



STRONG PARTNERS. TOUGH TRUCKS.



**Empty Container Handlers
H16-22XM-12EC**

7 000 - 9 000 kg @ 1220 mm



MEDITERRANEAN SHIPPING CO

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Built On Experience

The H16-22XM-12EC series benefit from Hyster's long experience in designing and building high-stacking empty container handlers. These EC handling machines offer fastest handling, reliable proven components, and give an excellent return on your investment.

Increased handling flexibility is provided by Hyster's empty container handling spreader, featuring 'reefer correction' as standard, and a choice of three different container engagement systems, for fast handling of single or double containers.

This will ensure that Hyster continues to meet your needs for increased productivity and lowest cost of ownership.





Extra Value Features

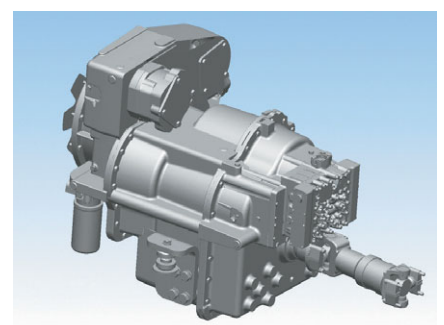
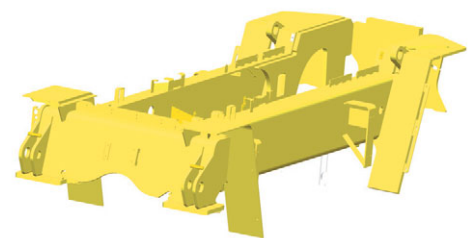
The H16-22XM-12EC range offers impressive extra value, in an all-in-one package:

- **Lifting speeds** are class leading: The practical 4- mode average speed (with the 172kW / 230hp Stage IIIA engine) is a fantastic 0.51 m/sec, and this even when handling double containers.
- The unique **Hyster '1 to 4' lift ratio mast** contributes to the high lift speeds, and features short and stable lift cylinders.
- **Stable** machine with a weight of 32 to 36 tons, a wheelbase of 4.0 or 4.5 m, and a width of 4.12 m.
- **Rear-mounted cab** for a more comfortable viewing angle during high stacking of containers.
- Hyster **'Vista'** cab is state of the art in driver comfort, ergonomics, low noise and visibility. The noise level is just 70dB(A) Leq at driver's ear and air conditioning is available as an option. The cab tilts for easy service access.
- The 6.7 litre Cummins diesel engine conforms to the latest EU emissions regulations for NRMM (Non-Road Mobile Machinery).
- The 3-speed **auto-shift** transmission has a protective lock-out on forward-reverse shifting.
- Strong and wide drive axle with **oil immersed** (wet) disc brakes.
- Engine and transmission **protection** systems.
- **Tropical cooling** package is standard - up to 50°C for normal operation and up to 45°C for heavy duty operation.
- The Hyster ECH side-lift container spreader comes standard with **'reefer correction'** and a choice of **three 'container engagement' systems**. Twistlock indicator lights, on the spreader and in the cab roof are standard equipment.
- Large **14.00 x 24** tyres as standard, for improved tyre life and lower running costs.



Strength & Durability

- The frame is immensely strong with 16 mm thick frame members and massive front axle supports. The tilt cylinder anchors are tied directly into the rear frame.
- The drive axle is ultra-wide (4.12 m over tyres) and provides stability and durability; whilst the oil immersed (wet) disc brakes reduce maintenance requirements.
- The S.O.H. TE-series 3-speed powershift transmission has APC200 Soft-shift automatic gear shifting, a protective forward-reverse shifting lock-out, and a transmission protection device.
- The Hyster 'sandwich' type steer axle, with a single cylinder and non-adjustable tie rods is renowned for its long life and low maintenance.
- Large 14.00 x 24 wheels on all models, offer long tyre life for low running costs.



Power & Performance

Clean engine power is provided by the 6.7 litre 6-cylinder Cummins QSB6 industrial diesel engine, with turbocharger and charge air cooler.

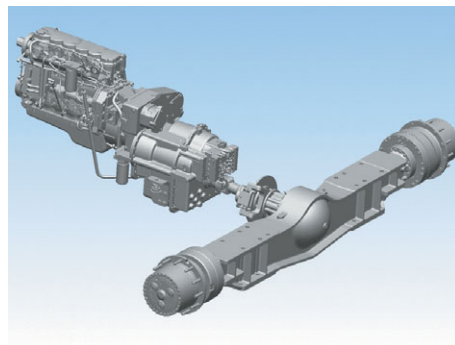
- Different engine configurations ensure that the exhaust emissions conform to the Stage IIIA or Stage IIIB emissions standard for NRMM (Non-Road Mobile Machinery).
- The industrial rating offers extra durability for long periods of peak power operation.
- Engine protection system features initial engine derating and finally engine stop function.
- Equipped with a two-stage heavy-duty air filter, plus a maintenance-free cyclonic pre-cleaner, suitable for dusty operating environments.
- Fuel tank 323 litres (with Stage IIIB engine) or 367 litres (with Stage IIIA engine).
- Anti-corrosive (aluminized steel) exhaust system.

