SAKAI
MASTERS OF COMPACTION

GW750-2

World's First and Only
VIBRATORY PNEUMATIC TIRE ROLLER

A 9 ton vibratory pneumatic tire roller equal or exceeding the compaction results of a 25 ton tire roller

Versatility with compact size and high compaction performance

Improves Compaction Quality and Efficiency

- Dynamic kneading action produces more uniform compaction from top to bottom of the pavement layer
- Versatility on both large and small projects for tight and dense longitudinal joints, hot mix asphalt (HMA), aggregate base, roller compacted concrete and warm- and cold-mixes, etc.
- Maneuverable in tight spaces on city streets, parking lots and cul-de-sacs by center-pin articulated steering
- All wheel drive system to minimize shoving of HMA mix

High Safety Standards

- 1m x 1m visibility
- Emergency brake pedal is standard

Cost Saving

- Savings in trucking and fuel costs with lighter weight and efficient compaction

SERVICE HOTLINE

If you need any technical or service parts support on our products, please contact this web page.
www.sakainet.co.jp/en/

Proven compaction technology around the world

Major Airports
San Francisco International, CA, USA

Major Airports
Atlanta International, GA, USA

Soil subbase, Australia

Queensland, Australia

Brakedown application, USA

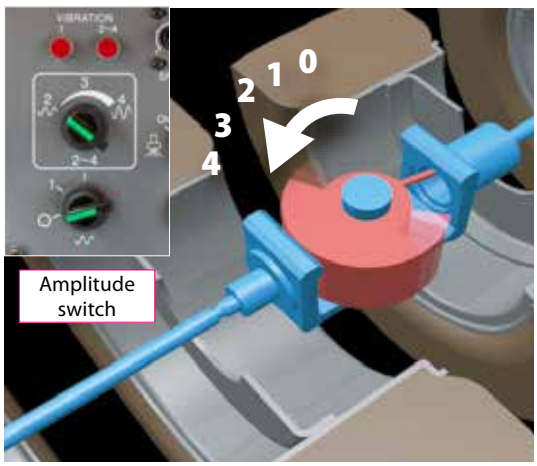
Intermediate application, Japan

The World's First and Only

Vibratory pneumatic tire roller With variable amplitude settings

- **Four (4) amplitude settings to achieve the required density**
- **High productivity on both large and small projects with the ability to maneuver in tight spaces on city streets, parking lots and cul–de–sacs.**
- **Density results achieved by the 9 ton GW750-2 are equal or higher than those of a 25 ton static tire roller.** *1

*1 The compaction performance may vary depending on working conditions.



Schematic diagram of variable amplitude vibration

Amplitude setting*2	Amplitude mm	Centrifugal Force kN	Equivalent compaction efforts to a static pneumatic tire roller ton	Applications and layer thickness (Examples)
Static	0.0	0	= 9	Overlays and thin HMA layers, less than 5 cm
1	0.1	8	≥ 10	
2	0.3	25	≥ 15	
3	0.5	42	≥ 20	Binder and base course layers, thicker than 5 cm
4	0.7	58	≥ 25	

*2 The amplitude selected and number of roller passes should be reconfirmed by test section.

DYNAMIC KNEADING ACTION improves pavement quality

Dynamic Kneading Action compacts pavement materials more uniformly by combining the kneading action of pneumatic tires with the vibration effect.

- Creates better bonding between new overlay pavement and the old milled surface, see Fig. 1
- Provide sufficient bonding between aggregates and asphalt emulsion in chip seal pavement, see Fig. 2
- Produces tight longitudinal joints by eliminating the bridging effect that normally occurs with steel drum rollers, see Fig. 3
- Removes hairline cracks from HMA pavement, See Fig. 4
- Gives uniform compaction throughout thick HMA pavement layer, see Fig. 5
- Seals the surface of Roller Compacted Concrete Pavement (RCCP), see Fig. 6

