HELI

CPCD 55/60/70 /85/100

CU1ZG3/CU1G3

Configuration		
Parts		**High configuration**
Smart safety parts	Intelligent shifting transmission box	●
	Wet type brake drive axle	○
	Hydraulic service brake	●
	OPS	●
	Self lock valve of tilting cylinder	●
	FICS	○
	9 inches cyclone air filter with dual cores (with pressure alarm)	●
	Power switch	●
	Oil tank with lock	●
Comfortable parts	Full suspension seat	○
	Lowering buffering for rear lifting cylinder, upper buffering for front lifting cylinder	●
	Adjustable steering column	●
	Reversing handle with integrated horn	●
	USB interface	●
	Instrument identification (card swipe or password for start)	○
	Fan	○
	Reversing speaker	○
Environment friendly parts	Meet the latest emission requirements(EU V)	●
	Load sensing steering	●
	LCD instrument	●

Note: "●" standard; "○" optional

Configuration		
Parts		**High configuration**
Cab	Front windshield (with wiper)	○
	Rear windshield	○
	Panel mounted cab	○
	Panel mounted cab (with heater)	○
	Panel mounted cab (with heater and air conditioner for cooling)	○
	Panel mounted cab (with air conditioner for cooling)	○
	Panel mounted cab (with air conditioner)	○
Lights	LED lights for whole truck	●
	LED rear working lights (2)	○
	Warning light (rotating)	○
	Warning light (rotating and buzzer)	○
	Blue light	○
Lifting system	Normal mast	●
	Full free mast (two stage or three stage)	○
	Non-standard attachment	○
	Mast height	○
	Hydraulic fork positioner (8.5-10t)	●
	Fork carrier (5-7t)	●
	Backrest (5-7t)	●
	Sharp type fork	○
	Winder fork carrier	○
Others	Metric thread	●
	American thread	○
	Solid tyre	○
	Traceless solid tyre	○
	Sleeve for tilting cylinder	●
	Sleeve for steering cylinder	●
	Universal key	○
	Customer made color	○

Note: "●" standard; "○" optional



11000-22000lbs

G3 series Internal Combustion Counterbalanced Forklift Truck

HELI AMERICA INC

ADD: 4025 Welcome All Road, Suite 150 Atlanta, GA30349, U.S.A.

E-MAIL:heli@heliforkliftamerica.com

TEL: 404-242-3288

* Our products are subject to improvements and changes without notice.

FIC(G3)008 MN
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Our power and confidence are from reliable high quality products.

Elegance in appearance,excellent in performance

Ecology and saving

The Euro V power engine is equipped with DOC+DPF+SCR post-treatment technology meeting the most stringent emission standards.





CUMMINS QSF3.8 Euro V/ T4F



YUCHAI YCA05115-S500 (optional)



LED lighting system
Low energy consumption, high brightness and long life.

Variable piston hydraulic pump

A reliable drive system

The transmission box designed and manufactured by HELI specially for the model is equipped on the truck. As reliable transmission system produced by HELI,it has been validated by over twenty years experience in the world market. Meanwhile, various ancillary devices of the power system ensure the reliability effectively.



Through LCD instrument and good human-computer interaction, the operator can monitor the truck status in real time.



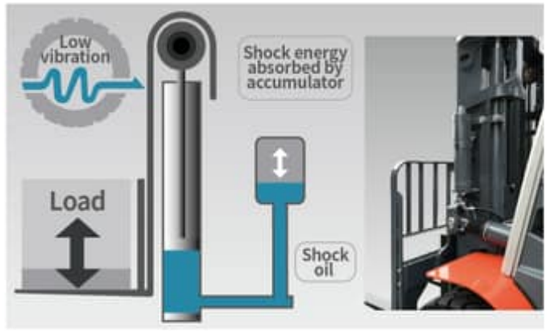
HELI smart fleet management system (optional)

- Vehicle positioning
- Vehicle management
- Remote diagnosis
- Identification recognition (optional)
- Remote monitoring
- Weight management (optional)
- Maintenance reminder
- Collision management (optional)
- Statistical form

