



**STRONG PARTNERS.
TOUGH TRUCKS.™**

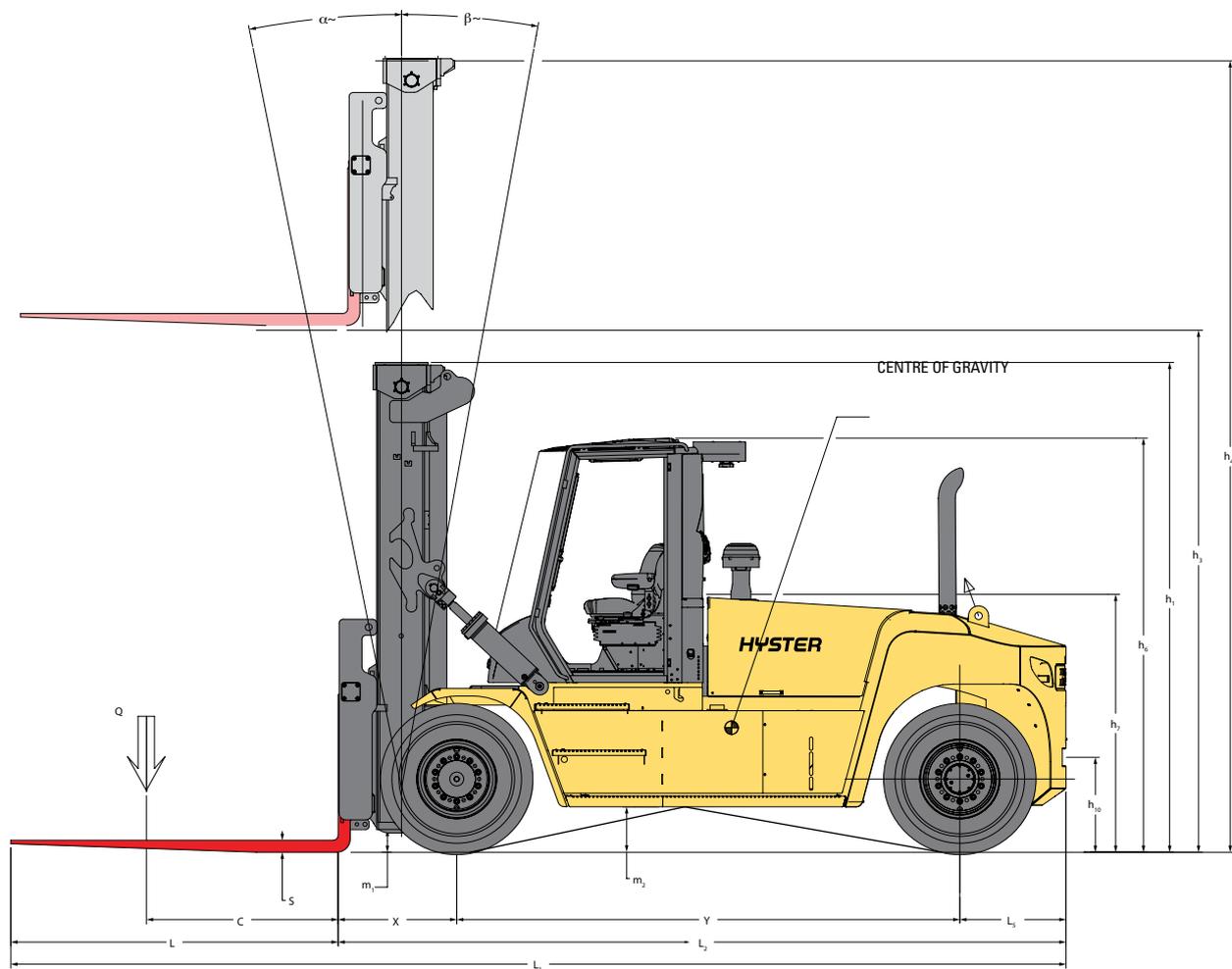


H16-18XD SERIES TECHNICAL GUIDE



WWW.HYSTER.COM

> DIMENSIONS



● = Centre of gravity of unladen truck

$$A_{ST} = W_a + x + l_6 + a \text{ (if } b_{12}/2 < b_{13}\text{)}$$

$$A_{ST} = W_a + ((l_6+x)^2 + (b_{12}/2-b_{13})^{0.5} + a \text{ (if } b_{12}/2 > b_{13} \text{ and } W_a > b_{13} + b_{12}/2\text{)}$$

$$A_{ST} = b_{13} + b_{12}/2 ((l_6+x)^2 + (b_{12}/2-b_{13})^{0.5} + a \text{ (if } b_{12}/2 > b_{13} \text{ and } W_a < b_{13} + b_{12}/2\text{)}$$

