H190-280XD SERIES

HEAVY DUTY FORKLIFT TRUCK PNEUMATIC TIRE

PRODUCT TECHNICAL GUIDE

HYSTER

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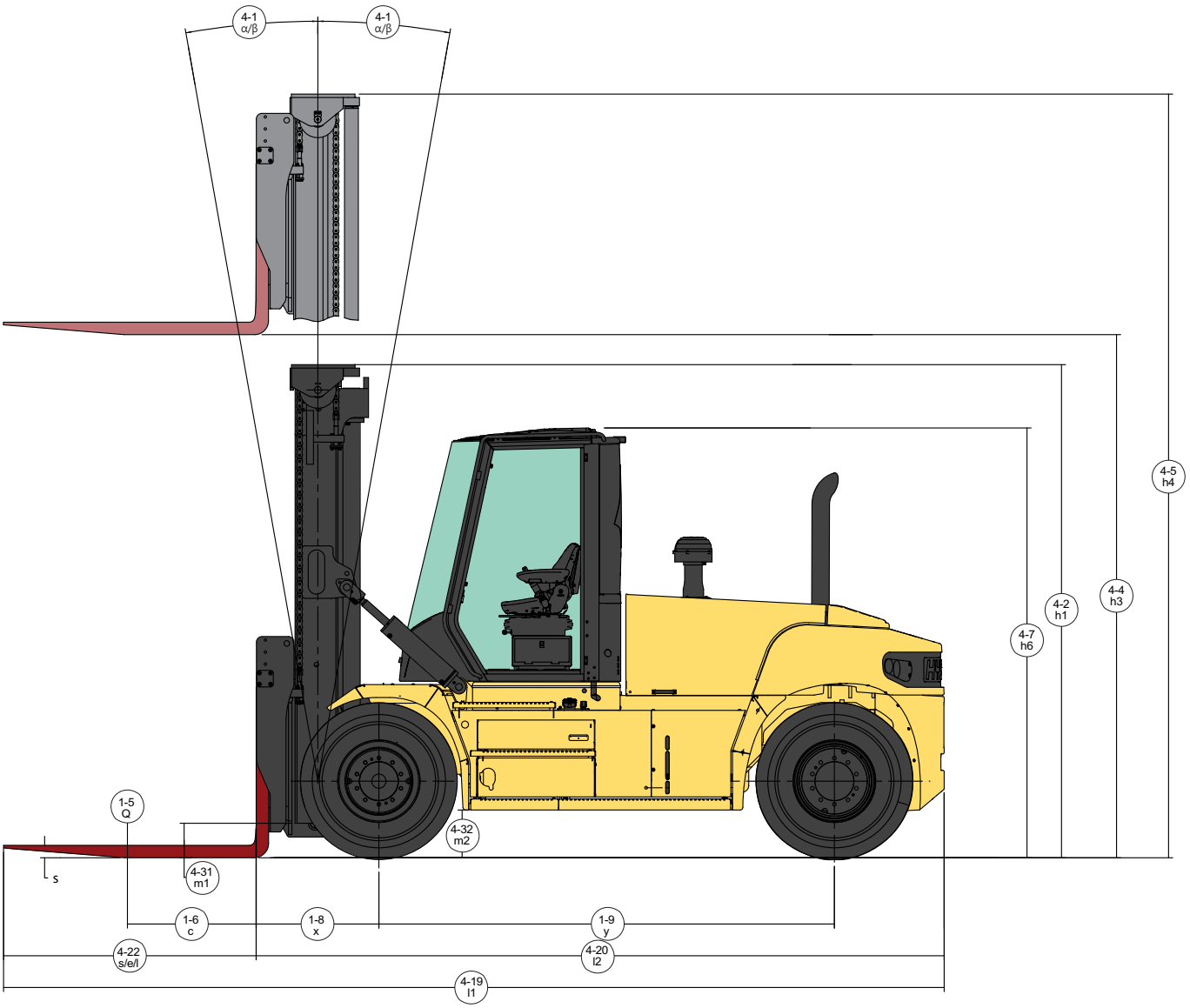
DIMENSIONS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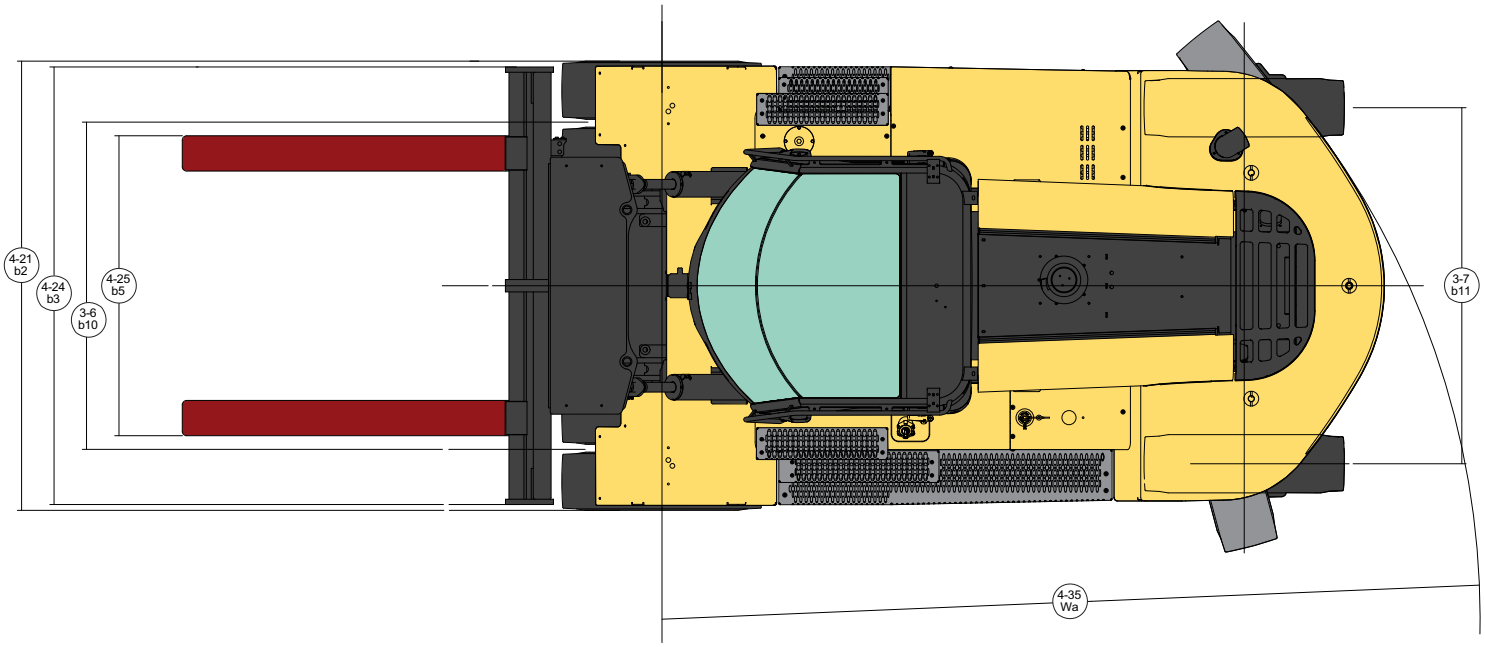
DIMENSIONS