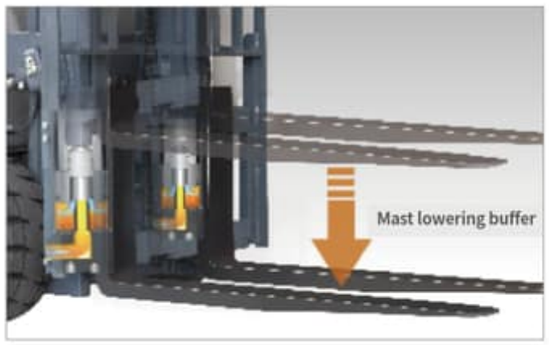


Option configuration of intelligent safety buffer system cushion operator from effects of riding over uneven surface and it is more comfortable.

- **Vibration shock reduction**
  When driving under load conditions, the impact caused by uneven surface is greatly absorbed, and the vibration is effectively reduced.
- **Vibration and noise reduction**
  When driving under load condition, the impact noise caused by uneven surface is greatly reduced.
- **Reduced driving fatigue**
  During the emergency stop operation during the load lowering process, the vibration and driving fatigue caused by inertia impact can be effectively reduced, and the driving safety can be improved.



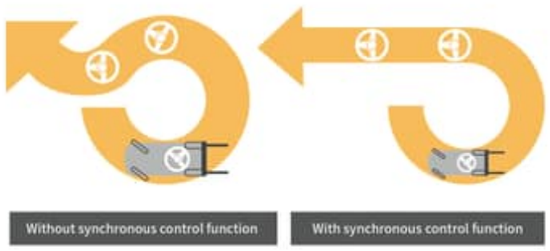
Standard configuration of oil cylinder lower buffer, comfortable operation



Multi system joint optimization design (active noise reduction of engine, transmission box, axle and hydraulic oil pump, application of sealing sound insulation materials of the whole truck) reduces truck noise.



Hydraulic synchronous steering system can adjust steering wheel and wheel angle offset smartly and offers accurate steering and comfortable driving; (optional)



Rachet type parking brake



It contains semi-enclosed normal seat, and adopts the techniques which are weight stepless adjustment and shock absorption,and vacuum cold foam molding.Seat armrest and backrest is a whole. Contact switch is optional.





High efficient and safe

Smart protection on gearbox and engine ensure the safety of the whole truck.



Smart protection on high engine water temperature, low oil pressure, intake pressure and temperature

- Operator present system (after the driver leaves the seat accidentally, walking and lifting function of the whole truck is terminated) prevents the potential safety hazards caused by misoperation.
- When parking brake works, truck travel function is prohibited and thus the safety of driving operation is improved;
- Start protection function, fingertip operation system and anti-restart protection function from non-neutral gear ensure operation safety;
- The truck is equipped with large capacity air filter with safety filter element and pressure alarm function;
- The optimal design of power suspension increases the limit of limit impact to protect the power assembly from accidental impact;
- Truck safety warning: reverse image system, warning light, etc. (optional)

