



HR 1.6 Mini Excavator

Power and state-of-the-art engineering

Operating weight 1.55-1.65 t
Engine output 13.3 kW (18 HP)
Bucket capacities 22-69 l



HR 1.6 - The machine illustrated may include non-standard equipment

Technical data

Engine

Manufacturer	Mitsubishi
Type	3-cylinder diesel engine, EPA
Combustion	4-stroke cycle swirl chamber injection
Power rating acc. to ISO 9249 (DIN 70020) at 2400 rpm	13.3 kW (18 HP)
Displacement	952 cm ³
Torque	54 Nm at 2000 rpm
Cooling system	Water

Electrical system

Nominal voltage	12 V
Battery	12 V / 74 Ah

Power transmission

Hydrostatic drive with axial piston motor and reduction gear, fully enclosed. Brake valve for downhill drive.

Travel speed, forward / reverse	0-2.7 / (opt.) 4.5 km/h
Max. Gradability	60 %
Drawbar pull	1160 daN

"Straight travel" function for independent straight-running stability.

Undercarriage

Mechanically retractable/exentadable undercarriage provided as standard.

Option: Hydraulic crawler adjustment by means of ball valve, dozer blade to be actuated from operator's seat.

Range of adjustm. (outer edge of crawlers) 990-1340 mm

Crawler gear

Maintenance-free crawler-type undercarriage. Idler suspension with hydraulic crawler tensioning.

Rubber crawlers / steel crawlers	230 mm
Total length (sprocket-idler)	1130 mm
Total length	1490 mm

Dozer blade

Independent of drive train, sensitive control via joystick.

Width x height	1340 x 235 mm
Lift below ground	160 mm
Lift above ground	200 mm
Slope angle	25 deg.

Steering

Independent single control of crawlers, also counterwise via 2-circuit hydraulic system. Sensitive control via hand lever, combined with foot pedals. Foot rests, left and right, on pedal console.

Swing system

Hydrostatic drive, also acting as low-maintenance brake. Internally toothed ring gear.

Swing speed of uppercarriage	0-10 rpm
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Hydraulic system

Dual fixed displacement pump with power switch. Load-independent flow division (LUDV) for all work functions and travel drive. Simultaneous independent control of 3 movements.

Working pressure	165 bar
Pump capacity	33.6+19.2 l/min

Tank-immersed return filter with electric contamination indicator. Block hydraulic oil radiator provided as standard.

Boom, dipperstick and articulated cylinders with end-position damping on both sides, bucket retract function with one-side end-position damping.

Standard control circuit for work attachments.

Max. working pressure	165 bar
Hydr. power	32 l/min@100 bar 26 l/min@165 bar

Open return as standard. All functions can be activated proportionally. Two servo-assisted four-way control levers for excavator operations. Safety cut-off of all functions as soon as driver leaves cab.

Operating data, standard equipment

Operating weight (rubber crawlers)	1650 kg
Operating weight (steel crawlers)	1720 kg
Overall length in travel position	2500 mm
Overall length (trailer transport position)	3800 (3720*) mm
Total height in travel position	2390 mm
Total width (crawlers retracted)	1000 mm
Uppercarriage tailswing	1130 mm
Uppercarriage frontswing	1240 mm
Working envelope 180° / 360°	2370 / 2500 mm
Ground clearance	170 mm
Breakout force acc. to DIN 24086	14,400 N
Ripping force acc. to DIN 24086	9300 (8300*) N
Specific ground pressure (rubber)	0.25 daN/cm ²
Specific ground pressure (steel)	0.26 daN/cm ²

Knickmatik®

Lateral parallel adjustment at full digging depth.

Angle of articulation / Lat. adj. to the left	60° / 370 mm
Angle of articulation / Lat. adj. to the right	60° / 510 mm

Cab

Spacious, sound-insulated full-vision steel cab (free spaces acc. to EN 23411), ROPS (acc. to ISO 3471), FOPS** (acc. to ISO 3449) and TOPS (acc. to ISO 12117) certified, with two equally large doors.

Safety glass windows, thermo windows tinted in green. Skylight thermo window. Front window supported by pneumatic springs, lockable in place for ventilation and slidable under cab roof. Windshield washer. Glove box. Instrument panel, on the right side of the operator's seat with visual and acoustic warning device. Left-hand outside rear-view mirror. Cab heating with windshield defroster through coolant heat exchanger and 2-setting fan, ventilating mode in summer.

