

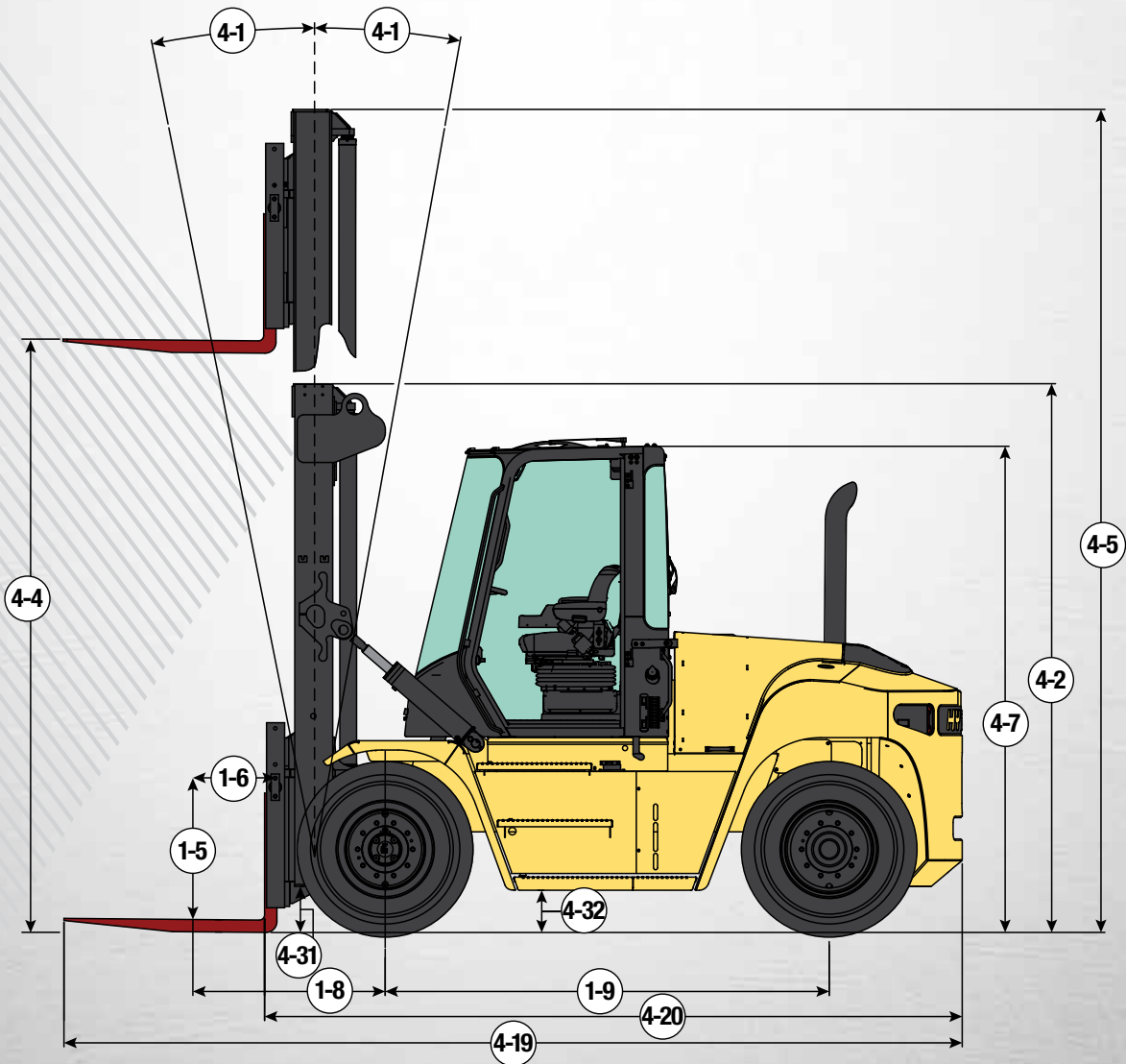
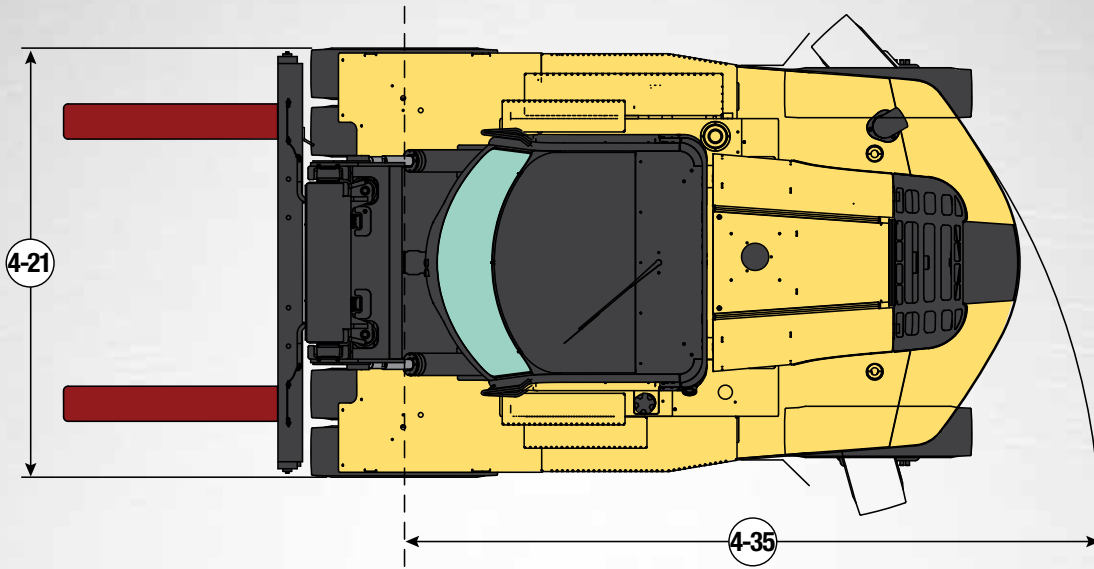
H190-280HD₂ SERIES



