



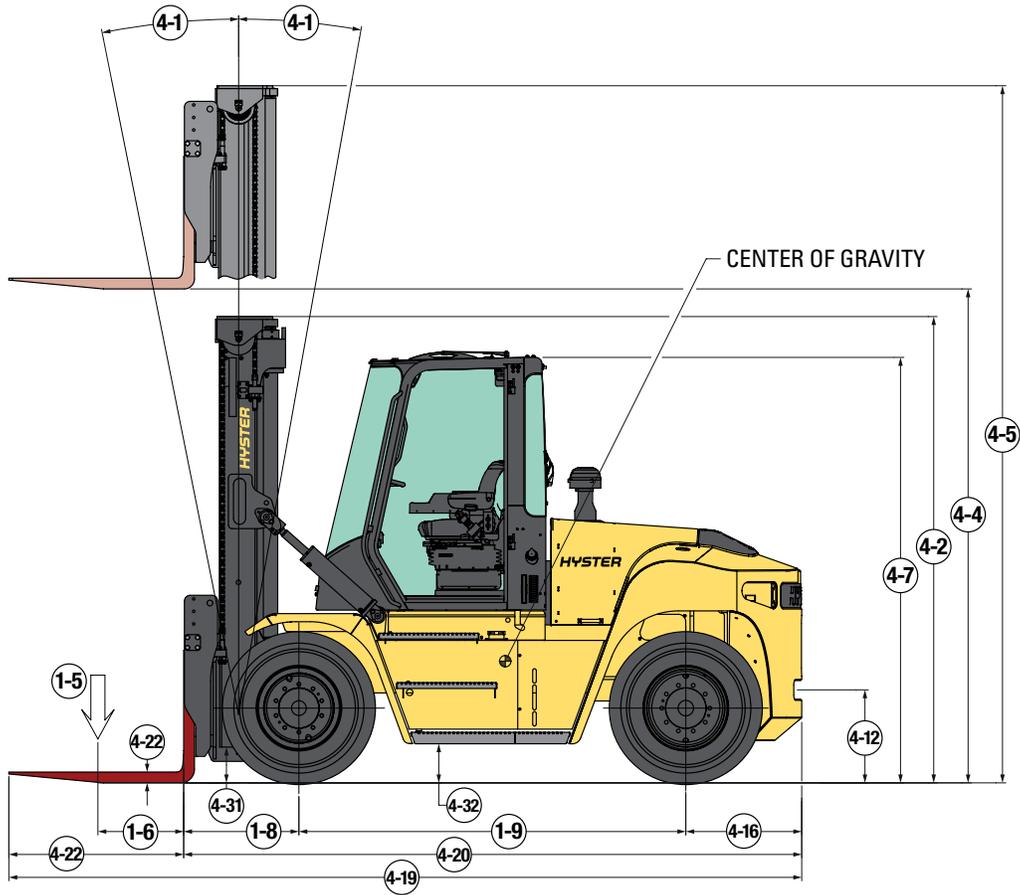
**STRONG PARTNERS.
TOUGH TRUCKS.™**



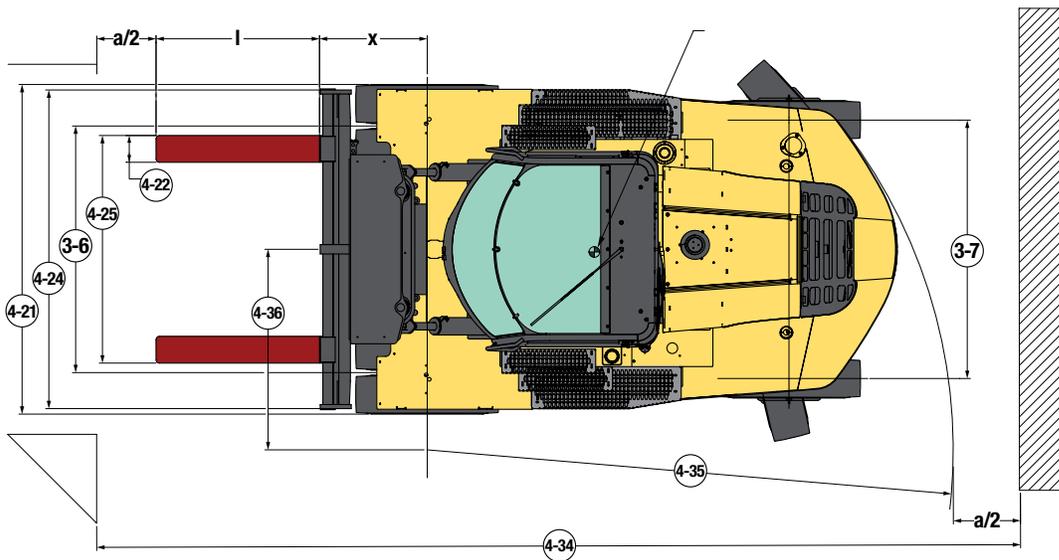
H190-280HD₂ SERIES TECHNICAL GUIDE

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> DIMENSIONS



☉ = Center of gravity of unladen truck



H190HD₂ / H210HD₂ SPECIFICATIONS <

	GENERAL				HYSTER				HYSTER			
					H190HD ₂				H210HD ₂			
GENERAL	1-1	Manufacturer										
	1-2	Model designation										
	1-3	Powertrain / drivetrain			Diesel				Diesel			
	1-4	Operator type			Seated				Seated			
	1-5	Rated capacity / rated load	Q	lbs kg	19,000		8,618		21,000		9,526	
	1-6	Load center distance	c ₁	in mm	24		610		24		610	
	1-8	Load distance	x	in mm	31.7		804		31.7		804	
	1-9	Wheelbase	y	in mm	106		2,700		106		2,700	
	WT.	2-1	Service weight			28,136		12,762		29,448		13,357
2-2		Axle loading with load, front / rear		lbs kg	43,493	19,728	3,643	1,653	46,378	21,037	4,070	1,846
2-3		Axle loading without load, front / rear		lbs kg	14,545	6,598	13,592	6,165	14,383	6,524	15,064	6,833
WHEELS	3-1	Tire type			Pneumatic				Pneumatic			
	3-2	Tire size, front			10.00-20 16PR				10.00-20 16PR			
	3-3	Tire size, rear			10.00-20 16PR				10.00-20 16PR			
	3-5	Wheels, number front / rear (x = driven wheels)			x4 / 2				x4 / 2			
	3-6	Tread, front	b ₁₀	in mm	72.5		1,842		72.5		1,842	
	3-7	Tread, rear	b ₁₁	in mm	76.0		1,930		76.0		1,930	
	DIMENSIONS	4-1	Mast tilt, forward / backward	α/β	deg deg	15° / 12°				15° / 12°		
4-2		Height, mast lowered	h ₁	in mm	129		3,257		129		3,257	
4-3		Free lift (top of forks)	h ₂	in mm	0		0		0		0	
4-4		Lift (top of forks)	h ₃	in mm	147		3,750		147		3,750	
4-5		Height, mast extended	h ₄	in mm	201		5,094		201		5,094	
4-7		Height of overhead guard (open cab)	h ₆	in mm	118.9		3,021		118.9		3,021	
4-7-1		Height of overhead guard (closed cab)	h ₆	in mm	120.4		3,057		120.4		3,057	
4-7-2		Height of overhead guard (closed cab w/ air cond.)	h ₆	in mm	121.7		3,090		121.7		3,090	
4-7-3		Height of overhead guard (closed cab w/ strobe light)	h ₆	in mm	125.6		3,189		125.6		3,189	
4-7-4		Height of overhead guard (closed cab w/ work lights)	h ₆	in mm	127.9		3,248		127.9		3,248	
4-7-5		Height of overhead guard (closed cab w/ air cond. & strobe light)	h ₆	in mm	128.5		3,263		128.5		3,263	
4-8		Seat height to seat point index	h ₇	in mm	72.6		1,844		72.6		1,844	
4-19		Overall length	l ₁	in mm	217.8		5,533		217.8		5,533	
4-20		Length to face of forks	l ₂	in mm	169.8		4,313		169.8		4,313	
4-21		Overall width	b ₂	in mm	97		2,464		97		2,464	