H190XD | H210XD SPECIFICATIONS

GENERAL	1-1	Manufacturer				HYSTER				HYSTER				
	1-2	Model designation				H190XD				H210XD				
	1-3	Powertrain / drivetrain				Diesel				Diesel				
	1-4	Operator type				Seated				Seated				
	1-5	Rated load capacity	Q	lb	kg	19,000		8,618		21,000		9,525		
	1-6	Load center	c	in	mm	24		610		24		610		
	1-8	Load distance	x	in	mm	31.9		809		31.9		809		
	1-9	Wheelbase	y	in	mm	106		2,700		106		2,700		
WEIGHT	2-1	Total truck weight without load		lb	kg	28,402		12,883		29,549		13,403		
	2-2	Axle loading with load, front / rear		lb	kg	43,704	3,699	19,824	1,678	46,529	4,019	21,105	1,823	
	2-3	Axle loading without load, front / rear		lb	kg	14,722	13,682	6,678	6,206	14,495	15,053	6,575	6,828	
WHEELS	3-1	Tire type		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	Number of tires, front / rear (x driven)		#		x4/2				x4/2				
	3-6	Tread width, front	b10	in	mm	72.5		1,842		72.5		1,842		
	3-7	Tread width, rear	b_{11}	in	mm	79.5		2,020		79.5		2,020		
DIMENSIONS	4-1	Mast tilt, forward / back	α/β	Degree		15°F / 12°B				15°F / 12°B				
	4-2	Height of mast lowered	h1	in	mm	129		3,260		129		3,260		
	4-3	Freelift	h2	in	mm	0		0		0		0		
	4-4	Lift height (top of fork)	h3	in	mm	147		3,750		147		3,750		
	4-4-1	Lift height (bottom of fork)	h3	in	mm	144		3,675		144		3,675		
	4-5	Height, extended	h4	in	mm	201		5,097		201		5,097		
	4-7	Height to top of operator compartment (open cab)	h6	in	mm	120.3		3,055		120.3		3,055		
	4-7-1	Height, top of operator comp (closed cab)	h6	in	mm	121.3		3,082		121.3		3,082		
	4-7-2	Height, top of operator comp (closed cab w/ airco)	h6	in	mm	121.3		3,082		121.3		3,082		
	4-7-3	Height, top of operator comp (closed cab w/ strobe light)	h6	in	mm	125.1		3,177		125.1		3,177		
	4-7-4	Height, top of operator comp (closed cab w/ work lights)	h6	in	mm	127.2		3,231		127.2		3,231		
	4-7-5	Height, top of operator comp (closed cab w/ airco & strobe)	h6	in	mm	126.3		3,207		126.3		3,207		
	4-8	Seat height to seat point index (SIP)	h7	in	mm	74		1,875		74		1,875		
	4-12	Tow coupler height	h10	in	mm	26		661		26		661		
	4-19	Overall length	l1	in	mm	217		5,524		217		5,524		
	4-20	Length to load face	l2	in	mm	169		4,304		169		4,304		
	4-21	Overall width of truck	b2	in	mm	98		2,490		98		2,490		
	4-22	Fork dimension	s/e/l	in	mm	3 / 8 / 48		75 / 200 / 1,220		3 / 8 / 48		75 / 200 / 1,220		
	4-23	Fork carriage type		Type		Standard pin type carriage				Standard pin type carriage				
	4-24	Carriage width	b3	in	mm	94.3		2,396		94.3		2,396		
	4-25-1	Fork spread, min (in-in)	b5	in	mm	2.8		70		2.8		70		
	4-25-2	Fork spread, max (out-out)	b5	in	mm	91.3		2,320		91.3		2,320		
	4-30	Sideshift	b8	in	mm	0		0		0		0		
	4-31	Ground clearance, under mast w/o load	m1	in	mm	10.0		253		10.0		253		
	4-32	Ground clearance, center of wheelbase	m2	in	mm	12.3		313		12.3		313		
	4-34	Minimum aisle width (add load length & clearance)	Ast	in	mm	183		4,659		183		4,659		
	4-35	Outside turning radius	Wa	in	mm	152		3,850		152		3,850		
PERFORMANCE		TIER 4F				CUMMINS QSB 4.5L				CUMMINS QSB 4.5L				
	5-1	Travel speed, with / without load		mph	km/h	18.5	19.2	30	31	18.5	19.2	30	31	
	5-2-1	Lifting speed, with / without load - 90cc pump		ft/min	m/s	89	89	0.45	0.45	89	89	0.45	0.45	
	5-2-2	Lifting speed, with / without load - 111cc pump		ft/min	m/s	124	132	0.63	0.67	124	132	0.63	0.67	
	5-3	Lowering speed, with / without load		ft/min	m/s	106	94	0.54	0.48	106	94	0.54	0.48	
	5-5	Drawbar pull - 1 mph (1.6 km/h), with / without load		lb	kN	21,600	22,400	101	102	21,500	22,300	101	102	
	5-6	Drawbar pull - stall, with / without load		lb	kN	24,100	24,800	112	113	24,000	24,800	112	113	
	5-7	Gradeability - 1 mph (1.6 km/h), with / without load		%		52		34		49		32		
	5-8	Gradeability stall, with load / without load		%		52		34		52		32		

