

RS45 SERIES



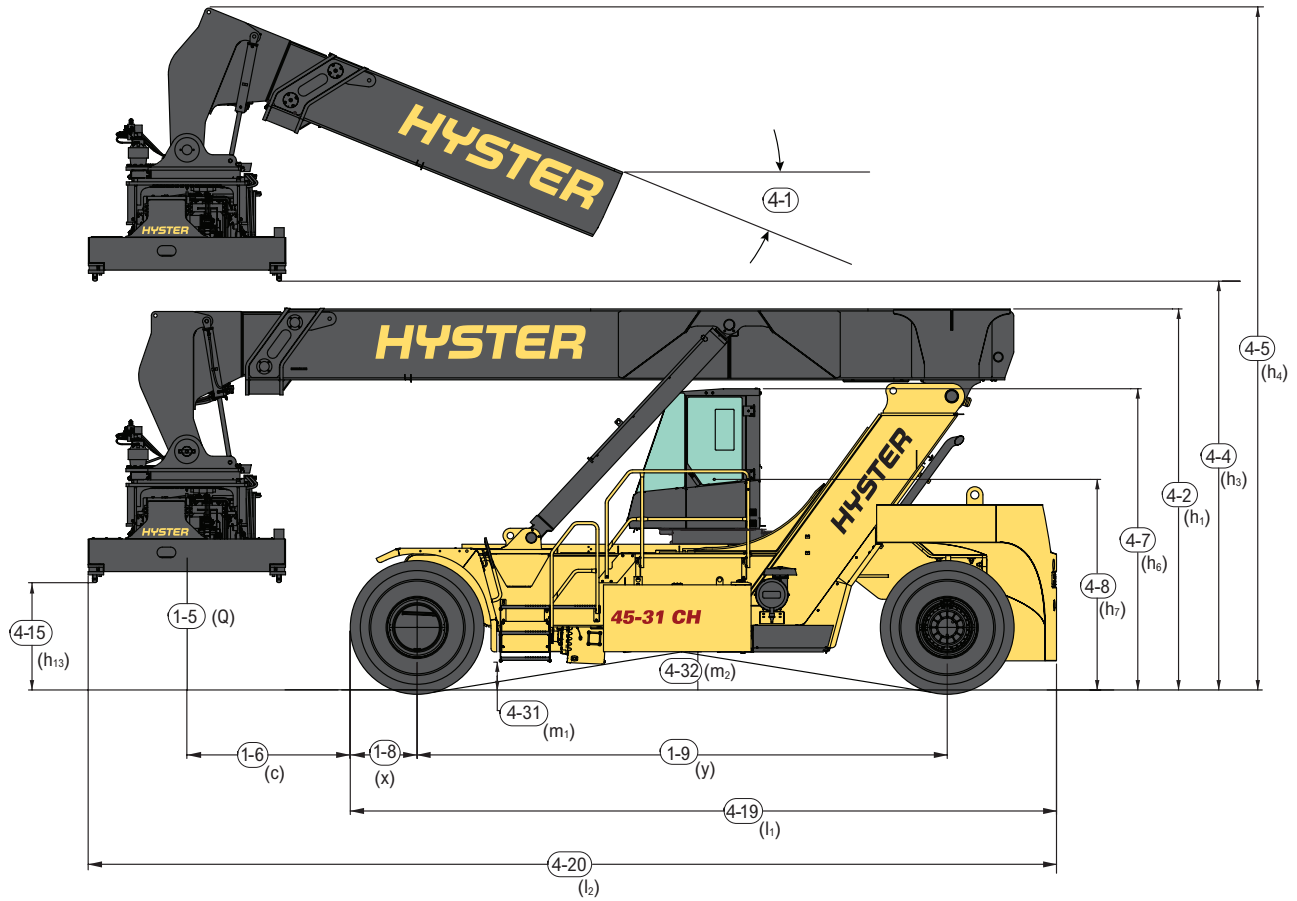
REACHSTACKER

PRODUCT TECHNICAL GUIDE



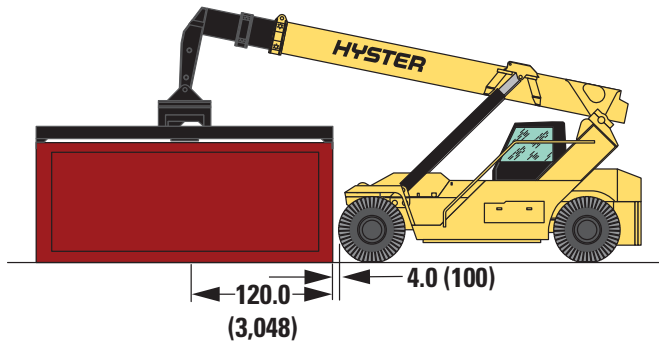
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DIMENSIONS

