

X Series Heavy Duty Pneumatic Tire Forklift

with capacity of 83,000 to 105,000lbs



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HANGCHA

Making Material Handling Easier
SINCE 1956

COMFORTABLE FULL CABIN



- 1. Great Visibility:** Hangcha designed the cabin and mast to provide operators with great all-round visibility. This allows operators to safely lift and move different materials within their operational environment.
- 2. Ergonomic, Comfortable, & Precise:** The X Series Heavy Duty Pneumatic Forklift features an adjustable full suspension seat and an adjustable armrest. In addition, the ergonomic joystick allows operators lift and lower loads smooth and precisely.
- 3. Heated and Cooled:** The fully suspended cabin features a heater and re-designed air conditioner standard. This allows operators to comfortably work in different operational environments.
- 4. Easy-to-See Display:** The large LCD instrument display provides operators with vital information on the forklift's current operating status including fuel level, RPM, gear, hours, speed, coolant temperature, and more. It addition, allows operators to see to see engine status to facilitate maintenance as needed.
- 5. Optional Video System:** The optional video system includes front and rear cameras to increase operational safety and make operating the X Series Heavy Duty Pneumatic Forklift easier.



FLOATING CABIN

The X Series Heavy Duty I.C. Pneumatic Forklift features a new floating cabin design to provide the operator with a comfortable and safe operating environment.

Strong Design: The cabin features a new integral frame made up of steel to increase strength and safety. In addition, the cabin is designed to be tilted for easy access to components.

Floating Cabin: The design of the connection between the chassis and the cabin helps to isolate the vibrations and chassis movement felt in the operator compartment. This creates a more comfortable environment for the operator.

Sealed Cabin: The new floating cabin features a waterproof and dustproof design to keep the operator out of the elements. The cabin is also designed to reduce noise levels while operating the heavy duty forklift.

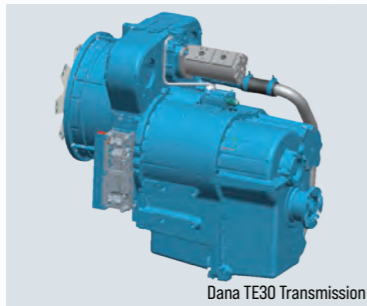


HEAVY DUTY DRIVETRAIN

Hangcha's X Series Heavy Duty Pneumatic Tire Forklift features drivetrain components from well-known industry suppliers to ensure that the forklift can handle the operational environments that heavy duty forklifts with a 83,000-105,000lb forklifts are found in.



Volvo TAD1181VE Diesel Engine



Dana TE30 Transmission



Heavy Duty Steering Axle



Kessler Heavy Duty Drive Axle

Volvo TAD1181VE: Hangcha uses the powerful Volvo TAD1181VE diesel engine in the 83,000-105,000lb X Series Pneumatic Tire Forklift. The Volvo diesel engine is Tier 4F compliant. The engine uses exhaust gas recirculation (EGR), selective catalytic reduction (SCR), diesel oxidation catalysts (DOC), and diesel particulate filters (DPF) to meet the Tier 4F compliance. This engine helps Hangcha's forklifts to maximize their efficiency and reliability for the end-user.

Dana TE30 Transmission: The X Series Heavy Duty Pneumatic Forklift uses the Dana TE30 transmission to provide stable, accurate, and reliable travel.

Heavy Duty Steering Axle: The forklift features a single double-acting transverse cylinder steering axle. This heavy duty steering axle, combined with the hydraulic steering and load-sensing steering system, provides operators with an easy way to steer the forklift.

KESSLER Heavy Duty Drive Axle: The power of the Volvo diesel engine is transferred to the heavy duty pneumatic forklift's wheels via the heavy duty drive axle. This drive axle features two-stage deceleration, wet brakes, and a hydraulically released spring action parking brake.

