







# Join the engcon revolution

A tiltrotator is an accessory that can be connected between the excavator's arm and bucket, acting as a flexible wrist. Using a tiltrotator, the bucket or other selected attachment can tilt (up to 45°) and rotate (infinitely). engcon's tiltrotators fit all excavators between 3,300–72,800 lbs, regardless of manufacturer or model.

# Five benefits of an engcon tiltrotator.

# Profitability

#### Increase efficiency by ~25%\*

Working with a tiltrotator saves time and increases the efficiency by ~25%\*. Machine wear and the need for manpower is reduced and the precision of the maneuvers makes you waste less material.



#### **Reduce manual work**

A tiltrotator increases the safety around the machine due to its high maneuverability and low space requirements. It significantly reduces the need for manual work, like the use of shovels and rakes. Thanks to EC-Oil the operator can stay in the comfort of the cab while switching between tools. ~61% owners perceive safety as main benefit. \*



#### Transform the excavator into a tool carrier

The tiltrotator easily tilts and rotates different tools as required, regardless of the machine's position. In addition to ordinary buckets, the machine can also attach different types of tools and replace several other machines at the same work site. The exvacator is transformed into a versatile tool carrier and  $\sim\!2.2$  number of tools or machines can be replaced. \*



#### Change tools from the comfort of the cab

With a tiltrotator and the EC-Oil system, the operator retains control and comfort in the working environment without leaving the cab to attach hydraulic tools, which also increases safety.



#### **Reduce your fuel consumption**

The reduced need to move the excavator around means reduced environmental impact by cutting fuel consumption and at the same time making less damage to the ground. ~113,000 kg CO2 could be saved over the excavator's lifetime (7 years\*). Since you can dig around obstacles and in narrow spaces, there's less need to move obstructing objects.

The engcon standard

engcon's standard offering includes a range of features to enhance the functionality and safety of the tiltrotators.

- ► The EC-Oil automatic oil connection system comes as standard on all tiltrotators\*.
- ► Prepared for detachable gripper S40-S70 and detachable sweeper S40, S45, S60.
- ► Unique, service-friendly design allows adjustment of lateral play without having to dismantle the tiltrotator.
- ► Tiltrotators EC214-EC233 comes with tilt & rotation sensor. Tiltrotators EC204-EC209 comes fully prepared for option of tilt & rotation sensor. Ready to connect to most excavator guidance systems.
- ► Unlimited rotation and up to ± 45-degree tilt angle for best access.
- ► Central lubrication.
- ≥ 2-year warranty.

