



**STRONG PARTNERS.  
TOUGH TRUCKS.™**



# EMPTY CONTAINER HANDLERS

**H18-23XM-12EC**

**8 500 – 9 000 KG @ 1220 MM**



# H18-23XM-12EC

DISTINGUISHING MARKS	
1.1	Manufacturer (abbreviation)
1.2	Manufacturer's type designation
1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas
1.4	Operator type: hand, pedestrian, standing, seated, orderpicker
1.5	Rated capacity/rated load Q (kg)
1.6	Load centre c (mm)
1.8	Load distance, centre of drive axle to face of side lift spreader without / with PPS x (mm)
1.9	Wheelbase y (mm)
1.10.1	Stacking height at first row (number x container height, in feet)
1.10.2	Stacking height at first row (number x container height, in feet)

WEIGHTS	
2.1	Service weight ● kg
2.2	Axle loading, laden front / rear kg
2.3	Axle loading, unladen front / rear kg

TYRES / CHASSIS	
3.1	Tyres: L = pneumatic, V = cushion, SE = Pneumatic Shape Solid
3.2	Tyre size, front
3.3	Tyre size, rear
3.5	Number of wheels, front / rear (X = driven)
3.6	Tread, front ↔ b <sub>10</sub> (mm)
3.7	Tread, rear b <sub>11</sub> (mm)

DIMENSIONS	
4.1	Tilt of mast / fork carriage forward / backward α / β (°)
4.2	Height, mast lowered ○ h <sub>1</sub> (mm)
4.3	Free lift h <sub>2</sub> (mm)
4.4.1	Lift height at load centre c 1, minimum * h <sub>3.1.1</sub> (mm)
4.4.2	Lift height at load centre c 1, maximum * h <sub>3.1.2</sub> (mm)
4.5	Height, mast extended ○ h <sub>4</sub> (mm)
4.7	Height of cabin w/o / with airco h <sub>5</sub> (mm)
4.7.1	Height of cabin with strobe light / with work lights h <sub>6</sub> (mm)
4.7.2	Height of cabin with airco and strobe light h <sub>6</sub> (mm)
4.8	Seat height relating to SIP ○ h <sub>7</sub> (mm)
4.19	Overall length ◆ l <sub>1</sub> (mm)
4.20	Length to face of side lift spreader w/o / with PPS ⇔ l <sub>2</sub> (mm)
4.21	Overall width ↔ b <sub>2</sub> (mm)
4.24	Spreader width, retracted/extended b <sub>3</sub> (mm)
4.31	Ground clearance, laden, below mast m <sub>1</sub> (mm)
4.32	Ground clearance, centre of wheelbase m <sub>2</sub> (mm)
4.34.3.1	Aisle width with 20' container without operating clearance Ast20 (mm)
4.34.3.2	Aisle width with 20' container with 200 mm operating clearance Ast20 (mm)
4.34.3.3	Aisle width with 20' container with 10% operating clearance Ast20 (mm)
4.34.4.1	Aisle width with 40' container without operating clearance Ast40 (mm)
4.34.4.2	Aisle width with 40' container with 200 mm operating clearance Ast40 (mm)
4.34.4.3	Aisle width with 40' container with 10% operating clearance Ast40 (mm)
4.35	Turning radius Wa (mm)
4.36	Internal turning radius ◎ b <sub>13</sub> (mm)

ADDITIONAL DATA	
5.1	Travel speed, laden / unladen ▶ km/h
5.1.1	Travel speed, laden & unlocked / unladen km/h
5.2	Lift speed, laden / unladen m/s
5.2.1	Lift speed, laden with 70% load m/s
5.3	Lowering speed, laden / unladen m/s
5.5	Drawbar pull, laden / unladen kN
5.5.1	Drawbar pull, laden / unladen kN
5.7	Gradeability, laden / unladen *† %
5.7.1	Gradeability, laden / unladen *† %
5.9	Acceleration time, laden/unladen s

PERFORMANCE DATA	
10.1	Operating pressure for attachments MPa
10.2	Oil volume for attachments l/min
10.3	Hydraulic oil tank, capacity l
10.4	Fuel tank, capacity l
10.5	Steering design
10.6	Number of steering rotation
10.7	Sound pressure level at the driver's seat LpAZ * dB (A)
10.7.1	Sound power level during the workcycle LwAZ dB (A)