Fabric-covered, hydraulically cushioned operator's seat with height-adjustable armrests, height, tilt and weight adjustments, lap belt. Working floodlight Halogen H-3.

Noise emission ambience L _{WA}	95 dB (A)
Noise emission cab L _{PA}	78 dB (A)

Measured in dynamic measuring cycle acc. to EEC-directive 2000/14/EG

Fluid capacities

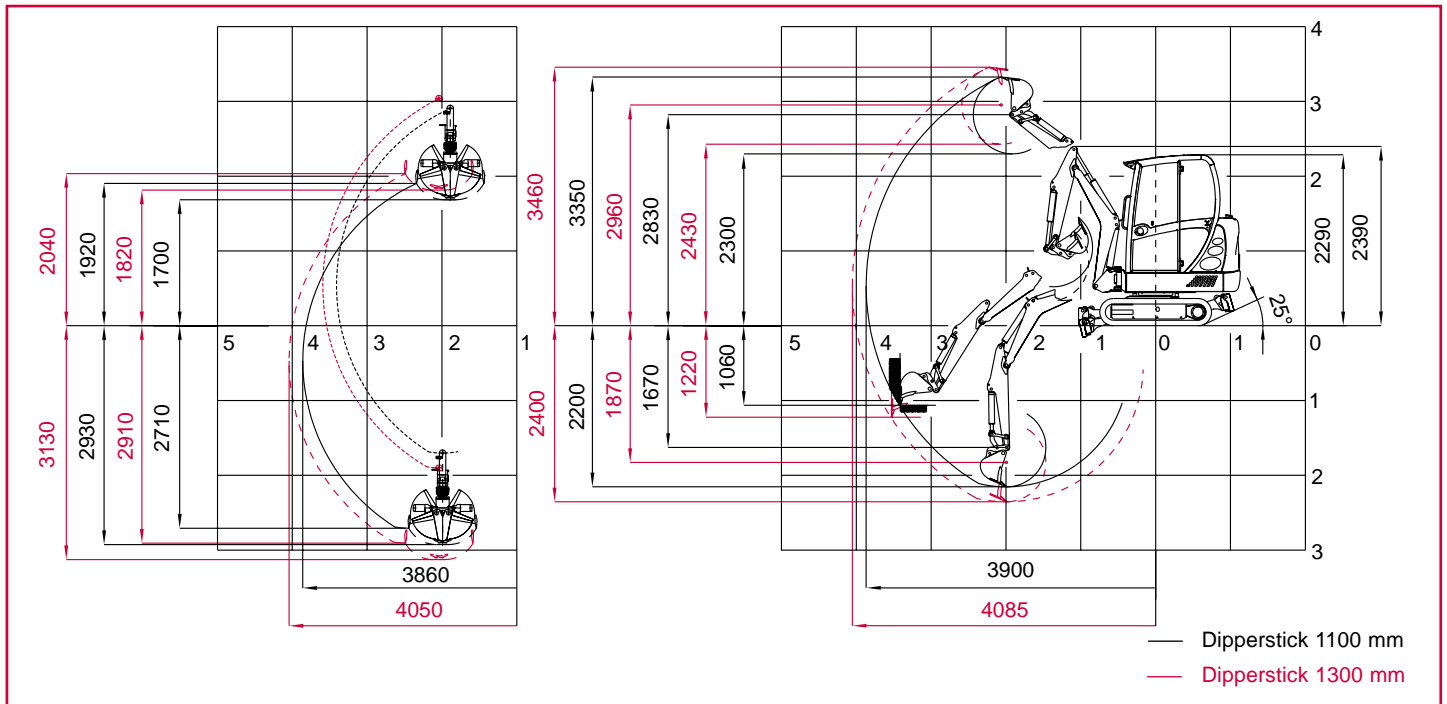
Fuel tank	30 l
Hydraulic oil (tank 25 l)	35 l

* with dipperstick 1300 mm (optional)

