

110/130/160D-9

Performance Enhanced For Stage IV Engine

MOVING YOU FURTHER

HYUNDAI HEAVY INDUSTRIES



■ Photo may include optional equipment



Your satisfaction is **our priority!**

Hyundai introduces a new line of 9-series diesel forklift trucks.

The newly designed 4 wheel counterbalance trucks provide every operator comfortable driving, increased productivity and easy maintenance.



New Diesel Forklift with Proven Quality and Advanced Technology

- Maximum Performance
- Spacious Operator's cab
- Weight Indicator (Optional)
- OPSS System for Safe Operation
- Easy Serviceability
- 4.3 Inch Color LCD (Centralized Information Display)
- FATC (Full Automatic Temperature Control) Airconditioner (Optional)



■ Photo may include optional equipment

High Efficiency & Optimal Performance



■ Photo may include optional equipment



Cummins QSB6.7 Engine

122 kW / 2,300 rpm

74.7 kgf.m / 1,500 rpm

Powerful Engine

The six cylinders turbo-charged engine is built for power, reliability and economy. This engine meets EPA Tier 4 and EU stage IV emission regulation.

Excellent Fuel Efficiency

Fuel consumption rate is improved than previous model.

DOC (Diesel Oxidation Catalyst)

SCR (Selective Catalytic Reduction)

EGR (Exhaust Gas Recirculation)

- High torque at low speeds
- Excellent transient behavior

Powerful engine and high technology systems provide you with enhanced performance and highest productivity.

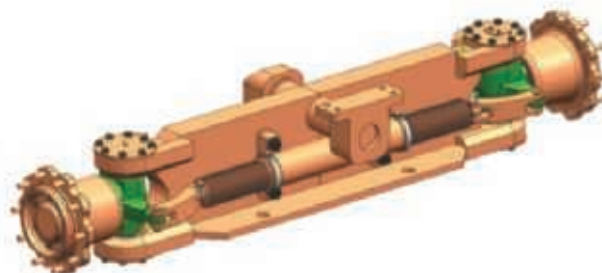
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Full-automatic ZF Transmission

Full-automatic transmission gives easy, convenient handling and soft, smooth shifting. The operator can select two kinds of automatic modes.

(1st <—> 3rd, 2nd <—> 3rd)



Fully Hydrostatic Power Steering

The hydraulic steering system always guarantees smooth and flexible steering, preventing over-run and kick-back.

Load Sensing System

Only flow required on cylinders is supplied. It makes energy saving. (No excessive flow)



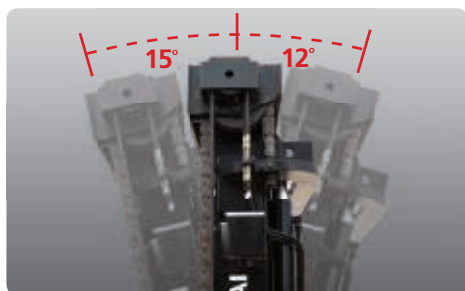
Durable drive axle

The hypoid type planetary reduction drive axle smoothly delivers desired torque to the drive wheels.



Wet Disc Brake System

The wet disc brake system is virtually maintenance free and is enclosed to protect from dust and water.



Increased Mast Tilting Angle

Utilizing the mast tilting angle of 15 degrees forward and 12 degrees backward, the operator can perform loading and unloading jobs safely and rapidly.



Max.Gradeability (loaded / Unloaded)

Model	%
110D-9	52.1
130D-9	46.9
160D-9	37.7

Max.Travel Speed (Unloaded)

Model	Km / h
110D-9	35.6
130D-9	35.6
160D-9	35.2

Faster Travel Speed & Better Gradability

The powerful engine provides greater acceleration, better gradability and faster travel speed on any tough terrains or slopes.

Best Convenience & Optimised Ergonomics



Spacious Operator Cabin

The newly designed cabin was conceived for more space, a wider field of view and operator comfort.



MP3 CD Player



Bluetooth Hands Free Remote Control Socket (Optional)



Centralized Instrument Switch Panel



Luxury Seat (Air-suspension + Heat + HeadRest) (Optional)

An attractive and adjustable seat, based on a human engineering design, provides great comfort, safety and durability.

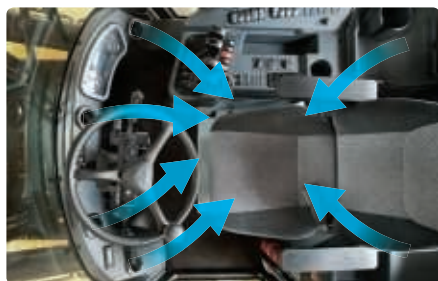
The ergonomically designed cabin provides full support and comfort to the operator.