Learn more about engcon's tiltrotators







**EC02** 3,300-7,700 lbs



**EC204** 4,400-8,800 lbs



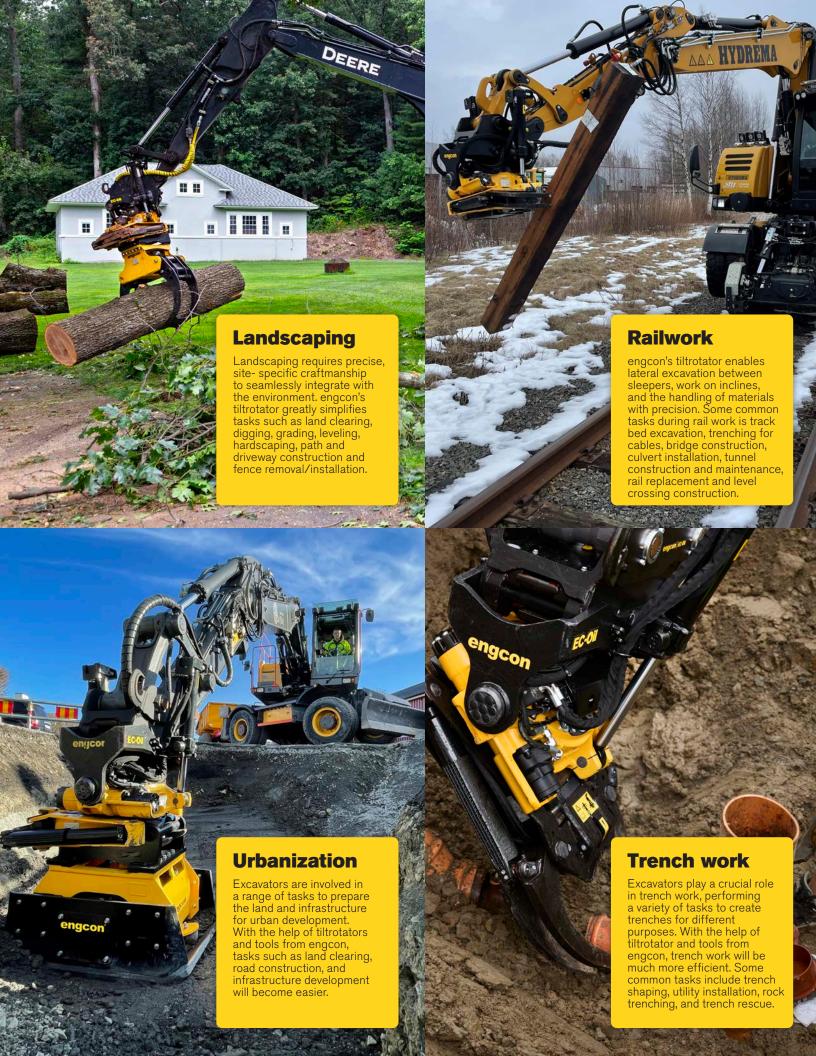
**EC206** 8,800-13,200 lbs

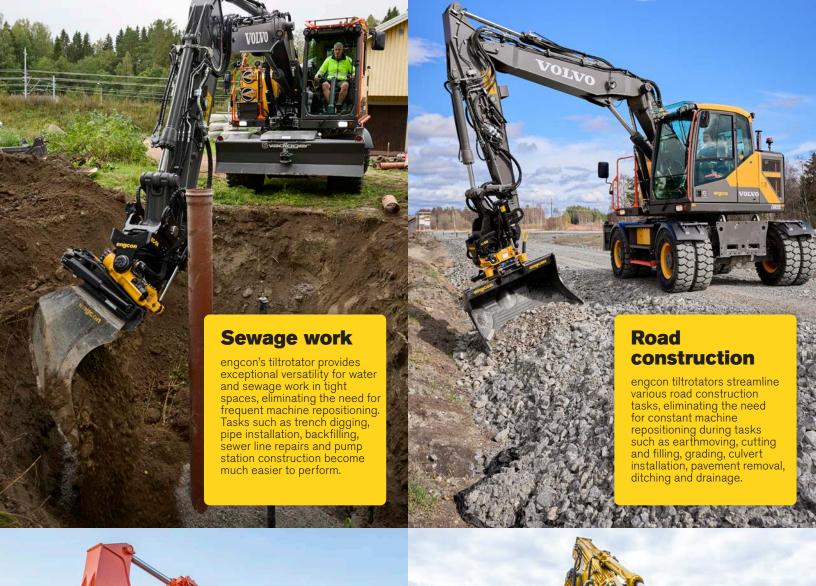


**EC209** 13,200-19,800 lbs











# Quick coupler

Elevate your construction efficiency with engcon's innovative quick couplers catering to excavators in the 3,300–88,180 lbs weight class. We offer both automatic quick coupler to seamlessly enhance your equipment's versatility and performance on the job site.

#### **Automatic quick couplers**

S40-S80

- ► For all excavators in the 3,300–88,180 lbs weight class with quick couplers S40–S80.
- ► EC-Oil automatic quick coupler system connects the tiltrotator and hydraulic tools without the operator having to leave the cab.
- ► Hydraulic locking with fourfold safety. engcon's light and sound module for improved safety comes as standard with all quick coupler purchases.
- ► Hooks oriented towards the excavation direction distributing the forces across the entire coupler.





Combine with engcon's locking system to improve safety.



Read more on page 26.



# EC-Oil

#### Switch jobs in an instant - from the cab

EC-Oil is the key to our system. It allows for quick switching of hydraulic tools and connection/disconnection of the tiltrotator for increased breakout force. The EC-Oil automatic hydraulic connector is now a standard feature.

When you order an engcon S40–S80 automatic quick coupler we include the EC-Oil automatic oil connector in the machine coupler, the upper section of the tiltrotator, and in the tiltrotator quick coupler (S40–S80). EC-Oil is always included as standard, on all engcon hydraulic tools with S40–S80.

# Time is money

In certain tasks, EC-Oil can result in time savings of an hour or more each day compared to manual connections.

## The old way:

48 switches/day90 sec to connect hydraulics manually72 min total time/day

### The engcon way:

**48** switches/day **10 sec** to connect hydraulics manually **8 min** total time/day

#### **Benefits with EC-Oil**

- ► EC-Oil is standard with all purchases of engcon's automatic quick couplers and tiltrotators.
- ➤ Allows you to change hydraulic tools in around ten seconds without leaving the cab.
- Connects hydraulic tools automatically.
- ➤ A reduced need to get out of cab when changing attachments improves safety for groundworkers and machine operators.
- Can be retrofitted to all types of hydraulic tools, regardless of manufacturer.\*
- ▶ Durable couplings allows connection without pressure relief.
- ▶ Drip-free system = Lower environmental impact.
- ➤ Reduces problems with manual hydraulic connectors.



<sup>\*</sup> Check specifications and flow requirements.

# Sandwich solution

engcon's sandwich solution, featuring EC-Oil on the top and bottom of the tiltrotator, offers the flexibility to easily detach the tiltrotator when not in use. This prevents added weight and height at the stick's end from hindering the excavator's capabilities. Detaching the tiltrotator enhances the excavator's force for direct tool use, enabling uninterrupted traditional work during maintenance and saving costs in tough or frozen ground by preventing unnecessary wear.

> **Detachable** gripper

#### **EC-Oil block**

- 1. Electrical connector, 12 pole.
- 2. Central lubrication.





# Hydraulic tools

engcon offers a wide range of hydraulic tools. Thanks to EC-Oil, you can sit in the comfort of you cab and easily switch between tools.







#### **Sweeper roller**

- ► For excavators in the 13,200–72,800 lbs weight classes.
- Expands possibilities in various specialized areas.
- ► Useful for sweeping soil, sand, gravel, snow, brushing grassed areas, foundations, rocks, and more.
- ▶ Ideal for sweeping in crossings, pedestrian walkways and railway points.
- Avaliable without EC-Oil upon request.