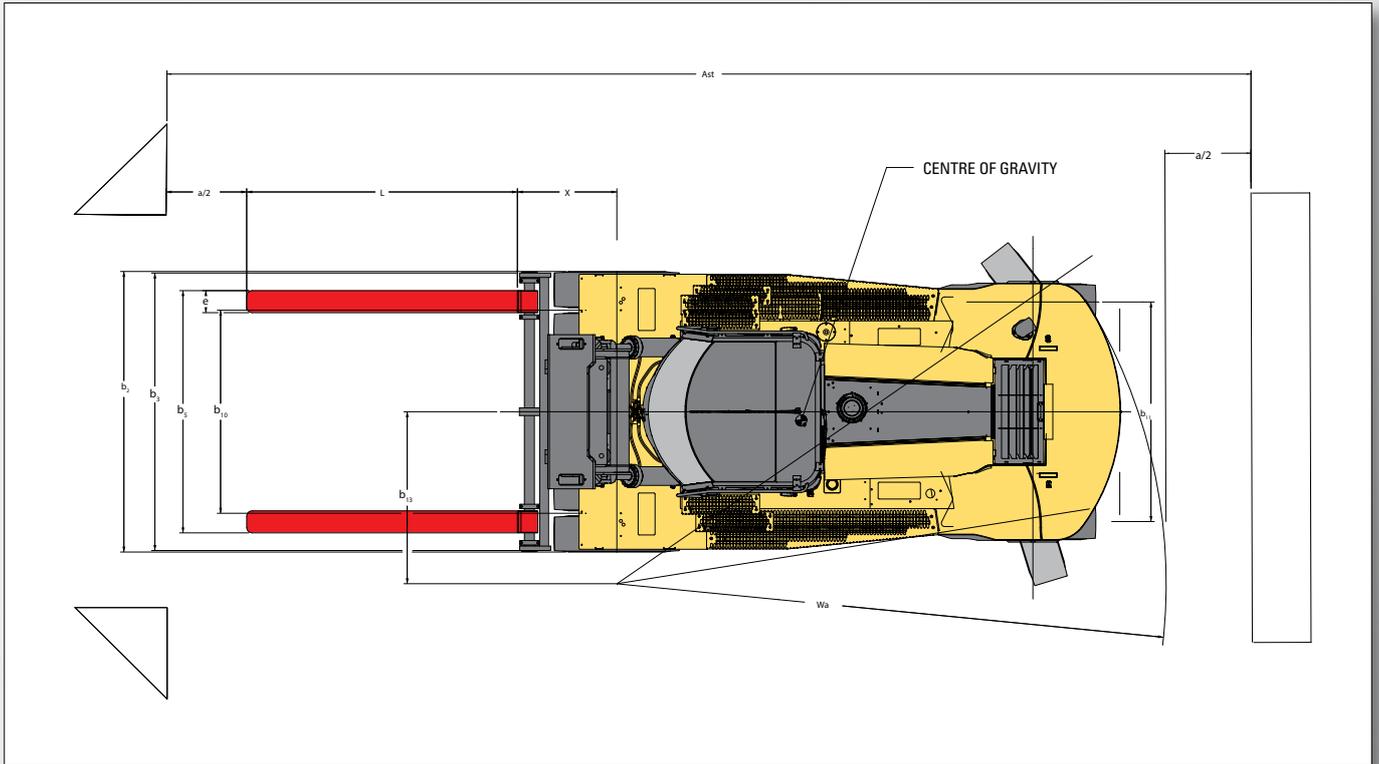
a = Minimum operating clearance = 10% of A_{ST}

(VDI standard = 200 mm BITA recommendation = 300 mm)

l_6 = load lengths

b_{12} = load width

DIMENSIONS <



POWERTRAINS <

GENERAL	1-1	Manufacturer			HYSTER
	1-2	Model designation			H16XD9 / H16XD12 / H18XD7.5 / H18XD9
	1-3	Powertrain / drivetrain			Diesel