	HYSTER		HYSTER		HYSTER		HYSTER	
	H18XM-12EC		H18XM-12EC		H22XM-12EC		H23XM-12EC	
	Diesel		Diesel		Diesel		Diesel	
	Seated		Seated		Seated		Seated	
	8.5		8.5		9.0		9.0	
	1,220		1,220		1,220		1,220	
	1,260	1,332	1,260	1,332	1,320	1,392	1,320	1,392
	4,500		4,500		4,500		4,500	
	6 x 8'6"		7 x 8'6"		2 on 5/7 x 8'6"		2 on 6/8 x 8'6"	
	5 x 9'6"		6 x 9'6"		2 on 4/6 x 9'6"		2 on 5/7 x 9'6"	

	33,404		34,469		36,354		38,919	
	35,323	6,582	36,514	6,456	36,661	8,693	37,751	10,169
	22,138	11,266	23,329	11,140	22,581	13,773	23,671	15,249

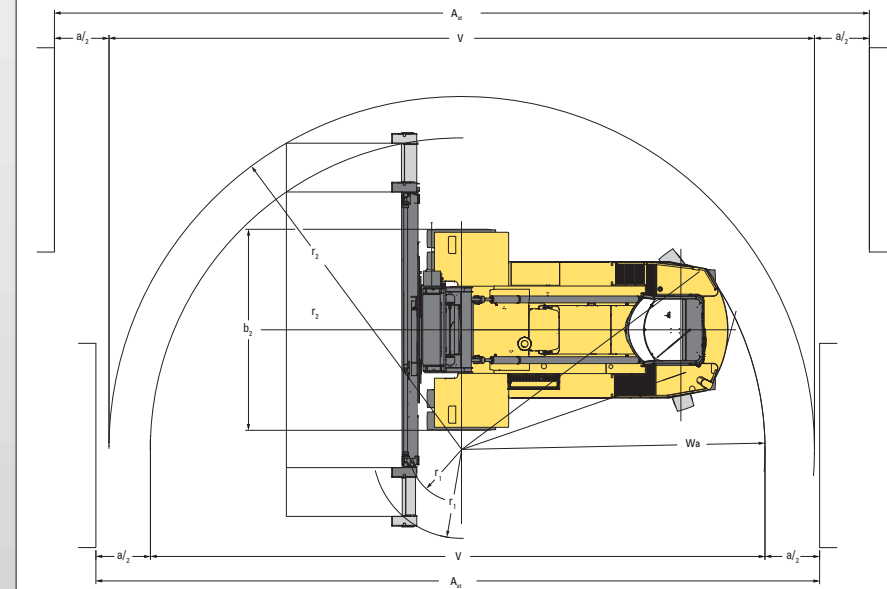
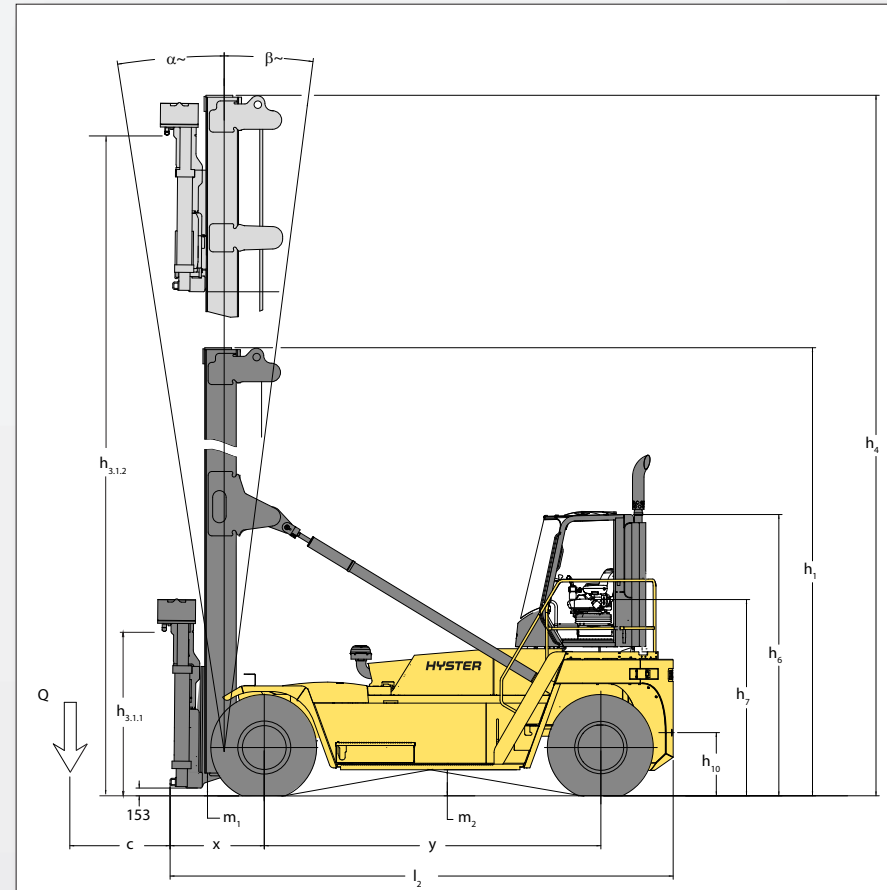
	L		L		L		L	
	14.00 - 24 24PR		14.00 - 24 24PR		14.00 - 24 24PR		14.00 - 24 24PR	
	14.00 - 24 24PR		14.00 - 24 24PR		14.00 - 24 24PR		14.00 - 24 24PR	
	x 4 / 2		x 4 / 2		x 4 / 2		x 4 / 2	
	3,280	3,505	3,280	3,505	3,280	3,505	-	3,505
	2,108		2,108		2,108		2,108	

