

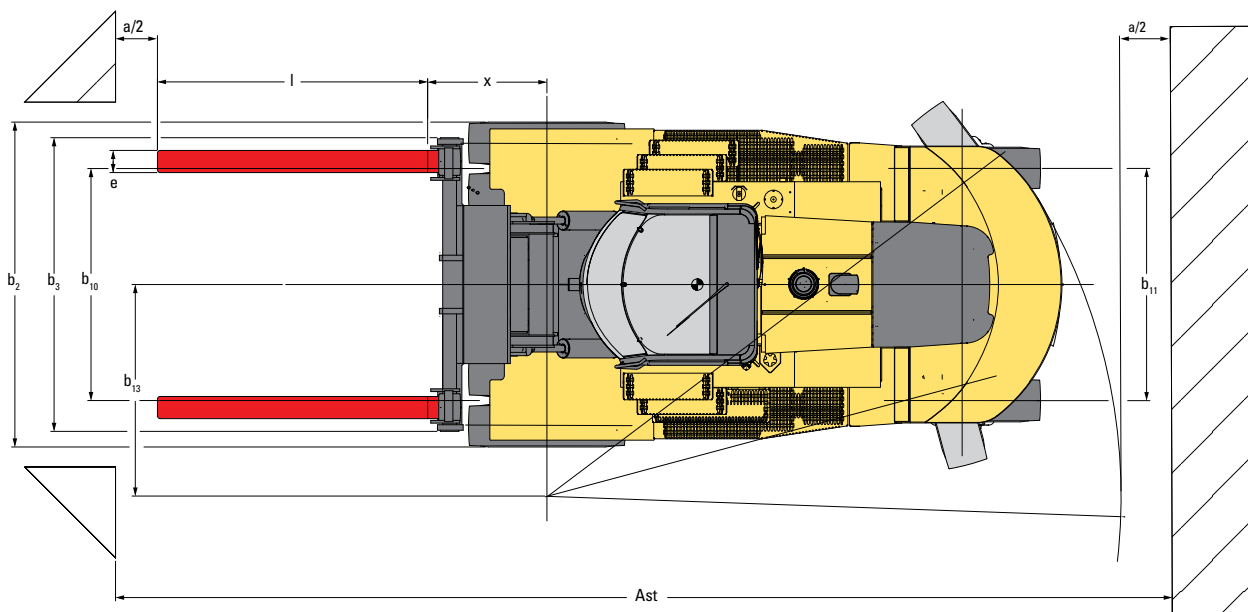
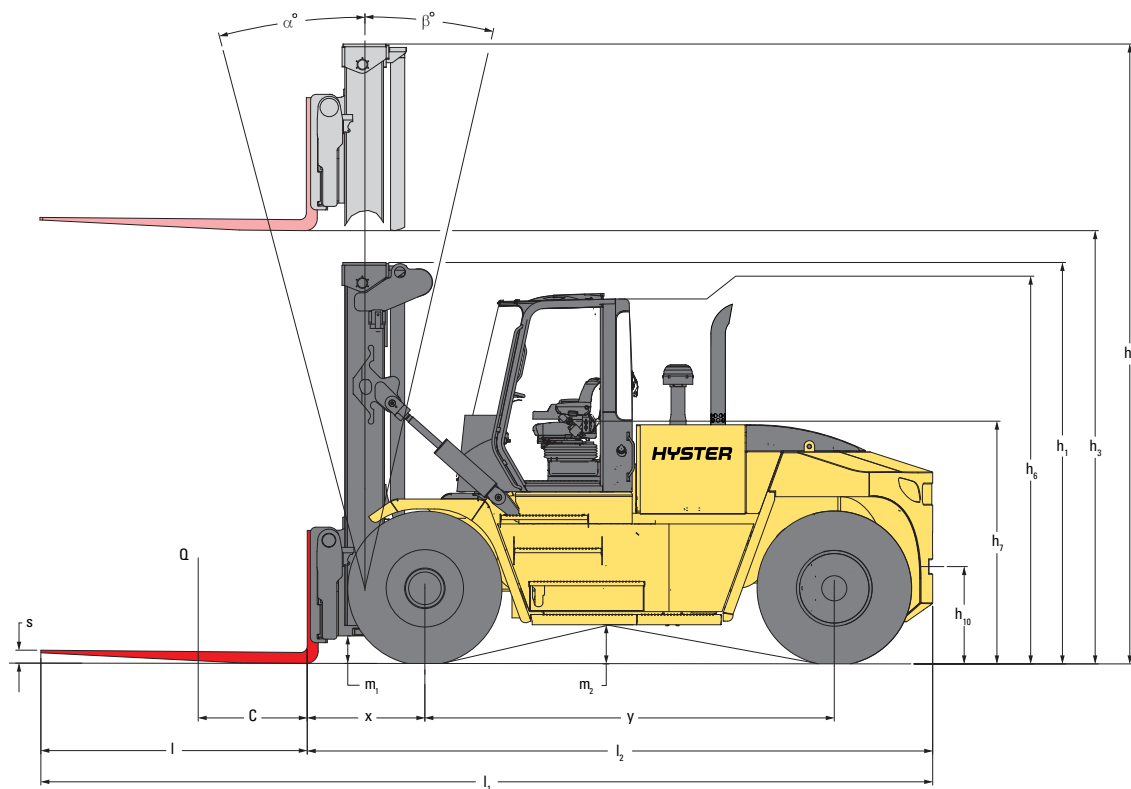


