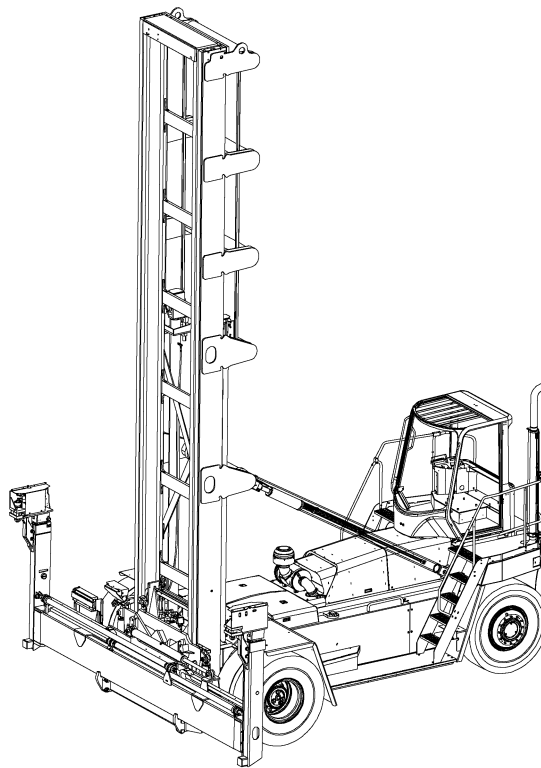


CAPACITIES AND SPECIFICATIONS

**H16.00-22.00XM-12EC (H400-500HD/
HDS-EC) [B214]**



HYSTER

TABLE OF CONTENTS

Counterweight Weights	1
Vehicle Weights	1
Container Attachment Weights.....	1
Capacities	2
Electrical System	2
Engine Specifications.....	2
Function Speeds	3
Steering	3
Tire Sizes	4
Hydraulic System Specifications.....	4
Torque Specifications	5
Main Control Valve.....	5
Engine	5
Electrical System	5
Alternator	5
Counterweight	5
Drive Axle	6
Planetary Gear Axle.....	6
Steering Axle.....	6
Wheel Bearing Adjusting Nut (PRC1756-W3H).....	6
Differential.....	6
Transmission.....	6
Torque Converter	6
Steering	6
Wheel Nuts.....	6
Attachment	6

This section is for the following models:

H16.00-22.00XM-12EC (H400-500HD/HDS-EC) [B214]

(More Content includes: Brake system, Capacities, and specifications, Frame, Hydraulic, System, Industrial battery, Main control, Valve, Mast repair, Fasteners, Schematics diagrams, Steering axle, Steering system, Wire harness repair And more)

[Click Here](#)

**Get all the content
after purchase**

**Thank you very
much.**

Counterweight Weights

Unit	Main Counterweight
H16.00XM-12EC	6,000 to 6,180 kg (13,230 to 13,627 lb)
H18.00XM-12EC	6,000 to 6,180 kg (13,230 to 13,627 lb)
H22.00XM-12EC	8,450 to 8,704 kg (18,633 to 19,193 lb)
H400HD-EC	6,000 to 6,180 kg (13,230 to 13,627 lb)
H440HDS-EC	6,000 to 6,180 kg (13,230 to 13,627 lb)
H450HD-EC	6,000 to 6,180 kg (13,230 to 13,627 lb)
H450HDS-EC	8,450 to 8,704 kg (18,633 to 19,193 lb)
H500HD-EC	8,450 to 8,704 kg (18,633 to 19,193 lb)

Vehicle Weights

Vehicle Weights Without Power Pile Slope	
Unit	Weight
H16.00XM-12EC	32,302 kg (71,226 lb)
H18.00XM-12EC	32,967 kg (72,693 lb)
H22.00XM-12EC	35,946 kg (79,261 lb)

Vehicle Weights With Power Pile Slope	
Unit	Weight
H400HD-EC	32,996 kg (72,756 lb)
H440HDS-EC	33,321 kg (74,460 lb)
H450HD-EC	33,782 kg (74,477 lb)
H450HDS-EC	33,771 kg (78,862 lb)
H500HD-EC	36,652 kg (80,817 lb)

Container Attachment Weights

Extendable Attachment	Weight
6 to 12.2 m (20 to 40 ft)	
Shooting Pins	5346 kg (11,786 lb)
Double Horizontal Twist Locks	5300 kg (11,685 lb)
Hooks/Vertical/Horizontal Twist Locks	4500 kg (9,921 lb)

