



DA30 / 40

Articulated Dump Truck

Engine Power : 375 (276 kW) - 500 HP (368 kW) at 2,100 rpm

Payload : 28,000 kg (31 sh th), 40,000 kg (44 sh th)

Body capacity(SAE): 18 m³ (23.5 yd³) - 24.4 m³ (31.9 yd³)



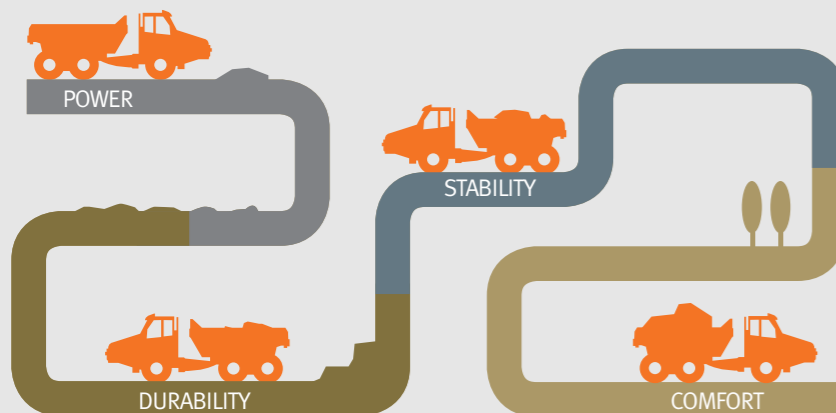
New generation of Doosan Articulated Dump Trucks

DA 30 | DA 40

Reliable machinery for challenging conditions

Doosan strives to be a pioneer in the field of product development and performance. With the new generation of DOOSAN Articulated Dump Trucks, the product features have been refined and innovated to meet the tough demands of the future. Our philosophy is to stay one step ahead of the competition and always deliver a full range of Articulated Dump Trucks to suit the market.

Doosan ADTs



POWER

The strong power provided by the DA30/40 far exceeds the conventional concept of productivity. Further, its highest-level fuel efficiency guarantees highest economic efficiency. Doosan ADTs are attracting the attention of the industry with its lowest O&M cost and highest power!

STABILITY

Doosan ADTs are designed for stable operation in any working environments. Various devices improving safe contact to the ground support Doosan ADTs for stable operation at any worksite.

DURABILITY

Doosan ADTs' design focus includes efficient and convenient maintenance. The automatic lubrication system, increased body capacity and radiator capacity guarantee stable and convenient operation and long service life of Doosan ADTs.

COMFORT

Doosan ADTs are designed with top priority to operator's comfort. In addition, their excellent operability enables desired motions executed efficiently.



Power



INCREASED FUEL EFFICIENCY

Tier 2 / Tier 4i Stage IIIB compliant engine

- Gives highest torque at lowest rpm



New transmission:

- Small gear steps
- High overall gear spread = low engine speed at high travel speed



a SINGLE rear differential

- No loss of power



Designed to deliver the lowest cost per tonne transported in the market.

Power & Torque improvement

	MT31	DA30		MT41	DA40	
Gross power	255 kW @ 2200 rpm	276 kW @ 2100 rpm	8% ↑	331 kW @ 2200 rpm	368 kW @ 2100 rpm	11% ↑
Net power	247 kW @ 2200 rpm	270 kW @ 2100 rpm	9% ↑	322 kW @ 2200 rpm	360 kW @ 2100 rpm	11% ↑
Gross torque	1455 Nm @ 1200 rpm	1873 Nm @ 1200 rpm	29% ↑	1854 Nm @ 1200 rpm	2373 Nm @ 1300 rpm	28% ↑

ENGINE & TRANSMISSION

Turning rings

Automatically Lubricated bearings allows the tandem drives to rotate on the rear axle providing superior ground contact when compared to fixed axles as used by competitors