**STRONG PARTNERS.
TOUGH TRUCKS.™**

TECHNICAL GUIDE
Heavy-Duty Forklift Truck

H190-280HD₂ DIMENSIONS



H190-210HD₂ SPECIFICATIONS

		Units		English	Metric	English	Metric	
GENERAL	1-1	Description						
		Manufacturer		HYSTER	HYSTER	HYSTER	HYSTER	
	1-2	Model designation		H190HD ₂	H190HD ₂	H210HD ₂	H210HD ₂	
	1-5	Rated load capacity		lbs	kg	19,000	8,618	
	1-6	Load center		in	mm	24.0	610	
	1-8	Load distance		in	mm	31.0	787	
	1-9	Wheelbase		in	mm	106	2,700	
	2-1	Total truck weight without load		lbs	kg	28,589	12,968	
	WEIGHTS	2-2a	Axle loading with load	front	lbs	kg	43,470	19,718
2-2b			rear	lbs	kg	3,809	1,728	
2-3a		Axle loading without load	front	lbs	kg	15,061	6,832	
2-3b			rear	lbs	kg	13,528	6,136	
WHEELS	3-1	Tire type		Pneumatic		Pneumatic		
	3-2	Tire size	front	10.00x20 16PR Bias		10.00x20 16PR Bias		
	3-3		rear	10.00x20 16PR Bias		10.00x20 16PR Bias		
DIMENSIONS	4-1	Mast tilt, forward / back		degrees		15 / 12		
	4-2	Height of mast lowered		in	mm	133	3,353	
	4-3	Freelift (Top of Fork)		in	mm	0	0	
	4-4	Lift height (Top of Fork)		in	mm	147	3,750	
	4-5	Height of mast extended		in	mm	205	5,196	
	4-7	Height to top of operator compartment		in	mm	120	3,048	
	4-19	Overall length		in	mm	217	5,516	
	4-20	Length to load face		in	mm	169	4,296	
	4-21	Overall width over drive tires		in	mm	96	2,438	
	4-22a	Fork	thickness	in	mm	3	75	
	4-22b		width	in	mm	8	200	
	4-22c		length	in	mm	48	1,220	
	4-24	Carriage width		in	mm	92.5	2,350	
	4-25a	Fork spread, min (in-in)		in	mm	3	75	
	4-25b	Fork spread, max (out-out)		in	mm	89.4	2,270	
	4-31	Ground clearance, under mast with load		in	mm	10	248	
	4-32	Ground clearance, center of wheelbase		in	mm	10	248	
	4-33	Minimum aisle width (add load length)		in	mm	183	4,647	
	4-35	Outside turning radius		in	mm	155	3,937	
	MISC	8-7	Hydraulic tank capacity		gal	l	36	136
		8-8	Fuel tank capacity		gal	l	27	102
	PERFORMANCE	PERFORMANCE			WITH TIER 4 FINAL CUMMINS QSB 4.5L ENGINE			
		5-1a	Travel speed	with load	mph	km/h	19	30
5-1b			without load	mph	km/h	20	32	
5-2a		Lifting speed	with load - 105cc	ft/min	m/s	106	0.54	
5-2b			without load - 105cc	ft/min	m/s	116	0.59	
5-2a		Lifting speed	with load - 120cc	ft/min	m/s	112	0.57	
5-2b			without load - 120cc	ft/min	m/s	136	0.69	
5-3a		Lowering speed	with load	ft/min	m/s	98	0.50	
5-3b			without load	ft/min	m/s	94	0.48	
5-6		Drawbar pull – Max		lbs	kN	23,800	106	
5-7		Gradeability – no load / rated load – 1 mph (1.6 km/h)				%	34 / 46	
PERFORMANCE			WITH TIER 3 CUMMINS QSB 6.7L ENGINE					
5-1a		Travel speed	with load	mph	km/h	19	30	
5-1b			without load	mph	km/h	20	32	
5-2a		Lifting speed	with load - 90cc	ft/min	m/s	93	0.47	
5-2b			without load - 90cc	ft/min	m/s	100	0.51	
5-2a		Lifting speed	with load - 120cc	ft/min	m/s	108	0.55	
5-2b			without load - 120cc	ft/min	m/s	136	0.69	
5-3a		Lowering speed	with load	ft/min	m/s	98	0.50	
5-3b			without load	ft/min	m/s	94	0.48	
5-6		Drawbar pull - Max		lbs	kN	23,000	102	
5-7		Gradeability no load / rated load - 1 mph (1.6 km/h)				%	34 / 50	