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New Design Cluster

1	Parking lamp	2	Engine check warning lamp	3	High beam indicator lamp
4	Operator presence indicator lamp	5	Seat belt warning lamp	6	Left turn signal indicator lamp
7	Engine RPM indicator	8	Load weight indicator(option)	9	Hour meter
10	Odometer	11	Outside temperature indicator	12	Air-con setting temp. indicator
13	Vehicle tilt angle indicator	14	Clock	15	T/M information display
16	Urea level gauge	17	Rear wheel angle(option)	18	Mast tilt angle indicator
19	Right turn signal indicator lamp	20	Engine coolant temperature gauge	21	Transmission oil temperature gauge
22	Fuel gauge	23	Speed gauge		



High-output Air Conditioner & Heater (Optional)

Air Vent positions of the air conditioner with integrated the condenser is mounted on cabin front rear side to make a wide room in the cabin. And an air conditioner with high-output and heater always provide you with comfortable environment when you work. *Especially Applied FATC (Full Automatic Temperature Control)



Adjustable Steering Column

Steering handle is adjustable depending on the operator's body shape. Adjustability of steering column makes you more comfortable.



Quick Response of Operating Control Levers

Only minimal operator's effort is required for precise, safe and productive control. (4 Lever : Standard), (3/5 Lever : Option)

Advanced Safety



Engine Control Mode

According to operating load, the operator can select engine mode by changing side panel switch.

STD Mode : Fuel reduction mode for light duty operating load

POWER Mode : Heavy-duty or operating at slope



Adjustable Engine Low Idle RPM

While engine runs, low idle rpm can be increased by unit of 25rpm and it keeps previously set rpm when engine restarts.

Load-Sensor
(Pressure Sensor)



MCU



CLUSTER



Weight Indicator (Optional)

The optional Weight Indicator displays the load weight in the monitor. The load sensor reduces the time to check loaded weight and the alarm alerts the driver when overloaded.

SENSOR



MCU

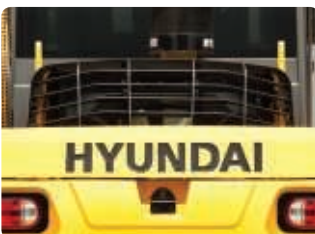


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Rear Wheel Angle Monitoring (Optional)

- indicate steering wheel angle for easy operation
- Real-time steering wheel angle display



Up-to-date Cooling System

The minimum fuel consumption and low noise are available by applying hydraulic cooling fan sensing intake air temperature, transmission oil temperature, coolant temperature and hydraulic temperature.



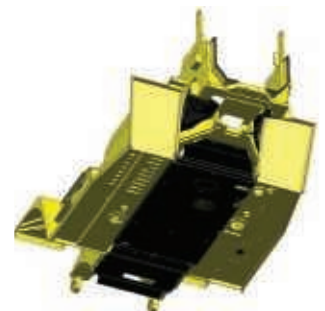
Cabin Tilting Automatic System

Cabin tilting automatic system makes servicing of all power train components quick and easy. An electrically assisted hydraulic actuated cylinder tilts operator cabin to left side about 65 degrees for easy access to inside of truck components.



Rear Tire Cover

The Rear tire cover with PE material is equipped to prevent clogging of the radiator from foreign substances.



Undercover (Optional)

The Under cover protect the engine and components from dusts caused by ground. It helps to lengthen Components life.

The safely designed driver's space makes your operating more comfortable.

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OPSS (Operator Presence Sensing System)

When the operator is not in the seat all mast and drive movements are impossible.



■ Photo may include optional equipment



Highly Durable Mast & Carriage Side Roller
Side roller with great durability for mast and carriage is included.



Highly Durable Carriage
The carriage is very strong cause of applying the high tensile structural steel which has a excellent durability. Work at the narrow space is easy because the width of carriage is narrower than overall width of the vehicle.