	4		3		4		3		4		3	
	9,492		10,792		9,492		10,792		9,492		10,792	
	0		0		0		0		0		0	
	2,350		2,350		2,426		2,426		2,426		2,426	
	16,200		18,800		16,276		18,876		16,276		18,876	
	16,417		19,017		16,417		19,017		16,417		19,017	
	3,872	3,905	3,872	3,905	3,872	3,905	3,872	3,905	3,872	3,905	3,872	3,905
	4,004	4,063	4,004	4,063	4,004	4,063	4,004	4,063	4,004	4,063	4,004	4,063
	4,078		4,078		4,078		4,078		4,078		4,078	
	2,704		2,704		2,704		2,704		2,704		2,704	
	9,165	9,237	9,165	9,237	9,225	9,297	9,225	9,297	9,225	9,297	9,225	9,297
	6,727	6,799	6,727	6,799	6,787	6,859	6,787	6,859	6,787	6,859	6,787	6,859
	4,108	4,333	4,108	4,333	4,108	4,333	-	4,333	-	4,333	-	4,333
	6,084	12,218	6,084	12,218	6,566	12,700	6,566	12,700	6,566	12,700	6,566	12,700
	310		310		310		310		310		310	
	411		411		411		411		411		411	
	9,984		9,984		10,043		10,043		10,043		10,043	
	10,184		10,184		10,243		10,243		10,243		10,243	
	10,982		10,982		11,047		11,047		11,047		11,047	
	13,751		13,751		14,235		14,235		14,235		14,235	
	13,951		13,951		14,235		14,235		14,235		14,235	
	15,126		15,126		15,438		15,438		15,438		15,438	
	6,240		6,240		6,240		6,240		6,240		6,240	
	2,445		2,445		2,445		2,445		2,445		2,445	

	20		25		20		25		20		25	
	NA		NA		NA		NA		10		25	
	0.58	0.64	0.58	0.64	0.58	0.64	0.58	0.64	0.58	0.64	0.58	0.64
	0.61		0.61		0.61		0.61		0.61		0.61	
	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
	162	164	162	163	162	163	161	163	161	163	161	163
	200	203	199	203	199	203	200	203	200	203	200	203
	39	34	35	34	35	34	38	33	38	33	38	33
	51	34	45	34	45	34	49	33	49	33	49	33
	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA

	22.5		22.5		22.5		22.5	
	100		100		100		100	
	268		268		268		268	
	350		350		350		350	
	Hydraulic power steering		Hydraulic power steering		Hydraulic power steering		Hydraulic power steering	
	4.4		4.4		4.4		4.4	
	68.3		68.3		68.3		68.3	
	NA		NA		NA		NA	

# TRUCK DIMENSIONS



$r_1$  = radius of swing of container attachment rear corner  
 $r_2$  = radius of swing of container front corner  
 $W_a$  = outside turning radius of the truck  
 $a$  = total operating clearance,  $a/2$  is operating clearance at each side  
 $a = 10\%$  of  $V$   
 $V$  = (theoretical) 90° - stacking aisle width, no intrusive stacking width clearance  
 $A_{ST} = V + a$   
 $A_{ST} = V + 10\%$  of  $V$

- 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.
- Weights are based on the following specifications: Complete truck with cab, pneumatic tyres, mast and 20' - 40' spreader as specified.
  - ↔ Standard axle / wide axle
  - Unladen with new tyres
  - \* Spreader, distance from ground to twistlocks.
  - Full suspension seat in depressed position
  - ◆ Including 8' load with MPS / with PPS
  - ⇔ Length to load face of attachment with MPS / with PPS
  - ◎ Centre of truck to centre of inner turning
  - ▶ Travel speed laden/unladen limited at 25 km/h as factory default
  - \* at 1.6 km/h.
  - \* at stall.
  - † 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.
  - \* Measured according to the test cycles and based on the weighting values contained in EN12053.