RELIABLE & EASY TO MAINTAIN

Hangcha designed the X Series Heavy Duty I.C. Pneumatic Forklift to be reliable and easy to maintain. By using key components, specific designs, and testing, Hangcha is able to build a reliable forklift that operators can count on.

Reliable Design: Hangcha uses an additional controller, CAN bus protocol, built-in diagnostic management functions, and a fault alarm to ensure that the X Series Heavy Duty Forklift is always running optimally. These features give operators peace of mind knowing that the X Series Heavy Duty Forklift will be the reliable partner they need.

Easy To Maintain: The X Series Heavy Duty Pneumatic Forklift features a full cab that can be tilted without any tools. This allows for major components to be easily reached. The forklift also features several compartments, including a battery compartment, that provides easy access to other important components.



HIGH PERFORMANCE

The X Series Heavy Duty I.C. Pneumatic Forklift was redesigned to increase the performance and efficiency of the heavy duty forklift. This allows operators to be more productive in their operational environment.

Travel & Lift Speed: Hangcha's engineering team redesigned the X Series Heavy Duty Forklift to increased the travel and lift speed. This allows operators to move materials more efficiently in their operational environment.

Load Sensing Hydraulics: The forklift uses load sensing hydraulics to provide improve efficiency, reduce the hydraulic oil working temperature, and extend the life of hydraulic components and seals.

Increased Strength: When redesigning the X Series Heavy Duty Pneumatic Forklift, our engineers used CAE (computer aided engineering) to reduce the size of the body, increase the strength of the structural components, and design the forklift to be more flexible in different applications.



STANDARD CONFIGURATION

- / Limited Free Lift 2 Stage Mast
- / Hydraulic Prong Adjustment
- / Standard Forks
- / Full Cabin
- / Air Conditioner & Heater
- / Fully Hydraulic Power Steering
- / Operator Presense Sensing System (OPS)
- / Adjustable Steering Wheel
- / Multi-Directional Adjustable Armrest

- / Tilting Hydraulic System Self-Locking Valve
- / Lifting Hydraulic System Speed Limit Valve
- / Overhead Gaurd Exhaust
- / Tow Device
- / Main Power Switch
- / Front & Rear Camera System
- / LCD Instrument Display
- / Neutral Indicator

- / Parking Braking Indicator
- / Charge Indicator
- / Pre-Heating Indicator
- / Oil Pressure Alarm for the Engine
- / Air Filter Alarm
- / Low Pressure Alarm for the Accumulator
- / Hydraulic Oil Filter Alarm
- / Oil-Water Separator Alarm
- / Engine Failure Alarm

- / Highly Efficient LED Lights
- / Water Thermometer
- / Oil Gauge
- / Oil Temperature Meter
- / Engine Hour Meter
- / Air Pneumatic Tires
- / Reverse Alarm
- / Manual Cabin Tilting
- / Mast Installed LED Working Light
- / Toolkit

OPTIONS

- / Customized Color
- / Various Fork Sizes
- / Various Mast Specifications
- / Solid Pneumatic Tires
- / On-board Intercom

- / Reverse Alarm
- / Strobe Light
- / Front & Rearview Camera (with optional memory)
- / Ground Strap

- / Fire Extinguisher (4.4lb/8.7lb)
- / Automatic Fire Suppression System
- / Speed limiter
- / Operator Fan

- / Blue Light
- / Scale
- / Air Pre-Cleaner
- / Electric Cabin Tilting

MASTS

83,000-88,000lb Mast Specification

Type	Model	Max. Fork Height	Overall Height		Tilt Range
			Lowered	Extended	F/R
			in(mm)	in(mm)	(°)
Limited Free Lift Two Stage Mast	GM400M400	157.4 (4000)	181.1 (4600)	258.6 (6570)	6/10
	GM400M430	169.2 (4300)	187 (4750)	270.4 (6870)	6/10
	GM400M450	177.1 (4500)	190.9 (4850)	278.3 (7070)	6/10
	GM400M480	188.9 (4800)	196.8 (5000)	290.1 (7370)	6/10
	GM400M500	196.8 (5000)	200.7 (5100)	298 (7570)	6/10
	GM400M550	216.5 (5500)	210.6 (5350)	317.7 (8070)	3/6
	GM400M600	236.2 (6000)	220.4 (5600)	337.4 (8570)	3/6
	GM400M650	255.9 (6500)	230.3 (5850)	357 (9070)	3/6
GM400M700	275.5 (7000)	240.1 (6100)	376.7 (9570)	3/6	