Stage IIIB engine:

For use mainly within EU (European Union) countries, trucks with Stage IIIB diesel engines have significantly reduced exhaust gas emissions. Also by applying Hyster Intelligent Design criteria, these trucks are not only cleaner running but also more economical, achieving up to a 20% fuel saving.

- Available with all H16-22XM-12EC models, the new Stage IIIB compliant Cummins QSB6.7, 6.7 litre 6-cylinder industrial diesel engine with turbo and intercooler has a maximum performance of 172 kW / 230 Hp at 1800 rpm and a maximum torque of 1491 Nm at 1500 rpm.
- The transmission available as standard with the engine is the TE 17 series, featuring 3-speeds with APC200 "Soft-shift" automatic gear shifting, protective forward-reverse shifting lock-out and transmission protection system. Also fitted is a separate transmission oil cooler and audible alarm when in reverse gear.

NOTE: A Stage IIIB engine must run on Ultra Low Sulphur Diesel (ULSD) fuel, with a maximum of 15 ppm sulphur content. Diesel fuel with a higher sulphur content than 15 ppm will compromise the emissions performance of the Stage IIIB engine and may result in damage to components.



Stage IIIA engines:

This diesel engine conforms to Stage IIIA emission standards and will be supplied into markets where the NRMM (Non Road Mobile Machinery) Stage IIIB legislation does not apply.

H16-18XM-12EC Single container handlers:

- Engine performance is 145 kW / 197 Hp at 1800rpm, maximum torque is 931 Nm at 1400 rpm.
- This 145 kW engine is combined with the S.O.H. (Spicer Off-Highway) TE-13 powershift transmission, with 3-speeds with APC200 "Soft-shift" automatic gear shifting, protective forward-reverse shifting lock-out, and transmission protection system. Also fitted is a specific oil cooler and audible alarm when in reverse gear.

H18XM-12EC single handler, with 8500 kg capacity and H22XM-12EC:

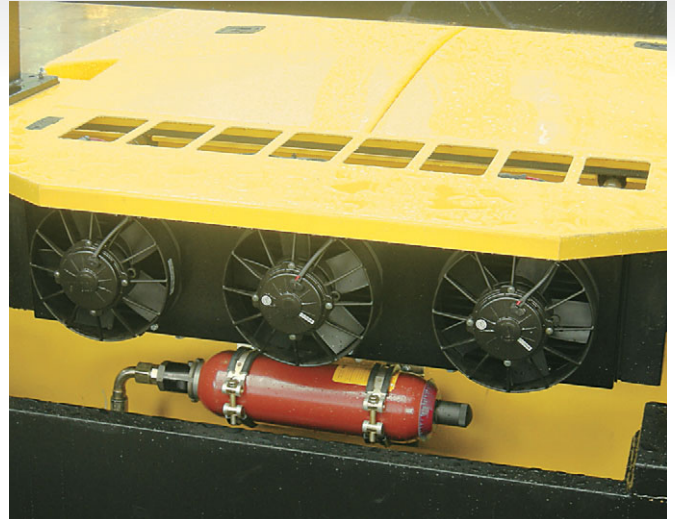
- Engine performance is 172 kW / 230 Hp at only 1800 rpm, with maximum torque of 938 Nm at 1400 rpm. Combined with the S.O.H. (Spicer Off-Highway) TE-17 3-speed powershift transmission, also with APC200 "Soft-shift" auto shift, forwardreverse lock-out, and transmission protection. Also fitted is a dedicated oil cooler and an audible alarm in reverse.

Optional Stage IIIA power package for H16-18.00XM-12EC Single container handlers:

- The 172 kW engine and TE-17 transmission package, instead of the standard 145 kW and TE-13 combination.

Cool

- The H16-22XM-12EC machines have a tropical cooling system which makes them suitable to work in ambient temperatures up to 50°C.
- The unique 'side-by-side' 3-piece radiator cooler block for engine (water and intercooler) and transmission is efficient and easy to clean. A 'puller' type fan draws in cleaner air from the top of the machine.
- A triple hydraulic system cooler, for the brakes and the hydraulic system is mounted at the front of the machine.



Fast Handling

- Lifting speeds are class leading: The practical 5-mode average lifting speed (with the 172kW / 230hp Stage IIIA engine) is a fantastic 0.51 m/sec. And this also when handling double containers. Average of five lifting modes:
 - Unladen lift speed = 0.55 m/sec.
 - Full laden lift speed = 0.52 m/sec.
 - 70% laden load lift speed = 0.54 m/sec.
 - Unladen lowering speed = 0.47 m/sec.
 - Laden lowering speed = 0.49 m/sec.
- Travel speeds are very productive too, with a maximum of 26 to 30 km/h., depending on model and engine choice.