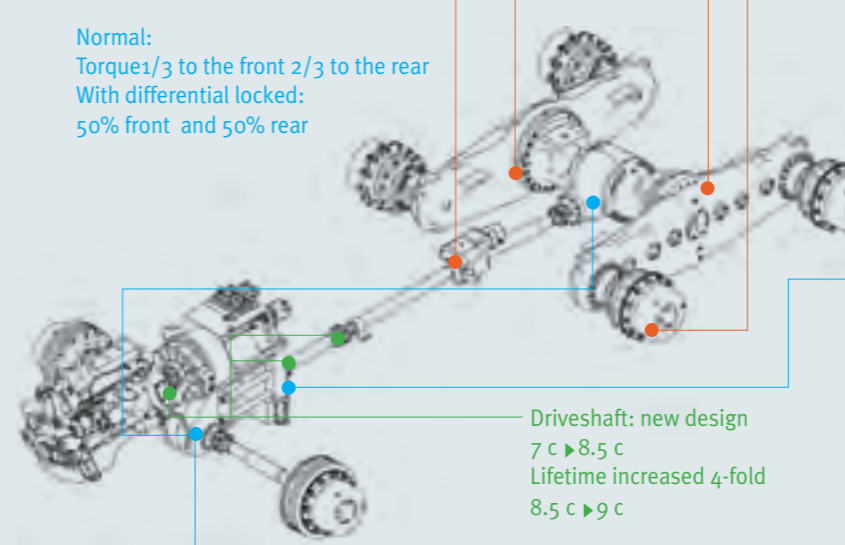
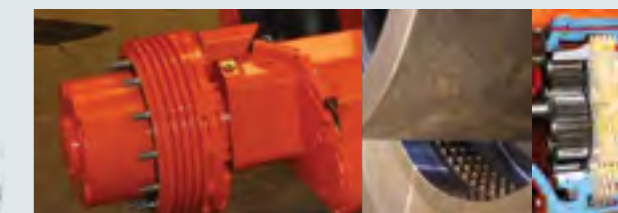
Rear Tandem

Twin wheeled, gear driven, free-swinging tandems give almost 40° rotation (rear wheel 15° down and 25° up)

Parking brake

Normal: Torque 1/3 to the front 2/3 to the rear
With differential locked: 50% front and 50% rear

Wet brakes on all hubs



Driveshaft: new design
7 c ▶ 8.5 c
Lifetime increased 4-fold
8.5 c ▶ 9 c

Differential locking in transmission. When you engage the diff Lock in the cab, the front and rear drivelines are locked to transfer 50% torque to the front and 50% to the rear.

Permanent All wheel drive

DA40 has limited slip differentials
DA30 has a "limited slip" front differential, and a "torque proportional" rear differential (clutch engaged)

ENGINE

	DA 30	DA 40
	Scania DC9 / 2,100 rpm	Scania DC13 / 2,100 rpm
Power rating	(ISO 3046) 375 HP (276 kW)	(ISO 3046) 500 HP (368 kW)
	(ISO 9249) 365 HP (268 kW)	(ISO 9249) 490 HP (360 kW)
No. of cylinders	5 (in line)	6 (in line)
Displacement	9.3 litres	12.7 litres
Air filter	Dry type	Dry type



Durability



SLOPING REAR FRAME

DOOSAN ADT



- Equal weight distribution
- Improved tractive effort
- Less tyre wear
- Lower ground bearing pressure
- Greater stability & safety

Competitor



TANDEM MOVEMENT & CONTINUOUS CONTACT WITH THE GROUND

Doosan learned from the forest industry that the tandem bogie ensures maximum ground contact in rough terrain. Wheels without ground contact create unstable machines and can become a hazard on the jobsite as well as lack of traction which reduce vehicle performance.

The tandem bogie enables the wheels to be in continuous contact with the ground for better tractive effort, stability and safety. As there is only one differential, the driveline is more efficient with less loss of power and reduced wear of parts.

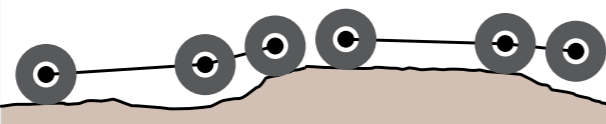
DOOSAN ADT

Always traction



Competitor

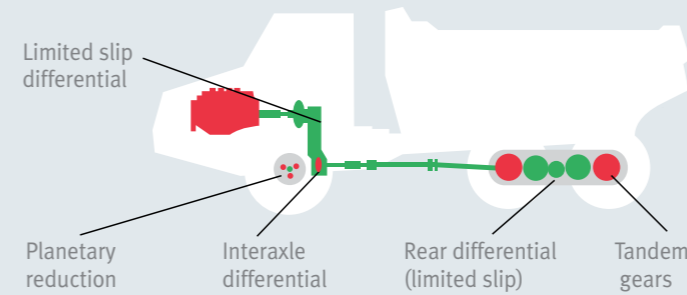
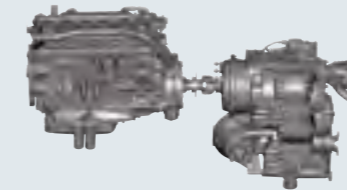
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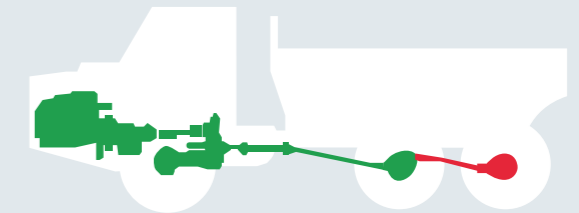
DRIVELINE