4-22		Fork dimensions ISO 2331	s/e/l	in mm	3 / 8 / 48		75 / 200 / 1,220		3 / 8 / 48		75 / 200 / 1,220	
4-23		Fork carriage type			Standard pin type carriage				Standard pin type carriage			
4-24		Fork carriage width	b ₃	in mm	94.3		2,396		94.3		2,396	
4-25-1		Distance between fork-arms, minimum (in-in)	b ₅	in mm	2.8		70		2.8		70	
4-25-2		Distance over fork-arms, maximum (out-out)	b ₅	in mm	91.3		2,320		91.3		2,320	
4-30		Sideshift	b ₈	in mm	0		0		0		0	
4-31		Ground clearance, without load, below mast	m ₁	in mm	9.8		250		9.8		250	
4-32		Ground clearance, center of wheelbase	m ₂	in mm	10.7		273		10.7		273	
4-34	Min. aisle width, (add load length and clearance)	A _{st}	in mm	186		4,730		186		4,730		
4-35	Outside turning radius	W ₄	in mm	154.6		3,926		154.6		3,926		
PERFORMANCE	PERFORMANCE			CUMMINS QSB 4.5 TIER 4F ENGINE								
	5-1	Travel speed, with / without load (1)		mph km/h	18.5	30	19.3	31	18.5	30	19.3	31
	5-1-1	Travel speed, with load locked / without load		mph km/h	On request		On request		On request		On request	
	5-2	Lifting speed, with / without load 90cc pump		ft/min m/s	89	0.45	89	0.45	89	0.45	89	0.45
	5-2-1	Lifting speed, with / without load 111cc pump		ft/min m/s	124	0.63	132	0.67	124	0.63	132	0.67
	5-3	Lowering speed with / without load		ft/min m/s	98	0.50	94	0.48	98	0.50	94	0.48
	5-5	Drawbar pull - 1 mph 1.6 km/h, with / without load		lbs. kN	21,700	101	22,400	102	21,500	101	22,300	102
	5-6	Drawbar pull - stall, with / without load		lbs. kN	24,300	112	25,000	114	24,100	112	24,900	114
	5-7	Gradeability - 1 mph 1.6 km/h, with / without load		% %	51	51	33	33	49	49	32	32
	5-8	Gradeability - stall, with / without load		% %	51	51	33	33	51	51	32	32
	PERFORMANCE			CUMMINS QSB 6.7 TIER 3 ENGINE								
	5-1	Travel speed, with / without load (1)		mph km/h	18.5	30	19.3	31	18.5	30	19.3	31
	5-1-1	Travel speed, with load locked / without load		mph km/h	On request		On request		On request		On request	
	5-2	Lifting speed, with / without load 90cc pump		ft/min m/s	89	0.45	89	0.45	89	0.45	89	0.45
	5-2-1	Lifting speed, with / without load 111cc pump		ft/min m/s	118	0.60	132	0.67	118	0.6	132	0.67
	5-3	Lowering speed with / without load		ft/min m/s	98	0.50	94	0.48	98	0.50	94	0.48
	5-5	Drawbar pull - 1 mph 1.6 km/h, with / without load		lbs. kN	20,500	96	21,100	97	20,400	95	21,200	97
	5-6	Drawbar pull - stall, with / without load		lbs. kN	22,800	106	23,600	108	22,700	106	23,500	107
	5-7	Gradeability - 1 mph 1.6 km/h, with / without load		% %	51	51	33	33	46	46	32	32
	5-8	Gradeability - stall, with / without load		% %	51	51	33	33	51	51	32	32