H230XDS | H230XD SPECIFICATIONS

GENERAL	1-1	Manufacturer				HYSTER				HYSTER				
	1-2	Model designation				H230XDS				H230XD				
	1-3	Powertrain / drivetrain				Diesel				Diesel				
	1-4	Operator type				Seated				Seated				
	1-5	Rated load capacity	Q	lb	kg	23,000		10,433		23,000		10,433		
	1-6	Load center	c	in	mm	24		610		24		610		
	1-8	Load distance	x	in	mm	31.9		809		31.9		809		
	1-9	Wheelbase	y	in	mm	106		2,700		114		2,900		
WEIGHT	2-1	Total truck weight without load		lb	kg	31,676		14,368		30,766		13,955		
	2-2	Axle loading with load, front / rear		lb	kg	50,080	4,597	22,716	2,085	49,655	4,112	22,523	1,865	
	2-3	Axle loading without load, front / rear		lb	kg	14,996	16,680	6,802	7,566	15,404	15,362	6,987	6,968	
WHEELS	3-1	Tire type		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	Number of tires, front / rear (X driven)		#		x4/2				x4/2				
	3-6	Tread width, front	b10	in	mm	72.5		1,842		72.5		1,842		
	3-7	Tread width, rear	b11	in	mm	79.5		2,020		79.5		2,020		
DIMENSIONS	4-1	Mast tilt, forward / back	α/β	Degree		15°F / 12°B				15°F / 12°B				
	4-2	Height of mast lowered	h1	in	mm	139		3,510		139		3,510		
	4-3	Freelift	h2	in	mm	0		0		0		0		
	4-4	Lift height (top of fork)	h3	in	mm	147		3,750		147		3,750		
	4-4-1	Lift height (bottom of fork)	h3	in	mm	144		3,675		144		3,675		
	4-5	Height, extended	h4	in	mm	211		5,347		211		5,347		
	4-7	Height to top of operator compartment (open cab)	h6	in	mm	120.3		3,055		120.3		3,055		
	4-7-1	Height, top of operator comp (closed cab)	h6	in	mm	121.3		3,082		121.3		3,082		
	4-7-2	Height, top of operator comp (closed cab w/ airco)	h6	in	mm	121.3		3,082		121.3		3,082		
	4-7-3	Height, top of operator comp (closed cab w/ strobe light)	h6	in	mm	125.1		3,177		125.1		3,177		
	4-7-4	Height, top of operator comp (closed cab w/ work lights)	h6	in	mm	127.2		3,231		127.2		3,231		
	4-7-5	Height, top of operator comp (closed cab w/ airco & strobe)	h6	in	mm	126.3		3,207		126.3		3,207		
	4-8	Seat height to seat point index (SIP)	h7	in	mm	74		1,875		74		1,875		
	4-12	Tow coupler height	h10	in	mm	26		661		26		661		
	4-19	Overall length	l1	in	mm	217		5,524		225		5,724		
	4-20	Length to load face	l2	in	mm	169		4,304		177		4,504		
	4-21	Overall width of truck	b2	in	mm	98		2,490		98		2,490		
	4-22	Fork dimension	s/e/l	in	mm	3 / 8 / 48		75 / 200 / 1,220		3 / 8 / 48		75 / 200 / 1,220		
	4-23	Fork carriage type		Type		Standard pin type carriage				Standard pin type carriage				
	4-24	Carriage width	b3	in	mm	94.3		2,396		94.3		2,396		
	4-25-1	Fork spread, min (in-in)	b5	in	mm	2.8		70		2.8		70		
	4-25-2	Fork spread, max (out-out)	b5	in	mm	91.3		2,320		91.3		2,320		
	4-30	Sideshift	b8	in	mm	0		0		0		0		
	4-31	Ground clearance, under mast w/o load	m1	in	mm	10.0		253		10.0		253		
	4-32	Ground clearance, center of wheelbase	m2	in	mm	12.3		313		12.3		313		
	4-34	Minimum aisle width (add load length & clearance)	Ast	in	mm	183		4,659		194		4,916		
	4-35	Outside turning radius	Wa	in	mm	152		3,850		162		4,107		
PERFORMANCE		**TIER 4F**				**CUMMINS QSB 4.5L**				**CUMMINS QSB 4.5L**				
	5-1	Travel speed, with / without load		mph	km/h	18.5	19.2	30	31	18.5	19.2	30	31	
	5-2-1	Lifting speed, with / without load - 90cc pump		ft/min	m/s	79	79	0.40	0.40	79	79	0.40	0.40	
	5-2-2	Lifting speed, with / without load - 111cc pump		ft/min	m/s	98	106	0.50	0.54	98	106	0.50	0.54	
	5-3	Lowering speed, with / without load		ft/min	m/s	106	94	0.54	0.48	106	94	0.54	0.48	
	5-5	Drawbar pull - 1 mph (1.6 km/h), with / without load		lb	kN	21,300	22,200	100	102	21,400	22,300	100	102	
	5-6	Drawbar pull - stall, with / without load		lb	kN	23,800	24,700	111	113	23,800	24,700	111	113	
	5-7	Gradeability - 1 mph (1.6 km/h), with / without load		%		44		31		45		33		
	5-8	Gradeability stall, with load / without load		%		50		31		51		33		
		TIER 3								**CUMMINS QSB 6.7L**				
	5-1	Travel speed, with / without load		mph	km/h	-	-	-	-	18.5	19.2	30	31	
	5-2-1	Lifting speed, with / without load - 90cc pump		ft/min	m/s	-	-	-	-	79	79	0.40	0.40	
	5-2-2	Lifting speed, with / without load - 111cc pump		ft/min	m/s	-	-	-	-	93	106	0.47	0.54	
	5-3	Lowering speed, with / without load		ft/min	m/s	-	-	-	-	106	94	0.54	0.48	
	5-5	Drawbar pull - 1 mph (1.6 km/h), with / without load		lb	kN	-	-	-	-	20,200	21,100	95	97	
	5-6	Drawbar pull - stall, with / without load		lb	kN	-	-	-	-	22,500	23,400	105	107	
	5-7	Gradeability - 1 mph (1.6 km/h), with / without load		%		-		-		42		33		
	5-8	Gradeability stall, with load / without load		%		-		-		48		33		

