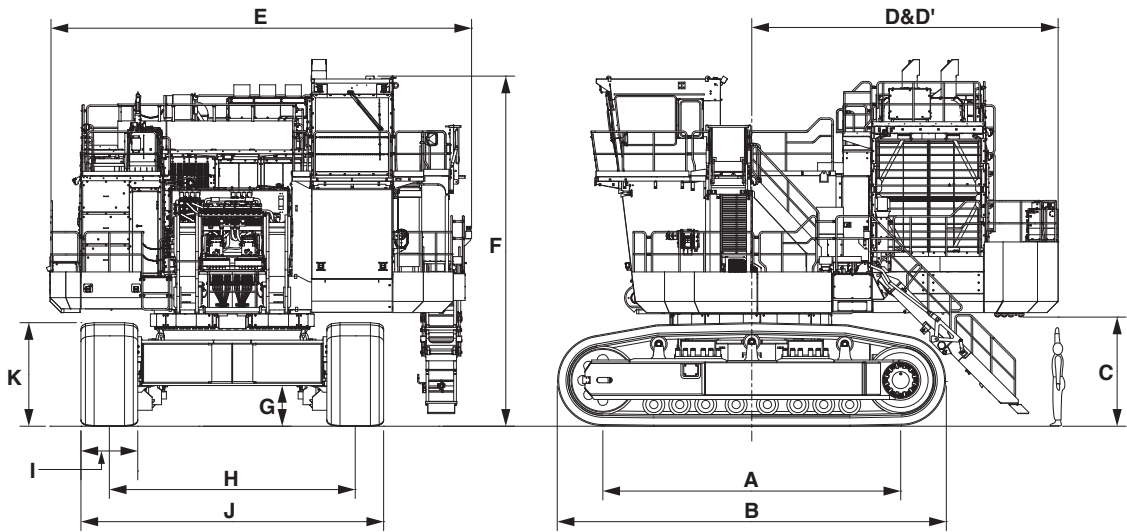


EX3600

SPECIFICATIONS



Illustrations show(Cummins Tier 4 Final) diesel engine type.

A	Distance between tumblers	6 660 mm
B	Undercarriage length	8 700 mm
C	Counterweight clearance	2 440 mm
D	Rear-end swing radius	6 980 mm
D'	Rear-end length	6 850 mm
E	Overall width of upperstructure	9 420 mm
F	Overall height of cab	7 870 mm
G	Min. ground clearance	905 mm
H	Track gauge	5 500 mm
I	Track shoe width	1 270 mm
J	Undercarriage width	6 770 mm
K	Track height	2 315 mm

HYDRAULIC EXCAVATOR

EX3600-7B with Diesel Engine (Tier 4 Final)	Engine Rated Power : Cummins : 1 450 kW (1 971 PS)		
	MTU : 1 500 kW (2 040 PS)		
	Operating Weight :	Cummins : Loading Shovel :	369 000 kg
		Backhoe :	370 000 kg
		MTU : Loading Shovel :	366 000 kg
		Backhoe :	367 000 kg
EX3600-7 with Diesel Engine (FCO)	Engine Rated Power : Cummins : 1 450 kW (1 971 PS)		
	MTU : 1 450 kW (1 971 PS)		
	Operating Weight :	Cummins : Loading Shovel :	365 000 kg
		Backhoe :	366 000 kg
		MTU : Loading Shovel :	366 000 kg
		Backhoe :	367 000 kg
EX3600-7E with Electric Motor	Power Output : 1 200 kW		
	Loading Shovel Bucket :		
	Backhoe Bucket :		
Bucket Capacity	(ISO 7546 Heaped 2 : 1)		22.0 m³
	(ISO 7451 Heaped 1 : 1)		22.0 m³

SPECIFICATIONS

EX3600-7

ENGINE

Model	Cummins QSKTA60-CE
Emission certification	U.S. EPA Tier 4 Final
Type	Water-cooled, 4-cycle, 16-cylinder turbo-charged and after-cooled, direct injection chamber-type diesel engine, urea SCR system
Rated power @1 800 min ⁻¹ (rpm)	
ISO14396.....	1 450 kW (1 971 PS)
Maximum torque	8 364 N·m at 1500 min ⁻¹ (rpm)
Piston displacement	60.0 L
Bore and stroke	159 mm x 190 mm
Starting system	24 V electric motor
Batteries	4 x 12 V, 4 x 185 AH (20hr)

Model	Cummins QSKTA60-CE
Emission certification	Fuel consumption optimized
Type	Water-cooled, 4-cycle, 16-cylinder turbo-charged and after-cooled, direct injection chamber-type diesel engine
Rated power @1 800 min ⁻¹ (rpm)	
ISO14396.....	1 450 kW (1 971 PS)
Maximum torque	8 364 N·m at 1 500 min ⁻¹ (rpm)
Piston displacement	60.0 L
Bore and stroke	159 mm x 190 mm
Starting system	24 V electric motor
Batteries	4 x 12 V, 4 x 185 AH (20hr)

Model	MTU 12V 4000 C35
Emission certification	U.S. EPA Tier 4 Final
Type	Water-cooled, 4-cycle, 12-cylinder 2-stage turbo-charged and aftercooled, direct injection chamber-type diesel engine, Miller cycle, Cooled EGR
Rated power @1 800 min ⁻¹ (rpm)	
ISO14396.....	1 500 kW (2 040 PS)
Maximum torque	9 588 N·m at 1 500 min ⁻¹ (rpm)
Piston displacement	57.2 L
Bore and stroke	170 mm x 210 mm
Starting system	24 V electric motor
Batteries	4 x 12 V, 4 x 185 AH (20hr)

Model	MTU 12V 4000 C33
Emission certification	Fuel consumption optimized
Type	Water-cooled, 4-cycle, 12-cylinder turbo-charged and after-cooled, direct injection chamber-type diesel engine
Rated power @1 800 min ⁻¹ (rpm)	
ISO14396.....	1 450 kW (1 971 PS)
Maximum torque	9 231 N·m at 1500 min ⁻¹ (rpm)
Piston displacement	57.2 L
Bore and stroke	170 mm x 210 mm
Starting system	24 V electric motor
Batteries	4 x 12 V, 4 x 185 AH (20hr)

HYDRAULIC SYSTEM

Hitachi's ETS (Electronic Total control System) can achieve maximum job efficiency by reducing fuel consumption and noise levels, while maximizing productivity through the optimization of engine-pump functions with excellent controllability increasing operator comfort.

- E-P Control (Computer-aided Engine-Pump Control system)
Main pumps regulated by electric engine speed sensing control system.
- OHS (Optimum Hydraulic System)
8 main pumps and 4 valves system enable both independent and combined operations of all functions.
- FPS (Fuel-saving Pump System)
FPS minimizes energy loss with superior performance in fine control.
- Auto-idling system for saving fuel and reducing noise.
- Hydraulic drive cooling-fan system for oil cooler.
- Hydraulic drive cooling-fan system for radiator.
- Forced-lubrication and forced-cooling pump drive system.
- Regeneration circuit for boom down.

Main pumps	8 variable-displacement, axial piston pumps for front attachment, travel and swing
Max. oil flow	8 X 500 L/min
Pilot pump	1 gear pump
Max. oil flow	110 L/min

Relief Valve Settings

Implement circuit	29.4 MPa (300 kgf/cm ²)
Swing circuit	29.4 MPa (300 kgf/cm ²)
Travel circuit	29.4 MPa (300 kgf/cm ²)
Pilot circuit	4.0 MPa (41 kgf/cm ²)

Hydraulic Cylinders

High-strength piston rods and tubes adopted. Cylinder cushion mechanisms are provided for boom, arm, bucket and dump cylinders. Bucket cylinders of loading shovel are provided with protector.

Cylinder Dimensions

Loading shovel

	Quantity	Bore	Rod diameter
Boom	2	360 mm	260 mm
Arm	1	300 mm	220 mm
Bucket	2	280 mm	200 mm
Dump	2	225 mm	130 mm
Level	1	360 mm	260 mm

Backhoe

	Quantity	Bore	Rod diameter
Boom	2	360 mm	260 mm
Arm	2	300 mm	220 mm
Bucket	2	250 mm	180 mm

Hydraulic Filters

All hydraulic circuits have high-quality hydraulic filters for protection against oil contamination and longer life of hydraulic components.

	Quantity	
Full flow filter	5	10 μm
High pressure strainer	8	120 μm
(In main & swing pump delivery line)		
Drain filter	1	10 μm
(For all plunger type pumps & motors)		
By-pass filter	1	5 μm
(In oil cooler by-pass line)		
Pilot filter	1	10 μm
These filters are centralized in arrangement for facilitating maintenance.		