Note: Tier 3 engines are available in Latin America and Canada only. Tier 3 engines are not available in the U.S.

CERTIFICATION: These Hyster® lift trucks meet design specifications of Part II ANSI B56.1-1969, as required by OSHA Section 1910.178(a)(2) and also comply with Part III ANSI 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.

H230HD₂S- H230HD₂ SPECIFICATIONS

GENERAL	Description		Units		English	Metric	English	Metric	
	1-1	Manufacturer				HYSTER	HYSTER	HYSTER	HYSTER
1-2	Model designation				H230HD ₂ S	H230HD ₂ S	H230HD ₂	H230HD ₂	
1-5	Rated load capacity		lbs	kg	23,000	10,433	23,000	10,433	
1-6	Load center		in	mm	24.0	610	24.0	610	
1-8	Load distance		in	mm	32.0	813	32.0	813	
1-9	Wheelbase		in	mm	106	2,700	114	2,900	
WEIGHTS	2-1 Total truck weight without load		lbs	kg	33,663	15,269	33,416	15,157	
	2-2a	front	lbs	kg	51,988	23,581	51,383	23,307	
		rear	lbs	kg	4,602	2,087	4,961	2,250	
	2-3a	front	lbs	kg	17,078	7,746	17,299	7,847	
		rear	lbs	kg	16,584	7,522	16,116	7,310	
WHEELS	3-1 Tire type				Pneumatic		Pneumatic		
	3-2	front			10.00x20 16PR Bias		10.00x20 16PR Bias		
		rear			10.00x20 16PR Bias		10.00x20 16PR Bias		
DIMENSIONS	4-1 Mast tilt, forward / back		degrees		15 / 12		15 / 12		
	4-2 Height of mast lowered		in	mm	143	3,628	143	3,628	
	4-3 Freelift (Top of Fork)		in	mm	0	0	0	0	
	4-4 Lift height (Top of Fork)		in	mm	148	3,761	148	3,761	
	4-5 Height of mast extended		in	mm	216	5,468	216	5,468	
	4-7 Height to top of operator compartment		in	mm	120	3,048	120	3,048	
	4-19 Overall length		in	mm	218	5,542	226	5,742	
	4-20 Length to load face		in	mm	170	4,322	178	4,522	
	4-21 Overall width over drive tires		in	mm	96	2,438	96	2,438	
	4-22a	Fork	thickness	in	mm	3	75	3	75
			width	in	mm	8	200	8	200
			length	in	mm	48	1,220	48	1,220
	4-24 Carriage width		in	mm	92.5	2,350	92.5	2,350	
	4-25a Fork spread, min (in-in)		in	mm	3.0	75	3.0	75	
	4-25b Fork spread, max (out-out)		in	mm	89.4	2,270	89.4	2,270	
	4-31 Ground clearance, under mast with load		in	mm	9	229	9	229	
	4-32 Ground clearance, center of wheelbase		in	mm	11	292	11	292	
	4-33 Minimum aisle width (add load length)		in	mm	185	4,697	192	4,879	
	4-35 Outside turning radius		in	mm	155	3,937	162	4,111	
	MISC	8-7 Hydraulic tank capacity		gal	l	36	136	36	136
8-8 Fuel tank capacity		gal	l	27	102	27	102		
PERFORMANCE	PERFORMANCE		WITH TIER 4 FINAL CUMMINS QSB 4.5L ENGINE						
	5-1a	with load	mph	km/h	19	30	19	30	
		without load	mph	km/h	20	32	20	32	
	5-2a	with load - 105cc	ft/min	m/s	79	0.40	79	0.40	
		without load - 105cc	ft/min	m/s	89	0.45	89	0.45	
	5-2a	with load - 120cc	ft/min	m/s	87	0.44	87	0.44	
		without load - 120cc	ft/min	m/s	102	0.52	102	0.52	
	5-3a	with load	ft/min	m/s	98	0.50	98	0.50	
		without load	ft/min	m/s	94	0.48	94	0.48	
	5-6 Drawbar pull - Max		lbs	kN	23,400	104	23,400	104	
	5-7 Gradeability - no load / rated load - 1 mph (1.6 km/h)		%		32 / 43	32 / 43	34 / 43	34 / 43	
	PERFORMANCE		WITH TIER 3 CUMMINS QSB 6.7L ENGINE						
	5-1a	with load	mph	km/h	19	30	19	30	
		without load	mph	km/h	20	32	20	32	
	5-2a	with load - 90cc	ft/min	m/s	71	0.36	71	0.36	
		without load - 90cc	ft/min	m/s	77	0.39	77	0.39	
	5-2a	with load - 120cc	ft/min	m/s	83	0.42	83	0.42	
		without load - 120cc	ft/min	m/s	102	0.52	102	0.52	
	5-3a	with load	ft/min	m/s	98	0.50	98	0.50	
		without load	ft/min	m/s	94	0.48	94	0.48	
5-6 Drawbar pull - Max		lbs	kN	24,300	108	24,300	108		
5-7 Gradeability no load / rated load - 1 mph (1.6 km/h)		%		32 / 40	32 / 40	34 / 40	34 / 40		