ENGINE	7-1	Engine manufacturer / model			Cummins / QSB 6.7
	7-1a	EPA / CE compliance			Stage IV
	7-2	Engine power output according to ISO 1585		kW	122
	7-2-1	Engine power output - Peak		kW	125
	7-3	Rated speed		min ⁻¹	2,300
	7-3-1	Engine torque @rpm (1/min)		Nm/min ⁻¹	732 @ 1,500
	7-4	Number of cylinders / displacement		# / cm ³	6 / 6,700
	7-8	Alternator output		Amps	120
	7-9	Electrical system voltage		V	24
	7-10	Battery voltage, rated capacity		V / Ah	24 / 102

DRIVE	8-1	Drive control / Transmission		Type / #	Hydrodynamic transmission
	8-2	Transmission manufacturer / type		Type / #	ZF / WG161
	8-4	Transmission speeds forward / backward		#	3 / 3
	8-5	Coupling		Type	Torque Converter
	8-6	Wheel drive / drive axle manufacturer / type		Type / #	Kessler D81
	8-11	Service brake		Type	Oil immersed (wet) disc
	8-12	Parking brake		Type	Spring applied, dry disc on drive axle

MISC	10-1	Operating pressure for attachments		bar	19.5
	10-2	Oil volume for attachments		l/m	100
	10-3	Hydraulic tank capacity		l	140
	10-4	Fuel tank capacity		l	206
	10-4-1	DEF/AdBlue Tank capacity		l	19
	10-5	Steering design			Hydraulic power steering
	10-6	Number of steering rotation			5.4
	10-7	Sound pressure level at driver's seat (3)	Lpaz	dB(A)	TBC
	10-7-1	Sound power level during the working cycle (3)	Lwaz	dB	108.1 / 105.1
	10-7-1	Towing coupling, model / type			Yes / Pin

> H16XD9 / H16XD12 SPECIFICATIONS

			HYSTER		HYSTER	
			H16XD9		H16XD12	
GENERAL	1-1	Manufacturer			HYSTER	
	1-2	Model designation			H16XD9	
	1-3	Powertrain / drivetrain			Diesel	
	1-4	Operator type			Seated	
	1-5	Load capacity at load center, nominal (1)	Q	kg	16,000	
	1-6	Load center distance	c	mm	900	
	1-8	Load distance	x	mm	973	
	1-9	Wheelbase	y	mm	3,750	
	WEIGHT	2-1	Service weight (1)			21,837
2-2		Axle loading with load, front / rear		kg	35,318	2,519
2-3		Axle loading without load, front / rear		kg	11,326	10,510
WHEELS	3-1	Tyre type			Pneumatic	
	3-2	Tyre size, front			12.00 R 20	
	3-3	Tyre size, rear			12.00 R 20	
	3-5	Wheels, number front / rear (x = driven wheels)			4X / 2	
	3-6	Tread, front	b ₁₀	mm	2,218	
	3-7	Tread, rear	b ₁₁	mm	1,994	
	DIMENSIONS	4-1	Mast tilt, forward / backward	α/β	deg	6° / 10°
4-2		Height, mast lowered	h ₁	mm	3,985	
4-3		Free lift	h ₂	mm	0	
4-4		Lift	h ₃	mm	4,494	
4-5		Height, mast extended	h ₄	mm	6,232	
4-7		Height of overhead guard (closed cab)	h ₆	mm	3,083	
4-7-1		Height of overhead guard (closed cab)	h ₆	mm	3,110	
4-7-2		Height of overhead guard (closed cab w/ strobe light)	h ₆	mm	3,110	
4-7-3		Height of overhead guard (closed cab w/ work lights)	h ₆	mm	3,205	
4-7-4		Height of overhead guard (closed cab w/ work lights)	h ₆	mm	3,259	
4-7-5		Height of overhead guard (closed cab w/ aircon & strobe light)	h ₆	mm	3,235	
4-8		Seat height to SIP	h ₇	mm	1,903	
4-12		Coupling height	h ₁₀	mm	713	
4-16		Overhang	l ₅	mm	791	
4-19		Overall length	l ₁	mm	7,954	
4-20		Length to face of forks	l ₂	mm	5,514	
4-21		Overall width	b ₂	mm	2,542	
4-22		Fork dimensions ISO 2331	s/e/l	mm	100 / 200 / 2,440	
4-23		Fork carriage type			Dual Function - Sideshift/Fork Positioning	
4-24		Fork carriage width	b ₃	mm	2,540	
4-25		Width over forks (min / max)	b ₅	mm	575	2,425
4-30		Sideshift @ width over forks	b ₈	mm	0-468	1,510
4-31		Ground clearance, laden, below mast	m ₁	mm	187	
4-32		Ground clearance, centre of wheelbase	m ₂	mm	341	
4-33		Load dimension b ₁₂ × l ₆ crossways		mm	2,400	2,400
4-34-1-2		Aisle width, with 200 mm operating clearance	Ast	mm	8,773	
4-34-1-3		Aisle width, with 10% operating clearance	Ast	mm	9,430	
4-35		Outside turning radius	W _a	mm	5,200	
4-36		Internal turning radius	b ₁₃	mm	2,026	
PERFORMANCE		5-1	Travel speed, with / without load (2)		km/h	27.1
	5-1-1	Travel speed, with load locked / without load (2)		km/h	On request	
	5-2	Lifting speed, with / without load backwards		m/s	0.39	0.44
	5-2-1	Lifting speed, with 70% load		m/s	0.42	
	5-3	Lowering speed with / without load		m/s	0.54	0.45
	5-5	Drawbar pull - 1.6 km/h 1 mph, with / without load		kN	106	109
	5-5-1	Drawbar pull - stall, with / without load		kN	120	123
	5-7	Gradeability - 1.6 km/h 1 mph, with / without load		%	30	36
5-7-1	Gradeability - stall, with / without load		%	35	36	

