DOOSAN

Construction Equipment

Front Shovel

DX340 FS / DX420 FS /
DX520 FS / DX700 FS

Front Shovel

DX 340 FS
DX 420 FS
DX 520 FS
DX 700 FS

KEY POINT

Customized Features

- Wide range of model choice
- Optimized front linkage part
- High productivity
- Specialized cabin & Guard option
- Various bucket option

Fuel Efficiency

- Relief cut off
- Optimized lever control & Idle
- Engine & Pump Matching

Reliability

- Reliable and well protected hydraulic, electric and lubrication routings with simple, optimized layout

Performance

- Powerful Doosan Engine for each model
- E-POS System(Electronic Power Optimizing System)

Comfort

- Operator orientated cabin design
- Simple and easy control panel

Maintenance

- Easy access to all maintenance components
- Intuitive maintenance data management

CUSTOMIZED FEATURES

Front Shovel is the machine to dig and dump big volume material at one time. It can put stone, gravel, soil or sand to dump truck from ground surface. Working range is short and shovel bucket is rotated in the opposite direction to the general excavator's backhoe for quick working with approached truck.

WIDE RANGE OF MODEL CHOICE

Model	Bucket Dump Type	Max. Dumping Height (mm)	Max. Digging Reach (mm)	Boom Length (mm)	Arm Length (mm)	Additional Counter-weight (t)	Bucket Capacity (m^3)	Match with DOOSAN ADT	
								DA30	DA40
DX340 FS	Bottom dump	7,240	8,510	3,850	2,750	-	1.8	●	-
DX420 FS	Bottom dump	6,870	8,840	4,200	2,800	1.0	2.2	●	-
DX520 FS	Bottom dump	7,285	8,930	4,300	2,800	-	2.6	●	●
DX700 FS	Bottom dump	8,140	10,100	4,500	3,600	3.0	3.3 / 3.5 / 3.6	-	●
						4.0	4.0 / 4.5		

OPTIMIZED FRONT LINKAGE PART

Durable front linkage

Designed highly reinforced box section and used high strength steel for enhancing strength

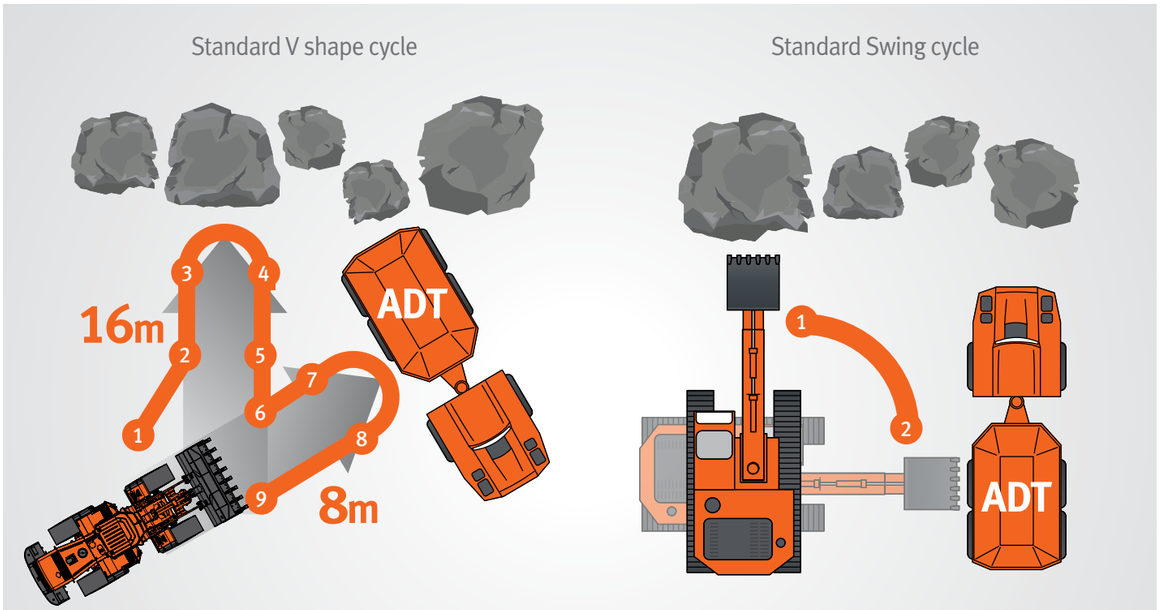
Parallel cylinders for high penetration

keep the bucket parallel for supporting bucket performance during the work cycle.

Piping protection Shield

used high strength steel for protecting piping

HIGH PRODUCTIVITY



Enhanced working mechanism

- Shorter Cycle time Increases unit per hour.

High working efficiency

- Accessibility to the rugged terrain.
- Perfect match with Doosan ADT.
- Cost saving effect such as Labor and Fuel consumption.

SPECIALIZED CABIN & GUARD OPTION

Cabin riser system

Provides a stable position to offer wide viewing range.

Fall Objective Protection Structure (FOPS)

Operator protective guard (OPG) on the cabin to protect operator from falling objective from the top.

CUSTOMIZED FEATURES

VARIOUS BUCKET OPTION

Features & benefits

Bottom dump buckets are provided for each front shovel model.

- Designed for dumping easily without tilting by opening the shell from bottom plate.
- Large bucket capacity for high breaking force capable of excavating heavily compacted dirt and rock.

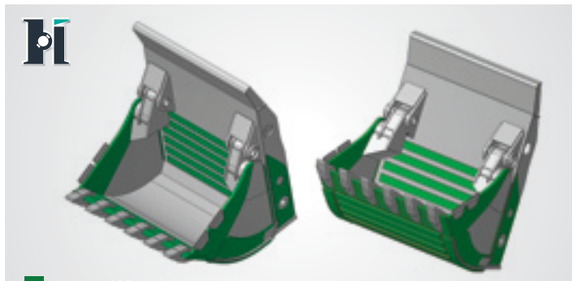
Customized choice depend on job site condition

Classification focused on durability

H *class*

Material such as :
Hard packed clay, short limestone, limited rock content and gravel.