Capacities

Item	Specification
Engine Oil	15.4 liter (16.3 qt)
Cooling System	25.0 liter (6.6 gal)
Hydraulic System Oil	335.0 liter (88.0 gal)
Transmission Oil	37.0 liter (9.8 gal)
Drive Axle Planetaries	4.5 liter (1.2 gal) - each side
Differential	43.0 liter (11.4 gal)
Fuel	364 liter (96 gal)

Electrical System

24 Volt, Negative Ground
Alternator Output 70 Amps

Engine Specifications

Item	Cummins QSB 6.7
Number of Cylinders	6
Firing order	1-5-3-6-2-4
Bore	N/A
Stroke	N/A
Displacement	6.7 liter (408.86 in. ³)
Compression Ratio	17.2:1
Oil Pressure (Minimum 2000 RPM)	45 kPa (50 psi)
Governed Speed (No Load) 142 kW (190 hp) 164 kW (220 hp)	2320 to 2380 RPM 2110 to 2170 RPM
Idle Speed	800 RPM $\pm 2\%$
Stall Speed 142 kW (190 hp) 164 kW (220 hp)	1830 to 1980 RPM 1840 to 1990 RPM
Valve Clearance (Cold) Intake Exhaust	0.254 mm (0.010 in.) 0.508 mm (0.020 in.)
Minimum Cranking Speed	125 RPM
Weight (Dry)	485 kg (1070 lb)

Function Speeds

Unit	Lifting				Lowering			
	No Load		Rated Load		No Load		Rated Load	
	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min	m/sec	ft/min
H16.00XM-12EC	0.56	110	0.52	102	0.47	93	0.49	96
H18.00XM-12EC	0.56	110	0.52	102	0.47	93	0.49	96
H22.00XM-12EC	0.54	106	0.52	102	0.47	93	0.49	96
H400HD-EC	0.56	110	0.52	102	0.47	93	0.49	96
H450HD-EC	0.56	110	0.52	102	0.47	93	0.49	96
H440HDS-EC	0.56	110	0.52	102	0.47	93	0.49	96
H450HDS-EC	0.56	110	0.52	102	0.47	93	0.49	96
H500HD-EC	0.54	106	0.52	102	0.47	93	0.49	96

Steering

Turning Radius		
No Load, Minimum Speed - Average Values, ± 76.2 mm (± 3 in.) Acceptable		
Unit	Outside Radius	Inside Radius
H16.00XM-12EC	5,440 mm (214.20 in.)	2,105 mm (82.90 in.)
H18.00XM-12EC	6,060 mm (238.60 in.)	2,334 mm (91.90 in.)
H22.00XM-12EC	6,060 mm (238.60 in.)	2,334 mm (91.90 in.)
H400HD-EC	5,440 mm (214.20 in.)	2,105 mm (82.90 in.)
H440HDS-EC	5,440 mm (214.20 in.)	2,105 mm (82.90 in.)
H450HD-EC	6,060 mm (238.60 in.)	2,334 mm (91.90 in.)
H450HDS-EC	5,440 mm (214.20 in.)	2,105 mm (82.90 in.)
H500HD-EC	6,060 mm (238.60 in.)	2,334 mm (91.90 in.)

Tire Sizes

Model	Size				Pressure
	Steer		Drive		
	12.00-24	14.00-24	12.00-24	14.00-24	
H16.00XM-12EC	X	Option	X	Option	10 bar (145 psi)
H18.00XM-12EC	X	Option	X	Option	
H22.00XM-12EC		X		X	
H400HD-EC	X	Option	X	Option	
H440HDS-EC	X	Option	X	Option	
H450HD-EC	X	Option	X	Option	
H450HDS-EC	X	Option	X	Option	
H500HD-EC		X		X	
NOTE: Tires are available in Pneumatic or Pneumatic-shaped solid. X = Standard					

Hydraulic System Specifications

Item	Specification
Hydraulic Pumps Output @ 2200 rpm (Governed speed-no load)	
Cummins 142 HP (190 KW)/164 HP (220 KW) Engine	
Main Control Valve Pump [74 cm ³ (4.51 in. ³) per revolution]	158.9 liter/min (41.95 gal/min)
Steering Pump [54 cm ³ (3.30 in. ³) per revolution]	115.95 liter/min (30.61 gal/min)
Brake Pump [23 cm ³ (1.40 in. ³) per revolution]	49.39 liter/min (13.04 gal/min)
Relief Valve (approximate operating pressure)	
Main Control Valve	
Lift Relief Valve Pressure	26.0 MPa (3771 psi)
Tilt Relief Valve Pressure	18.9 MPa (2741 psi)
Auxiliary Relief Valve Pressure	18.9 MPa (2741 psi)
Tilt Control Valves	14.0 MPa (2030 psi)
Service Brake Circuit	10.3 to 11.03 MPa (1494 to 1600 psi)
Steering Circuit	16.5 to 17.5 MPa (2393 to 2538 psi)
Container Attachment	14.0 MPa (2030 psi)
Power Pile Slope Circuit	21.0 MPa (3046 psi)
Twist Lock Circuit	8.3 MPa (1204 psi)
Sideshift Circuit	12.4 MPa (1798 psi)
Extend/Retract Circuit	8.6 MPa (1247 psi)