**STRONG PARTNERS.  
TOUGH TRUCKS.™**

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

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



# MAST AND CAPACITY INFORMATION



## H18XDS9 / H18XD9 RATED CAPACITY KG @ 900 MM LOAD CENTRE

	Lift height h <sub>3</sub> (mm)	Lowered height h <sub>1</sub> (mm)	Free lift height h <sub>2</sub> (m)	Extended height h <sub>4</sub> (mm)	Dual Function Side Shift & Fork Positioning carriage without ZERO IN-TO-IN forkpositioning		
					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 <sub>3</sub> (mm)	Lowered height h <sub>1</sub> (mm)	Free lift height h <sub>2</sub> (m)	Extended height h <sub>4</sub> (mm)	Dual Function Side Shift & Fork Positioning carriage without ZERO IN-TO-IN forkpositioning		
					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
- (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

All capacities are according to EN1551.

### MAST TABLE:

#) Note: Carriage with ZERO IN-TO-IN forkpositioning not recommended in combination with liftheights 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.*

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

Specification data is based on VDI 2198.

# > H18XDS9 / H18XD9 / H20XDS9 / H20XD9 SPECIFICATIONS

	GENERAL		WT.		WHEELS		DIMENSIONS		PERFORMANCE	
	Code	Description	Unit	Value	Unit	Value	Unit	Value	Unit	Value
1-1	Manufacturer			HYSTER		HYSTER		HYSTER		HYSTER
1-2	Model designation			H18XDS9		H18XD9		H20XDS9		H20XD9
1-3	Powertrain / drivetrain			Diesel		Diesel		Diesel		Diesel
1-4	Operator type			seated		seated		seated		seated
1-5	Load capacity at load center, nominal	Q	kg	18,000		18,000		20,000		20,000
1-6	Load center distance	c	mm	900		900		900		900
1-8	Load distance	x	mm	1,134		1,134		1,117		1,117
1-9	Wheelbase	y	mm	3,500		3,750		3,500		3,750
2-1	Service weight		kg	27,669		27,052		30,030		28,858
2-2	Axle loading with load, front / rear		kg	42,338   3,331		41,681   3,371		46,343   3,687		45,474   3,384
2-3	Axle loading without load, front / rear		kg	13,878   13,791		13,918   13,134		14,817   15,214		14,716   14,143
3-1	Tyre type			Pneumatic		Pneumatic		Pneumatic		Pneumatic
3-2	Tyre size, front			14.00 - 24 24PR		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		14.00 - 24 24PR
3-5	Wheels, number front / rear (x = driven wheels)			x 4 / 2		x 4 / 2		x 4 / 2		x 4 / 2
3-6	Tread, front	b <sub>10</sub>	mm	2,095		2,095		2,095		2,095
3-7	Tread, rear	b <sub>11</sub>	mm	2,108		2,108		2,108		2,108
4-1	Mast tilt, forward / backward	α/β	deg	10° / 12°		10° / 12°		10° / 12°		10° / 12°
4-2	Height, mast lowered (1)	h <sub>1</sub>	mm	4,142		4,142		4,230		4,230
4-3	Free lift	h <sub>2</sub>	mm	0		0		0		0
4-4	Lift (2)	h <sub>3</sub>	mm	4,550		4,550		4,550		4,550
4-5	Height, mast extended	h <sub>4</sub>	mm	6,417		6,417		6,505		6,505
4-7	Cab height (open cab)	h <sub>6</sub>	mm	3,401		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		3,428
4-7-2	Height of overhead guard (closed cab w/ airco)	h <sub>6</sub>	mm	3,428		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		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		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		3,555
4-8	Seat height relating to SIP (3)	h <sub>7</sub>	mm	2,204		2,204		2,204		2,204
4-12	Coupling height	h <sub>10</sub>	mm	907		907		907		907
4-19	Overall length	l <sub>1</sub>	mm	7,975		8,225		7,958		8,208
4-20	Length to face of forks (4)	l <sub>2</sub>	mm	5,535		5,785		5,518		5,768
4-21	Overall width	b <sub>2</sub>	mm	2,923		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		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		Dual Function - Sideshift Fork Positioning QD forks
4-24	Fork carriage width	b <sub>3</sub>	mm	2,672		2,672		2,940		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		1,047   2,762
4-30	Sideshift @ width over forks	b <sub>6</sub>	mm	+/-361   1,721		+/-361   1,721		+/-429   1,904		+/-429   1,904
4-31	Ground clearance, laden, below mast	m <sub>1</sub>	mm	299		299		270		270
4-32	Ground clearance, centre of wheelbase	m <sub>2</sub>	mm	374		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		2,400   2,400
4-34-1-2	Aisle width, without operating clearance	Ast	mm	8,468		8,784		8,451		8,767
4-34-1-2	Aisle width, with 200 mm operating clearance	Ast	mm	8,668		8,984		8,651		8,967
4-34-1-3	Aisle width, with 10% operating clearance	Ast	mm	9,315		9,662		9,296		9,644
4-35	Outside turning radius	W <sub>a</sub>	mm	4,934		5,250		4,934		5,250
4-36	Internal turning radius (6)	b <sub>13</sub>	mm	1,836		2,032		1,836		2,032
5-1	Travel speed, with / without load		km/h	25   25		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		0.38   0.42
5-2-1	Lifting speed, with 70% load		m/s	0.32		0.47		0.27		0.40
5-3	Lowering speed with / without load		m/s	0.50   0.50		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		161   164
5-5-1	Drawbar pull - stall, with / without load		kN	200   203		200   203		199   203		199   203
5-7	Gradeability - 1.6 km/h   1 mph, with / without load (7)		%	39   33		39   34		35   32		36   34
5-7-1	Gradeability - stall, with / without load (7)		%	50   33		51   34		44   32		46   34
5-9	Acceleration time, with / without load		sec	On request		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