Excellent Night Work
- Various position of work lamp provides the operator more comfortable and safe operating environments.
- Front : fender (2), mast (4)
- Rear : cab (2)
- LED Rear Combination Lamp

Fast and Easy **Maintenance**



Large Engine Hood

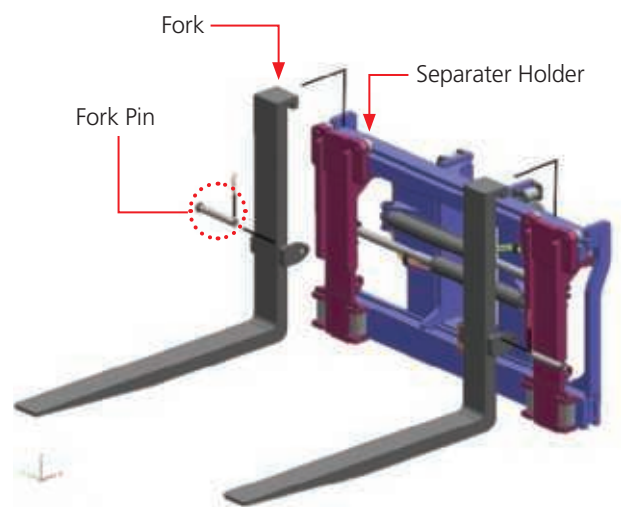
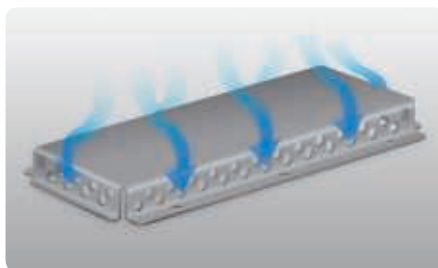
Highly accessible engine compartment assures fast and efficient maintenance.

■ Photo may include optional equipment



Cabin Air Fresh Filter

The internal pressure is maintained to be slightly higher than that of outside to exclude dust and to reduce noise levels.



Separator Holder Type Fork Carriage (Optional)

To improve handling and easily switch forks and other attachment Separator holder system is adopted as option.

It is possible to install various attachments like coil ram easily.

An ideal arrangement of components ensures easy access and convenience for maintenance.

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Rear View Camera (Optional)
The rear view camera makes the operation more easy and convenient. And it supports 4camera channels.



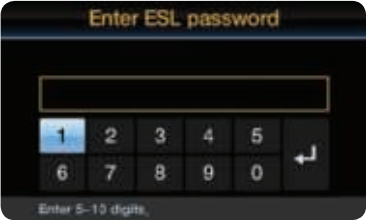
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Master Switch
A master switch disconnects the battery power to protect the electrical system from excess electrical drainage.



Maintenance Management Display



Engine Start Limit

New 9 Series

Mast Specification (110D-9)

Mast Type		Maximum Fork Height (mm)	Overall Height Lowered (mm)	Tilt Angle (deg) Fwd / Bwd	Load capacity (600 mm LC) (kg)	Truck Weight Unloaded (kg)
2-Stage Limited Free Lift	V280	2805	2900	15 / 12	11000	16242
	* V300	3005	3000	15 / 12	11000	16275
	V330	3305	3150	15 / 12	11000	16351
	V350	3505	3250	15 / 12	11000	16400
	V400	4005	3550	15 / 12	11000	16653
	V450	4505	3800	15 / 12	11000	16778
	V500	5005	4100	15 / 12	11000	16927
	V550	5505	4350	15 / 12	11000	17158
	V600	6005	4650	15 / 12	11000	17310
2-Stage Full Free Lift	V650	6505	4900	15 / 12	11000	17443
	V700	7005	5150	15 / 12	10820	17574
	VS300	3028	3000	10 / 10	11000	16449
	VS350	3528	3250	10 / 10	11000	16589
	VS400	4028	3500	10 / 10	11000	16731
	VS450	4528	3750	10 / 10	11000	16877
	VS500	5028	4000	10 / 10	11000	17134
	VS550	5528	4250	10 / 10	11000	17352
	VS600	6028	4600	10 / 10	11000	17598
3-Stage Full Free Lift	TS450	4521	2950	10 / 10	11000	17405
	TS500	5025	3117	10 / 10	11000	17496
	TS550	5525	3284	10 / 10	11000	17588
	TS600	6023	3551	10 / 10	11000	17733
	TS650	6525	3718	10 / 10	10720	17825
	TS700	7025	3935	10 / 10	10380	18066
	TS750	7525	4102	10 / 10	10080	18158

Mast Specification (130D-9)