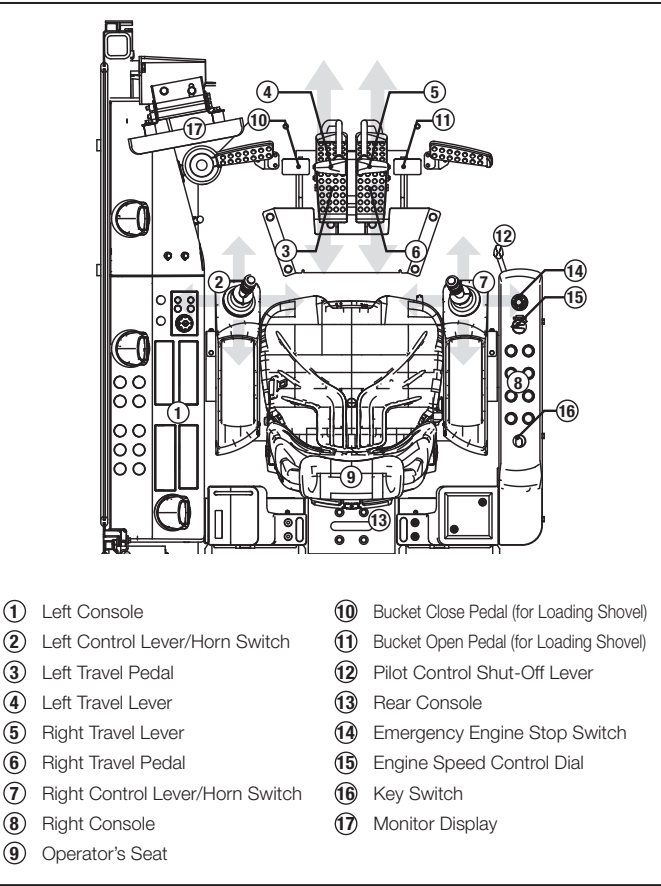
CONTROLS

2 Implement Levers

Electric joystick control levers. Right lever is for boom and bucket control, left lever for swing and arm control. For loading shovel, 2 pedals provided for opening/closing the bottom dump bucket.

2 Travel Levers with Pedals

Remote-controlled hydraulic servo system. Independent drive at each track allows counter rotation of tracks.



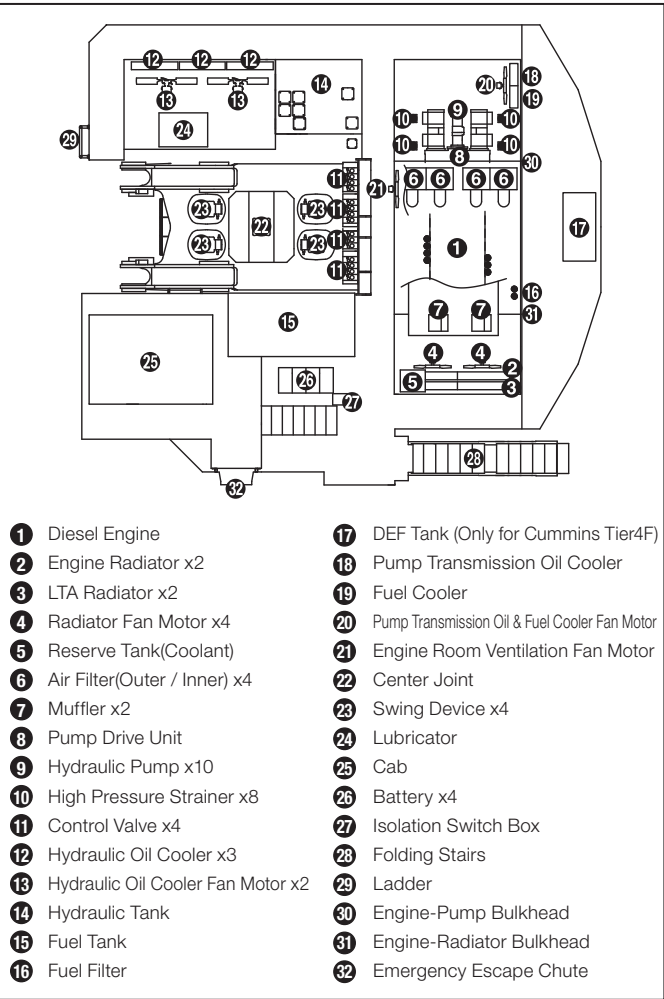
UPPERSTRUCTURE

Revolving Frame

A deep, full-reinforced box section. Heavy-gauge steel plates used for ruggedness.

Deck Machinery

Maintenance accessibility is the major feature in the layout of deck machinery. Sidewalks provide easy access to engine, hydraulic and electrical components. ISO-met stairs and handrails. Sidewalks and stairs are provided with skid-resistant plates.



Swing Device

4 high-torque, axial-piston motors with two-stage planetary gear bathed in oil. Swing circle with dirt seals is a heavy-duty, triple-row, cylindrical roller bearing. Induction-hardened internal swing circle gear and pinion immersed in lubricant. Parking brake of springset/hydraulic-released disc type. This parking brake is manually releasable.

Swing speed	3.2 min ⁻¹ (rpm)
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Operator's Cab

The sturdy cab, with OPG top guard level II (ISO), helps protect the operator from falling objects. Independent, pressurized, 1 800 mm wide, 2 150 mm high, roomy 7.5 m³ cab with tinted-glass windows features all-round visibility. Air-suspension type, fully adjustable reclining seat with armrests; movable with or without front & swing control levers by slide. Instruments and control panel are within easy reach of the operator. 3 air conditioner system.

Noise level	72 dB(A) in the cab; on max. engine speed under no-load condition
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Eye level height	6 760 mm
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SPECIFICATIONS

UNDERCARRIAGE

Tracks

Shovel-type undercarriage. Dual-flanged-type bolt linkage for side frame and X-form center frame assures durability. Heavy-duty track frame of all-welded, stress-relieved structure. Top-grade materials used for toughness. Lifetime-lubricated induction-hardened track rollers, idlers and drive tumblers with floating seals. Opposed double-type upper rollers for easy removal of mud. Track shoes of induction-hardened cast steel with triple grousers. Specially heat-treated connection pins. Hydraulic track adjuster provided with N2 gas accumulator with relief valve. Track adjuster provided with protection device against abnormal tension. Travel motion alarm device.

Shovel-type Undercarriage

Triple grouser track shoes of induction-hardened cast steel.
Shoe width 1 270 mm

Numbers of Rollers and Shoes (each side)

Upper rollers 3
Lower rollers 8
Track shoes 38

Travel Device

Each track driven by high-torque, axial piston motors, allowing counter rotation of tracks. 2-stage planetary gear plus spur gears reduction device. Dual-support-type traction device. Parking brake of spring-set/hydraulic-released disc type. This parking brake is manually releasable.

Travel speeds High : 0 to 2.2 km/h
Low : 0 to 1.7 km/h

Maximum traction force 1 760 kN (179 000 kgf)
Gradeability 58 %(30 degree) max.

WEIGHTS AND GROUND PRESSURE

Loading Shovel

Equipped with 22.0 m³ (ISO heaped) bottom dump bucket

Shoe type	Shoe width			Operating weight	Ground pressure
Triple grousers	1 270 mm	Cummins	FCO	365 000 kg	191 kPa (1.95 kgf/cm²)
			T4F	369 000 kg	193 kPa (1.97 kgf/cm²)
		MTU	FCO	366 000 kg	192 kPa (1.96 kgf/cm²)
			T4F	366 000 kg	192 kPa (1.96 kgf/cm²)

Ground pressures are based on ISO 16754

Backhoe

Equipped with 9.6 m boom, 4.5 m arm, and 22.0 m³ (ISO heaped) bucket

Shoe type	Shoe width			Operating weight	Ground pressure
Triple grousers	1 270 mm	Cummins	FCO	366 000 kg	192 kPa (1.96 kgf/cm²)
			T4F	370 000 kg	194 kPa (1.98 kgf/cm²)
		MTU	FCO	367 000 kg	192 kPa (1.96 kgf/cm²)
			T4F	367 000 kg	192 kPa (1.96 kgf/cm²)

Ground pressures are based on ISO 16754

SERVICE REFILL CAPACITIES

EX3600-7 Cummins

	liters
Fuel tank	7 450
Engine coolant (T4F/FCO)	611 / 593
Engine oil pan	360
Pump drive	62
Swing drive device	4 x 75
Travel drive device	2 x 220
Hydraulic system	4 000
Hydraulic oil tank	1 900
Grease tank	500
DEF tank (only Tier 4 final specificaiton)	475

