

KH230 -3 GLS

HYDRAULIC PILE DRIVER

Max. Pile Length : 32 m on 39.2 m Leader

Specification

Basic Machine		KH230 - 3 GLS
Engine	Model	HINO EM100
	Horse power	110 kW (150 PS) at 2000 rpm
Leader	Model	Lattice type (prefab top type)
	Max. length (A, see drawing)	39.2 m
	Max. forward inclination (Y, see drawing)	18.5 degrees (3 : 1)
	Max. backward inclination (X, see drawing)	18.5 degrees (3 : 1)
	Max. sideward inclination for correction	2.5 degrees (20 : 1)
	Leader guide size	720 x 120 x 60 mm
Pile	Max. length x weight (39.2 m leader)	32.0 m x 16000 kg
	Length x max. weight (36.9 m leader)	29.0 m x 18000 kg
Hammer	Max. weight	14000 kg
Max. pile + hammer weight		32000 kg
Max. total machine weight (36.9 m leader)		92700 kg
Max. total operating weight		124700 kg
Ground pressure (at total operating weight)		1.95 kg/cm ²
Speed	Main hoist drum (hoisting)	70 / 35 m/min.
	Main hoist drum (lowering)	70 / 35 m/min.
	Aux. hoist drum (hoisting)	70 / 35 m/min.
	Aux. hoist drum (lowering)	70 / 35 m/min.
	3rd hoist drum (hoisting)	60 m/min.
	3rd hoist drum (lowering)	60 m/min.
	Leader erection drum	60 m/min.
	Swing speed	0 to 2.0 rpm
	Travel speed	0 to 1.5 km / h

Changes in execution as well as extra attachments are possible as per agreement.
Technical specifications may be changed without previous notification.

Capacity Diagramme KH230-3 GLS

(with prefab top type leader)

[Max. permissible pileweight (kg)]

Leader length (m)		34.4		36.9		39.2	
Max. pile length (m)		27		29		32	
Leader inclination		Forward	Backward	Forward	Backward	Forward	Backward
3 : 1 (18.5°)	A	-	7000	-	5000	-	-
	B	7000	11000	4000	9000	0	5000
	C	10000	14000	7000	12000	4500	8000
	D	13000	18000	10000	15000	7000	11000
4 : 1 (14°)	A	14000	18000	10000	16000	7000	12000
	B	18000	18000	14000	18000	11000	16000
	C	18000	18000	17000	18000	14000	16000
	D	18000	18000	18000	18000	16000	16000
5 : 1 (11.5°)	A	18000	18000	18000	18000	16000	16000
	B	18000	18000	18000	18000	16000	16000
	C	18000	18000	18000	18000	16000	16000
	D	18000	18000	18000	18000	16000	16000
6 : 1 (9.5°)	A	18000	18000	18000	18000	16000	16000
	B	18000	18000	18000	18000	16000	16000
	C	18000	18000	18000	18000	16000	16000
	D	18000	18000	18000	18000	16000	16000
Vertical	A	18000	18000	18000	18000	16000	16000
	B	18000	18000	18000	18000	16000	16000
	C	18000	18000	18000	18000	16000	16000
	D	18000	18000	18000	18000	16000	16000

* Type of dieselhammer

Type A = 14000 kg

Type C = 10500 kg

Type B = 12000 kg

Type D = 9000 kg

- Indicated load do not exceed 66.2/3 % of tipping load
- If travelling weight exceeds 88000 kg, then steel floor plates are necessary
- Inclined forward with leader foot on horizontal firm ground
- Inclined backward with rear jacks on horizontal firm ground
- Swing over 360 degrees at min. stroke (25 cm) of front bracket
- For more instructions see instruction manual.

Winch

	Rope diameter	Allowable line pull	Max. starting line pull	Drum PCD	Max. rope capacity
Main hoist winch (for hammer)	22 mm	6.5 t	14.3 t	462 mm	420 m
Aux. hoist winch (for pile)	22 mm	6.5 t	14.3 t	462 mm	135 m
3rd winch (for pile)	20 mm	5.0 t	-	420 mm	120 m
Leader erection winch	16 mm	3.5 t	-	396 mm	-

- Line pull is based on first layer of winding at rated engine rpm.
- Max. starting line pull is based on a single line pull in high speed range of main or aux. winch.
- Max. rope capacity is based on full drum.