> H230HDS₂ / H230HD₂ SPECIFICATIONS

GENERAL	1-1		HYSTER				HYSTER					
	Manufacturer		H230HD ₂ S				H230HD ₂					
WT.	1-2		Diesel				Diesel					
	Model designation		Seated				Seated					
WHEELS	1-3		23,000				23,000					
	Powertrain / drivetrain		10,433				10,433					
DIMENSIONS	1-4		24				24					
	Operator type		610				610					
PERFORMANCE	1-5		31.7				31.7					
	Rated capacity / rated load	Q	lbs	kg	2,700				2,900			
PERFORMANCE	1-6		106				114					
	Load center distance	c ₁	in	mm	14,329				13,943			
PERFORMANCE	1-8		49,994				49,486					
	Load distance	x	in	mm	22,677	4,596	2,085	22,446	4,253	1,929		
PERFORMANCE	1-9		14,953				15,275					
	Wheelbase	y	in	mm	6,783	16,638	7,547	6,929	15,465	7,015		
PERFORMANCE	2-1		Pneumatic				Pneumatic					
	Service weight		10.00-20 16PR				10.00-20 16PR					
PERFORMANCE	2-2		10.00-20 16PR				10.00-20 16PR					
	Axle loading with load, front / rear		x4 / 2				x4 / 2					
PERFORMANCE	2-3		72.5				72.5					
	Axle loading without load, front / rear		lbs	kg	1,842				1,842			
PERFORMANCE	3-1		76.0				76.0					
	Tire type		in	mm	1,930				1,930			
PERFORMANCE	3-2		15° / 12°				15° / 12°					
	Tire size, front		138				138					
PERFORMANCE	3-3		0				0					
	Tire size, rear		in	mm	3,507				3,507			
PERFORMANCE	3-4		147				147					
	Wheels, number front / rear (x = driven wheels)		in	mm	3,750				3,750			
PERFORMANCE	3-5		211				211					
	Tread, front	b ₁₀	in	mm	5,344				5,344			
PERFORMANCE	3-6		118.9				118.9					
	Tread, rear	b ₁₁	in	mm	3,021				3,021			
PERFORMANCE	3-7-1		120.4				120.4					
	Mast tilt, forward / backward	α/β	deg	deg	3,057				3,057			
PERFORMANCE	3-7-2		121.7				121.7					
	Height, mast lowered	h ₁	in	mm	3,090				3,090			
PERFORMANCE	3-7-3		125.6				125.6					
	Free lift (top of forks)	h ₂	in	mm	3,189				3,189			
PERFORMANCE	3-7-4		127.9				127.9					
	Lift (top of forks)	h ₃	in	mm	3,248				3,248			
PERFORMANCE	3-7-5		128.5				128.5					
	Height, mast extended	h ₄	in	mm	3,263				3,263			
PERFORMANCE	3-7-6		72.6				72.6					
	Height of overhead guard (open cab)	h ₆	in	mm	1,844				1,844			
PERFORMANCE	3-7-7		217.8				225.7					
	Height of overhead guard (closed cab)	h ₆	in	mm	5,533				5,733			
PERFORMANCE	3-7-8		169.8				177.7					
	Height of overhead guard (closed cab w/ air cond.)	h ₆	in	mm	4,313				4,513			
PERFORMANCE	3-7-9		97				97					
	Height of overhead guard (closed cab w/ strobe light)	h ₆	in	mm	2,464				2,464			
PERFORMANCE	3-7-10		3 / 8 / 48				3 / 8 / 48					
	Height of overhead guard (closed cab w/ work lights)	h ₆	in	mm	75 / 200 / 1,220				75 / 200 / 1,220			
PERFORMANCE	3-7-11		Standard pin type carriage				Standard pin type carriage					
	Height of overhead guard (closed cab w/ air cond. & strobe light)	h ₆	in	mm	2,396				2,396			
PERFORMANCE	3-7-12		94.3				94.3					
	Seat height to seat point index	h ₇	in	mm	2,396				2,396			
PERFORMANCE	3-7-13		2.8				2.8					
	Overall length	l ₁	in	mm	70				70			
PERFORMANCE	3-7-14		91.3				91.3					
	Length to face of forks	l ₂	in	mm	2,320				2,320			
PERFORMANCE	3-7-15		0				0					
	Overall width	b ₂	in	mm	0				0			
PERFORMANCE	3-7-16		9.8				9.8					
	Fork dimensions ISO 2331	s/e/l	in	mm	250				250			
PERFORMANCE	3-7-17		10.7				10.7					
	Fork carriage type		273				273					
PERFORMANCE	3-7-18		186.2				193.5					
	Fork carriage width	b ₃	in	mm	4,730				4,915			
PERFORMANCE	3-7-19		154.6				161.9					
	Distance between fork-arms, minimum (in-in)	b ₅	in	mm	3,926				4,111			
PERFORMANCE	3-7-20		3 / 8 / 48				3 / 8 / 48					
	Distance over fork-arms, maximum (out-out)	b ₅	in	mm	75 / 200 / 1,220				75 / 200 / 1,220			
PERFORMANCE	3-7-21		0				0					
	Sideshift	b ₆	in	mm	0				0			
PERFORMANCE	3-7-22		9.8				9.8					
	Ground clearance, without load, below mast	m ₁	in	mm	250				250			
PERFORMANCE	3-7-23		10.7				10.7					
	Ground clearance, center of wheelbase	m ₂	in	mm	273				273			
PERFORMANCE	3-7-24		186.2				193.5					
	Min. aisle width (add load length and clearance)	Ast	in	mm	4,730				4,915			
PERFORMANCE	3-7-25		154.6				161.9					
	Outside turning radius	W ₆	in	mm	3,926				4,111			
PERFORMANCE	PERFORMANCE		CUMMINS QSB4.5 TIER 4F ENGINE									
	5-1	Travel speed, with / without load (1)	mph	km/h	18.5	30	19.3	31	18.5	30	19.3	31
PERFORMANCE	5-1-1	Travel speed, with load locked / without load	mph	km/h	On request		On request		On request		On request	
	5-2	Lifting speed, with / without load 90cc pump	ft/min	m/s	79	0.40	79	0.40	79	0.40	79	0.40
PERFORMANCE	5-2-1	Lifting speed, with / without load 111cc pump	ft/min	m/s	98	0.50	106	0.54	98	0.50	106	0.54
	5-3	Lowering speed with / without load	ft/min	m/s	98	0.50	94	0.48	98	0.50	94	0.48
PERFORMANCE	5-5	Drawbar pull - 1 mph 1.6 km/h, with / without load	lbs.	kN	21,400	100	22,200	102	21,400	100	22,300	102
	5-6	Drawbar pull - stall, with / without load	lbs.	kN	24,000	112	24,800	114	24,000	112	24,900	114
PERFORMANCE	5-7	Gradeability - 1 mph 1.6 km/h, with / without load	%	%	44	44	31	31	45	45	33	33
	5-8	Gradeability - stall, with / without load	%	%	51	51	31	31	52	52	33	33
PERFORMANCE	PERFORMANCE		CUMMINS QSB6.7 TIER 3 ENGINE									
	5-1	Travel speed, with / without load (1)	mph	km/h	18.5	30	19.3	31	18.5	30	19.3	31
PERFORMANCE	5-1-1	Travel speed, with load locked / without load	mph	km/h	On request		On request		On request		On request	
	5-2	Lifting speed, with / without load 90cc pump	ft/min	m/s	79	0.40	79	0.40	79	0.4	79	0.4
PERFORMANCE	5-2-1	Lifting speed, with / without load 111cc pump	ft/min	m/s	93	0.47	106	0.54	93	0.47	106	0.54
	5-3	Lowering speed with / without load	ft/min	m/s	98	0.50	94	0.48	98	0.50	94	0.48
PERFORMANCE	5-5	Drawbar pull - 1 mph 1.6 km/h, with / without load	lbs.	kN	20,200	95	21,100	97	20,200	95	21,100	97
	5-6	Drawbar pull - stall, with / without load	lbs.	kN	22,500	105	23,400	107	22,600	105	23,400	107
PERFORMANCE	5-7	Gradeability - 1 mph 1.6 km/h, with / without load	%	%	42	42	31	31	42	42	33	33
	5-8	Gradeability - stall, with / without load	%	%	47	47	31	31	48	48	33	33