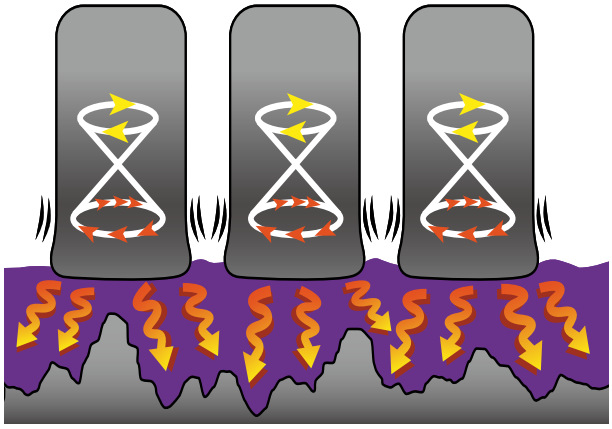


Fig 1. Schematic diagram showing bonding effect between the new overlay pavement and the old milled surface

Fig 2. Chip seal pavement finished by GW750-2

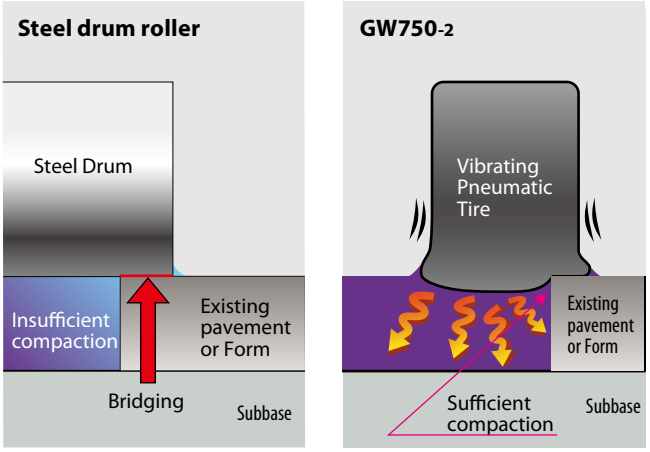


Fig 3. Tighter longitudinal joint along existing pavement or forms with a steel drum roller vs. the GW750-2

Fig 4. Remove hairline cracks from HMA pavement

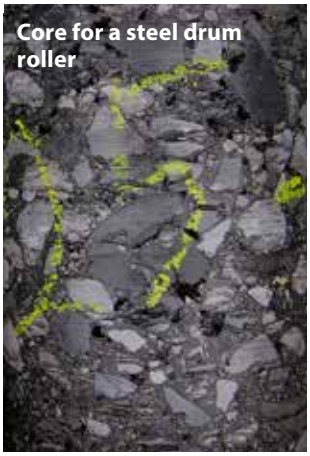


Fig 5. Uniform compaction throughout thick lift (27 cm with 3.8cm aggregate size) HMA pavement layer by two different rollers

Fig 6. Sealing the surface of Roller Compacted Concrete Pavement (RCCP)

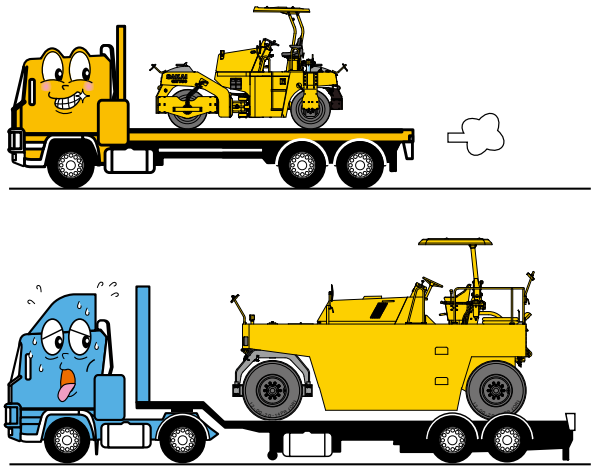
Further improvements on compaction quality

- Center-pin articulated steering system gives perfect tire overlap and finishes HMA pavement smoothly without shoving the HMA mix
- Overlap between tires in front and rear axles ranges up to 145 mm
- **All Wheel Drive** minimizes the shoving of both **tender** and **stiff** HMA mixes regardless of which direction the machine is rolling
- **Super-flat** tires achieve a smoother finish on HMA pavement surfaces compared to conventional rounded pneumatic tires

