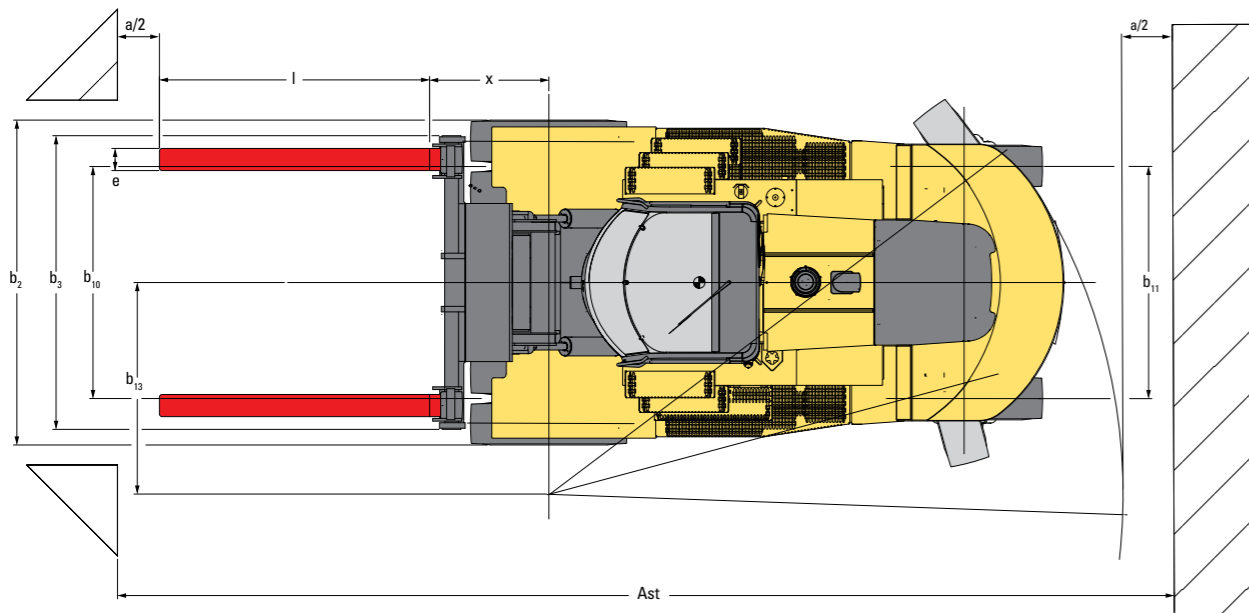
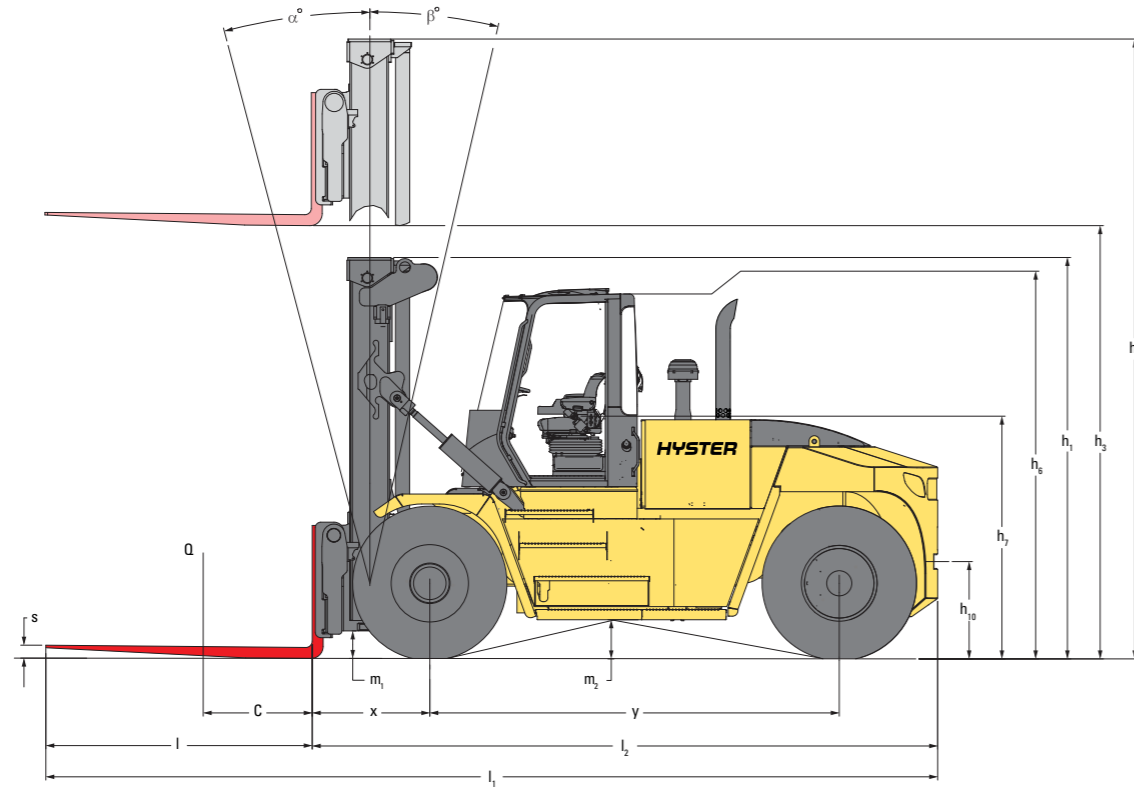