(1) Based on Stage IIIB engine

(2) Travel speed unladen limited at 25 km/h as factory default

H18XD7.5 / H18XD9 SPECIFICATIONS <

			HYSTER		HYSTER	
GENERAL	1-1	Manufacturer			HYSTER	
	1-2	Model designation			H18XD7.5	
	1-3	Powertrain / drivetrain			Diesel	
	1-4	Operator type			Seated	
	1-5	Load capacity at load center, nominal (1)	Q	kg	18,000	
	1-6	Load center distance	c ₁	mm	750	
	1-8	Load distance	x	mm	973	
	1-9	Wheelbase	y	mm	3,750	
	WEIGHT	2-1	Service weight (1)			21,837
2-2		Axle loading with load, front / rear		kg	36,429	2,607
2-3		Axle loading without load, front / rear		kg	11,326	10,510
WHEELS	3-1	Tyre type			Pneumatic	
	3-2	Tyre size, front			12.00 R 20	
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4-33		Load dimension b ₁₂ × l ₆ crossways		mm	2,400	2,400
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PERFORMANCE		5-1	Travel speed, with / without load (2)		km/h	27.4
	5-1-1	Travel speed, with load locked / without load (2)		km/h	On request	
	5-2	Lifting speed, with / without load backwards		m/s	0.37	0.44
	5-2-1	Lifting speed, with 70% load		m/s	0.41	
	5-3	Lowering speed with / without load		m/s	0.54	0.45
	5-5	Drawbar pull - 1.6 km/h 1 mph, with / without load		kN	106	109
	5-5-1	Drawbar pull - stall, with / without load		kN	120	123
	5-7	Gradeability - 1.6 km/h 1 mph, with / without load		%	29	36
	5-7-1	Gradeability - stall, with / without load		%	33	36

(1) Based on Stage IIIB engine

(2) Travel speed unladen limited at 25 km/h as factory default

> MAST AND CAPACITY INFORMATION

H16XD9 RATED CAPACITY KG@ 900 MM LOAD CENTRE/ H16XD12 RATED CAPACITY KG@ 1200 MM LOAD CENTRE

	Lift height h ₃ + s (mm)	Lowered height h ₁ (mm)	Free lift height h ₂ + s (m)	Extended height h ₄ (mm)	QD DFSSFP carriage (kg)	
					H16XD9	H16XD12
2 STAGE NFL	3884	3680	0	5622	16,000	16,000
	4494	3985	0	6232	16,000	16,000
	5306	4391	0	7044	16,000	16,000
	6119*	4798	0	7858	15,700	15,700

H16XD7.5 RATED CAPACITY KG@ 750 MM LOAD CENTRE/ H18XD9 RATED CAPACITY KG@ 900 MM LOAD CENTRE

	Lift height h ₃ + s (mm)	Lowered height h ₁ (mm)	Free lift height h ₂ + s (m)	Extended height h ₄ (mm)	QD DFSSFP carriage (kg)	
					H18XD7.5	H18XD9
2 STAGE NFL	3884	3680	0	5622	18,000	18,000
	4494	3985	0	6232	18,000	18,000
	5306	4391	0	7044	18,000	18,000
	6119*	4798	0	7858	17,650	17,650

NOTES:

Specifications are affected by the condition of the vehicle and how it is equipped, as well as the nature and condition of the operating area. Inform your dealer of the nature and condition of the intended operating area when purchasing your Hyster® truck.