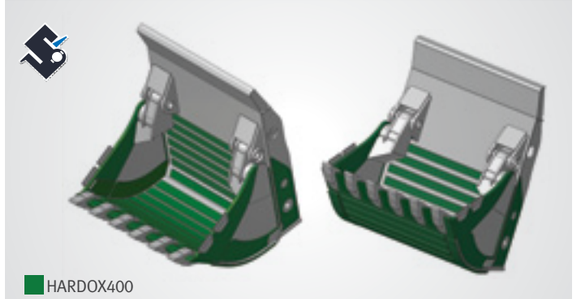
Features & Benefits
Spill guard is applied to load more capacity.
High grade material composition for better durability
- Use HARDOX400 grade material on Lip plate, wear parts.



S *class*

Material such as :
Gravel, ripped basalt, caliche, shot granite, high silica sand, sharp rock and others.

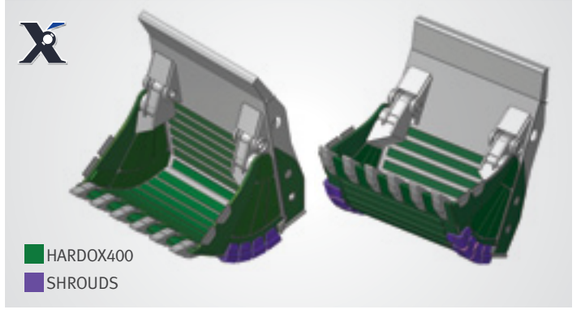
Features & Benefits
Spill guard is applied to load more capacity.
High grade material composition for better durability
- Added more patches for durability and strength on lip plate and inner shell.



X *class*

Material such as :
Ripped basalt, caliche, shot granite, high silica sand, sharp rock and others.

Features & Benefits
Spill guard is applied to load more capacity.
High grade material composition for better durability
- Added more patches for durability and strength on lip plate and inner shell
- Muscle pack heels to increase durability and protect shell from wear.

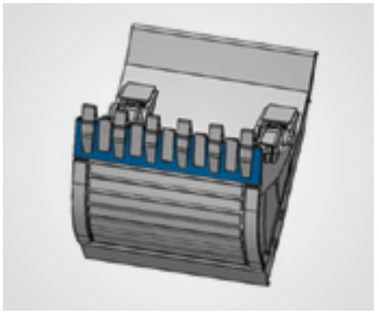


Types of lip plate shape focused on performance

Straight shape

Designed for :
Multi purposed digging and loading in almost all of general job site.

Features & Benefits
Even distributed breakout force on the all bucket tooth.
Especially higher efficiency for normal duty digging and loading.

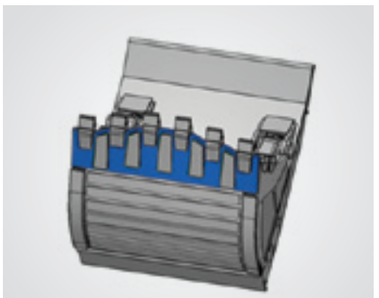


V-shape

Designed for :
Face or bank loading in mining or quarry applications.

Features & Benefits
Optimized penetration for high resistance material such as blasted rock.
- 150~160° tapered lip plate reduce the penetration resistance.

Increased anti-abrasion life for lip plate.



Durability and penetration performance chart

Stronger

Higher performance

Stronger and higher performance

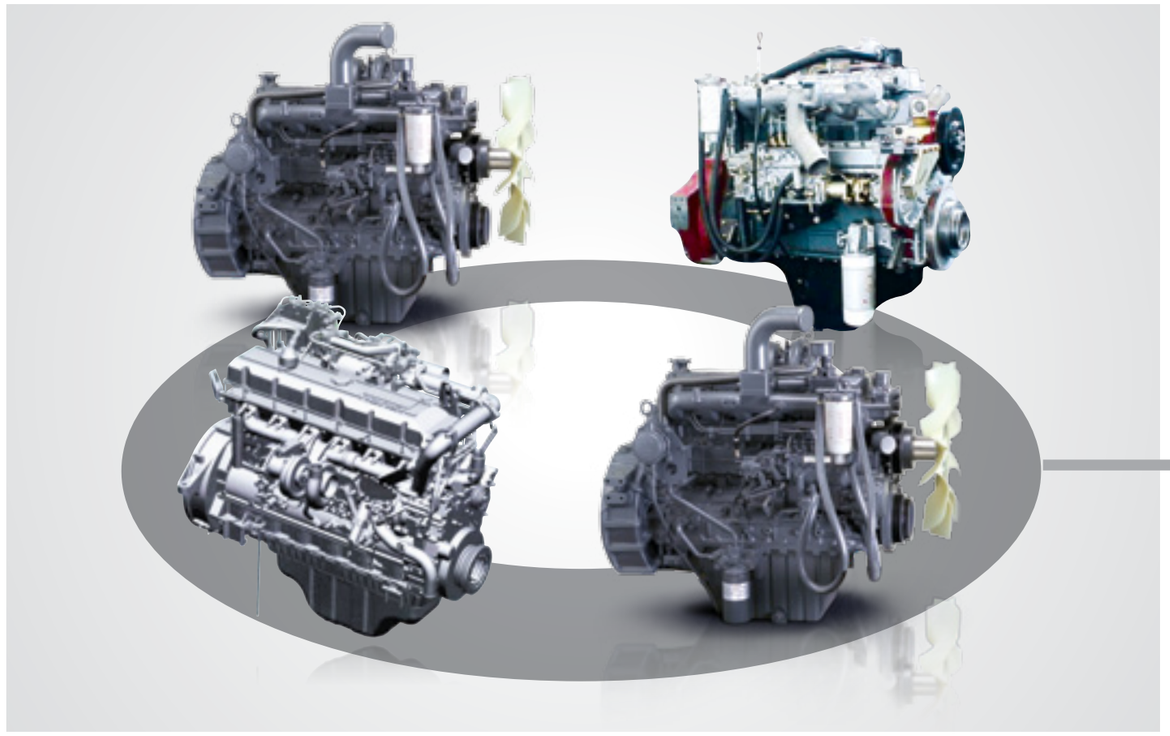
	H *class*	S *class*	X *class*
Straight lip plate	**DX340 FS :** 1.8 m³ **DX420 FS :** 2.2 m³ **DX520 FS :** 2.6 m³ **DX700 FS :** 3.3/3.6/4.0/4.5 m³	**DX340 FS :** 1.8 m³ **DX420 FS :** 2.2 m³ **DX520 FS :** 2.6 m³ **DX700 FS :** 3.3/3.6/4.0 m³	**DX700 FS :** 3.5 m³
V-shape lip plate	**DX340 FS :** 1.8 m³ **DX420 FS :** 2.2 m³ **DX520 FS :** 2.6 m³ **DX700 FS :** 3.3/3.6/4.0/4.5 m³	**DX340 FS :** 1.8 m³ **DX420 FS :** 2.2 m³ **DX520 FS :** 2.6 m³ **DX700 FS :** 3.3/3.6/4.0 m³	**DX700 FS :** 3.5 m³