**STRONG PARTNERS.  
TOUGH TRUCKS.™**

# **H 18-20XD SERIES TECHNICAL GUIDE**

**[WWW.HYSTER.COM](http://WWW.HYSTER.COM)**



- ☉ = Centre of gravity of unladen truck
- $A_{ST} = W_a + x + l_6 + a$  (if  $b_{12}/2 < b_{13}$ )
- $A_{ST} = W_a + ((l_6+x)^2 + (b_{12}/2 - b_{13})^2)^{0.5} + a$  (if  $b_{12}/2 > b_{13}$  and  $W_a > b_{13} \cdot b_{12}/2$ )
- $A_{ST} = b_{13} + b_{12}/2 + ((l_6+x)^2 + (b_{12}/2 - b_{13})^2)^{0.5} + a$  (if  $b_{12}/2 > b_{13}$  and  $W_a < b_{13} \cdot b_{12}/2$ )
- $a$  = Minimum operating clearance = 10% of  $A_{ST}$   
(VDI standard = 200 mm BITA recommendation = 300 mm)
- $l_6$  = load lengths
- $b_{12}$  = load width

H18XDS9 / H18XD9 RATED CAPACITY KG @ 900 MM LOAD CENTRE

	Lift height $h_3$ (mm)	Lowered height $h_1$ (mm)	Free lift height $h_2$ (m)	Extended height $h_4$ (mm)	Dual Function Side Shift & Fork Positioning carriage without ZERO IN-TO-IN forklift positioning		
					Capacity @ 900 mm load centre (kg)	Mast tilt (forward/backward) (°)	Capacity @ 1.200 mm load centre (kg)
2 STAGE NFL	3,750	3,692	0	5,517	18,000	10 / 12	16,000
	4,650	4,142	0	6,417	18,000	10 / 12	16,000
	5,400	4,517	0	7,167	18,000	10 / 12	16,000
	6,200	4,917	0	7,967	17,880	10 / 12	15,840
	6,700	5,167	0	8,467	17,700	10 / 12	15,640
	7,000	5,317	0	8,767	17,600	10 / 12	15,520

H20XDS9 / H20XD9 RATED CAPACITY KG @ 900 MM LOAD CENTRE

	Lift height $h_3$ (mm)	Lowered height $h_1$ (mm)	Free lift height $h_2$ (m)	Extended height $h_4$ (mm)	Dual Function Side Shift & Fork Positioning carriage without ZERO IN-TO-IN forklift positioning		
					Capacity @ 900 mm load centre (kg)	Mast tilt (forward/backward) (°)	Capacity @ 1.200 mm load centre (kg)
2 STAGE NFL	3,750	3,780	0	5,605	20,000	10 / 12	18,000
	4,650	4,230	0	6,505	20,000	10 / 12	18,000
	5,400	4,605	0	7,255	20,000	10 / 12	18,000
	6,200	5,005	0	8,055	20,000	10 / 12	17,820
	6,700	5,255	0	8,555	19,940	10 / 7	17,620
	7,000	5,405	0	8,855	19,680	10 / 7	17,500

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) Centre of drive axle to front face of forks
- (2) Unladen with new tyres
- (3) Bottom of forks
- (4) Full suspension seat in depressed position
- (7) Gradeability figures are provided for comparison of tractive performance, but are not intended to endorse the operation of vehicle on the stated inclines.  
Follow instructions in the operating manual regarding operation on inclines.
- (8) Distance centre truck to centre of internal turning radius
- (13) Weights are based on the following specifications: Complete truck with cab, pneumatic tyres, mast as specified, carriage as specified

MAST TABLE:

#) Note: Carriage with ZERO IN-TO-IN forklift positioning not recommended in combination with lift heights above 6200 mm

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.