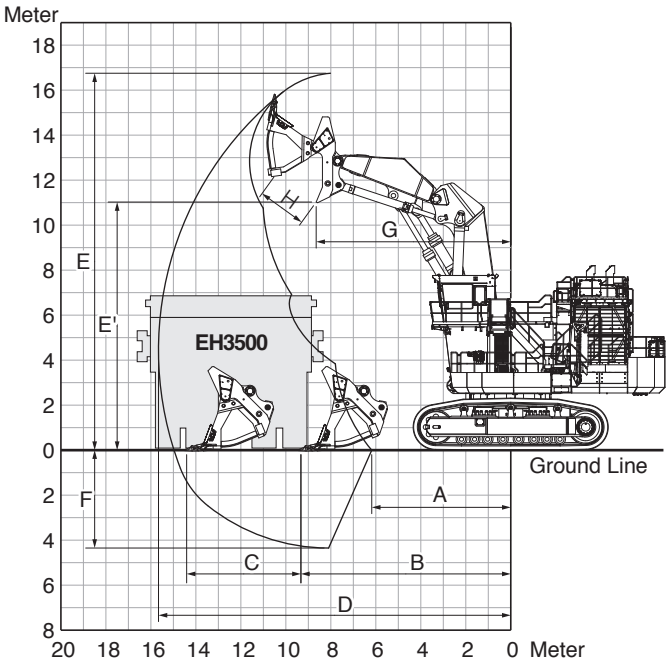
EX3600-7 MTU

	liters
Fuel tank	7 450
Engine coolant (T4F/FCO)	708 / 678
Engine oil pan	290
Pump drive	62
Swing drive device	4 x 75
Travel drive device	2 x 220
Hydraulic system	4 000
Hydraulic oil tank	1 900
Grease tank	500

LOADING SHOVEL ATTACHMENTS

Boom and arm are of all-welded, low-stress, high-tensile strength steel full-box section design. Efficient, automatic level crowding achieved by one-lever control as the parallel link mechanism keeps the bucket digging angle constant, and level cylinder circuit maintains the bucket height constant (Auto-Leveling Crowd Mechanism). Auto-lubrication system for all pins is standard.

WORKING RANGES



	Unit: mm
Bucket capacity ISO 7456 (Heaped 2:1)	22.0 m³
A Min. digging distance	6 180
B Min. level crowding distance	9 440
C Level crowding distance	5 060
D Max. digging reach	15 660
E Max. cutting height	16 750
E' Max. dumping height	10 990
F Max. digging depth	4 350
G Working radius at max. dumping height	8 640
H Max. bucket opening width	1 950
Arm crowding force on ground	1 190 kN (155 000 kgf)
Bucket digging force	1 030 kN (97 000 kgf)

Bucket

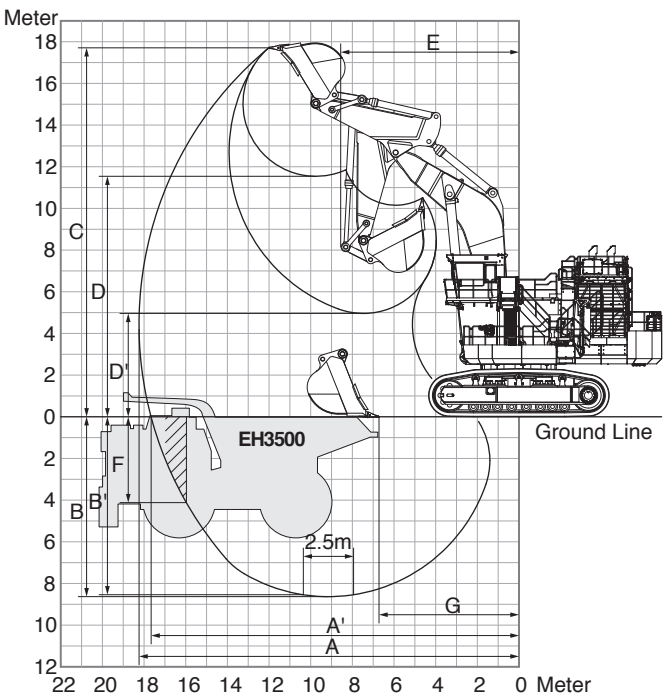
Capacity ISO 7456 (Heaped 2:1)	Width	No.of teeth	Weight	Materials density
*1 22.0 m³	4 200 mm	5	29 300 kg	1 800 kg/m³ or less

*1 : Bottom dump type general purpose bucket

BACKHOE ATTACHMENTS

Boom and arm are of all-welded, low-stress, full-box section design. Bucket of all-welded, high-strength steel structure. Bucket/arm joint pins are floating type. Replaceable thrust plates are provided with bucket/arm joint part. Autolubrication system for all pins is standard.

WORKING RANGES



	Unit: mm
BE-boom length	9.6 m
BE-arm length	4.5 m
Bucket capacity ISO 7451 (Heaped 1:1)	22.0 m³
A Max. digging reach	18 240
A' Max. digging reach (on ground)	17 660
B Max. digging depth	8 630
B' Max. digging depth (2.5 m level)	8 540
C Max. cutting height	17 710
D Max. dumping height	11 540
D' Min. dumping height	4 960
E Min. swing radius	8 540
F Max. vertical wall	4 120
G Min. level crowding distance	6 710
Bucket digging force (ISO)*	1 050 kN (107 000 kgf)
Arm crowd force (ISO)*	951 kN (97 000 kgf)

*This is the calculated value at the loading point (Cutting Edge) conforming to ISO.

Bucket

Capacity	Width		No.of teeth	Weight	Materials density
ISO 7451 (Heaped 1:1)	With side cutters	Without side cutters			
*2 22.0 m³	3 790 mm	-	6	18 400 kg	1 800 kg/m³ or less

*2 : General purpose bucket

EQUIPMENT

EX3600-7

STANDARD EQUIPMENT

Standard equipment may vary by country, so please consult your Hitachi dealer for details.

ENGINE

- Auto-idle system
- Cartridge-type engine oil filter
- Cartridge-type fuel filter
- Emergency engine stop system
- Engine room cooling fan
- Fan guard
- Heavy-duty type air cleaner with dust ejector
- Hydraulic drive cooling-fan system
- Isolation-mounted engine
- Pre-lubrication system
- Radiator reserve tank
- Water filter
- 140 A alternator

HYDRAULIC SYSTEM

- Bypass filter
- Control valve with main relief valve
- Drain filter
- E-P control system
- Forced-lubrication and forced-cooling pump drive system
- FPS (Fuel-saving Pump System)
- Full-flow filter
- High-pressure strainer
- Hydraulic drive cooling-fan system
- OHS (Optimum Hydraulic System)
- Pilot filter
- Regeneration circuit for boom down function
- Suction filter

CAB

- Adjustable reclining seat with air suspension
- Air conditioner* with defroster
- Air horn with electric compressor
- Auto-tuning AM-FM radio with digital clock
- Evacuation hammer
- Floor mat
- Fluid-filled elastic mounts
- Footrest
- Front windshield washer
- Hot & cool-box
- Laminated glass windshield (Front)
- OPG top guard level II (ISO10262)
- Parallel-link-type intermittent windshield wiper
- Pilot control shut-off lever
- Rearview mirror
- Reinforced/tinted (Green color) glass side and rear windows
- Roll screens
- Seat belt
- Storage spaces
- Trainer’s seat

MONITOR SYSTEMS

- Meters:
 - Ambient temperature
 - Clock
 - DEF gauge (only for Cummins Tier4F)
 - Engine coolant temperature gauge
 - Engine oil pressure gauge
 - Engine oil temperature gauge
 - Fuel gauge
 - Grease gauge
 - Hour meter
 - Hydraulic oil temperature gauge
 - Inclinometer
 - Tachometer

DATA LOGGING SYSTEM

- DLU (Data-Logging Unit) continuously records performance of the engine and the hydraulic system. The record can be downloaded by PC.
And for Fleet management system (Provided by Wenco etc.) connection**
- WIU (Wireless Interface Unit)**

LIGHTS

- 2 entrance halogen light
- 10 working LED light
- 8 maintenance halogen light

UPPERSTRUCTURE

- Cab riser pressurizer
- Dual isolator switch
- Electronic cylinder stroke control system
- Emergency escape device
- Folding stairs with wide steps
- Hydraulic drive grease gun with hose reel
- Lockable machine covers
- Swing parking brake
- 40 300 kg counterweight(Inc. bolt etc.)