PERFORMANCE

The performance of the Doosan machine has a direct effect on its productivity. Its new improved engine and new e-EPOS controlled hydraulic system have combined to create an unbeatable hydraulic excavator, with a cost/performance ratio that makes the Doosan machine even more appealing.

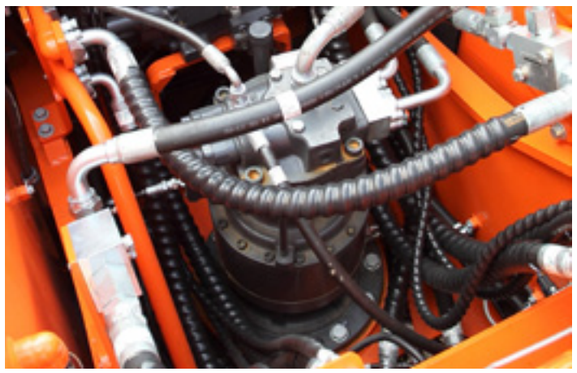
Maximum performance by Doosan engine

Doosan engine perfectly harmonized with the hydraulic system and provides strong power.
Mechanical engine providing high resistance to moisture, dust, and bad fuel quality.



Smooth swing with Increased Swing torque

New motor swing reduction gear minimizes shocks during rotation while making increased swing torque .



Improved Excavator control by New e-EPOS™ system

The brains of the hydraulic excavator, the e-EPOS™ (Electronic Power Optimizing system), have been improved, through a CAN (Controller Area Network) communication link, enabling a continuous exchange of information between the engine and the hydraulic system.

The advantages of the new e-EPOS™ impacts at several levels, Ease of operation and user-friendliness:

- The availability of a power mode and standard mode guarantee maximum efficiency under all conditions.
- The automatic deceleration mode enables fuel saving.
- Regulation and precise control of the flow rate required by the equipment are available as standard.
- A self-diagnosis function enables technical problems to be resolved quickly and efficiently.
- An operational memory provides a graphic display of the status of the machine.
- Maintenance and oil change intervals can be displayed.

FUEL EFFICIENCY

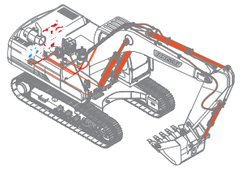
Control

RELIEF CUTOFF

to prevent transfer of unnecessary flow

1. Typically, the pump tends to supply flow even when the maximum pressure on the system is reached due to severe working environments and large workloads.

2. Relief cutoff technology of Doosan prevent transfer of unnecessary flow to keep powerful working level at the maximum value while reducing consumption of fuel.



Waiting

OPTIMIZED LEVER CONTROL & AUTO IDLE

to prevent unnecessary fuel consumption

1. When operator takes break for rest with the joystick kept fixed, both of the engine and the pump are kept in standby mode with maximum rotation rate and hydraulic power. In such a case, unnecessary fuel consumption takes place.

2. The auto idle technology effectively controls the engine, and prevents unnecessary fuel consumption while the engine is kept in standby mode.
Further, the optimized lever control technology effectively controls the pump to keep power of the pump maximum and prevent fuel consumption while the system is kept shut down.
When operating the joystick, rotation rate of the engine and maximum hydraulic power of the pump increase simultaneously for efficient consumption of fuel. The technologies of Doosan enable operation of the system with maximum power in time.

Matching

ENGINE & PUMP MATCHING

to reduce matching response time of the system

1. It is common that response time of the system (time for generating rated power from the minimum power) is slower than response speed of the pump. In such a case, the pump is kept in standby mode until the engine reaches the rated power to cause unnecessary fuel consumption. In addition, more fuel is supplied to the engine for matching the pump speed with the engine to result in more exhaust fumes.

2. Engine & pump matching, the new technology of Doosan, fully resolves these problems. Matching response time between pump and engine efficiently reduces unnecessary fuel consumption as well as exhaust fumes.

Relief Cutoff

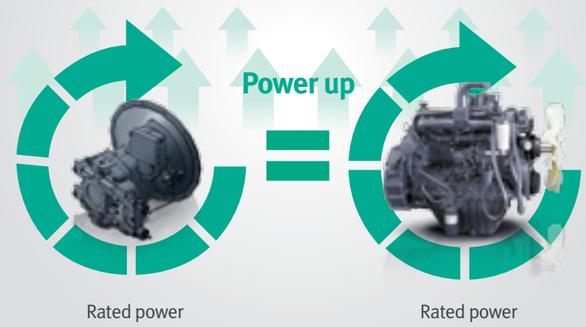
Relief cutoff technology saves
20~30% of fuel consumption in
the heavy workload.

Optimized Lever Control

In auto idle, you can save 90% of fuel than in operation.

Engine & pump matching

Matching response time between pump and engine makes
higher performance with reduced fuel consumption.



Doosan Efficient Dynamics Features

"NEW CONTROL LOGIC" for Better Fuel Efficiency

RELIABILITY

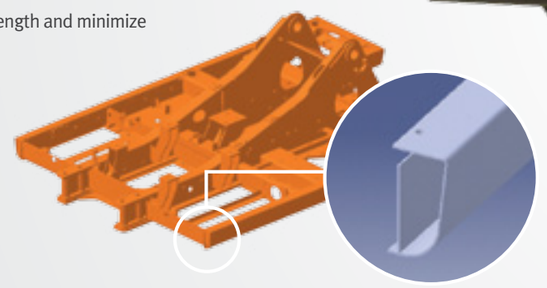
DOOSAN uses computer-assisted design techniques, highly durable materials and structures then test these under extreme conditions.Durability of materials and longevity of structures are our first priorities.