H250HD₂ / H280HD₂ SPECIFICATIONS



	GENERAL		WT.				WHEELS				DIMENSIONS				PERFORMANCE			
	Code	Description	Unit	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value
GENERAL	1-1	Manufacturer		HYSTER				HYSTER										
	1-2	Model designation		H250HD ₂				H280HD ₂										
	1-3	Powertrain / drivetrain		Diesel				Diesel										
	1-4	Operator type		Seated				Seated										
	1-5	Rated capacity / rated load	Q	lbs	kg	25,000	11,340	28,000	12,701									
	1-6	Load center distance	c ₁	in	mm	24	610	24	610									
	1-8	Load distance	x	in	mm	31.7	804	31.7	804									
	1-9	Wheelbase	y	in	mm	114	2,900	114	2,900									
	WT.	2-1	Service weight		lbs	kg	31,743	14,398	33,506	15,198								
2-2		Axle loading with load, front / rear		lbs	kg	52,350	23,746	4,393	1,993	56,610	25,678	4,896	2,221					
2-3		Axle loading without load, front / rear		lbs	kg	15,163	6,878	16,580	7,520	14,961	6,786	18,545	8,412					
WHEELS	3-1	Tire type		Pneumatic				Pneumatic										
	3-2	Tire size, front		10.00-20 16PR				10.00-20 16PR										
	3-3	Tire size, rear		10.00-20 16PR				10.00-20 16PR										
	3-5	Wheels, number front / rear (x = driven wheels)		x4 / 2				x4 / 2										
	3-6	Tread, front	b ₁₀	in	mm	72.5	1,842	72.5	1,842									
	3-7	Tread, rear	b ₁₁	in	mm	76.0	1,930	76.0	1,930									
	DIMENSIONS	4-1	Mast tilt, forward / backward	α/β	deg	deg	15° / 12°				15° / 12°							
4-2		Height, mast lowered	h ₁	in	mm	138	3,507	138	3,507									
4-3		Free lift (top of forks)	h ₂	in	mm	0	0	0	0									
4-4		Lift (top of forks)	h ₃	in	mm	147	3,750	147	3,750									
4-5		Height, mast extended	h ₄	in	mm	211	5,344	211	5,344									
4-7		Height of overhead guard (open cab)	h ₆	in	mm	118.9	3,021	119	3,021									
4-7-1		Height of overhead guard (closed cab)	h ₆	in	mm	120.4	3,057	120.4	3,057									
4-7-2		Height of overhead guard (closed cab w/ air cond.)	h ₆	in	mm	121.7	3,090	121.7	3,090									
4-7-3		Height of overhead guard (closed cab w/ strobe light)	h ₆	in	mm	125.6	3,189	125.6	3,189									
4-7-4		Height of overhead guard (closed cab w/ work lights)	h ₆	in	mm	127.9	3,248	127.9	3,248									
4-7-5		Height of overhead guard (closed cab w/ air cond. & strobe light)	h ₆	in	mm	128.5	3,263	128.5	3,263									
4-8		Seat height to seat point index	h ₇	in	mm	72.6	1,844	72.6	1,844									
4-19		Overall length	l ₁	in	mm	225.7	5,733	225.7	5,733									
4-20		Length to face of forks	l ₂	in	mm	177.7	4,513	177.7	4,513									
4-21		Overall width	b ₂	in	mm	97	2,464	97	2,464									
4-22		Fork dimensions ISO 2331	s/e/l	in	mm	3 / 8 / 48	75 / 200 / 1,220	3 / 8 / 48	75 / 200 / 1,220									
4-23		Fork carriage type		Standard pin type carriage				Standard pin type carriage										
4-24		Fork carriage width	b ₃	in	mm	94.3	2,396	94.3	2,396									
4-25-1		Distance between fork-arms, minimum (in-in)	b ₅	in	mm	2.8	70	2.8	70									
4-25-2		Distance over fork-arms, maximum (out-out)	b ₅	in	mm	91.3	2,320	91.3	2,320									
4-30		Sideshift	b ₈	in	mm	0	0	0	0									
4-31		Ground clearance, without load, below mast	m ₁	in	mm	9.8	250	9.8	250									
4-32		Ground clearance, center of wheelbase	m ₂	in	mm	10.7	273	10.7	273									
4-34	Min. aisle width (add load length and clearance)	Ast	in	mm	193.5	4,915	193.5	4,915										
4-35	Outside turning radius	W _e	in	mm	161.9	4,111	161.9	4,111										
PERFORMANCE	PERFORMANCE		CUMMINS QSB4.5 TIER 4F ENGINE															
	5-1	Travel speed, with / without load (1)	mph	km/h	18.5	30	19.3	31	18.5	30	19.3	31						
	5-1-1	Travel speed, with load locked / without load	mph	km/h	On request		On request		On request		On request							
	5-2	Lifting speed, with / without load 90cc pump	ft/min	m/s	79	0.40	79	0.40	79	0.40	79	0.40						
	5-2-1	Lifting speed, with / without load 111cc pump	ft/min	m/s	98	0.50	106	0.54	98	0.50	106	0.54						
	5-3	Lowering speed with / without load	ft/min	m/s	98	0.50	94	0.48	98	0.50	94	0.48						
	5-5	Drawbar pull - 1 mph 1.6 km/h, with / without load	lbs.	kN	21,300	100	22,300	102	21,100	100	22,200	102						
	5-6	Drawbar pull - stall, with / without load	lbs.	kN	23,900	112	24,900	114	23,700	111	24,800	113						
	5-7	Gradeability - 1 mph 1.6 km/h, with / without load	%	%	43	43	30	30	39	39	36	36						
	5-8	Gradeability - stall, with / without load	%	%	49	49	30	30	44	44	36	36						
	PERFORMANCE		CUMMINS QSB6.7 TIER 3 ENGINE															
	5-1	Travel speed, with / without load (1)	mph	km/h	18.5	30	19.3	31	18.5	30	19.3	31						
	5-1-1	Travel speed, with load locked / without load	mph	km/h	On request		On request		On request		On request							
	5-2	Lifting speed, with / without load 90cc pump	ft/min	m/s	79	0.40	79	0.40	79	0.40	79	0.40						
	5-2-1	Lifting speed, with / without load 111cc pump	ft/min	m/s	93	0.47	106	0.54	93	0.47	106	0.54						
	5-3	Lowering speed with / without load	ft/min	m/s	98	0.50	94	0.48	98	0.50	94	0.48						
	5-5	Drawbar pull - 1 mph 1.6 km/h, with / without load	lbs.	kN	20,100	95	21,100	97	19,900	94	21,000	97						
	5-6	Drawbar pull - stall, with / without load	lbs.	kN	22,500	105	23,400	107	22,300	105	23,300	107						
	5-7	Gradeability - 1 mph 1.6 km/h, with / without load	%	%	41	41	30	30	36	36	36	36						
	5-8	Gradeability - stall, with / without load	%	%	46	46	30	30	41	41	36	36						