Note: Tier 3 engines are available in Latin America and Canada only. Tier 3 engines are not available in the U.S.

CERTIFICATION: These Hyster® lift trucks meet design specifications of Part II ANSI B56.1-1969, as required by OSHA Section 1910.178(a)(2) and also comply with Part III ANSI 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.

H250-280HD₂ SPECIFICATIONS

	Description	Units		English	Metric	English	Metric	
GENERAL	1-1	Manufacturer		HYSTER	HYSTER	HYSTER	HYSTER	
	1-2	Model designation		H250HD ₂	H250HD ₂	H280HD ₂	H280HD ₂	
	1-5	Rated load capacity		lbs	kg	25,000	11,340	
	1-6	Load center		in	mm	24.0	610	
	1-8	Load distance		in	mm	32.0	813	
	1-9	Wheelbase		in	mm	114	2,900	
	2-1	Total truck weight without load		lbs	kg	33,801	15,332	
	2-2a	Axle loading with load	front	lbs	kg	54,292	24,626	
	2-2b		rear	lbs	kg	4,422	2,006	
WEIGHTS	2-3a	Axle loading without load	front	lbs	kg	17,258	7,828	
	2-3b		rear	lbs	kg	16,543	7,504	
	3-1	Tire type		Pneumatic		Pneumatic		
	3-2	Tire size	front	10.00x20 16PR Bias		10.00x20 16PR Bias		
WHEELS	3-3		rear	10.00x20 16PR Bias		10.00x20 16PR Bias		
	4-1	Mast tilt, forward / back		degrees		15 / 12		
	4-2	Height of mast lowered		in	mm	143	3,628	
DIMENSIONS	4-3	Freelift (Top of Fork)		in	mm	0	0	
	4-4	Lift height (Top of Fork)		in	mm	148	3,761	
	4-5	Height of mast extended		in	mm	215	5,468	
	4-7	Height to top of operator compartment		in	mm	120	3,048	
	4-19	Overall length		in	mm	226	5,742	
	4-20	Length to load face		in	mm	178	4,522	
	4-21	Overall width over drive tires		in	mm	96	2,438	
	4-22a	Fork	thickness	in	mm	3	75	
	4-22b		width	in	mm	8	200	
	4-22c		length	in	mm	48	1,220	
	4-24	Carriage width		in	mm	92.5	2,350	
	4-25a	Fork spread, min (in-in)		in	mm	3.0	75	
	4-25b	Fork spread, max (out-out)		in	mm	89.4	2,270	
	4-31	Ground clearance, under mast with load		in	mm	9	229	
	4-32	Ground clearance, center of wheelbase		in	mm	11	292	
	4-33	Minimum aisle width (add load length)		in	mm	192	4,879	
	4-35	Outside turning radius		in	mm	162	4,111	
	MISC	8-7	Hydraulic tank capacity		gal	l	36	136
		8-8	Fuel tank capacity		gal	l	27	102
		PERFORMANCE				WITH TIER 4 FINAL CUMMINS QSB 4.5L ENGINE		
5-1a		Travel speed	with load	mph	km/h	19	30	
5-1b		without load	mph	km/h	20	32		
5-2a	Lifting speed	with load - 105cc	ft/min	m/s	79	0.40		
5-2b		without load - 105cc	ft/min	m/s	89	0.45		
5-2a	Lifting speed	with load - 120cc	ft/min	m/s	87	0.44		
5-2b		without load - 120cc	ft/min	m/s	102	0.52		
5-3a	Lowering speed	with load	ft/min	m/s	98	0.50		
5-3b		without load	ft/min	m/s	94	0.48		
5-6	Drawbar pull – Max		lbs	kN	24,300	108		
5-7	Gradeability – no load / rated load – 1 mph (1.6 km/h)				%	33 / 41		
PERFORMANCE				WITH TIER 3 CUMMINS QSB 6.7L ENGINE				
5-1a	Travel speed	with load	mph	km/h	19	30		
5-1b		without load	mph	km/h	20	32		
5-2a	Lifting speed	with load - 90cc	ft/min	m/s	71	0.36		
5-2b		without load - 90cc	ft/min	m/s	77	0.39		
5-2a	Lifting speed	with load - 120cc	ft/min	m/s	83	0.42		
5-2b		without load - 120cc	ft/min	m/s	102	0.52		
5-3a	Lowering speed	with load	ft/min	m/s	98	0.50		
5-3b		without load	ft/min	m/s	94	0.48		
5-6	Drawbar pull - Max		lbs	kN	22,900	102		
5-7	Gradeability no load / rated load - 1 mph (1.6 km/h)				%	33 / 38		