**NOTICE:**

Care must be exercised when handling elevated loads. When the carriage and/or load is elevated, truck stability is reduced. It is important that the mast tilt in either direction is kept to a minimum when loads are elevated.

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.

**CE Safety:**

This truck conforms to the current EU requirements.

Specification data is based on VDI 2198



## MAST AND CAPACITY INFORMATION

### H18XM-12EC - 8 500 kg @ 1 220 mm

Stacking Height	Lift Height minimum h <sub>2,1.1</sub> (mm)	Lift Height maximum h <sub>3,1.2</sub> (mm)	Height mast lowered h <sub>1</sub> (mm)	Height mast extended h <sub>4</sub> (mm)	Mast tilt (fwd/bwd) (°)	Side Shift b <sub>s</sub> (mm)	Overall Width b <sub>2</sub> (mm)		Rated Capacity (kg)
							b <sub>1</sub>	b <sub>2</sub>	
single									
9' 6" / 5	8' 6" / 6	2,350	16,200	9,492	16,417	4/3	600	4,120 / 4,345	8,500

### H18XM-12EC - 8 500 kg @ 1 220 mm

Stacking Height	Lift Height minimum h <sub>2,1.1</sub> (mm)	Lift Height maximum h <sub>3,1.2</sub> (mm)	Height mast lowered h <sub>1</sub> (mm)	Height mast extended h <sub>4</sub> (mm)	Mast tilt (fwd/bwd) (°)	Side Shift b <sub>s</sub> (mm)	Overall Width b <sub>2</sub> (mm)		Rated Capacity (kg)
							b <sub>1</sub>	b <sub>2</sub>	
single									
9' 6" / 6	8' 6" / 7	2,350	18,800	10,792	19,017	4/3	600	4,120 / 4,345	8,500

### H22XM-12EC - 9 000 kg @ 1 220 mm

Stacking Height	Lift Height minimum h <sub>2,1.1</sub> (mm)	Lift Height maximum h <sub>3,1.2</sub> (mm)	Height mast lowered h <sub>1</sub> (mm)	Height mast extended h <sub>4</sub> (mm)	Mast tilt (fwd/bwd) (°)	Side Shift b <sub>s</sub> (mm)	Overall Width b <sub>2</sub> (mm)		Rated Capacity (kg)
							b <sub>1</sub>	b <sub>2</sub>	
single									
double									
9' 6" / 5	8' 6" / 6	2,426	16,276	9,492	16,417	4/3	600	4,120 / 4,345	9,000
6	7								

### H23XM-12EC - 9 000 kg @ 1 220 mm

Stacking Height	Lift Height minimum h <sub>2,1.1</sub> (mm)	Lift Height maximum h <sub>3,1.2</sub> (mm)	Height mast lowered h <sub>1</sub> (mm)	Height mast extended h <sub>4</sub> (mm)	Mast tilt (fwd/bwd) (°)	Side Shift b <sub>s</sub> (mm)	Overall Width b <sub>2</sub> (mm)		Rated Capacity (kg)
							b <sub>1</sub>	b <sub>2</sub>	
single									
double									
9' 6" / 5	8' 6" / 6	2,426	18,876	10,792	19,017	4/3	600	4,345	9,000
6	7								

## POWERTRAINS AND SPREADERS

DESIGNATION	1.1	Manufacturer (abbreviation)	HYSTER	
	1.2	Manufacturer's type designation	H18XM-12EC	
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas	Diesel	

POWER UNIT	7.1	Engine manufacturer / type	Cummins	QSB 6.7
	7.2	Engine output according to ISO 1585	164	2,000
	7.2.1	Max. engine power according to ISO 1585	172	1,800
	7.3	Rated speed	2,000	
	7.3.1	Torque at 1/min	949	1,400
	7.4	Number of cylinders / displacement	6	6,690
	7.5.1	Fuel consumption according to VDI cycle	On request	
	7.5.2	Alternator	120	
	7.10	Battery voltage/nominal capacity	24	102