> POWERTRAINS

GENERAL	1-1	Manufacturer				HYSTER	
	1-2	Model designation				H190-280HD ₂	
	1-3	Powertrain / drivetrain				Diesel	

ENGINE	7-1	Engine manufacturer / model			Cummins / QSB 6.7		Cummins / QSB 4.5	
	7-1a	EPA / CE compliance			Tier 3 / Stage IIIA		Tier 4F / Stage IV	
	7-2	Engine power output according to ISO 1585	hp	kW	156 @ 2300	116 @ 2300	160 @ 2300	119 @ 2300
	7-2-1	Engine power output - Peak	hp	kW	156 @ 2300	116 @ 2300	164 @ 2300	122 @ 2300
	7-3	Governed speed	rpm	1/min	2,300		2,300	
	7-3-1	Engine torque @rpm (1/min)	lb-ft	N-m	440 @ 1500	597 @ 1,500	460 @ 1500	624 @ 1,500
	7-4	Number of cylinders / displacement	# / in ³	# / cm ³	6 / 409	6 / 6,700	4 / 272	4 / 4,500
		Turbocharger	Type		Wastegate		Variable geometry, water cooled	
	7-8	Alternator output	Amps		120		120	
	7-9	Electrical system voltage	V		24		24	
7-10	Battery voltage, rated capacity	V / Ah		24 / 102		24 / 102		

DRIVE	8-1	Drive control / Transmission	Type / #	Powershift Transmission			
	8-2	Transmission manufacturer / type	Type / #	ZF / WG161			
	8-4	Transmission speeds forward / backward	#	3 / 3			
	8-5	Coupling	Type	Torque Converter			
	8-6	Wheel drive / drive axle manufacturer / type	Type / #	Kessler / D61			
	8-11	Service brake	Type	Oil immersed (wet) disc			
	8-12	Parking brake	Type	Spring applied, dry disc on drive axle			

MISC	10-1	Operating pressure for attachments	psi	l	3,263	22.5	3,263	22.5
	10-2	Oil volume for attachments	gal/min	l/min	26.4	100	26.4	100
	10-3	Hydraulic tank capacity	gal	l	35.7	135	35.7	135
	10-4	Fuel tank capacity (H190HD2, H210HD2, H230HD2S)	gal	l	27.5	104	27.5	104
	10-4	Fuel tank capacity (H230HD2, H250HD2, H280HD2)	gal	l	36.2	137	36.2	137
	10-4-1	DEF tank capacity	gal	l	NA	NA	5	19
	10-5	Steering design			Hydraulic power steering		Hydraulic power steering	
10-6	Number of steering rotation			4.5		4.5		

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) Travel speed laden/unladen limited at 15.5 mph / 25 km/h as factory default
- (2) T4 engine based on low mount exhaust.

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.

 **Safety:** This truck conforms to the current EU and ANSI requirements.

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.

MAST AND CAPACITY INFORMATION



RATED CAPACITY LBS: H190-210HD₂ @ 24 IN LOAD CENTER

2 STAGE NFL	4-4 Lift height TOF		4-4 Lift height BOF		4-2 Overall lowered height		4-5 Overall extended height		Mast min roller lap (retracted) (variable lap) 'l_max'		Mast roller lap (extended) (variable lap) 'l_max'		Mast weight		Standard Pin Type carriage				Apron Pin Type carriage				QD DFSSFP Carriage				
															H190HD ₂		H210HD ₂		H190HD ₂		H210HD ₂		H190HD ₂		H210HD ₂		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs
127	3,250	125	3,175	118	3,006.5	180	4,594	98	2,488	35.5	900	4,140	1,878	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
137	3,500	134	3,425	123	3,131.5	190	4,844	103	2,613	35.5	900	4,264	1,934	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
147	3,750	144	3,675	128	3,256.5	200	5,094	108	2,738	35.5	900	4,387	1,990	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
157	4,000	154	3,925	133	3,381.5	210	5,344	113	2,863	35.5	900	4,513	2,047	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
177	4,500	174	4,425	142	3,631.5	230	5,844	123	3,113	35.5	900	4,760	2,159	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
187	4,750	184	4,675	147	3,756.5	239	6,094	128	3,238	35.5	900	4,956	2,248	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
196	5,000	193	4,925	152	3,881.5	249	6,344	132	3,363	35.5	900	5,079	2,304	19,000	8,620	21,000	9,530	19,000	8,620	21,000	9,530	18,500	8,390	20,500	9,300		
216	5,500	213	5,425	162	4,131.5	269	6,844	142	3,613	35.5	900	5,560	2,522	18,340	8,320	20,600	9,320	18,600	8,220	20,500	9,320	18,300	8,300	20,200	9,160		

Capacities are calculated using 48" x 3" x 8" forks

RATED CAPACITY LBS: H230 @ 24 IN LOAD CENTER

2 STAGE NFL	4-4 Lift height TOF		4-4 Lift height BOF		4-2 Overall lowered height		4-5 Overall extended height		Mast min roller lap (retracted) (variable lap) 'l_max'		Mast roller lap (extended) (variable lap) 'l_max'		Mast weight		Standard Pin Type carriage				Apron Pin Type carriage				QD DFSSFP Carriage				
															H230HD ₂ S		H230HD ₂		H230HD ₂ S		H230HD ₂		H230HD ₂ S		H230HD ₂		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs
108	2,750	105	2,675	119	3,007	171	4,344	98	2,488	45	1,150	4,209	1,909	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
118	3,000	115	2,925	124	3,132	181	4,594	103	2,613	45	1,150	4,339	1,968	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
127	3,250	125	3,175	129	3,257	191	4,844	108	2,738	45	1,150	4,464	2,025	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
137	3,500	134	3,425	134	3,382	201	5,094	113	2,863	45	1,150	4,597	2,085	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
147	3,750	144	3,675	139	3,507	211	5,344	118	2,988	45	1,150	4,727	2,144	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
157	4,000	154	3,925	143	3,632	221	5,594	123	3,113	45	1,150	4,850	2,200	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
177	4,500	174	4,425	153	3,882	240	6,094	133	3,363	45	1,150	5,179	2,349	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
187	4,750	184	4,675	158	4,007	250	6,344	138	3,488	45	1,150	5,309	2,408	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
196	5,000	193	4,925	163	4,132	260	6,594	143	3,613	45	1,150	5,670	2,572	23,000	10,430	23,000	10,430	23,000	10,430	23,000	10,430	22,500	10,200	22,500	10,200		
216	5,500	213	5,425	173	4,382	280	7,094	153	3,863	45	1,150	5,926	2,688	22,600	10,250	22,600	10,250	22,600	10,250	22,600	10,250	22,200	9,980	22,200	10,070		
236	6,000	233	5,925	183	4,632	299	7,594	162	4,113	45	1,150	6,184	2,805	22,300	10,110	22,200	10,070	22,200	10,070	22,100	10,020	21,000	9,530	21,700	9,840		
246	6,250	243	6,175	188	4,757	309	7,844	167	4,238	45	1,150	6,314	2,864	22,100	10,020	22,000	9,980	21,900	9,930	21,900	9,930	18,800	8,530	20,100	9,120		
255	6,500	252	6,425	193	4,882	319	8,094	172	4,363	45	1,150	6,444	2,923	21,900	9,930	21,800	9,900	21,700	9,840	21,700	9,840	16,800	7,620	18,100	8,210		
275	7,000	272	6,925	202	5,132	339	8,594	182	4,613	45	1,150	6,700	3,039	21,400	9,700	21,400	9,700	21,200	9,610	21,100	9,570	13,200	5,990	14,400	6,530		