Leader Construction KH230-3 GLS

Lattice type leader :

Leader type		STD.				STD.				STD.			OPT.			
		Pulling head; vibro 4 lines				Pulling head; vibro 8 lines				Prefab top type			Piling / Pulling			
Leader length	(m)	40.2	35.4	31.8	27	40.2	35.4	31.8	27	39.2	36.9	34.4	39.2	34.4	30.8	26
Components																
Foot plate	0.35 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Foot section	1.35 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Transport section	7.5 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Leader; insert (1st)	8.4 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Leader; insert	8.4 m	1	1			1	1						1	1		
Leader; support	8.4 m	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Leader; upper	4.8 m	1		1		1		1		1	1		1		1	
Leader; upper	2.28 m									1		1				
Leader; top prefab	6.1 m									1	1	1				
Leader ; top pulling	1.0 m	1	1	1	1											
4 lines																
Leader ; top pulling	1.0 m					1	1	1	1							
8 lines																
Leader; top	0.0 m												1	1	1	1
Piling / Pulling																

Tube type leader :

Leader type		OPT.			OPT.			OPT.			OPT.		
		Piling / Pulling			Pulling head; vibro 4 lines			Pulling head; vibro 8 lines			Prefab top type		
Leader length	(m)	36	32.1	28.2	37	33.1	29.2	37	33.1	29.2	38.2	34.3	
Components													
Foot plate	0.35 m	1	1	1	1	1	1	1	1	1	1	1	
Foot section	1.35 m	1	1	1	1	1	1	1	1	1	1	1	
Transport section	7.5 m	1	1	1	1	1	1	1	1	1	1	1	
Leader; insert (1st)	7.8 m	1	1	1	1	1	1	1	1	1	1	1	
Leader; insert	7.8 m	1	1	1	1	1	1	1	1	1	1	1	
Leader; insert	3.9 m	1	1		1	1		1	1		1	1	
Leader; insert	3.9 m	1			1			1			1		
Leader; upper	3.4 m	1	1	1	1	1	1	1	1	1	1	1	
Leader; top prefab	6.1 m										1	1	
Leader ; top pulling	1.0 m				1	1	1						
4 lines													
Leader ; top pulling	1.0 m							1	1	1			
8 lines													
Leader; top	0.0 m	1	1	1									
Piling / Pulling													

Specifications KH230-3 GLS

Engine	
Model	: HINO EM100
Type	: Water cooled, 4 cycle 6 cylinders, direct injection
Rated horsepower (DIN 6270, Net)	: 110 kW (150 PS) / 2000 rpm
Maximum torque	: 588 Nm (60 kgf-m) / 1600 rpm
Displacement	: 9.4 l (575 cu in)
Electric system	: 24 V DC, AC generating

Main, aux. hoist and other winches	
Main hoist winch	: axial piston motor reduction gear, clutch, brake and drum
Aux. hoist winch	: axial piston motor reduction gear, clutch, brake and drum
Clutch (for main, aux. winch)	: spring set, hydraulic released expanding band type
* Brake (for main, aux. winch) :	external contacting friction band type automatic brake system or hydraulic positive brake system

