

**DOOSAN**

Plug & Play Options

# Doosan Smart Solutions



# DOOSAN CONNECT



Xsite®

Leica  
Geosystems

Trimble READY

## SMART SOLUTIONS – THE EASIEST FOR THE DIGITAL CONSTRUCTION WORLD

- 'Plug & Play' with all brands in the market and provide a factory-fit ready system
- Providing a 'Plug & Play' solution for all types of machine guidance systems for customers to choose whatever they want
- More intelligent support from Doosan Connect to allow customers to save costs and improve productivity

# VERSATILITY – WORKS EVERYWHERE

## OUR PLUG & PLAY STRATEGY ALLOWS OUR CUSTOMERS TO WORK EVERYWHERE WITH ALL TYPES OF TOOLS.

Powerful and stable, and compatible with almost all tools and brands, Doosan machines are the perfect carriers for all types of tools. Here are some examples of the broad range of compatible Doosan tools for excavators:



Plate compactor

### ROAD CONSTRUCTION



Orange grapple

### WASTE & RECYCLING



Log grapple

Wood grapple

### FORESTRY



Ripper

### DEMOLITION



Hydraulic breakers

### QUARRY



Stone grapple

### MULTIPLE TYPE OF CONSTRUCTION



**engcon<sup>®</sup>**

## **ENGCON CONTROL SYSTEM KIT**

Tiltrotators - an excavator's flexible wrist - have become a given concept in the excavation business. Simply tilt and rotate the bucket or other tools for higher efficiency.

# REDUCE WORKING TIME BY UP TO 50% WITH ENGCON!

## TILTROTATORS

Engcon tiltrotators feature a cast body, which is stronger and lighter than the welded equivalents.

### TILTROTATOR BENEFITS

- Do more from one spot and reduce the need to reposition the excavator
- Reduce working time by up to 50%
- Save fuel and environment
- Less need of manual labor
- Less damage to the ground
- Less wear on the undercarriage
- Save material
- Make work easier and safer for the operator and increase safety around the machine
- Reduce the need to close roads and other digging areas



**TILTROTATOR EC233**



**Q-SAFE QUICK HITCH**



**MIG2 JOYSTICKS**



**DC2 CAB MODULE**



**DETACHABLE GRAB**

## ENGCON PROFITABLE CHOICES

### QSC Standardized locking system

A system that minimizes the risk of activating the wrong button or function when releasing the excavator's bucket or other tools.

### MIG2 Joysticks

Engcon's MIG2 joysticks combine maximum ergonomics and functionality. One joystick can be fitted with 3 rollers and 7 buttons – twice as many with 2 joysticks – giving the operator maximum efficiency. The roller controls are intended to be used by thumb, index and middle fingers – the operator can combine 6 rollers simultaneously. An integrated hand support can be adapted to different hand sizes.

### DC2 Control system

DC2 meets the high safety standards that place high demands on hydraulics, electronics and software. It offers the option of track control and wheel steering as well as moving the boom. A smartphone app adds a remote control function as a complement to PC and USB cable connection.

### ePS Positioning system

Reduces the need for a 'conventional' set-up, and the operator can see the exact excavation area via the machine control system's display in the cab. Works together with major machine guidance system brands.

### Q-Safe Quick hitch

The world's safest quick hitch. With Q-Safe™, connecting the tool incorrectly due to 'human error' is no longer possible. The bucket or tool must achieve a certain ground contact pressure to allow connection or removal.

### EC-Oil Automatic Quick Hitch System

EC-Oil makes connecting the tiltrotator under the excavator's quick coupler quick and easy; you can then connect hydraulic or mechanical tools under the tiltrotator. And all without leaving the cab!

In addition to the tiltrotator, EC-Oil also connects all hydraulic tools such as sorting grapples, compactor plates, pallet forks, hammers/breakers, etc. without having to leave the cab.

### Detachable grab

An alternative to the conventional fixed gripper, the detachable gripper cassette (GRD) offers the benefit of being retrospectively fitted to the Q-Safe-D hitch.

For more information, please contact your local Engcon dealer.



SVAB



STEELWRIST

## SVAB & STEELWRIST OPTIONS

The new factory-installed SVAB/Steelwrist options are now available as a factory fit on Doosan wheeled excavators through Doosan Smart Solutions.