DOOSAN ADT

- Only 1 rear differential
- = Easy to operate
- = Less wear parts
- = Reduced operating cost



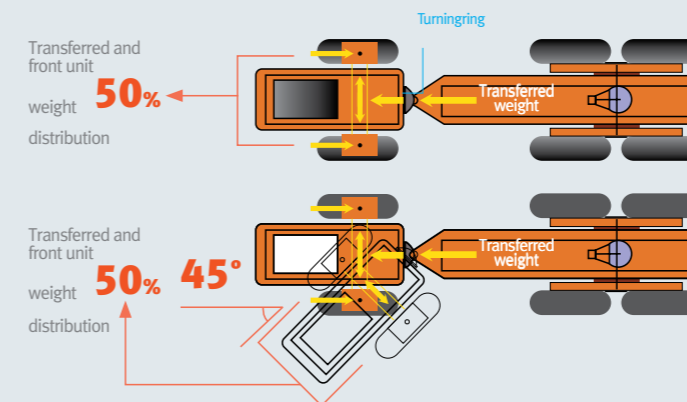
Competitor



Green: normal drive
Red: 6-wheel drive with wind-up

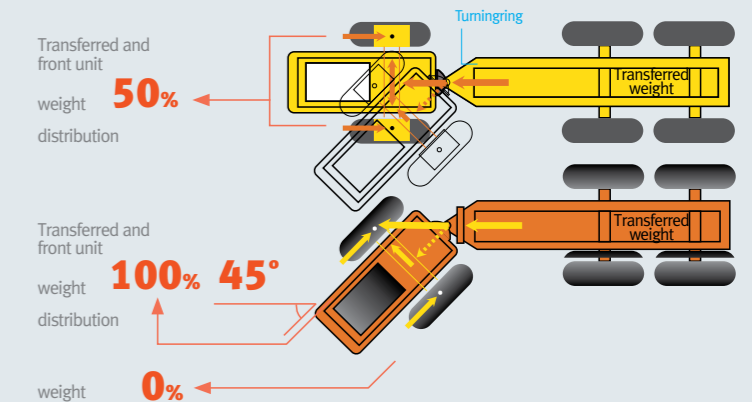
TURNING RING

DOOSAN ADT



This ensures equal weight on front wheels driving straight or in a turn, whereby a limited slip front differential can be used. When the operator then drive trough a turn on slippery ground, inner and outer tire is allowed to have different wheel speed but still with traction on both tires. This ensure short turning circle as well as safe and fast cycletimes.

Competitor



Competitors have the turning ring behind the swing centre whereby the rear chassis load will be forced in a more straight line causing the majority of weight on the outer tire. This will easy cause wheelspin on the inner tire and without equal weight on inner/outer tire, a 100% differential lock must be used, which will cause increased turning circle and driveline windup.

Comfort



CONTROLLABILITY

EXCELLENT ALL-ROUND VISIBILITY

Thanks to the excellent position and the use of special "wide angle" (heated) side mirrors, the operator is assured of having excellent all-round visibility for safer operation.

IMPROVED OPERATOR COMFORT

Lowest-in-class noise level:

**71 dB(A) in DA40
ISO6396**

- Cool box
- Cup holder
- Climate control
- Fingertip control body hoist
- Sequential gear box
- Power steering



LCD COLOUR MONITOR PANEL

- 7" colour display, resolution 800 x 480 pixels
- Shows all necessary information for driving and handling the machine
- Embedded rear view camera image in instrumentation graphics
- Backlight dimming according to ambient light conditions
- Sub menus for additional and diagnostic functions
- Used as monitor for rearview camera.

TOUCH PAD

- Reduced retarder force (affects both retarder and engine exhaust brake)
- Diesel fuel heater ON/OFF
- Interaxle differential lock
- Override button
- Heated seat ON/OFF
- Cab roof and mirror arm front lights ON/OFF
- Rotating beacon ON/OFF

"TIP-TRONIC" GEARSHIFT

This feature enables the operator to run the truck in both automatic and manual gears to ensure the smoothest possible gear shifts and momentum while operating the truck.