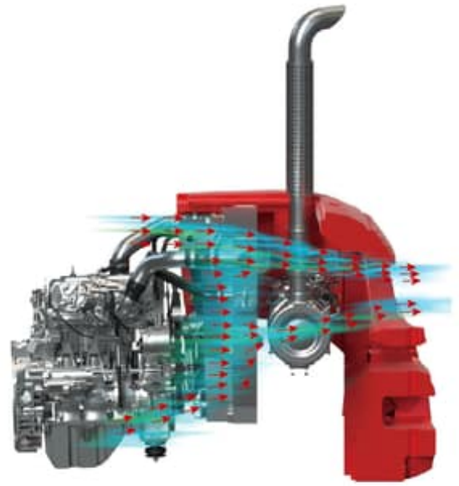


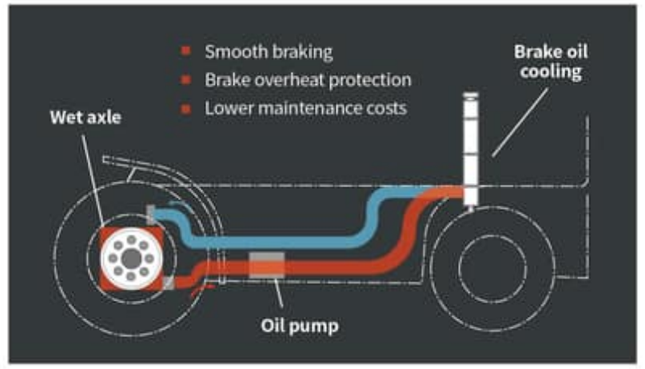


Reliable quality

HELI has been committed to the research of truck reliability for many years, and the core parts have been verified by the market for a long time. The truck goes through high standard reliability test before marketing, long-time quality tracking and verification after marketing, and strict control of various performance indicators.

- The CAE forward design improves the strength of structural parts;
- Wet braking with forced oil cooling radiator ensures the stability and reliability of braking performance under extreme conditions;
- High performance cooling system ensures the heat dissipation performance of the whole truck.

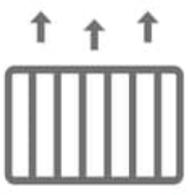






Fan

Air volume	18% ↑
Static pressure	40% ↑
Efficiency	35.7% ↑
Noise	1.5dB(A) ↓
Axial deformation	35.7% ↓



Radiator

Water	15% ↑
Transmission oil	50% ↑

New drive axle oil radiator

Note: the above data are from the comparison with G series 7t intenal combusion forklift truck

Harsh truck key parts endurance reliability test ensures the long-term reliability of core parts.



Fatigue test of drive axle



Fatigue test of steering axle



Fatigue test of lifting system

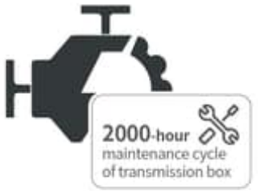


Impact test of overhead guard

Higher standard endurance reliability test and high-intensity industrial verification of the whole truck ensures the reliability of long-term use of the whole truck;

Efficient and convenient maintenance

Super long maintenance cycle of core parts







Integrated electrical cabinet and embedded instrument make disassembly and maintenance easy;

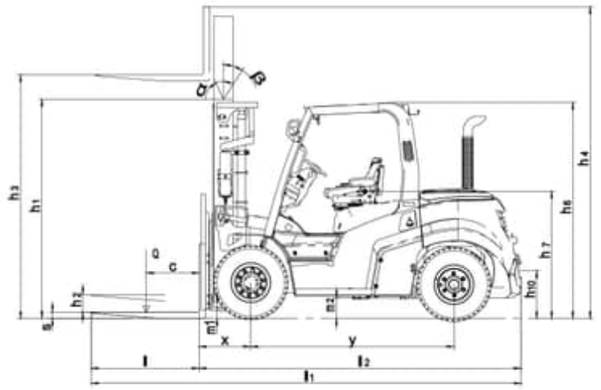


Timely remind maintenance information is given through instrument;

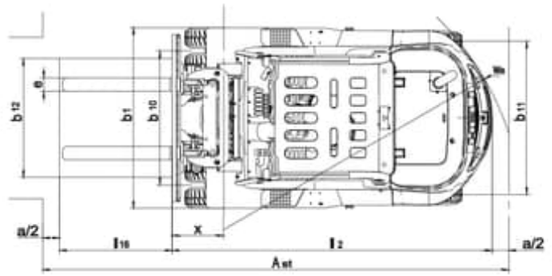
Large opening angle hood and detachable front and rear floor make check and repair easier;