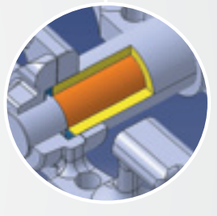
X-chassis

The X-chassis frame section has been designed using finite element and 3-dimensional computer simulation, to ensure greater durability and optimum structural integrity. The swing gear is solid and stable.

D-type Frame

The D-type frame and chassis frame add strength and minimize distortion due to shocks.





Tracks

The chain is composed of self-lubricating sealed links isolated from all external contamination. The tracks are locked by mechanically bolted pins.

Integrated Track Spring and Idler

The track spring and the idler have been joined directly to achieve high durability and improved maintenance convenience.

Additional counter weight options

For keeping machine stability and performance, Doosan offer sand witch type or Bottom mounting type.

Bottom mounting type

Polymer shim

A polymer shim is added to the bucket pivot to maintain precise control over the equipment.

Dry type of pre cleaner

Pre cleaner filters out impurities again for keeping steady machine performance.

COMFORT

The work rate of the hydraulic excavator is directly linked to the performance of its operator. DOOSAN designed a cabin by putting the operator at the center of the development goals. The result is significant ergonomic value that improves the efficiency and safety of the operator.

VISIBILITY

has been improved in all directions and the size of the cab has been increased.

Air suspension seat (Optional)

Equipped with various functions of adjustment forth and back and, and lumbar support, it reduces the vibration of equipment transmitted during work in an effective way. Also for considering winter working environment, Seat warmer functions equipped.

MP3/CD Player (Optional)

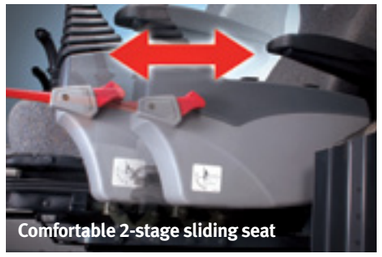
Audio Button

Audio Button has been positioned in a way that the driver can turn on/off the radio, control the volume, and select a channel conveniently.

Appropriate storage spaces show the attention given to the operator.

Rear Camera (Optional)

The high performance air conditioning provides an air flow which is adjusted and electronically controlled for the conditions. Five operating modes enable even the most demanding operator to be satisfied.



Comfortable 2-stage sliding seat

Control stand (Telescopic Function)

CONTROL OPTIONS

The hydraulic excavator's power, durability, ease of servicing and its precise control increase its effectiveness and life expectancy.
DOOSAN offers an excellent return on investment.

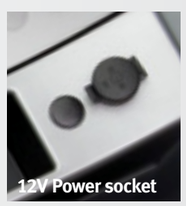
Control lever

Very precise control of the equipment increases versatility, safety and facilitates tricky operations requiring great precision.
Levelling operations and the movement of lifted loads in particular are made easier and safer.
The control levers have additional electrical buttons for controlling other additional equipment (for example, grabs, crushers, grippers, etc.)

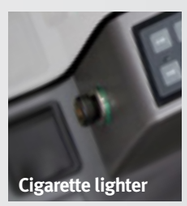
Control panel

Correct positioning with clear controls makes the operator's task easier.

Cellular phone box



12V Power socket

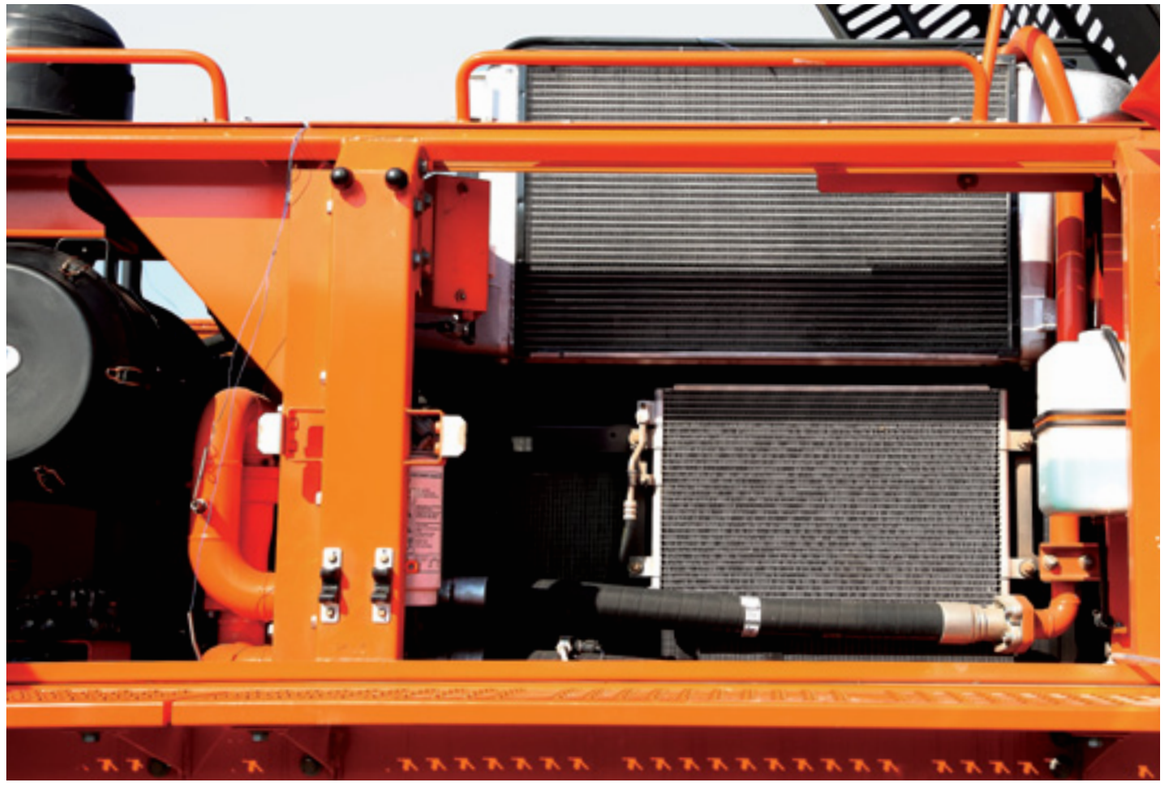


Cigarette lighter

MAINTENANCE

Easy maintenance

Access to the various radiators and coolers is very easy, making cleaning easier. Access to the various parts of the engine is from the top and via side panels.