#### **Detachable sweepers**

- ► For excavators in the 8,800–41,900 lbs weight class with quick couplers S40–60.
- ► The sweepers are flexible and its width can be adjusted to suit the job in hand – from cable sweeping to clearing large areas of sand, soil, snow or gravel for example.
- ► Manual quick coupling quickly connects the hydraulics and locks the sweeper to the tiltrotator.
- ► Included brushes: SWD40: 320mm, SWD45: 420mm, SWD60: 420mm.







#### Combi/timber grabs

- ► For all excavators in the 8,800–72,800 lbs weight classes.
- ➤ The combi gripper proves to be the ultimate tool for efficiently handling round timber, pipes, and performing light sorting tasks.
- ► Grab tip wear bars with 400 Brinell hardness for best durability.
- ➤ Grab arms in high-strength steel for increased life.
- ► Avaliable without EC-Oil upon request.



#### **Stone/sorting grabs**

- ► For all excavators in the 3,300–72,800 lbs weight classes.
- ➤ Suitable for everything from sorting to light demolition works where a powerful grapple is needed.
- ► The grapple's claws are fitted with reversible wear edges.
- Avaliable with tooth kit for better grip.
- Avaliable with closed sides to convert the grapple into a clamshell bucket.
- ► Avaliable without EC-Oil upon request





#### **Detachable grippers**

- ► For excavators in the 8,800-66,130 lbs weight class with quick couplers S40-70.
- ► engcon's detachable gripper cassette can easily be added to existing equipment.
- ► The gripper is angled 15 degrees to the tiltrotator, providing an extended reach for enhanced functionality.
- ► Locking the cassette and connecting the hydraulics can be completed in less than a minute.





**NOTE!** Check safety instructions for pallet fork use on specific machine. Use load-holding valve with tiltrotator, engcon tiltrotators are fitted with

#### **Pallet forks**

- ► Hydraulic and mechanical pallet forks for excavators in the 4,400-72,800 lbs weight class.
- ► Lightweight pallet forks are avaliable for excavators in the 4,400-13,200 lbs weight classes.
- ► Hydraulic pallet forks are operated from the cab thanks to EC-Oil quick coupler system (Avaliable without EC-Oil upon request.)
- ► Mechanical pallet forks are held in position with robust catches, and fork positions are adjusted manually.
- ► Forged forks for increased durability and service life.









#### **New product: PC9500!**

We are thrilled to introduce PC9500 – a compactor designed for the bigger machines.

#### **Grapple saw**

- ► For excavators in the 15,430–57,300 lbs weight class.
- ➤ Stay in the cab and connect the grapple saw with EC-Oil, cut your branches and lower them to the ground safely and securely.
- Automatic chain tensioning and proportional lubrication system.
- ► Fast and easy saw bar and chain replacement.
- ➤ SuperCut minimizes down time and increases productivity.
- ► Built in bar feed cylinder.
- ► Sequence controlled saw function.
- ► Saw activating valve included.
- ► Simple installation on excavator.



#### **Compactors**

- ► For excavators in the 13,200–72,800 lbs weight class.
- ➤ Safety is enhanced when no one has to enter an excavation at risk of soil collapse caused by vibrations.
- ► More areas of use with tiltrotators where it was previously impossible to work, such as on steep inclines or embankments.
- ▶ engcon recommends coupler S45 for PP3200, S60 for PC6000, S70 or S80 for PC9500.
- ► Avaliable without EC-Oil upon request.



## Mechanical tools

engcon offers a wide range of high-quality mechanical tools designed to enhance and streamline your work, ensuring efficiency and precision on the job.







#### **Cable bucket**

- ► For excavators in the 3,300–72,800 lbs weight class.
- ➤ Developed for precision excavation with minimal width, suitable for cables or other services requiring narrow trenches.
- ➤ Available in two models standard and tapered.
- ➤ Cutters and other exposed wear surfaces have a hardness of 500 Brinell.
- ➤ A factory-installed tooth kit is available as an optional extra for enhanced functionality.





#### **Deep-digging bucket**

- ► For excavators in the 3,300–72,800 lbs weight class.
- ▶ Ideal for jobs in difficult conditions where fast penetration and easy filling are priorities.
- ► Particularly preferred for trenching and soil removal tasks requiring high capacity.
- ► Can be fitted with various accessories upon request to enhance functionality:

  Tooth kit\*, tooth cover, blade teeth.

\* When selecting a tooth kit, engcon buckets are fitted with the Cat system as standard equipment. For other tooth systems, check availability with engcon.





#### Water/drainage bucket

- ► For excavators in the 17,630–50,710 lbs weight class.
- ► Specially designed for excavating water/ sewerage trenches and other utility tasks.
- ► Features a deep-digging bucket with a slightly longer base.
- ► Equipped with a cutter without teeth.
- ► Reinforced with Hardox at the most exposed points, ensuring durability and longevity.



#### **Sorting bucket**

- ► For all excavators in the 3,300–72,800 lbs weight class.
- ▶ Designed for quick and simple sorting tasks.
- ➤ Cutters, lower side plates, and ribs are made of high-strength wear bar with a hardness of up to 500 Brinell.
- ▶ Designed for a long service life, contributing to durability and reliability.