- (1) Based on Stage IIIB engine
- (2) Travel speed laden limited at 25 km/h as factory default
- (3) Stage IV engine measured with low and high mount exhaust options

All capacities are according to EN1551.

MAST TABLE:

* calculated with 350 mm sideshift carriage

NOTICE:

Care must be exercised when handling elevated loads. Operators must be trained and must read, understand and follow the instructions contained in the Operating Manual.

All values are nominal values and they are subject to tolerances. For further information, please contact the manufacturer.

Hyster products are subject to change without notice.

Lift trucks illustrated may feature optional equipment. Values may vary with alternative configurations.

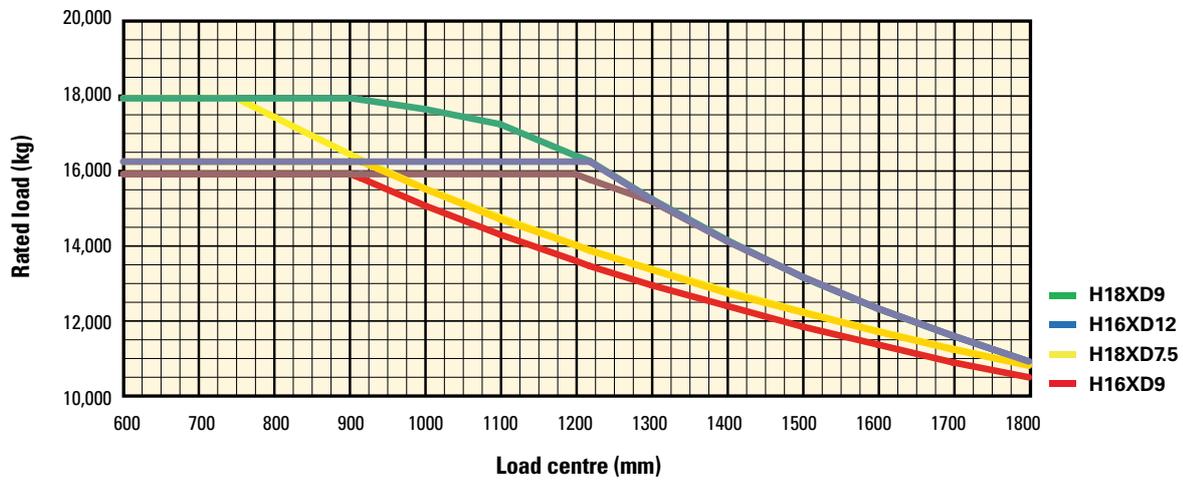
CERTIFICATION: Hyster lift trucks meet the design and construction requirements of B56.1-1969, per OSHA Section 1910.178(a)(2), and also comply with the B56.1 revision in effect at time of manufacture. Certification of compliance with the applicable ANSI standards appears on the lift truck. Performance specifications are for a truck equipped as described under Standard Equipment on this Technical Guide. Performance specifications are affected by the condition of the vehicle and how it is equipped, as well as by the nature, condition of the operating area, proper service and maintenance of the vehicle. If these specifications are critical, the proposed application should be discussed with your dealer.

NOTE: Specifications, unless otherwise listed, are for a standard truck without optional equipment.

