# Major equipment

		Standard O: Option
	Engine	DX50 Series Diesel
Wet	t disc brake	•
Engine-related	EPA Tier 3/EU Stage IIIA compliant Diesel engine	•
	Electronic engine control system	
	Heavy duty High Pressure Common Rail system	
	New combustion system	•
	Air to air charge air cooling system	•
	Overheat prevention function	•
Ë	Auto engine warm-up function	•
	Auto air pre-heat function	•
	Large capacity radiator	•
	Dual floating structure	•
eq	New operator's seat with suspension	•
Jat	Tiltable steering column	•
g-re	Electric forward/reverse lever	•
ij	Combination switch (turn signal light & light switch)	
<b>Traveling-related</b>	Indicator auto-return mechanism	•
Ë	Wide slip-resistant step	•
	Paper binder at engine hood	
	Meter panel	•
Ŝ	Hourmeter (6-digit)	
Mete	Engine cooling water temperature gauge	•
≥	Torque converter oil temperature gauge	•
	Fuel gauge	•
	Lifting interlock lamp	•
ors	Charge warning lamp	•
sate	Neutral indicator	•
ğ	Failure indicator	•
iŞ.	Engine failure indicator	•
Safety indicators	Air cleaner element warning lamp	•
Sa	Cooling water level warning lamp	•
	Glow indicator	•
m	Large capacity alternator	•
) ju	Quick auto glow system	•
components	Neutral safety function	•
ш	Auto fuse	•
ဝ	Low maintenance battery	•
ric	Engine key stop function	•
Electric	Halogen headlight	
Ш	Rear combination light	
	Operator Presence Sensing system	
	Operator Presence Sensing system	
	Sedimenter with priming pump  Cyclone air cleaner (double clement)	
	Cyclone air cleaner (double element)  Parking brake with release button	
E		
isr	Fully hydrostatic power steering Steering knob synchronizer function	
Mechanism		
ec	Non-asbestos parking brake linings Key-off lift lock	
2	Floor mat	
	Assist grip	
	Overhead guard with front/rear conduits	
	Rearview mirrors (pair)	
	Full shield solid-state engine hood	
	Easy-removable floor panel	
erior	Easy-removable radiator cover	
ter	Engine hood lock	
Ĕ	Radiator reservoir tank	
	Jacking points	
	baoking points	

# Options

# Engine & power train related

- Extra fuel filters Pre-cleaner
- Upward exhaust muffler
- Automatic transmission
- Steering knob synchronizer function

#### Exterior

- Canvas cabin
- Steel cabin
- Heater
- Air-conditioner
- Tilt cylinder boots Power steering cylinder boots
- Fuel cap with key
- Front glass with wiper Fire extinguisher
- Rear under mirror

#### Electrical equipment

- Headlights, 2-stage (High-Low)
- Mast mount type head lights
- Rear working light
- Yellow strobe light

#### Meters & gauges

- Speedmeter with alarm
- Mast tilt angle gauge

### Tyre-related

Elastic cushion tyre (6.0 & 7.0 ton)

# Mast

- 2-stage free view mast The mast enables a wide view with
- 2-stage full free view mast This is ideal for sites with height limitations, where the large free lift is required.

excellent forward visibility.

3-stage full free view mast The mast extends in three stages and high level loading is easily performed.

# Attachments

#### Side shifter

The fork may be shifted sideways together with its backrest, both to the right and to the left.

#### Fork positioner

The operator is able to adjust the fork spread width from the operator's seat.

#### Fork positioner with side shifter

The combination of fork positioner and side shifter.

#### Fork positioner with side shift function

This attachment is a fork positioner which has a simultaneous fork movement function to act as a side

### Hinged fork

The fork tilts up/down using its hinge as a fulcrum.

#### Bale clamp

This attachment is recommended for handling packed pulp or raw cotton. The bale is efficiently held from both sides by the bale clamps.

Komatsu Utility Tochigi Plant has been certified according to ISO 9001 Quality Management System and ISO 14001 Environmental Management System.

For other options and attachments, please consult with your Komatsu dealer. Features and specifications may vary in different countries and regions. Please contact your Komatsu dealer to confirm machine details in your region. Forklift trucks in this catalog may be shown with optional equipment. Komatsu products and specifications are subject to change without notice. The performance values indicated herein represent nominal values obtained under typical operating conditions.