** FOPS-approved only with skylight guard (optional)

Digging envelope

HR 1.6 Monobloc boom



Carrying capacity

Load radius from the center of the ring gear

Bucket hinge pin height
Dipperstick 1100 mm

		1.5 m		2.0 m				2.5 m				3.0 m					
		UE		UR		UE		UR		UE		UR		UE		UR	
		180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°
2.0 m	Supported by blade	–	–	–	–	0,56	0,47	0,56	0,37	0,54	0,38	0,54	0,29	–	–	–	–
	Traveling	–	–	–	–	0,38	0,46	0,38	0,32	0,34	0,37	0,34	0,24	–	–	–	–
1,0 m	Supported by blade	0,89	0,79	0,89	0,69	0,70	0,50	0,70	0,39	0,56	0,37	0,56	0,27	0,35	0,32	0,35	0,21
	Traveling	0,54	0,77	0,54	0,60	0,38	0,49	0,38	0,32	0,28	0,36	0,28	0,23	0,19	0,30	0,19	0,19
0 m	Supported by blade	0,92	0,71	0,92	0,49	0,64	0,47	0,64	0,33	0,44	0,35	0,44	0,25	0,31	0,31	0,31	0,20
	Traveling	0,59	0,69	0,59	0,41	0,34	0,46	0,34	0,28	0,23	0,34	0,23	0,21	0,18	0,29	0,18	0,18
– 0,75 m	Supported by blade	0,64	0,61	0,64	0,42	0,46	0,46	0,46	0,31	0,33	0,33	0,33	0,24	0,22	0,30	0,22	0,19
	Traveling	0,50	0,61	0,50	0,37	0,29	0,46	0,29	0,27	0,23	0,33	0,23	0,20	0,17	0,28	0,17	0,17

Bucket hinge pin height
Dipperstick 1300 mm

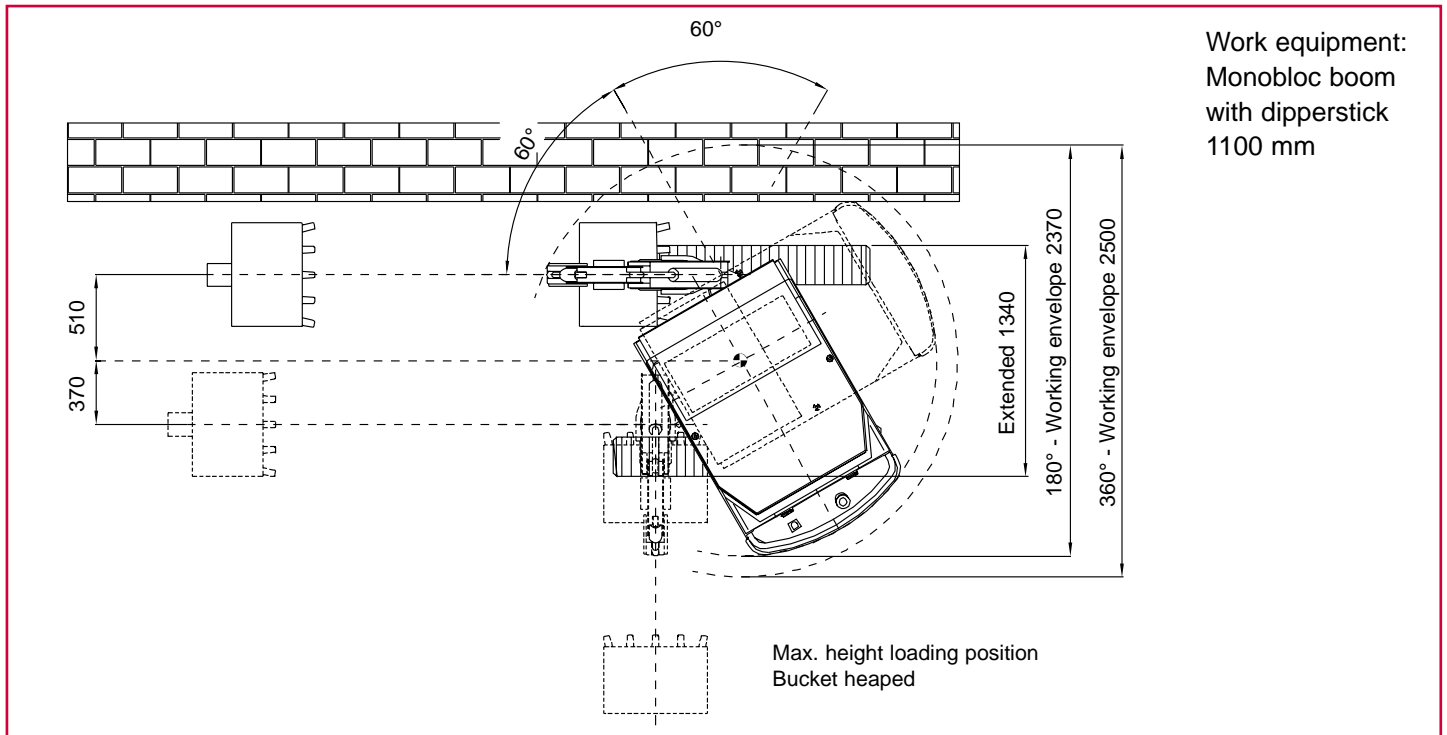
		1.5 m		2.0 m				2.5 m				3.0 m					
		UE		UR		UE		UR		UE		UR		UE		UR	
		180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°
2.0 m	Supported by blade	–	–	–	–	–	–	–	–	0,45	0,46	0,45	0,29	0,35	0,32	0,35	0,22
	Traveling	–	–	–	–	–	–	–	–	0,30	0,45	0,30	0,27	0,21	0,30	0,21	0,21
1,0 m	Supported by blade	–	–	–	–	0,64	0,61	0,64	0,44	0,40	0,39	0,40	0,28	0,35	0,32	0,35	0,21
	Traveling	–	–	–	–	0,40	0,61	0,40	0,36	0,28	0,39	0,28	0,26	0,23	0,30	0,23	0,19
0 m	Supported by blade	0,99	0,78	0,99	0,53	0,61	0,53	0,61	0,36	0,44	0,37	0,44	0,27	0,32	0,31	0,32	0,20
	Traveling	0,58	0,75	0,58	0,45	0,36	0,50	0,36	0,32	0,26	0,37	0,26	0,24	0,21	0,29	0,21	0,18
– 0,75 m	Supported by blade	0,68	0,77	0,68	0,50	0,49	0,51	0,49	0,34	0,35	0,37	0,35	0,25	0,25	0,30	0,25	0,19
	Traveling	0,50	0,74	0,50	0,47	0,35	0,52	0,35	0,30	0,29	0,37	0,29	0,23	0,20	0,28	0,20	0,17

