

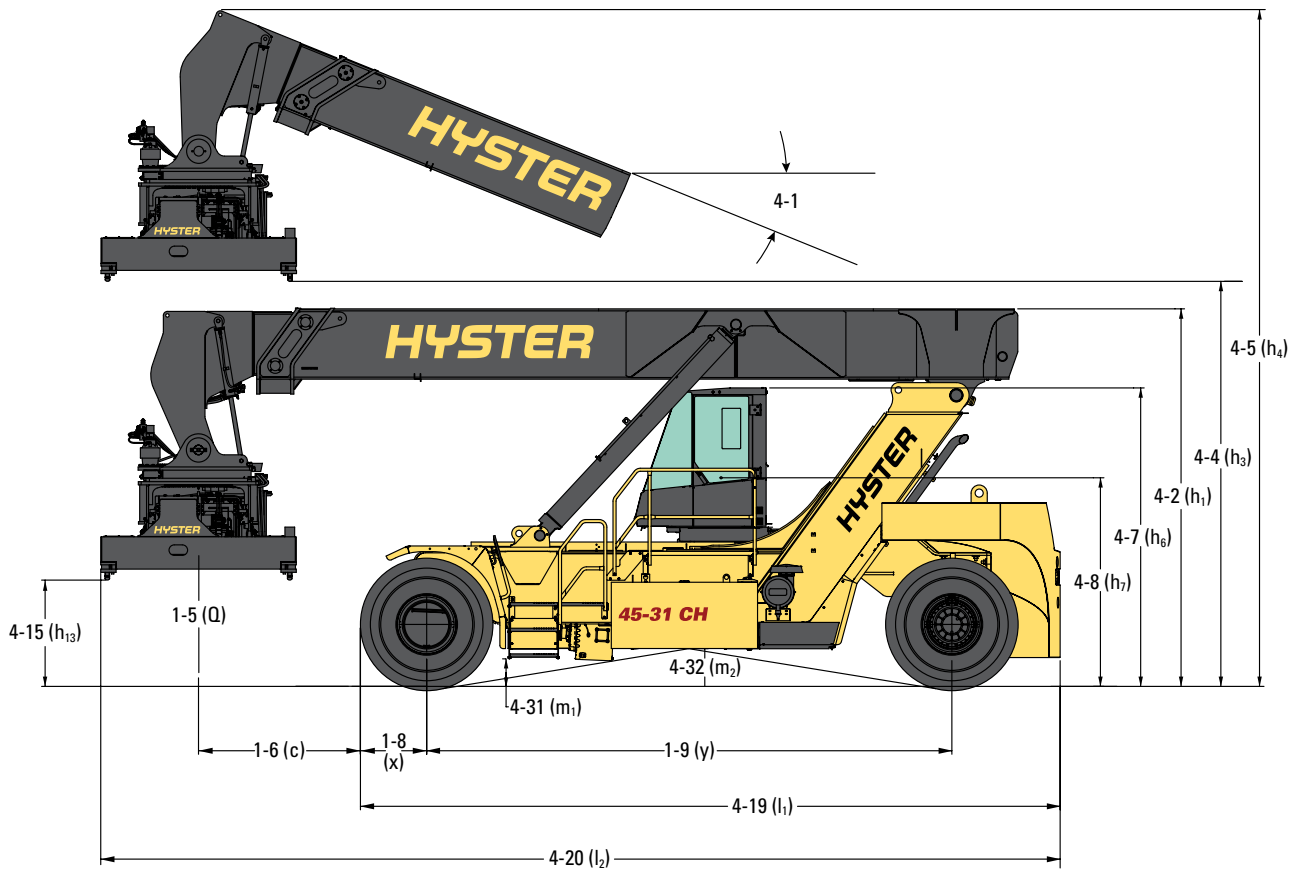
RS45 SERIES



REACHSTACKER PRODUCT TECHNICAL GUIDE