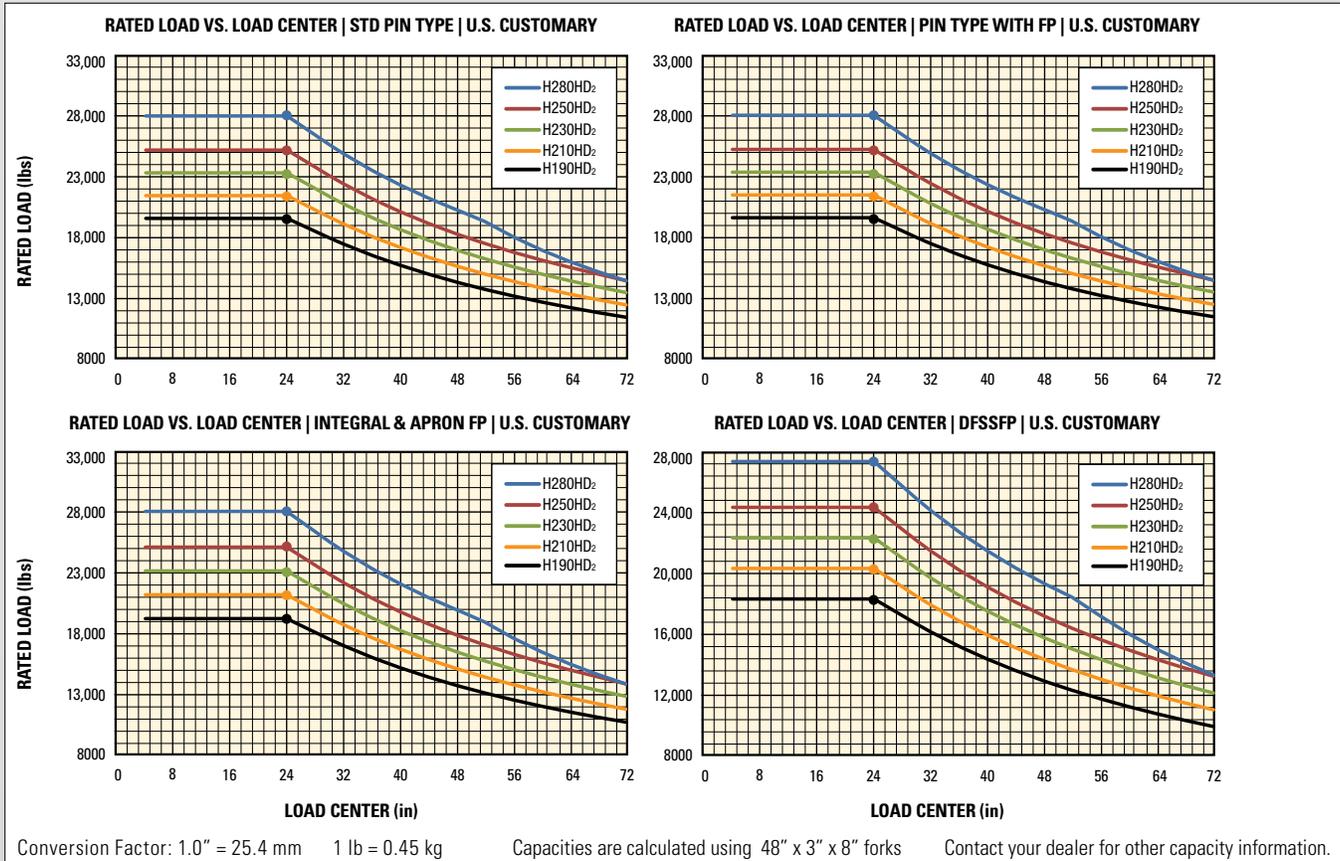
Capacities are calculated using 48" x 3" x 8" forks

RATED CAPACITY LBS: H250-280HD₂ @ 24 IN LOAD CENTER

2 STAGE NFL	4-4 Lift height TOF		4-4 Lift height BOF		4-2 Overall lowered height		4-5 Overall extended height		Mast min roller lap (retracted) (variable lap) 'l_max'		Mast roller lap (extended) (variable lap) 'l_max'		Mast weight		Standard Pin Type carriage				Apron Pin Type carriage				QD DFSSFP Carriage				
															H250HD ₂		H280HD ₂		H250HD ₂		H280HD ₂		H250HD ₂		H280HD ₂		
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs
108	2,750	105	2,675	119	3,007	172	4,344	98	2,488	45	1,150	4,209	1,909	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
118	3,000	115	2,925	124	3,132	181	4,594	103	2,613	45	1,150	4,339	1,968	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
127	3,250	125	3,175	129	3,257	191	4,844	108	2,738	45	1,150	4,464	2,025	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
137	3,500	134	3,425	134	3,382	201	5,094	113	2,863	45	1,150	4,597	2,085	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
147	3,750	144	3,675	139	3,507	211	5,344	118	2,988	45	1,150	4,727	2,144	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
157	4,000	154	3,925	143	3,632	221	5,594	123	3,113	45	1,150	4,850	2,200	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
177	4,500	174	4,425	153	3,882	240	6,094	133	3,363	45	1,150	5,179	2,349	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
187	4,750	184	4,675	158	4,007	250	6,344	138	3,488	45	1,150	5,309	2,408	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,500	12,500		
196	5,000	193	4,925	163	4,132	260	6,594	143	3,613	45	1,150	5,670	2,572	25,000	11,340	28,000	12,700	25,000	11,340	28,000	12,700	24,500	11,100	27,600	12,500		
216	5,500	213	5,425	173	4,382	280	7,094	153	3,863	45	1,150	5,926	2,688	24,600	11,160	27,600	12,500	24,600	11,160	27,500	12,500	24,100	10,930	27,000	12,250		
236	6,000	233	5,925	183	4,632	299	7,594	162	4,113	45	1,150	6,184	2,805	24,200	10,980	27,200	12,300	24,100	10,930	27,100	12,300	22,400	10,160	22,300	10,120		
246	6,250	243	6,175	188	4,757	309	7,844	167	4,238	45	1,150	6,314	2,864	24,000	10,890	27,000	12,250	23,900	10,840	26,800	12,150	22,100	10,020	19,900	9,030		
255	6,500	252	6,425	193	4,882	319	8,094	172	4,363	45	1,150	6,444	2,923	23,800	10,800	26,700	12,100	23,600	10,700	26,600	12,070	18,100	8,210	17,700	8,030		
275	7,000	272	6,925	203	5,132	339	8,594	182	4,613	45	1,150	6,700	3,039	23,300	10,570	26,200	11,900	23,100	10,500	26,000	11,800	14,400	6,530	14,000	6,350		