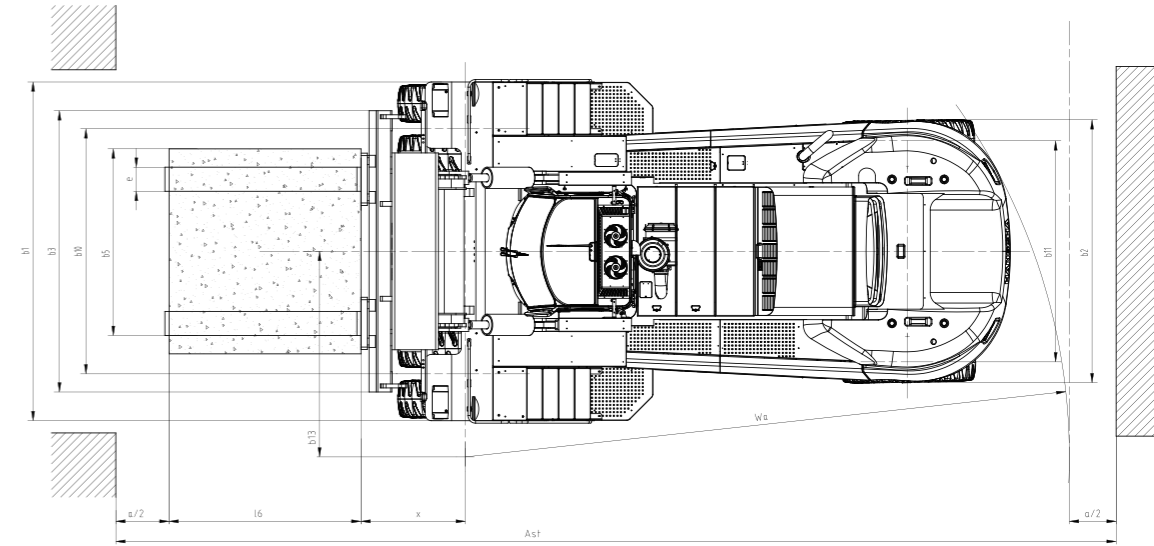
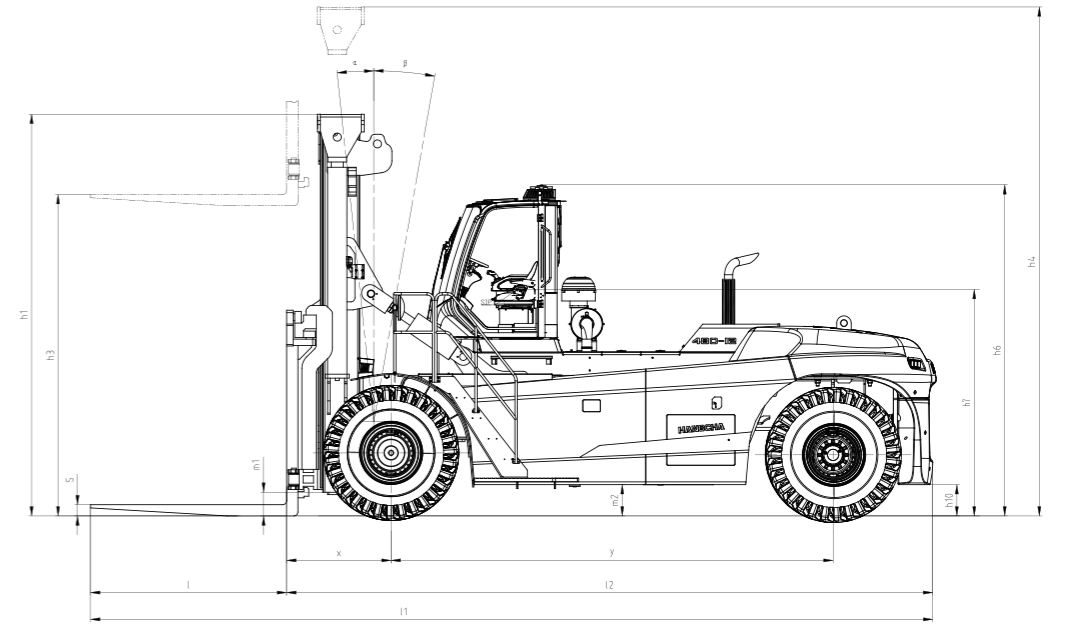
101,000-105,000lb Mast Specification