#### **Grading bucket**

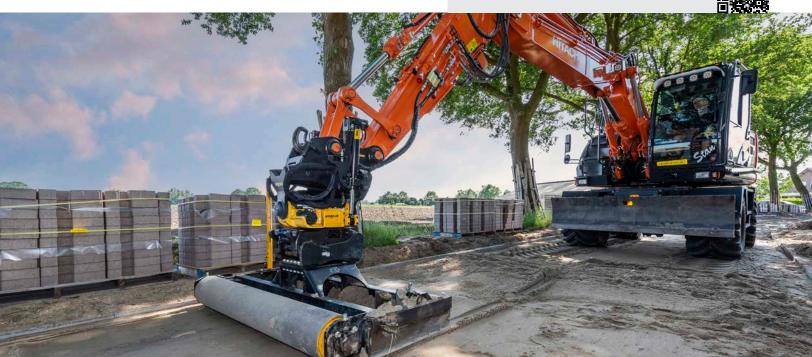
- ► For excavators in the 3,300–72,800 lbs weight class.
- ▶ The gripper-friendly bucket series features a rear bucket panel with a notch aligning with the gripper's counterhold. This design enhances support for grasped objects such as posts or pipes.
- ➤ Rounded corners designed to prevent collisions, particularly beneficial when excavating next to walls.
- ► Tiltrotator-adapted ceiling angle.
- Hardox-reinforcements on other wear surfaces.
- ► Conical shape for easier filling and better release.
- ➤ Wear and cutting steel 500 Brinell hardness.





#### **Tarmac cutter**

- ► For excavators in the 3,300–72,800 lbs weight class.
- ► Making high-quality cuts and avoiding unnecessary asphalt removal costs.
- ➤ Suitable for precise cuts on grass surfaces and other locations requiring accuracy.





**NOTE!** Check safety instructions for pallet fork use on specific machine. Use load-holding valve with tiltrotator. engcon tiltrotators are fitted with load holding valves on tilt cylinders.

#### **Pallet fork**

- ► Hydraulic and mechanical pallet forks for excavators in the 4,400–72,800 lbs weight class.
- ► Lightweight pallet forks are avaliable for excavators in the 4,400-13,200 lbs weight classes.
- ► Hydraulic pallet forks are operated from the cab thanks to EC-Oil quick coupler system.
- ► Mechanical pallet forks are held in position with robust catches, and fork positions are adjusted manually.
- ► Forged forks for increased durability and service life.



#### **Grading beam**

- ► For excavators in the 4,400–72,800 lbs weight class.
- ► Enables quick and efficient grading of large
- ➤ Available in five different widths caters to a wide range of grading requirements.
- ➤ The journaled compactor roller can be raised and lowered to achieve the best setting for your particular needs.
- ► Extendable side beams with 500 mm bolt-on extensions providing a versatile solution.
- ➤ Smart, flexible design with a bolt-on bracket/attachment point sharing the same bolt pattern as other engcon tools.



# enscon

#### **Ripper**

- ► For excavators in the 3,300–72,800 lbs weight class.
- ▶ Designed for effortless penetration of frozen and hard ground.
- ▶ Optimized for superior ripping ability and breakout force in hard materials.
- ▶ Back shield to support when prying against softer material.



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# **Control system**





- ▶ engcon's proportional control system DC2 is suitable for most machines on the market.
- ➤ Controls up to six proportional functions as standard and a further 14 on/off functions with engcon's joysticks.
- ▶ Option of track control, wheel steering, boom slew, VA-boom, outriggers and blade control.
- ➤ Function settings and tools can be adjusted using an android phone/tablet with the Microprop App via Bluetooth for up to four different operators.



#### **Locking system**

- engcon's intelligent, safe locking system comes as standard on engcon tiltrotators and optional extras for the machine coupler.
- Standardizes excavator operation, regardless of make and model.
- ► Features self-guidance lock panel.
- Enhances tool change safety with ground pressure sensor, and includes visual/audible warning for connection.



#### **Light and sound module**

- engcon's secure quick coupler, combined with the light/sound module, warns both visually and audibly if not safe connected.
- ➤ The module is installed on the left side of the excavator's stick, with integrated wiring in the control system cabling.
- ▶ If a control system other than DC2 is utilized, separate wiring for the warning module to the excavator cab can be arranged.



# Joysticks



## **Enjoy your work with good ergonomics and functionality**



engcon's excavator joysticks seamlessly integrate comfort, efficiency, and functionality while adhering to improved safety and control requirements. Developed in collaboration with operators and industrial design specialists, each joystick can be fitted with three rollers and seven buttons, providing twice the controls of two-lever setups. This design allows operators to work at maximum efficiency, minimizing physical strain and reducing stressful working positions.

The joystick includes an integrated hand support for wrist comfort without compromising excavator movements, featuring a flexible and adjustable hand rest suitable for different hand sizes. Beyond ergonomic considerations, engcon's joystick introduces new capabilities for operators, with rollers designed for the thumb, index, and middle fingers, enabling simultaneous control of six rollers when necessary.

## engcon Positioning System

Together with the excavator guidance system, engcon Positional System reduces the need for conventional setup. The driver can see the ex-cavation area via the machine control system's display in the cab. This control, allowing the driver to excavate the correct amount of material, comes with many benefits.