Ergonomic Design

The EC series features the Hyster 'Vista' cab, which gives the optimum ergonomic operator environment, and focuses on maximising driver comfort and visibility for maximum productivity.

- The large windows, fitted with tinted safety glass, offer excellent all-round visibility. This is further enhanced by a filtered fresh air inlet, sliding windows, an effective heater and defrosters, wipers with washers on front, top and rear screens, especially in poor weather conditions
- Optional air-conditioning is integrated into the heating and ventilation system, with manual temperature control or climate control. Sunshade screens are fitted on the top and rear windows.
- The joystick gives intuitive control of mast lift, tilt and spreader functions: Sideshift, Telescope 20'-40', Optional PPS, Twistlocks unlocking (locking is automatic).
- Full-suspension, fully adjustable driver's seat with a high backrest, seat belt, seat switch for park brake warning buzzer and operator presence system.
- Map reading light, extra air circulation fan.
- Adjustable steering column, power-assisted steering and lever controls, push-button parking brake and conveniently positioned instruments.
- Responsive, fully hydraulic brakes and automotive type pedal layout further contribute to driver comfort.
- Rear view mirrors inside the cab, and extra rear view mirrors on the front fenders.
- The comprehensively equipped operator's cab, mounted on isolators, has an insulated twinlayer floor to help achieve low noise levels. The noise level is just 70dB(A) Leq at driver's ear.



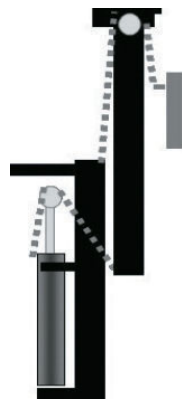
Outstanding Visibility

- The operator compartment is mounted at the rear of the machine, for a comfortable viewing angle during high stacking of containers.
- Available on both the 5/6-high stackers (H16XM-12EC, 4.0 m wheelbase) and the 6/7-high stackers (H18-22.00XM-12EC, 4.5 m wheelbase) where the cab is an extra 0.5 m to the rear.
- Operator visibility during high stacking from the rear-mounted cab position, is also enhanced by the curved front window, the strong yet slim-line cab construction, the 'wave pattern' overhead guard, plus wipers on the front, top and rear screen (with double blade at the front).
- The ultra-wide mast (1260 mm between inner channels) adds to the excellent overall visibility.
- The lift cylinders are also uniquely rear-mounted (behind the mast channels) for optimum visibility.
- Indicator lights for the container engagement functions are mounted on the spreader and also conveniently placed in the cab's roof.
- The 'state of the art' Hyster 'Vista' cab is available with air conditioning and sliding sunshade screens on the top and rear window.
- Rear view mirrors inside the cab, and extra rear view mirrors on the front fenders are available.
- The truck is equipped with a comprehensive set of road and work lights and an orange strobe light. See full details under Lights.





Unique '1 to 4' Hyster 'Vista' Mast



- Ultra-wide mast construction, for torsional rigidity and also excellent visibility (distance of 1260 mm in between the inner mast channels).
- This stable Hyster 'Vista' mast has a unique '1 to 4' lift ratio. On these EC trucks with their extremely high lift heights, the Hyster '1 to 4' design results in halving the length of the lift cylinders, thereby offering excellent durability of the cylinder bearings and seals.
- The tilt cylinders are high-mounted on the mast for added rigidity and truck stability.
- A hydraulic accumulator in the hoist system, to cushion the load carried, is standard equipment.

Spreader Characteristics



Hyster ECH side-lift 20'-40' telescopic **spreader characteristics:**

- Low profile main beam, with the horizontal telescoping beams sliding inside each other (not stacked on top of each other). This design results in excellent forward visibility towards the spreader's engagement points, particularly at high lift heights.
- **Sideshift** movement is a generous **+/- 600 mm** (1200 mm total) for operational flexibility and provides for 'reefer correction' possibility.
- **Spreader 'Articulation'**: Ample mechanical sideways articulation, by the 225 mm floating (up/down) movement of the spreader engagement heads. Facilitates handling of containers on / from a sloping surface.
- 2 Wide-beam work lights on the spreader, pointing sideways to the spreader's engagement heads.

Comprehensive indication and support systems:

- **Indicator lights** (red, 2x orange and green) to signal spreader engagement, are on the **spreader and** in the **cab**.
Orange left-hand = landed, Green = locked, Red = unlocked, Orange right-hand = landed.
The lights panel in the cab roof also has a blue light signalling the mast lift interrupt function.
- **Mast over-lowering interrupt** prevents further lowering of the mast when the spreader is landed on a container. The function is signalled by a blue warning light in the cab. To eliminate slacking of the header hoses, cables and lift-chains and to reduce shocks on the spreader.