Hyster trucks are designed to meet ANSI B56.1 section 7.29 and ISO 6055 for overhead guard / operator cabin which are specifically developed for powered industrial trucks. These standards specify the requirements and testing of overhead guards, operators' legs and feet protection, roll-over protection system (ROPS) and falling-object protection system (FOPS) for any type of high lift, rider operated, powered industrial truck.

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

Specification data is based on VDI 2198.

# H18XDS9 / H18XD9 / H20XDS9 / H20XD9 SPECIFICATIONS

# POWERTRAINS

GENERAL	1-1		HYSTER		HYSTER		HYSTER		HYSTER	
	Manufacturer		H18XDS9	H18XD9	H20XDS9	H20XD9				
	1-2	Model designation	Diesel		Diesel		Diesel		Diesel	
	1-3	Powertrain / drivetrain	seated		seated		seated		seated	
	1-4	Operator type	18,000		18,000		20,000		20,000	
	1-5	Load capacity at load center, nominal	Q	kg	18,000		18,000		20,000	
	1-6	Load center distance	c	mm	900		900		900	
	1-8	Load distance (1)	x	mm	1,134		1,134		1,117	
	1-9	Wheelbase	y	mm	3,500		3,750		3,750	
	2-1	Service weight (13)		kg	27,669		27,052		30,030	
	2-2	Axle loading with load, front / rear		kg	42,338	3,331	41,681	3,371	46,343	3,687
	2-3	Axle loading without load, front / rear		kg	13,878	13,791	13,918	13,134	14,817	15,214
	3-1	Tyre type			Pneumatic		Pneumatic		Pneumatic	
	3-2	Tyre size, front			14.00 - 24 24PR		14.00 - 24 24PR		14.00 - 24 24PR	
	3-3	Tyre size, rear			14.00 - 24 24PR		14.00 - 24 24PR		14.00 - 24 24PR	
	3-5	Wheels, number front / rear (x = driven wheels)			x 4 / 2		x 4 / 2		x 4 / 2	
	3-6	Tread, front	b <sub>10</sub>	mm	2,095		2,095		2,095	
	3-7	Tread, rear	b <sub>11</sub>	mm	2,108		2,108		2,108	
	4-1	Mast tilt, forward / backward	α/β	deg	10° / 12°		10° / 12°		10° / 12°	
	4-2	Height, mast lowered (2)	h <sub>1</sub>	mm	4,142		4,142		4,230	
	4-3	Free lift	h <sub>2</sub>	mm	0		0		0	
	4-4	Lift (3)	h <sub>3</sub>	mm	4,550		4,550		4,550	
	4-5	Height, mast extended	h <sub>4</sub>	mm	6,417		6,417		6,505	
	4-7	Cab height (open cab)	h <sub>6</sub>	mm	3,401		3,401		3,401	
	4-7-1	Height of overhead guard (closed cab)	h <sub>6</sub>	mm	3,428		3,428		3,428	
	4-7-2	Height of overhead guard (closed cab w/ airco)	h <sub>6</sub>	mm	3,428		3,428		3,428	
	4-7-3	Height of overhead guard (closed cab w/ strobe light)	h <sub>6</sub>	mm	3,525		3,525		3,525	
	4-7-4	Height of overhead guard (closed cab w/ work lights)	h <sub>6</sub>	mm	3,577		3,577		3,577	
	4-7-5	Height of overhead guard (closed cab w/ airco & strobe light)	h <sub>6</sub>	mm	3,555		3,555		3,555	
	4-8	Seat height relating to SIP (4)	h <sub>7</sub>	mm	2,204		2,204		2,204	
	4-12	Coupling height	h <sub>10</sub>	mm	907		907		907	
	4-19	Overall length	l <sub>1</sub>	mm	7,975		8,225		7,958	
	4-20	Length to face of forks	l <sub>2</sub>	mm	5,535		5,785		5,518	
	4-21	Overall width	b <sub>2</sub>	mm	2,923		2,923		2,923	
	4-22	Fork dimensions ISO 2331	s/e/l	mm	100 / 200 / 2,440		100 / 200 / 2,440		100 / 250 / 2,440	
	4-23	Fork carriage type			Dual Function - Sideshift Fork Positioning QD forks		Dual Function - Sideshift Fork Positioning QD forks		Dual Function - Sideshift Fork Positioning QD forks	
	4-24	Fork carriage width	b <sub>3</sub>	mm	2,672		2,672		2,940	
	4-25	Distance over fork arms, minimum / maximum	b <sub>5</sub>	mm	998	2,443	998	2,443	1,047	2,762
	4-30	Sideshift @ width over forks	b <sub>8</sub>	mm	+/-361	1,721	+/-361	1,721	+/-429	1,904
	4-31	Ground clearance, laden, below mast	m <sub>1</sub>	mm	299		299		270	
	4-32	Ground clearance, centre of wheelbase	m <sub>2</sub>	mm	374		374		374	
	4-33	Load dimension b <sub>12</sub> × l <sub>6</sub> crossways		mm	2,400	2,400	2,400	2,400	2,400	2,400
	4-34-1-2	Aisle width, without operating clearance	A <sub>st</sub>	mm	8,468		8,784		8,451	
	4-34-1-2	Aisle width, with 200 mm operating clearance	A <sub>st</sub>	mm	8,668		8,984		8,651	
	4-34-1-3	Aisle width, with 10% operating clearance	A <sub>st</sub>	mm	9,315		9,662		9,296	
	4-35	Outside turning radius	W <sub>a</sub>	mm	4,934		5,250		4,934	
	4-36	Internal turning radius (8)	b <sub>13</sub>	mm	1,836		2,032		1,836	
	5-1	Travel speed, with / without load		km/h	25	25	25	25	25	25
	5-2	Lifting speed, with / without load backwards		m/s	0.30	0.33	0.45	0.50	0.25	0.28
	5-2-1	Lifting speed, with 70% load		m/s	0.32		0.47		0.27	
	5-3	Lowering speed with / without load		m/s	0.50	0.50	0.50	0.50	0.50	0.50
	5-5	Drawbar pull - 1.6 km/h   1 mph, with / without load		kN	162	165	162	165	161	164
	5-5-1	Drawbar pull - stall, with / without load		kN	200	203	200	203	199	203
	5-7	Gradeability - 1.6 km/h   1 mph, with / without load (7)		%	39	33	39	34	35	32
	5-7-1	Gradeability - stall, with / without load (7)		%	50	33	51	34	44	32
	5-9	Acceleration time, with / without load		sec	On request		On request		On request	