UNDERCARRIAGE

- Grease-less center joint
- Hydraulic track adjuster with N2 gas accumulator with relief valve
- Travel motion alarm device
- Travel parking brake
- Swing circle excess grease scraper
- Swing circle lubrication piping protection
- 1 270 mm triple grouser shoes

MISCELLANEOUS

- Auto-lubrication system (Lincoln) for front-attachment pins, swing bearing
- Recirculation air filter for air conditioner
- Stairs and handrails (Meeting ISO)
- Stop valve for transport and reassembly
- Ventilation air filter for air conditioner
- 12 V power terminal board

FAST-FILLING SYSTEM

- Fast-filling system for fuel, hydraulic oil coolant, swing device oil, pump transmission oil, engine oil, and grease (Couplers not included).
DEF (only for Cummins Tier4F)

OPTIONAL EQUIPMENT

Optional equipment may vary by country, so please consult your Hitachi dealer for details.

- Aerial Angle
- Cold weather package
- Communication system (Alternative)** GPRS communication system` Satellite data transmitting system
- Fast-filling couplers (Wiggins)
- Standard tool kit
- Travel motor guard
- Travel transmission guard
- Truck under cover
- 4 color monitor cameras ; 2 front and 2 rear
- Additional Fuel Filter (PARKER FBO-14)

* Contains fluorinated greenhouse gases, Refrigerant type: HFC-134a, GWP: 1430, Amount: 2.85 kg, CO2e: 4.08 ton.

** The availability of the system depends on licensing regulations in each country.
Please contact Hitachi dealer for more information.

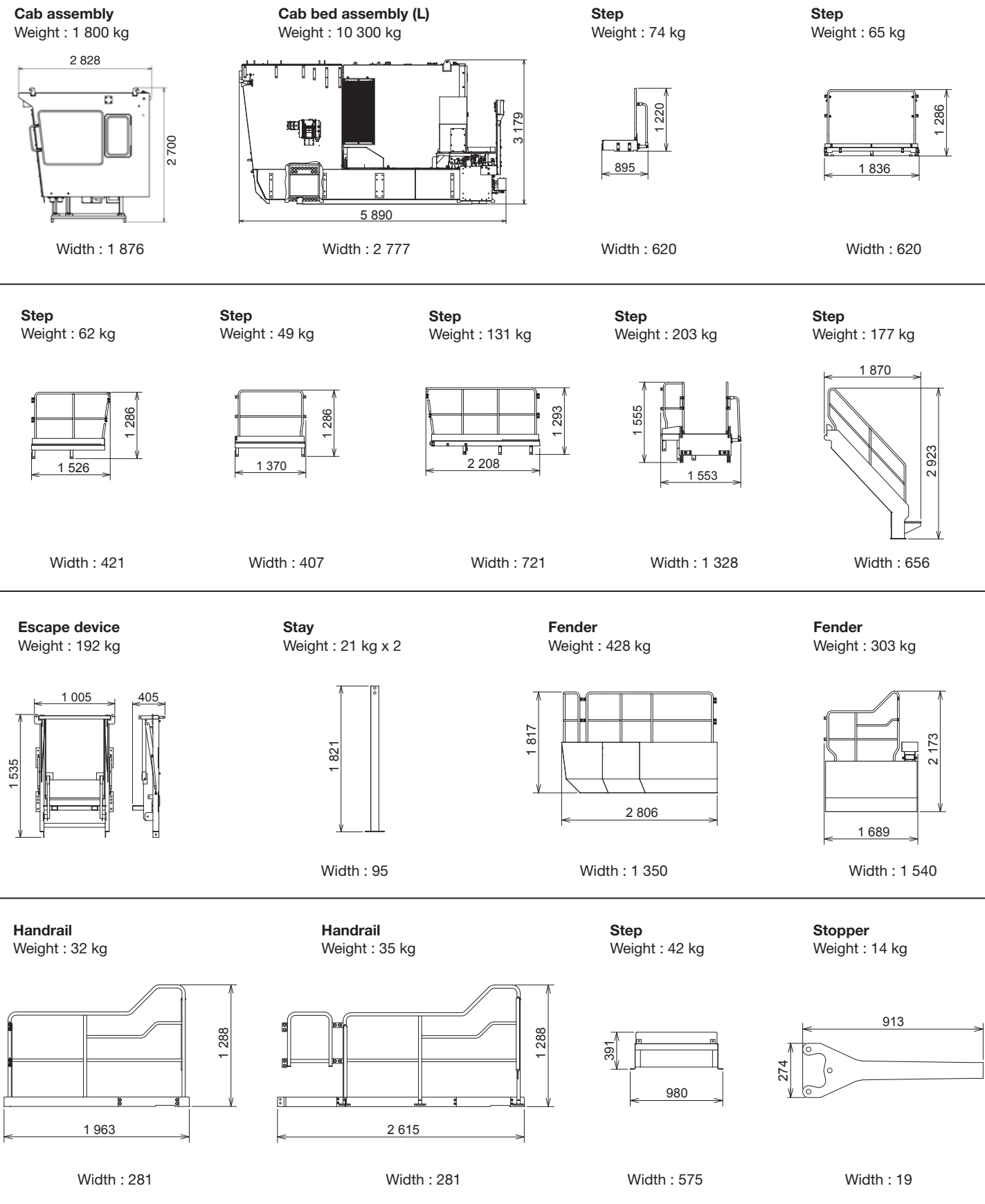
TRANSPORTATION

Illustrations show(Cummins Tier 4 Final) diesel engine type.

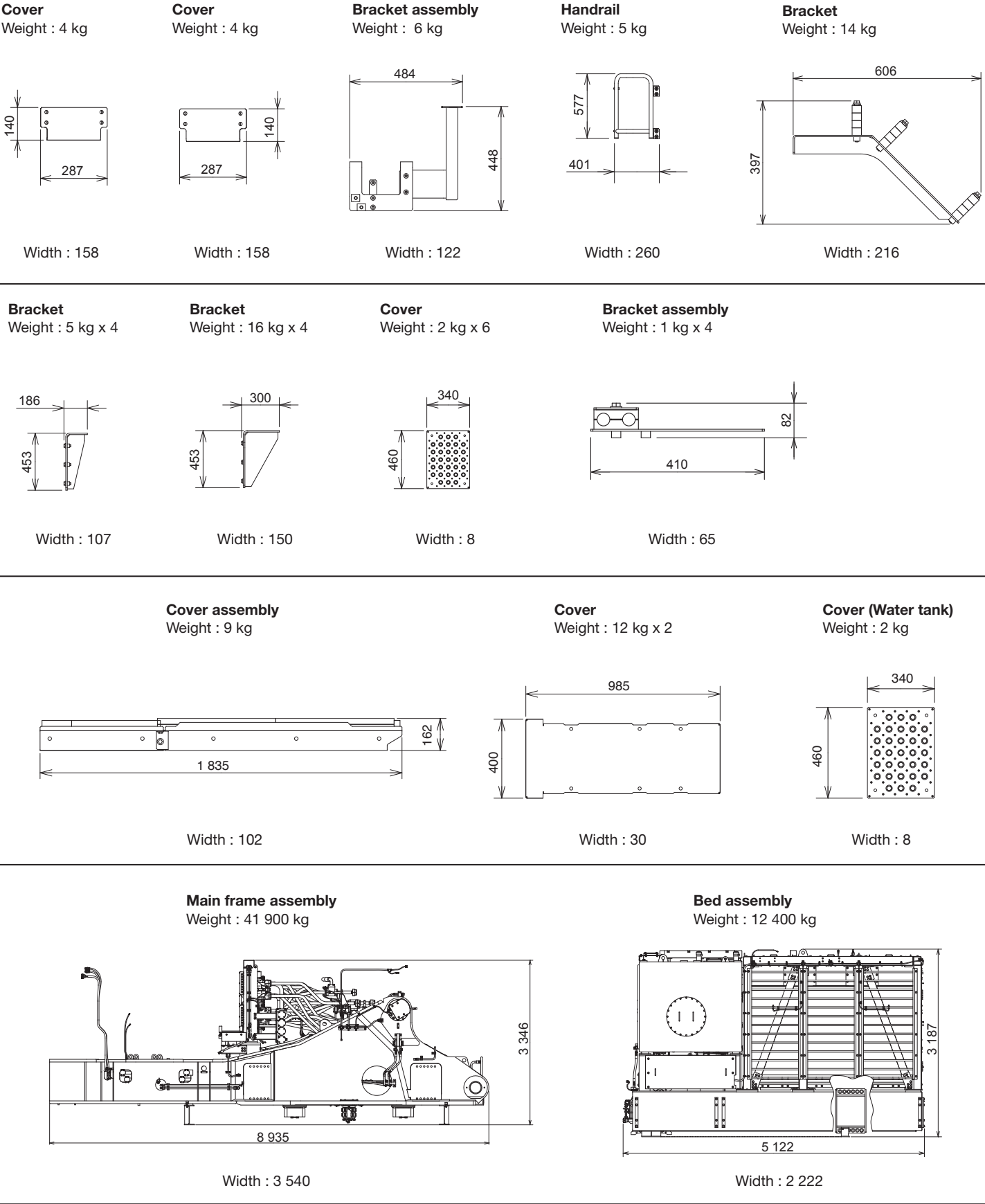
- Easily assembled owing to local assembling system requiring no welding.