#### **Benefits with ePS**

- ► Reduced job time.
- ► Reduced fuel consumption.
- ► Reduced wear on machines and tools.
- Saves time for other units, such as trucks/ dumpers.
- ► Adapted to the engcon proportional system but also possible to install on other control systems.
- ➤ Completely independent of model or make of control system via own cabling.
- ► Possible to order/retrofit on all tiltrotators from EC204 and up.

engcon has standardised ePS sensors on tiltrotators EC214-EC233\*\*. The advantage is that rotation and the tilt angle can be obtained for integrated, aftermarket installed machine control systems.\* The use of standard sensors makes retrofitting ePS more straightforward. ePS is available as an option for EC204 and EC209 tiltrotators.



# Attachment brackets



## Attachment brackets EC-Oil

- ► For excavators in the 8,800–88,180 lbs weight class.
- ▶ Bucket/attachment bracket adapted to EC-Oil connectors.
- ➤ Standard bolt pattern that fits engcon hydraulic tools or weldable bracket.
- ► Possible to equip with one or two EC-Oil blocks.
- ► Easy to adapt for all types of hydraulic tools.
- ► Robust, reliable and value-for-money.
- ► Constructed in high strength steel.





#### **Attachment brackets**

- ► For excavators in the 3,300–72,800 lbs weight class.
- ► Easy-to-modify buckets for engcon couplers.
- ► Robust, reliable and affordable.
- ► Welded, high-strength steel.





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## **Technical data**

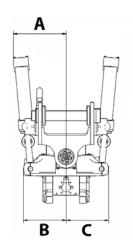
#### **Tiltrotators**

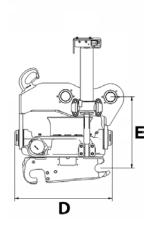
Specifications	EC02	EC204	EC206	EC209	EC214	EC219	EC226	EC233
Width A: (inches)*	7.1	10.5	11.3	10.9	12.6	15.6	16.8	19.7
Width B: (inches)*	6.1	6.3	8.7	9.8	11.2	12.4	13.4	15.2
Width C: (inches)*	6.3	6.7	8.6	10.7	11.9	12.2	13.4	15.2
Total length D: (inches)*	17.1	18.2	19.7	22.1	26.2	29	29.9	34.6
Construction height E: (inches)*	9.6	12.2	15	16.7	18	18.9	19.7	26.5
Weight: (lbs)*	169.4	255.2	375	631.4	847	983	1,390.4	1,786.4
Tilt range:	2x40°	2x45°	2x45°	2x40°	2x45°	2x45°	2x45°	2x45°
Rec. hydraulic flow DC2/SS10 (gpm):	6.6	7.9	10.6	15.9	21.1	31.7	31.7	31.7
Rec hydraulic flow SS9 tilt/rotation [gal/min]:	1.8/5.3	2.6/6.6	4.0/7.9	9.2/10.6	9.2/13.2	17.2/18.5	18.5/18.5	18.5/18.5
Max hydraulic pressure: (psi)	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,600
Standard mountings:	S30	S40	S40, S45	S45	S45, S60	S60	S70	S70, S80
Max bucket width rec. by engcon: (inches)	35.4	39.4	47.2	51.2	63	66.9	78.7	86.6
Max torque: (lbf)	14,751	20,652	33,190	54,580	92,933	137,187	199,142	250,771
Base machine weight min/max: (lbs)	3,300- 7,700	4,400– 8,800	8,800– 13,200	13,200– 19,800	19,800– 30,900	30,900- 41,900	41,900– 57,300	52,900– 72,800

<sup>\*</sup> Standard attachment

#### Tiltrotator storage and transport stand

Specifications	
Length: (inch)	47.2
Width: (inch)	31.5
Height without attachment: (inch)	5.9
Weight without attachment: (lbs)	180.8

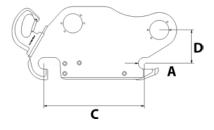




#### **Automatic quick couplers**

Specifications	<b>S</b> 40	S45	<b>S</b> 60	<b>S70</b>	S80
Axle diameter A: (inch)	Ø1.6	Ø1.8	Ø2.4	Ø2.8	Ø3.1
Width B: (inch)	7.9	11.4	13.4	17.7	23.2
Length C: (inch)	11.8	16.9	18.9	23.6	26.4
Construction height D*: (inch)	5.3	5.5	6.7	7.5	10.6
Weight*: (lbs)	132	220	397	639	816
Recommended hydraulic pressure open/closed (psi)	3050- 3630	3050- 3630	3050- 3630	3050- 3630	3050- 3630
Max hydraulic pressure: (psi)	5080	5080	5080	5080	5080
Base machine weight: (lbs)	6,600- 13,200	13,230- 24,250	26,460- 41,890	44,090- 66,140	59,530- 88,190

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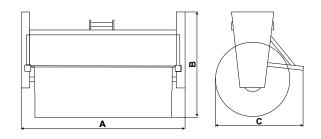


<sup>\*</sup> Depending on attachment point

Technical data may vary. We reserve the right to make changes without prior notice. Please direct any questions to your local engcon office.