PRINTED WITH SOY INK



Form No. BR-DX50emi-001-ENG

Printed in Japan 0608-1-05Shi

This brochure is printed on FSC-certified paper using soybean ink as being environment-friendly.

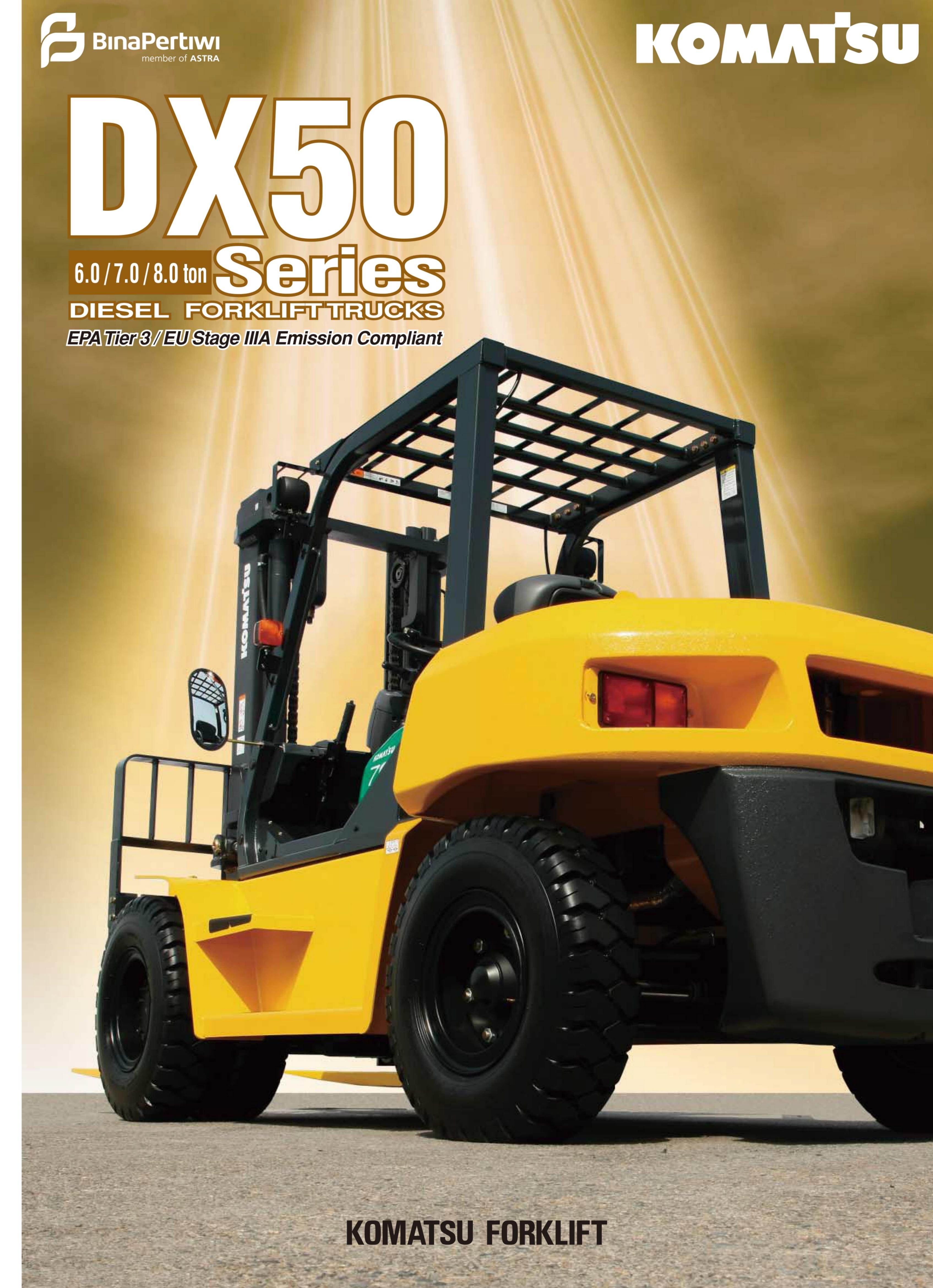
# Komatsu Utility Co., Ltd. FORKLIFT COMPANY