Mast Type		Maximum Fork Height (mm)	Overall Height Lowered (mm)	Tilt Angle (deg) Fwd / Bwd	Load capacity (600 mm LC) (kg)	Truck Weight Unloaded (kg)
2-Stage Limited Free Lift	V280	2805	2900	15 / 12	13000	16958
	* V300	3005	3000	15 / 12	13000	16991
	V330	3305	3150	15 / 12	13000	17067
	V350	3505	3250	15 / 12	13000	17117
	V400	4005	3550	15 / 12	13000	17369
	V450	4505	3800	15 / 12	13000	17494
	V500	5005	4100	15 / 12	13000	17644
	V550	5505	4350	15 / 12	13000	17874
	V600	6005	4650	15 / 12	12610	18026
2-Stage Full Free Lift	V650	6505	4900	15 / 12	12250	18159
	V700	7005	5150	15 / 12	11900	18290
	VS300	3028	3000	10 / 10	13000	17166
	VS350	3528	3250	10 / 10	13000	17306
	VS400	4028	3500	10 / 10	13000	17447
	VS450	4528	3750	10 / 10	13000	17593
3-Stage Full Free Lift	VS500	5028	4000	10 / 10	13000	17850
	VS550	5528	4250	10 / 10	12640	18068
	VS600	6028	4600	10 / 10	12200	18315
	TS450	4521	2950	10 / 10	13000	18186
	TS500	5025	3117	10 / 10	12860	18277
	TS550	5525	3284	10 / 10	12480	18369
	TS600	6023	3551	10 / 10	12100	18514
3-Stage Full Free Lift	TS650	6525	3718	10 / 10	11750	18606
	TS700	7025	3935	10 / 10	11380	18847
	TS750	7525	4102	10 / 10	11060	18939

Mast Specification (160D-9)

Mast Type		Maximum Fork Height (mm)	Overall Height Lowered (mm)	Tilt Angle (deg) Fwd / Bwd	Load capacity (600 mm LC) (kg)	Truck Weight Unloaded (kg)
2-Stage Limited Free Lift	V295	2950	2950	15 / 12	16000	19679
	* V300	3010	3250	15 / 12	16000	19843
	V330	3310	3400	15 / 12	16000	19937
	V350	3510	3500	15 / 12	16000	19982
	V400	4010	3750	15 / 12	16000	20270
	V450	4510	4000	15 / 12	16000	20424
	V500	5010	4300	15 / 12	16000	20607
	V550	5510	4550	15 / 12	16000	20875
	V600	6010	4850	15 / 12	16000	21057
	V650	6510	5125	15 / 12	15700	21223
	V700	7010	5375	15 / 12	15270	21375
2-Stage Full Free Lift	VS300	3010	3200	10 / 10	16000	19872
	VS330	3310	3350	10 / 10	16000	19951
	VS350	3510	3450	10 / 10	16000	20016
	VS400	4010	3700	10 / 10	16000	20179
	VS450	4510	3950	10 / 10	16000	20435
	VS500	5010	4250	10 / 10	16000	20633
	VS550	5510	4500	10 / 10	16000	20827
	VS600	6010	4800	10 / 10	16000	21088
3-Stage Full Free Lift	TS450	4516	2950	10 / 10	16000	20946
	TS500	5017	3167	10 / 10	16000	21147
	TS550	5515	3333	10 / 10	15680	21295
	TS600	6016	3550	10 / 10	15220	21491
	TS650	6517	3717	10 / 10	14800	21649
	TS700	7015	3933	10 / 10	14360	21962
	TS750	7515	4100	10 / 10	13960	22125

Optional Items

• Fork (L x W x T) (mm)

110D-9 :

75 x 200 x 1200 / 75 x 200 x 1500 / 75 x 200 x 1650 /

75 x 200 x 1800 / 75 x 200 x 2100 / 85 x 200 x 2440 / 85 x 200 x 2600

130D-9 :

85 x 200 x 1200 / 85 x 200 x 1500 / 85 x 200 x 1650 /

85 x 200 x 1800 / 85 x 200 x 2100 / 85 x 200 x 2440 / 90 x 200 x 2600

160D-9 :