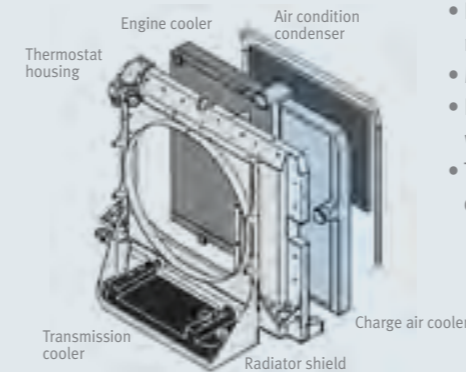


Reliability

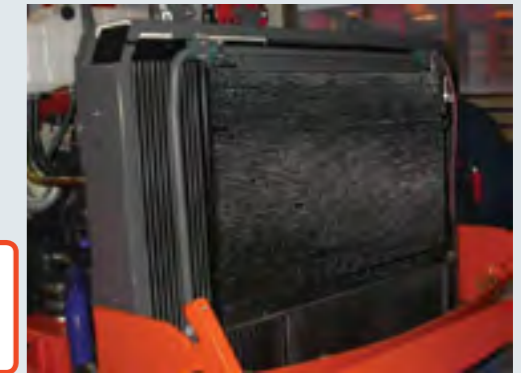
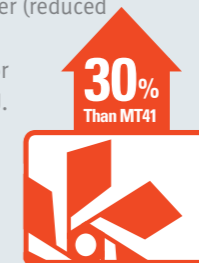


Body Capacity :
40Ton

RADIATOR CAPACITY



- Increased capacity on radiator. app. 30%.
- More retarder torque
- Improved oil cooler (reduced water speed)
- Thermo-Fan motor controlled by VCU.



INCREASED BODY CAPACITY + FUNCTIONALITY

Increased body hoist cylinder:
• dimensions: 120/80 ▶ 125/85

Faster Body up & down times:
• Body up: 10 seconds
• Body down: 9 seconds

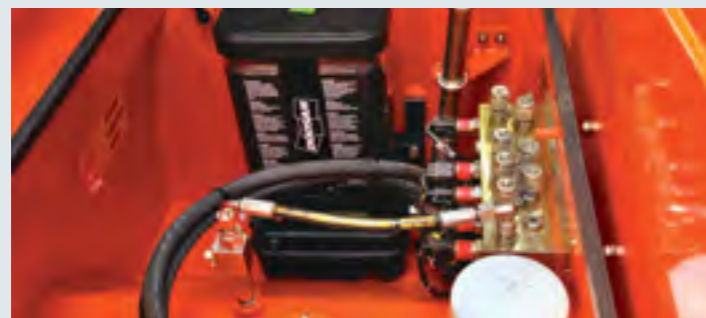


Body tip system functions:



- Body over center slow down
- Limit vehicle speed to 10km/h when body is lifted
- Body lift not possible for vehicle speed >10km/h
- Magnet hold in tip down direction.
- Automatic release when body is down.
- Engine rpm control when gear = Neutral and park brake is on
- Body soft down function
- Load weighing using tip pressure and machine tilt angle (future implementation)
- Tip cycle counter (future implementation)

AUTOMATIC LUBRICATION SYSTEM



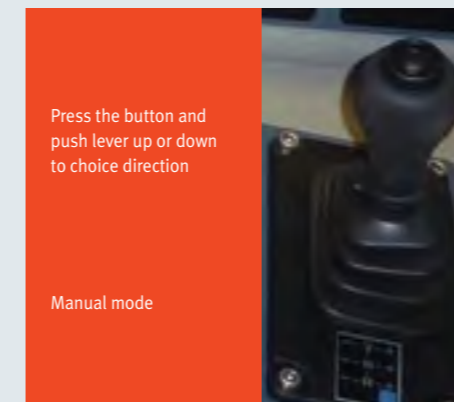
The factory-fitted automatic central lubrication system is fully incorporated in the design of our ADTs. Thanks to the Vehicle Control Unit (VCU), the grease is only pumped when necessary.

FRONT WHEEL SUSPENSION



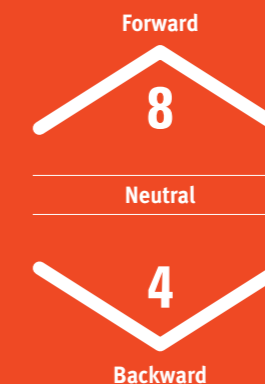
The unique independent front suspension allows free movement of one side, ensuring maximum contact with the ground and excellent shock absorption.

