



HANGCHA

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XF Series Diesel Pneumatic Tire Forklift

with capacities of 17,500 to 22,000lbs

Making Material Handling Easier
SINCE 1956



Simple
Smart
Solid



Diesel Powered HANGCHA Forklifts

Efficient, reliable solutions to meet your demands.



DEUTZ

TIER 4F

Hangcha uses the powerful DEUTZ diesel engine in our pneumatic tire forklifts. The DEUTZ engine is Tier 4F compliant. The engine uses common rail fuel systems, diesel oxidation catalysts (DOC), and diesel particulate filters (DPF) to meet the Tier 4F compliance. This engine helps the Hangcha forklifts maximize their efficiency and reliability for the end-user.



The applied optimized exhaust muffler, intake muffler and the noise shield technologies are reduced 3dB at the driver's ear noise level.

Productivity

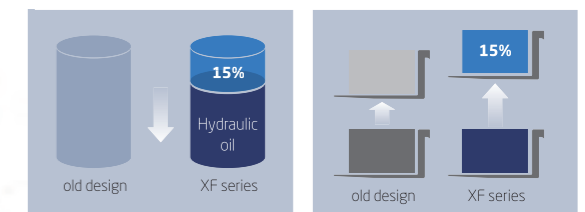
Thanks to a series of technological innovations, the efficiency of the truck is improved and energy consumption is reduced.



By optimizing the transmission design, the maximum driving speed is increased by **20%**



The new efficient lighting system uses LED's and a new type of reflector to reduce energy consumption. This significantly improves illumination performance while also prolonging operation time.



The new dynamic load sensing hydraulic steering system requires 15% less hydraulic oil while providing a 15% increase in lifting speed.

Operator Comfort

While developing the 17,500-22,000lb XF Series, comfort and ease of operation were carefully considered. The engineers decreased vibration levels by using a compound engine damper and full floating seat and cabin. The forklift was made more comfortable because a comfortable operator leads to increased operational productivity.

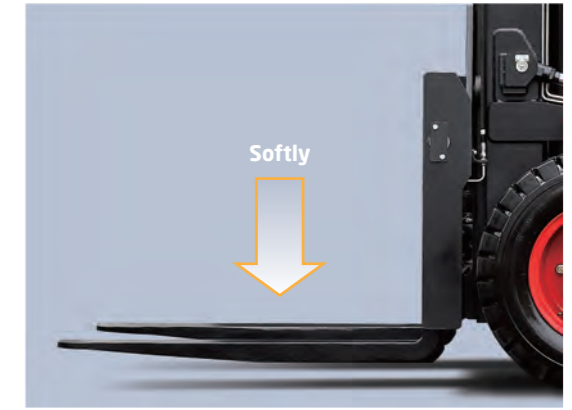


The foot space is now 30% wider to significantly reduce operator fatigue. The new wide, non-slip step makes getting in and out of the forklift safe and easy.

The easy-to-operate levers provide total load handling operation. The armrest is provided to reduce fatigue. The optional electro-hydraulic proportional control system gives the forklift the ability to make load handling more sensitive and precise.



The mast was redesigned to provide broad forward visibility. This was done by relocating the hydraulic pipes of fork positioner to the outside of the mast.



In addition to the soft landing system, the soft lifting system is adopted (front lifting cylinders of the full free lift 2 & 3 stage masts). As a result, the noise and shock of the mast significantly decrease when lowering materials.

Comfortable Operation

1. The new relocated, easy-to-see LCD instrument display lets the operator check on all aspects of operational status with a glance.
2. The new automobile-style light/turn-signal stalk and the forward-reverse lever are ergonomically designed and arranged to improve comfort and productivity.
3. Only 90N of force is required to engage the parking brake.
4. The small diameter steering wheel, with tilt adjustment, provides an optimal driving position for the operator. The superior responsiveness of the steering wheel optimizes maneuverability even in narrow spaces.
5. The automobile-style suspended pedals provide a more ergonomic, operator centered experience.



Reliability

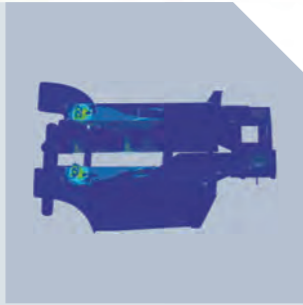
By focusing on enhancing reliability and reducing downtime, the XF Series is able to increase productivity for the end-users.