# SVAB CONTROL SYSTEM WITH USER-FRIENDLY INTERFACE AND AUTO-CALIBRATION

## SVAB OPTIONS

### SVAB control system

Increases productivity when using a tilt rotator. The ergonomic joysticks deliver soft, flexible and simultaneous operation of numerous functions. The user-friendly interface with the Auto Calibration function ensures optimal steering feedback and minimal fuel consumption.

### Wheel joystick steering

This function moves the excavator while you continue to perform a specific task with the digging arm. You turn the wheels with one roller on the joystick and control the speed with your foot.

### Automatic digging brake

The automatic digging brake keeps your wheeled excavator completely still when digging. After gently braking the excavator wheels, the system locks the wheels until you press the accelerator.

### Gateway to MCS (Machine Control System)

The MCS display gets full feedback on the bucket position and allows full tilt rotator functionality in the MCS. This gives you maximum performance and reduced risk of broken pipes and cut wires.

## STEELWRIST OPTIONS

### Steelwrist quick coupler and tilt rotators

- S60 quick coupler with front pin lock
- S60 quick coupler with front pin lock
- Direct fit X20 with S60 coupler
- Direct fit X20 with S60 coupler with gripper
- Sandwich X18 S60/S60
- Sandwich X18 S60/S60 with gripper
- Sandwich X20 S60/S60
- Sandwich X20 S60/S60 with gripper

## BENEFITS

- The same installation on all 4 models (DX140W-5, DX160W-5, DX165W-5, DX170W-5) simplifies field support
- Shortens the machine's lead-time to end-user
- Doosan factory fit ensures a consistently high-quality installation
- The correct joysticks are factory-fitted, reducing cost and waste for customers
- Increased availability for reduced customer support time



Service tool



## AVAILABLE OPTIONS

Item Name	Machine models
Steelwrist tiltrotator X18 S60/S60 (2 hose tiltrotator)	DX140W-5, DX160W-5, DX165W-5
Steelwrist Tiltrotator X18 S60/S60 with gripper unit (2 hoses tiltrotator)	
Steelwrist tiltrotator X18 direct fit (2 hose tiltrotator)	
Steelwrist Tiltrotator X18 DIRECT FIT/S60 with Gripper unit (2 hoses tiltrotator)	
Steelwrist Tiltrotator X20 S60/S60 (2 hoses tiltrotator)	DX160W-5, DX165W-5, DX170W-5
Steelwrist tiltrotator X20 S60/S60 with gripper unit (2 hoses tiltrotator)	
Steelwrist Tiltrotator X20 DIRECT FIT/S60 (2 hose tiltrotator)	
Steelwrist Tiltrotator X20 DIRECT FIT/S60 with Gripper unit (2 hoses tiltrotator)	
Steelwrist Tiltrotator X20 DIRECT FIT/S60 (2 hoses tiltrotator)	DX140W-5, DX160W-5, DX165W-5
Steelwrist Tiltrotator X20 DIRECT FIT/S60 with Gripper unit (2 hoses tiltrotator)	DX170W-5
Steelwrist S60 FPL Quick coupler (Front Pin Lock) 60-80 mm shafts	DX140W-5, DX160W-5, DX165W-5 (pickup dimensions differs from DX170W-5)
Steelwrist S60 FPL Quick coupler (Front Pin Lock) 60-80 mm shafts	DX170W-5

For more information, please contact your local Doosan approved dealer.



# TRIMBLE READY OPTIONS

Trimble Ready® kits include the necessary brackets, harnessing and sensors to allow for an easy aftermarket completion of a 2D or 3D Trimble GCS900 Grade Control System or Trimble Earthworks Grade Control Platform by a local SITECH® dealer.

# SIMPLIFIED INSTALLATION OF A TRIMBLE® 2D OR 3D GRADE CONTROL SYSTEM

## TRIMBLE GCS900 GRADE CONTROL SYSTEM

The most mature and proven grade control system on the market was introduced by Trimble more than 10 years ago and has been installed on thousands of excavators worldwide. Leverage the power and portability across your existing fleet of machines to get every ounce of productivity out of them.



## TRIMBLE EARTHWORKS GRADE CONTROL PLATFORM

Take advantage of the next generation grade control platform from Trimble with easy-to-learn software that runs on an Android operating system. State-of-the-art hardware and software provide operators of any skill level the ability to work faster and more productively than ever before.