H250XD | H280XD SPECIFICATIONS

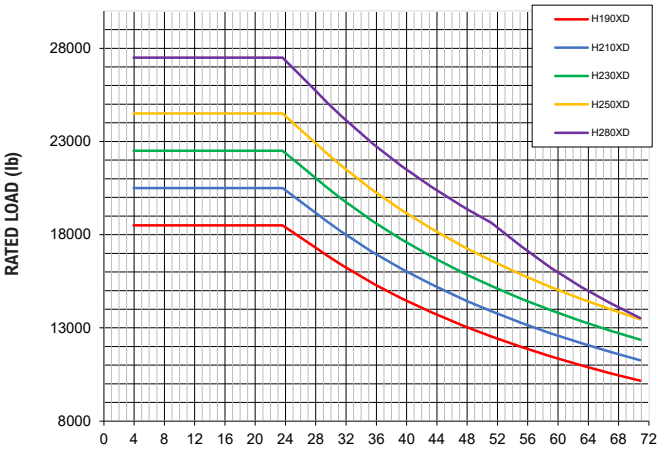
GENERAL	1-1	Manufacturer				HYSTER				HYSTER				
	1-2	Model designation				H250XD				H280XD				
	1-3	Powertrain / drivetrain				Diesel				Diesel				
	1-4	Operator type				Seated				Seated				
	1-5	Rated load capacity	Q	lb	kg	25,000		11,340		28,000		12,701		
	1-6	Load center	c	in	mm	24		610		24		610		
	1-8	Load distance	x	in	mm	31.9		809		31.9		809		
	1-9	Wheelbase	y	in	mm	114		2,900		114		2,900		
WEIGHT	2-1	Total truck weight without load		lb	kg	31,916		14,477		33,878		15,367		
	2-2	Axle loading with load, front / rear		lb	kg	52,461	4,453	23,796	2,020	56,897	4,982	25,808	2,260	
	2-3	Axle loading without load, front / rear		lb	kg	15,232	16,685	6,909	7,568	15,199	18,680	6,894	8,473	
WHEELS	3-1	Tire type		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	Number of tires, front / rear (X driven)		#		x4/2				x4/2				
	3-6	Tread width, front	b10	in	mm	72.5		1,842		72.5		1,842		
	3-7	Tread width, rear	b11	in	mm	79.5		2,020		79.5		2,020		
DIMENSIONS	4-1	Mast tilt, forward / back	α/β	Degree		15°F / 12°B				15°F / 12°B				
	4-2	Height of mast lowered	h1	in	mm	139		3,510		139		3,510		
	4-3	Freelift	h2	in	mm	0		0		0		0		
	4-4	Lift height (top of fork)	h3	in	mm	147		3,750		147		3,750		
	4-4-1	Lift height (bottom of fork)	h3	in	mm	144		3,675		144		3,675		
	4-5	Height, extended	h4	in	mm	211		5,347		211		5,347		
	4-7	Height to top of operator compartment (open cab)	h6	in	mm	120.3		3,055		120.3		3,055		
	4-7-1	Height, top of operator comp (closed cab)	h6	in	mm	121.3		3,082		121.3		3,082		
	4-7-2	Height, top of operator comp (closed cab w/ airco)	h6	in	mm	121.3		3,082		121.3		3,082		
	4-7-3	Height, top of operator comp (closed cab w/ strobe light)	h6	in	mm	125.1		3,177		125.1		3,177		
	4-7-4	Height, top of operator comp (closed cab w/ work lights)	h6	in	mm	127.2		3,231		127.2		3,231		
	4-7-5	Height, top of operator comp (closed cab w/ airco & strobe)	h6	in	mm	126.3		3,207		126.3		3,207		
	4-8	Seat height to seat point index (SIP)	h7	in	mm	74		1,875		74		1,875		
	4-12	Tow coupler height	h10	in	mm	26		661		26		661		
	4-19	Overall length	l1	in	mm	225		5,724		225		5,724		
	4-20	Length to load face	l2	in	mm	177		4,504		177		4,504		
	4-21	Overall width of truck	b2	in	mm	98		2,490		98		2,490		
	4-22	Fork dimension	s/e/l	in	mm	3 / 8 / 48		75 / 200 / 1,220		3 / 8 / 48		75 / 200 / 1,220		
	4-23	Fork carriage type		Type		Standard pin type carriage				Standard pin type carriage				
	4-24	Carriage width	b3	in	mm	94.3		2,396		94.3		2,396		
	4-25-1	Fork spread, min (in-in)	b5	in	mm	2.8		70		2.8		70		
	4-25-2	Fork spread, max (out-out)	b5	in	mm	91.3		2,320		91.3		2,320		
	4-30	Sideshift	b8	in	mm	0		0		0		0		
	4-31	Ground clearance, under mast w/o load	m1	in	mm	10.0		253		10.0		253		
	4-32	Ground clearance, center of wheelbase	m2	in	mm	12.3		313		12.3		313		
	4-34	Minimum aisle width (add load length & clearance)	Ast	in	mm	194		4,916		194		4,916		
	4-35	Outside turning radius	Wa	in	mm	162		4,107		162		4,107		
PERFORMANCE		**TIER 4F**				**CUMMINS QSB 4.5L**				**CUMMINS QSB 4.5L**				
	5-1	Travel speed, with / without load		mph	km/h	18.5	19.2	30	31	18.5	19.2	30	31	
	5-2-1	Lifting speed, with / without load - 90cc pump		ft/min	m/s	79	79	0.40	0.40	79	79	0.40	0.40	
	5-2-2	Lifting speed, with / without load - 111cc pump		ft/min	m/s	98	106	0.50	0.54	98	106	0.50	0.54	
	5-3	Lowering speed, with / without load		ft/min	m/s	106	94	0.54	0.48	106	94	0.54	0.48	
	5-5	Drawbar pull - 1 mph (1.6 km/h), with / without load		lb	kN	21,300	22,300	100	102	21,100	22,100	100	102	
	5-6	Drawbar pull - stall, with / without load		lb	kN	23,800	24,700	111	113	23,600	24,600	111	113	
	5-7	Gradeability - 1 mph (1.6 km/h), with / without load		%		43		32		38		32		
	5-8	Gradeability stall, with load / without load		%		49		32		43		32		
		TIER 3				**CUMMINS QSB 6.7L**				**CUMMINS QSB 6.7L**				
	5-1	Travel speed, with / without load		mph	km/h	18.5	19.2	30	31	18.5	19.2	30	31	
	5-2-1	Lifting speed, with / without load - 90cc pump		ft/min	m/s	79	79	0.40	0.40	79	79	0.40	0.40	
	5-2-2	Lifting speed, with / without load - 111cc pump		ft/min	m/s	93	106	0.47	0.54	93	106	0.47	0.54	
	5-3	Lowering speed, with / without load		ft/min	m/s	106	94	0.54	0.48	106	94	0.54	0.48	
	5-5	Drawbar pull - 1 mph (1.6 km/h), with / without load		lb	kN	20,100	21,100	95	97	19,900	21,000	94	97	
	5-6	Drawbar pull - stall, with / without load		lb	kN	22,500	23,400	105	107	22,300	23,300	105	107	
	5-7	Gradeability - 1 mph (1.6 km/h), with / without load		%		40		34		36		32		
	5-8	Gradeability stall, with load / without load		%		46		32		41		32		