All values in tons (t) were determined acc. to ISO 10567 and include a stability factor of 1.33 or 87% of the hydraulic lifting capacity. All values were determined with quick-attach system but without bucket. In case of mounted-on work attachments, the deadweights of the work attachments must be deducted from the permissible payloads.

UE = Undercarriage extended, UR = Undercarriage retracted. Working equipment: Rubber crawlers.

Dimensions

HR 1.6 Top view / Working envelope



Additional equipment

Optional accessories

- Mechanical quick-attach system for work tools (QAS)
- Hydraulically telescopic undercarriage
- High-speed 0-4.5 km/h
- Canopy (weight reduction 100 kg)
- Dipperstick 1300 mm
- FOPS-skylight guard
- Rear vandal guard
- Cab-mounted working floodlight, front and rear
- Boom-mounted working floodlight
- Yellow beacon
- Travel motion alarm (acoustic signal)
- Crane lifting beam
- Track shoes with "Felasto" tiles
- Quick-change adapter for hydraulic hammer
- Filling with biodegradable hydraulic oil, ester-based, VI 68
- Immobilizer

Further accessories available on request

Buckets

Bucket, with ejector (QAS)	250 mm / 25 l
Bucket, without ejector (QAS)	250 mm / 22 l
Bucket (QAS)	300 mm / 26 l
Bucket	400 mm / 40 l
Bucket (QAS)	400 mm / 38 l
Bucket (QAS)	500 mm / 49 l
Bucket	600 mm / 61 l
Bucket (QAS)	600 mm / 60 l
Ditch-cleaning bucket (QAS)	1000 mm / 65 l
Swing bucket, 2 x 45 deg. (QAS)	1000 mm / 69 l

Clamshell grab

Type GL 1250 (QAS), grab swing brake	250 mm / 45 l
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Further attachments available on request
Subject to change without further notice