

# DEVELON

## Mini Excavator

# DX27Z-7



### Engine

Make	DEVELON
Model	DN1.7
Number of cylinders	3
Rated power, gross (hp per SAE J1995)	24.7 hp (18.4 kW) @ 2400 rpm
Rated power, net (hp per SAE J1349)	24 hp (17.9 kW) @ 2400 rpm
Max. torque, net (SAE J1995)	72 lbf.ft. (9.9 kgf.m) @ 1600 rpm
Displacement	101 in. <sup>3</sup> (1.65 L)
Bore and stroke	3.4 in. x 3.6 in. (87 mm x 92.4 mm)
Starter	12 V, 2.3 hp (1.7 kW)
Battery	12 V, 55 AH
Alternator	13.5 V, 75 amp
Air cleaner	Double elements

### Hydraulics

Main pumps	2 x 7.6 gpm (29 L/min.)
Pilot pump (gear design)	3 gpm (11 L/min.)
Relief pressure	3408 psi (240 kg/cm <sup>2</sup> )

### Maximum System Pressure

Boom/arm/bucket (normal mode)	3129 psi (220 kg/cm <sup>2</sup> )
Swing (crossover relief)	2418 psi (170 kg/cm <sup>2</sup> )

### Undercarriage

Upper rollers (each track)	1
Lower rollers (each track)	3
Number of shoes (links per side)	Single assembly (rubber)

### Swing Mechanism

Swing speed	9.3 rpm
Swing torque	4025 lbf.ft. (557 kgf.m)

### Drive System

Travel speed (low – high)	1.5 – 2.6 mph (2.4 – 4.2 km/h)
Traction force, max. (drawbar pull)	6900 lbf. (3130 kgf)
Max. grade	58% (30°)

### Environment

Sound level (ISO 6395)	94 dB(A)
Cabin sound level (ISO 6396)	76 dB(A)

### Refill Capacities

Fuel tank	12.4 gal. (47 L)
Cooling system (radiator capacity)	1.3 gal. (4.8 L)
Engine oil	1.5 gal. (5.8 L)
Final drive (each side)	0.2 gal. (.9 L)
Hydraulic system	12.9 gal. (49 L)
Hydraulic tank	10.0 gal. (38.0 L)

### Hydraulic Cylinders

Boom <sup>1</sup> (1) bore x rod diameter x stroke	2.8 in. x 22.6 in. x 1.6 in. (70 mm x 575 mm x 40 mm)
Arm <sup>1,2</sup> (1) bore x rod diameter x stroke	2.8 in. x 19.9 in. x 1.6 in. (70 mm x 506 mm x 40 mm)
Bucket <sup>1</sup> (1) bore x rod diameter x stroke	2.6 in. x 17.1 in. x 1.4 in. (65 mm x 435 mm x 35 mm)
Swing – boom <sup>1</sup> (1) bore x rod diameter x stroke	3.1 in. x 25.3 in. x 1.8 in. (80 mm x 643 mm x 45 mm)
Blade <sup>1</sup> (2) bore x rod diameter x stroke	3.3 in. x 5.1 in. x 1.6 in. (85 mm x 129 mm x 40 mm)