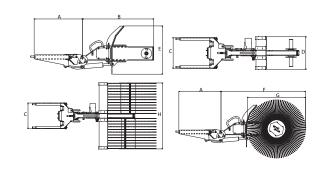
#### **Sweeper rollers**

Specifications	SR800	SR1300	SR1600	SR1800	SR2000
Min hydraulic flow: (gal/min)	5.3	5.3	5.3	5.3	5.3
Max hydraulic flow: (gal/min)	15.9	15.9	15.9	15.9	15.9
Weight excluding attachment point: (lbs)	463	529	573	606	639
Width A: (inch)	31.5	51.2	63	70.9	78.7
Height B: (inch)	49.5	49.5	49.5	49.5	49.5
Length C: (inch)	41.7	41.7	41.7	41.7	41.7



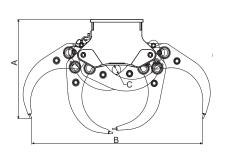
#### **Detachable sweepers**

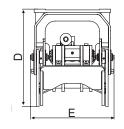
Specifications	SWD40	SWD45	SWD60
Length, cassette A: (inch)	17.7	23.1	26.2
Length, arm B: (inch)*	33.2	34.4	38.4
Width, cassette C: (inch)	12.4	14.3	16.7
Width, guard D: (inch)**	13.4/47.2	17.7/55.1	17.7/63
Height, guard E: (inch)	26	26	26
Max total length A+F (inch)*,**	61	67.3	78.7
Diameter, brush G: (inch)***	23.6/27.6	23.6/27.6	23.6/27.6/36
Width, brush H: (inch)	12.6/47.2	16.5/55.1	16.5/63
Maximum weight: (lbs)*,**	280	410	463
Oil flow min/max: (gal/min)	5.3/13.2	5.3/15.9	5.3/15.9
Fits couplers:	S40	S45	S60



#### Combi/timber grapple

Specifications	TG25HD	TG28HD	TG42HD	TG55HD
Height, fully open, A: (inch)	29.9	35	40.9	45.1
Max grapple width, B: (inch)	57.1	60.6	81.9	98.8
Minimum grapple width (inch)	1.7	3.7	3.2	5.9
Height, fully closed, D: (inch)	20.7	25.9	29.6	37.2
Max load: (lbs)	6610	11020	13230	22050
Width, E: (inch)	18.1	23.4	26.7	31.6
Gripping force at 3,200 psi (lbf)	1529	2792	4586	7162
Max hydraulic pressure: (psi)	3200	3200	3200	3200
Weight: (lbs)	430	794	1159	2359
Grapple area: (inch²)	388	434	651	853
Recommended machine weight: (lbs)	8,820- 19,840	19,840- 30,860	26,450- 41,890	41,890- 72,752





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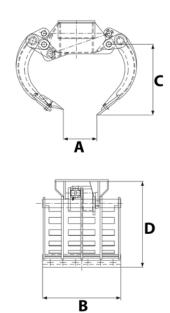
<sup>\*</sup> In the standard version

<sup>\*\*</sup> Depends on sweeper brush

<sup>\*\*\*36</sup> inch can only be used with long arm (38.4 inch)

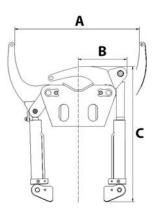
#### Stone/sorting grapple

Specifications	SG03	SG06	SG09	SG12	SG19	SG26	SG33
Max grapple width, A: (inch)	29.5	43.7	53.7	65.4	70.5	78.3	101.4
Min grapple width, A: (inch)	0	0	0	0	0	0	0
Cutting width, B: (inch)	15.7	19.9	24.7	28.1	33.9	33.9	46.1
Length, C: (inch)	19.3	18.1	21.2	26.8	31.1	34.3	46.5
Height, D: (inch)	21.7	22.8	29.4	31.1	37.8	42.1	53.5
Volume, with side plates: (gal)	11.1	21.9	36.2	58.1	88.8	111.0	245.7
Gripping force: (lbf)	1281	1956	3147	3372	4271	5620	10116
Max hydraulic pressure: (psi)	3200	3200	3200	3200	3200	3200	3200
Weight: (lbs*)	240	395	591	935	1425	1665	3085
Grapple area: (inch²)	186	263	372	527	651	806	1317
Base machine weight: (lbs)	3,310- 6,610	6,610- 13,230	13,230- 19,842	22,046- 26,460	26,460- 35,270	35,270- 48,500	48,500- 72,752
Recommended tiltrotator/rotator:	EC02	EC204 EC206	EC206 EC209	EC209 EC214	EC214 EC219	EC219 EC226	EC226 EC233



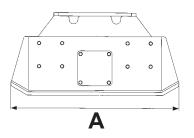
#### **Detachable grab**

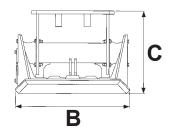
Specifications	GRD40	GRD45	GRD60	GRD70
Max grab width A: (inch)	17	24	32.3	37.4
Width B: (inch)	8.7	10.6	14	16.1
Length C: (inch)	21.3	28.3	34.3	35.4
Gripping force (tip-tip) at 3200 psi: (lbf)	2646	3307	4850	4850
Max load: (lbs)	2204	3307	4409	4409
Weight: (lbs)*	99	218	337	372
Max hydraulic pressure: (psi)	3200	3200	3200	3200
Fits couplers:	S40	S45	S60	S70



#### **Compactors**

Specifications	PP3200	PC6000	PC9500
Compaction force (lb-ft):	7,050	44,254	70,068
Compaction area: (inch²)	15.7 – 22	946	1,333
Max hydraulic pressure: (psi)	3200	3,046	3,046
Rec hydraulic flow: (gal/min)	9	14,5	17,2
Max rec return hose pressure: (psi)	360	290	290
Weight excluding attachment bracket: (lbs)	1,040	1,234	2,138
Length: (inch)	39.4	41.9	51,9
Width: (inch)	19.7 – 27.6	28.3	35,4
Height without top bracket: (inch)	23.2	20	24,8
Frequency [Hz]:	31	35	35





<sup>\*</sup> Depending on attachment point.