For Twistlocks versions only:

- **Automatic locking.** Automatically turns the (Vertical) twistlocks to the locked position when the spreader is properly landed on the container(s). Unlocking is always done manually by a switch in the cab.
- **Twistlocks interlock** (mechanical) to help prevent;
 - a. Picking-up a container on less than two corners,
 - b. Unlocking when carrying a container.
- **Lift interrupt** cuts the lift mode if the twistlocks are not in a fully 'closed' / 'open' position. The function is signalled by a blue warning light in the cab.
- Container counter on the spreader, recording the number of containers locked. This facility helps to measure productivity and to schedule periodic maintenance.



Container Engagement Systems

The Hyster ECH side-lift 20'-40' telescopic spreader is available with a choice of three 'container engagement' systems, to suit individual user requirements:

To handle single containers:

1. Vertical twistlocks

- Automatic twistlocks locking, Indicator lights, Twistlocks interlock function, Lift interrupt function, Container-counter.

For handling double (and single) containers:

2. Hooks and side-clamps

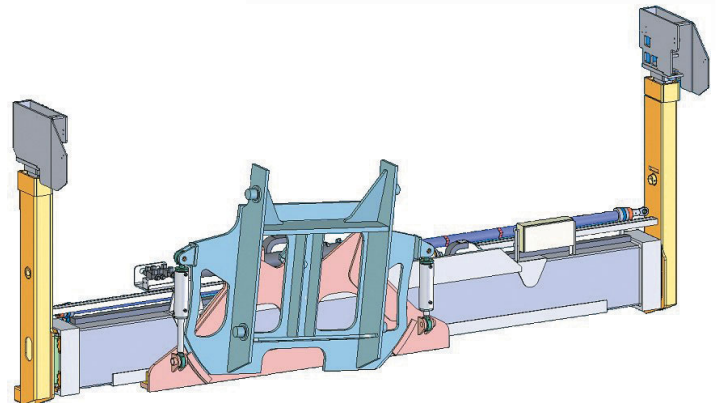
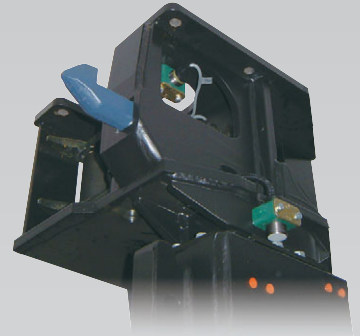
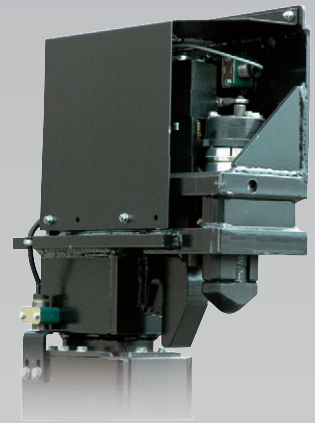
- Hooks with additional Side-clamps, for one or two containers. Clamping function is non-automatic.
- Clamps protrude 320 mm on each side of spreader. Not suitable for 45' container(s).

3. Double horizontal twistlocks

- Spreader sides are 'flush' with container(s), allows entry into tightly spaced container block stacks.
- Suitable for 45' containers with 40' ISO pockets.
- Manual locking of four twistlocks, Twistlocks interlock function, Lift interrupt function, Container counter.

Optional: **PPS (Powered Pile Slope) function**

- PPS is a hydraulic powered sideways articulation of the ECH spreader, of +/- 6 degrees (in addition to the standard mechanical articulation).
- Application recommendations for a PPS function:
 - Normally not required with 'Vertical Twistlocks', as this has a self-levelling handling characteristic by the lowering on to the top of a container.
 - PPS function is convenient with 'Hooks and Side-clamps', for easier engagement on to container(s).
 - PPS function is mandatory with 'Double Horizontal Twistlocks', to facilitate easy engagement of four horizontal twistlocks.



Other Features

High performance hydraulics

- Efficient and well-sized hydraulic components result in the fastest lifting speed: a tremendous 52 cm/sec. under full load. And this can be achieved with the smallest Stage IIIA engine power (145 kW) available, providing excellent fuel efficiency.
- An hydraulic accumulator in the hoist system cushions shocks caused by the vertical movement of the spreader and container(s), and helps to reduce dynamic peak loading on the lift chains.
- Hydraulic oil tank with generous 400 litre capacity.
- Triple hydraulic oil cooler with ample capacity, mounted at the front of the machine.
- Leak-free O-ring face hydraulic fittings.

Brakes

- Service brake: front, oil-immersed (wet) disc brakes. Large oil cooler and a separate 10 micron brake oil filter. The brake system is fully hydraulic and charged by an accumulator (no air system).
- Parking brake: spring actuated and hydraulically released, on the drive-line, automatically applied when pressure falls below 50 bar. The transmission is disengaged when the parking brake is applied.