DRIVE TRAIN	8.1	Type of drive unit	Torque Converter	
	8.2	Transmission manufacturer / type	ZF	5WG211
	8.6	Wheel drive / drive axle manufacturer / type	Axle Tech	PRC1756W3H
	8.4	Service brake	Oil immersed disc	
	8.5	Parking brake	Dry disc on drive axle	

SPREADER	9.1	Manufacturer / type	ELME 588TB	
	9.1.1	Pile slope spreader, mechanically	(mm)	+/- 225
	9.1.2	Pile slope spreader, hydraulically powered (optional)	(°)	+/- 6
	9.3	Size of containers	feet (')	20 & 40
	9.4	Side shift	b <sub>s</sub> (mm)	+/- 600
	9.4.1	Telescoping time, extend / retract	s	12 / 12

## MODELS, STACKING HEIGHTS AND CAPACITIES

The Hyster Empty Container Handlers range H18-23XM-12EC consists of following models:

- H18XM-12EC Empty Container Handler, maximum 8500 kg, stacking 6 x 8'6" high or 5 x 9'6" high single containers.
- H18XM-12EC Empty Container Handler, maximum 8500 kg, stacking 7 x 8'6" high or 6 x 9'6" high single containers.
- H22XM-12EC Empty Container Handler, maximum 9000 kg, stacking '2 on 5/7' x 8'6" high or '2 on 4/6' x 9'6" high double containers, and also: 6 x 8'6" high or 5 x 9'6" high single containers.
- H23XM-12EC Empty Container Handler, maximum 9000 kg, stacking '2 on 6/8' x 8'6" high or '2 on 5/7' x 9'6" high double containers, and also: 7 x 8'6" high or 6 x 9'6" high single containers.

All capacities are according to ISO 10525.

Warning: Care must be exercised when handling elevated loads. When the spreader and/or load is elevated, truck stability is reduced. It is important that mast tilt be kept in back-tilted position or maximum in vertical position when mast / loads are elevated. Operators must be trained and adhere to the instructions contained in the Operating Manual.



## LIFT HEIGHT TO HANDLE 8'6" - 9'6" HIGH CONTAINERS

**H18XM-12EC - 8.500 kg @ 1.220 mm**

**H18XM-12EC - 8.500 kg @ 1.220 mm**

**H22XM-12EC - 9.000 kg @ 1.220 mm**

**H23XM-12EC - 9.000 kg @ 1.220 mm**

b<sub>1,20</sub> load width 20' or 6096 mm

b<sub>1,40</sub> load width 40' or 12192 mm

l<sub>6</sub> load length 8' or 2438,4 mm

W<sub>a</sub> outer turning radius of the truck

a 10% of b<sub>1,20</sub> or b<sub>1,40</sub>

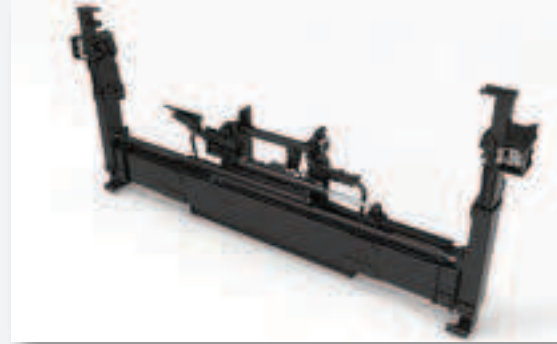
$$Ast\ 20 = Wa + \sqrt{\left(X + C + \frac{l_6}{2}\right)^2 + \left(\frac{b_1}{2} - b_{13}\right)^2} + a$$



## FRONT END EQUIPMENT



Range of 2 stage NFL masts



Double handling spreader model 584L -B,D,F



Double handling spreader model 582LA with 2 horizontal Twistlocks + Powered Pile slope