90 x 200 x 1200 / 90 x 200 x 1500 / 90 x 200 x 1650 /

95 x 200 x 1800 / 95 x 200 x 2100 / 95 x 200 x 2440 / 100 x 200 x 2600

• Air Compressor

• **Seat** : Heat, Leather / KAB Air-Suspension Heat Seat

• **Bluetooth Hands Free**

• **Rear View Camera**

• **Weight Indicator**

• **Solid Tire**

• **Top Wiper**

• **Rear Wheel Angle Monitoring**

• **MAST** : Duplex Mast / Duplex Mast / Triplex Mast

• **MCV** : 3-Spool / 5-Spool

• **Fork Positioner** : ø 82 / ø 100

• **Integral Side Shift**

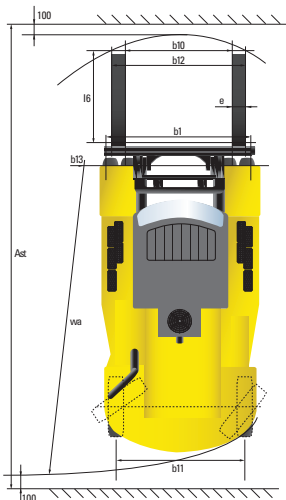
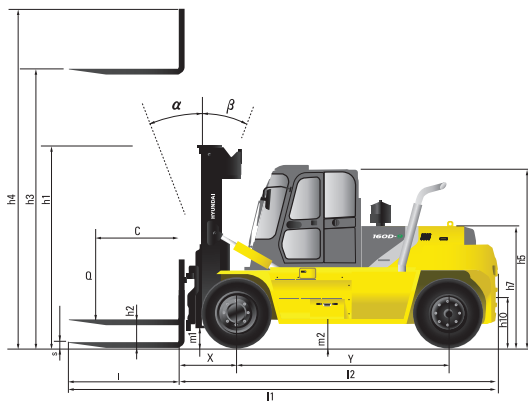
• **Separator Holder Type Fork Carriage**

• **Hydraulic Line** : 3-Spool / 4-Spool / 5-Spool

• **Wide Carriage (2730 mm) (160D-9)**

New 9 Series

Dimension



Specification

Identification

1. 1	Manufacturer	HYUNDAI	HYUNDAI	HYUNDAI	
1. 2	Manufacturer's type designation	110D-9	130D-9	160D-9	
1. 3	Drive : electric(battery or mains) ,diesel, petrol ,fuel gas, manual	DIESEL	DIESEL	DIESEL	
1. 4	Type of operation : hand, pedestrian, standing, seated, order - picker	seated	seated	seated	
1. 5	Load capacity / rated load	kg	11000	13000	16000
1. 6	Load center distance	c mm	600	600	600
1. 8	Load distance, center of drive axle to fork	x mm	750	770	815
1. 9	Wheelbase	y mm	3050	3050	3450

Weights

2. 1	Service weight	kg	16,275	16,991	19,843
2. 2	Axle loading, loaded front / rear	kg	23960 / 3315	26775 / 3216	32009 / 3834
2. 3	Axle loading , unloaded front / rear	kg	8055 / 8219	7988 / 9003	9446 / 10396

Wheels, Chassis

3. 1	Pneumatic, Solid	Pneumatic	Pneumatic	Pneumatic
3. 2	Tires size, front	10.00-20-16PR	10.00-20-16PR	12.00-20-18PR
3. 3	Tires size, rear	10.00-20-16PR	10.00-20-16PR	12.00-20-18PR
3. 5	Wheels, number front rear(x = driven wheels)	4 x 2	4 x 2	4 x 2
3. 6	Track width, front	mm	1842	1842
3. 7	Track width, rear	mm	1910	1958

Basic Dimensions

4. 1	Mast / fork carriage tilt forward / backward	degrees	15 / 12	15 / 12	15 / 12
4. 2	Lowered mast height	h1 mm	3000	3000	3250
4. 3	Lift height	h3 mm	3005	3005	3010
4. 4	Extended mast height	h4 mm	4465	4465	4710
4. 5	Overhead guard (cab) height	h5 mm	2945	2945	2980
4. 6	Seat height / rel. to SIP	h7 mm	1786	1786	1824
4. 7	Coupling height	h10 mm	560	560	598
4. 8	Overall length	l1 mm	5920	5930	6430
4. 9	Length to face of forks	l2 mm	4570	4580	5080
4. 10	Overall width	b1 mm	2450	2450	2497
4. 11	Fork dimensions	s / e / l mm	75x200x1350	85x200x1350	90x200x1350
4. 12	Fork - carriage width	b3 mm	2362	2362	2488
4. 13	Ground clearance, loaded, under mast	m1 mm	250	250	250
4. 14	Ground clearance, centre of wheelbase	m2 mm	331	332	369
4. 15	Aisle width for pallets 1,000 x 1,200 crossways	Ast mm	6655	6660	7280
4. 16	Aisle width for pallets 800 x 1,200 lengthways	Ast mm	6655	6660	7280
4. 17	Turning radius	Wa mm	4350	4350	4895
4. 18	Smallest pivot point distance	mm	1634	1634	1865