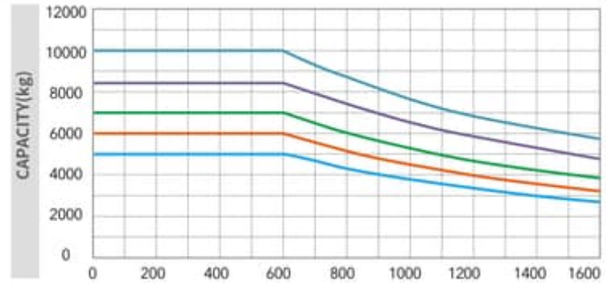
	Manufacturer and Technical Data(Tabulation1)							
	Characteristics							
1.01	Manufacturer			HELI				
1.02	Model			CPCD55	CPCD60	CPCD70	CPCD85	CPCD100
1.03	Configuration number			CU1ZG3/CU1G3				
1.04	Rated capacity	Q	lb	11000	13000	15500	18500	22000
1.05	Load center distance	c	in	24				
1.06	Power mode			Diesel				
1.07	Driving mode			Seat-type				
1.08	Front overhang	x	in	22.6	22.8	23	27	27.6
1.09	Wheelbase	y	in	90.5			98.4	109.3
	Weight							
2.01	Total weight		lb	18673	19841	21164	25573	28219
2.02	Axle load (laden,front/rear)		lb	26455/3240	29519/3549	32606/3990	39022/5291	45636/4630
2.03	Axle load (unladen,front/rear)		lb	9766/8907	9414/10428	9193/11971	10472/15102	13051/15168
	Tyres							
3.01	Tyre type			Pneumatic type				
3.02	Tyre size,front			8.25-15-14PR			9.00-20-14PR	
3.03	Tyre size,rear			8.25-15-14PR			9.00-20-14PR	
3.04	Wheels,number front/rear (x=driven wheels)			4X/2				
3.05	Tread, front	b_{10}	in	60			63	
3.06	Tread, rear	b_{11}	in	67				
	Dimensions							
4.01	Mast tilt angle (forward/backward)	α/β	°	6/12				
4.02	Height (mast lowered)	h_1	in	98			106	112
4.03	Free lifting height	h_2	in	6	6.3	6.5	7.5	7.9
4.04	Lifting height (standard)	h_3	in	118				
4.05	Max. height,extended (with backrest)	h_4	in	173			167	174
4.06	Height of overhead guard	h_6	in	88			101	
4.07	Seat height relating to SIP (to ground)	h_7	in	56.5			60.6	
4.08	Towing coupling height	h_{10}	in	21			23.6	
4.09	Overall length (with fork)	l_1	in	185	189	192	204	213
4.10	Overall length (without fork)	l_2	in	137	141	144	156	165
4.11	Overall width	b_1	in	81			85	
4.12	Fork size:thickness x width x length	s/e/l	in	2.2/5.9/48	2.4/5.9/48	2.6/5.9/48	2.8/6.9/48	3.1/6.9/48
4.13	Fork carriage,according to ISO2328			4A			/	
4.14	Distance across fork-arms, Max./Min.	b_5	in	11.8-72.6			18.5-78.3	18.5-82.7
4.15	Ground clearance (laden,between mast)	m_1	in	7.1			9.8	
4.16	Ground clearance (center of wheelbase)	m_2	in	9.1			12.8	
4.17	Right angle stacking aisle width for pallet 39.4" x47.2" crossways	A_{st}	in	196.8	199	202.2	217.2	229.8
4.18	Right angle stacking aisle width for pallet 31.5"x47.2" lengthways	A_{st}	in	204.7	206.9	210.1	225.1	237.7
4.19	Min. outside turning radius	W_a	in	127	129	132	143	155
	Performance Data							
5.01	Travel speed (laden/unladen)		mph	18/19.3			16.8/18.6	16.8/18.6
5.02	Lift speed (laden/unladen)		ft/min	97.4/102.4	96.4/102.4	95.5/102.4	76.8/82.7	65/68.9
5.03	Lowering speed (laden/unladen)		ft/min	100/90.5			90.5/70.9	
5.04	Max.drawbar pull (laden/unladen)		lbf	17085	16860	16635	17085	17085
5.05	Max.gradeability (laden/unladen)		%	66/19	57/19	50/19	39/19	35/19
	Combustion-engine							
6.01	Engine manufacturer/Moel			CUMMINS QSF3.8 T4F				
6.02	Rated power/Speed		hp/rpm	122/2200				
6.03	Max. torque/Speed		lb.ft/rpm	678/1500				
6.04	Cylinder number-bore x stroke			4-102*115				
6.05	Engine displacement		L	3.8				
6.06	Emission			T4F				
6.07	Transmission geers (front/rear)			Front2/Rear 2, Hydraulic transmission				
6.08	Fuel tank capacity		L	160				
	Addition data							
7.01	Service brake/Parking brake			Power braking / Mechanical				
7.02	Operating pressure for attachments		psi	/				