UPPERSTRUCTURE

Unit: mm

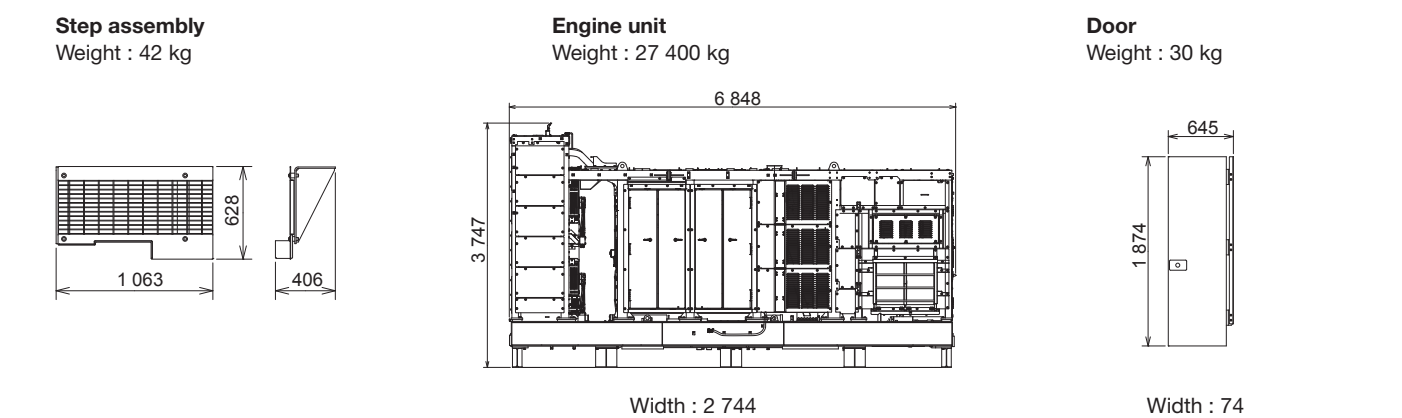
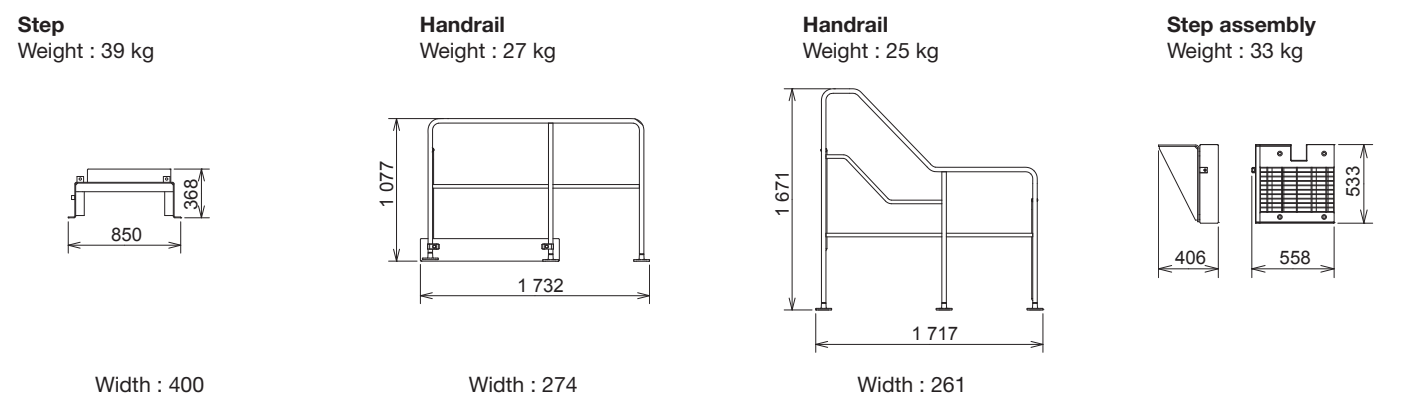
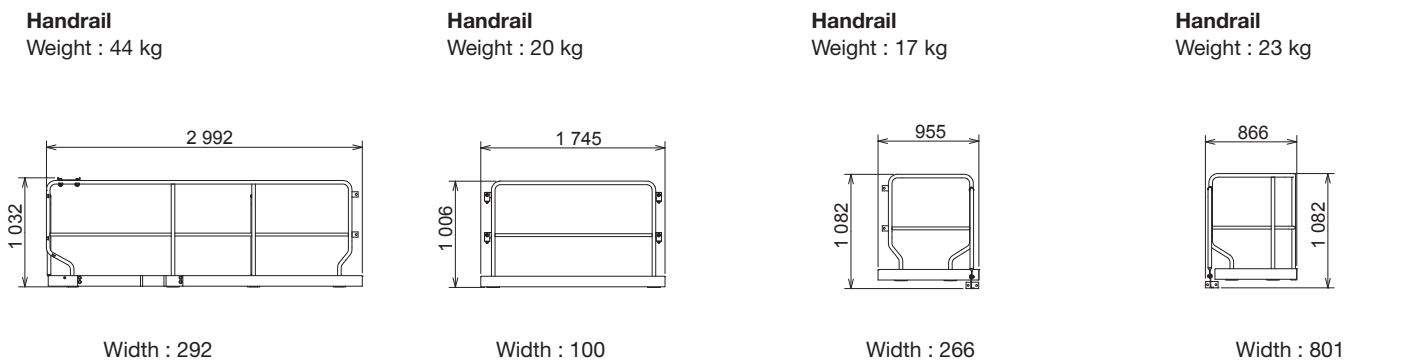
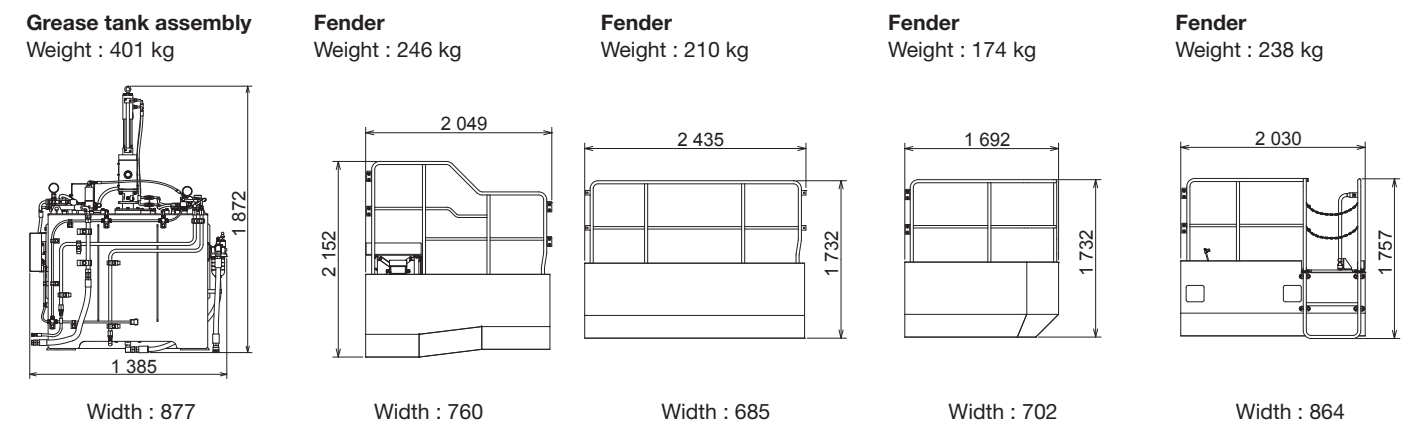