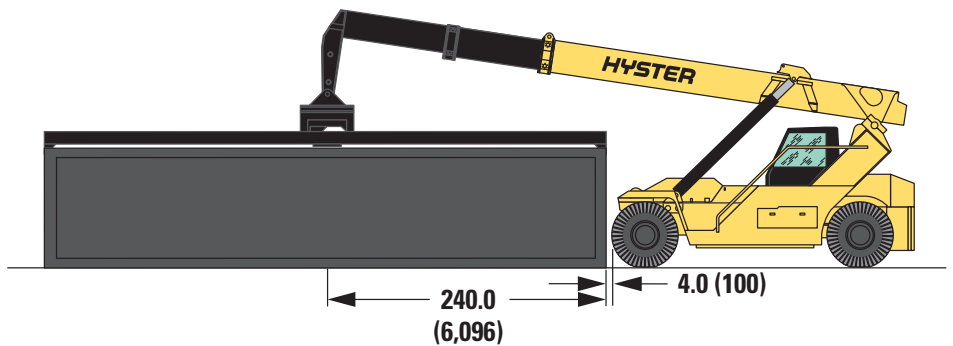


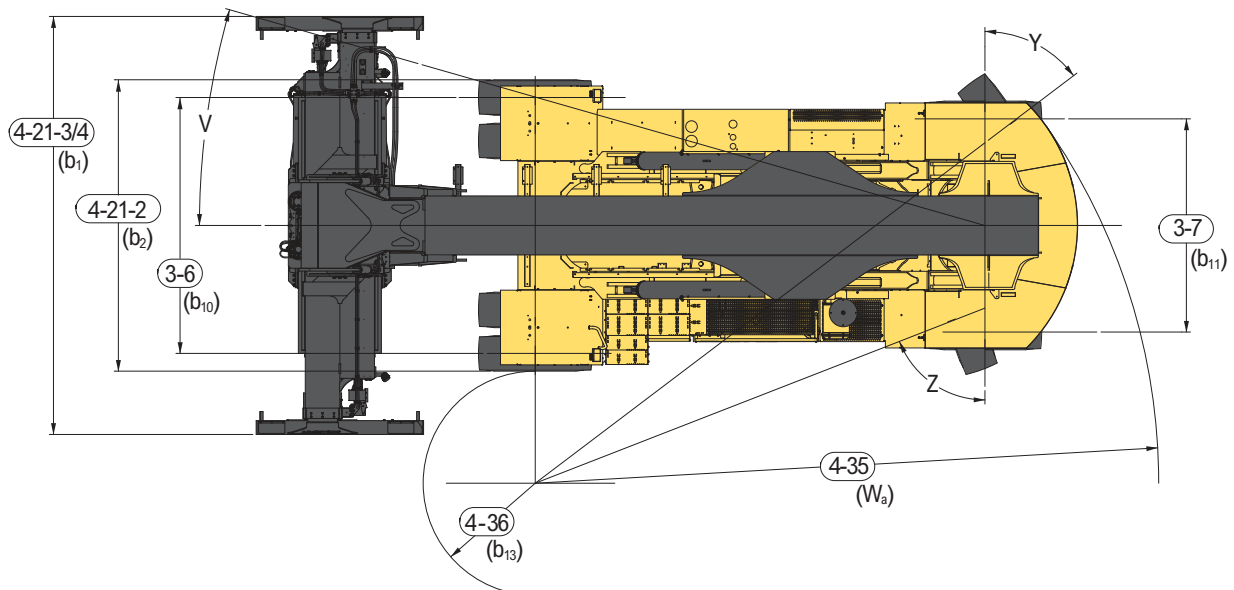