Hydraulic oil return filter

The protection of the hydraulic system is more effective, using glass fiber filter technology in the main oil return filter. This means that with more than 99.5% of foreign particles filtered out, the oil change interval is increased.

New battery box

a. Cut-off switch easier to reach
b. New spring to facilitate fixing
c. New locking device

Fuel pre-filter

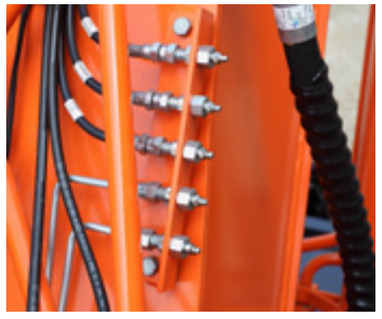
High efficiency fuel filtration is attained by the use of multiple filters, including a fuel pre-filter fitted with a water separator that removes most moisture from the fuel.

Air cleaner

The large capacity forced air cleaner removes over 99% of airborne particles, reducing the risk of engine contamination and making the cleaning and cartridge change intervals greater.

Remote greasing points

For comfortable maintenance, the arm and boom greasing points have been centralised. Remote & grouped greasing points on boom & arm.



Convenient Fuse Box

The fuse box is conveniently located in a section of the storage compartment behind the operator's seat providing a clean environment and easy access.

PC monitoring

A PC monitoring function enables connection to the e-EPOS system. Thus, various parameters can be checked during maintenance, including pump pressures, engine rotation and engine speed. These can be stored and printed for analysis.

Larger anti-slip surface

High fraction coefficient guarantees user's safety while maintaining main parts in wet condition.

TECHNICAL SPECIFICATION

DX340 FS

Engine

Model
Doosan DE12TIS

Type
4-Cycle ATA Intercooler in-Line

Number of cylinders
6

Rated Horse Power
195 kW (265 PS) @ 1,800 rpm (DIN 6271)
185 kW (261 HP) @ 1,800 rpm (SAE J1349)

Max torque
112 kgf.m @ 1,400 rpm

Piston displacement
11,051 cc

Bore & stroke
Ø123 mm x 155 mm

Starting Motor
24 V x 6.0 kW

Batteries
12 V x 2/150 AH

Air cleaner
Double element

Hydraulic System

The heart of the system is the e-EPOS (Electronic Power Optimizing System). It allows the efficiency of the system to be optimized for all working conditions and minimizes fuel consumption. The new e-EPOS is connected to the engine electronic control via a data transfer link to harmonize the operation of the engine and hydraulics.

- The hydraulic system enables independent or combined operations.
- Two travel speeds offer either increased torque or high speed tracking.
- Cross-sensing pump system for fuel savings.
- Auto deceleration system.
- Two operating modes, two power modes.
- Button control of flow in auxiliary equipment circuits.
- Computer-aided pump power control.

Main pumps
Parallel, Bentaxis, Piston
max flow : 2 x 265 ℓ /min
Displacement : 140 cc/rev
weight : 290 kg

Pilot pump
Gear pump - max flow : 22.5 ℓ /min
Pilot pump : 11.86 cc/rev
Relief valve pressure : 40 kgf/cm^2

Main relief Pressure
Boom/Arm/Bucket
Working, Travel : 330 [+10~0] kg/cm^2
Pressure up : 350 [+10~0] kg/cm^2

Hydraulic Cylinders

The piston rods and cylinder bodies are made of high-strength steel. A shock absorbing mechanism is fitted in all cylinders to ensure shock-free operation and extend piston life.

Cylinders	Quantity	Bore diameter x Rod diameter x Stroke
Boom	2	150 x 100 x 1,430 mm
Arm	1	170 x 120 x 1,760 mm
Bucket	2	140 x 95 x 1,185 mm

Undercarriage

Chassis are of very robust construction, all welded structures are designed to limit stresses.High-quality material used for durability. Lateral chassis welded and rigidly attached to the undercarriage. Track rollers lubricated for life, idlers and sprockets fitted with floating seals. Tracks shoes made of induction-hardened alloy with triple grousers. Heat-treated connecting pins.Hydraulic track adjuster with shock-absorbing tension mechanism.

Upper rollers(Standard shoe)
2

Lower rollers
9

Track shoes
48

Overall track length
4,940 mm

Swing Mechanism

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is single row, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant.

Swing speed
0 to 8.9 rpm

Max. swing torque
11,660 kgf.m (EFF.=0.863)

Drive

Each track is driven by an independent, high-torque, axial piston motor through planetary reduction gear. Two levers or foot pedal control provide smooth travel or counter-rotation upon demand.

Travel speed (low/high)
3.1 / 4.7 km/h (EFF.=99.0 / 95.2%)

Maximum traction force
27.0 / 15.1 ton (EFF.=75.7 / 68.8%)

Maximum grade
70 %

Refill Capacities

Fuel tank
550 ℓ

Cooling system (Radiator capacity)
34 ℓ

Engine oil
39 ℓ

Swing drive
6 ℓ

Final drive
2 x 5.5 ℓ

Hydraulic tank
380 ℓ

TECHNICAL SPECIFICATION

DX420 FS

Engine

Model
DOOSAN DE12TIS
4-Cycle Air-To-Air Intercooler In-line
Water-Cooled, Direct Injection, Tier II

No. of cylinders
6

Rated horse power
218 kW (297 PS) @2,000 rpm (DIN 6271)
218 kW (293 HP) @2,000 rpm (SAE J1349)

Max. torque
127 kgf/m at 1,300 rpm

Idle (low - high)
975 [+/-50] - 2190 [+/-25] rpm

Piston displacement
11,051 cc

Bore & stroke
Ø123 mm x 155 mm

Starter
24 V / 7.0 kW

Batteries
2 x 12 V / 150 Ah

Air filter
Double element and pre-filtered Turbo with auto dust evacuation.