ZF TRANSMISSION



Press the button and push lever up or down to choice direction

Manual mode



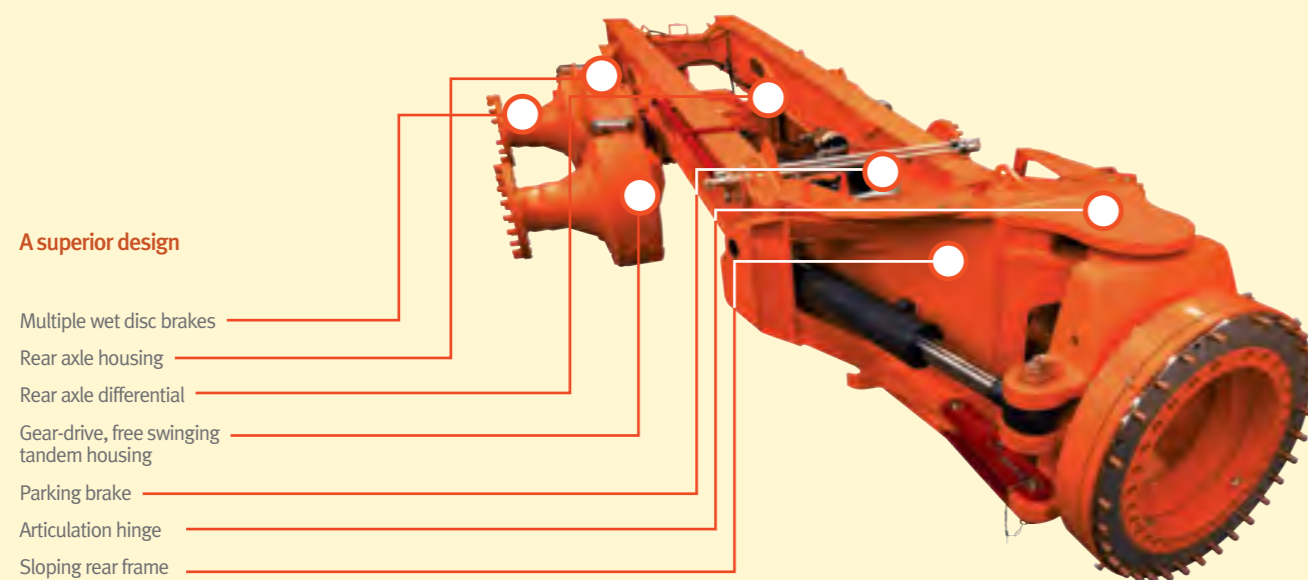
- Designed specifically for ADTs
- 8 forward/4 reverse gears
- Increased retardation torque
- Proven Tiptronic shift management



Unique design of Doosan ADTs

DOOSAN Articulated Dump Trucks have permanent 6-wheel drive for equal power distribution while the free-swinging rear tandem bogie and the special articulation system offer excellent driving performance. The articulation hinge is positioned behind the turning ring to ensure equal weight distribution. The sloping rear frame provides a lower centre of gravity and improves the overall stability of the truck, ensuring fast and easy tipping of the body for increased productivity in even the most demanding conditions.

Many DOOSAN articulated dump trucks have worked more than 25,000 hours without a major overhaul of the engine. A fully automatic transmission and smooth gear-shifting provide maximum convenience and comfort, allowing the operator to concentrate on the work at hand.



A superior design

- Multiple wet disc brakes
- Rear axle housing
- Rear axle differential
- Gear-drive, free swinging tandem housing
- Parking brake
- Articulation hinge
- Sloping rear frame

TOP 10 ADVANTAGES OF DOOSAN ARTICULATED DUMP TRUCKS

- Low operating cost
- Excellent performance in difficult terrain
- Independent front suspension ensures maximum ground contact and stability
- The sloping rear frame ensures a low centre of gravity, good stability and excellent weight distribution to the front axle
- Improved driver comfort and easy operation
- Easy and safe access to the cab
- Free-swinging rear tandem bogie ensures the best possible ground contact
- Front-mounted turning ring ensures equal weight distribution to the front axle in all situations
- Permanent 6-wheel drive, a significant advantage in rugged terrain
- Easy maintenance