(6) 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	Manufacturer			HYSTER
	1-2	Model designation			H18-20XD9
	1-3	Powertrain / drivetrain			Diesel

ENGINE	7-1	Engine manufacturer / model			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	Drive control / Transmission		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	Operating pressure for attachments		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 independant fork positioner (H18XD)		X
2680mm Hook type dual function sideshift carriage with simultaneous and independant fork positioner (H18XD)	X	
2940mm Pin type dual function sideshift carriage with simultaneous and independant fork positioner (H20XD)		X
2940mm Hook type dual function sideshift carriage with simultaneous and independant 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

## ➤ FEATURES AND OPTIONS

<b>ERGONOMICS</b> <i>(continued)</i>	<b>STD</b>	<b>OPT</b>
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
50% Dark tinted top cabin window		X
50% Dark tinted cabin windows - applied to doors, rear and top 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	
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	
<b>VISIBILITY</b>	<b>STD</b>	<b>OPT</b>
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

<b>OPERATION</b>	<b>STD</b>	<b>OPT</b>
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
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
<b>APPEARANCE</b>	<b>STD</b>	<b>OPT</b>
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
<b>SUPPLEMENTAL</b>	<b>STD</b>	<b>OPT</b>
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**



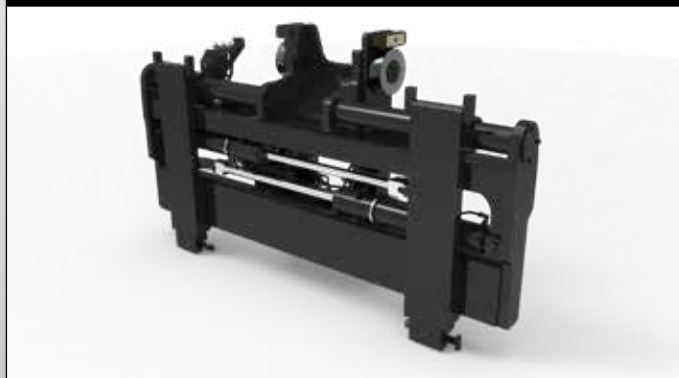
**PIN TYPE AND QUICK DISCONNECT HOOK TYPE FORKS**



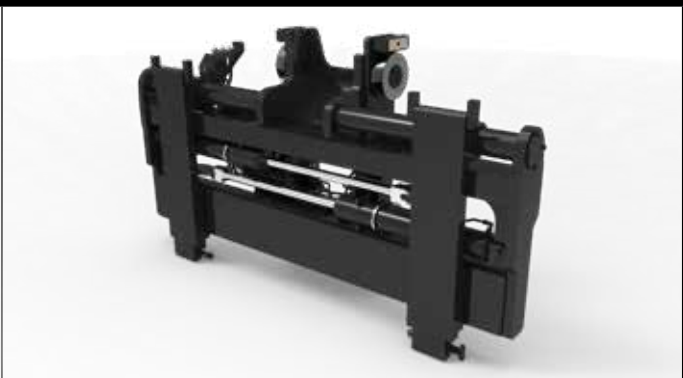
**DUAL FUNCTION PIN TYPE CARRIAGE**



**DUAL FUNCTION HOOK TYPE CARRIAGE**



**DUAL FUNCTION HOOK TYPE WITH 2 EXTRA FUNCTIONS CARRIAGE**



# 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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