Ast: Right angle stacking aisle width
a: Clearance
l : Load Length



Load curve



CPCD55 CPCD60 CPCD70 CPCD85 CPCD100

Note: The vertical axis stands for load capacity and the horizontal axis stands for load center which is calculated from the front surface of the forks to the gravity of the standard load. the standard load means a cubic with 1000mm edge length. When mast is tilted forward, using non-standard forks or loading large goods, the load capacity will be reduced. The load capacity of standard mast at different load center can be known from this load chart.

Wide View Standard Mast(11000-15400LB)

Mast model	Max.lifting height (in)	Load capacity (lode center 24 in)(lb)			Height (mast lowered) (in)	Service weight (lb)			Mast tilt angle α/β (deg)
		CPCD55	CPCD60	CPCD70	CPCD55/60/70	CPCD55	CPCD60	CPCD70	
M200	79	11000	13200	15400	81.9	18315	19481	21492	6/12
M250	98	11000	13200	15400	87.8	18456	19622	21540	6/12
M270	106	11000	13200	15400	91.7	18526	19692	21584	6/12
M300	118	11000	13200	15400	97.6	18634	19800	21692	6/12
M330	130	11000	13200	15400	103.5	18742	19908	21800	6/12
M350	138	11000	13200	15400	107.5	18812	19978	21870	6/12
M375	148	11000	13200	15400	112.4	18902	20068	21960	6/12
M400	157	11000	13200	15400	119.3	19268	20434	22326	6/12
M425	167	11000	13200	15400	124.2	19356	20522	22414	6/12
M450	177	11000	13200	15400	129.1	19446	20612	22504	6/12
M475	187	11000	13200	15400	134.1	19536	20702	22594	6/6
M500	197	11000	13200	15400	139	19624	20790	22682	6/6
M550	217	10450	12540	14520	150.8	20051	21217	23109	6/6
M600	236	9680	11880	14080	160.6	20231	21397	23289	6/6

Wide View Full Free 2-Stage Mast(11000-15400lb)

Mast model	Max.lifting height (in)	Load capacity (lode center 24 in)(lb)			Height (mast lowered) (in)	Free lift (with backrest) (in)	Service weight (lb)			Mast tilt angle α/β (deg)
		CPCD55	CPCD60	CPCD70	CPCD55/60/70	CPCD55/60/70	CPCD55	CPCD60	CPCD70	
ZM250	98	11000	13200	15400	87	33.1	18720	19886	21778	6/12
ZM270	106	11000	13200	15400	90.9	37	18801	19967	21859	6/12
ZM300	118	11000	13200	15400	96.9	42.9	18929	20093	21985	6/12
ZM330	130	11000	13200	15400	102.8	48.8	19052	20218	22110	6/12
ZM350	138	11000	13200	15400	106.7	52.8	19133	20299	22191	6/12
ZM375	148	11000	13200	15400	111.6	57.7	19239	20405	22297	6/12
ZM400	157	11000	13200	15400	118.5	64.6	19624	20790	22682	6/12
ZM425	167	11000	13200	15400	123.4	69.5	19738	20904	22796	6/12
ZM450	177	11000	13200	15400	128.3	74.4	19833	20999	22891	6/12
ZM475	187	11000	13200	15400	133.3	79.3	19936	21080	22994	6/6
ZM500	197	11000	13200	15400	138.2	84.3	20018	21184	23076	6/6
ZM550	217	10450	12540	14520	150	96.1	20502	21668	23560	6/6
ZM600	236	9680	11880	14080	159.8	105.9	20711	21877	23769	6/6

Note: (1) 11000-13200lb: the free lift without backrest 10.2" increased, (2) 15400lb: the free lift without backrest 7" increased.