Note: Tier 3 engines are available in Latin America and Canada only. Tier 3 engines are not available in the U.S.

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H190-280HD₂ SPECIFICATIONS

POWERTRAINS		Units	Tier 4 Final		Tier 3	
1-3	Power type		Diesel		Diesel	
7-1	Engine Manufacturer / model		Cummins QSB 4.5L		Cummins QSB 6.7L	
7-1a	EPA Tier Compliance		Tier 4 Final		Tier 3	
7-2a	Engine power output - Rated	hp kW	160	119	155	116
7-2b	Engine power output - Peak	hp kW	164	122	155	116
7-3	Governed speed	rpm	2,300		2,300	
7-4	Number of cylinders / displacement	# / l	4 / 4.5		6 / 6.7	
7-5	Engine torque - Max	lb-ft N-m	460	624	443	600
7-5a	Turbocharger	Type	Variable Geometry, Water Cooled		Wastegate	
7-9	Alternator output	Amps	120		120	
8-0	Transmission Manufacturer / model		ZF WG-161		ZF WG-161	
8-1	Transmission type & speeds		Powershift 3F x 3R		Powershift 3F x 3R	
8.1a	Drive Axle Manufacturer / model		AxleTech PRC 485		AxleTech PRC 485	
5-10	Service brake		Oil immersed (wet) disc		Oil immersed (wet) disc	
5-11	Park brake		Spring apply, dry disc		Spring apply, dry disc	
10.4.1	DEF Tank, Capacity	gal (l)	5.0	19.0	Not Required	

H190-210HD₂ MAST DIMENSIONS

4.4 Lift height (Top of Fork)		4.2 Mast Lowered Ht.		4.3 Freelif (Top of Fork)		4.5 Overall Extended Ht.	
in	mm	in	mm	in	mm	in	mm
148	3761	133	3353	0	0	205	5196
183	4650	150	3803	0	0	240	6096
212	5400	165	4179	0	0	270	6846
2-STAGE NO FREE-LIFT (NO FL)							
3-STAGE							
220	5590	120	3045	56	1425	277	7030
235	5990	126	3178	61	1558	293	7430
255	6490	132	3345	67	1725	313	7930
275	6990	139	3511	74	1891	332	8430

