



HR 16 Mini Excavator

Power and state-of-the-art engineering

Operating weight 3.5 t
Engine output 23.8 kW (32.5 HP)
Bucket capacities 63-181 l



HR 16 - The machine illustrated may include non-standard equipment



Technical data

Engine

Manufacturer	Mitsubishi
Type	4-cylinder diesel engine, EPA
Combustion	4-stroke, swirl chamber injection
Power rating acc. to ISO 9249 (DIN 70 020) at 2100 rpm	23.8 kW (32.5 HP)
Displacement	1758 cm ³
Cooling system	Water

Electrical system

Nominal voltage	12 V
Battery	12 V / 74 Ah

Power transmission

Two-stage hydrostatic travel drive with axial piston variable displacement motor and reduction gear, fully enclosed. Brake valve for downhill drive.

Travel speeds (forward and reverse): 1 st speed range / 2 nd speed range	0-2.7 / 4.6 km/h
Max. gradability	60 %
Drawbar pull, 1 st speed range	3100 daN

Undercarriage

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

Width rubber crawlers / steel crawlers	300 mm
Tread width	1200 mm
Total length (sprocket - idler)	1555 mm
Total length (undercarriage)	1996 mm

Dozer blade

Dozer blade available in "standard" and "extra-long" version (referring to distance crawler - dozer blade), independent of drive train, sensitive control via hand lever.

Width x height ("standard" / "extra-long")	1510 x 360 mm
Dozer cut below ground	320 mm / 298 mm
Dozer cut above ground	202 mm / 447 mm
Slope angle	22.5 deg. / 31 deg.
Slope balance	9.7 deg. / 7.7 deg.

Steering

Independent, individual control of crawlers, also counter-wise via 2-circuit hydraulic system. Sensitive control via hand levers combined with foot pedals. Pedal console serving as foot rest.

Swing system

Hydrostatischer Antrieb mit Axialkolbenmotor und Untersetzungsgetriebe. Zusätzliche Haltebremse, wirkt über Multifunktionsgriff (Taster) und bei Motorabschaltung. Internally toothed ring gear.

Swing speed of uppercarriage	0-10.5 rpm
Swing brake: Hydrostatic drive, also provides dynamic braking.	

Hydraulic system

LS-axial-piston variable displacement pump, load-sensing and load-independent flow division (LUDV) for all work functions and travel drive, 3 simultaneous movements possible.

Working pressure	250 bar
Variable pump capacity max.	95 l/min

Return line filter with electric contamination indicator. Compact 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.

Additional control circuit for work attachments provided as standard.

Max. working pressure	210 bar
Hydraulic power	45 l/min @ 190 bar 40 l/min @ 210 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 crawler / steel)	3500 / 3620 kg
Total length, travel position	3285 mm
Total length (trailer transport position)	5150 mm
Total height, travel position	3500 mm
Total height up to top edge of cab	2520 mm
Total width, uppercarriage	1400 mm
Total width, undercarriage	1500 mm
Uppercarriage tailswing	1350 mm
Working envelope, 180° / 360°	2970 / 3200 mm
Ground clearance	300 mm
Breakout force acc. to DIN 24086	24,600 N
Ripping force acc. to DIN 24086	16,200 N
Specific ground pressure (rubber)	0.31 daN/cm ²
Specific ground pressure (steel)	0.32 daN/cm ²

Knickmatik®

Lateral parallel adjustment of boom arrangement at full digging depth.

Angle of articulation / Lat. adj. to the left	60° / 445 mm
Angle of articulation / Lat. adj. to the right	60° / 595 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}	97 dB (A)
Noise emission cab L _{pA}	85 dB (A)

Measured according to EEC-directive 2000/14.