POWERTRAINS

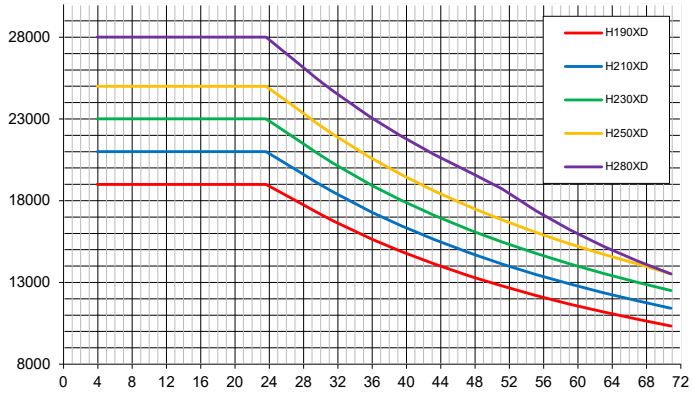
POWERTRAINS											
GENERAL	1-1	Manufacturer			HYSTER						
	1-2	Model designation			H190-280XD(S)		H230-280XD		H230-280XD		
	1-3	Powertrain/drivetrain			Diesel		Diesel		Diesel		
ENGINE	7-1	Engine Manufacturer/model			Cummins/QSB 4.5L		Cummins/QSB 6.7L		Cummins/QSB 6.7L		
	7-1a	EPA Tier Compliance			Tier 4F/Stage IV		Tier 3/Stage IIIA		Tier 4/Stage IV		
	7-2	Engine power output - rated	hp	kW	160 @2300	119 @2300	156@2300	116@2300	164@2300	122@2300	
	7-2-1	Engine power output - peak	hp	kW	164 @2200	122 @2200	156@2300	116@2300	168@2100	125@2100	
	7-3	Rated speed	rpm		2,300		2,300		2,300		
	7-3a	Peak speed	rpm		2,200		2,300		2,100		
	7-3-1	Engine torque @ rpm (1/min)	lb-ft	N-m	460@1500	624@1500	440@1500	597@1500	540@1500	732@1500	
	7-4	Number of cylinders/displacement	#/in3	#/cm3	4/275	4/4500	6/409	6/6700	6/409	6/6700	
	x	Turbocharger	Type		Variable geometry, water cooled		Wastegate, water cooled		Variable geometry, water cooled		
	7-8	Alternator output	Amps		120		120		120		
	7-9	Electrical system voltage	V		24		24		24		
	7-10	Battery voltage/nominal capacity	V/Ah		24/102		24/102		24/102		
	8-0	Drive control/transmission	Type		Powershift transmission		Powershift transmission		Powershift transmission		
DRIVE	8-1	Type of drive unit	Type		Torque converter		Torque converter		Torque converter		
	8-2	Transmission manufacturer/type	Type		ZF/3WG161		ZF/3WG161		ZF/3WG161		
	8-2-1	Transmission speeds forward/reverse	#		3/3		3/3		3/3		
	8-3	Wheel drive/drive axle manufacturer/type	Type		Kessler/D61		Kessler/D61		Kessler/D61		
	8-4	Service brake	Type		Oil immersed (wet) disc		Oil immersed (wet) disc		Oil immersed (wet) disc		
	8-5	Parking brake	Type		Spring apply, dry disc on drive axle		Spring apply, dry disc on drive axle		Spring apply, dry disc on drive axle		
MISC	10-1	Operating pressure for attachments	psi	MPa	3,263	23	3,263	23	3,263	23	
	10-2	Oil flow for attachments	gpm	l/m	26.4	100	26.4	100	26.4	100	
	10-3	Hydraulic oil tank, capacity	gal	l	27	102	32	121	32	121	
	10-4	Fuel tank, capacity	gal	l	30	114	40	151	40	151	
	10-4-1	DEF tank, capacity	gal	l	5	19	N/A	N/A	5	19	
	10-5	Steering design	Type		Hydraulic power steering		Hydraulic power steering		Hydraulic power steering		
	10-6	Number of steering rotation	#		5		5		5		
	10-8	Towing coupling, type DIN	Type		Pin		Pin		Pin		