Item	Specification
Hydraulic Pumps Output @ 2200 rpm (Governed speed-no load)	
Check Port Pressures	
P1 - Steering Circuit	16.5 to 17.5 MPa (2393 to 2538 psi)
X1 - Lift/Lower Circuit	26 ±0.350 MPa (3771 ±50 psi)
X2 - Tilt/Auxiliary Circuit	18.9 ±0.350 MPa (2741 ±50 psi)
X2 - Lift/Lower Circuit	26 ±0.350 MPa (3771 ±50 psi)
X3 - Accumulator Charge Valve (lower limits)	12.25 ±0.6125 MPa (1777 ±89 psi)
X3 - Accumulator Charge Valve (upper limits)	17.5 ±0.175 MPa (2538 ±25 psi)
XB - Service Brake Pressure at 2200 rpm	10.3 to 11.03 MPa (1494 to 1600 psi)
Main Return Line Filter	
Bypass Pressure	300 kPa (43.5 psi)
Brake Filter	
Bypass Pressure	100 kPa (14.5 psi)

Torque Specifications

MAIN CONTROL VALVE

Main Control Valve Fastening Bolts

225 N•m (166 lbf ft)

Relief Valve

65 N•m (48 lbf ft)

Mounting Nut (Small)

65 N•m (48 lbf ft)

Mounting Nut (Large)

100 N•m (74 lbf ft)

ENGINE

Mounting Capscrews (Bracket Mount to Engine)

108 N•m (80 lbf ft)

Mounting Capscrews (Engine Bracket to Frame)

165 N•m (122 lbf ft)

For torque instructions for the Cummins 6.7L diesel engine, contact your local **Hyster** dealer or see **Hyster Hypass Online**.

ELECTRICAL SYSTEM

Alternator

Shaft Nut

95 to 108 N•m (70 to 80 lbf ft)

Mount Nut

81 to 95 N•m (60 to 70 lbf ft)

Battery (B+) Terminal

9.0 to 13.6 N•m (80 to 120 lbf in)

Indicator (I) Terminal

1.7 to 2.8 N•m (15 to 25 lbf in)

Ground (B-) Terminal

5.6 to 6.8 N•m (50 to 60 lbf in)

COUNTERWEIGHT

Capscrews (Top)

1100 N•m (811 lbf ft)

Capscrews (Rear)

1100 N•m (811 lbf ft)

DRIVE AXLE**Mounting Capscrews**

1050 to 1150 N•m (774 to 848 lbf ft)

PLANETARY GEAR AXLE**Lock Plate Capscrews**

81 to 102 N•m (60 to 75 lbf ft)

Cover Capscrews

115 to 156 N•m (85 to 115 lbf ft)

STEERING AXLE**Mounting Capscrews**

580 N•m (430 lbf ft)

**WHEEL BEARING ADJUSTING NUT
(PRC1756-W3H)****Initial Torque**

542 N•m (400 lbf ft)

Final Torque

474 N•m (350 lbf ft)

DIFFERENTIALRefer to the section **Differential** 1400 SRM 46.**TRANSMISSION**Refer to the section **Transmission**, (**TE13** and **TE17**) 1300 SRM 1271.**TORQUE CONVERTER**Refer to the section **Transmission**, (**TE13** and **TE17**) 1300 SRM 1271.**STEERING****Steering Shaft Nut for Steering Wheel**

35 to 45 N•m (26 to 33 lbf ft)

Block of Steering Control Unit

40 N•m (30 lbf ft)

Cover of Steering Control Unit (Bottom)

Initial Torque 17 N•m (150 lbf in)

Final Torque 30 N•m (265 lbf in)

WHEEL NUTS**Drive Wheels (Final Torque Value)**

640 to 680 N•m (472 to 502 lbf ft)

Steer Wheels (Final Torque Value)

640 to 680 N•m (472 to 502 lbf ft)

ATTACHMENT**Load Roller Retainer Capscrews**

66 N•m (49 lbf ft)

Carriage Bearing Block Bracket to Carriage

66 N•m (49 lbf ft)