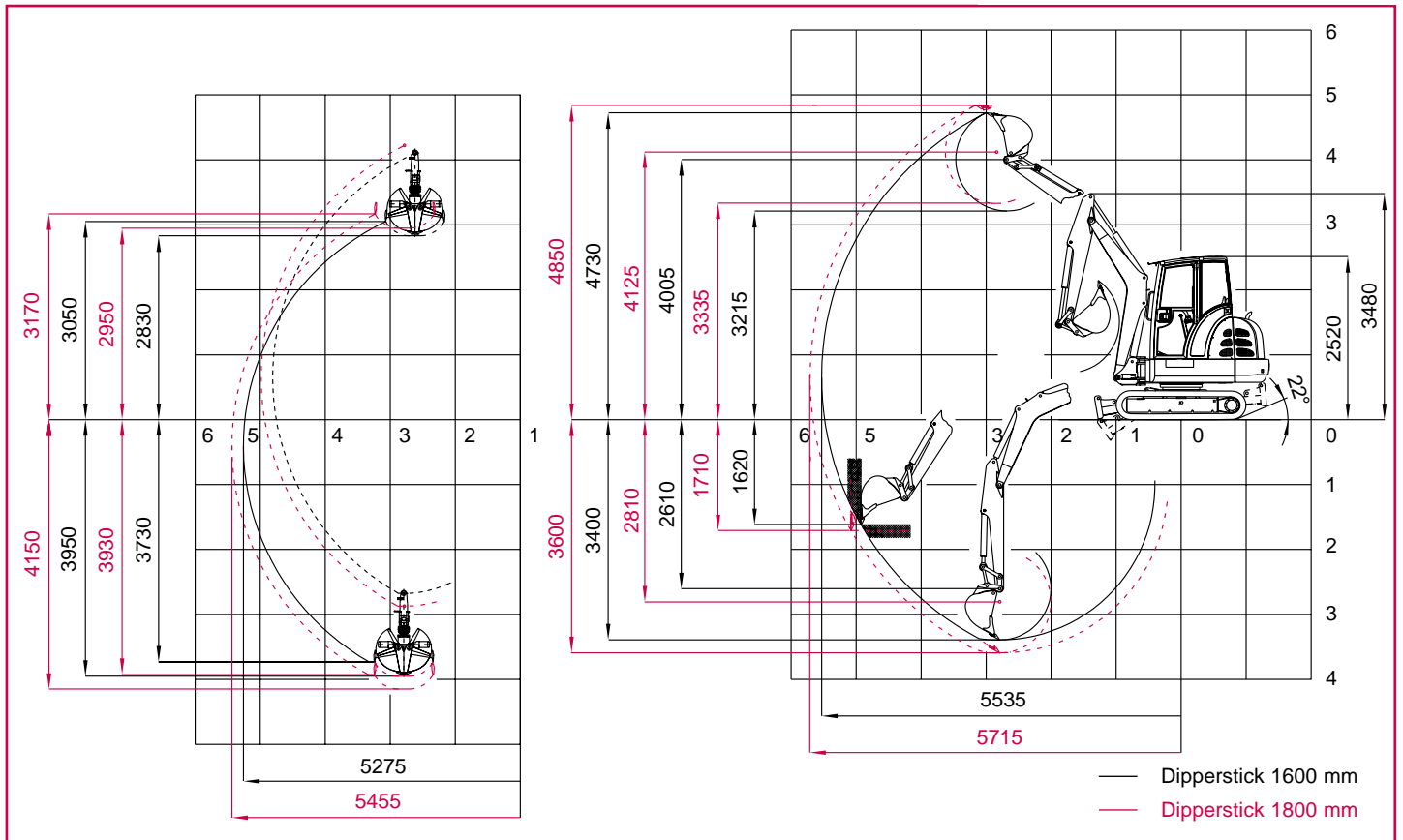
Fluid capacities

Fuel tank	52 l
Hydraulic system (includes tank)	91 l

* FOPS-approved only with skylight guard (optional)