H230-280HD₂ MAST DIMENSIONS

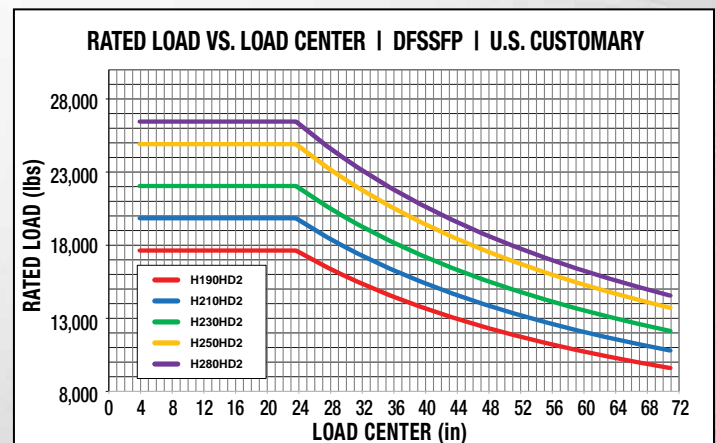
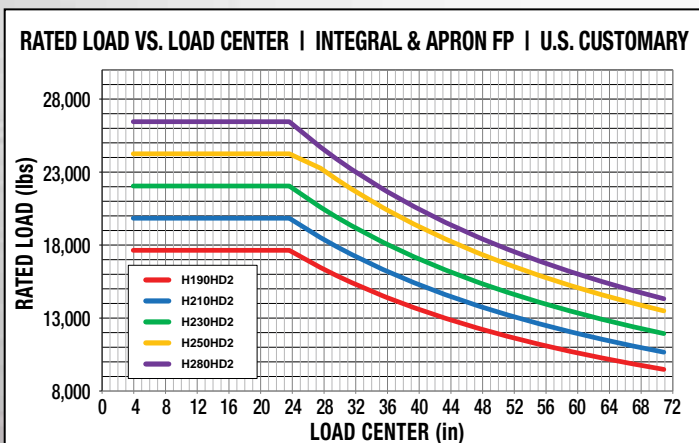
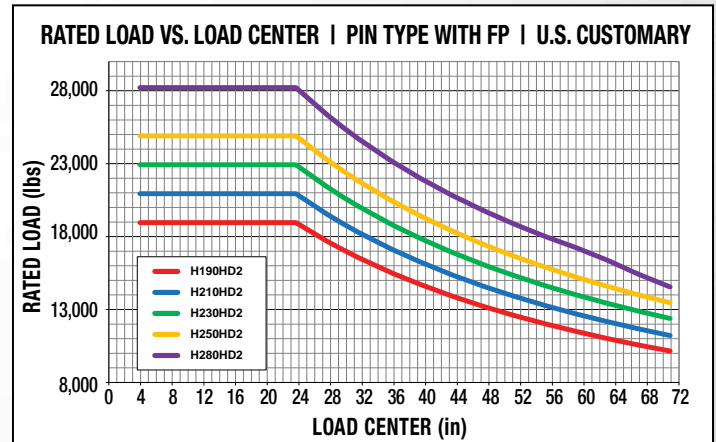
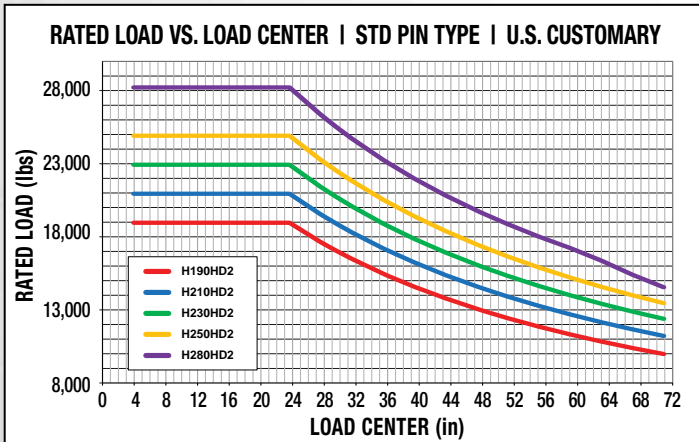
4.4 Lift height (Top of Fork)		4.2 Mast Lowered Ht.		4.3 Freelif (Top of Fork)		4.5 Overall Extended Ht.	
in	mm	in	mm	in	mm	in	mm
148	3761	143	3628	0	0	216	5468
183	4661	161	4078	0	0	251	6368
213	5411	176	4453	0	0	281	7118
244	6205	192	4853	0	0	312	7918
264	6705	202	5116	0	0	332	8420
3-STAGE							
220	5600	120	3045	56	1435	277	7030
236	6000	126	3178	61	1568	293	7430
255	6500	132	3345	68	1735	313	7930
275	7000	139	3511	74	1901	332	8430