Equipment

Standard equipment	DA30	DA40	Optional equipment	DA30	DA40
Armrest at operator seat	•	•	BODY OPTIONS		
Headrest at operator seat	•	•	Top tailgate	Std	•
Safety belt at operator and instructor seat	•	•	Spill guard on front of body	•	•
Adjustable steering column	•	•	Body heating system	•	•
All instrumentation in LCD display	•	•	Body lining standard	•	•
Cigarette lighter and ashtray	•	•	Body lining full	•	•
12V charging point	•	•	Side extensions (upon request)	•	•
Retractable roller sunblind	•	•	CAB OPTIONS		
Tinted safety glass	•	•	Deluxe seat	•	•
Sliding window	•	•	Heated operator seat	•	•
Windshield wiper and washer	•	•	Heated mirror	•	•
Mirror	•	•	OTHER		
Protection for rear window	•	•	Webasto heating system (heat up the cooling system)	•	•
Emergency steering, ground-driven	•	•	Electrical engine heater	•	•
Towing hook, front and rear	•	•	Fire extinguisher	•	•
Mud flaps	•	•	First aid kit	•	•
Automatic lubrication system Groeneveld	•	•	Beacon	•	•
Engine exhaust brake	•	•	Light bar	•	•
Transmission retarder brake	•	•	Speed limitation	•	•
Rear view camera	•	•	Work light kit (rear and front)	•	•
Radio/CD/MP3	•	•	Work light kit (rear and front) LED	•	•
Work light front, at the top of the cab	•	•	Automatic lubrication system Lincoln	•	•
Cab tilting system	•	•	Warning triangle	•	•
Emergency shutdown switch	•	•	Fast fill	•	•
Wet disc brake	•	•	TYRE OPTIONS		
Anti-slip steps & platform	•	•	Quarry	•	•
Space for cooler box	•	•	Earthmoving	•	•
Storage room	•	•	Flotation tyres	•	•
Electronic climate control	•	•			
Payload metre	•	•			
Tool kit	•	•			

Suspension

- Front: DA30: Independent with long life rubber springs and hydraulic shock absorbers
- Front: DA40: Independent with two hydro-pneumatic cylinders
- Rear: Free-swinging tandem housing
- Articulation hinge and steering**
- Articulation hinge with forward-mounted turning ring
- Steering cylinders (two): Double-acting
- The steering is approved according to ISO 5010
- Max. steering angle: 45°
- Ground-driven emergency steering pump

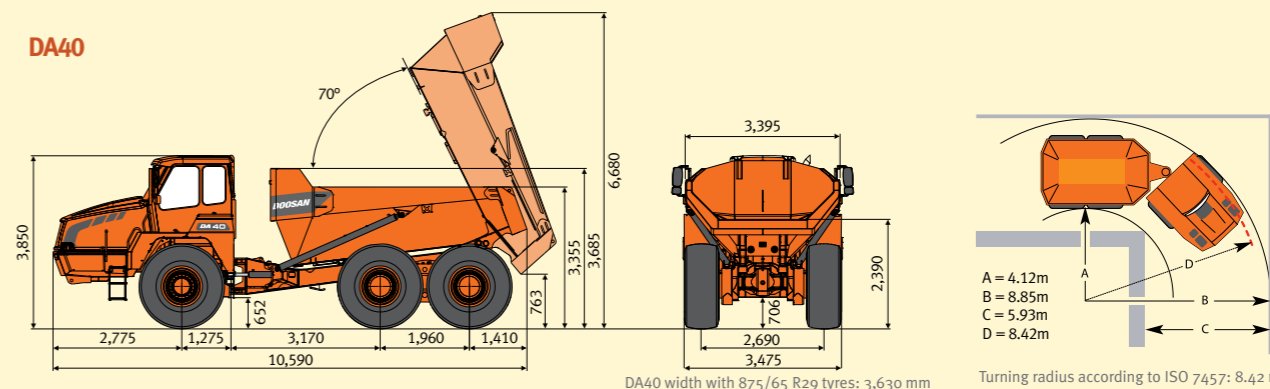
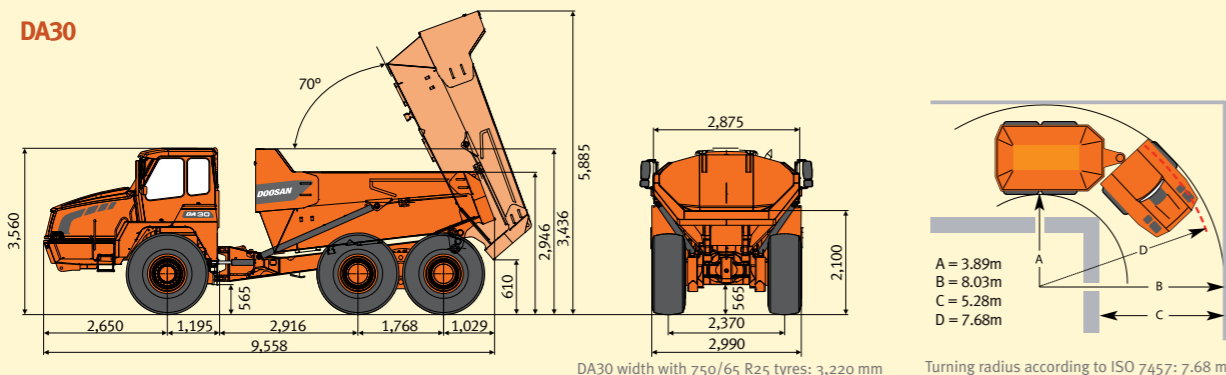
Driveline