The patented plated-fin aluminum radiator is used to increase cooling and improved the forklifts capability in harsh, hot environments.



Dampening pads are placed where the chassis meets the steering axle, engine, torque converter, and the overhead guard. The suspension seat also comes standard. This is all included in the design to reduce the amount of vibration to the operator and increase operator comfort.

The chassis, mast, and front/rear axle designed to be strong. These components are also made with durable components. This is all done to increase the safety and reliability of the truck when for use in high strength applications.



The controllers, relays, and safety fuses are all placed in the dust and water-free controller box. The main electronic components are also all waterproof. This allows the operator to use the forklift in wet environments.

Easy Maintenance



Designed for easy inspection and servicing. The XF Series' quick and easy maintenance reduces downtime and operational costs.

The location of the air filter allows for easy reach and replacement when filter needs to be changed.

The brake drum is installed outside of wheel hub allowing for easy removal and installation of the brake shoes.

The engine oil level dipstick, hydraulic filter, and water separator are easy to reach, and allow for easy maintenance.

The gas spring support for the front cover of radiator auto-opens when the rear cover of radiator is opened.

The new stamped air cleaner featuring tangential intake, double seal with safety filter is durable, corrosion-free and vibration-resistant, provides better filter efficiency and lower intake resistance than the previous.



The brake and steering hydraulic systems are separated to prevent interference between each other and increase reliability.

The battery is located above the fuel tank in a battery box. An adiabatic plate is placed between the box and the fuel tank to prolong the battery's working life.



The gearbox oil is fed through a return oil filter and multi-valve to improve the cleanliness of the hydraulic oil and improve the systems working life.

Safety

A wide range of technology is applied to ensure absolute safety for both the operator and those in the vicinity.



There's an energy accumulator in the braking system. This allows for the brakes to continue to function after the engine is shut off.



There is a locking mechanism found on the engine hood, damper and the parking brake for the operator's safety.



1. The Operator Presence Sensing System incorporates a lifting, tilting, and traveling stop function. When the operator leaves the seat, the system automatically locks the lifting/tilting functions and disables the forklift from traveling to ensure safety.
2. The throttling device locks the mast in place if there is a hydraulic failure. This adds to the operational safety of the truck.

Standard Specification

Transmission	Steering	Chassis	Control	Hydraulic
/ Suspension Transmission / Oil Filter / Dipstick / Oil Cooler / Non-Asbestos Brakes / Wet Brakes	/ Full Hydraulic Power Steering / Smaller Diameter Steering Wheel / Adjustable Steering Wheel / Steering Axle Shock Absorber	/ Skidproof Pedal / Rubber Pedal / Engine Hood Spring	/ Power Steering / Suspension Pedal / Integrated Combination Switch / Parking Brake	/ Dynamic Load Sensing Control Valve / Hydraulic Oil Filter / Tilt Cylinder Self-Lock Valve / Hydraulic Oil Dipstick / Accumulator / Hydraulic Oil Radiator

Truck	Power	Electronics	Mast
/ Traction Device / Hand Grip / Standard Seat / Floating/Waterproof Overhead Guard / Rearview Mirror / Air Pneumatic Tires / Fan Protector / Boot for Tilt Cylinder	/ Large Capacity Aluminum Radiator / Whirlwind Air Cleaner / Safety Filter / Highly Efficient Intake Muffler / Highly Efficient Exhaust Muffler / Overhead Gaurd Exhaust System	/ Highly Efficient LED Headlights & Taillights / Maintenance Free Battery / Combination Controller / LCD Display / Neutual Switch / Hour Meter / Fuel Gauge / Water Temperature Gauge / Strobe Light	/ Pre-Heat Indicator / Charging Indicator / Engine Fuel Pressure Warning / Oil Temperature / Horn / Reverse Alarm / Air Filter with Jam Sensor / Emergency Cut Off / Operator Presence Sensing System (OPS)



Options

- / Full Cabin
- / Cabin Heater
- / Front Window with Wiper
- / Solid Pneumatic Tire
- / Non-Marking Tire
- / Full Suspension Seat
- / Fire Extinguisher
- / Special Colors
- / Counterweight Grill
- / Air Pre-Cleaner
- / Radiator Screen
- / Fan Protector
- / Auxiliary Hydraulic Valve
- / Electro-Hydraulic Proportional Control System
- / Front Working Light
- / Rear Working Light
- / Full Free Lift 2 Stage Mast
- / Full Free Lift 3 Stage Mast
- / Various Special Forks
- / Wider Fork Carriages
- / Wider Load Backrest
- / Various Specialty Attachments