- (1) Centre of drive axle to front face of forks
- (2) Unladen with new tyres
- (3) Bottom of forks
- (4) Full suspension seat in depressed position
- (7) Gradeability figures are provided for comparison of tractive performance, but are not intended to endorse the operation of vehicle on the stated inclines. Follow instructions in the operating manual regarding operation on inclines.
- (8) Distance centre truck to centre of internal turning radius
- (13) Weights are based on the following specifications: Complete truck with cab, pneumatic tyres, mast as specified, carriage as specified

GENERAL	1-1		HYSTER	
	Manufacturer		H18-20XD	
	1-2	Model designation	Diesel	
1-3	Powertrain / drivetrain			

ENGINE	7-1		Cummins / QSB 6.7	
	7-1A	EPA / CE compliance	Stage IIIA	
	7-2	Engine power output according to ISO 1585	kW	164
	7-2-1	Engine power output - Peak	kW	172
	7-3	Rated speed	min <sup>-1</sup>	2,000
	7-3-1	Engine torque @rpm (1/min)	Nm/min <sup>-1</sup>	949 @ 1400
	7-4	Number of cylinders / displacement	# / cm <sup>3</sup>	6 / 6,690
	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		Type / #		Torque Converter	
	8-2	Transmission manufacturer / type	Type / #		ZF - 5WG211	
	8-4	Transmission speeds forward / backward	#		5 / 3	
	8-5	Coupling	Type		Torque Converter	
	8-6	Wheel drive / drive axle manufacturer / type	Type / #		Axle Tech PRC1756W3H	
	8-11	Service brake	Type		Oil immersed disc	
8-12	Parking brake	Type		Dry disc on drive axle		

MISC	10-1		bar		225	
	10-2	Oil volume for attachments	l/m		100	
	10-3	Hydraulic tank capacity	l		203	
	10-4	Fuel tank capacity	l		303	
	10-5	Steering design			Hydraulic power steering	
	10-7	Sound pressure level at the driver's seat	LpAZ	dB (A)	76.0	
	10-7-1	Sound pressure level at the driver's seat	LwAZ	dB	107.3	
	10-8	Towing coupling, model / type			Yes / Pin	

# FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
Cummins QSB 6.7L Stage IIIA diesel engine 164 KW @ 1.800 rpm, 949 Nm @ 1.400 rpm	X	
Heavy duty air intake	X	
Raised air intake - pre-filter		X
Hydrodynamic 5-speed ZF WG211 transmission	X	
Axle Tech PRC1756W3H drive axle with oil-immersed brakes	X	
DRIVE	STD	OPT
Travel speed limiter - unconditional and customer adjustable - pre-set to 16km/h		X
14.00 - 24 24 Pneumatic bias drive and steer tyres	X	
14.00 - 24 Solid drive and steer tyres		X
14.00 - R24 Michelin XZM radial drive and steer tyres		X
14.00 - R24 Trelleborg radial drive and steer tyres		X
Spare wheels and tyres		X
LIFT	STD	OPT
2 stage non-free lift mast	X	
Mast tilt 10° forward / 12° back	X	
Mast tilt 10° forward / 10° back		X
Mast tilt 10° forward / 6° back		X
Mast tilt 10° forward / 7° back		X
Mast tilt 10° forward / 9° back		X
Mast tilt 5° forward / 5° back		X
Tilt indicator, mechanically acting		X
Hydraulic accumulator		X
Pressure compensated lowering	X	

HANDLING	STD	OPT
2680mm Pin type dual function sideshift carriage with simultaneous and independent fork positioner (H18XD)		X
2680mm Hook type dual function sideshift carriage with simultaneous and independent fork positioner (H18XD)	X	
2940mm Pin type dual function sideshift carriage with simultaneous and independent fork positioner (H20XD)		X
2940mm Hook type dual function sideshift carriage with simultaneous and independent fork positioner (H20XD)	X	
2680mm Hook type sideshift carriage with individual fork positioner with 1 auxiliary function (H18XD)		X
2940mm Hook type sideshift carriage with individual fork positioner with 1 auxiliary function (H20XD)		X
1200mm Hook type quick disconnect coil ram		X
1800mm Hook type quick disconnect coil ram		X
200x100x2440 mm Hook type forks capacity 18.000kg @ 900mm LC	X	
200x100x2135 mm Pin type forks capacity 18.000kg @ 900mm LC		X
200x100x2440 mm Pin type forks capacity 18.000kg @ 900mm LC		X
250x100x2440 mm Hook type forks capacity 20.000kg @ 900mm LC	X	
200x100x1525 mm Pin type forks capacity 20.000kg @ 750mm LC		X
200x100x1830 mm Pin type forks capacity 20.000kg @ 900mm LC		X
250x100x2135 mm Pin type forks capacity 20.000kg @ 900mm LC		X
250x100x2440 mm Pin type forks capacity 20.000kg @ 900mm LC		X
Tyre handler - TH20K167 integral		X
Tyre handler - TH20K167 hang-on		X
ERGONOMICS	STD	OPT
Open operating module as overhead guard	X	
Enclosed operator cabin with heating		X