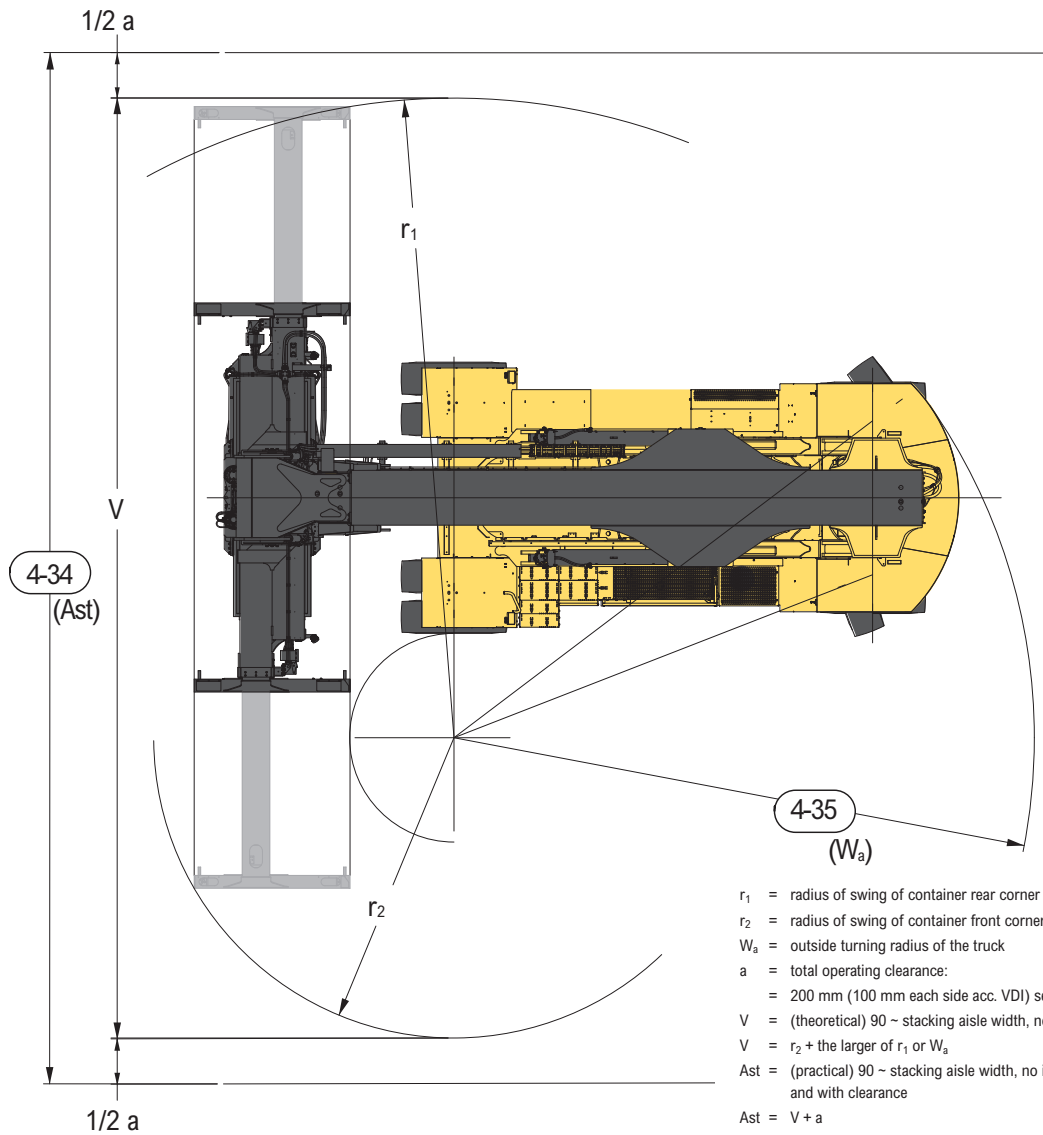
20'-0 END ON LIFTING CAPACITIES

