

KH230 -3 GLS

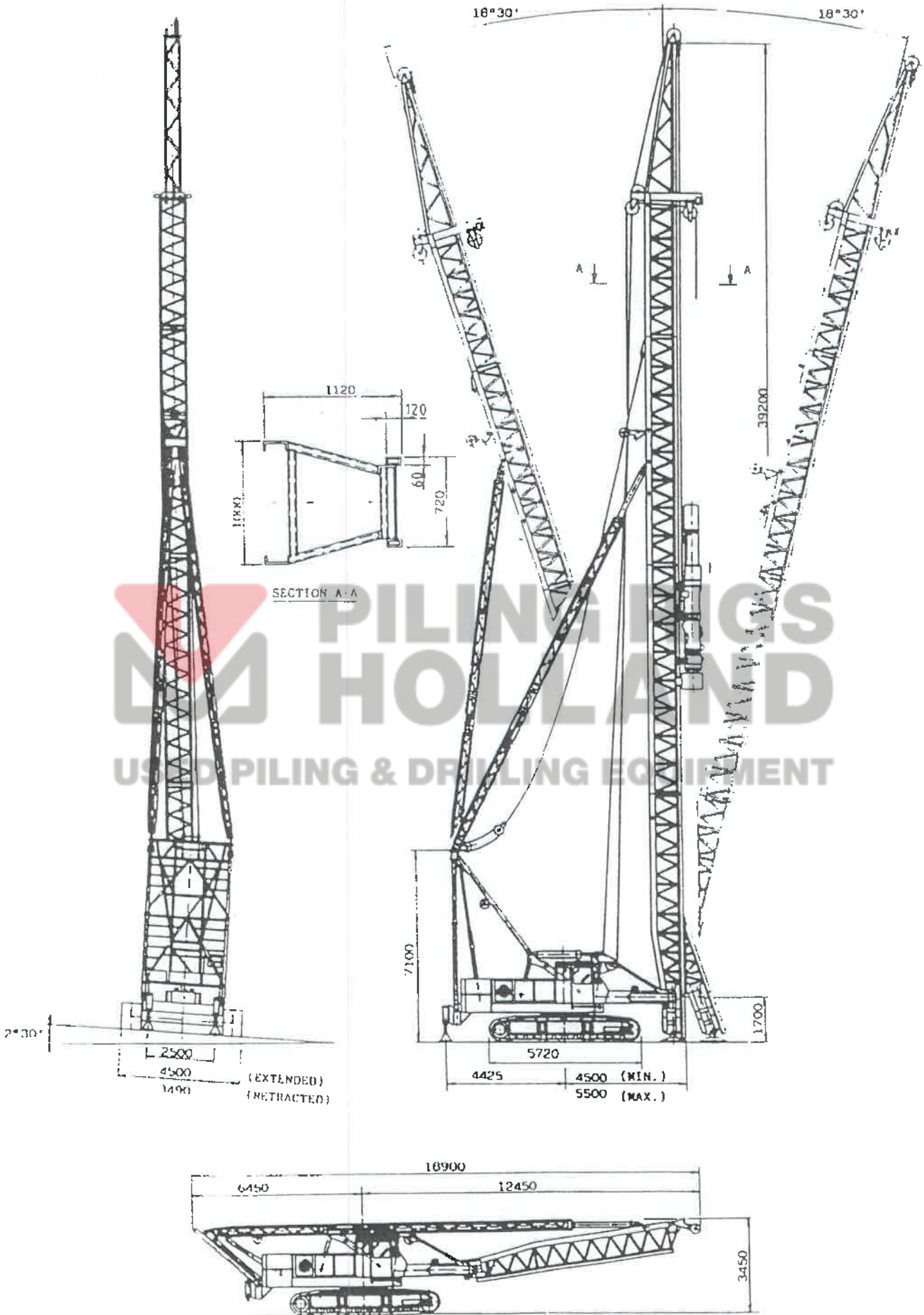
HYDRAULIC PILE DRIVER

Max. Pile Length : 32 m on 39.2 m Leader

Specification

Basic Machine		KH230 - 3 GLS
Engine	Model	HINO EM 100
	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)
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 Δ
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.



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/cm²)
max. oil flow : 200 l/min
(for hoist, 3rd winch, leader erection, travel)

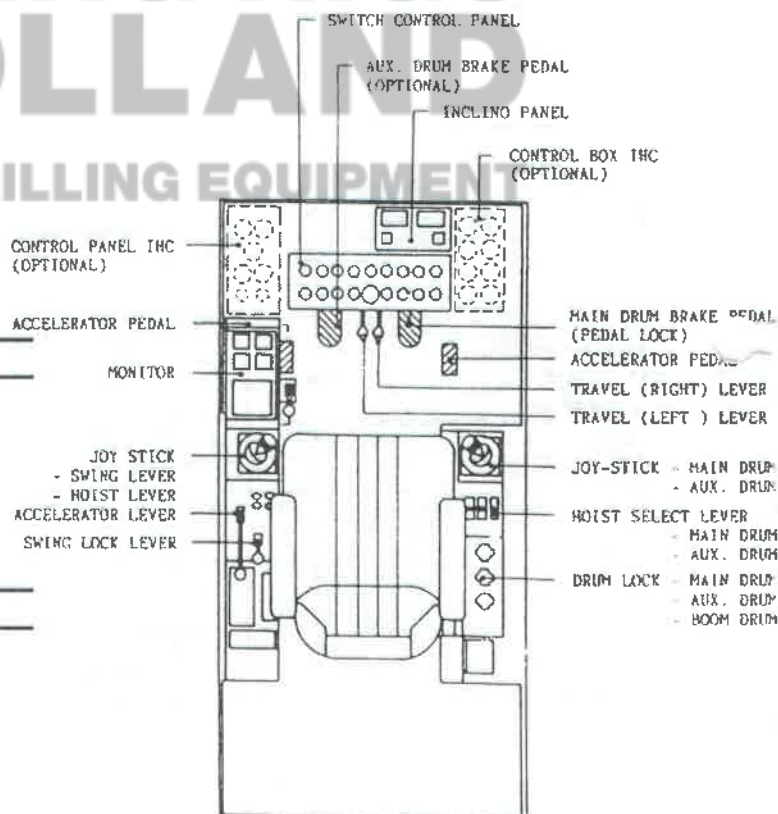
1 gear pump : (for swing)
pressure setting : 200 bar (200 kgf/cm²)
max. oil flow : 88 l/min

1 gear pump :
pressure setting : 240 bar (240 kgf/cm²)
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/cm²)
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	

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	-

1. Line pull is based on first layer of winding at rated engine rpm.

2. Max. starting line pull is based on a single line pull in high speed range of main or aux. winch.

3. 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 6.1m									1	1	1				
Leader ; top pulling 1.0 m 4 lines	1	1	1	1											
Leader ; top pulling 1.0 m 8 lines					1	1	1	1							
Leader; top 0.0 m Piling / Pulling												1	1	1	1

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	1
Foot section 1.35 m	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
Leader; insert (1st)7.8 m	1	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	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	1
Leader; top prefab 6.1 m										1	1	
Leader ; top pulling 1.0 m 4 lines				1	1	1						
Leader ; top pulling 1.0 m 8 lines							1	1	1			
Leader; top 0.0 m Piling / Pulling	1	1	1									