Wheels

- Large 14.00 x 24 size tyres are fitted for improved tyre life and lower running costs. Bias pneumatic lug tread tyres are standard. Options: radial pneumatic lug tread tyres, or solid (pneumatic shaped) lug tread tyres.
- Note: an hydraulic accumulator in hoist system, which acts to cushion the load, is fitted with all tyre choices.

Electrical system

- 24 V system, 70 A alternator, Battery 102 Ah (20 hr).
- Battery master switch.
- 'CANbus' connection in the cab, for engine, transmission, and instrument cluster.

Lights

A complete light kit is fitted:

- 4 front work lights (to 20' and 40' position) on the cab,
 - 2 front head lights on the front fenders,
 - 2 rear work/drive lights on the cab,
 - 2 combination tail & stop & rear driving lights,
 - 4 direction indicators with hazard switch.
 - Orange strobe light on the cab.
- and:
- 2 work lights on the Hyster ECH spreader.



Instruments/accessories

- Warning lights: engine oil pressure, transmission oil pressure, transmission oil temperature, battery discharge indicator, low brake oil pressure, parking brake on.
- Gauges: engine coolant temperature, fuel, transmission oil temperature, voltmeter, engine oil pressure.
- Other indicators: hour meter, low brake pressure buzzer, combination key-type ignition/starter switch with starter lock out, reverse warning alarm.



Ease Of Servicing

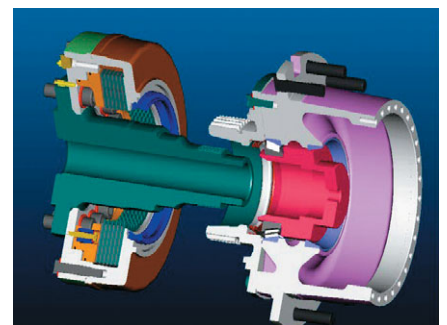
- The hydraulic oil tank features a gauge for oil level as well as magnetic drain plugs.
- The rearwards tilting cab is electrically powered.
- In combination with a forward opening spring assisted engine hood and two quickly removable (lightweight polyester) covers over the hydraulics, this provides truly excellent access for service work.





Standard Equipment Highlights

- Tyres 14.00 x 24, Bias ply (diagonal) pneumatics.
- Wide drive axle 4.12 m overall width.
- Oil-immersed (wet) disc brakes.
- Tropical cooling (of powertrain and hydraulic system) for up to 50° C. ambient.
- Different engine configurations ensure that the exhaust emissions conform to the Stage IIIA or Stage IIIB emissions standard for NRMM (Non-Road Mobile Machinery).
- Engine and transmission protection systems.
- Aluminized steel anti-corrosive exhaust system
- Autoshift transmission, also with forward-reverse shifting protection.
- Joystick for intuitive control of mast and spreader functions
- Full-suspension seat with a height-adjustable backrest, reading light, top and rear sunscreens, two inside mirrors, two mirrors outside.
- Rearwards tilting cab for service access.
- Hyster ultra-wide 'Vista' lift mast with '1 to 4' lift ratio (see page 15).
- High mounted tilt cylinders.
- Hydraulic accumulator in the hoist system, acting as load shock absorber.
- EC spreader with 'reefer correction' function, by +/- 600 mm side shift.



Optional Equipment

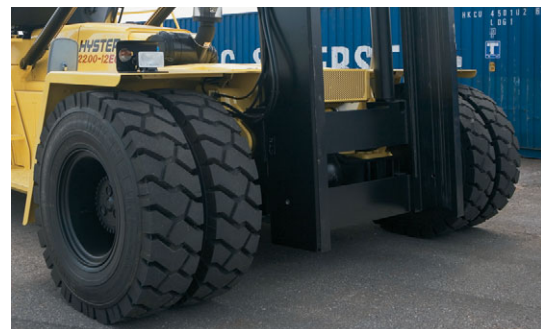
- **Extra Stage IIIA power package** for H16-18.00XM-12EC
Single container handlers only:
172 kW / 230 Hp engine & TE-17 transmission, instead of
standard 145 kW / 197 Hp engine & TE-13.
- **Tyres** 14.00 x 24: **Radial** pneumatics, or (Pneumatic Shaped) **Solids**.
- **Spare wheel** (complete tyre and rim).
- **Automatic greasing** system.
- **Mud flaps** on the rear fenders.
- **Wheel nut protection** rings, on the steer wheels.
- **Special colour(s)** RAL paint.
- **Travel Speed Limiter**, with / without load to a maximum speed of 10, 16 or 20 km/h.
- **Storage box** (for container locks) on the running board, right-hand side.
- **Tyre Saver Front Axle** greatly extends tyre life and gives major operational tyre cost savings.
- **Engine pre-heater** (electric, 220V).