Hydraulic System

The brain of the excavator is the e-EPOS (Electronic Power Optimizing System). It allows the efficiency of the hydraulic system to be optimised for all working conditions and minimises fuel consumption. The e-EPOS is connected to the engine's electronic control unit (ECU) via a data transfer link to harmonise the operation of the engine and hydraulics.

- The hydraulic system enables independent or combined operations
- Two travel speeds offer either increased torque or high speed
- Cross-sensing pump system for fuel savings
- Auto deceleration system
- Three operating modes, three power modes
- Button control of flow in auxiliary hydraulic circuits
- Computer-aided pump flow control

Main pumps
Parallel, Bent-axis, Piston
Max. flow : 2 x 315 ℓ /min
Displacement : 162 cc/rev.
Weight : 180 kg

Pilot pump
Gear pump
Max. flow : 27.36 ℓ /min
Displacement : 11.0 cc /rev.
Relief valve pressure : 40 kgf/cm^2

Maximum system pressure
Implement : 320 kgf/cm^2
Travel : 320 kgf/cm^2
Power Boost : 350 kgf/cm^2
Pilot : 40 kgf/cm^2

Hydraulic Cylinders

Piston rods and cylinder bodies of high-strength steel.
Shock-absorbing mechanism fitted in all cylinders for shock-free operation and extended piston life.

Cylinders	Quantity	Bore diameter x Rod diameter x Stroke
Boom	2	165 x 115 x 1,460 mm
Arm	1	190 x 130 x 1,820 mm
Bucket	2	160 x 110 x 1,320 mm

Undercarriage

Very robust construction of all chassis elements. All welded structures designed to limit stresses. High-quality, durable materials. Lateral chassis welded and rigidly attached to undercarriage. Track rollers lubricated for life. Idlers and sprockets fitted with floating seals. Track shoes made of induction-hardened alloy with triple grouser. Heat-treated connecting pins. Hydraulic track adjuster with shock-absorbing tension mechanism.

Upper rollers(Standard shoe)
2

Lower rollers
9

Track shoes
50

Overall track length
5,200 mm

Swing Mechanism

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is single row, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant.

Swing speed
0 to 9.1 rpm

Max. swing torque
13,510 kgf.m (EFF.=0.83)

Drive

Each track is driven by an independent, high-torque axial piston motor through a planetary reduction gearbox. Two levers or foot pedals guarantee smooth travel with counter-rotation on demand.

Travel speed (low/high)
3.3 / 5.5 km/h

Maximum traction force
37.74 / 18.05 ton (EFF.=85 / 75%)

Maximum grade
35° (70%)

Refill Capacities

Fuel tank
550 ℓ

Cooling system (Radiator Capacity)
29.5 ℓ

Engine oil
28 ℓ

Swing drive
7.9 ℓ

Final drive
2 x 6.3 ℓ

Hydraulic tank
390 ℓ

TECHNICAL SPECIFICATION

DX520 FS

Engine

Model
DOOSAN DE12TIS
4-Cycle Air-To-Air Intercooler In-line
Water-Cooled, Direct Injection, Tier II

No. of cylinders
6

Rated horse power
238 kW (323 PS) at 2,000 rpm (DIN 6271)
238 kW (318 HP) at 2,000 rpm (SAE J1349)

Max. torque
139 kgf/m (1363 Nm) at 1300 rpm

Piston displacement
11,051 cc

Bore & stroke
Ø123 mm x 155 mm

Starter
24 V / 6.6 kW

Batteries
2 x 12 V / 150 Ah

Air filter
Double element and pre-filtered Turbo with auto dust evacuation.

Hydraulic System

The brain of the excavator is the e-EPOS (Electronic Power Optimizing System). It allows the efficiency of the hydraulic system to be optimised for all working conditions and minimises fuel consumption. The e-EPOS is connected to the engine's electronic control unit (ECU) via a data transfer link to harmonise the operation of the engine and hydraulics.

- The hydraulic system enables independent or combined operations
- Two travel speeds offer either increased torque or high speed
- Cross-sensing pump system for fuel savings
- Auto deceleration system
- Three operating modes, three power modes
- Button control of flow in auxiliary hydraulic circuits
- Computer-aided pump flow control

Main pumps
Parallel, Bentaxis, Piston
Max. flow: 2 x 360 ℓ /min
Displacement: 186 cc/rev.
Weight: 195 kg

Pilot pump
Gear pump
Max. flow: 27.4 ℓ /min
Displacement: 11.0 cc/rev.
Relief valve pressure: 40 kgf/cm^2

Maximum system pressure
Implement (boom/arm/bucket):
Work, travel: 320 kg/cm^2 [+10~0]
Power: 350 kg/cm^2 [+10~0]

Hydraulic Cylinders

Piston rods and cylinder bodies of high-strength steel.
Shock-absorbing mechanism fitted in all cylinders for shock-free operation and extended piston life.

Cylinders	Quantity	Bore diameter x Rod diameter x Stroke
Boom	2	170 x 115 x 1,610 mm
Arm	1	190 x 130 x 1,820 mm
Bucket	2	160 x 110 x 1,320 mm

Undercarriage

Very robust construction of all chassis elements. All welded structures designed to limit stresses. High-quality, durable materials. Lateral chassis welded and rigidly attached to undercarriage. Track rollers lubricated for life. Idlers and sprockets fitted with floating seals. Track shoes made of induction-hardened alloy with triple grouser. Heat-treated connecting pins. Hydraulic track adjuster with shock-absorbing

Upper rollers(Standard shoe)
3

Lower rollers
11

Track shoes
53

Overall track length
5,465 mm

Swing Mechanism

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is single row, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant.

Swing speed
0 to 9.2 rpm

Max. swing torque
15,500 kgf.m (EFF.=0.77)

Drive

Each track is driven by an independent, high-torque axial piston motor through a planetary reduction gearbox. Two levers or foot pedals guarantee smooth travel with counter-rotation on demand.