Digging envelope

HR 16 Monobloc boom



Carrying capacity

Load radius from the center of the ring gear

Bucket hinge pin height

Dipperstick 1600 mm

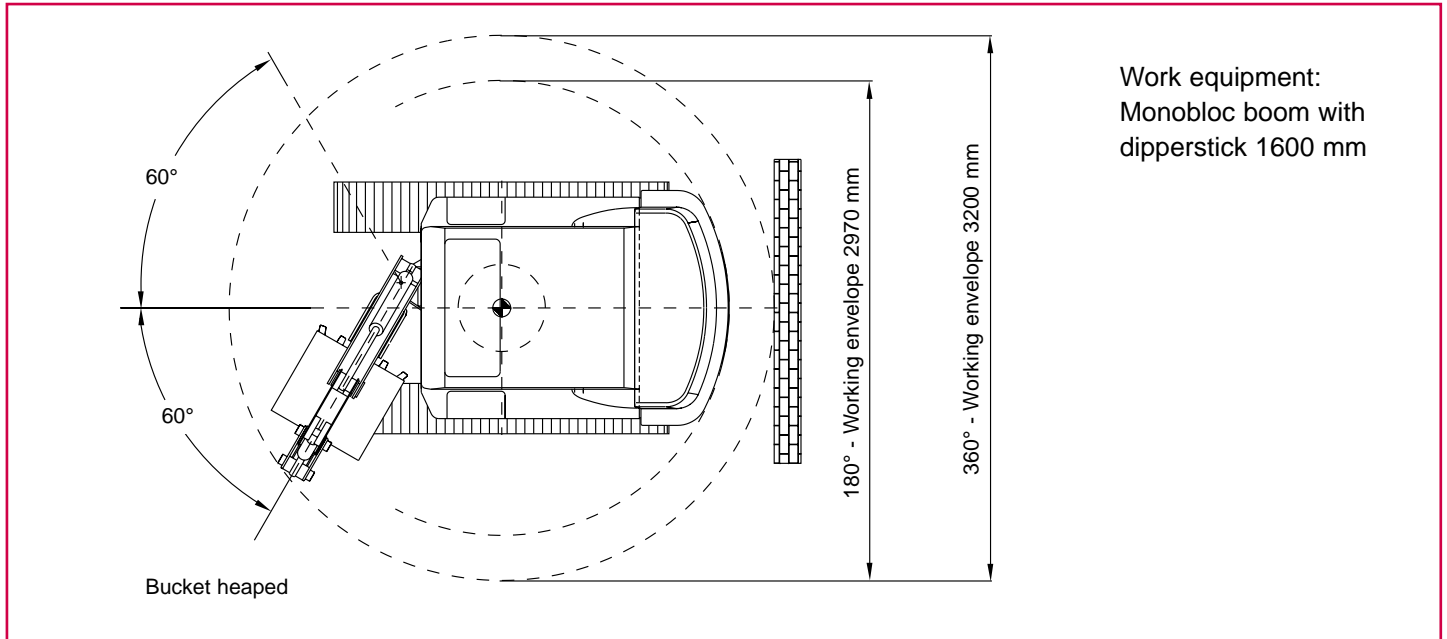
		2.0 m		2.5 m		3.0 m		3.5 m		4.0 m		5.0 m	
		180°	90°	180°	90°	180°	90°	180°	90°	180°	90°	180°	90°
2.0 m	Supported by blade	-	-	1.10	1.07	1.03	0.82	0.98	0.63	0.91	0.51	0.82	0.42
	Traveling	-	-	1.07	1.00	0.95	0.78	0.62	0.60	0.55	0.49	0.42	0.39
1.0 m	Supported by blade	2.53	1.35	1.86	0.98	1.39	0.76	1.15	0.60	0.96	0.48	0.83	0.40
	Traveling	1.45	1.27	1.01	0.93	0.79	0.72	0.59	0.57	0.48	0.46	0.40	0.38
0 m	Supported by blade	2.00	1.11	1.90	0.90	1.44	0.71	1.14	0.57	0.93	0.47	0.76	0.39
	Traveling	1.15	1.07	0.90	0.84	0.71	0.67	0.56	0.54	0.49	0.44	0.41	0.38
- 1.0 m	Supported by blade	1.25	1.20	1.44	0.82	1.18	0.65	1.04	0.54	0.81	0.47	-	-
	Traveling	1.08	1.05	0.81	0.77	0.59	0.61	0.57	0.52	0.51	0.43	-	-

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.

Working equipment: Rubber crawlers.

Dimensions

HR 16 Top view / Working envelope



Additional equipment

Optional accessories

Mechanical quick-attach system for work tools (QAS)
 Canopy with working floodlight (weight reduction: 80 kg)
 Dipperstick 1800 mm
 Luxury operator's seat, height-adjustable, with extra-high back rest, progressively adjustable to operator's weight, seating has tilt and lengthwise adjustment. Upward folding, tilt-adjustable comfort arm rests.
 FOPS-skylight guard
 Cab-mounted working floodlight, front and rear
 Boom-mounted working floodlight
 Crane loading wire-rope harness
 Track shoes with "Felasto" tiles
 Quick-change adapter for hydraulic hammer
 Travel motion alarm (acoustic signal)
 Filling with biodegradable hydraulic oil, ester-based, VI 68
 Immobilizer

Further accessories available on request

Buckets

Bucket, with ejector (QAS)	300 mm / 63 l
Bucket (QAS)	300 mm / 66 l
Bucket (QAS)	400 mm / 93 l
Bucket (QAS)	500 mm / 122 l
Bucket (QAS)	600 mm / 151 l
Bucket (QAS)	700 mm / 181 l
Ditch-cleaning bucket (QAS)	1000 mm / 140 l
Ditch-cleaning bucket (QAS)	1200 mm / 170 l
Swing bucket, 2 x 45 deg. (QAS)	1000 mm / 117 l
Swing bucket, 2 x 45 deg. (QAS)	1200 mm / 141 l

Clamshell grabs

Type GL 1250 (QAS), grab swing brake	250 mm / 45 l
Type GL 1350 (QAS), grab swing brake	350 mm / 65 l
Type GL 1450 (QAS), grab swing brake	450 mm / 85 l
Type GL 1600 (QAS), grab swing brake	600 mm / 115 l

Further attachments available on request
 Subject to change without further notice