<sup>1</sup> Cushion on rod end

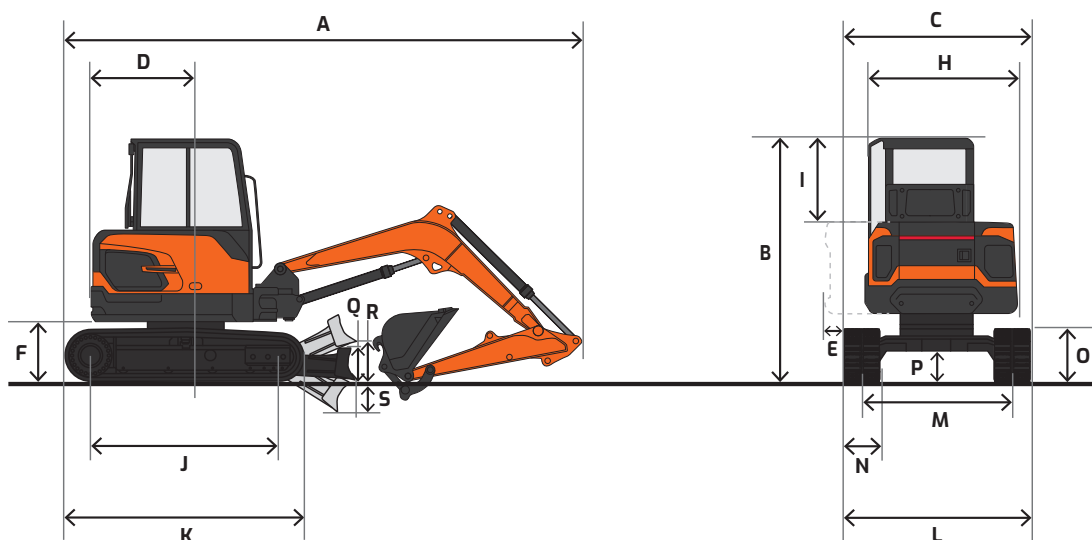
<sup>2</sup> Cushion on base end

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 extended piston life.

# Dimensions

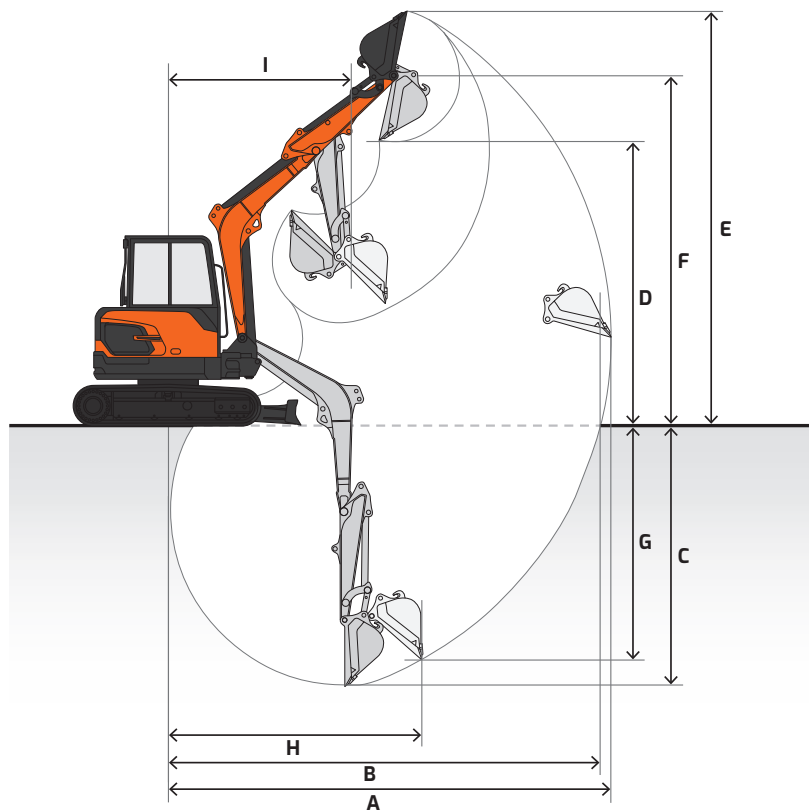
		Standard Arm & HVAC Cabin (U520)	Long Arm & HVAC Cabin (U521)	Standard Arm & Canopy (U530)	Long Arm & Canopy (U531)
Boom type		6' 10" (2090 mm)			
Arm type		3' 7" (1100 mm)	4' 3" (1300 mm)	3' 7" (1100 mm)	4' 3" (1300 mm)
Bucket type (SAE)		2.1 ft. <sup>3</sup> (0.06m <sup>3</sup> )			
Track type		Fixed (rubber)			
Shipping length	A	13' 9" (4186 mm)	13' 9" (4191 mm)	13' 9" (4186 mm)	13' 9" (4191 mm)
Overall height	B	8' 0" (2448 mm)			
Shipping width	C	5' 1" (1550 mm)			
Tail swing radius	D	2' 7" (790 mm)	2' 10" (855 mm)	2' 7" (790 mm)	2' 10" (855 mm)
Tail swing overhang (rear)*		-			
Tail swing overhang (side)	E	0.6" (15 mm)	3.1" (80 mm)	0.6" (15 mm)	3.1" (80 mm)
Counterweight clearance	F	1' 8" (512 mm)			
Upper structure width	H	4' 11" (1500 mm)			
Cabin height above house	I	3' 2" (971 mm)	3' 6" (1067 mm)	3' 2" (971 mm)	3' 6" (1067 mm)
Tumbler distance	J	5' 1" (1540 mm)			
Overall track length	K	6' 5" (1960 mm)			
Undercarriage width	L	5' 1" (1550 mm)			
Track gauge	M	4' 1" (1250 mm)			
Track width	N	11.8" (300 mm)			
Track height	O	1' 6" (451 mm)			
Car body clearance	P	8.5" (217 mm)			
Blade height	Q	10.2" (259 mm)			
Blade clearance	R	1' 3" (383 mm)			
Max. blade cut, below ground	S	1' 1" (335 mm)			

