300	1450	1450	1700
Weight: (kg)	376*	406*	466*	504*	500	520	600	680	715	940	1150	1330	1350	1440	1470	1720
Attachment:	S60	S60	S60	S60	S60	S60	S60	S60	S70	S70	S70	S70	S80	S70	S80	S80

* denotes Imperial sizes

Tarmac cutter

TC05–TC20

For all excavators in the 3–33 ton weight class

Engcon's Tarmac cutter uses the excavator's weight to accurately and quickly cut through road surfaces, providing a square edge for repairs and eliminating additional plant on site. The cutter may also be used for other surfaces such as grass and composites where accurate and quick work is required.



Specifications

Model	TC05	TC10	TC10	TC15	TC20	TC20
Diameter: (mm)	Ø370	Ø470	Ø470	Ø470	Ø470	Ø470
Cutting depth: (mm)	100	150	150	150	150	150
Weight: (kg)	40	55	60	70	90	110
Attachment:	S40	S45	S50	S60	S70	S80

Rippers

R5–R30

For all excavators in the 1.5–33 ton weight class

Engcon's ripper – Designed for penetrating frozen, hard or stony ground. The Ripper is optimised for the best break-out force in hard or difficult ground.



Specifications

Model	R5	R5	R10	R10	R15	R20	R20	R30	R30
Height: (mm)	600	600	700	700	900	1 200	1 200	1 400	1 400
Weight: (kg)	50	65	110	110	170	370	410	680	720
Attachment:	S30	S40	S45	S50	S60	S60	S70	S70	S80

MIG2

combines maximum ergonomics and functionality



Option

for a more convenient working day

Microprop is Engcon's controls division. As with our attachments, Engcon believe in the importance of manufacturing all of our products so that they work together. In creating the DC2 system, Microprop realised that the increased dynamics and sensitivity of the tiltrotator that resulted from the introduction of DC2 demanded a step-change in the control input.

The result is MIG2. We believe that, not only it is the most ergonomic joystick available today, but also that its functionality makes it ideal for all

makes of tiltrotator. The unique hand support allows the driver to rest their wrist on the joystick without affecting excavator control, reducing fatigue.

With up to three rollers and seven buttons per joystick, when combined with DC2 it enables not only all boom functions to be controlled through the joysticks, but many others as well.

Track control, tortoise mode, FNR, blade and stabilisers are all regularly specified as part of the MIG2/DC2 installation, with more exotic installations possible, depending on application.

DC2

control system with remote support saves time & money

DC2 is Engcon's most sophisticated – and popular – control system yet. It combines full tiltrotator functionality with individual setup and calibration capability, and the simplest (and often the cheapest) excavator specification with remote diagnostics, reduced downtime and system failsafes.

At its heart, DC2 means that a single hydraulic circuit is required to the end of the dipper. This of itself can often mean a saving that pays for itself many times over. Irrespective of whether the tiltrotator is direct mounted or on a machine (Engcon Q-Safe) hitch, the sophisticated electronics and proportional valves within the tiltrotator do the rest. Accurate flow and pressure is fed to the various functions as the operator feathers in the power using MIG2 joysticks – arguably the most ergonomic and responsive available in the market. Not only are the tilt and rotate functions silky-smooth, but gripper, hitch and extra functions (below the tiltrotator) have the same user feel.

In the cab, the control box can be configured by the operator so that a different 'feel' is set for each separate tool that is being used. Not only this, but up to four different operators can create the same, individual, setup. This whole result is achieved using Engcon's unique - free - smartphone App, which talks to the DC2 box using Bluetooth connectivity.

The same App and connectivity gives DC2 a remote diagnostics function. If you have a fault in the field, simply use the smartphone and App to automatically call up the Engcon service engineers. They can interrogate the system, reconfigure or recalibrate it where necessary, diagnose faults and likely remedies. Critically, the Engcon service engineers or our Service Partners will have the right spares on board when they arrive.



ePS

engcon Positioning System



Engcon is future-proofing its products by adopting the latest technology for intelligent machine control with the introduction of the Engcon positioning system (ePS).

However, unlike some other manufacturers, we have decided to use an 'open' system. This decision has, in part, been informed by the nature of the DC2 control system that is used on Engcon's tiltrotators. Designed to work across a wide range of excavator makes and models, the DC2 allows a prospective Engcon purchaser to decide on the tiltrotator specification before the making a final decision on the digger.

For the same reason, Engcon's ePS is designed to work with all major positioning systems. A rotational sensor in the Engcon body provides an output through a cable to the cab of the excavator which can be interpreted by the manufacturer's positioning system through a CANBUS adapter. A separate tilt sensor is fitted and supplied by the same manufacturer.

Engcon tilts automatically with Leica Geosystems
Read more on pages 8-9



Develop your business idea up to 33 tons

Do you want to work more efficiently and find new business opportunities? The tiltrotators and tools produced by the world's leading excavator attachment manufacturer will take your machine to a new level. With System Engcon and hydraulic tool attachments you will be able to quickly change tasks and increase both the degree of usage and profitability for your excavator or backhoe loader. You are kindly invited to come and study the market's widest range of tiltrotators for excavators and backhoe loaders between 1.5 and 33 tons.

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