

DH 12.1R



56.5 kW / 2150 rpm



0.22 - 0.54 cubic metres



13.7 metric tonnes



hydraulic shovel excavator



Operator's cab

The operator's cab mounted on the left side of the upper structure enables good view to all directions and has a good noise insulation. The two-piece windshield is equipped with a large wiper, and operator can tilt the upper part of the windshield or even raise it to the cab ceiling. The small window in the ceiling can also be opened and covered with sunshade. Comfort spring seat is vertically adjustable with damping characteristic regulation based on the operator weight. The seat position is independent of hand control levers and pedals. The instrumental panel is located on the right side of the cab in the view field of the operator. Hand lever with arrest in any position, located on the right console of the seat, enables fluent regulation of the engine speed. Ventilation in the cab is pressurised, the input air is cleaned in the replaceable filtration unit. Two-speed hot water heating depends on the engine operation. The air-condition can be delivered as option. The cab can be also equipped with the FOPS structure and front protective grate-guard.



Engine

four-stroke, diesel 4-cylinder, water cooled with direct fuel injection

Model	PERKINS 1004 - 4
Number of cylinders	4
Bore	100 mm
Stroke	127 mm
Displacement	4,0 litres
Power per ISO 3046	56.5 kW / 2150 rpm
Fuel tank volume	230 litres
Specific consumption	230 g/kWh
Electric equipment	Voltage 24 V
Batteries	2 x 120 Ah
Alternator	24 V / 55 A



Slewing drive

Drive	hydraulic motor
Gearbox	compact planet type, two speeds
Slewing bearing	grease filled with the internal gearing
Range of slewing	360°
Slewing speed	10.6 rpm
Upper structure slewing torque	40 kNm



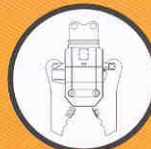
Undercarriage and its drive

Crawler undercarriage is a tractor type. The undercarriage frame is rigid box-shape steel structure, with tow eyes on the both sides. The undercarriage travel is driven with two-speed hydraulic motors installed in the planet gearboxes, which do not overlap the crawler shoe plates width. The automatically applied park disc brakes are also incorporated in the gearboxes. They do not need any maintenance and safely hold the excavator on the maximal allowable grade.

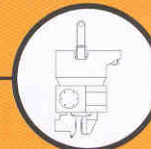
The INTERTRACTOR undercarriage components are protected from overloading during travel with coil spring. The crawler tension is made by grease cylinders. Tension sprocket, travel and idler rollers have sliding bearings with permanent grease filling.

Undercarriage design

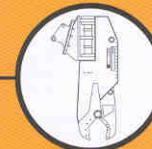
Number of idler rollers (each side)	2
Number of travel rollers (each side)	7
Number of chain links (each side)	44
Traction force	123.5 kN
Gradeability	100 % (45°)
Travel speed	0 - 4.3 km/hrs



demolition jaws



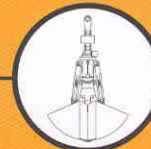
vibratory pile-driver



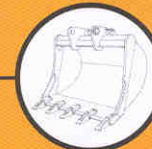
hydraulic shears



multi-jaw grab



double-jaw grab



back-hoe shovel



Working attachment

The back-hoe excavator can use in addition to shovels wide assortment of equipment, which enable to make works of various character, using big digging forces or reach parameters. The optional quick-lock equipment will help with the quick change of working tools and shovels during work.

undercarriage





Hydraulic generators:

Main generator	double regulated axial piston
Generator flow	2 x 118 litres per minute
Servo-control circuit generator	gear-wheel
Servo-control generator flow	22 litres per minute
Regulation	power, Cross-sensing

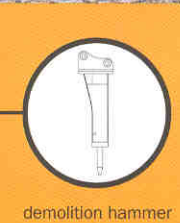
Pressure adjustment:

Working attachment	300 bar
Slewing circuit	300 bar
Servo-control circuit	35 bar

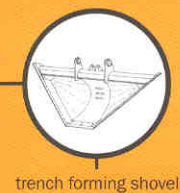
Hydraulic cylinders:

Boom	2 x DIA 100 / 70 - 1000 mm
Arm	1 x DIA 110 / 80 - 1190 mm
Bucket	1 x DIA 90/63 - 855 mm

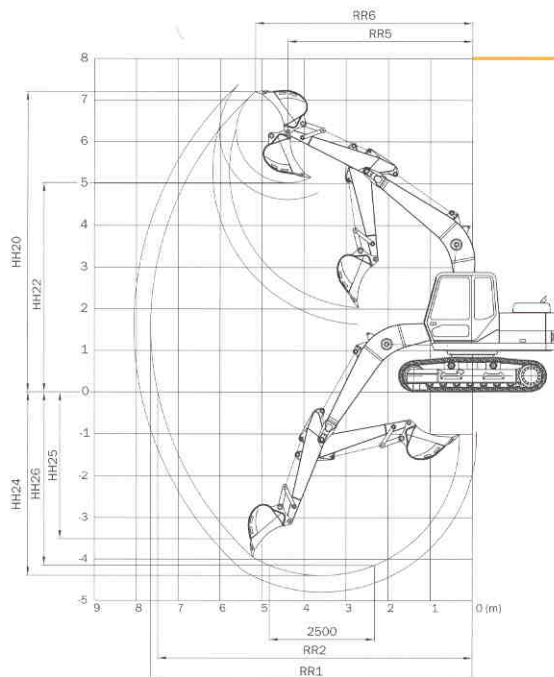
Fluent regulation of working attachment movement and slewing made by two cross proportional hydraulic hand control levers. The travel is regulated with proportional pedal controls.