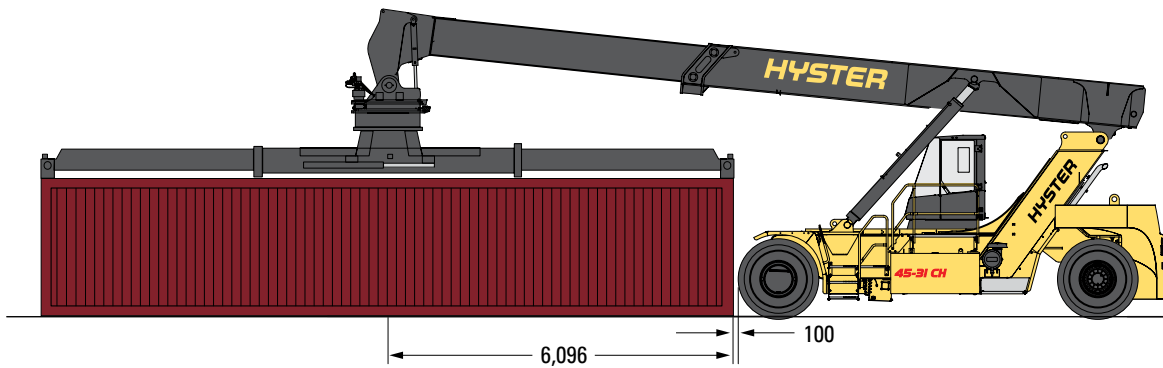
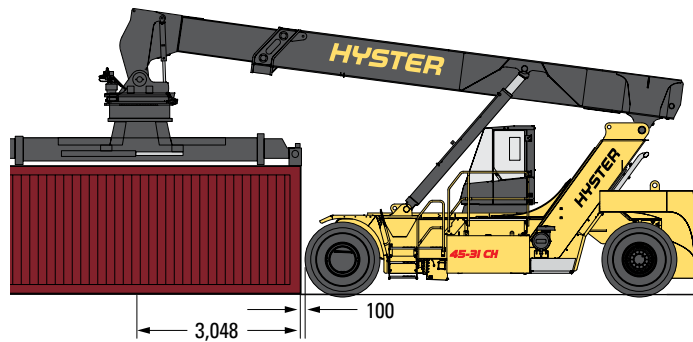