\*Not shown on diagram  
Less than zero indicated as "-"



# Working Range

		Standard Arm & HVAC Cabin (U520)	Long Arm & HVAC Cabin (U521)	Standard Arm & Canopy (U530)	Long Arm & Canopy (U531)
Boom length		6' 10" (2090 mm)			
Arm length		3' 7" (1100 mm)	4' 3" (1300 mm)	3' 7" (1100 mm)	4' 3" (1300 mm)
Bucket capacity (SAE)		2.1 ft. <sup>3</sup> (0.06m <sup>3</sup> )			
Max. digging reach	A	15' 3" (4655 mm)	15' 11" (4845 mm)	15' 3" (4655 mm)	15' 11" (4845 mm)
Max. digging reach (ground)	B	14' 10" (4520 mm)	15' 6" (4720 mm)	14' 10" (4520 mm)	15' 6" (4720 mm)
Max. digging depth	C	8' 8" (2645 mm)	9' 4" (2845 mm)	8' 8" (2645 mm)	9' 4" (2845 mm)
Max. dumping height	D	9' 8" (2935 mm)	10' 1" (3065 mm)	9' 8" (2935 mm)	10' 1" (3065 mm)
Max. digging height	E	14' 5" (4385 mm)	14' 10" (4515 mm)	14' 5" (4385 mm)	14' 10" (4515 mm)
Max. bucket pin height	F	12' (3665 mm)	12' 5" (3795 mm)	12' (3665 mm)	12' 5" (3795 mm)
Max. vertical wall depth	G	5' 2" (1565 mm)	5' 7" (1690 mm)	5' 2" (1565 mm)	5' 7" (1690 mm)
Max. vertical digging radius	H	5' 2" (1565 mm)	5' 7" (1690 mm)	5' 2" (1565 mm)	5' 7" (1690 mm)
Min. swing radius	I	12' 0" (3670 mm)	12' 6" (3815 mm)	12' 0" (3670 mm)	12' 6" (3815 mm)
Boom swing – left/right		66.5° / 53.5°			
Digging force, bucket (PCSA)		4894 lbf. (2220 kgf)			
Digging force, arm		3197 lbf. (1450 kgf)	2866 lbf. (1300 kgf)	3197 lbf. (1450 kgf)	2866 lbf. (1300 kgf)
Counterweight		322 lb. (146 kg)			
Operating weight		6169 lb. (2798 kg)	6171 lb. (2799 kg)	6171 lb. (2799 kg)	6173 lb. (2800 kg)
Ground pressure		4.0 psi (0.28 kgf/cm <sup>2</sup> )			