17500-22000lb XF Series Mast:

Type	Model	Max. Fork Height	Overall Height		Free Lift Without Backrest	Load Distance, Centre of Drive Axle to Fork	Tilt Range FWD/BWD	Load Capacity	
			Lowered	Extended Without Backrest				Load Capacity at 24" Double Tire	
								17500	22000
Limited Free Lift 2 Stage Mast	X80M250	98	96	146	7.8	28.1	6/12	17500	/
	X80M270	106	100	154	7.8	28.1	6/12	17500	/
	X80M300	118	106	166	7.8	28.1	6/12	17500	/
	X80M330	130	112	178	7.8	28.1	6/12	17500	/
	X80M350	138	116	185	7.8	28.1	6/12	17500	/
	X80M360	142	118	189	7.8	28.1	6/12	17500	/
	X80M400	157	126	205	7.8	28.1	6/12	17500	/
	X80M430	169	134	217	7.8	28.1	6/6	17500	/
	X80M450	177	138	225	7.8	28.1	6/6	17500	/
	X80M480	189	144	237	7.8	28.1	6/6	17500	/
	X80M500	197	148	244	7.8	28.1	6/6	17500	/
	X80M550	217	159	265	7.8	28.1	3/6	16314	/
	X80M600	236	169	285	7.8	28.1	3/6	15432	/
	X80M650	256	181	307	7.8	28.1	3/6	12787	/
	X100M250	98	102	160	7.8	28.6	6/12	/	22000
	X100M270	106	106	168	7.8	28.6	6/12	/	22000
	X100M300	118	112	179	7.8	28.6	6/12	/	22000
	X100M330	130	118	191	7.8	28.6	6/12	/	22000
	X100M350	138	122	199	7.8	28.6	6/12	/	22000
	X100M360	142	124	203	7.8	28.6	6/12	/	22000
X100M400	157	132	219	7.8	28.6	6/12	/	22000	
X100M430	169	140	231	7.8	28.6	6/6	/	22000	
X100M450	177	144	238	7.8	28.6	6/6	/	22000	
X100M480	189	150	250	7.8	28.6	6/6	/	22000	
X100M500	197	154	258	7.8	28.6	6/6	/	22000	
X100M550	217	165	278	7.8	28.6	3/6	/	19872	
X100M600	236	175	297	7.8	28.6	3/6	/	17637	
X100M650	256	187	317	7.8	28.6	3/6	/	14771	
Full Free Lift 2 Stage Mast	X80U230	91	93	138	45	28.3	6/12	17500	/
	X80U250	98	96	146	49	28.3	6/12	17500	/
	X80U270	106	100	154	53	28.3	6/12	17500	/
	X80U300	118	106	166	59	28.3	6/12	17500	/
	X80U330	130	112	177	65	28.3	6/12	17500	/
	X80U360	142	118	189	71	28.3	6/12	17500	/
	X80U400	157	126	205	79	28.3	6/12	17500	/
	X100U230	91	98	151	38	29.3	6/12	/	220000
	X100U250	98	102	159	42	29.3	6/12	/	22000
	X100U270	106	106	167	45	29.3	6/12	/	22000
	X100U300	118	112	179	51	29.3	6/12	/	22000
	X100U330	130	118	191	57	29.3	6/12	/	22000
X100U360	142	124	203	63	29.3	6/12	/	22000	
X100U400	157	131	218	71	29.3	6/12	/	22000	
Full Free Lift 3 Stage Mast	X80N450	177	108	227	58	29.9	6/6	15432	/
	X80N480	189	112	239	62	29.9	6/6	15432	/
	X80N500	197	116	250	63	29.9	6/6	14330	/
	X80N550	217	122	268	71	29.9	3/6	13448	/
	X80N600	236	128	286	78	29.9	3/6	12346	/
	X80N650	256	139	309	87	29.9	3/6	11023	/
	X80N700	276	146	327	94	29.9	3/6	9259	/
	X100N450	177	112	238	51	31.3	6/6	/	18739
	X100N480	189	116	250	55	31.3	6/6	/	18739
	X100N500	197	120	258	59	31.3	6/6	/	18078
X100N550	217	126	278	65	31.3	3/6	/	16976	
X100N600	236	132	297	71	31.3	3/6	/	15432	
X100N650	256	143	317	82	31.3	3/6	/	13669	
X100N700	276	150	337	89	31.3	3/6	/	11464	