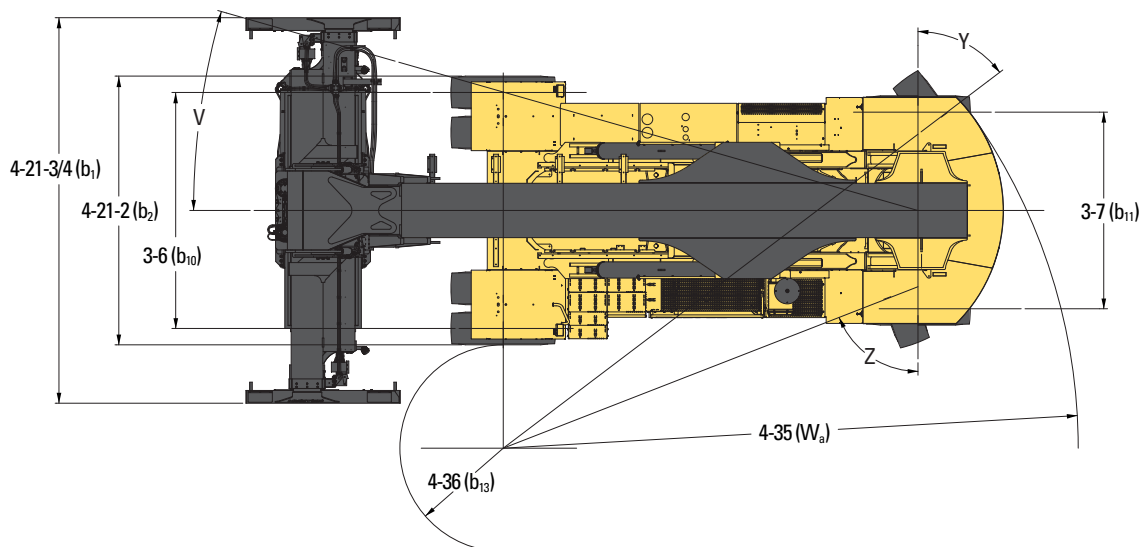
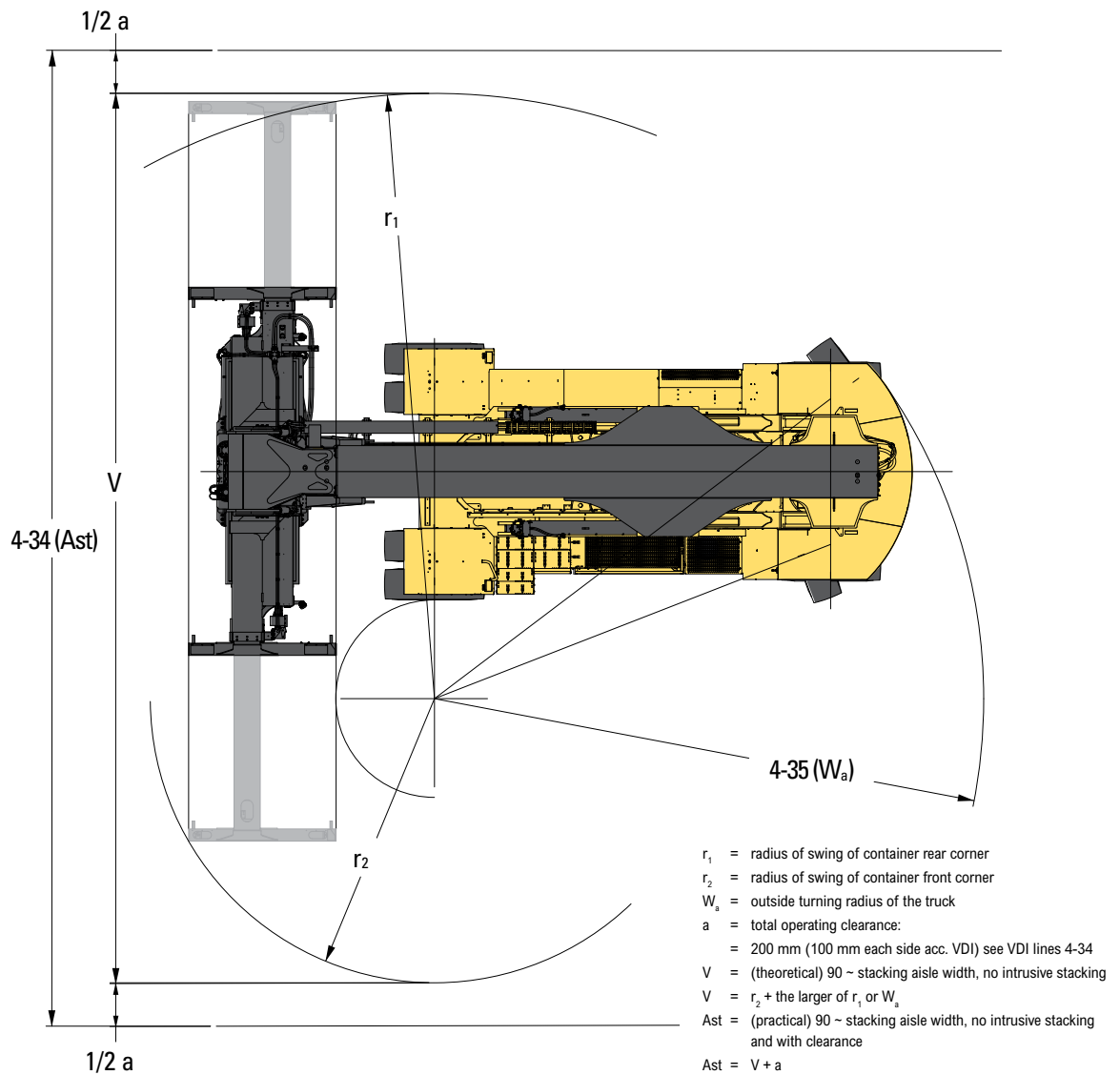
DIMENSIONS