Type	Model	Max. Fork Height	Overall Height		Tilt Range
			Lowered	Extended	F/R
			in(mm)	in(mm)	(°)
Limited Free Lift Two Stage Mast	G480M360	141.7 (3600)	188.9 (4800)	258.6 (6570)	6/10
	G480M400	157.4 (4000)	196.8 (5000)	274.4 (6970)	6/10
	G480M430	169.2 (4300)	202.7 (5150)	286.2 (7270)	6/10
	G480M450	177.1 (4500)	206.6 (5250)	294 (7470)	6/10
	G480M480	188.9 (4800)	212.5 (5400)	305.9 (7770)	6/10
	G480M500	196.8 (5000)	216.5 (5500)	313.7 (7970)	6/10
	G480M550	216.5 (5500)	226.3 (5750)	333.4 (8470)	3/6
	G480M600	236.2 (6000)	236.2 (6000)	353.1 (8970)	3/6
	G480M650	255.9 (6500)	246 (6250)	372.8 (9470)	3/6
	G480M700	275.5 (7000)	255.9 (6500)	392.5 (9970)	3/6

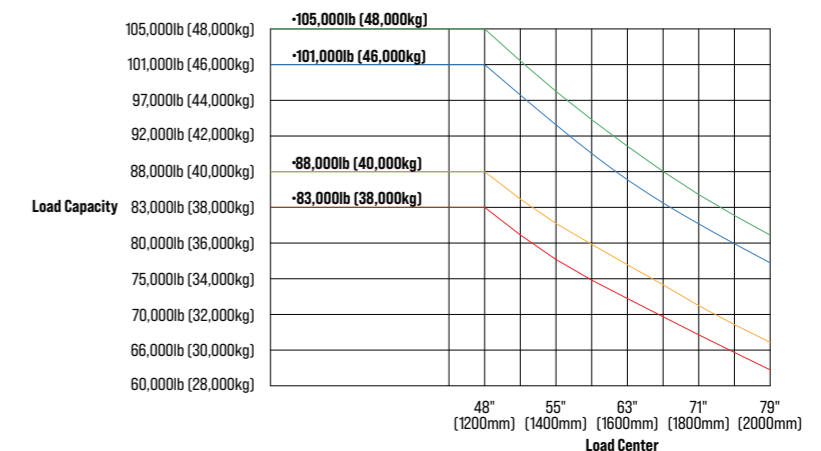


X Series Heavy Duty Pneumatic Forklift 83,000-105,000lb Specification

		HANGCHA GROUP CO.,LTD.						
		FD380	FD400	FD460	FD480			
Distinguishing Marks	1.1	Manufacturer	HANGCHA GROUP CO.,LTD.					
		HCFA Model Number	FD380	FD400	FD460	FD480		
	1.2	Manufacturer's Type Designation	CPCD380-XRH17	CPCD400-XRH17	CPCD460-XRH17	CPCD480-XRH17		
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas	Diesel	Diesel	Diesel	Diesel		
	1.4	Operator Type: hand, pedestrian, standing, seated, order-picker	Seated	Seated	Seated	Seated		
	1.5	Rated Capacity/Rated Load	Q lb(kg)	83000(38000)	88000(40000)	101000(46000)	105000(48000)	
	1.6	Load Centre Distance	c in(mm)	47.2 (1200)	47.2 (1200)	47.2 (1200)	47.2 (1200)	
	1.8	Load Distance, centre of drive axle to fork	x in(mm)	50.7 (1290)	50.7 (1290)	51.1 (1300)	51.1 (1300)	
	1.9	Wheelbase	y in(mm)	216.5 (5500)	216.5 (5500)	216.5 (5500)	216.5 (5500)	
Weight	2.1	Service Weight	lb(kg)	121275 (55000)	123480 (56000)	135607 (61500)	138915 (63000)	
Tires & Chassis	3.1	Tires: solid rubber, superelastic, pneumatic, polyurethane	Pneumatic	Pneumatic	Pneumatic	Pneumatic		
	3.2	Tire size, front	18.00-25-40PR	18.00-25-40PR	18.00-25-40PR	18.00-25-40PR		
	3.3	Tire size, rear	18.00-25-40PR	18.00-25-40PR	18.00-25-40PR	18.00-25-40PR		