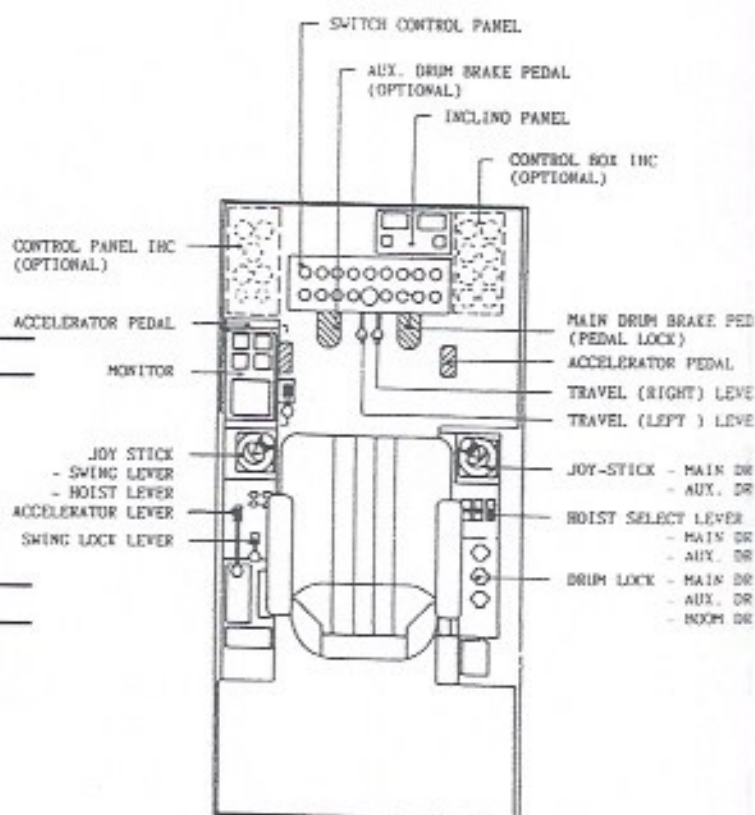
Leader erection winch :	axial piston motor, reduction gear, brake and drum
* Brake (for leader erection winch) :	spring set/hydraulic-released multiplate disc type
* Drum lock (for main, aux and leader erection winch) :	manually controlled from operator's seat
3rd winch :	hydr. motor, reduction gear, brake and drum

Swing mechanism	
Swing system	: axial piston motor, reduction gear
Swing circle	: single-row shear ball bearing
Swing brake	: spring-set/hydr. released type can be operated from operator's seat by switch
Swing lock	: manually operated mechanical lock

Undercarriage	
Traction system	: axial motors through reduction gear on each track / spring set brake
Track frame	: welded, box section construction
Side frame	: welded with extending/retracting cylinder
Track shoe	: heat treated unified (shoe & link) flat shoe
Shoe width	: 760 mm
No. of upper rollers	: 3 (on each side)
No. of lower rollers	: 12 (on each side)

Hydraulic system	
2 variable displacement pumps :	
pressure setting	: 300 bar (300 kgf/cm ²)
max. oil flow	: 200 l/min (for hoist, 3rd winch, leader erection, travel)
1 gear pump	: (for swing)
pressure setting	: 200 bar (200 kgf/cm ²)
max. oil flow	: 88 l/min
1 gear pump :	
pressure setting	: 240 bar (240 kgf/cm ²)
max. oil flow	: 2 x 48 l/min (for backstay, frame cylinder, bracket cylinder elevator, A-frame rising etc.)
1 gear pump	: (for pilot control)
pressure setting	: 43 bar (43 kgf/cm ²)
max. oil flow	: 32 l/min
Line filters	: high filtration 10u full-flow filter

Controls



List of Standard / Optional Specification KH230-3 GLS

Standard equipment :

* Counter weight	: 23.17 t
* Main, aux. and leader hoist winches	
* 3rd drum winch; independant type (for pile, line pull; 5.0 t)	
* A - frame rising cylinders	
* Side frames extending / retracting is done with the cylinder	
* Cab	Windshield wipers (front & skylight) / Sunvisor / Floor mat / Upper glass protection Magazine pocket / Cigarette lighter / Room lamp / Cab heater / Fuel gauge
* Cab, cover :	Head lights (right & left) / Rear view mirror (right & left) / Refuelling pump
* Unified (shoe & link) flat type shoe	
* In - shoe type travel motors	
* Large size tool box	
* Safety device	Safety lock / Swing lock / Swing brake / Drum lock for main, aux. & leader drum / Spring set travel brake / Start up monitor / Angle indicator
* Cat walk (right & left)	
* Tools	

Optional equipment :

* Extra winch (for metal harness, line pull = 3.5 t)
* Big engine (Deutz BF12L 513, 284 kW (386 PS) / 2000 rpm) with extra hydraulic circuit
* Rear platform
* Elevator (including winch and catwalk bracket)
* Pull down device
* Tube type leader
* Pulling head