MAXIMUM CAPACITY CONTAINER PICKING END TO END

MODEL	20'	40'
	kg	kg
RS45-27	31,000	12,300
RS45-31	34,000	15,000





RS 45-27, RS 45-31 CONTAINER HANDLERS

			HYSTER					
			RS45-27CH (A921)		RS45-31CH (A921)			
GENERAL	1.1	Manufacturer			HYSTER			
	1.2	Model designation			RS45-27CH (A921)	RS45-31CH (A921)		
	1.3	Powertrain / drivetrain			Diesel			
	1.4	Operator type			Seated			
	1.5.1	Load capacity at load centre distance c_1	Q_1	kg	45,000			
	1.5.2	Load capacity at load centre distance c_2	Q_2	kg	27,000	31,000		
	1.5.3	Load capacity at load centre distance c_3	Q_3	kg	12,300	15,000		
	1.6.1	Load centre distance c_1 (1)	c_1	mm	1,565			
	1.6.2	Load centre distance c_2 (1)	c_2	mm	3,815			
	1.6.3	Load centre distance c_3 (1)	c_3	mm	6,315			
1.8	Load distance	x	mm	835				
1.9	Wheelbase	y	mm	6,500				
1.10	Stacking height at first row (number x container height)		#	5 x 9' 6"				
WEIGHT	2.1	Service weight		kg	62,300	65,300		
	2.2.1	Axle loading with load, front / rear at c_1		kg	93,000	14,300	92,800	17,500
	2.3.1	Axle loading without load, front / rear at c_1		kg	31,400	30,900	31,200	34,100
WHEELS	3.1	Tyre type front/rear			Pneumatic			
	3.2	Tyre size, front			18.00-25 40PR			
	3.3	Tyre size, rear			18.00-25 40PR			
	3.5	Number of wheels, front / rear (x = driven wheels)			x4 / 2			
	3.6	Tread, front	b_{10}	mm	3,703			
	3.7	Tread, rear	b_{11}	mm	3,060			
	DIMENSIONS	4.1	Boom angle minimum / maximum		degrees	0 / 59		
4.2		Height of boom lowered	h_1	mm	4,700			
4.4.1		Lift height at load centre c_1 (2)	$h_{3.1}$	mm	15,080			
4.4.2		Lift height at load centre c_2 (2)	$h_{3.2}$	mm	13,470			
4.4.3		Lift height at load centre c_3 (2)	$h_{3.3}$	mm	10,320			
4.5		Height, boom extended	h_4	mm	18,110			
4.7		Height of overhead guard (cabin)	h_6	mm	3,720			
4.8		Seat height to SIP (3)	h_7	mm	2,555			
4.15		Height under twistlock - lowered (2)	h_{13}	mm	1,275			
4.19		Overall length	l_1	mm	8,660			
4.20		Overall length including boom retracted	l_2	mm	11,875			
4.21.2		Overall width across all of truck	b_2	mm	4,200			
4.21.3		Overall width across spreader 20'	$b_{1.20}$	mm	6,100			
4.21.4		Overall width across spreader 40'	$b_{1.40}$	mm	12,200			
4.28		Reach distance	l_4	mm	4,310			
4.31		Ground clearance, lowest point	m_1	mm	285			
4.32		Ground clearance, centre or wheelbase	m_2	mm	437			
4.34.3		Aisle width: 20' container, reduced / full stroke (4)	Ast_{20}	mm	12,520 / 11,950			
4.34.4	Aisle width: 40' container, reduced / full stroke (4)	Ast_{40}	mm	14,040 / 13,830				
4.35	Outside turning radius, reduced / full stroke	W_a	mm	8,990 / 8,450				
4.36	Internal turning radius, reduced / full stroke	b_{13}	mm	1,620 / 1,040				
PERFORMANCE	5.1	Travel speed with / without load		km/h	20 / 23			
	5.2	Lifting speed with / without load		m/s	0.24 / 0.41			
	5.3	Lowering speed with / without load		m/s	0.45 / 0.45			
	5.4.1	Telescoping speed 20' - 40'		sec	9			
	5.5	Drawbar pull - 1 mph (1.6 km/h) with / without load		kN	308	316	305	313
5.7	Gradeability - 1 mph (1.6 km/h) with / without load (5)		%	24	38	23	36	

(1) From face of front tyres

(2) With Mechanical Pile Slope (MPS). For optional Powered Pile Slope (PPS) function: deduct 310 mm

(3) Full suspension seat in depressed position

(4) Spreader at 8.0 m high, central above front axle; container 0mm in front of tyres; includes 2 x 100 mm clearance; full/reduced stroke steer cylinder

(5) Gradeability figures are provided for comparison of tractive performance, but are not intended to endorse the operation of vehicle on the stated inclines.