	3.5	Wheels, number front / rear (x = driven wheels)	4x/2	4x/2	4x/2	4x/2		
	3.6	Tread, front	b10 in(mm)	120 (3050)	120 (3050)	120 (3050)	120 (3050)	
	3.7	Tread, rear	b11 in(mm)	109.8 (2790)	109.8 (2790)	109.8 (2790)	109.8 (2790)	
	Dimensions	4.1	Tilt of Mast/Fork Carriage Forward/Backward	$\alpha/\beta(^{\circ})$	6/10	6/10	6/10	6/10
4.2		Height, mast lowered	h1 in(mm)	181.1 (4600)	181.1 (4600)	196.8 (5000)	196.8 (5000)	
4.3		Free Lift	h2 in(mm)	4.9 (125)	4.9 (125)	5.5 (140)	5.5 (140)	
4.4		Lift	h3 in(mm)	157.4 (4000)	157.4 (4000)	157.4 (4000)	157.4 (4000)	
4.5		Height, mast extended	h4 in(mm)	258.6 (6570)	258.6 (6570)	274.4 (6970)	274.4 (6970)	
4.7		Height of Overhead Cabin	h6 in(mm)	162.2 (4120)	162.2 (4120)	162.2 (4120)	162.2 (4120)	
4.8		Seat Height Relating to SIP	h7 in(mm)	109.8 (2790)	109.8 (2790)	109.8 (2790)	109.8 (2790)	
4.12		Coupling Height	h10 in(mm)	31.8 (810)	31.8 (810)	31.8 (810)	31.8 (810)	
4.19		Overall Length	l1 in(mm)	412.2 (10470)	412.2 (10470)	412.5 (10480)	412.5 (10480)	
4.20		Length to Face of forks	l2 in(mm)	316.1 (8030)	316.1 (8030)	316.5 (8040)	316.5 (8040)	
4.21		Overall Width	b1/b2 in(mm)	165.9/127.3 (4215/3235)	165.9/127.3 (4215/3235)	165.9/127.3 (4215/3235)	165.9/127.3 (4215/3235)	
4.22		Fork Dimensions	s/e/l in(mm)	4.9x11.8x96(125x300x2440)	4.9x11.8x96(125x300x2440)	5.5x11.8x96(140x300x2440)	5.5x11.8x96(140x300x2440)	
4.24		Fork-Carriage Width	b3 in(mm)	134.4 (3500)	134.4 (3500)	134.4 (3500)	134.4 (3500)	
4.25		Distance between Fork-Arms	b5 in(mm)	41.3/118.1(1050/3000)	41.3/118.1(1050/3000)	41.3/118.1(1050/3000)	41.3/118.1(1050/3000)	
4.31		Ground Clearance, laden, below mast	m1 in(mm)	11.8 (300)	11.8 (300)	11.8 (300)	11.8 (300)	
4.32		Ground Clearance, centre of wheelbase	m2 in(mm)	15.3 (390)	15.3 (390)	15.3 (390)	15.3 (390)	
4.34.1		Aisle Width with Load Length 1800mm	Ast in(mm)	452.7 (11500)	452.7 (11500)	452.7 (11500)	452.7 (11500)	
4.34.2		Aisle Width with Load Length 2400mm	Ast in(mm)	452.7 (11500)	452.7 (11500)	452.7 (11500)	452.7 (11500)	