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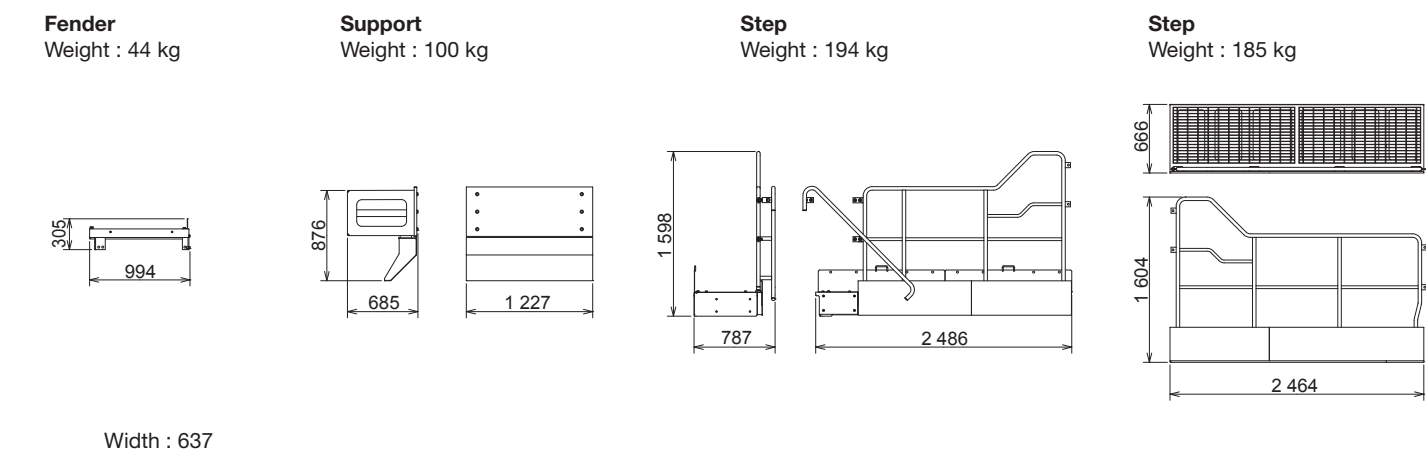
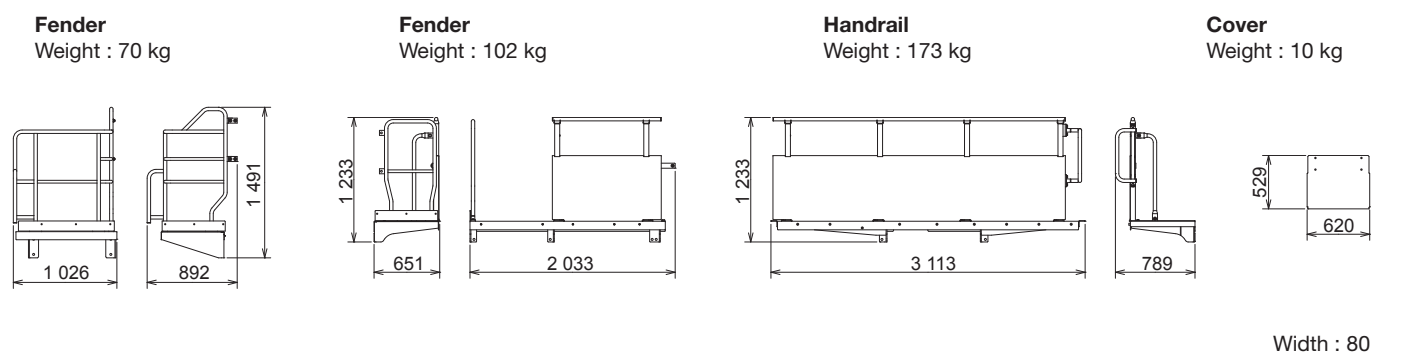
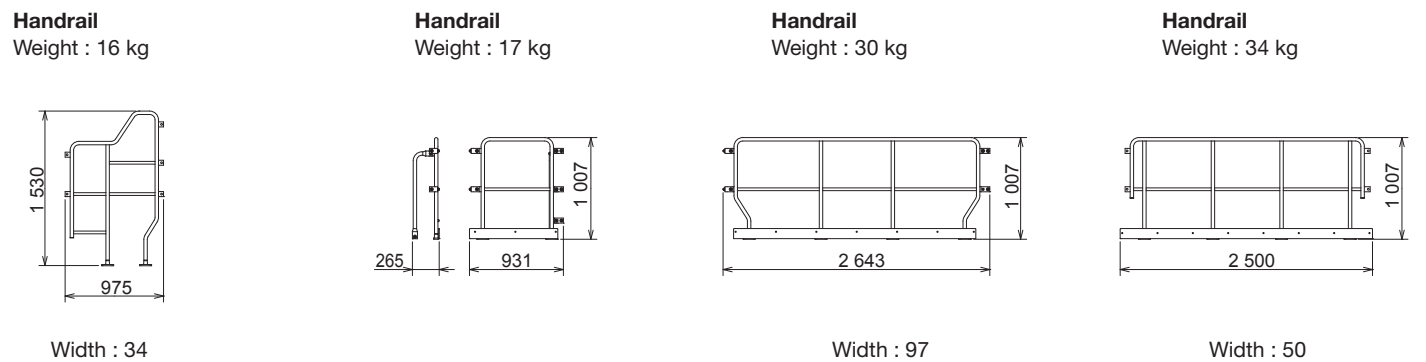
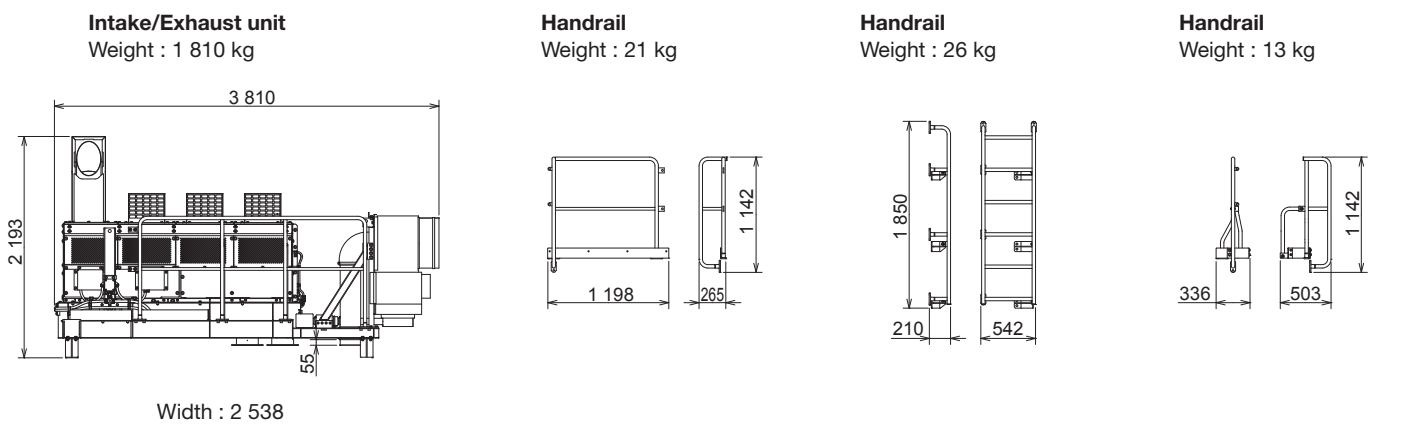