GENERAL	1.1	Manufacturer			HYSTER	
	1.2	Model designation			RS45-27/31CH	
	1.3	Powertrain / drivetrain			Diesel	
ENGINE	7.1	Engine manufacturer / model			Cummins / QSL9 227	Cummins / L9 242
	7.1a	EPA / CE Tier compliance			Tier 3 / Stage IIIA	China GB4 / Tier 4 / Stage 5
	7.2	Engine power output according to ISO 1585		kW	227	242
	7.2.1	Engine power output . peak		kW	247	246
	7.3	Rated speed		rpm	2,100	2,100
	7.3.1	Engine torque @rpm (1/min)		N.m	1,424 @ 1500	1,636 @ 1100
	7.4	Number of cylinders / displacement		# / cm ³	6 / 8900	
		Turbocharger			Wastegate, air cooled	
	7.8	Alternator output		Amps	120	
	7.10	Battery voltage, rated capacity		V / Ah	24 / 160	
DRIVE	8.1	Drive control / transmission		Type / #	Hydrodynamic Transmission	
	8.2	Transmission manufacturer / type		Type / #	Spicer Off Highway / TE 27	Spicer Off Highway / TE 30
	8.4	Transmission speeds forward / backward		#	4 / 4	5 / 3
	8.5	Coupling		Type	Torque Converter	
	8.6	Wheel drive / drive axle manufacturer / type		Type / #	Kessler / D102	
	8.11	Service brake		Type	Oil immersed (wet) disc	
8.12	Parking brake		Type	Spring applied, dry disc on drive axle		
SPREADER	9.1	Spreader manufacturer / type		Type / #	Elme / 817	
	9.1.1	Pile slope, mechanical without PPS		degrees	3	
	9.1.3	Pile slope, total with PPS		degrees	6	
	9.3	Size of containers		ft	ISO 20' - 40'	
	9.4	Side shift	b8	mm	+800 / -800	
	9.6.1	Rotation angle, without override		degrees	n/a	
9.6.2	Rotation angle, with override		degrees	+185 / -95		
MISC	10.3	Hydraulic tank capacity		l	625	
	10.4	Fuel tank capacity		l	830	
	10.5	Steering design			Hydrostatic	
	10.7	Sound pressure level at driver's seat	Lpaz	dB(A)	78	
	10.7.1	Sound power level during the work cycle	Lwaz	dB(A)	109	

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.

All capacities are according to EN1459.

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

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.

CERTIFICATION: Hyster lift trucks meet the design and construction requirements of B56.1-1969, per OSHA Section 1910.178(a)(2), and also comply with the B56.1 revision in effect at time of manufacture. Certification of compliance with the applicable ANSI standards appears on the lift truck. Performance specifications are for a truck equipped as described under Standard Equipment on this Technical Guide. Performance specifications are affected by the condition of the vehicle and how it is equipped, as well as by the nature, condition of the operating area proper service and maintenance of the vehicle. If these specifications are critical, the proposed application should be discussed with your dealer.

NOTE: Specifications, unless otherwise listed, are for a standard truck without optional equipment.

Specification data is based on VDI 2198.

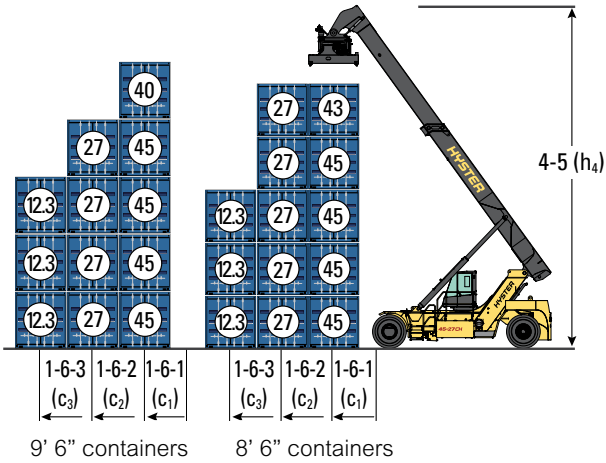


Safety: This truck conforms to the current EU requirements.