Head office: 2-4-1, Shiba-koen, Minato-ku, Tokyo 105-0011, Japan

URL: http://www.komatsu-utility.com

Fax: +81-3-3433-3120





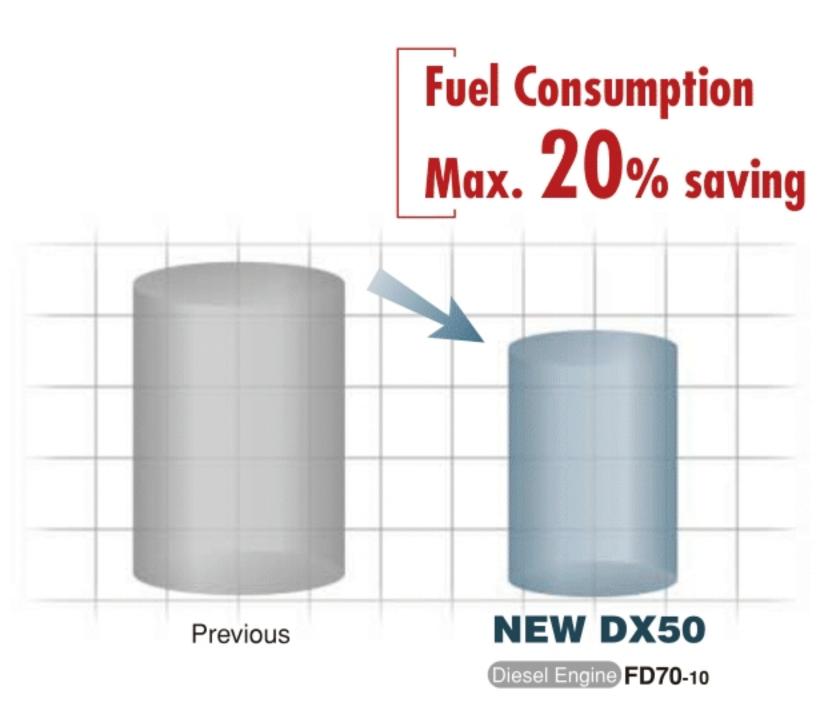
# "Reducing Total Operating Costs" with Komatsu Innovative Technologies

The fusion of advanced engines and Komatsu's unique hydraulic system enables the new DX50 Series to achieve a significant reduction in the total operation costs and facilitates superior work performance. Our innovative machines challenge the conventional concept of the forklift.

# Komatsu's Hydraulic System and the NEW Diesel Engine Reduce the Fuel Consumption KOMATSU



In order to minimize the engine load, the new DX50 Series adopts the Komatsu's latest hydraulic system. The compact 3.3-liter engine features superior performance and achieves up to 20% less fuel consumption.

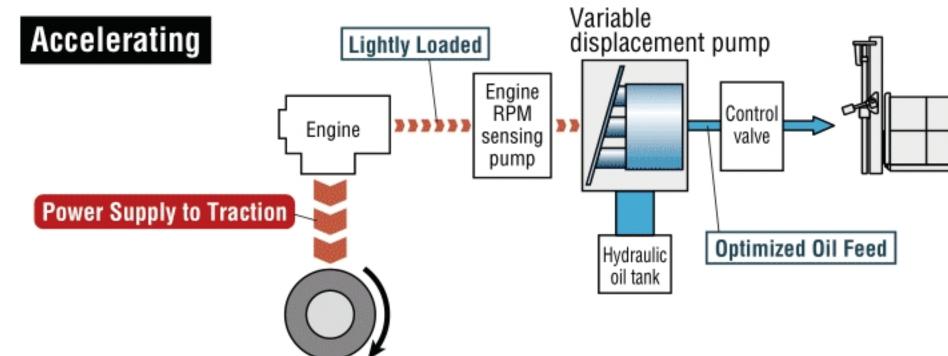


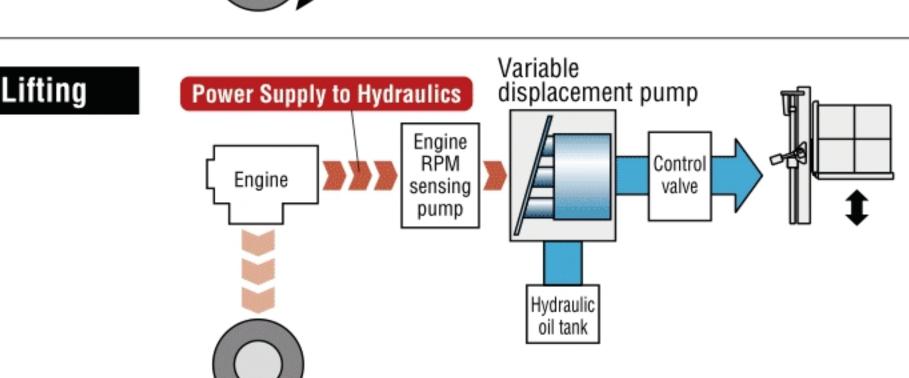
Komatsu tested data, comparison with FD70-8. The results may vary depending on conditions.