#### **Grapple saw**

Specifications	MG12	MG12	MG20
Grab width A, min: (inches)	3.2	3.2	7
Grab width A, max: (inches)	58.9	58.9	89.7
Width B: (inches)	17.8	17.8	20.9
Height C: ((inches)	35.8	35.8	45.8
Weight: (lbs)	694	694	1,234
Grab area: (inch2)	432	432	806
Max hydraulic pressure: (psi)	3,626	3,626	3,626
Max load: (lbs)	13,228	13,228	22,046
Fits coupler:	S45	S60	S70
Base machine weight: (lbs)	15,432-26,455	26,455-41,887	41,887-57,320

#### Pallet forks (hydraulic)

Specifications	GHH1200	GHH1200L	GHH1200L
Width: (inches)	47,2	47,2	47,2
Fork: (inches)	4.9x1.8x47.2	3.9x1.6x47.2	4.9x1.8x47.2
Weight: (lbs)*	880	572	689
Base machine weight (lbs):			
TP500 (lbs)	10,361	6,393	10,361

<sup>\*</sup> Depending on coupler

#### **Lightweight pallet forks (hydraulic)**

Specifications	GHH1000L
Length (inches)	31,5 (also available in 47.2)
Width (inches)	39,4
Weight (lbs)	333
Fork (inches)	3.1x1.6x31.5
Standard coupler	S40 (EC-Oil)
Base machine weight (lbs)	4,409-13,227
TP500 (lbs)	4,409

#### **Cable buckets**

Specifications	CB01	CB03	CB03	CB05	CB05	CB08	CB10	CB1	5 CB15C	CB20	CB20	CB25	CB25	CB29	CB29
Volume (y³):	0.05	0.12	0.12	0.17	0.17	0.20	0.21	0.46	0.46	0.52	0.52	0.72	0.72	1.05	1.05
Width (inches):	9.4	11.4	11.4	13.4	13.4	15.7	18.1	22	2 11.8	26	26	23.6	23.6	27.6	27.6
Weight (lbs):	55	121	121	154	187	209	352	638	3 561	704	792	1,298	1,353	1,709	1,709
Top bracket:	S30	S30	S40	S40	S45	S45	S45	S60	S60	S60	S70	S70	S80	S80	S80
Base machine weight [lbs]:	3,307- 4,409	4,409- 8,818	4,409– 8,818	8,818- 13,227	8,818– 13,227	13,227- 22,046	,	- /	28,660- 37,478	37,478- 48,501	37,478- 48,501	48,501- 59,524	48,501- 59,524	59,524- 72,752	59,524– 72,752

#### Water & drainage buckets

Specifications	TB07	TB07	TB09	TB12	TB14	TB16	TB18
Volume (y³):	0.33	0.33	0.46	0.65	0.78	0.92	1.18
Width (inches):	23.6	23.6	27.6	31.5	31.5	35.4	35.4
Weight (lbs):	444	469	550	748	1,122	1,210	1,650
Top bracket:	S40	S45	S45	S60	S60	S60	S70
Base machine weight [lbs]:	17,636- 24,250	17,636- 24,250	17,636- 24,250	24,250- 28,660	28,660- 33,069	33,069– 37,478	33,069- 39,683

#### **Deep-digging bucket**

Specifications	DB02	DB02	DB03	DB05	DB06	DB07	DB09	DB11	DB12	DB13	DB14	DB16	DB18	DB21	DB26	DB29	DB32
Volume (y³):	0.09	0.12	0.16	0.21	0.26	0.33	0.46	0.52	0.65	0.78	0.85	0.98	1.18	1.44	1.83	2.09	2.35
Width (inches):	17.7	21.7	21.7	23.6	23.6	27.6	27.6	27.6	31.5	33.5	35.4	39.4	39.4	43.3	51.2	57.1	66.9
Weight (lbs):	110	132	165	220	275	462	506	616	726	1,100	1,144	1,320	1,496	2,068	2,926	3,168	3,784
Top bracket:	S30	S40	S40	S40	S40	S45	S45	S45	S60	S60	S60	S60	S60	S70	S70	S70	S80
Base machine weight [lbs]:	3,307- 6,613	3,307- 6,613	,	,	11,023– 15,432	,	,	22,046- 26,455	,	,	,	33,069- 37,478	,	,	52,910– 59,524	59,524– 68,343	68,343– 72,752

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#### Sorting bucket (SB)

Specifications	SB02	SB02	SB04	SB06	SB06	SB08	SB11	SB14	SB15	SB17	SB20	SB24	SB29
Volume: (y³)	0.12	0.17	0.26	0.39	0.39	0.48	0.65	0.85	0.98	1.18	1.44	1.83	2.09
Width: (inches)	35.4	35.4	39.4	47.2	47.2	51.2	55.1	63	63	66.9	66.9	78.7	78.7
Diameter: (inches)	0.9	0.9	0.9	0.9	0.9	1.2	1.2	1.2	1.8	1.8	1.8	1.8	1.8
Gap: (inches)	1.6	1.6	2	2	2	2	2	2	2.6	2.8	2.8	2.8	2.8
Weight: (lbs)	176	200	317	365	389	642	704	972	1,382	1,533	2,024	2,301	2,790
Top bracket:	S30	S40	S40	S40	S45	S45	S45	S60	S60	S60	S70	S70	S70
Base machine weight [lbs]:	3,307– 6,613	3,307– 6,613	4,409– 8,818	13,227– 15,432	13,227- 15,432	15,432– 19,841	19,841– 26,455	28,660- 30,864	30,864– 35,273	35,273– 39,683	39,683- 48,501	48,501– 57,320	57,320– 72,752