Capacities are calculated using 48" x 3" x 8" forks

> CAPACITY RATINGS



> FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
Cummins QSB 4.5L diesel engine rated 159.6 hp Tier 4F / 119 kW Stage IV*	X	
Cummins QSB 6.7L diesel engine rated 155.6 hp Tier 3 / 116 kW Stage IIIA*	X	
Tier 4 / Stage IV compliant*	X	
Tier 3 / Stage III compliant*	X	
Variable geometry turbocharger, water cooled*	X	
Wastegate turbocharger*	X	
Hibernate Idle	X	
On-demand cooling fan*	X	
120 amp alternator	X	
Powertrain protection system	X	
Heavy duty air intake	X	
Heavy duty air intake (raised)		X
Low mount exhaust (below chassis)*	X	
High mount exhaust		X
ZF Transmission WG161 3-speeds forward / 3-speeds reverse auto-shifting	X	
Kessler D61 drive axle with wet disc brakes	X	
LIFT	STD	OPT
90cc Dual Pump Hydraulic System	X	
111cc Dual Pump Hydraulic System		X
On-Demand Load Sensing Hydraulic System	X	
Automatic Throttle-up when lifting (in neutral or inching)	X	
Variable lap mast for low roller forces*	X	
2 stage Non Free Lift mast	X	
2 Stage Full Free Lift mast		X
3 Stage Full Free Lift mast		X

Mast tilt - 5° Forward / 6° Back		X
Mast tilt - 5° Forward / 12° Back		X
Mast tilt - 15° Forward / 10° Back		X
Mast tilt - 15° Forward / 12° Back	X	
Mast tilt - 20.5° Forward / 7° Back		X
Hydraulic Accumulator		X
Pressure Compensated Lowering		X
Hydraulic system temperature protection		X
DRIVE	STD	OPT
Traction speed limiter - loaded (adjustable)		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
10.00 - 20 16PR Pneumatic Bias Ply drive and steer tires	X	
10.00 - R20 Michelin XZM Radial drive and steer tires		X
10.00 - R20 Trelleborg Radial drive and steer tires		X
10.00 - 20 Pneumatic Shaped Solid drive and steer tires		X
Spare wheels and tires		X
HANDLING	STD	OPT
Mast Tilt Indicator - Mechanical		X
94.5" (2400mm) Pin type carriage with mechanical fork locks	X	
94.5" (2400mm) Pin type carriage with simultaneous and independent fork positioner		X
94.5" (2400mm) Pin type apron-style sideshift carriage (with mechanical fork locks, similar to Pin type carriage)		X
94.5" (2400mm) Pin type apron style sideshift carriage with simultaneous fork positioner (Only for 3-stage mast)		X

FEATURES AND OPTIONS <

94.5" (2400mm) Pin type apron-style sideshift carriage with simultaneous and independent fork position		X
94.5" (2400 mm) QD Hook type dual function sideshift carriage with simultaneous and independent fork positioner		X
94.5" (2400 mm) QD Hook type dual function sideshift carriage with simultaneous fork positioner and 2 auxiliary functions		X
98" (2500mm) High load backrest (for lumber applications)		X
66" (1687mm) High load backrest (for 3-stage mast)		X
69" (1760mm) High load backrest		X
79" (2010mm) High load backrest		X
Pin type forks (various sizes)		X
Pin type forks for lumber applications		X
Hook type quick disconnect DFSSFP forks (various sizes)		X
ERGONOMICS	STD	OPT
Open module operator compartment (without doors & screens)	X	
Full steel cab operator compartment		X
Powered tilt operator compartment for service		X
Manual tilt operator compartment for service	X	
Isolated 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
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	
"H"-pattern front wiper		X
"I"-pattern front wiper	X	
Front and rear window defrosters	X	
Laminated glass operator compartment front window		X
Tinted operator compartment windows (all)	X	
Tinted operator compartment top window		X
Rain top		X
Lexan top window		X
Plexiglass shield in front of front window		X
Wire mesh installed on top of operator compartment	X	
Vertical steel bar front window guard		X
Operator shield wire mesh		X
Multifunction display panel	X	
Mini-lever and rocker switch hydraulic control (integrated in arm rest)	X	
Seat-side joystick hydraulic control		X
Steering wheel without spinner knob	X	
Steering wheel with spinner knob		X
Directional control lever		X
Hyster Monotrol pedal directional control	X	
Directional control switch (integrated in arm rest)		X
Self-setting park brake		X
Manual park brake	X	
Interior wide angle mirrors	X	
Heater with 3 speed fan	X	
Diesel fueled cabin heater		X
Telescoping & tilting steering column	X	
DC/DC converter 24 volt/12 volt with socket	X	
DC/DC converter 24 volt/12 volt 2nd 12 volt socket		X
Heavy duty air conditioning		X
Reading light		X
Sun shades on top and rear		X