- Full-time 6 x 6 drive with two transverse differentials and one longitudinal
- Front axle transverse differential: Limited-slip diff lock with 45% locking ratio
- DA40: Rear axle transverse differential: Multi disc diff lock with 45% locking ratio
- DA30: Rear axle transverse differential: clutch-engaged
- Inter-axle longitudinal differential: Torque-proportioning differential, integrated into the ZF transmission
- Torque distribution:
 - 1/3 to the front axle
 - 2/3 to the rear axle
 - 100% lockable
 - Tandem housing: Gear driven, free-swinging. Provides equal drive to rear wheels and ensures the best possible ground contact - whatever the ground conditions

Brake system

- Dual circuit braking system acting on all six wheels
- Approved according to ISO 3450
- All-hydraulic operated brakes with enclosed oil-cooled wet multiple discs all round
- Spring actuated hydraulic released parking brake, mounted on driveline shaft
- Max. gradient, parking brake: 20°
- Automatic engine brake as standard
- Automatic transmission retarder as standard
- Cab**
- Approved to ROPS/FOPS standards (ISO 3471, ISO 3449)
- Low interior sound level 73 dB(A) (ISO 6394)
- The cab is centrally located on rubber mountings
- Hand and arm vibrations are less than 2.5 m/s according to ISO 5349-2
- Whole body vibration is less than 0.5 m/s according to ISO 2631-1
- Superior visibility - for safer operation
- Superior operating controls location
- Adjustable suspended operator seat
- Adjustable steering column
- Climate control - Heater and air conditioning
- Tilting for service access

Technical specifications



DA30		Speeds	
Body	HB400	Forward	Reverse
Body volume	18 m ³ – 23.5 yd ³	1st	5 km/h
Material	Hardened abrasion-resistant steel plates	2nd	8 km/h
Tilt cylinders	Single stage, double-acting	3rd	11 km/h
Tipping time	Up: 10 sec. / Down: 9 sec.	4th	16 km/h
Body	Designed for exhaust heating	5th	23 km/h
Sloping frame	Down from the hinge point	6th	32 km/h
Level capacity (with / without tailgate)	14.2 m ³ / 13.6 m ³ – 18.6 yd ³ / 17.8 yd ³	7th	45 km/h
Heaped capacity (with / without tailgate)	18 m ³ / 16.8 m ³ – 23.5 yd ³ / 22 yd ³	8th	58 km/h
Density index	1.64 t/m ³	Engine	
Weights		Complies with Tier II for emissions	Scania DC 9, water-cooled, diesel engine with turbo charger and air to air intercooler
Empty: Front axle	11,900 kg – 26,235 lb	Power rating (ISO 3046)	375 hp (276 kW)
Rear axle	11,500 kg – 25,353 lb	(ISO 9249)	365 hp (268 kW)
Loaded: Front axle	16,500 kg – 36,376 lb	No. of cylinders	5 (in line)
Rear axle	34,425 kg – 75,894 lb	Gross Torque	1873 Nm @ 1,300 rpm
Pay load	28,000 kg – 31 sh tn	Engine exhaust brake	Yes
Total weight (loaded)	51,400 kg – 113,317 lb	Cylinder volume	9.3 litres
Net weight	23,400 kg – 51,588 lb	Air filter	Dry type
NOTE: All weights include a full fuel tank and operator.		Transmission	
Power to weight ratio	Net Power vs Ton		ZF 8 EP370 electronically-controlled automatic transmission with retarder The torque converter has automatic lock-up in all gears
Empty	12.1 kW/t	Hydraulic system	
Loaded	5.47 kW/t	Pumps	1 variable displacement piston pump for steering & tipping for cooling fan, brakes & auxiliaries
Ground pressures	Standard 23.5 x 25 tyres with 15% sinkage	Delivery	320 l/min @ 2,200 rpm
Empty: Front axle	104 kPa	Filtration	One return flow filter
Rear axle	53 kPa	Pressure-setting, main safety valves:	
Loaded: Front axle	141 kPa	Tipping Circuit	280 bar
Rear axle	162 kPa	Steering Circuit	210 bar
Capacities		Electrical system	
Fuel Tank	335 l	Alternator	28V 100A
Hydraulic System	150 l	Batteries (two)	12V 140Ah (series connected to give 24V)
Engine Cooling System	45 l	Starter	7.5 HP (5.5 kW)
Transmission	75 l	Tyres	
Engine Crankcase	33 l	Standard	23.5 R25 two star radial
Front Reduction Gear	2 x 11 l		
Rear Differential	16 l		
Tandem Housing	2 x 48 l		
Rear Reduction Gear	4 x 7 l		