MAXIMUM CAPACITY CONTAINER PICKING END TO END		
MODEL	20'	40'
	kg	kg
RS45-27	31,000	12,300
RS45-31	34,000	15,000



40'-0 END ON LIFTING CAPACITIES





RS 45-27, RS 45-31 CONTAINER HANDLERS

					HYSTER				HYSTER				
					RS45-27CH				RS45-31CH				
GENERAL	1-1	Manufacturer			HYSTER				HYSTER				
	1-2	Model designation			RS45-27CH				RS45-31CH				
	1-3	Powertrain/drivetrain			Diesel				Diesel				
	1-4	Operator type			Seated				Seated				
	1-5-1	Load capacity at load center distance c1	Q1	lb	kg	99,208	45,000	99,208	45,000	99,208	45,000		
	1-5-2	Load capacity at load center distance c2	Q2	lb	kg	59,525	27,000	68,343	31,000	68,343	31,000		
	1-5-3	Load capacity at load center distance c3	Q3	lb	kg	27,117	12,300	33,069	15,000	33,069	15,000		
	1-6-1	Load center distance c1 (1)	c1	in	mm	62	1,565	62	1,565	62	1,565		
	1-6-2	Load center distance c2 (1)	c2	in	mm	150	3,815	150	3,815	150	3,815		
	1-6-3	Load center distance c3 (1)	c3	in	mm	249	6,315	249	6,315	249	6,315		
1-8	Load distance	x	in	mm	33	835	33	835	33	835			
1-9	Wheelbase	y	in	mm	256	6,500	256	6,500	256	6,500			
1-10	Stacking height at first row		#	5 x 9' 6"				5 x 9' 6"					
WEIGHT	2-1	Service weight		lb	kg	137,348	62,300	143,962	65,300	143,962	65,300		
	2-2-1	Axle loading with load (c1), front/rear		lb	kg	205,030	93,000	31,526	14,300	204,589	92,800	38,581	17,500
	2-3-1	Axle loading without load (c1), front/rear		lb	kg	69,225	31,400	68,123	30,900	68,784	31,200	75,178	34,100
WHEELS	3-1	Tire type		Type	Pneumatic				Pneumatic				
	3-2	Tire size, front			18.00-25 40PR				18.00-25 40PR				
	3-3	Tire size, rear			18.00-25 40PR				18.00-25 40PR				
	3-5	Number of tires, front/rear (X driven)			x4/2				x4/2				
	3-6	Tread, front	b10	in	mm	146	3,703	146	3,703	146	3,703		
	3-7	Tread, rear	b11	in	mm	120	3,060	120	3,060	120	3,060		
	4-1	Boom angle minimum/maximum	0	Degrees	0/59				0/59				
DIMENSIONS	4-2	Height of boom lowered	h1	in	mm	185	4,700	185	4,700	185	4,700		
	4-4-1	Lift height at load center c1 (2)	h3.1	in	mm	594	15,080	594	15,080	594	15,080		
	4-4-2	Lift height at load center c2 (2)	h3.2	in	mm	530	13,470	530	13,470	530	13,470		
	4-4-3	Lift height at load center c3 (2)	h3.3	in	mm	406	10,320	406	10,320	406	10,320		
	4-5	Height, boom extended	h4	in	mm	713	18,110	713	18,110	713	18,110		
	4-7	Height of overhead guard (cabin)	h6	in	mm	146	3,720	146	3,720	146	3,720		
	4-8	Seat height to SIP (3)	h7	in	mm	101	2,555	101	2,555	101	2,555		
	4-15	Height under twistlock - lowered (2)	h13	in	mm	50	1,275	50	1,275	50	1,275		
	4-19	Overall length	l1	in	mm	341	8,660	341	8,660	341	8,660		
	4-20	Overall length including boom retracted	l2	in	mm	468	11,875	468	11,875	468	11,875		
	4-21-2	Overall width across all of truck	b2	in	mm	165	4,200	165	4,200	165	4,200		
	4-21-3	Overall width across spreader 20'	b1.20	in	mm	240	6,100	240	6,100	240	6,100		
	4-21-4	Overall width across spreader 40'	b1.40	in	mm	480	12,200	480	12,200	480	12,200		
	4-28	Reach distance	l4	in	mm	170	4,310	170	4,310	170	4,310		
	4-31	Ground clearance, lowest point	m1	in	mm	11	285	11	285	11	285		
	4-32	Ground clearance, center or wheelbase	m2	in	mm	17	437	17	437	17	437		
4-34-2	Aisle width: 20' Container REDUCED/FULL stroke (4)	Ast 20	in	mm	493	12,520	470	11,950	493	12,520	470	11,950	
4-34-7	Aisle width: 40' Container REDUCED/FULL stroke (4)	Ast 40	in	mm	553	14,040	544	13,830	553	14,040	544	13,830	
4-35	Outside turning radius, reduced/full stroke	Wa	in	mm	354	8,990	333	8,450	354	8,990	333	8,450	
4-36	Internal turning radius, reduced/full stroke	b13	in	mm	64	1,620	41	1,040	64	1,620	41	1,040	
PERFORMANCE	SINGLE POWERTRAIN SECTION				QSL9 Tier 3 Engine - TE 27				QSL9 Tier 3 Engine - TE 27				
	5-1	Travel speed, with/without load		mph	km/h	12.4	20	14.3	23	12.4	20	14.3	23
	5-2	Lifting speed, with/without load		ft/min	m/s	47	0.24	81	0.41	47	0.24	81	0.41
	5-3	Lowering speed, with/without load		ft/min	m/s	89	0.45	89	0.45	89	0.45	89	0.45
	5-4-1	Telescoping speed, 20'/40'		sec	sec	9				9			
	5-5	Drawbar pull - 1 mph 1.6 km/h, with/without load		lb	kN	69,241	308	71,040	316	68,567	305	70,365	313
	5-7	Gradeability - 1 mph (1.6 km/h), with/without load (7)		%		24		38		23		36	