Travel speed (low/high)
3.2 / 5.6 km/h

Maximum traction force
37.6 / 18.9 ton (EFF.=85 / 75%)

Maximum grade
35° (70%)

Refill Capacities

Fuel tank
620 ℓ

Oil tank
390 ℓ

Engine oil
28 ℓ

Swing drive
2 x 5 ℓ

Final drive
2 x 10 ℓ

Hydraulic tank
390 ℓ

TECHNICAL SPECIFICATION

DX700 FS

Engine

Model
ISUZU MOTORS AH-6WG1XYSC-01

Type
Water-Cooled, Common Rail, Direct Injection

Number of cylinders
6

Rated Horse Power
345 kW (469 PS) @ 1,800 rpm (DIN 6271)
345 kW (463 HP) @ 1,800 rpm (SAE J1349)

Max torque
202 kgfm@ 1,500 rpm

Piston displacement
15,681 cc

Bore & stroke
Ø147 mm x 154 mm

Starting Motor
24 V x 7.0 kW

Batteries
12 V x 2/150 AH

Air cleaner
Double element with precleaner

Hydraulic System

The heart of the system is the e-EPOS (Electronic Power Optimizing System). It allows the efficiency of the system to be optimized for all working conditions and minimizes fuel consumption. The new e-EPOS is connected to the engine electronic control via a data transfer link to harmonize the operation of the engine and hydraulics.

- The hydraulic system enables independent or combined operations.
- Two travel speeds offer either increased torque or high speed tracking.
- Cross-sensing pump system for fuel savings.
- Auto deceleration system.
- Two operating modes, two power modes.
- Button control of flow in auxiliary equipment circuits.
- Computer-aided pump power control.

Main pumps
Parallel, Bentaxis, Piston
Max. flow: 2 x 436 ℓ /min
Displacement: 2 x 242 cc/rev.
Weight: 300 kg

Pilot pump
Gear pump
Max. flow: 27 ℓ /min
Displacement: 15 cc/rev.
Relief valve pressure: 39.8 kgf/cm^2

Maximum system pressure
Implement (boom/arm/bucket):
Work, travel: 320 kg/cm^2 [+10~0]
Power: 350 kg/cm^2 [+10~0]

Hydraulic Cylinders

Piston rods and cylinder bodies of high-strength steel.
Shock-absorbing mechanism fitted in all cylinders for shock-free operation and extended piston life.

Cylinders	Quantity	Bore diameter x Rod diameter x Stroke
Boom	2	190 x 125 x 1,795 mm
Arm	1	230 x 160 x 1,550 mm
Bucket	2	175 x 115 x 1,700 mm

Undercarriage

Chassis are of very robust construction, all welded structures are designed to limit stresses. High-quality material used for durability. Lateral chassis welded and rigidly attached to the undercarriage. Track rollers lubricated for life, idlers and sprockets fitted with floating seals. Tracks shoes made of induction-hardened alloy with triple grousers. Heat-treated connecting pins. Hydraulic track adjuster with shock-absorbing tension mechanism

Upper rollers(Standard shoe)
3

Lower rollers
8

Track shoes
48

Track length
5,975 mm

Swing Mechanism

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is single row, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant.

Type
Axial Piston

Swing speed
7.1 rpm (EFF.=0.98)

MAX. SWING TORQUE
22,070 kgf.m (EFF.=0.77)

Drive

Each track is driven by an independent, high-torque, axial piston motor through planetary reduction gear. Two levers or foot pedal control provide smooth travel or counter-rotation upon demand.

Travel speed (low/high)
2.8/4.6 km/h (EFF.=97%)

Maximum traction force
48.9/42.4 ton (EFF.=76.4/65.4%)

Maximum grade
70 %

Refill Capacities

Fuel tank
900 ℓ (Diesel)

Cooling system (Radiator capacity)
69 ℓ (Water)

Engine oil
52 ℓ

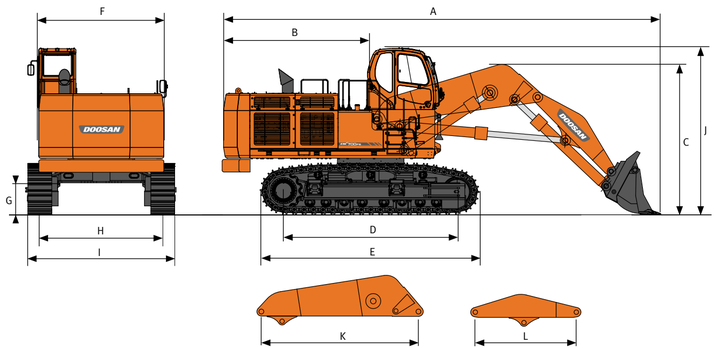
Swing Device
2 x 6 ℓ

Travel Device
2 x 20 ℓ

Lever
350 ℓ

Oil Tank
Lever 350 ℓ
System (Tank full) 790 ℓ

DIMENSIONS



Transport Dimension

	Dimension	Unit	DX340 FS	DX420 FS	DX520 FS	DX700 FS
A	Shipping Length	mm	11,540	11,950	12,045	13,480
B	Tail Swing Radius	mm	3,500	3,660	3,700	4,010
C	Shipping Height	mm	3,670	3,950	4,210	4,700
D	Tumbler Distance (Wheel Base)	mm	4,040	4,250	4,470	4,730
E	Track Length	mm	4,940	5,200	5,465	5,975
F	House Width	mm	2,990	2,990	2,990	3,410
G	Ground Clearance	mm	510	540	770	870
H	Track Gauge (Tread Width)	mm	2,680	2,750	2,740 / 3,300*	2,910 / 3,350*
I	Shipping Width	mm	3,280	3,350	3,340 / 3,900*	3,560 / 4,000*
J	Height over Cabin	mm	3,125	3,154	5,150	4,580
K	Boom Length	mm	3,850	4,200	4,300	4,500
L	Arm Length	mm	2,750	2,800	2,800	3,600

[Note] * : Retracted / Extended

Weight of Main Parts

Parts	Unit	DX340 FS	DX420 FS	DX520 FS	DX700 FS
Additional CWT	kg	-	1,000	-	3,000 / 4,000
Boom	kg	2,800	3,300	3,870	5,850
Arm	kg	2,390	2,400	2,500	4,710
Bucket	kg	2,850	3,900	4,250	6,000
Etc. (Cylinder & Piping)	kg	1,950	1,980	2,750	3,300
Total	kg	9,990	12,580	13,370	22,860 / 23,860