DA40		Speeds	
Body	HB400	Forward	Reverse
Body volume	24.4 m ³ – 31.9 yd ³	1st	5 km/h
Material	Hardened abrasion-resistant steel plates	2nd	8 km/h
Tilt cylinders	Single stage, double-acting	3rd	11 km/h
Tipping time	Up: 10 sec. / Down: 9 sec.	4th	16 km/h
Body	Designed for exhaust heating	5th	23 km/h
Sloping frame	Down from the hinge point	6th	32 km/h
Level capacity (with / without tailgate)	20.4 m ³ / 19.6 m ³ – 26.7 yd ³ / 25.6 yd ³	7th	45 km/h
Heaped capacity (with / without tailgate)	26 m ³ / 24.4 m ³ – 47.1 yd ³ / 31.9 yd ³	8th	58 km/h
Density index	1.64 t/m ³	Engine	
Weights		Complies with Tier II for emissions	Scania DC 13, water-cooled, diesel engine with turbo charger and air to air intercooler
Empty: Front axle	14,500 kg – 31,967 lb	Power rating (ISO 3046)	500 hp (368 kW)
Rear axle	15,800 kg – 34,833 lb	(ISO 9249)	490 hp (360 kW)
Loaded: Front axle	20,700 kg – 45,636 lb	No. of cylinders	6 (in line)
Rear axle	49,600 kg – 109,349 lb	Gross Torque	2373 Nm @ 1,300 rpm
Pay load	40,000 kg – 44 sh tn	Engine exhaust brake	Yes
Total weight (loaded)	70,300 kg – 154,985 lb	Cylinder volume	12.7 litres
Net weight	30,300 kg – 66,800 lb	Air filter	Dry type
NOTE: All weights include a full fuel tank and operator.		Transmission	
Power to weight ratio	Net Power vs Ton		ZF 8 EP420 electronically-controlled automatic transmission with retarder The torque converter has automatic lock-up in all gears
Empty	12 kW/t	Hydraulic system	
Loaded	5.20 kW/t	Pumps	2 variable displacement piston pumps for steering & tipping for cooling fan, brakes & auxiliaries
Ground pressures	Standard 29.5 x 25 tyres with 15% sinkage	Delivery	320 l/min @ 2,200 rpm for steering, brakes and auxiliary tipping 60 l/min @ 2,200 rpm for cooling fan and tipping
Empty: Front axle	88 kPa	Filtration	One return flow filter
Rear axle	48 kPa	Pressure-setting, main safety valves:	
Loaded: Front axle	130 kPa	Tipping Circuit	280 bar
Rear axle	152 kPa	Steering Circuit	210 bar
Capacities		Electrical system	
Fuel Tank	530 l	Alternator	28V 100A
Hydraulic System	275 l	Batteries (two)	12V 225Ah (series connected to give 24V)
Engine Cooling System	50 l	Starter	7.5 HP (5.5 kW)
Transmission	75 l	Tyres	
Engine Crankcase	34 l	Standard	29.5 R25 two star radial
Front Reduction Gear	2 x 7.5 l		
Rear Differential	46 l		
Tandem Housing	2 x 150 l		
Rear Reduction Gear	-		



Portable Power

DOOSAN



Doosan worldwide factories

- Heavy Equipment Factory
- Compact Equipment Factory
- Attachment Factory



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