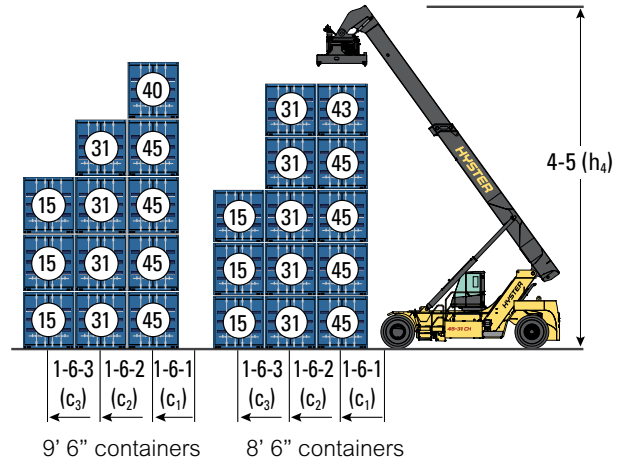
RATED CAPACITIES AND STACKING HEIGHTS

MECHANICAL PILE SLOPE

RS 45-27 CH CONTAINER SPREADER

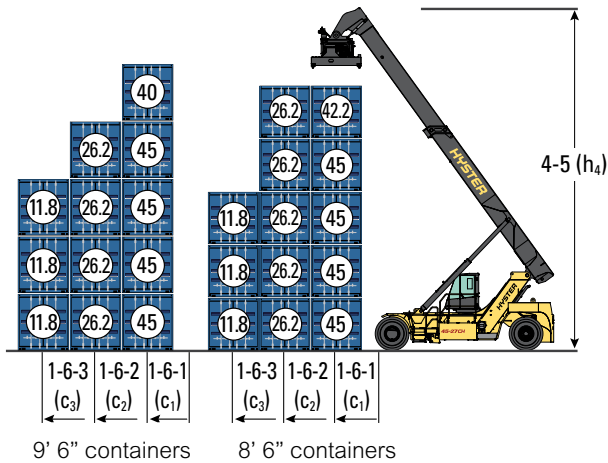


RS 45-31 CH CONTAINER SPREADER

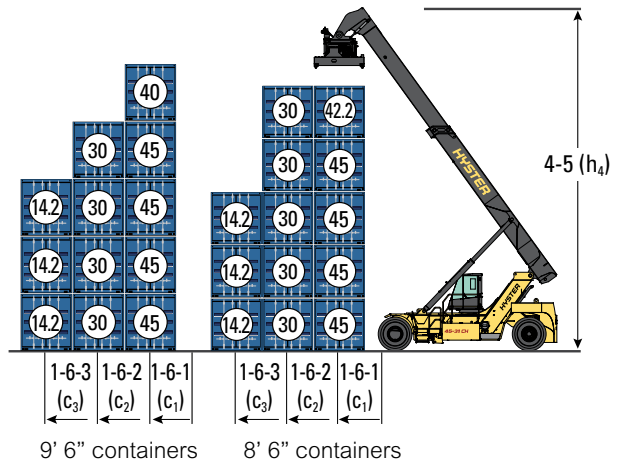


POWERED PILE SLOPE

RS 45-27 CH CONTAINER SPREADER



RS 45-31 CH CONTAINER SPREADER



CERTIFICATION: Hyster lift trucks meet the design and construction requirements of B56.1-1969, per OSHA Section 1910.178(a)(2), and also comply with the B56.1 revision in effect at time of manufacture. Certification of compliance with the applicable ANSI standards appears on the lift truck. Performance specifications are for a truck equipped as described under Standard Equipment on this Technical Guide. Performance specifications are affected by the condition of the vehicle and how it is equipped, as well as by the nature, condition of the operating area, proper service and maintenance of the vehicle. If these specifications are critical, the proposed application should be discussed with your dealer.