Single handling spreader model 586, 588, 589

## STANDARD EQUIPMENT

- Cummins QSB 6.7L 164 / max 172 KW @ 1.800 rpm Turbo Diesel Engine
  - Stage IIIA Compliant
  - ECO-eLo / HiP performance modes
  - Hibernate Idle
- ZFWG 211 5 speed forward/3 speed reverse Automatic Transmission
- 2-stage NFL mast 1:4 lift ratio with 13.800 mm and 16.450 mm lift
- Spreader
  - Single handling: ELME 588TB Side lift with vertical Twist locks
  - Double handling: ELME 584LD Side lift with hooks & side clamps
- Wet Disc Brakes
- Standard Axle Tech PRC 1756 W3H Drive Axle, 4108 mm or 4.333 mm width for H23XM-12EC
- Hyster steer axle with hydrostatic power steering
- DANFOSS dual piston variable displacement pump 150 ccm (75 + 75 ccm)
- Hydraulic Control Joystick
- Mast Tilt: 4° Forward / 3° Backward
- Directional Control Lever
- Enclosed Cab without Air Conditioning includes:
  - Multifunction Display Panel
  - Interior Wide Angle Mirrors
  - Mirrors on front fenders
  - Telescoping & Tilting Steering Column
  - Floor Mat
  - I-style Front screen Wiper
  - Heater
  - Re-circulation Fan
- Powered Tilt Operator Compartment
- Tyres – Drive and Steer
  - 14.00- 24 24PR Standard pneumatic
- Steering Wheel with Spinner Knob
- Air Horn
- Mechanical, Full Suspension Vinyl or Cloth Seat with integrated adjustable armrest and orange Hi-Vis seat belt
- Operator Restraint System
- Operator Presence System
- Hydraulic Accumulator in hoist
- Non-locking Fuel Cap
- Lockable Battery Disconnect Switch

- 24V Electrical System
- 120 A Alternator
- Light Kit 1
  - LED rear cluster with stop, reverse and direction light
  - 4 x Halogen drive lights mounted on front fender
  - 4 x Halogen working lights mounted on front of the cab
  - 2 x Halogen working lights mounted on rear of cab
- Self-adjustable back up Alarm volume > 5dB(A) ambient
- Amber strobe light- ignition key and switch activated
- Non-Locking Fuel Cap
- Literature Package
  - Operator's Manual
- Warranty
  - 12 Months / 2,000 Hours Manufacturer's Warranty
- Cab options
  - Top and rear sun shades
  - Air conditioner, manual controlled
  - Air conditioner, automatically controlled
  - High Performance Air conditioner, manual controlled
  - High Performance Air conditioner, automatically controlled
  - Reading light
  - Trainer seat
  - Circulation Fan
  - IT console for on-board computer
  - Storage console
  - Heated top window
  - Engine start interlock
  - Radio preparation, inclusive wire, two speakers and antenna
  - H-style Front screen Wiper
  - Wire mesh protection guard on Top of cab
- 24-12V DC/DC Converter
- Pressure compensated lowering
- Seats
  - Mechanical, Full Suspension High backrest Vinyl or Cloth Seat
  - Pneumatic, Full Suspension Vinyl or Cloth Seat
  - Pneumatic, Full Suspension High backrest Vinyl or Cloth Seat
  - Deluxe Air Suspended Full Suspension Cloth Seat
  - Heated Deluxe Air Suspended Full Suspension Cloth Seat
- 3-point seat belt for Deluxe Seat
- Various Light Kits
- Lockable diesel fuel cap
- Storage Box for keeping TL on gangway of basic
- Hydraulic temperature protection
- Engine Block Heater (230V)
- NATO Start aid connector (24V)
- Traction Speed fix setting and in addition conditional traction speed limiter
- Automatic Engine Shutdown
- Hyster Tracker Wireless Asset Management system

## OPTIONAL EQUIPMENT

- Masts (SPED)
  - 2-Stage NFL Mast 7x8'6" / 7x9'6" with maximum lift height of 18550 mm
  - 2-Stage NFL Mast 8x8'6" / 7x9'6" with maximum lift height of 19050mm
- Spreader
  - ELME 586TB Side lift with vertical Twist locks with removable block
  - ELME 589TB Side lift with moveable vertical Twist locks for wide container
  - ELME 584LB Side lift with hooks & side clamps
  - ELME 584LF Side lift with hooks & side clamps
  - ELME 582LA Side lift with double horizontal Twist locks with powered pile-slope
  - ELME 584LA Side lift with hooks and side clamps, with no container detection
- Drive axles
  - Extra wide Axle Tech PRC 1756 W3H 4.333 mm width (standard for H23XM-12EC)
- Steer axle with hydrostatic power steering with turning limitation for better tyre live
- Tyres – Drive and Steer
  - 14.00- R24 Trelleborg solids
  - 14.00- R24 MICHELIN XZM radial
  - 14.00- R24 Trelleborg radial
- Rear Mud Flaps
- Steer Wheel Nut Protection

Other options available through Special Products Engineering Department (SPED). Contact Hyster for details

# STRONG PARTNERS. TOUGH TRUCKS.™

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