Saving in trucking and fuel costs

- Easier and faster to move to and from jobs due to lighter weight only 9 tons
- Lower weight means lower fuel consumption when hauling and when operating the roller

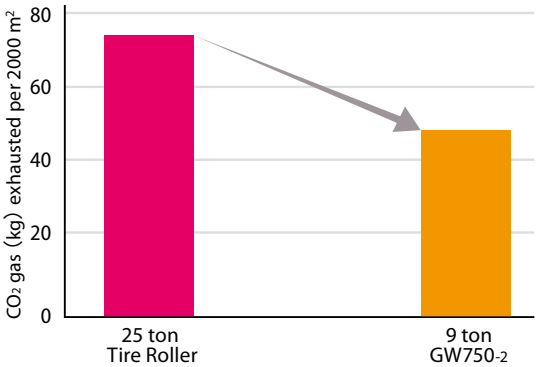
Three amigos in one trailer



Environment friendly

- **Approximately 40% reduction of the CO_2 gas*3 by using the GW750-2 compared with a 25 ton static tire roller**

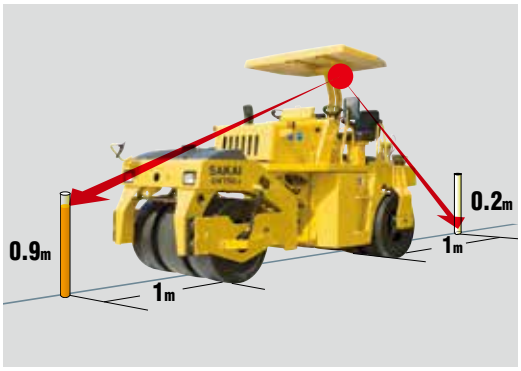
*3 The amount of CO_2 gas was estimated based on working hours required for compacting 2000 m^2 area under fuel consumption by the engines mounted on each model.



High safety standard

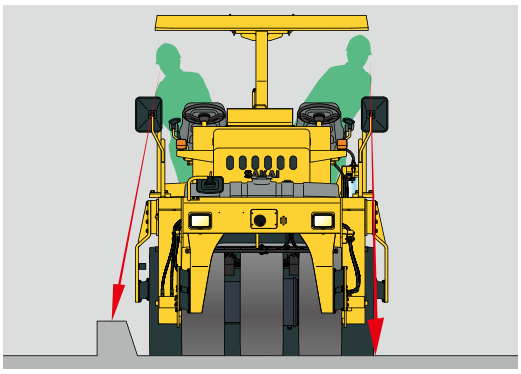
1 m x 1 m visibility

・The operator is able to have excellent all around visibility from the operator seat Blind spot is very small.



Tire edge visibility with two seats side by side

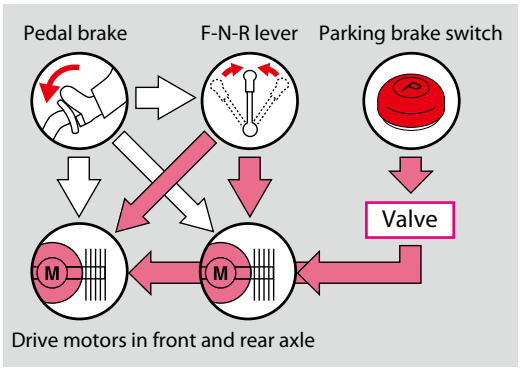
・Good visibility along curbs and in tight spaces



Brake system

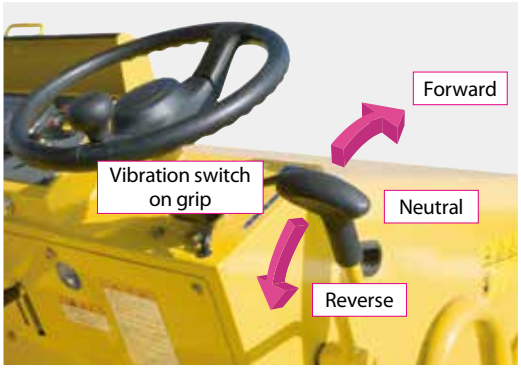
・Emergency pedal brake
・Hydrostatic primary brake
・SAHR[*4] secondary brake for parking and emergency auto brake