RATED CAPACITIES

Model H190HD₂: 19,000 lbs. at 24" (8,618 kg at 610 mm) load center
 Model H210HD₂: 21,000 lbs. at 24" (9,525 kg at 610 mm) load center
 Model H230HD₂: 23,000 lbs. at 24" (10,433 kg at 610 mm) load center
 Model H230HD₂S: 23,000 lbs. at 24" (10,433 kg at 610 mm) load center
 Model H250HD₂: 25,000 lbs. at 24" (11,340 kg at 610 mm) load center
 Model H280HD₂: 28,000 lbs. at 24" (12,701 kg at 610 mm) load center

Rated capacities are for trucks equipped with:

- 2-stage mast to 212" (5400 mm) (H190-210HD₂) maximum fork height
- 92.5" (2,350 mm) (H190-280HD₂) carriage
- 48" (1,219 mm) (H190-280HD₂) long forks as required
- 2-stage mast to 213.0" (5411 mm) (230-280HD₂) maximum fork height



Conversion Factor: 1.0" = 25.4 mm 1 lb = 0.45 kg

Contact your dealer for other capacity information.

STANDARD FEATURES AND OPTIONS

MASTS

Mast with C-channels provide noticeable visibility of the attachment and load. Greasable load rollers are standard.

CARRIAGES

Pin-type; integral pin-type fork positioner with simultaneous or individual fork control; pin-type integral sideshift; integral pin-type dual function sideshift fork positioner; apron style sideshift fork positioner with simultaneous or individual fork control.

Overall width: 92.5" (2,350 mm) for all H190-280HD₂ trucks

Minimum inside-to-inside fork spacing – model and attachment dependent is 3" (75 mm)

Maximum outside-to-outside fork spacing – model and attachment dependent is 89.4" (2,270 mm)

PALLET FORKS

3.0" x 8.0" x 48.0" - 96.0" (75 x 200 x 1,220 - 2,438 mm)

POLISHED AND TAPERED FORKS

3.0" x 8.0" x 48.0" - 72.0" (75 x 200 x 1,220 - 1,825 mm)

DUAL FUNCTION SIDESHIFTING FORK POSITIONER FORKS

2.75" x 8.0" x 48.0" - 96.0" (70 x 200 x 1,220 - 2,438 mm)

STANDARD ENGINE - TIER 4 FINAL

Cummins QSB 4.5L 4 cylinder diesel engine delivers rated 160hp (peak 164hp) and 460 lb-ft of maximum torque. EPA Tier 4 Final compliant engine features cooled exhaust gas recirculation (EGR) technology with selective catalytic reduction (SCR); water-cooled variable geometry turbocharger with integrated diesel exhaust fluid (DEF) delivery system. Innovative selectable performance modes offer enhanced fuel economy and optimal productivity. Hibernate idle saves fuel by lowering engine rpm when functions are not being used. Also includes:

- Variable geometry turbocharger which improves boost across a wide RPM range
- 120 amp alternator
- Viscous, on-demand cooling fan (saves fuel and reduces noise)
- Low-mount exhaust with diesel oxidation catalyst (DOC)
- Requires ultra-low sulfur diesel fuel and low-ash oil

OPTIONAL ENGINE - TIER 3 (LIMITED AVAILABILITY FOR CANADA; AVAILABLE IN NON-EPA REGULATED MARKETS):

Cummins QSB 6.7L 6-cylinder diesel engine delivers rated 155 hp (peak 155hp) and 443 lb-ft of maximum torque. EPA Tier 3 compliant. Also includes:

- Wastegate turbocharger
- 120 amp alternator
- Overhead exhaust

TRANSMISSION

- ZF WG-161 three-speed, fully reversing powershift transmission produces smooth shifting, precise inching and fast acceleration
- 3 forward and 3 reverse gears
- Powershifts with proportional valves
- Inching electronically controlled
- Cushioned clutch lock-up provides smooth shifting and dampens drive line shock loads
- Simple push button calibration
- Transmission lock-out preventing high speed directional changes
- Transmission and engine powertrain protection for excessive engine coolant temperature, low engine oil pressure, and excessive engine inlet air temperatures
- 24 Volt electrical system

ELECTRICAL SYSTEM

- Sealed Deutsch connectors
- CANbus system for easy diagnostics of engine, transmission and hydraulics

HYDRAULIC SYSTEM

On-demand load-sensing hydraulic system featuring:

- Variable displacement pump technology
- Saves fuel
- Produces less heat
- Runs quieter
- Extends life of hydraulic oil and components
- Leak-free ORFS fittings

STEERING SYSTEM

- The steer axle is a casting with transverse mounted double acting cylinders, non-adjustable tie rods, spindles, tapered roller bearings and wheel hubs. The axle is pin mounted to the frame.
- Designed for high loads and long life, the one piece axle frame carries the axle loads and provides mounting for the spindles and cylinder.
- Axle spindles are supported by tapered roller bearings and sealed to prevent contamination entry or loss of grease.
- No steering linkage adjustments are required. Lubricating fittings on spindle and tie rod pins are the only regular maintenance points.
- Load sensed steering provides low steering effort and good performance at all engine speeds.