Wide View Full Free 3-Stage Mast(11000-15400lb)

Mast model	Max.lifting height (in)	Load capacity (lode center 24 in)(lb)			Height (mast lowered) (in)	Free lift (with backrest) (in)	Service weight (lb)			Mast tilt angle α/β (deg)
		CPCD55	CPCD60	CPCD70	CPCD55/60/70	CPCD55/60/70	CPCD55	CPCD60	CPCD70	
ZSM360	142	9900	12320	13640	92	35.8	20137	21303	22975	6/6
ZSM400	157	9900	12320	13640	97	40.9	20269	21435	23107	6/6
ZSM435	171	9900	12320	13640	101.8	45.5	20396	21562	23234	6/6
ZSM480	189	9900	12320	13640	108	51.6	20830	21996	23668	6/6
ZSM500	197	9900	12320	13640	110.4	54.3	20898	22064	23736	6/6
ZSM540	213	9240	11660	13200	115.7	59.4	21050	22216	23888	6/6
ZSM600	236	8800	11000	12320	123.4	67.3	21245	22411	24083	6/6
ZSM650	256	7700	9900	11000	134.1	77.8	21441	22607	24279	6/6
ZSM700	276	7040	8800	9900	138.2	82.1	21558	22724	24396	6/6

Note: (1) 11000-13200lb: the free lift without backrest 10.2" increased, (2) 15400lb: the free lift without backrest 7" increased.

Wide View Standard Mast(18500-22000LB)

Mast model	Max.lifting height (in)	Load capacity (lode center 24 in)(lb)		Height (mast lowered)(in)		Service weight (lb)		Mast tilt angle α/β (deg)
		CPCD85	CPCD100	CPCD85	CPCD100	CPCD85	CPCD100	
M250	98	18500	22000	96.5	102.4	24026	27894	6/12
M270	106	18500	22000	100.4	106.3	24145	27982	6/12
M300	118	18500	22000	106.3	112.2	25520	28160	6/12
M330	130	18500	22000	112.2	118.1	25742	28266	6/12
M350	138	18500	22000	116.1	122	26061	28365	6/12
M375	148	18260	22000	121.1	127	26237	28475	6/12
M400	157	18260	22000	128	133.9	26622	28783	6/12
M425	167	17600	22000	132.9	138.8	26963	28904	6/12
M450	177	17600	19800	137.8	143.7	27227	29014	6/12
M475	187	17600	19800	142.7	147.6	27546	29139	6/6
M500	197	17160	19800	147.6	153.5	27799	29260	6/6
M550	217	16500	17600	159.4	165.4	28508	29922	6/6
M600	236	15840	16500	169.3	175.2	28954	30032	6/6

Wide View Full Free 3-Stage Mast(18500-22000LB)

Mast model	Max.lifting height (in)	Load capacity (lode center 24 in)(lb)		Height (mast lowered)(in)		Free lift (with backrest)(in)		Service weight (lb)		Mast tilt angle α/β (deg)
		CPCD85	CPCD100	CPCD85	CPCD100	CPCD85	CPCD100	CPCD85	CPCD100	
ZSM360	142	16500	17600	96.5	68.5	47.2	45.3	26930	29779	6/12
ZSM400	157	16500	17600	101.4	85.4	52.4	50.4	27086	29982	6/12
ZSM435	171	16280	17160	106.3	99.3	57.1	55.1	27249	30158	6/12
ZSM450	177	16060	17160	108.3	123.6	59.1	57.1	27309	30246	6/6
ZSM480	189	15400	16060	112.2	138.3	63	61	27443	30395	6/6
ZSM500	197	15400	16060	116.1	143.1	67	63.6	27566	30496	6/6
ZSM540	213	14520	14960	121.1	158.5	72	71.1	27729	30791	6/6
ZSM600	236	12760	13200	132.9	161.4	84	78.9	28105	31099	6/6
ZSM650	256	11660	12100	141.7	173.6	92.5	85.4	28391	31359	6/6
ZSM700	276	9900	10120	147.6	182.5	98.4	95.9	28585	31750	6/6