In-Cab / Operator convenience items:

- **Air-conditioning system** is integrated into the heating and ventilation system. It is available with either manual temperature control or climate control. Sunshade screens are fitted on the top and rear windows.
- **Air suspended seat**, instead of mechanically suspended seat.
- **Deluxe air suspended seat**, instead of mechanically suspended seat. Also available with seat heating.
- **Trainer seat** (small extra seat cushion).
- **Support stand** with mounting plate, to fit computer terminal or communication equipment.
- **Converter:** 24 Volt DC to 12 Volt DC.
- **H.I.D.** ('High Intensity Discharge' xenon) **work lights**, (4 x on the cab and 1 x on the rear of the cab), instead of standard Halogen lights.

On the ECH spreader:

- **Three types of container engagement systems.**
See Spreader Characteristics.
- **30' Stop** (electro-hydraulic) of the telescopic movement.
- **'Powered Pile Slope'** (PPS) function.
For full details see Spreader Characteristics.
- Only for 'Vertical Twistlocks': Spreader heads with hydraulic forward **Reach / Retract function**. To also handle some approx. 2.45-2.60 m wide "CPC" (**C**ellular **P**allet-wide **C**ontainers).





H16-22XM-12EC

		HYSTER					
		H16XM-12EC	H16XM-12EC	H18XM-12EC	H18XM-12EC	H22XM-12EC	
CHARACTERISTICS	1.1	Manufacturer					
	1.2	Model designation					
		Container Stacking Height 9'6"					
	1.3	Container Stacking Height 8'6"					
		Power: battery, diesel, LPG, electric mains					
	1.4	Operation: manual, pedestrian, stand, seat, orderpicker					
	1.5	Load capacity	Q (kg)				
	1.6	Load centre	c (mm)				
	1.8	Load distance without (with) PPS	x (mm)				
1.9	Wheelbase	y (mm)					
WEIGHTS	2.1	Unladen weight without PPS ¶	kg				
	2.2	Axle loading with load, front/rear ¶	kg				
	2.3	Axle loading without load, front/rear ¶	kg				
WHEELS & TYRES	3.1	Tyres: L=pneumatic, V=solid, SE=pneumatic-shaped solid					
	3.2	Tyre size, front (min.)					
	3.3	Tyre size, rear (min.)					
	3.5	Number of wheels, front/rear (X = driven)					
	3.6	Track width, front	b ₁₀ (mm)				
	3.7	Track width, rear	b ₁₁ (mm)				
	DIMENSIONS	4.1	Mast tilt, α = forward / β = back	degrees			
4.2		Height of mast, lowered	h ₁ (mm)				
4.4		Lift height	h ₃ (mm)				
4.5		Height to top of attachment (with vertical twistlocks)	h ₄ (mm)				
		Attachment, distance from ground at twistlocks, min./max.	(mm)				
4.7		Cab height	h ₆ (mm)				
4.8		Seat height	h ₇ (mm)				
4.12		Towing coupling height	h ₁₀ (mm)				
4.20		Length to load face of attachment without (with) PPS	l ₂ (mm)				
4.21		Overall truck width	b ₂ (mm)				
4.24		Attachment width, retracted/extended	b ₃ (mm)				
4.31		Ground clearance under mast, with load	m ₁ (mm)				
4.32		Ground clearance, centre of wheelbase	m ₂ (mm)				
4.33		Aisle width for 90 deg stack with container (a=10%), 20ft/40ft	Ast (mm)				
4.35		Outer turning radius without/with container 40ft	W ₈ (mm)				
4.36		Inner turning radius (to centre line of truck)	b ₁₃ (mm)				
PERFORMANCE	5.1	Travel speed with/without load	km/h				
	5.2	Lifting speed with 100% - 70% load/without load	m/s				
	5.3	Lowering speed with/without load	m/s				
	5.5	Drawbar pull with load @ 1.6 km/h	kN				
	5.6	Maximum drawbar pull with load	kN				
	5.7	Gradeability with load @ 1.6 km/h †	%				
	5.8	Maximum gradeability †	%				
	5.9	Acceleration time with/without load (15m distance)	sec				
	5.10	Service Brake					
	ENGINE	7.1	Engine manufacturer/type				
7.2		Max engine output, in accordance with ISO 14396 ○	Stage IIIA		kW		
7.2		Max engine output, in accordance with ISO 14396	Stage IIIB		kW		
7.3		Governed speed at max power	Stage IIIA		rpm		
7.3		Governed speed at max power	Stage IIIB		rpm		
7.4	Number of cylinders/displacements	Stage IIIA/B		no./l			
OTHER	8.1	Drive control					
	8.2	Working pressure for attachments	MPa				
	8.3	Oil flow for attachments	l/min				
	8.4	Average noise level in Cab (DIN 45635)	Stage IIIA		dB(A)		
		Average noise level in Cab (DIN 45635)	Stage IIIB		dB(A)		
	8.5	Towing coupling type					