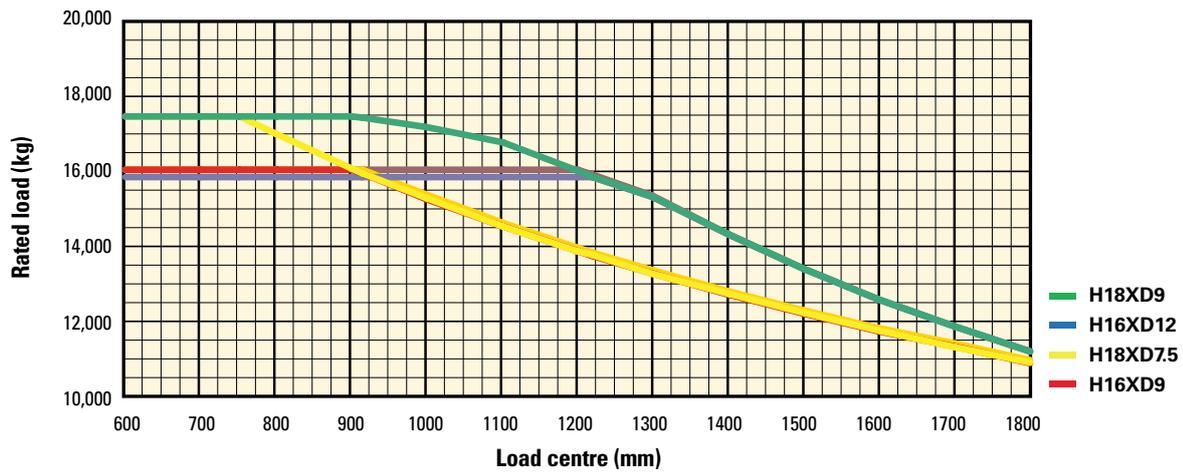
 Safety: This truck conforms to the current EU and ANSI requirements.

Specification data is based on VDI 2198.

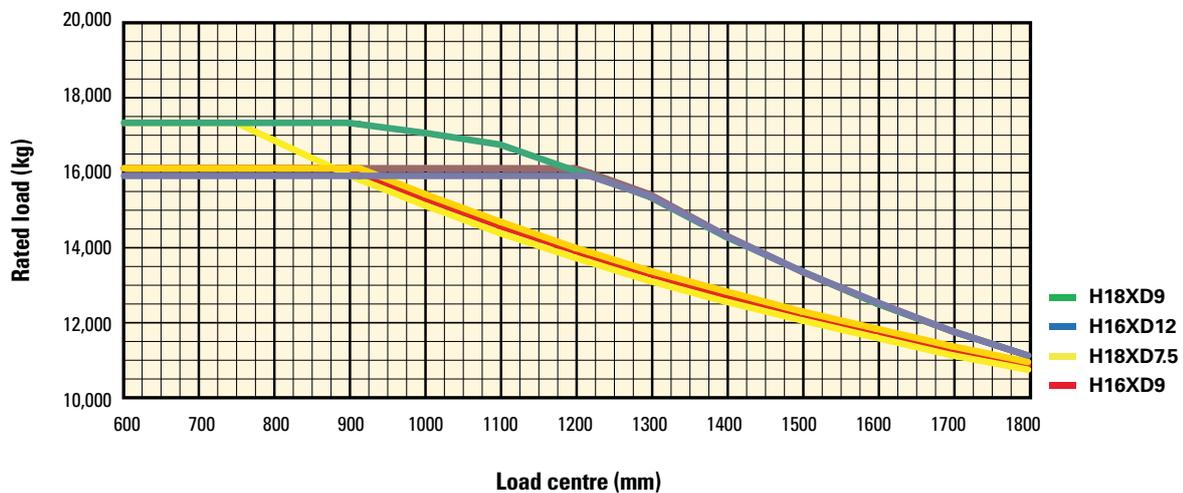
Pin Type Carriage



Pin type Side Shift frame carriage



Hook type Dual Function carriage with Side Shift and Fork positioner for quick disconnect forks



Load centre - distance from front of forks to centre of gravity of load. **Rated load** - based on vertical mast.

> FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
Cummins QSB 6.7L diesel engine rated /122 kW Stage IV / 164 hp Tier 4F	X	
Stage IV / Tier 4 compliant	X	
Variable geometry turbocharger, water cooled	X	
On-demand cooling fan	X	
120 amp alternator	X	
Performance modes	X	
Powertrain protection system	X	
Heavy duty air intake	X	
Heavy duty air intake (raised)		X
High mount exhaust	X	
ZF Transmission WG161 3-speeds forward/3-speeds reverse auto-shifting	X	
Kessler D81 drive axle with wet disc brakes	X	
DRIVE	STD	OPT
Speed limiter - unconditional and customer adjustable		X
Travel speed limiter - loaded (adjustable)		X
12.00 - 20 20 Pneumatic Bias Drive Tyres	X	
12.00 - R20 Michelin XZM Radial drive and steer tyres		X
LIFT	STD	OPT
120cc dual pump hydraulic system	X	
On-demand load sensing hydraulic system	X	
Automatic throttle-up when lifting (in neutral or inching)	X	
2 Stage Non Free Lift mast	X	
2 Stage Full Free Lift mast		X
3 Stage Full Free Lift mast		X
Mast tilt - 6° Forward / 10° Back	X	
Mast tilt - 10.5° Forward / 12° Back		X
Mast tilt - 15° Forward / 10° Back		X
Hydraulic accumulator		X
Pressure compensated lowering	X	
Hydraulic system temperature protection		X
HANDLING	STD	OPT
Mast tilt Indicator - Mechanical		X
2540mm (100") Pin type carriage with mechanical fork locks		X
2540mm (100") Pin type carriage with individual fork positioner		X
2540mm (100") Pin type apron-style sideshift carriage		X
2540mm (100") Pin Dual function sideshift carriage with individual fork positioner with integral forks	X	
2540mm (100") Pin Dual function sideshift carriage with individual fork positioner with Quick Disconnect forks		X
2540mm (100") Pin Ttype apron-style sideshift carriage with individual fork positioner		X
Simultaneous fork positioning		X
2440mm (96") length pin type forks	X	
2440mm (96") length hook type forks		X
2440mm (96") length integral forks		X
ERGONOMICS	STD	OPT
Open operator compartment (without doors and screens)	X	
Enclosed operator cabin		X

ERGONOMICS (continued)	STD	OPT
Powered tilt operator compartment for service		X
Manual tilt operator compartment for service	X	
Isolated cabin mounting for low noise and vibration	X	
Operator presence system	X	
Mechanical suspension seat	X	
Air suspension seat		X
Deluxe air suspension seat		X
Low backrest seat	X	
High backrest seat		X
Additional armrest on left side		X
Cloth seat cover		X
Vinyl seat cover	X	
Seat heating		X
Seat ventilation		X
2-point high visibility seatbelt	X	
3-point high visibility seatbelt		X
Lateral seat sliding mechanism		X
Floor mat	X	
Coat hook	X	
Dimmable interior light		
Front, top and rear wipers	X	
"H"-pattern front wiper		X
"I"-pattern front wiper	X	
Laminated glass operator compartment front window		X
Top window with armoured glass - FOPS certified (enclosed operator cabin)	X	
Steel bars under armoured glass top window (enclosed operator cabin)		X
Tinted operator compartment windows (all)		X
Tinted operator compartment top window		X
Lexan top window		X
Plexiglass shield in front of front window		X
Wire mesh installed on top of operator compartment		X
Vertical steel bar front window guard		X
Operator shield wire mesh		X
7" Integrated performance display	X	
Touchpoint™ mini levers hydraulic control integrated in control arm	X	
Joystick hydraulic control integrated in control arm		X
Steering wheel without spinner knob		X
Steering wheel with spinner knob	X	
Directional control lever	X	
Hyster Monotrol pedal directional control		X
Directional control on Mini-levers or Joystick		X
Park brake - manual	X	
Park brake - automatic		X
Interior wide angle mirrors	X	
Heater with adjustable speed fan	X	
Diesel fueled cabin heater		X
Telescoping and tilting steering column	X	
DC/DC converter 24 volt/12 volt with socket		X

FEATURES AND OPTIONS



ERGONOMICS <i>(continued)</i>	STD	OPT
Air conditioning		X
Automatic climate control		X
Reading light		X
Sun shades on top and rear		X
Sun visors front window		X
Trainer seat		X
Recirculation fan		X
Additional recirculation fan		X
Accessory mounting bar on cab front right pillar		X
Document holder on cab front right pillar		X
Heated top- and/or rear window		X
Radio preparation set-up (wiring, two speakers and antenna)		X
Bluetooth radio with 2 speakers and antenna		X
VISIBILITY	STD	OPT
Exterior mirrors mounted to cab		X
Rear view camera system		X
Radar object detection system		X
Halogen work lights	X	
LED work lights		X
High performance LED work lights		X
Two head lights mounted on front fenders		X
Four mast mounted work lights		X
Four cabin mounted work lights		X
Two rearward work lights mounted on the cabin		X
LED stop/tail/brake lights	X	
Turn signals, hazard and marker lights (LED)	X	
OPERATION	STD	OPT
Air horn 112 dBA		X
Electric horn 105 dBA	X	
Visible alarm – Amber strobe light, key switch activated	X	
Visible alarm – Amber strobe light, switch and key switch activated*		X
Audible alarm – reverse direction activated 82–102 dB(A), self-adjusting	X	
Audible alarm – reverse direction white noise		X
Forward / reverse motion alarm		X
Blue LED spotlight – rear / front and rear		X
Tire pressure monitoring system		X
Air-conditioning or automatic climate control off with open door		X
Automatic truck shutdown with timer		X
Preventative maintenance reminder in display		X
Lockable battery disconnect switch	X	
Battery jump start connector (NATO plug)		X
Truck start with key switch and start button	X	
Operator password (display) for truck start		X
Seatbelt Interlock for truck start		X
Power distribution group with fuses	X	
Fuses partially replaced by electric circuit breakers		X
Non-lockable fuel cap	X	