Performance Data

5. 1	Travel speed, unloaded	km/h	35.6	35.6	35.2
5. 2	Lift speed, loaded/ unloaded	mm/s	440 / 510	430 / 510	350 / 450
5. 3	Lowering speed, loaded/unloaded	mm/s	510 / 460	510 / 460	430 / 390
5. 5	Drawbar pull, Loaded	KN	135	137	136
5. 7	Gradient performance, Loaded	%	52.1	46.9	37.7
5. 10	Service brake		Wet, Hydraulic	Wet, Hydraulic	Wet, Hydraulic

Engine

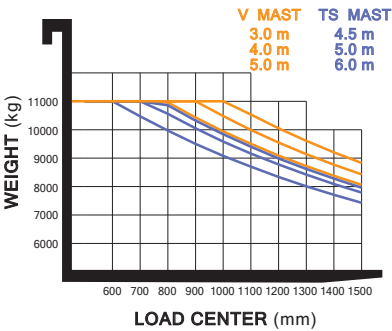
Engine		Cummins Q5B6.7	Cummins Q5B6.7	Cummins Q5B6.7
6. 1	Engine manufacturer / type	Cummins Q5B6.7	Cummins Q5B6.7	Cummins Q5B6.7
6. 2	Engine power acc. to ISO 1585	kW	122	122
6. 3	Rated speed	1/min	2300	2300
6. 4	No. of cylinder / cubic capacity	/cm³	6 / 6690	6 / 6690
6. 5	Fuel consumption acc. To VDI cycle	ℓ/h	11.1	11.4
				12.1

Other Details

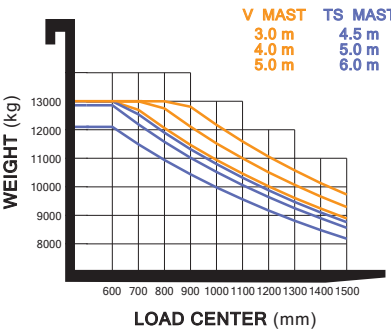
8. 1	Type of drive control	Power Shift	Power Shift	Power Shift
8. 2	Operating pressure for attachments(system/attach)	210 / 165	210 / 165	210 / 165
8. 3	Oil volume for attachments ℓ/min	159	159	179
8. 4	Sound level at driver's ear according to DIN 12 053	73.5	73.5	73.5

Load Capacity

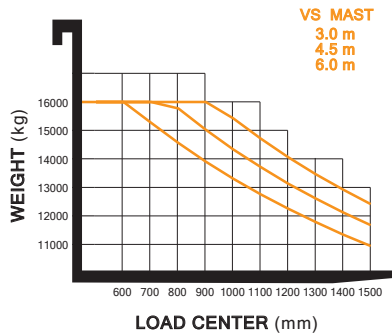
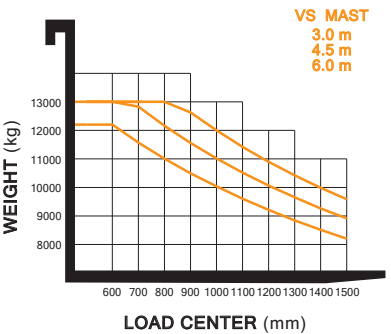
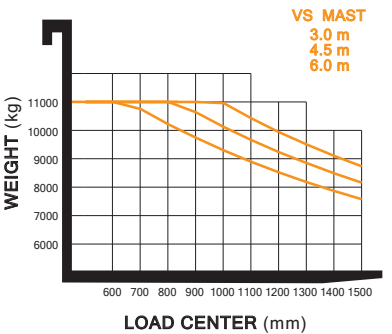
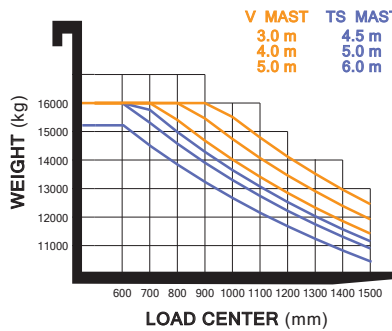
110D-9



130D-9



160D-9



- * Standard and optional equipment may vary per country. Contact your Hyundai dealer for more information.
- * The photos may include attachments and optional equipment that are not available in your area.
- * Materials and specifications are subject to change without advance notice.
- * All imperial measurements rounded off to the nearest pound or inch.

PLEASE CONTACT