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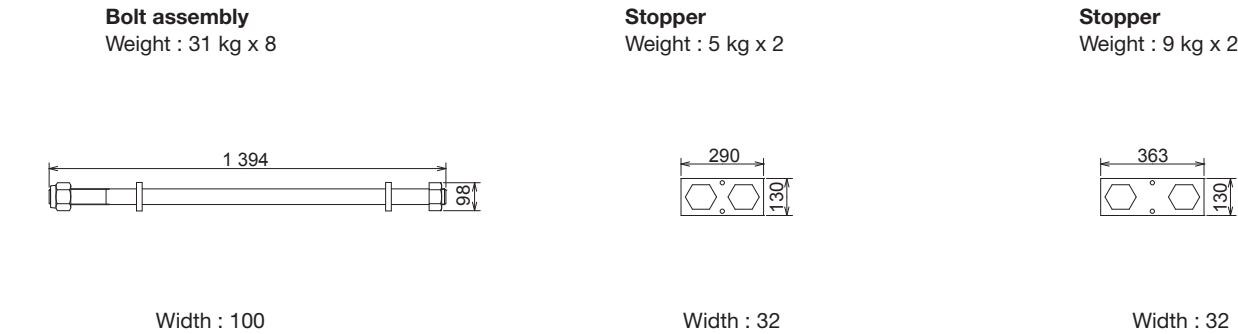
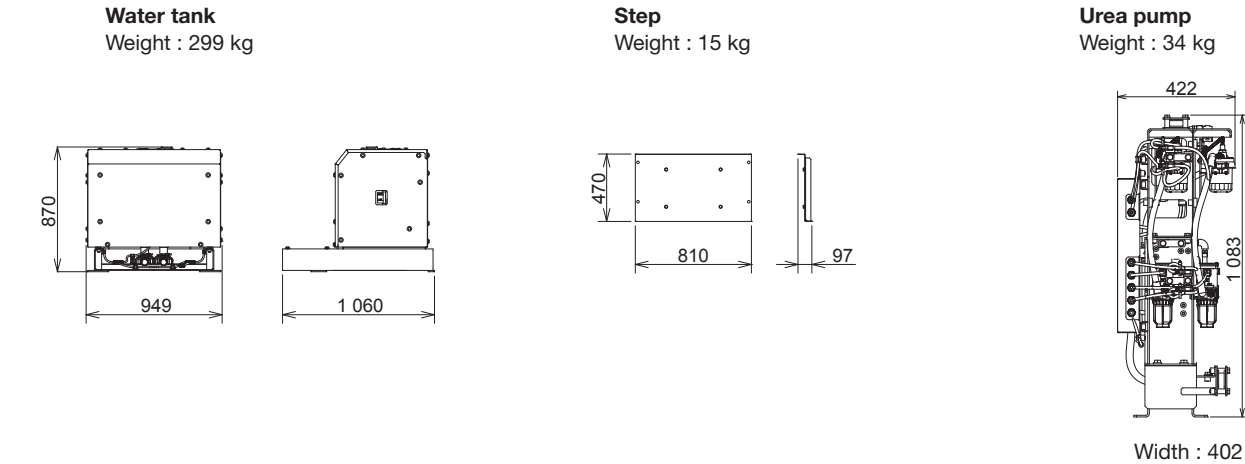
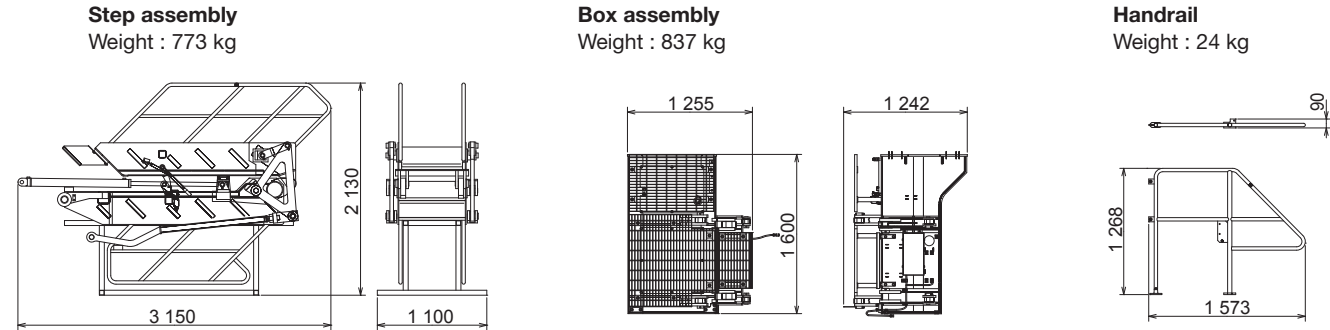
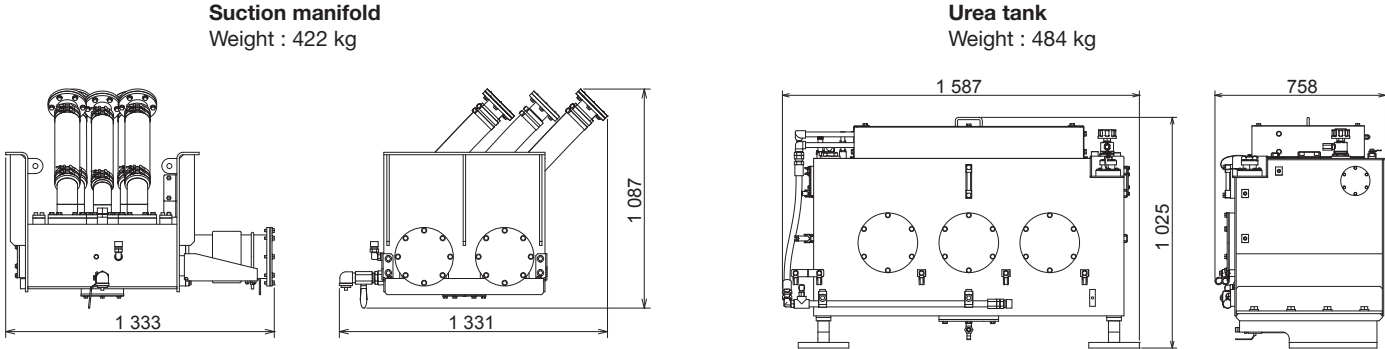
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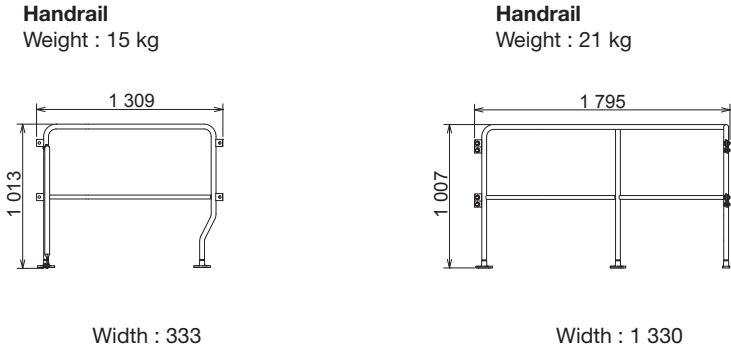
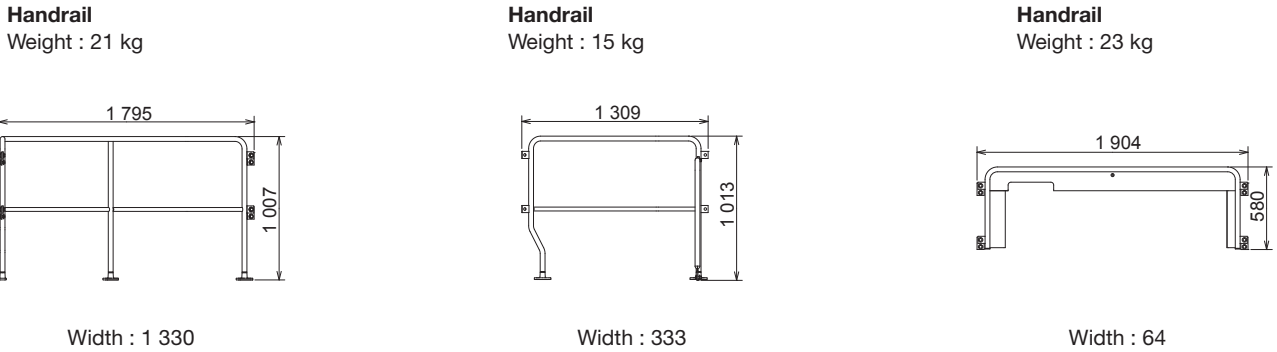
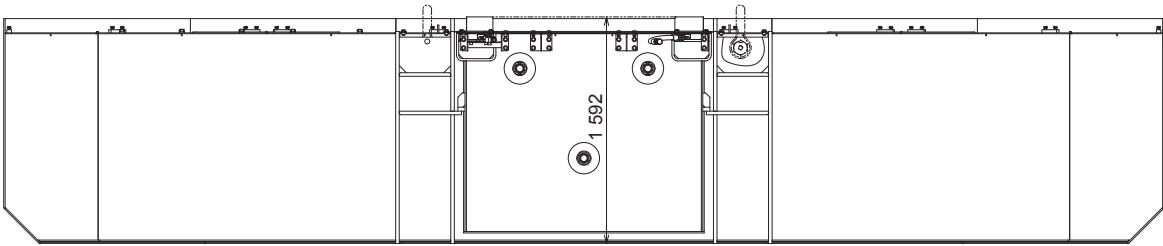
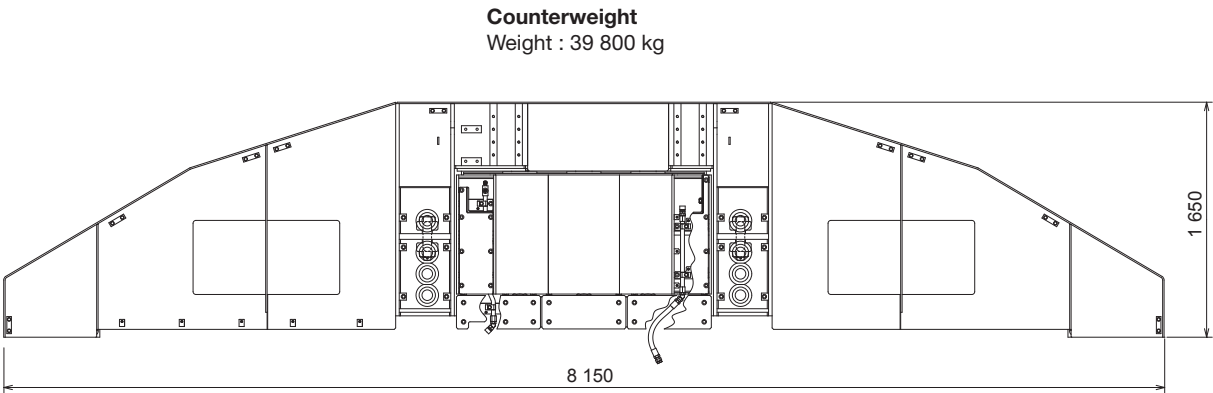
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Unit: mm



Unit: mm



TRANSPORTATION

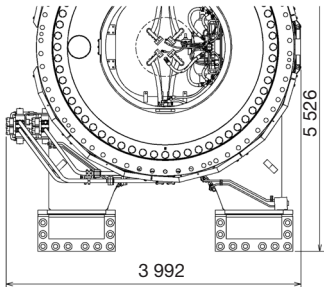
Illustrations show diesel engine type.