OPERATION <i>(continued)</i>	STD	OPT
Lockable fuel cap		X
Diesel fuel inlet strainer in filler neck		X
Hyster Tracker wireless asset management system		X
Hyster Tracker wireless asset management - Access / Verification		X
Hyster Tracker wireless asset management - Monitoring		X
Auto greasing system for basic truck and outer mast		X
Centralized greasing provision for upper chain sheaves	X	
24 volt electrical system	X	
Engine block heater 110 and 240 volt		X
Steer wheel lug nut protection		X
Front mud flaps		X
Rear mud flaps		X
Lifting eyes - 2 front and 2 rear		X
Wire mesh belly pan		X
Wire mesh and plates belly pan		X
APPEARANCE	STD	OPT
Hyster yellow paint base truck	X	
Special paint base truck		X
Operator compartment special paint (outside only)		X
Hazard warning striping on counterweight		X
SUPPLEMENTAL	STD	OPT
Literature package	X	
Operator's manual	X	
CE certification*	X	
Warranty: 12 Months / 2,000 Hours manufacturer's warranty		X
Warranty: 24 Months / 4,000 Hours extended warranty	X	

*Standard or optional in selected markets. Other options available through Special Products Engineering Department (SPED). Contact Hyster for details.

> FRONT END EQUIPMENT

RANGE OF 2 STAGE NFL MASTS



RANGE OF PIN TYPE AND HOOK TYPE FORKS



CARRIAGE BASE



CARRIAGE BASE WITH 4WAY VALVE



PIN TYPE CARRIAGE WITHOUT FORK POSITIONER



PIN TYPE CARRIAGE WITH FORK POSITIONER



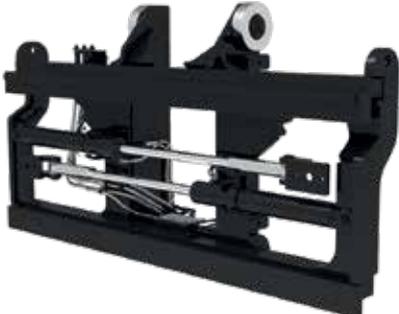
PIN TYPE INTEGRAL SIDESHIFT FRAME CARRIAGE WITHOUT FORK POSITIONER



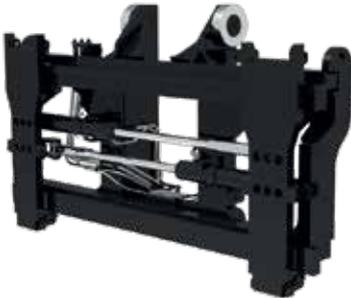
PIN TYPE INTEGRAL SIDESHIFT FRAME CARRIAGE WITH FORK POSITIONER



INTEGRAL HOOK TYPE DUAL FUNCTION SIDESHIFT CARRIAGE WITH FORK POSITIONER



QD HOOK TYPE DUAL FUNCTION SIDESHIFT CARRIAGE WITH FORK POSITIONER



STRONG PARTNERS. TOUGH TRUCKS.™

FOR DEMANDING OPERATIONS, EVERYWHERE.

Hyster supplies a complete range of warehouse equipment, IC and electric counterbalanced trucks, container handlers and reach stackers. Hyster is committed to being much more than a lift truck supplier.

Our aim is to offer a complete partnership capable of responding to the full spectrum of material handling issues: Whether you need professional consultancy on your fleet management, fully qualified service support, or reliable parts supply, you can depend on Hyster.

Our network of highly trained dealers provides expert, responsive local support. They can offer cost-effective finance packages and introduce effectively managed maintenance programmes to ensure that you get the best possible value. Our business is dealing with your material handling needs so you can focus on the success of your business today and in the future.



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