CAPACITY RATINGS

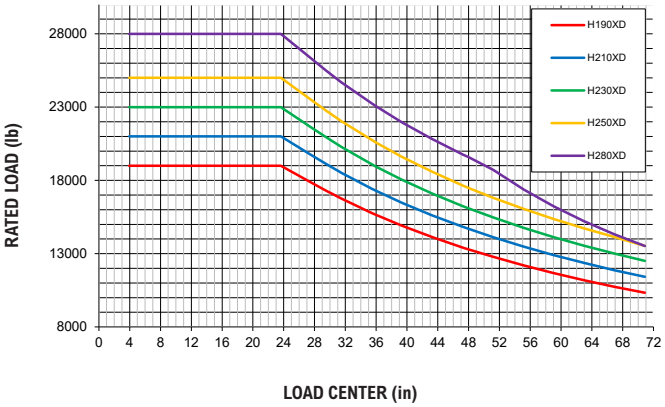
RATED LOAD VS. LOAD CENTER | DF-SS-FP CARRIAGE | U.S. CUSTOMARY



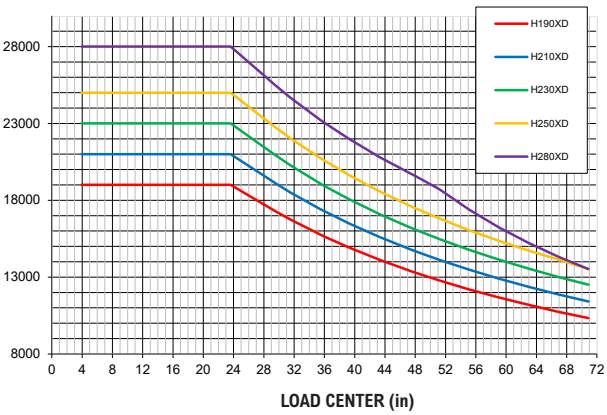
RATED LOAD VS. LOAD CENTER | STD PIN TYPE | U.S. CUSTOMARY



RATED LOAD VS. LOAD CENTER | STD PIN TYPE WITH FP | U.S. CUSTOMARY



RATED LOAD VS. LOAD CENTER | SIDE SHIFT PIN TYPE WITH FP | U.S. CUSTOMARY



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 ANSI B56.

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.

CE Safety: This truck conforms to the current ANSI requirements.

Specification data is based on VDI 2198.

H190-210XD | H230XD/S | H250-280XD CAPACITY SPECIFICATIONS

RATED CAPACITY: H190-210XD @ 24 IN (610 MM) LOAD CENTER

	Lift height TOF		Lift height BOF		Overall lowered height		Overall extended height		Mast max roller lap (retracted)		Mast max roller lap (extended)		Mast weight		Standard pin type carriage				Apron pin type carriage				QD DFSSFP carriage			
															H190XD		H210XD		H190XD		H210XD		H190XD		H210XD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
2-STAGE NFL	127	3,250	124	3,175	120	3,023	181	4,594	98	2,488	35	900	4,140	1,878	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,900	8,573	20,900	9,480
	137	3,500	134	3,425	124	3,148	191	4,844	103	2,613	35	900	4,242	1,924	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,900	8,573	20,800	9,435
	147	3,750	144	3,675	129	3,273	201	5,094	108	2,738	35	900	4,387	1,990	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,800	8,528	20,800	9,435
	157	4,000	154	3,925	134	3,398	211	5,344	113	2,863	35	900	4,513	2,047	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,800	8,528	20,800	9,435
	177	4,500	174	4,425	144	3,648	231	5,844	123	3,113	35	900	4,760	2,159	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,700	8,482	20,700	9,389
	187	4,750	184	4,675	149	3,773	240	6,094	127	3,238	35	900	4,956	2,248	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,700	8,482	20,600	9,344
	196	5,000	193	4,925	154	3,898	250	6,344	132	3,363	35	900	5,079	2,304	19,000	8,618	21,000	9,525	19,000	8,618	21,000	9,525	18,700	8,482	20,600	9,344
	216	5,500	213	5,425	164	4,148	270	6,844	142	3,613	35	900	5,560	2,522	18,600	8,437	20,600	9,344	18,600	8,437	20,600	9,344	18,300	8,301	20,200	9,163

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

RATED CAPACITY: H230XD/S @ 24 IN (610 MM) LOAD CENTER

	Lift height TOF		Lift height BOF		Overall lowered height		Overall extended height		Mast max roller lap (retracted)		Mast max roller lap (extended)		Mast weight		Standard pin type carriage				Apron pin type carriage				QD DFSSFP carriage			
															H230XDS		H230XD		H230XDS		H230XD		H230XDS		H230XD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
2-STAGE NFL	108	2,750	105	2,675	119	3,007	172	4,344	98	2,488	45	1,150	4,209	1,909	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,900	10,387	22,900	10,387
	118	3,000	115	2,925	124	3,132	181	4,594	103	2,613	45	1,150	4,339	1,968	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,900	10,387	22,900	10,387
	127	3,250	124	3,175	129	3,257	191	4,844	108	2,738	45	1,150	4,464	2,025	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,900	10,387	22,900	10,387
	137	3,500	134	3,425	134	3,382	201	5,094	113	2,863	45	1,150	4,597	2,085	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,800	10,342	22,800	10,342
	147	3,750	144	3,675	139	3,507	211	5,344	118	2,988	45	1,150	4,727	2,144	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,800	10,342	22,800	10,342
	157	4,000	154	3,925	143	3,632	221	5,594	123	3,113	45	1,150	4,850	2,200	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,700	10,297	22,700	10,297
	177	4,500	174	4,425	153	3,882	240	6,094	132	3,363	45	1,150	5,179	2,349	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,700	10,297	22,700	10,297
	187	4,750	184	4,675	158	4,007	250	6,344	137	3,488	45	1,150	5,309	2,408	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,600	10,251	22,600	10,251
	196	5,000	193	4,925	163	4,132	260	6,594	142	3,613	45	1,150	5,670	2,572	23,000	10,433	23,000	10,433	23,000	10,433	23,000	10,433	22,600	10,251	22,600	10,251
	216	5,500	213	5,425	173	4,382	280	7,094	152	3,863	45	1,150	5,926	2,688	22,600	10,251	22,600	10,251	22,600	10,251	22,600	10,251	22,200	10,070	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	10,115	22,200	10,070	22,300	10,115	22,200	10,070	21,100	9,571	21,700	9,843
	246	6,250	243	6,175	188	4,757	309	7,844	167	4,238	45	1,150	6,314	2,864	22,100	10,024	22,000	9,979	22,100	10,024	22,000	9,979	18,900	8,573	20,100	9,117
	255	6,500	252	6,425	193	4,882	319	8,094	173	4,393	45	1,150	6,444	2,923	21,900	9,934	21,800	9,888	21,900	9,934	21,800	9,888	16,800	7,620	18,200	8,255
	275	7,000	272	6,925	203	5,132	339	8,594	182	4,613	45	1,150	6,700	3,039	21,400	9,707	21,400	9,707	21,400	9,707	21,300	9,662	13,200	5,987	14,700	6,668