Arm Crowd Force & Bucket Breakout Force

	Unit	DX340 FS	DX420 FS	DX520 FS	DX700 FS
Arm Crowd Force	ton	19.2	22.1	25.3	27.4
Bucket Breakout Force	ton	29.4	31.7	36.9	40.7

STANDARD AND OPTIONAL EQUIPMENT

Standard Equipment

Front and counterweight parts
- Shovel boom and arm
- Arm and bucket cylinders
- Hydraulic piping for arm, bucket and bottom dumping functions
- Additional counterweight for 70ton machine

Hydraulic system
- Boom and arm flow regeneration
- Boom and arm holding valves
- Swing anti-rebound valves
- One-touch power boost
- Piping for special attachment
  - Bottom dump bucket open/close

Cabin & Interior
- Viscous cab mounts
- All weather sound suppressed type cab
- Air conditioner & Heater
- Adjustable suspension seat with head rest and adjustable arm rest
- Pull-up type front window and removable lower front window
- Room light
- Intermittent windshield wiper
- Cigarette lighter and ashtray
- Cup holder
- Hot & Cool box
- 7" LCD color monitor panel
- E/G RPM control dial
- AM/FM radio
- Remote radio ON/OFF switch
- 12V spare powers socket
- Serial communication port for laptop PC interface
- Joystick lever with 3 switches
- Sun visor
- Sun roof

Safety
- Large handrails and step
- Convex metal anti-slip plates
- Seat belt
- Hydraulic safety lock lever
- Safety glass
- Hammer for emergency escape
- Right and left rear view mirrors
- Travel alarm
- Battery protector cover
- Battery cut off switch
- Lock valve

Others
- Double element air cleaner
- Water separator
- Fuel filter
- Dust screen for radiator/oil cooler
- Engine overheat prevention system
- Engine restart prevention system
- Self-diagnostic system
- Alternator(24V, 50 amps)
- Electric horn
- Halogen working lights(frame mounted 1, boom mounted 2)
- Hydraulic track adjuster
- Track guards
- Greased and sealed track link
- Hydraulic oil tank air breather filter

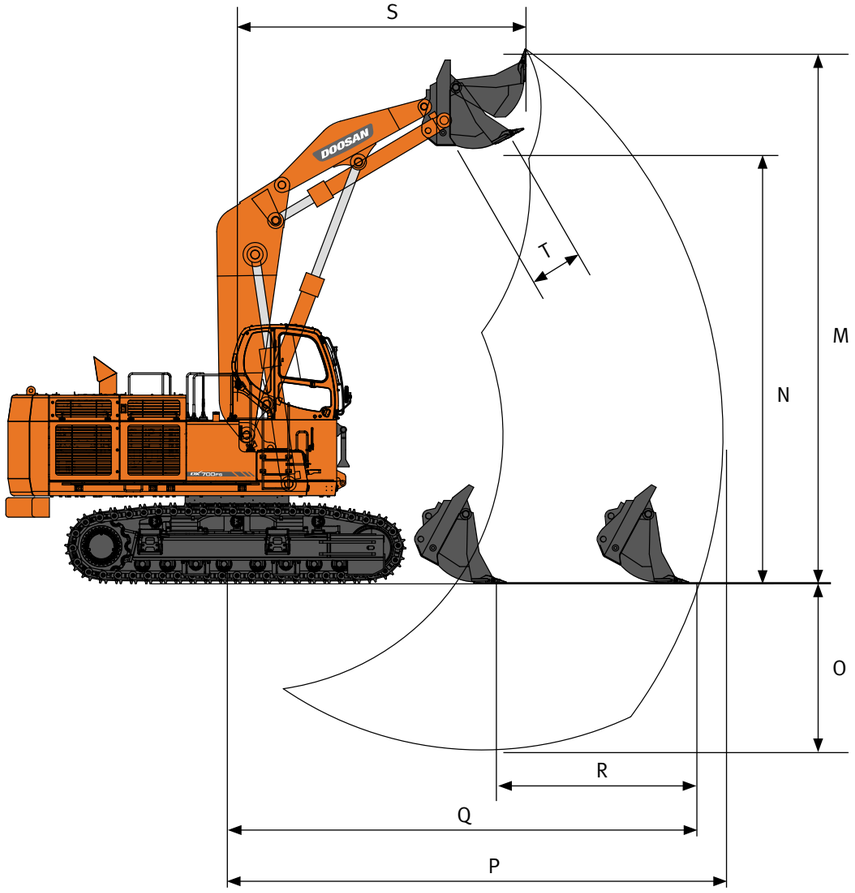
Optional Equipment

Cabin & Interior
- Cabin riser with hydraulic tilting system for 70ton machine
- OPG(Operator protective guard) on cabin
- Air suspension seat
- MP3/CD player
- Cassette player
- Rain shield
- High mount seat
- Rear Camera

Safety
- ROPS cabin
- Overload warning device
- Cabin Top/Front guard(ISO 10262, FOGS standard)
- Travel & swing alarm
- Rotation beacon

Others
- 700 mm / 800 mm / 900 mm shoe
- Lower wiper
- Fuel heater
- 80A alternator
- Fuel filler pump
- Additional working lights
  - 4-fornt / 2-rear on cabin
  - 2-front on cabin
  - 1 on counterweight
- Additional count weight
- Oil bath cleaner

WORKING RANGE



Transport Dimension

	Dimension	Unit	DX340 FS	DX420 FS	DX520 FS	DX700 FS
M	Max. Digging Height	mm	9,505	10,000	10,415	11,180
N	Max. Dumping Height	mm	7,240	6,870	7,285	8,140
O	Max. Digging Depth	mm	2,755	3,900	3,365	4,250
P	Max. Digging Reach	mm	8,510	8,840	8,930	10,100
Q	Max. Digging Reach (Ground)	mm	8,045	8,280	8,345	9,170
R	Level Crowding Distance	mm	3,330	3,340	3,380	3,580
S	Reach at Max. Dumping Height	mm	3,060	3,840	3,720	4,530
T	Max. Bucket Opening Width	mm	1,255	1,450	1,450	1,510

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