STANDARD AND OPTIONAL EQUIPMENT

PERFORMANCE	STD	OPT	ERGONOMICS	STD	OPT
Cummins QSL 9 Diesel Engine Tier 3 / Stage IIIA		X	Powered sliding cabin (1200 mm), including additional mirrors on top of fenders	X	
Cummins QSL 9 Diesel Engine Tier 4 / Stage V / China GB4		X	Isolated mounting for low noise and vibration	X	
Wastegate turbocharger	X		Front, top and rear wipers	X	
Hibernate Idle	X		Left side handrails, stairway and cabin door	X	
Hydraulically driven on-demand cooling fan	X		Seat-side joystick hydraulic control	X	
120 amp alternator	X		Steering wheel spinner knob	X	
Powertrain protection system	X		Directional control lever	X	
Spicer Off-Highway TE-27 4-speed auto-shifting transmission	X		Interior wide angle mirrors	X	
Spicer Off-Highway TE-30 5-speed auto-shifting transmission	X		Heater with 3-speed fan	X	
Kessler D102 drive axle with wet disc brakes	X		Telescoping & tilting steering column	X	
DRIVE	STD	OPT	Recirculation fan	X	
Traction speed limiter when carrying container (adjustable)	X		DC/DC converter 24 volt/12 volt with socket*	X	
Traction speed limiter - unconditional (adjustable)		X	Air conditioning		X
Steer axle with reduced stroke steer cylinder for longer tyre life*		X	Sun shades on top and rear		X
E3 pneumatic drive and steer tyres Continental Container Master 18.00x25.40PR		X	Radio preparation set-up (wiring, two speakers and antenna)		X
18.00 x 25-40 Advance Bias	X		Reading light		X
E4 pneumatic drive and steer tyres Continental Container Master 18.00-25.40PR		X	Operator presence system	X	
E4 pneumatic drive and steer tyres Goodyear ELV-4B 18.00-25.40PR		X	Mechanical suspension seat	X	
Drive and steer Slick Tyres Bridgestone 18.00-25.40PR		X	Deluxe air suspension seat		X
Drive and steer Slick Radial Tyres Goodyear EV5S 18.00 R25		X	Low backrest*		X
LIFT	STD	OPT	High backrest*		X
On-demand load sensing hydraulic system	X		Cloth seat cover	X	
Automatic throttle-up when lifting (in neutral or inching)	X		Vinyl seat cover		X
2-stage boom for 5-high 1st row stacking	X		2-point high visibility seatbelt	X	
3B6 load moment indicator (integrated in digital operator display)	X		3-point high visibility seatbelt		X
High speed hoist system - below 10 tons	X		OPERATION	STD	OPT
Hydraulic system temperature protection		X	Electric air horn 112 dB	X	
Container weighing system SOLAS compliant		X	Visible alarm – amber strobe light, key switch activated*		X
HANDLING	STD	OPT	Visible alarm – amber strobe light, switch and key switch activated*		X
CANBus spreader, ELME model 817 with rotation	X		Audible alarm – reverse direction activated 82–102 dB(A), self-adjusting	X	
Mechanical Pile Slope	X		Seatbelt interlock for engine start	X	
Powered Pile Slope		X	Tyre pressure monitoring system	X	
Powered dampening		X	Lockable battery disconnect switch	X	
4 lifting eyes located on end beam corners	X		Trainer seat		X
4 lifting eyes located under centre beam of spreader		X	Non-locking fuel cap	X	
Container guides - located outside near twistlocks		X	Lockable fuel cap		X
Container guides - 500mm inset, heavy duty		X	Hyster Tracker wireless asset management - monitoring*		X
Rotation stops with override		X	Hyster Tracker wireless asset management - access / verification		X
VISIBILITY	STD	OPT	Auto greasing system for basic truck and outer boom		X
External wide angle mirrors mounted on rear of front fenders	X		Auto greasing system for inner boom and spreader		X
High performance LED work lights	X		24 volt electrical system	X	
LED twistlock indicator lights	X		Steer wheel lug nut protection	X	
LED stop/tail/brake lights	X		Engine compartment light		X
Turn signals, hazard & marker lights (LED)*	X		SUPPLEMENTAL	STD	OPT
APPEARANCE	STD	OPT	Literature package	X	
Hyster yellow paint base truck and Hyster black paint on cab, boom and rims	X		Operator's manual	X	
			Warranty: 12 months / 2,000 hours manufacturer's warranty	X	
			CE Certification		X

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




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