[*4] SAHR: Spring-Applied, Hydraulically Released brake



Interlock of engine start with a Forward-Neutral-Reverse (F-N-R) lever

・Engine can be cranked only when F-N-R lever is placed in the neutral position
・Vibration switch mounted on the grip of F-N-R lever

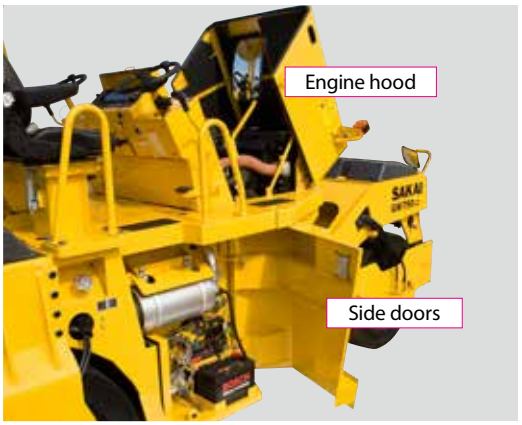


ROPS CANOPY (Optional)

Environment friendly

- **Rustproof sprinkler and release agent spray systems**
- **Water sprinkler system**
  - Plastic water tank (280 L x 2)
  - Visible water gauge from operator seat
  - Inline filter with a handle for cleaning filter element
  - Stainless spray bars
  - Brass quick - mount nozzles with filter
  - Perfect winterization
- **Release agent spray system**
  - Plastic tank (Approx.20 L)
  - Suction filter in the plastic tank
  - Brass spray bars
  - Brass quick - mount nozzles with filter
  - Spray adjusting valves
  - Perfect winterization

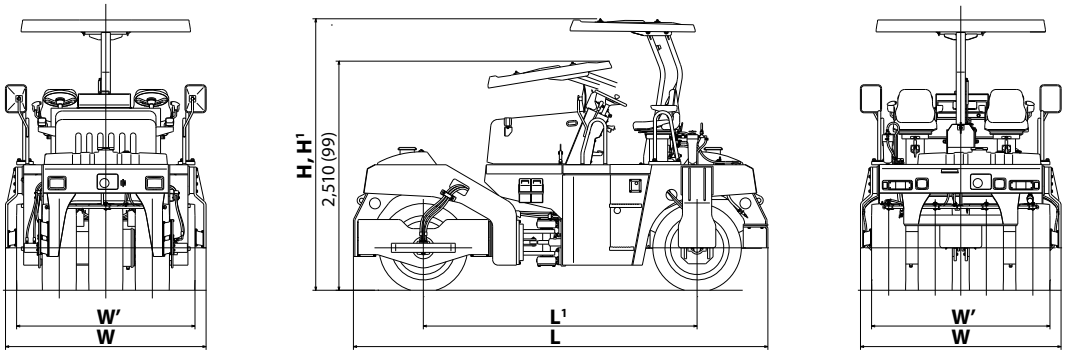
- **Easy access to maintenance points**
  - Fully opened engine hood
  - Wide doors accessible from the ground



- **Engine diagnostic indicators**
  - **Engine check**
    - For electric control of engine
  - **Boost Temp.**
    - For turbo and fuel temperature
  - **Overheat**
    - For coolant temperature

- **Quick change Coco-mat (Optional)**
  - Flexible rubber mounted Coco-mat for quick change
  - Coco mats fit tight to the tires

GW750-2



mm (in)