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

RATED CAPACITY: H250-280XD @ 24 IN (610 MM) LOAD CENTER

	Lift height TOF		Lift height BOF		Overall lowered height		Overall extended height		Mast max roller lap (retracted)		Mast max roller lap (extended)		Mast weight		Standard pin type carriage				Apron pin type carriage				QD DFSSFP carriage			
															H250XD		H280XD		H250XD		H280XD		H250XD		H280XD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
2-STAGE NFL	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	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	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	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	127	3,250	124	3,175	129	3,257	191	4,844	108	2,738	45	1,150	4,464	2,025	25,000	11,340	28,000	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	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	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	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	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	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	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	177	4,500	174	4,425	153	3,882	240	6,094	132	3,363	45	1,150	5,179	2,349	25,000	11,340	28,000	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	187	4,750	184	4,675	158	4,007	250	6,344	137	3,488	45	1,150	5,309	2,408	25,000	11,340	28,000	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	196	5,000	193	4,925	163	4,132	260	6,594	142	3,613	45	1,150	5,670	2,572	25,000	11,340	28,000	12,701	25,000	11,340	28,000	12,701	24,500	11,113	27,500	12,474
	216	5,500	213	5,425	173	4,382	280	7,094	152	3,863	45	1,150	5,926	2,688	24,600	11,158	27,600	12,519	24,600	11,158	27,500	12,474	24,100	10,932	27,000	12,247
	236	6,000	233	5,925	183	4,632	299	7,594	162	4,113	45	1,150	6,184	2,805	24,200	10,977	27,200	12,338	24,100	10,932	27,100	12,292	22,400	10,160	22,300	10,115
	246	6,250	243	6,175	188	4,757	309	7,844	167	4,238	45	1,150	6,314	2,864	24,000	10,886	27,000	12,247	23,900	10,841	26,800	12,156	22,100	10,024	19,900	9,026
	255	6,500	252	6,425	193	4,882	319	8,094	173	4,393	45	1,150	6,444	2,923	23,800	10,795	26,700	12,111	23,600	10,705	26,660	12,093	18,100	8,210	17,700	8,029
	275	7,000	272	6,925	203	5,132	339	8,594	182	4,613	45	1,150	6,700	3,039	23,300	10,569	26,200	11,884	23,100	10,478	26,000	11,793	14,400	6,532	14,000	6,350

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

FEATURES AND OPTIONS

PERFORMANCE	STD	OPT
Cummins QSB 4.5L Tier 4F diesel engine 160 hp (119 kW)*	x	
Cummins QSB 6.7L Tier 4F diesel engine 164 hp (122 kW)*		x
Cummins QSB 6.7L Tier 3 diesel engine 156 hp (116 kW)*	x	
Tier 4/Stage IV compliant	x	
Tier 3/Stage IIIA compliant	x	
Wastegate turbocharger, water cooled - Tier 3/Stage IIIA	x	
Variable geometry turbocharger, water cooled - Tier 4	x	
Delayed engine shutdown for turbo cool down		x
On-demand cooling fan	x	
120 amp alternator	x	
Performance modes selectable in Integrated Performance Display	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 fwd/3-speeds reverse auto-shifting	x	
Kessler D61 drive axle with wet disc brakes	x	
DRIVE	**STD**	**OPT**
Travel speed limiter - unconditional and customer adjustable		x
Travel speed limiter - loaded (adjustable)		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
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
Mast tilt indicator - mechanical		x
Hydraulic accumulator		x
Pressure compensated lowering	x	
Hydraulic system temperature protection with performance derate		x
HANDLING	**STD**	**OPT**
94.3" (2396 mm) pin type carriage with mechanical fork locks	x	
94.3" (2396 mm) pin type carriage with simultaneous and independent fork positioner		x
94.3" (2396 mm) pin type carriage with simultaneous and independent fork positioner (for lumber applications)		x
94.3" (2396 mm) pin type apron-style sideshift carriage		x
92.5" (2350 mm) pin type apron-style sideshift carriage with simultaneous fork positioner		x

HANDLING (CONTINUED)	STD	OPT
94.3" (2396 mm) pin type apron-style sideshift carriage with simultaneous and independent fork positioner		x
94.3" (2396 mm) pin type apron-style sideshift carriage with simultaneous and independent fork positioner (for lumber applications)		x
94.4" (2398 mm) QD hook type dual function sideshift carriage with simultaneous and independent fork positioner		x
94.4" (2398 mm) QD hook type dual function sideshift carriage with simultaneous fork positioner and 2 auxiliary functions		x
69" (1760 mm) high load backrest		x
79" (2010 mm) high load backrest		x
98" (2500 mm) high load stabilizer (for lumber applications)		x
48" long x 3" thick x 8" wide (1220 mm x 75 mm x 200 mm) forks	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 operator compartment (without doors & screens)	x	
Enclosed operator cabin		x
Manual tilt operator compartment for service	x	
Powered tilt operator compartment for service		x
Isolated cabin mounting for low noise and vibration	x	
Operator presence system	x	
Mechanical suspension seat	x	
Air 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
Seat ventilation		x
2-point high visibility seatbelt	x	
Lateral seat sliding mechanism		x
Floor mat	x	
Coat hook	x	
Front, top and rear wipers		x
"H"-pattern front wiper (enclosed operator cabin)		x
"I"-pattern front wiper (enclosed operator cabin)		x
Laminated glass operator compartment front window		x
Tinted operator compartment windows (doors, rear and top window)		x
Tinted operator compartment top window		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
7" Integrated performance display	x	
Touchpoint™ mini-levers hydraulic control integrated in control arm	x	
Joystick hydraulic control integrated in control arm		x

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

FEATURES AND OPTIONS

ERGONOMICS (CONTINUED)	STD	OPT
Steering wheel without spinner knob	x	
Steering wheel with spinner knob		x
Directional control lever on steering column	x	
Hyster MONOTROL® pedal directional control		x
Directional control on mini-levers or joystick		x
Park brake - push button applied	x	
Park brake - automatically applied		x
Heater with adjustable speed fan (enclosed operator cabin)	x	
Telescoping & tilting steering column	x	
USB outlet inside armrest	x	
24-12 volt DC converter with 1 socket and 2 USB outlets	x	
24-12 volt DC converter with 2 sockets and 2 USB outlets		x
Air conditioning		x
Automatic climate control		x
Reading light		x
Sun shades on top and rear		x
Sun visors front window		x
Trainer seat		x
Recirculation fan		x
Additional recirculation fan		x
Accessory mounting bracket on cab front right pillar		x
Document holder on cab front right pillar		x
Heated top- and/or rear window		x
Radio preparation set-up (wiring, two speakers and antenna)		x