4.35		Turning Radius	Wa in(mm)	295.2 (7500)	295.2 (7500)	295.2 (7500)	295.2 (7500)	
Performance Data		4.36	Minimum Pivoting Point Distance	b13 in(mm)	100.7 (2560)	100.7 (2560)	100.7 (2560)	100.7 (2560)
		5.1	Travel Speed, laden/unladen	mph(km/h)	14.9/17.0 (24/28)	14.3/17.0 (23/28)	14.3/16.8 (23/27)	13.7/16.8 (22/27)
	5.2	Lift Speed, laden/unladen	ft/s(m/s)	1.0/1.2(0.31/0.36)	1.0/1.1(0.30/0.35)	0.9/1.0(0.27/0.30)	0.9/1.0(0.26/0.30)	
	5.3	Lowering Speed, laden/unladen	ft/s(m/s)	1.4/1.3(0.44/0.39)	1.4/1.3(0.44/0.39)	1.4/1.3(0.44/0.39)	1.4/1.3(0.44/0.39)	
	5.5	Drawbar Pull, laden/unladen	N	370000/-	370000/-	370000/-	370000/-	
	5.7	Gradeability, laden/unladen	%	25/-	25/-	25/-	22/-	
	5.10	Service Brake		Wet Disc Brake	Wet Disc Brake	Wet Disc Brake	Wet Disc Brake	
		Parking Brake		Spring Applied Hydraulic Release Multi-Disc Brake (SAHR)				
		Drive Axle		Kessler	Kessler	Kessler	Kessler	
	Combustion Engine	7.1	Engine Manufacturer/Type	VOLVO TAD1181VE	VOLVO TAD1181VE	VOLVO TAD1181VE	VOLVO TAD1181VE	
7.2		Emission STD	hp(kW)	355(265)	355(265)	355(265)	355(265)	
7.3		Engine Power	r/min	2100	2100	2100	2100	
7.4		Rated Speed	(-)/(cm ³)	6/10840	6/10840	6/10840	6/10840	
		Number of Cylinders/Displacement		Tier 4F	Tier 4F	Tier 4F	Tier 4F	
7.9		Vehicle Electrical System Voltage	V	24	24	24	24	
7.10		Battery Voltage/Nominal Capacity	V/Ah	2x12/180	2x12/180	2x12/180	2x12/180	
		Rated Torque	Nm/r/min	1795/1400	1795/1400	1795/1400	1795/1400	
		Transmissions Manufacturer		DANA	DANA	DANA	DANA	
		Transmissions Type		TE-30	TE-30	TE-30	TE-30	
	Stage FwD/RVS		5/3	5/3	5/3	5/3		
Additional Data	10.1	Operating Pressure for Attachments	bar	270	270	270	270	
	10.2	Oil Volume for Attachments	l/min	510	510	510	510	
	10.3	Hydraulic Tank Capacity (drain & refill)	liter	600	600	600	600	
	10.4	Fuel Tank Capacity	liter	600	600	600	600	
	10.7	Sound Pressure Level at the Driver's Seat	dB (A)	75	75	75	75	



83,000-105,000lb Load Capacity Chart



**Reliable, Efficient,
& Solid**