DRIVE AXLE

- Heavy duty AxleTech PRC 485 drive axle features full floating design.
- Wheel hubs rotate on large tapered roller bearings.
- Non-adjustable tie rod ends provide maximum axle life.

BRAKES

- Oil cooled wet disc brake system greatly extends brake system life.

OPERATOR AREA

- Ergonomically designed hydraulic controls are within easy reach.
- Three steps and hand grips provide easy ingress and egress from operator compartment.
- Angled floor plate and pedals are positioned for operator comfort.
- Standard MONOTROL[®] pedal controls engine speed and truck direction, freeing operator's hands to operate steering and hydraulic controls.
- Telescopic, tilt steer column.
- Supportive mechanical full-suspension seat adjusts 8" (200 mm) for operator comfort.
- Several air suspension seat options are available.
- Steel overhead guard frame provides remarkable high-stacking visibility.
- Operator presence system with complete hydraulic lock out requires the operator to be in the normal operating position before any travel or movement of the mast, tilt, carriage, and attachment can be initiated and that the travel or movement of the mast, tilt, carriage, and attachment is locked out when the operator leaves the seat for more than 2-3 seconds.
- Optional light groups aid visibility in low-lighted areas.
- Optional enclosed cab features: tinted, curved tempered glass; circulation fan; heater & defroster; electric wiper and windshield washer front, rear, top; intermittent front wiper; door retainer; 3 speed fan; 12 volt auxiliary power source; dome light, with many additional options to enhance comfort and productivity.

Special attachments, equipment or accessories not listed above may be available through applications engineering for specific application requirements.

STANDARD FEATURES AND OPTIONS

STANDARD EQUIPMENT

Complete truck equipped with:

- H190-210HD₂: 147" maximum fork height 2-stage mast with 133" lowered height
- H230HD₂S-H280HD₂: 148" maximum fork height 2-stage mast with 143" lowered height
- 92.5" wide pin type carriage
- 48" long forks (3" x 8" section)
- Cummins engine (see engine section)
- Sy-Klone™ spinner type heavy duty air intake pre-cleaner
- High mount exhaust*
- Premium ZF WG-161 3 speed autoshift transmission
- AxleTech planetary drive axle with wet disc brakes
- Powertrain Protection system for engine and transmission; high temperature or low oil pressure
- On-demand load-sensing hydraulic system
- 24V electrical system with CANbus control system for engine, transmission and hydraulics
- 10.00x20-20PR bias pneumatic drive and steer tires
- MONOTROL® pedal direction control with direction change interlock system
- UL Classification D
- Mast tilt: 15° fwd/12° back
- Open operator compartment with integral overhead guard. compartment includes: seatside mini-lever hydraulic control; multifunction display panel; interior wide angle mirrors; telescoping & tilting steering column; floor mat; isolated mounting for low noise and vibration; 24-12V DC converter; full-suspension vinyl seat with integrated, adjustable armrest and seat belt
- Operator restraint system
- Operator presence system
- Electric air horn (112 dBA)
- Tilting operator compartment for service access – manual operation
- Light Kit 1: 2 LED stop/tail/back-up lights
- Non-locking fuel cap
- Operator's manual


OPTIONAL EQUIPMENT

- Tier 3 engines (for select markets only)
- Masts – various lift heights, 2-stage and 3-stage FFL
- Sideshifting carriages and fork positioners
- Various fork options and lengths
- Various mast tilt ranges
- Multifunction joystick
- Column-mounted direction control lever
- Radial and pneumatic-shaped solid tires
- Enclosed cab, with or without air conditioning
- Various inside-cabin options
- Various seat options
- 2 and 3-point high visibility seat belts
- Powered tilting operator compartment for service access
- Visible alarm / amber strobe light
- Audible backup alarm
- Various LED, halogen and high intensity discharge (HID) xenon light kits
- Lockable fuel cap
- Lockable battery disconnect switch
- Hydraulic accumulator
- Various traction speed limiters
- Empty seat engine shutdown - adjustable from 3-15 minutes (preset to 15 minutes)
- Lifting eyes
- Steer wheel lug protection
- Engine block heater



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