ENGINE	7-1	Engine manufacturer/type			Cummins/QSL9	
	7-1a	EPA Tier Compliance			Tier 3/Stage IIIA	
	7-2	Engine power - rated	hp	kW	304@2,000	227@2,000
	7-2-1	Engine power - peak	hp	kW	331@1,700	247@1,700
	7-3	Rated speed	rpm	rpm	2,000	
	7-3-1	Engine torque @ rpm (1/min)	lb-ft	N-m	1,050@1500	1424@1500
	7-4	Number of cylinders/displacement	#/in3	#/cm3	6/543	6/8900
	x	Turbocharger		Type	Wastegate, air cooled	
	7-8	Alternator output		Amps	120	
	7-9	Electrical system voltage		V	24	
7-10	Battery voltage/nominal capacity		V/Ah	24/160		
DRIVE	8-0	Drive control/transmission		Type	Powershift Transmission	
	8-1	Type of drive unit		Type	Torque Converter	
	8-2	Transmission manufacturer/type		Type	Spicer Off-Highway TE-27	
	8-2-1	Transmission speeds forward/backward		#	4/4	
	8-3	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	
	9-1-2	Pile slope, mechanical with PPS		Degrees	2	
	9-1-3	Pile slope, total with PPS		Degrees	6	
	9-3	Size of containers	ft	ft	ISO 20' - 40'	
	9-4	Sideshift (total)	in	mm	+/-31.5	+/-800
	9-4a	Sideshift	in	mm	31.5	800
	9-6-1	Rotation angle, without override		Degrees	N/A	
	9-6-2	Rotation angle, with override		Degrees	+195/-105	
MISC	10-1	Working pressure for attachments	psi	MPa	2,031	140
	10-2	Oil volume for attachments	gpm	l/m	29	110
	10-3	Hydraulic oil tank, capacity	gal	l	165	625
	10-4	Fuel tank, capacity	gal	l	219	830
	10-5	Steering design		Type	Hydrostatic	
	10-6	Number of steering rotations		#	8.0	
	10-7	Sound pressure level at the driver's seat LpAZ		dB (A)	78	

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) From face of front tires
- (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 tires; includes 2x100 mm clearance. FULL/REDUCED steer cylinder stroke.
- (5) Gradeability figures are provided for comparison of tractive performance, but are not intended to endorse the operation of vehicle on the stated inclines.

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.

Specification data is based on VDI 2198.

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.

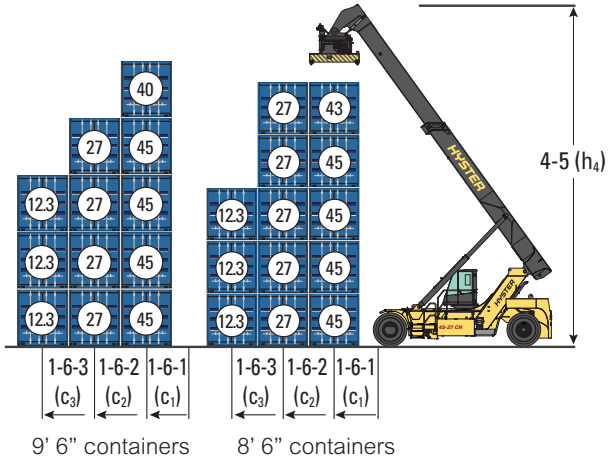
All values are nominal values and they are subject to tolerances. For further information, please contact the manufacturer.