#### Komatsu's Latest Hydraulic System Contributes Low Fuel Consumption

As the engine speed changes, the engine RPMs control pump detects the engine revs. and controls the oil feed to reduce the load on the engine. This hydraulic system offers optimized balancing of traveling and loading work, making it ideal for forklift operations that often put complex demands on the engine such as starting/acceleration while performing lift operations.

Optimally controlled hydraulic oil results in;
Optimized balancing of traveling and loading work
Achieved compact 3.3 liter engine equip





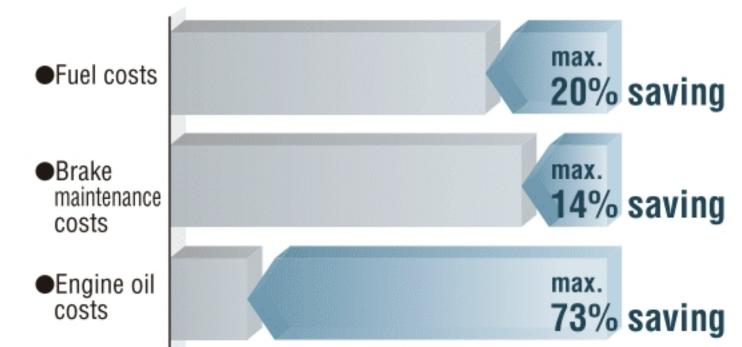
# **Greatly Reduced Total Operating Costs**

The sealed wet disc brakes can withstand about 10,000\* hours operation without maintenance and eliminating frequent brake shoes replacements. The engine oil replacement interval has been extended for 300 hours, which reduces oil costs. The reduced maintenance costs and significant fuel saving provide a total operating cost reduction of about 14% over eight years of usage.

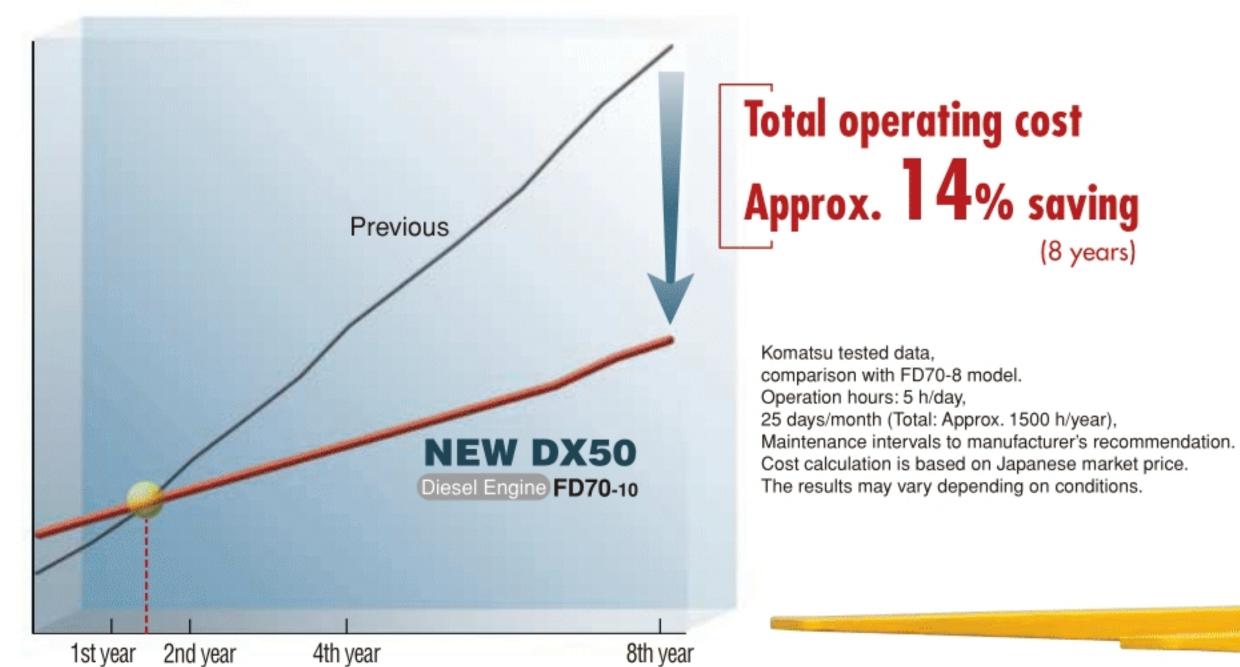
\*A periodical check and oil replacement are necessary.