TYPE			**Vibratory Pneumatic Tire Roller**
MODEL			**GW750-2**
CHASSIS MODEL			1GW2
WEIGHTS	Max. operating weight with AWNING	kg (lbs)	9,040 (19,930)
	Max. operating weight with ROPS CANOPY	kg (lbs)	9,280 (20,460)
	Operating weight with AWNING	kg (lbs)	8,700 (19,185)
	Shipping weight with AWNING	kg (lbs)	8,300 (18,300)
	Load on front axle - operating weight with AWNING	kg (lbs)	3,710 (8,180)
	Load on rear axle - operating weight with AWNING	kg (lbs)	4,990 (11,005)
PERFORMANCE	Centrifugal force (Front 1 / 2 / 3 / 4)	kN (lbs)	6 / 19 / 32 / 45 (1,345 / 4,270 / 7,190 / 10,115)
	Centrifugal force (Rear 1 / 2 / 3 / 4)	kN (lbs)	8 / 25 / 42 / 58 (1,750 / 5,505 / 9,415 / 13,125)
	Frequency	Hz (vpm)	40 (2,400)
	Amplitude (1 / 2 / 3 / 4)	mm (in)	0.10 / 0.31 / 0.53 / 0.74 (0.004 / 0.012 / 0.021 / 0.029)
	Number of speed shifts		3
	Speed range (1 / 2 / 3)	km / h (mph)	5 / 7 / 12 (2.8 / 4.3 / 7.5)
	Gradeability	% (°)	38 (20)
	Turning radius compacted surface (inside / outside)	m (in)	3.8 / 5.4 (150 / 213)
DIMENSIONS	Overall length **L**	mm (in)	4,540 (179)
	Overall width **W**	mm (in)	2,200 (87)
	Overall height at the top of steering wheel	mm (in)	2,185 (86)
	Overall height (with AWNING) **H**	mm (in)	2,975 (117)
	Overall height (with ROPS) **H¹**	mm (in)	3,035 (119)
	Wheelbase **L¹**	mm (in)	3,000 (118)
	Compaction width **W'**	mm (in)	1,950 (77)
	Tire size x Number of tires (Front / Rear)		14 / 70 - 20 - 12 PR (3/4)
	Inflation (each wheels)	kPa (psi)	441 (63.9)
	Ground clearance	mm (in)	265 (10)
	Curb clearance	mm (in)	245 (10)
	Side clearance	mm (in)	125 (5)
ENGINE	Make & Model		ISUZU "4JJ1XDIA" Tier 3 : equivalent
	Type		Diesel, water-cooled, 4-cycle, 4-cylinder, with turbo charger
	Displacement	L (cu.in)	2.999 (183.0)
	Rated output	kW (HP)/min^{-1}	92.0 (123) / 2,200
	Electric system battery	V (V / Ah x Qty)	24 (12 / 80Ah x 2)
	Electric system alternator	V/A	24 / 50
DRIVE SYSTEM	Power transmission type		Hydrostatic
	Drive wheel		All wheel
VIBRATION SYSTEM	Power transmission type		Hydraulic
	Number of amplitude		4
	Vibrator type		Variable eccentric shaft
BRAKE SYSTEM	Service brake		Dynamic braking through hydrostatic drive system / FNR lever
	Secondary brake (Emergency brake)		Hydrostatic + Spring applied hydraulically released type (SAHR) / Brake pedal
	Parking brake		SAHR / Panel button
STEERING SYSTEM	Power transmission type		Hydraulic
	Articulation / Oscillation angle	± (°)	37 / 6
FLUID CAPACITY	Fuel tank	L (gal)	130 (34.3)
	Hydraulic oil tank	L (gal)	65 (17.2)
	Water Sprinkler tank	L (gal)	280 (73.97) x 2

- Max. operating weight : 100 % fuel, 100 % water, operator 75 kg
- Operating weight : 50 % fuel, 50 % water, operator 75 kg
- Specifications are subject change without notice.
- All units are SI units. Inside of ( ) is for reference units.
- Above specified numbers could be deviated within ±5 %.

* Using low quality fuel may cause engine failure.

ISO9001 certified Tokyo Head Office,
Tokyo Factory, Global Service Division,
Technical Development Division.

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Standard Equipment :
- AWNING
- Instrument panel
- Gauges
- Backup alarm
- Horn
- Comfort seat
- Working lights
- Turn signal lamp
- Hazard lamp
- Mirrors
- Pressurized water sprinkler system
- Intermittent water spray timer
- Release agent spray system

Optional Equipment :
- ROPS CANOPY
- Rotary beacon
- Cocomat
- 4 points lifting
- Vandalism protections

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