		HYSTER		HYSTER		HYSTER		HYSTER		HYSTER	
		H16XM-12EC		H16XM-12EC		H18XM-12EC		H18XM-12EC		H22XM-12EC	
		32 490		32 490		33 401		33 678		35 649	
		33 054	6 436	33 054	6 436	33 309	7 092	35 838	6 340	36 027	8 620
		21 620	10 870	21 620	10 870	22 368	11 033	22 553	11 125	21 693	13 686
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		2 356		2 356		2 356		2 356		2 356	
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		13 850		13 850		16 450		16 450		13 850	
		16 564		16 564		19 164		19 164		16 564	
		2 295	16 145	2 295	16 145	2 295	18 745	2 295	18 745	2 295	16 145
		3 806		3 806		3 806		3 806		3 806	
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		N/A		N/A		N/A		N/A		N/A	
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		357		357		357		357		357	
		10 350	15 122	10 350	15 122	10 880	15 122	10 880	15 122	10 350	15 122
		5 440	8 510	5 440	8 510	6 060	8 510	6 060	8 510	6 060	8 510
		2 105		2 105		2 334		2 334		2 334	
		27	30	26	28	27	30	26	28	26	28
		0,52-0,55	0,56	0,52-0,54	0,55	0,52-0,55	0,56	0,52-0,54	0,55	0,52-0,54	0,55
		0,49	0,47	0,49	0,47	0,49	0,47	0,49	0,47	0,49	0,47
		93		130		93		130		135	
		115		163		115		163		166	
		23		34		23		34		27	
		29		44		29		44		35	
		6,94	6,78	7,56	7,14	6,94	6,78	7,56	7,14	7,56	7,14
		Hydraulic		Hydraulic		Hydraulic		Hydraulic		Hydraulic	
		Cummins QSB 6.7		Cummins QSB 6.7		Cummins QSB 6.7		Cummins QSB 6.7		Cummins QSB 6.7	
		145 (172)		145 (172)		145 (172)		172		172	
		172		172		172		172		172	
		1 800		1 800		1 800		1 800		1 800	
		1 800		1 800		1 800		1 800		1 800	
		6	6,7	6	6,7	6	6,7	6	6,7	6	6,7
		Torque Converter		Torque Converter		Torque Converter		Torque Converter		Torque Converter	
		15		15		15		15		15	
		105		105		105		105		105	
		73		73		73		73		73	
		70		70		70		70		70	
		N/A		N/A		N/A		N/A		N/A	

Specification data is based on VDI 2198

H16-22XM-12EC

Truck Dimensions

HYSTER		1.1
H22XM-12EC		1.2
2 over 5		
2 over 6		
Diesel		1.3
Seat		1.4
9 000		1.5
1 220		1.6
1 310 (1 393)		1.8
4 500		1.9

		2.1
36 260		
36 702	8 556	2.2
22 638	13 622	2.3

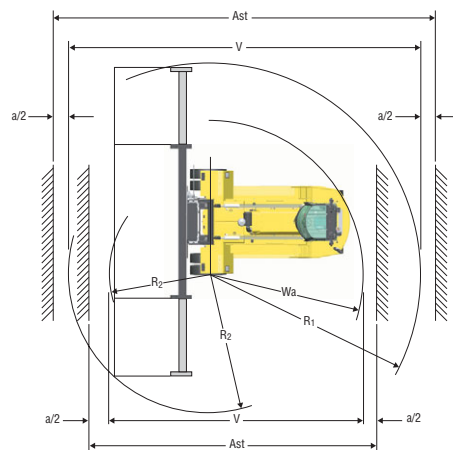
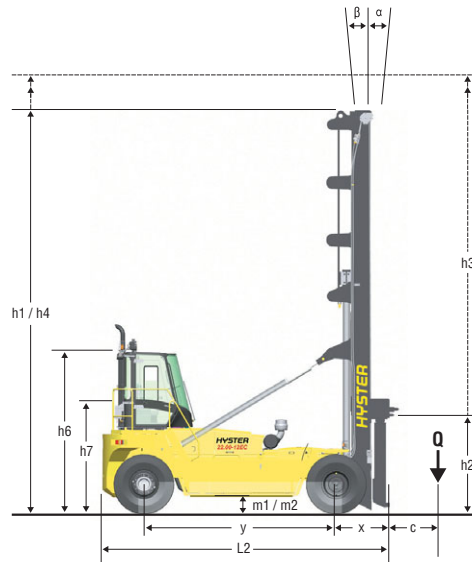
L		3.1
14,00 x 24		3.2
14 00 x 24		3.3
4X	2	3.5
3 286		3.6
2 356		3.7

4	3	4.1
10 758		4.2
16 450		4.4
19 164		4.5
2 295	18 745	
3 806		4.7
2 627		4.8
N/A		4.12
6 626 (6 710)		4.20
4 120		4.21
6 053	12 185	4.24
299		4.31
357		4.32
10 350	15 122	4.33
6 060	8 510	4.35
2 334		4.35

