

MPS78UU-10

■ Road-rail power shovel



Features

Road-rail power shovel with the highest level of safety in the industry

- Provided with heavy weight railway equipment to ensure excellent stability on tracks.
- The hydraulic pump with a high discharge rate increases the running and working speed.
- Capable of working with a large bucket (0.3 m³).
- Provided with rail clamps (patented) to work stably on unstable tracks, such as bridges.
- Provided with an emergency engine unit, which ensures running even in case of trouble with the main engine.
- Provided with a hydraulic circuit for track work to enable installation of special attachments.
- Attachments can be replaced quickly from the cockpit.
- Equipped with automatic stop device to prevent contact with overhead lines and trains traveling on adjacent tracks.
- Equipped with insulated rubber crawlers dedicated to track work.
- Applicable to standard gauge (1,435 mm) and narrow gauge (1,067 mm)
* Changeable to other gauges.
- Equipped with a mobile crane to perform lifting work
- All models are provided with back monitors.



MPS78UU-10

■ Examples of work





Principal specifications

Item	MPS78UU-10
Specifications	
Base vehicle	Komatsu PC78UU-10
Total working weight (kg)	11500
Type of track roller	Rubber integral insulated shoe
Fuel tank (L)	125
Dimensions	
Overall length (during transportation) (mm)	6040
Overall width (mm)	2330
Overall height (on track) (mm)	2730
Swing radius (mm)	1390
Overall length of crawler (mm)	2840
Performance	
Bucket capacity range (m³)	0.09 ~ 0.3
Bucket offset (mm)	Left 1,050 Right 1,050
Max. digging depth (mm)	4230
Max. digging radius (mm)	6400
Max. digging height (mm)	7330
Max. dumping height (mm)	5260
Min. swing radius (mm)	1200
Max. digging power (kN)	61.3
Max. speed of crawler (km/h)	Low speed:2.8 High speed:5.0
Gradability (degrees)	35
Ground contact pressure (kgf/cm²)	0.36
Track running performance	
Max. speed (km/h)	30
Max. gradient at which vehicle can start	35/1,000
Counterbalance braking distance (m)	In fine weather:18m In wet weather:25m
Braking distance (m)	In fine weather:10m In wet weather:14m

Rated crane load MPS78UU-10

Working radius(m)	Rated load(t)
1.8~3.3	1.70
3.5	1.6
4.0	1.3
4.5	1.1
5.0	0.9
5.44	0.8

Major units

Item	MPS78UU-10
Engine	
Model	Komatsu SAAD4D95LE-6
Type	Air-cooled direct injection turbo
Total displacement (cc)	3260
Rated output (PS/rpm)	68.9/1950
Hydraulic unit	
Type and quantity of hydraulic pumps	Variable capacity piston type, 1 pc. + gear type, 2 pcs.
Hydraulic pump discharge (L/min)	80×2+60+12.7
Max. set pressure (kgf/cm²)	270
Type and quantity of control valves	10-spool valve: 1 pc.
Operation method	Hydraulic assist
Crawler running motor	Variable capacity piston type
Crane unit	
Type	Articulated jib mobile crane with hydraulic shovel
Rated lifting load (t)	1.7
Crane safety devices	Overload prevention device, pressure rise prevention valve, sudden drop prevention valve, overload alarm, outer locking hook, level board and external signal lamp
Track running equipment	
Wheel	Diameter: 460 mm Width: 125 mm. wheel back to back gauge: 990 mm (narrow gauge), 1360 mm (standard gauge) 4 insulated wheels
Axle	2 axles (diameter 100 mm), 1 axle drive Distance between axles: 2620 mm
Motive power source	Hydraulic motor with counterbalance valve (output 48 kW, torque 765 N.m), 2 units
Drive	Chain driving system for each axle
Brake	Hydraulic disc brake for each axle (braking torque: 0.5 t.m) + counterbalance valve for each axle, with parking braking system and escape lash prevention device
Rail clamp	4 pairs at front and rear for keeping body during working, hydraulically actuated Each clamp provided with insulating material. Clamping force: 2.3 t
Safety devices in track	
Emergency engine	Air-cooled 4-cycle single cylinder diesel engine (406 cc, 10 ps)
Boom height limits	3.8 m: Yellow lamp ON 4.2 m: Red lamp ON + automatic stop of boom
Boom insulation	High voltage plastic sheet for electrical use (withstand voltage: 7000 V)
Device for preventing interference with adjacent lines	Key switch type. In setting: Red lamp ON + warning sound + automatic stop of swing
Other safety devices	Hydraulic motor release clutch, hydraulic motor free valve, train proximity alert system, front and rear lamps, flasher, fence for crew, connecting hole, coupling rod and back monitor

Major dimensions (MPS78UU-10)