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.

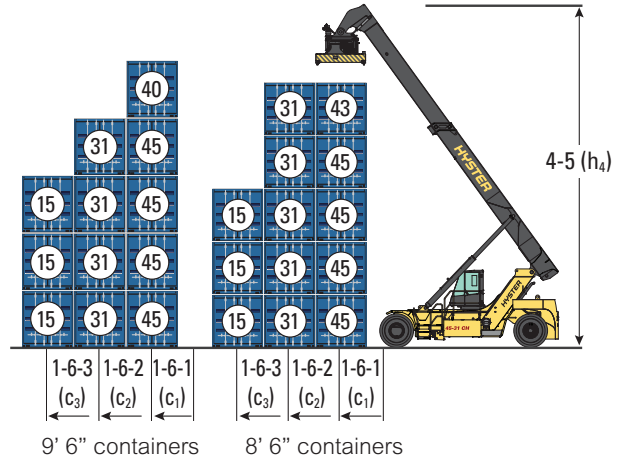
RATED CAPACITIES AND STACKING HEIGHTS

MECHANICAL PILE SLOPE

RS 45-27 CH CONTAINER SPREADER

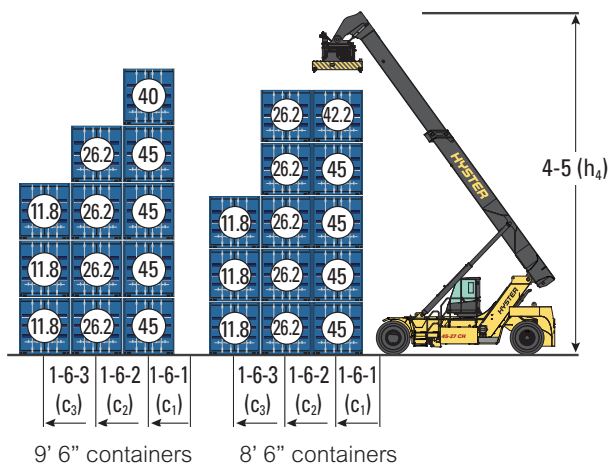


RS 45-31 CH CONTAINER SPREADER

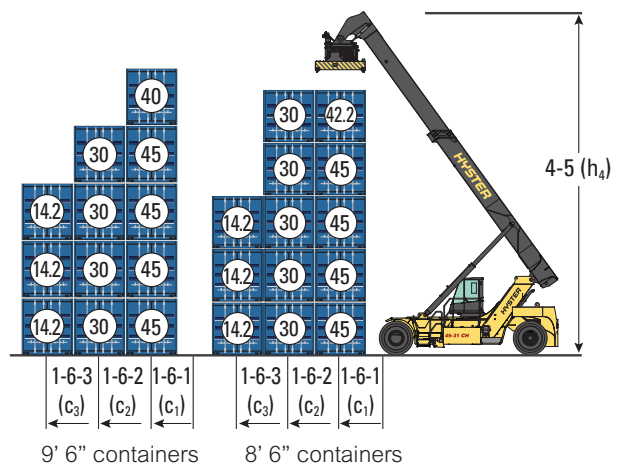


POWERED PILE SLOPE

RS 45-27 CH CONTAINER SPREADER



RS 45-31 CH CONTAINER SPREADER



FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
Cummins QSL 9L diesel engine rated 304 hp Tier 3/227 kw Stage IIIA	x	
Tier 3/Stage IIIA compliant	x	
Wastegate turbocharger, water cooled - Tier 3/Stage IIIA	x	
Hibernate idle	x	
On-demand cooling fan	x	
120 amp alternator	x	
Performance modes	x	
Powertrain protection system	x	
Heavy duty air intake	x	
Spicer off-highway TE-27 4-speed auto-shifting transmission	x	
Kessler D102 drive axle with wet disc brakes	x	
DRIVE	STD	OPT
Travel speed limiter when twistlocks closed	x	
Travel speed limiter pre-set to 10 mph/16 km/h		x
Travel speed limiter pre-set to 12 mph/20 km/h		x
Steer axle with full stroke steer cylinder for tight turning radius	x	
E3 Pneumatic Drive and Steer Tires Continental Cranemaster 18.00-25 40PR	x	
Pneumatic 18.00x25-40PR ELV-4B drive and steer tires		x
18.00-R25 Goodyear EV-5S Slick Radial drive and steer tires		x
LIFT	STD	OPT
230cc Dual Pump Hydraulic System	x	
On-Demand Load Sensing Hydraulic System	x	
Automatic throttle-up when lifting (in neutral or inching)	x	
2-stage boom for 5-high 1st row stacking	x	
3B6 Load Moment Indicator with color display	x	
High speed hoist system - when empty	x	
High speed hoist system - below 10 tons		x
Hydraulic system temperature protection with performance de-rate		x
Container weighing system SOLAS compliant		x
HANDLING	STD	OPT
Hyster model 817 spreader, with rotation	x	
CANBus spreader controls	x	
Mechanical pile slope	x	
Powered pile slope		x
Dampening cylinders	x	
Powered dampening cylinders		x
4 lifting eyes located on end beam corners	x	
4 lifting eyes located under center beam of spreader		x
Spreader guides located at end of spreader beams		x
Spreader guides located 19.9" (506 mm) inwards from center of spreader end beam		x
Rotation stops with override		x
Automatic one-touch extend/retract (20'/40') for spreader		x