With sideshifter minus 1102lbs, with integral sideshifter minus 882lbs

XF Series Pneumatic Forklift 17,500-22,000lb Specification

		HANGCHA GROUP CO.,LTD.			
Distinguishing Marks	1.1	Manufacturer			
		HCFA Model	FD80G	FD100G	
	1.2	Manufacturer's Type Designation	CPCD80-XW75G	CPCD100-XW75G	
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas	Diesel	Diesel	
	1.4	Operator Type: hand, pedestrian, standing, seated, order-picker	Seated	Seated	
	1.5	Rated Capacity/Rated Load	Q (lb)	17500	22000
	1.6	Load Centre Distance	c(in)	24	24
	1.8	Load Distance, centre of drive axle to fork	x(in)	28	29
	1.9	Wheelbase	y(in)	102	110
Weight	2.1	Service Weight	lb	26455	30423
	2.2	Axle Loading, laden front/rear	lb	39639/4453	47432/5015
	2.3	Axle Loading, unladen front/rear	lb	10626/15829	14175/16248
Tires & Chassis	3.1	Tires: solid rubber, superelastic, pneumatic, polyurethane		Pneumatic	Pneumatic
	3.2	Tire Size, front		9.00-20-14PR	9.00-20-14PR
	3.3	Tire Size, rear		9.00-20-14PR	9.00-20-14PR
	3.5	Wheels, number front rear (x = driven wheels)		4x/2	4x/2
	3.6	Tread, front	b ₁₀ (in)	64.1	64.1
	3.7	Tread, rear	b ₁₁ (in)	66.9	66.9
	Dimensions	4.1	Tilt of Mast/Fork Carriage Forward/Backward	α/β(°)	6/12
4.2		Height, mast lowered	h ₁ (in)	106.3	112.2
4.3		Free Lift	h ₂ (in)	7.9	7.9
4.4		Lift	h ₃ (in)	118	118
4.5		Height, mast extended	h ₄ (in)	165.2	178.9
4.7		Height of Overhead Guard	h ₆ (in)	101.6	101.6
4.8		Seat Height	h ₇ (in)	59.3	59.3
4.12		Coupling Height	h ₁₀ (in)	19.9	19.9
4.19		Overall Length	l ₁ (in)	216	226
4.20		Length to Face of Forks	l ₂ (in)	157	167
4.21		Overall Width	b ₁ (in)	85.2	85.2
4.22		Fork Dimensions	s/e/l (in)	3.0x6.3x59.1	3.1x6.3x59.1
4.23		Fork Carriage DIN 15173, class/type A, B		IV A	IV A
4.24		Fork-Carriage Width	b ₃ (in)	78.7	78.7
4.31		Ground Clearance, laden, mast	m ₁ (in)	7.3	7.3
4.32		Ground Clearance, centre of wheelbase	m ₂ (in)	13.3	13.3
4.34.1		Aisle Width for Pallets 39" x 47" Crossways	A _{st} (in)	221.9	231.2
4.34.2		Aisle width for pallets 31.5" x 47" Lengthways	A _{st} (in)	229.7	239.1
4.35	Turning Radius	W _a (in)	146.9	155.1	
4.36	Internal Turning Radius	b ₁₃ (in)	53.1	55	
Performance Data	5.1	Travel Speed, laden/unladen	mph	-/17.7	-/17.7
	5.2	Lift Speed, laden/unladen	ft/min	76.8/-	62.4/-
	5.3	Lowering Speed, laden/unladen	ft/min	89.6/-	89.6/-
	5.5	Drawbar Pull, laden/unladen	N---ibf	65000/45000	72000/49000
	5.7	Gradeability, laden/unladen	%	>20/-	>20/-
	5.10	Service Brake		Wet brake	Wet brake
	Combustion Engine	7.1	Engine Manufacturer/Type		Deutz TCD 3.6L4f
		Engine Standard		Tier 4F	Tier 4F
7.2		Engine Power according to DIN ISO 1585	HP	114	114
7.3		Rated Speed	r/min	2200	2200
7.4		No. of Cylinders/Displacement	(-)/(in ³)	4/220	4/220
	Transmission Manufacturer		ZF	ZF	
Additional Data	10.1	Operating Pressure for Attachments	bar	195	195
	10.2	Oil Volume for Attachments	l/min	57	57
	10.8	Towing Coupling, type DIN 15170		Pin	Pin