demolition hammer



trench forming shovel



Working reach with the back-hoe shovel



Arm length	2.1 m	2.5 m
RR1 Max. digging reach	7658 mm	8058 mm
RR2 Max. level crowding distance	7485 mm	7895 mm
RR5 Working radius at max. dumping height	4389 mm	4785 mm
RR6 Working radius at cutting height	5162 mm	5558 mm
HH20 Max. cutting height	7206 mm	7382 mm
HH22 Max. shovel dumping height	5017 mm *	4617 mm
HH24 Max. digging depth	4394 mm	4794 mm
HH25 Max. vertical digging depth	3500 mm	3780 mm
HH26 Max. digging depth for 2500 mm long bottom	4145 mm	4574 mm

Forces



Arm length	2.1 m	2.5 m
Digging force	69.5 kN	60.8 kN
Breakout force	69.7 kN	69.7 kN

Noise levels

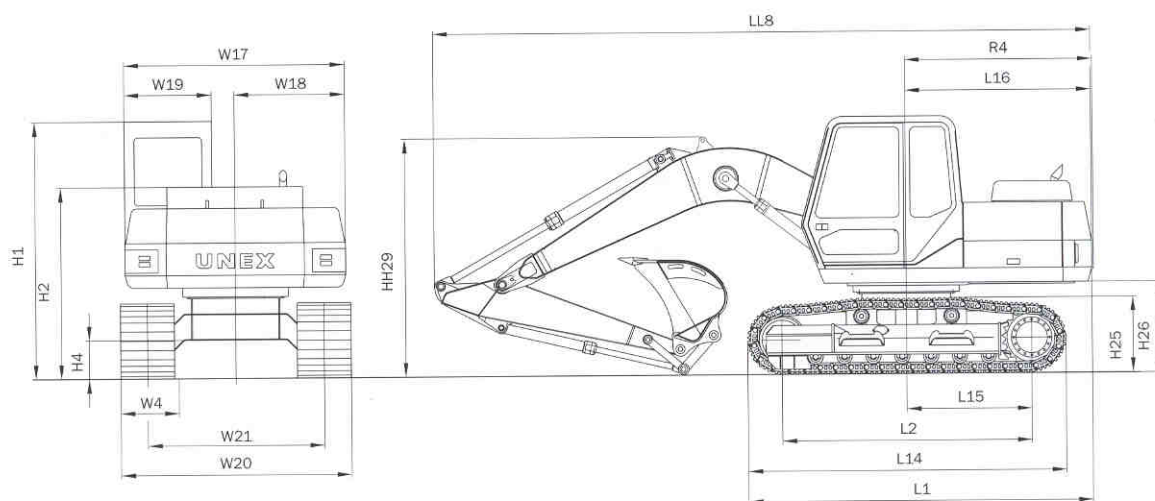


Operator place noise level	$L_{AeqT} = 80$ dB
External noise level	$L_{WA} = 102$ dB

cowling

hydraulics





mm Total dimensions

L1	Max. length	3830 mm	H25	Height of the undercarriage crawler	865 mm
L2	Crawlers base	2780 mm	H26	Ground clearance of the upper structure	1055 mm
L14	Max. crawler length	3550 mm	W4	Crawler shoe plate width	600 mm
L15	Drive sprocket distance from slewing axis	1390 mm	W17	Max. width of upper structure	2640 mm
L16	Rear overhang of the upper structure	2060 mm	W18	Distance of the right side of the upper structure from the slewing axis	1230 mm
R4	Contour radius of the upper structure	2185 mm	W19	External width of the cab	975 mm
H1	Max. height of the basic excavator	2930 mm	W20	Max. transport width	2570 mm
H2	Upper structure height	2175 mm	W21	Crawlers track gauge	1970 mm
H4	Ground clearance of the undercarriage	430 mm			

mm Transportation dimensions

Arm length	2.1 m	2.5 m
HH29 Overall transport height of working attachment	2670 mm	2810 mm
LL8 Overall transport length	7305 mm	7335 mm

Shovels

Volume (SAE) (litres)	width (mm)	weight (kg)	number of teethes
ISO 7451			
220	400	250	3
300	500	280	3
360	600	315	4
420	700	340	4
480	800	375	5
540	900	400	5

mm Specific pressure to the ground (For the excavator equipment with 4.4 m boom, 2.1 m arm and 0.54 cu.m shovel)

track shoe plate width (mm)				
500	600	700	800	900
43,7 kPa	37,0 kPa	32,2kPa	28,6 kPa	25,8 kPa

Respecting the permanent development of our products we have a right to make changes in this brochure without any advance notice and without any obligation to previously delivered products. The shown excavator can be equipped with other special auxiliary equipment.