Komatsu genuine engine oil is recommended.

■ Running cost (Accumulated costs for 8 years)
Assuming FD70-8 as 100%;



■ Total operating cost (\*Image)



# The Advanced Technology Offers Reduced CO2 Emissions



The new DX50 Series feature the SAA4D95LE-5-A engine in combination with Komatsu's efficient hydraulic system. This arrangement enables a reduction in annual CO<sub>2</sub> emissions by about 7.1 tons.

Annual CO<sub>2</sub> emissions

About **7.1** tons reduction



Komatsu tested data, comparison with FD70-8 model.

The CO₂ emission coefficient is given in the Common Guidelines of the Japanese METI and MLIT (April 2006).

The CO<sub>2</sub> emission coefficient is given in the Common Guidelines of the Japanese METI and MLIT (April 20). The results may vary depending on conditions.

#### An Advanced Diesel Engine Conforms to the Latest Emission Regulations

Low fuel consumption and low environmental impact are enabled by elimination of excess combustion and the use of the combined technologies of the high pressure common rail system, electronic control system, new combustion system and air to air charge air cooling system.

EPA Tier 3 / EU Stage IIIA Emission Compliant





<u>2</u>



# Superior "Productivity" and "Reliability" Satisfy Demanding Operations

#### **Durable Wet Disc Brakes to Withstand Severe Conditions**

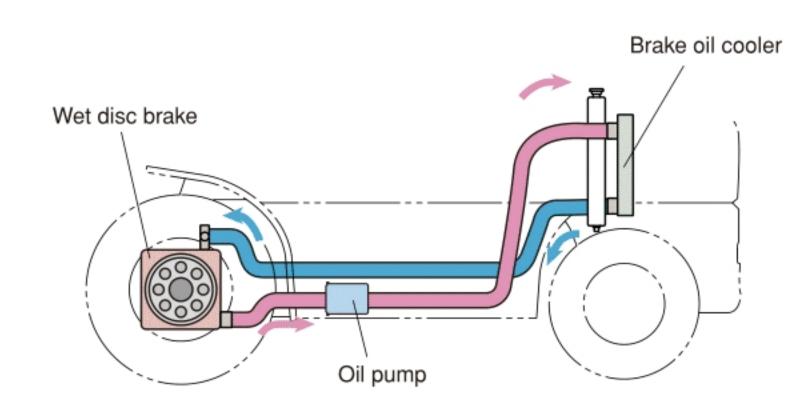


The wet disc brake is sealed with oil to block dust penetration, providing durable, water resistant and fade resistant characteristics. Smooth, stable braking provides "Productivity" and "Reliability" in demanding operation.



#### A Cooling System to Achieve **Increased Braking Stability**

The oil in the wet disc brake system is circulated through the brake oil cooler. This mechanism ensures stable braking under a heavy work load and prevents deterioration of the braking force due to raised oil temperatures.