26	28	5.1
0,52-0,54	0,55	5.2
0,49	0,47	5.3
135		5.5
166		5.6
27		5.7
35		5.8
7,56	7,14	5.9
Hydraulic		5.10

Cummins QSB 6.7		7.1
172		7.2
172		
1 800		7.3
1 800		
6	6,7	7.4

Torque Converter		8.1
15		8.2
105		8.3
73		8.4
70		8.4
N/A		8.5



A_{st} = Practical 90 degrees Stacking aisle
 = V (theoretical stacking aisle) + a (total operating clearance)

Where V = R_2 + the larger of R_1 or W_a

a = 200 mm (100 mm each side acc. VDI)

or:

a = 10 % of V (acc. FEM TN01 recommendation). See line 4.34

NOTES:

All specifications and capacities are valid for trucks equipped with a Hyster empty container handling spreader for handling ISO containers.

† Gradeability figures (lines 5.7 & 5.8) are provided for comparison of tractive performance, but are not intended to endorse the operation of the vehicle on the stated inclines. Follow instructions in the operating manual regarding operation on inclines.

¶ Single with Elme 588, double with Elme 584

○ Optional Stage IIIA engine shown in brackets

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 mast tilt in either direction be kept to a minimum when loads are elevated.

Operators must be trained and adhere to the instructions contained in the Operating Manual.

Hyster products are subject to change without notice. Lift trucks illustrated may feature optional equipment.

CE Safety:

This truck conforms to the current EU requirements.



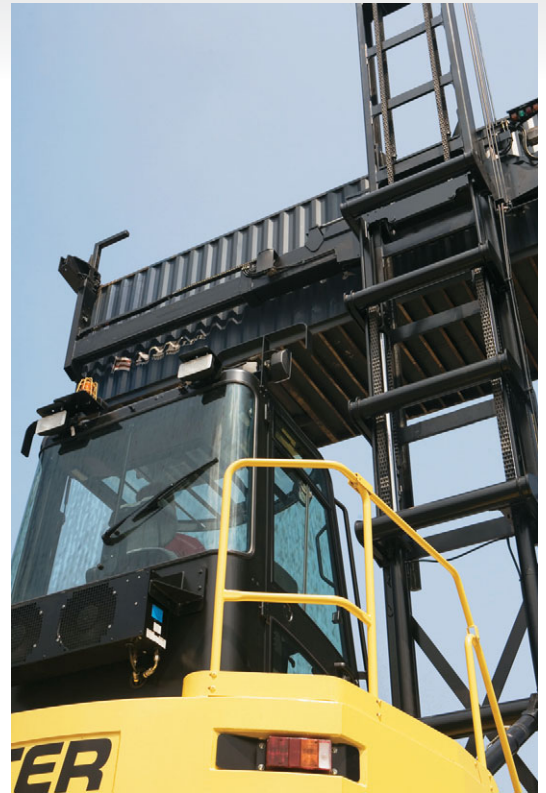
Models, stacking heights and capacities

The Hyster Empty Container Handlers range H16-22XM-12EC consists of following models:

- › **H16XM-12EC** Empty Container Handler, maximum 7000 kg,
 - › stacking 6 x 8'6" high or 5 x 9'6" high single containers.
- › **H18XM-12EC** Empty Container Handler, maximum 7000 or 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' x 8'6" high or '2 on 4' x 9'6" high double containers,
 - › and also: 6 x 8'6" high or 5 x 9'6" high single containers.
- › **H22XM-12EC** Empty Container Handler, maximum 9000 kg,
 - › stacking '2 on 6' x 8'6" high or '2 on 5' 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 carriage 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.



Container Stacking		Hyster Model	Spreader engagement	Spreader (sideways) articulation	Capacity kg @ 1220mm
	SINGLE containers 6 x 8'6" or 5 x 9'6"	H16XM-12EC with 13.85m lift mast	Vertical Twistlocks 	Free (mechanical) articulation	7 000
	SINGLE containers 7 x 8'6" or 6 x 9'6"	H18XM-12EC with 16.45m lift mast			7 000 ■ 8 500 ○
■ 7000 kg with (standard) 145 kW / 195 Hp Stage IIIA engine. ○ 8500 kg with (optional) 172 kW / 230 Hp engine.					
Container Stacking		Hyster Model	Spreader engagement	Spreader (sideways) articulation	Capacity kg @ 1220mm
	DOUBLE containers 2 on 5 x 8'6" or 2 on 4 x 9'6"	H22XM-12EC with 13.85m lift mast	Hooks & Side Clamps 	Free (mechanical) articulation or: (hydraulic) Powered Pile slope	7 000
	DOUBLE containers 2 on 6 x 8'6" or 2 on 5 x 9'6"	H22XM-12EC with 16.45m lift mast	or: Double Horizontal Twistlocks 		(hydraulic) Powered Pile slope



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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