#### Sorting bucket (SKB)

Specifications	SKB02	SKB04	SKB06	SKB09	SKB14	SKB17	SKB23	SKB29
Volume: (y³)	0.09	0.22	0.29	0.52	0.81	1.11	1.7	2.03
Width: (inches)	23.6	23.6	31.5	39.4	51.2	51.2	59.1	59.1
Gap: (inches)	1.7	1.6	1.9	2	2.4	2.4	2.4	2.4
Weight: (lbs)	108	238	365	640	1,091	1,329	2,358	2,708
Top bracket:	S30	S40	S45	S45	S60	S60	S70	S70
Base machine weight [lbs]:	3,307- 6,613	4,409- 8,818		15,432-5 26,455	28,660– 30,864	35,273- 39,683	48,501- 57,320	57,320- 72,752

#### **Grading bucket**

Specifications	GB02	GB02	GB03	GB04	GB05	GB05	GB06	GB06	GB08	GB08
Volume (y³):	0.12	0.17	0.20	0.26	0.33	0.33	0.39	0.39	0.48	0.52
Width (inches):	35.4	35.4	43.3	39.4	47.2	47.2	47.2	47.2	51.2	55.1
Weight (lbs):	165	176	242	297	319	341	341	352	572	573
Top bracket:	S30	S30	S40	S40	S40	S45	S40	S45	S45	S40
Base machine weight [lbs]:	3,307- 6,613	3,307- 6,613	3,307- 6,613	4,409– 8,818	8,818- 11,023	8,818- 11,023	13,227- 15,432	13,227- 15,432	15,432- 19,841	15,432- 19,841

Specifications	GB11	GB13	GB14	GB15	GB17	GB20	GB24	GB29	GB29
Volume (y³):	0.59	0.78	0.85	0.98	1.18	1.44	1.83	2.09	2.09
Width (inches):	55.1	63	63	63	66.9	66.9	78.7	78.7	78.7
Weight (lbs):	704	990	1,012	1,452	1,540	2,156	2,530	3,212	3,278
Top bracket:	S45	S60	S60	S60	S60	S70	S70	S70	S80
Base machine weight [lbs]:	19,841 – 26,455	26,455- 28,660	28,660- 30,864	30,864- 35,273	35,273– 39,683	39,683- 48,501	48,501- 57,320	57,320– 72,752	57,320– 72,752

#### **Grading beam**

Specifications	GRB1250	GRB1500L	GRB1500	GRB2000	GRB2500	GRB3000
Width (inches):	49.2	59.1	59.1	78.7	98.4	118.1
Depth without extensions (inches):	37.9	37.9	39.4	39.4	39.4	39.4
Height without top bracket (inches):	10.8	10.8	15.2	15.2	15.2	15.2
Roll diameter (inches):	7	7	9.6	9.6	9.6	9.6
Weight (lbs):	429	513	673	1,060	1,239	1,419
Base machine weight (lbs):	4,409- 19,841	4,409- 24,250	4,409- 24,250	4,409- 39,683	13,227- 66,138	44,092- 72,752

#### Pallet forks (mechanic)

Specifications	GH1000	GH1200
Width: (inches)	39.4	47.2
Fork: (inches)	3.9x1.6x47.2	4.9x1.8x47.2
Weight: (lbs)*	396	794
TP500 (lbs)	6,393	10,361
Base machine weight (lbs):	8,818-72,752	8,818-72,752

#### **Lightweight pallet fork (mechanic)**

Specifications	GH1000L
Standard coupler	S40
Weight (lbs)	311
Fork (inches)	3.1x1.6x31.5
Width (inches)	39.4
Length (inches)	31.5
TP500 (lbs)	4,409
Base machine weight (lbs)	4,409-13,227

#### **Tarmac cutters**

Specifications	TC03	TC06	TC12	TC19	TC33	TC33
Diameter: (inches)	14.6	14.6	18.5	18.5	18.5	18.5
Cutting depth: (inches)	3.9	3.9	5.9	5.9	5.9	5.9
Weight: (lbs)	66	88	121	154	198	242
Attachment point:	S30/180	S40	S45	S60	S70	S80
Base machine weight [lbs]:	6,613- 13,227	6,613- 13,227	13,227- 26,455	24,250- 41,887	39,683- 72,752	39,683- 72,752

#### **Rippers**

Specifications	R06	R06	R12	R19	R26	R26	R33	R33
Height: (inches)	23.6	23.6	27.6	35.4	47.2	47.2	55.1	55.1
Weight: (lbs)	110	143	242	374	814	902	1,496	1,584
Attachment point:	S30	S40	S45	S60	S60	S70	S70	S80
Base machine weight [lbs]:	3,307- 13,227	3,307- 13,227	13,227- 26,455	24,250- 41,887	24,250- 57,320	24,250- 57,320	39,683- 72,752	39,683- 72,752