# Bucket

	Standard Arm & HVAC Cabin (US20)	Long Arm & HVAC Cabin (US21)	Standard Arm & Canopy (US30)	Long Arm & Canopy (US31)
<b>Boom</b>	6' 10" (2090 mm)			
<b>Arm</b>	3' 7" (1100 mm)	4' 3" (1300 mm)	3' 7" (1100 mm)	4' 3" (1300 mm)
<b>Shoe size</b>	11.8" (300 mm)			
<b>Track type</b>	Fixed (rubber)			

Bucket Type	Model	Capacity* yd <sup>3</sup> (m <sup>3</sup> )	Width in. (mm)	Weight lb. (kg)	Height in. (mm)	Length in. (mm)	Number of teeth	Connection/ Type
Quick hitch Ditching (QH03GB)	DC03GB-30QH	0.18 (0.14)	30 (762)	214 (97)	17.625 (447.6)	23.625 (600)	-	Quick hitch 1.25
	DC03GB-36QH	0.22 (0.17)	36 (914.4)	208 (94.3)				
	DC03GB-42QH	0.26 (0.19)	42 (1066.8)	287 (130.2)				
Quick hitch Heavy-Duty (QH03GB)	HD03GB-12QH	0.06 (0.04)	12 (304.8)	123 (55.8)	18.375 (466.7)	30.875 (784.2)	3	Quick hitch 1.25
	HD03GB-16QH	0.09 (0.07)	16 (406.4)	154 (69.8)			4	
	HD03GB-18QH	0.1 (0.07)	18 (457.2)	161 (73)			4	
	HD03GB-24QH	0.14 (0.10)	24 (609.6)	198 (89.8)			5	
Pin-on Ditching	DC02GB-30	0.18 (0.14)	31 (787.4)	235 (106)	23.375 (593.7)	26.75 (679.4)	-	Pin-on
	DC02GB-36	0.23 (0.17)	37 (939.8)	270 (122)				
	DC02GB-42	0.26 (0.2)	43 (1092.2)	300 (136)				
Pin-on Heavy-Duty	HD02GB-12	0.06 (0.04)	13 (330.2)	150 (68)	22.375 (568.3)	32 (812.8)	3	Pin-on
	HD02GB-16	0.09 (0.07)	17 (431.8)	175 (79)			4	
	HD02GB-18	0.1 (0.07)	19 (482.6)	200 (91)			4	
	HD02GB-20	0.11 (0.08)	21 (533.4)	205 (93)			4	
	HD02GB-24	0.14 (0.10)	25 (635)	220 (100)			5	

\*Capacity based on ISO 7451 and heaped with a 1:1 angle of repose

• Equipped with bolt-on wear shrouds

• Equipped with bolt-on teeth

• Equipped with bolt-on cutting edge

• These recommendations are given as a guide only and based on typical operating conditions.

Please consult with your DEVELON dealer to properly match buckets and attachments for the application.

# Lifting Capacity

Rating over front    Rating over side or 360°

## DX27Z-7 US20/US21

Boom: 6' 10" (2090 mm) | Arm: 3' 7" (1100 mm) | Counterweight: 322 lb. (146 kg) | Bucket: None | Unit lb. (kg)

B (ft. or m)	A (ft. or m)			A (ft. or m)			A (ft. or m)			Max. Reach			
	3' 3" (1.0 m)	6' 7" (2.0 m)	9' 10" (3.0 m)	3' 3" (1.0 m)	6' 7" (2.0 m)	9' 10" (3.0 m)	3' 3" (1.0 m)	6' 7" (2.0 m)	9' 10" (3.0 m)	†	†	†	A
9' 10" (3.0 m)			* 1260 (* 570)    * 1260 (* 570)    1060 -480							* 1320 (* 600)	1170 -530	950 -430	10' 6" -3.2
6' 7" (2.0 m)			* 1390    1280    1040 (* 630)    -580    -470							* 1320 (* 600)	880 -400	710 -320	12' 4" -3.76
3' 3" (1.0 m)			* 1790    1210    970 (* 810)    -550    -440							* 1370 (* 620)	820 -370	640 -290	12' 10" -3.92
Ground Level		* 3510    2200    1680 (* 1590)    -1000    -760	* 2010    1170    930 (* 910)    -530    -420							* 1430 (* 650)	840 -380	680 -310	12' 4" -3.76
-3' 3" (-1.0 m)	* 4010 (* 1820)	* 4010 (* 1820)    * 4010 (* 1820)	* 3110    2230    1700 (* 1410)    -1010    -770	* 1740    1170    930 (* 790)    -530    -420						* 1500 (* 680)	1080 -490	860 -390	10' 6" 3190