Trainer seat		X
Recirculation fan		X
Additional operator fan		X
Accessory mounting post		X
Rear locking console in cab		X
Heated top window		X
Radio preparation set-up (wiring, two speakers and antenna)		X
VISIBILITY	STD	OPT
Exterior mirrors mounted to cab		X
Rear view camera system		X
Halogen work lights		X
High Performance LED work lights		X
Two head lights mounted on front fenders		X
Four work lights mounted on the outer mast		X
Four cabin mounted work lights		X
Two rearward work lights mounted on the cabin		X
LED stop/tail/brake lights	X	
Turn signals, hazard & marker lights (LED)		X
OPERATION	STD	OPT
Electric air horn 105 dBA	X	
Visible alarm – Amber strobe light, key switch activated		X
Audible alarm – Reverse direction activated 82–102 dB(A), self-adjusting		X
Forward / reverse motion alarm		X
Seatbelt interlock for engine start		X
Hydraulic load weighing system		X
Tire pressure monitoring system		X
Lockable battery disconnect switch		X
Battery jump start connector (NATO plug)		X
"Empty seat" engine shutdown		X
Key switch start	X	
Key switch start with interlock		X
Electric circuit breakers		X
Non-lockable fuel cap	X	
Lockable fuel cap		X
Diesel fuel inlet strainer in filler neck		X
Hyster Tracker wireless asset management system	X	
Hyster Tracker wireless asset management - Access / Verification		X
Hyster Tracker wireless asset management - Monitoring		X
Auto greasing system for basic truck & outer mast (H230HD, H250HD & H280HD only)		X
24 volt electrical system	X	
Engine block heater 110 & 240 volt		X
Steer wheel lug nut protection		X
Front mud flaps		X
Rear mud flaps		X
Lifting eyes - 2 front and 2 rear		X
Wire mesh belly pan		X
Wire mesh and plates belly pan		X
SUPPLEMENTAL	STD	OPT
Literature package	X	
Operator's manual	X	
CE certification		X
U.L. Label - Standard Construction	X	
Warranty: 12 Months / 2,000 Hours Parts manufacturer's warranty	X	

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

> FRONT END EQUIPMENT

RANGE OF 2 STAGE NFL MASTS



RANGE OF PIN TYPE AND HOOK TYPE FORKS

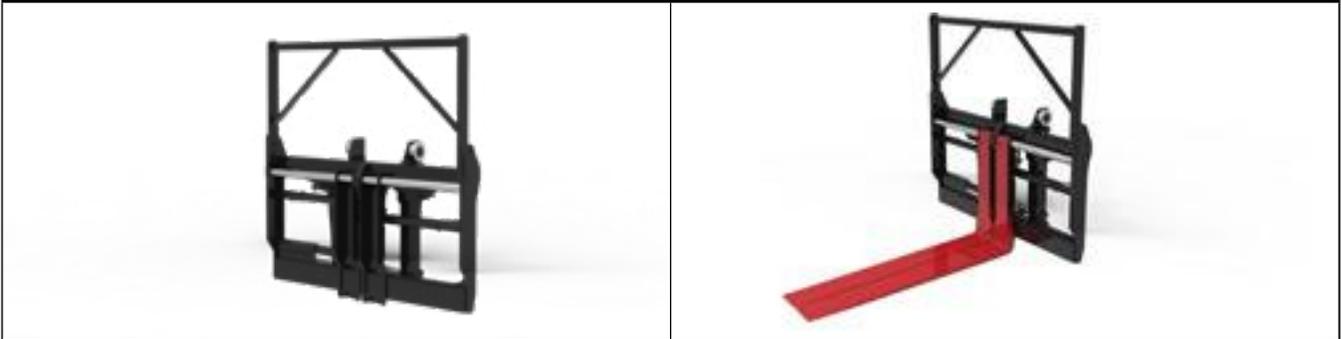


94.3" PIN TYPE STANDARD CARRIAGE

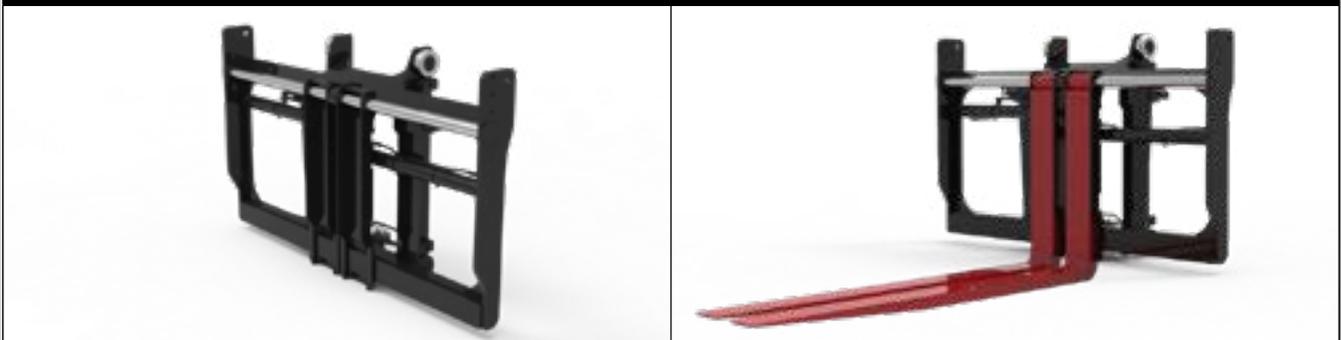




98.5" PIN TYPE APRON STYLE SIDESHIFT CARRIAGE WITH SIMULTANEOUS AND INDEPENDENT FORK POSITIONER (FOR LUMBER APPLICATIONS)



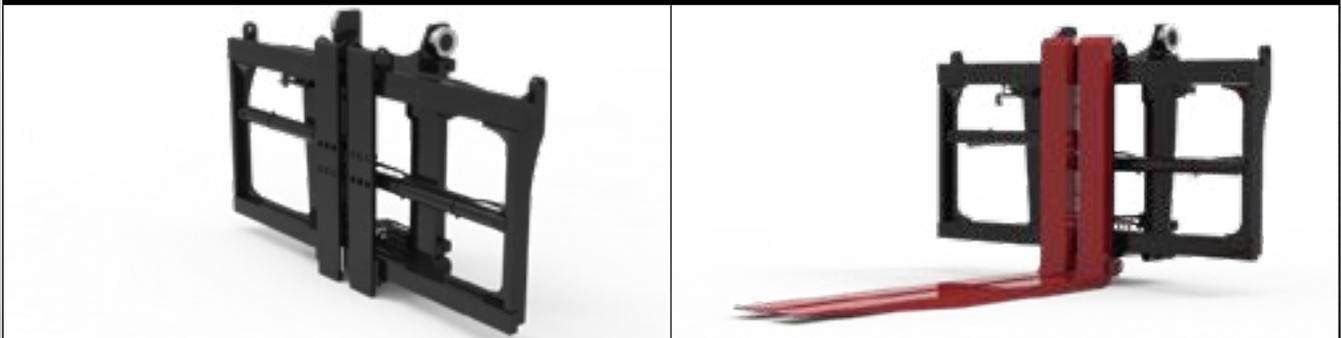
94.3" PIN TYPE CARRIAGE WITH SIMULTANEOUS AND INDEPENDENT FORK POSITIONER



94.3" PIN TYPE APRON STYLE SIDESHIFT CARRIAGE



94.3" OD HOOK TYPE DUAL FUNCTION SIDESHIFT WITH SIMULTANEOUS AND INDEPENDENT FORK POSITIONER





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