ERGONOMICS	STD	OPT
Powered sliding cabin (1200 mm), including additional mirrors on top of fenders	x	
Full steel cab operator compartment	x	
Isolated cabin mounting for low noise and vibration	x	
Operator presence system	x	
Mechanical suspension seat	x	
Deluxe air suspension seat		x
Low backrest seat	x	
High backrest seat		x
Armrest on left side	x	
Cloth seat cover	x	
Vinyl seat cover		x
Seat heating		x
2-point high visibility seatbelt	x	
3-point high visibility seatbelt		x
Floor mat	x	
Coat hook	x	
Front, top and rear wipers	x	
"I"-pattern front wiper (enclosed operator cabin)	x	
Intermittent wipers		x
Front and rear window defrosters	x	
Left side handrails, stairway and cabin door	x	
Right side handrails, stairway and cabin door		x
Left side stair lights		x
Multifunction display panel	x	
Seat-side joystick hydraulic control	x	
Steering wheel with spinner knob	x	
Directional control lever on steering column	x	
Manual park brake	x	
Automatic park brake		x
Heater with 3 speed fan	x	
Telescoping & tilting steering column	x	
DC/DC converter 24 volt/12 volt with socket	x	
Heavy duty air conditioning		x
Reading light		x
Sun shades on top and rear		x
Trainer seat		x
Recirculation fan	x	
Radio preparation set-up (wiring, two speakers and antenna)		x

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

FEATURES AND OPTIONS


VISIBILITY	STD	OPT
External wide angle mirrors mounted on rear of front fenders	x	
Interior wide angle mirrors	x	
Rear view camera system		x
Radar object detection system		x
Halogen work lights	x	
High performance LED work lights		x
Four Halogen head lights mounted on front fenders	x	
Four LED head lights mounted on front fenders		x
Four work lights mounted on the boom	x	
Turn signals, hazard & marker lights (LED)	x	
One engine compartment light		x
OPERATION	STD	OPT
Air horn 112 dBA	x	
Visible alarm – Amber strobe light, ignition activated	x	
Audible alarm – reverse direction activated 82–102 dB(A), self-adjusting	x	
Forward motion alarm		x
Seatbelt interlock for engine start and truck operation		x
Seatbelt indicator light on top of cab		x
Tire pressure monitoring system		x
Lockable battery disconnect switch	x	
Battery jump start connector (NATO plug)		x
“Empty seat” engine shutdown, adjustable automatically		x

OPERATION (continued)	STD	OPT
Electric circuit breakers		x
Non-lockable fuel cap	x	
Lockable fuel cap		x
Hyster Tracker™ wireless asset management - access/verification		x
Hyster Tracker™ wireless asset management - monitoring	x	
Auto greasing system for basic truck & outer boom		x
Auto greasing system for inner boom and spreader		x
Fire suppression system		x
24 volt electrical system	x	
Engine block heater 110 or 240 volt		x
Second hour meter reader near fuel tank		x
Steer wheel lug nut protection	x	
APPEARANCE	STD	OPT
Hyster yellow paint base truck	x	
Special paint base truck		x
Hazard warning striping on counterweight		x
SUPPLEMENTAL	STD	OPT
Literature package	x	
Operator's manual	x	
Warranty: 12 months/2,000 hours parts & labor manufacturer's warranty*	x	

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



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