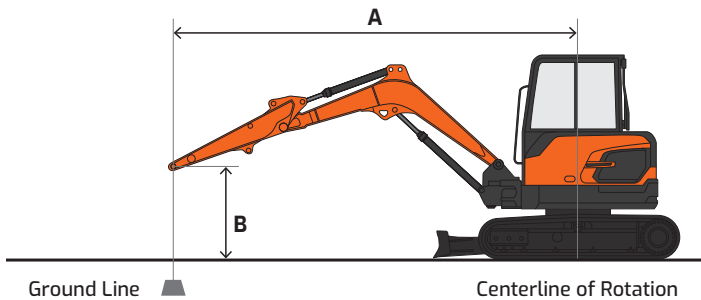
## DX27Z-7 US30/US31

Boom: 6' 10" (2090 mm) | Arm: 4' 4" (1330 mm) | Counterweight: 322 lb. (146 kg) | Bucket: None | Unit lb. (kg)

B (ft. or m)	A (ft. or m)			A (ft. or m)			A (ft. or m)			Max. Reach			
	3' 3" (1.0 m)	6' 7" (2.0 m)	9' 10" (3.0 m)	3' 3" (1.0 m)	6' 7" (2.0 m)	9' 10" (3.0 m)	3' 3" (1.0 m)	6' 7" (2.0 m)	9' 10" (3.0 m)	†	†	†	A
9' 10" (3.0 m)			* 1100    * 1100    * 1100 (* 500)    (* 500)    (* 500)							* 1210 (* 550)	1150 -520	950 -430	11' 4" -3.45
6' 7" (2.0 m)			* 1260    * 1260    1170 (* 570)    (* 570)    -530							* 1230 (* 560)	900 -410	750 -340	13' -3.96
3' 3" (1.0 m)			* 1700    1340    1100 (* 770)    -610    -500	* 1300    880    710 (* 590)    -400    -320						* 1280 (* 580)	840 -380	680 -310	13' 6" -4.11
Ground Level		* 3510    2450    1870 (* 1590)    -1110    -850	* 2010    1300    1040 (* 910)    -590    -470							* 1370 (* 620)	880 -400	710 -320	13' -3.96
-3' 3" (-1.0 m)	* 3420 (* 1550)	* 3420 (* 1550)    * 3420 (* 1550)	* 3350    2450    1870 (* 1520)    -1110    -850	* 1850    1300    1040 (* 840)    -590    -470						* 1430 (* 650)	1080 -490	860 -390	11' 3" 3430
-6' 7" (-2.0 m)		* 1570    * 1570    * 1570 (* 710)    (* 710)    (* 710)								* 1280 (* 580)	* 1280 (* 580)	1280 -580	7' 2" 2180

A Distance from center of rotation    † Dozer blade in down position  
B Height

NOTE: Lifting capacities are in compliance with SAE 1097 and ISO 10567. Machine in lifting mode with power boost turned on. Load point is the end of the arm. Rated loads shown do not exceed 75% of minimum tipping loads or 87% of hydraulic capacities. Rated loads marked with an asterisk (\*) are limited by hydraulic capacities. The least stable position is over the side. The total mass of machine includes the mass of the boom, arm, counterweight, all operating fluids and 165 lb. (75 kg) operator.