## BENEFITS OF TRIMBLE GRADE CONTROL

47% less fuel used when compared to traditional methods



30% faster completion of common excavation tasks



32% fewer passes or cycles to get the job done



## AVAILABLE OPTIONS

Trimble Ready Kit	Machine models	Monoboom Part no.	Artiboom Part no.
Doosan Trimble Ready for GCS900	14T-30T machines built in NL in EuCup excluding DX140LCR-5, DX165W-5, DX235LCR-5 and DX300LC-5	79701-GCS	79701-GCS-ARTI
Doosan Trimble Ready for Earthworks		79701-EW	79701-EW-ARTI

For more information, please contact your local Doosan approved dealer.



**Leica**  
Geosystems

## LEICA-READY OPTIONS

The Leica-ready 3D machine control system not only boosts your productivity, it also offers unmatched flexibility. In brief, it will revolutionize the way you move dirt and fine-grade!

# FULL 3D CONTROL OF YOUR EXCAVATOR

## LEICA GEOSYSTEMS FOR EXCAVATOR 3D SOLUTION

### Boost your productivity

Digitize your construction site with Leica Geosystems software and hardware platform to build complex designs with simpler workflows and less downtime.

### Ease-of-use

Simple, clean and intuitive user interface with interactive user design. The assistive technology with wizards and help functions helps you drive the excavator and get more work done with high quality and less rework.

### Robust design

With their robust design, the Leica MCP80 panel and the Leica MDS series docking station are prepared for the harshest environments and are truly resilient for the heavy construction industry.

### Ultimate accuracy

Leica Geosystems machine control solution guides the operator using reference models and GNSS in 3D. Design information and real-time cut/fill indications are displayed in the cab on your control panel, allowing you to rapidly excavate to the reference design.

### Less downtime

The operator can use the Create Model function to make even complex models directly on the panel without leaving the cab and without the assistance of a surveying engineer.

### Cost and Time Savings

The sync function allows the excavator operator to work on the latest up-to-date design data. The operator collects and shares as-built data and can receive remote support via ConX. Therefore, thanks to ConX, the project manager of the construction site can track the productivity for the work that has been performed and have a real-time snapshot of the construction site's latest status.

### WHAT IS 3D LEICA READY?

3D Leica Ready is an option on the existing Doosan excavators portfolio from 14 ton up.

#### 3D Leica Ready Benefit

- Consistent routing for the installation
- Right position of the sensor
- No need to look for the right location
- Tidy look on the in-cab machine – cables are placed under a plastic panel

#### 3D Leica Ready – Components' kits: no product but installation!

- Cables
- Sensors
- Bracket
- Junction box

## AVAILABLE OPTIONS

Kit	Item Name	Qty	Part no.	Machine models
<b>Leica 3D Ready - Mono boom</b>  Doosan Whole Kit PN: 6014909	XJB-16 3D Junction box for Excavator systems	1	779080	Crawler and wheeled excavators in the range from 14 tons to 30 tons  Mono boom only
	MSS400, Pitch-Roll Sensor	1	822981	
	MSS403, Stick Sensor W/O Laser Window	1	822983	
	CA23, Mag. Radio/Modem Ant. Mount + cap	2	827064	
	MSS405, Bucket Sensor	1	822985	
	MSS401, Boom 1 Sensor	1	822979	
	MMB1404, Bracket, MSS401/402/403/404, Ex	2	822990	
	MMB1428, L-Bracket, MSS405/406, EX	2	822991	
	MMB1430, L-Bracket Cover, MSS405/406, EX	1	833931	
	MSC1400 Cable XJB-16 to Cradle	1	845925	
	MSC708 Cable MIL2f/BATT Lug 15A F, 8m	1	848112	
	MSC1447 Cable M12 F to M12 F 3.5m	1	851346	
	MSC1449 Cable M12 F to M12 F 7.5m	2	851348	
	CX-3 mini CAN-X, 3xM12	1	772356	
	MSC1446 Cable M12 F to M12 F 2.0m	2	851344	
	MSC1474 Cable CAN M12 F/F, 5 m	1	855191	
	Cable mounting with magnet 31 mm	6	868020	
	Cable ties 4.8x200mm 100 pcs.	2	761702	
<b>Leica 3D Ready - Arti boom</b>  Doosan Whole Kit PN: 6014911	Doosan Whole Kit "Leica 3D Ready - Mono boom"	1	6014909	Crawler and wheeled excavators in the range from 14 tons to 30 tons  Arti boom only
	MSS402 Boom 2 sensor	1	822980	
	MSC1447 Cable M12 F to M12 F 3.5m	1	851346	
	MMB1404, Bracket, MSS401/402/403/404, Ex	1	822990	

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