VISIBILITY	STD	OPT
Steel bars on top of cab (open operator compartment)	x	
Top window with armored glass (enclosed operator cabin)	x	
Steel bars under armored glass top window (enclosed operator cabin)		x
Interior wide angle mirrors	x	
Exterior mirrors mounted to handrails		x
Rear view camera system		x
Radar object detection system		x
Halogen work lights		x
High Performance LED work lights		x
Two head lights mounted on front fenders		x
Four mast mounted work lights		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

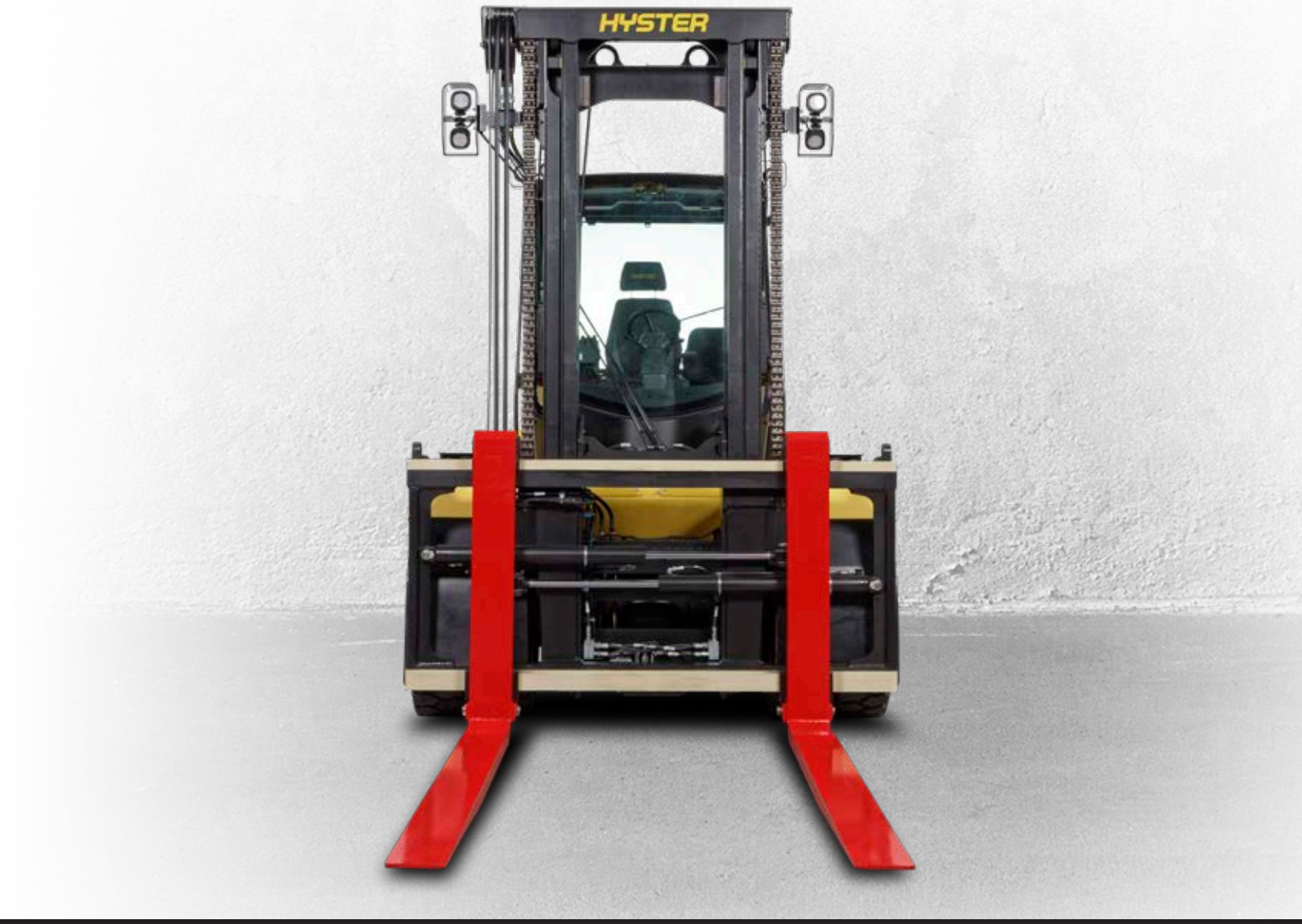
OPERATION	STD	OPT
Air horn 112 dBA		x
Electric horn 105 dBA	x	
Visible alarm – Amber strobe light, ignition activated		x
Audible alarm – reverse direction activated 82–102 dB(A), self-adjusting		x
Audible alarm – reverse direction white noise		x
Forward/reverse motion alarm		x
Blue LED spotlight – rear/front and rear		x
Air conditioning shut-off with open door		x

OPERATION (CONTINUED)	STD	OPT
Automatic engine shutdown with timer		x
Lockable battery disconnect switch		x
Battery jump start connector (NATO plug)		x
Truck start with key switch and start button	x	
Operator password (display) for truck start	x	
Seatbelt interlock for truck start		x
Power distribution group with fuses	x	
Fuses below 30 amps replaced by electric circuit breakers		x
Non-lockable fuel cap	x	
Lockable fuel cap		x
Fuel strainer in fuel 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 base truck		x
24-volt electrical system	x	
Engine block heater 110 or 240 volt		x
Steer wheel lug nut protection		x
Front mud flaps		x
Rear mud flaps		x
Front and rear mud guards		x
Lifting eyes - 2 front and 2 rear		x

APPEARANCE	STD	OPT
Second capacity plate		x
Hyster yellow paint base truck	x	
Special paint base truck		x
Operator compartment special paint (complete cab)		x
Hazard warning striping on counterweight		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 & labor manufacturer's warranty*	x	
Warranty: 12 months/2,000 hours parts manufacturer's warranty*	x	

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



Hyster Company
P.O. Box 7006, Greenville, North Carolina 27835-7006

Part No. H190-280XD-TG | 9/2024 Litho in U.S.A.

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