ERGONOMICS (continued)	STD	OPT
Enclosed operator cabin with automatic climate control		X
Manual cab tilt	X	
Electrically powered cab tilt		X
Diesel fueled cab heater		X
H-type double blade wiper on front windscreen		X
I-type single blade wiper on front windscreen	X	
Heated rear window		X
Heated top and rear window		X
Heated top window		X
Top window with armoured glass	X	
Top window with armoured glass and additional steel bars		X
Tinted top cabin window		X
Tinted cabin windows - applied to all windows		X
Wire mesh operator guard		X
Vertical steel bar front screen guard		X
Plexiglass shield in front of front window		X
Armoured glass rain top		X
Wire mesh installed on top of operator compartment		X
2 sun visors for front window		X
Top and rear screen roller sunshade		X
Mechanical suspension cloth seat		X
Mechanical suspension vinyl seat	X	
Air suspension cloth seat		X
Air suspension vinyl seat		X
Deluxe air suspension cloth seat		X
Deluxe air suspension heated cloth seat		X
Deluxe air ride full suspension vinyl with high backrest seat		X
Deluxe air suspension seat with cloth cover, heating and ventilation		X
High and adjustable seat backrest		X
Leftside armrest on operator seat	X	
Lateral sliding mechanism for operator seat		X
Hi-vis red 2 point seat belt	X	
Hi-vis red 3 point seat belt		X
Trainer seat with cloth cover and 2-point high-visibility seatbelt		X
Steering wheel with spinner knob	X	
7" integrated performance display	X	
Accessory mounting bracket on A-pillar		X
Document holder		X
Radio preparation with 2 speakers and antenna		X
Bluetooth radio with 2 speaker and antenna		X
Interior dome light	X	
Reading light		X
Recirculation fan		X
Steer axle with wheel nut protection	X	
VISIBILITY	STD	OPT
2 external mirrors on cab handrail mounted exterior wide angle mirrors		X
2 halogen work lights mast mounted, 2 halogen drive lights with position and direction, front fender mounted, 2 halogen work lights on rear of operator compartment / LED rear ward cluster with stop, tail, indicator & reverse lights	X	
2 LED work lights mast mounted, 2 LED drive lights with position and direction front fender mounted, 2 LED work lights on rear of operator compartment / LED rear ward cluster with stop, tail, indicator & reverse lights		X
4 halogen work lights cab mounted, 2 halogen drive lights with position and direction front fender mounted, 2 halogen work lights on rear of operator compartment / LED rear ward cluster with stop, tail, indicator & reverse lights		X
4 LED work lights cab mounted, 2 LED drive lights with position and direction front fender mounted, 2 LED work lights on rear of operator compartment / LED rear ward cluster with stop, tail, indicator & reverse lights		X
2 HP LED work lights on front mast with 2 on rear and front fenders / brake / tail / back-up lights with turn signals		X
4 HP LED work lights on cab with 2 on rear and front fenders (LED) / brake / tail / back-up lights with turn signals		X
Rear mounted colour camera with rear mounted LCD display		X
Rear mounted colour camera with front mounted LCD display		X
Forward camera mounted on outer mast		X
Forward camera mounted on carriage		X

OPERATION	STD	OPT
Electrical horn		X
Audible reverse alarm		X
Audible alarm - forward / reverse		X
Amber strobe light - ignition activated	X	
Rear-facing cab mounted blue LED spotlight - reverse activated		X
Forward camera mounted on outer mast		X
Forward camera mounted on carriage		X
Park brake - manual	X	
Park brake - automatic		X
Truck start - key switch with start button - without seatbelt interlock	X	
Truck start - key switch with start button and seatbelt interlock		X
Operator password in display - required for truck start		X
Directional lever		X
MONOTROL™		X
Directional control on mini-levers	X	
Directional control on joystick		X
Automatic truck shutdown with timer		X
Delayed engine shutdown for turbo cooldown		X
Air-conditioning shut-off with open door		X
Tyre pressure monitoring system		X
Load weight indicator		X
Engine oil level on display and dipstick		X
Engine oil level on display	X	
Low coolant level indicator on digital operator display	X	
Coolant level sight glass on reservoir		X
Power distribution panel with fuses partially replaced by electric circuit breakers		X
Hydraulic load weighing system		X
Rear radar object detection system		X
Fire resistant hydraulic fluid		X
2 front / 2 rear lifting eyes		X
Greasing base truck		X
Automatic greasing system for base truck and outer mast		X
Centralized greasing system top end mast		X
Mud guards front and rear		X
Mud guards front and rear		X
Lockable fuel cap		X
Non-kockable fuel cap	X	
Stainless steel strainer in fuel neck		X
Hyster Tracker wireless monitoring	X	
Hyster Tracker wireless access		X
Hyster Tracker wireless verification		X
Fleet Management charge		X
DC/DC 24/12V converter with 1 power sockets and 2 USB outlets		X
DC/DC 24/12V converter with 2 power sockets and 2 USB outlets		X
Jump start connector to battery		X
Engine block heater 230V		X
Hydraulic temperature protection		X
APPEARANCE	STD	OPT
Hyster yellow paint base truck	X	
Replace yellow with 1 colour		X
Outside of cab painted special color		X
Complete cab painted special colour		X
Wheel rim side view painted same colour as base truck		X
Counterweight hazard warning stripes		X
SUPPLEMENTAL	STD	OPT
Literature pack		X
CE certification		X
24 months / 4000 hours extended warranty	X	
12 months / 2,000 hours manufacturers warranty		X

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

RANGE OF 2 STAGE NFL MASTS



PIN TYPE AND QUICK DISCONNECT HOOK TYPE FORKS



DUAL FUNCTION PIN TYPE CARRIAGE



DUAL FUNCTION HOOK TYPE CARRIAGE



DUAL FUNCTION HOOK TYPE WITH 2 EXTRA FUNCTIONS CARRIAGE



# HYSTER® DEALERS



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Contact your local Hyster Dealer

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