- Easily assembled owing to local assembling system requiring no welding.

UNDERCARRIAGE

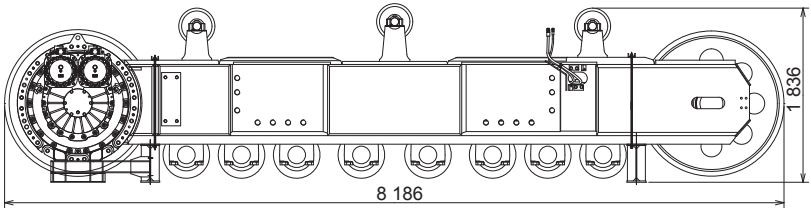
Unit: mm

Track frame
Weight : 32 300 kg



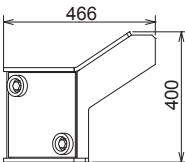
Width : 1 780

Side frame
Weight : 28 600 kg x 2



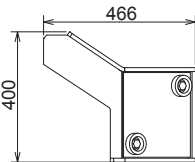
Width : 2 315

Cover
Weight : 29 kg



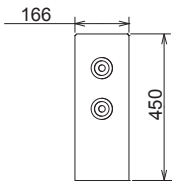
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Cover
Weight : 29 kg



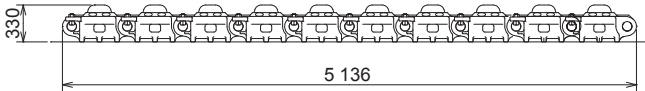
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Cover
Weight : 12 kg x 2



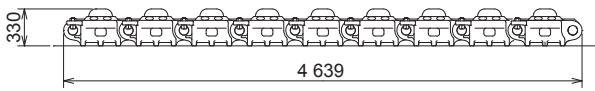
Width : 189

Link assembly
Weight : 5 100 kg



Width : 1 270

Link assembly
Weight : 4 600 kg



Width : 1 270

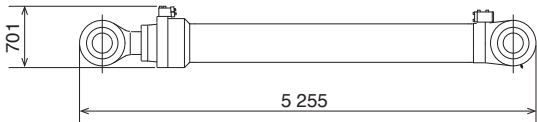
Illustrations show diesel engine type.

- Easily assembled owing to local assembling system requiring no welding.

LOADING SHOVEL ATTACHMENTS

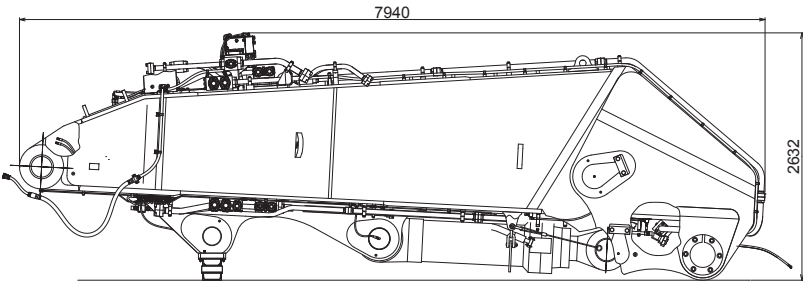
Unit: mm

Boom cylinders
Weight : 4 500 kg x 2



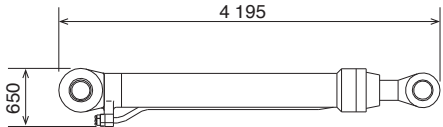
Width : 560

Boom
Weight : 27 040 kg



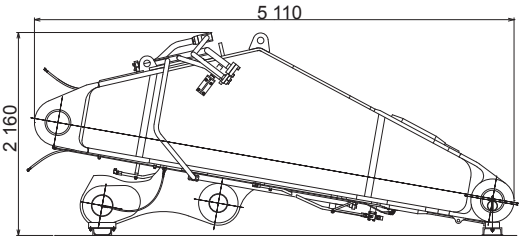
Width : 2 570

Arm cylinder
Weight : 2 720 kg



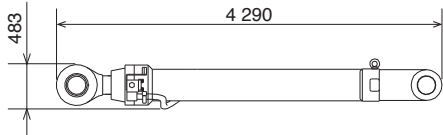
Width : 592

Arm
Weight : 13 340 kg



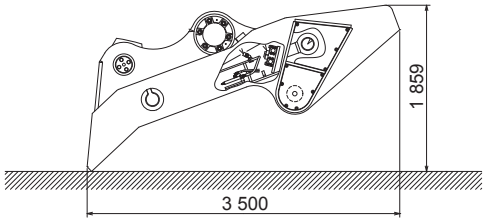
Width : 2 895

Bucket cylinders
Weight : 2 420 kg x 2



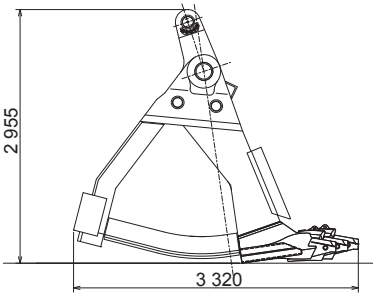
Width : 873

Rear bucket
Weight : 14 600 kg



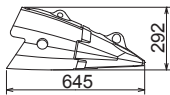
Width : 4 162

Front bucket
Weight : 14 700 kg



Width : 4 278

Tooth
Weight : 96 kg x 5



Width : 321

LIFTING CAPACITIES

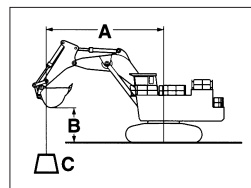
Notes: 1. Ratings are based on ISO 10567.

2. Lifting capacity of the EX Series does not exceed 75% of tipping load with the machine on firm, level ground or 87% full hydraulic capacity.

3. The load point is a hook (not standard equipment) loaded on the back of the bucket.

4. *Indicates load limited by hydraulic capacity.

5. 0 m = Ground.



A: Load radius

B: Load point height

C: Lifting capacity

EX3600-7



Rating over-front



Rating over-side or 360 degrees

Unit: 1 000 kg

Conditions	Load point height m	Load radius												At max. reach		
		8.0 m		10.0 m		12.0 m		14.0 m		15.0 m		16.0 m				
																meter
BE-boom	9.6 m					*25.3	*25.3							*10.2	*10.2	16.0
BE-arm	4.5 m					*27.3	*27.3							*9.8	*9.8	16.5
Bucket						*27.8	*27.8	*23.7	*23.7					*9.4	*9.4	17.3
ISO7451 (Heaped1:1)	22.0 m ³					*28.6	*28.6	*28.7	*28.7	*21.9	*21.9			*9.5	*9.5	17.7
Shoe	1 270 mm															
	6.0			*37.7	*37.7	*35.4	*35.4	*33.0	*33.0	*29.0	*29.0			*10.1	*10.1	17.8
	4.0			*74.0	*74.0	*52.8	*52.8	*40.4	*40.4	*34.5	*34.5	*22.5	*22.5	*11.3	*11.3	17.6
	2.0			*76.7	*76.7	*57.5	*57.5	*44.3	*44.3	*38.8	*38.8	*25.3	*25.3	*13.2	*13.2	17.1
	0 (Ground)			*73.9	*73.9	*55.9	*55.9	*42.2	*42.2	*36.0	*36.0			*13.8	*13.8	16.2
	-2.0			*65.8	*65.8	*50.3	*50.3	*36.6	*36.6	*29.1	*29.1					
	-4.0	*61.0	*61.0	*52.2	*52.2	*39.6	*39.6	*24.6	*24.6							
	-5.0	*49.2	*49.2	*42.9	*42.9	*31.5	*31.5									

These specifications are subject to change without notice.

Illustrations and photos show the standard models, and may or may not include optional equipment, accessories, and all standard equipment with some differences in color and features.

Before use, read and understand the Operator's Manual for proper operation.