# Standard & Optional Equipment

| Standard Base Package, US20

■ Standard    ● Optional

## Engine

Emissions, T4 (EPA)	■
Direct fuel injected	■
Fuel filter with water separator	■
Coolant recovery tank	■
Dual element dry-type air filter	■
Electronic engine control	■
Auto preheat cold start assist	■
Auto idle	■
Overheat & low oil pressure engine protection	■

## Hydraulic

Variable axial piston main pump	■
Pilot-operated control valves	■
Pilot gear pump (tandem)	■
Axial piston swing motor	■
Spring-applied hydraulic release brake	■
Axial piston travel motor (high/low, auto)	■
Auxiliary hydraulics, two-way	■
Adjustable auxiliary flow	■

## Electrical

Alternator – 13.5 V, 75 amp	■
12 V battery, 400 CCA @ 0° F (-18° C)	■
Light: cabin (1), boom (1)	■
Additional lighting	●
Rotating beacon	●
Hour meter	■
Engine restart prevention system	■
Laptop service port	■
Self-diagnostics system	■

## Cabin

Steel, all-weather & sound suppressed	■
ROPS/TOPS	■
Front window with wiper/washer	■
Tinted safety glass	■
Skylight	■
Pull-up type front window	■
Lockable doors	■
Seat	■
- 2" (51 mm) seat belt	■
- Adjustable height & recline	■
Adjustable armrests	■
Air conditioner with heater	■
Mirrors	■
AM/FM stereo & Bluetooth®	■
Speakers (2)	■
Power socket, 12 V	■
Interior light	■
Storage for operator's manuals	■

## Controls

Joystick controls	■
- Two hydraulic joysticks control boom, arm, bucket & slew functions	■
- Thumb buttons control auxiliary hydraulics & boom swing	■
Blade control lever	■
Pattern control change valve (SAE, ISO)	■
Engine speed control dial	■
Travel pedals with hand levers	■
Switches, console-mounted	■
- Starter switch (key)	■
- Heater/AC control panel	■
- Boom swing switch	■
- Rotating beacon (if equipped)	■
- 12 V power socket & USB charger	■
- Keypad buttons	■
- Overload warning	■
- Travel/swing alarm	■
- Light	■
- Work lights	■
- Wiper & washer	■
- Auto idle	■
Emergency stop switch	■

## Display Monitor & Warnings

Buzzer	■
- Engine oil pressure	■
- Coolant temperature	■
Touch screen display monitor	■
- Digital clock	■
- Menu select button	■
- Back button	■
- Fuel gauge	■
- Engine coolant temperature	■
- Hydraulic oil temperature	■
- Mode	■
- Tachometer	■
- Operating mode/flow setting selector	■
Indicator lights	■
- Air filter restriction indicator	■
- Engine check warning light	■
- Hydraulic oil warning	■
- Fuel warning	■
- Auto idle indicator	■
- Auxiliary flow mode indicator	■
- Engine oil pressure light with audible alarm	■
- Pre-heat (cold start assist) indicator	■
- Two-speed travel indicator light	■
Travel alarm	●

## Undercarriage

Track rollers, upper (1 each side)	■
Track rollers, lower (4 each side)	■
Rubber tracks – 300 mm	■

## Other

Centralized lubrication	■
- Swing pinion	■
- Swing bearing	■
Dozer blade	■
Manuals	■
- Operation	■
- AEM Safety Manual	■
Vandalism protection	■
- Lockable panels	■
- Lockable fluid fill points	■
DEVELON Fleet Management 3-year subscription	■

Certain specification(s) are based on engineering calculations and are not actual measurements. Specification(s) are provided for comparison purposes only and are subject to change without notice. Specification(s) for your individual DEVELON equipment will vary based on normal variations in design, manufacturing, operating conditions, and other factors. Pictures of DEVELON units may show other than standard equipment.

# Powered by Innovation

# DEVELON

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DX27Z-7 Mini Excavator Spec Sheet  
Printed in the U.S.A.  
23906\_001\_D060623

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