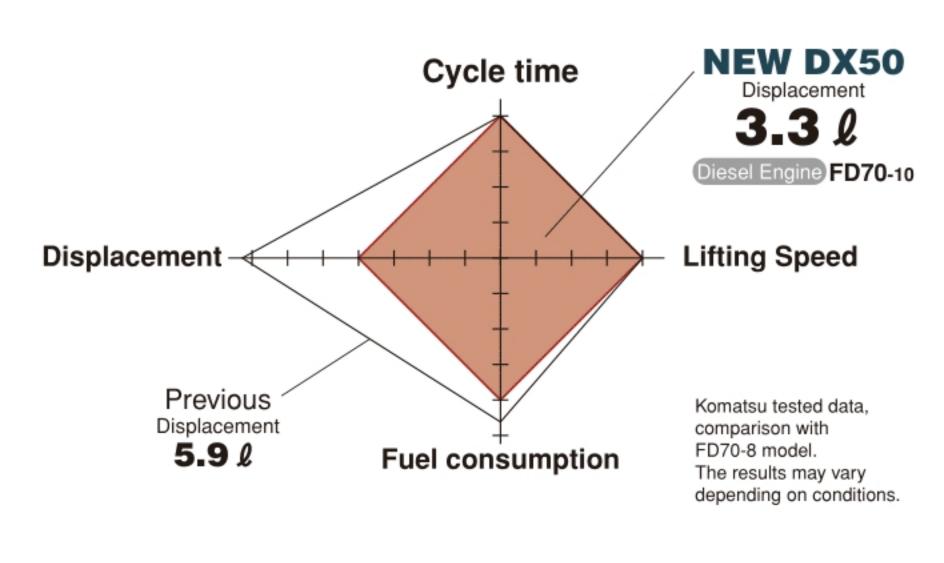
- Steady breaking is always achieved.
- Overheating of the brakes is prevented.
- Downtime and maintenance costs are reduced.

## First-class Productivity is Achieved

#### First-class Cycle Time

The new DX50 Series adopts a compact 3.3-liter engine in conjunction with Komatsu's advanced hydraulic system. This arrangement features high productivity and achieves a first class cycle time.

The NEW DX50 Series achieves high productivity equivalent to the previous DX20 Series.



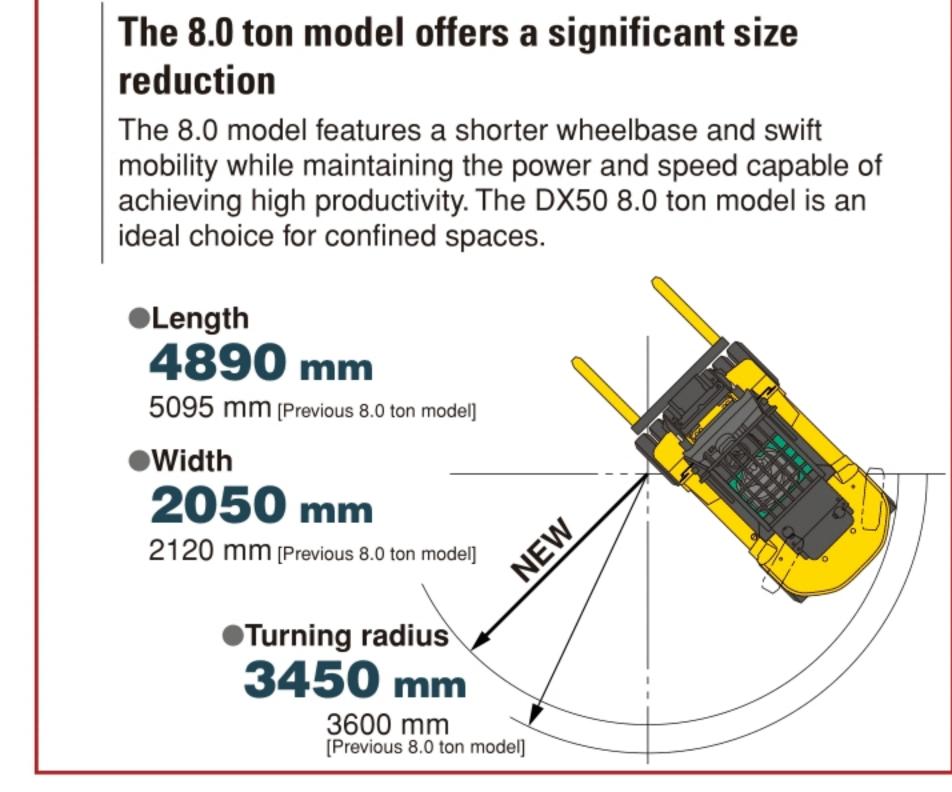
Lifting Speed (Loaded) Diesel Engine FD70-10 450 mm/s

■Traveling Speed (Unloaded)

31.0 km/h

#### Fully Hydrostatic Power Steering for Superb Maneuver

The FHPS (Fully Hydrostatic Power Steering) mechanism facilitates fully stationary steering as well as switchback operations using the small diameter steering wheel. The system has a superior response capability so that the operator can pick up or place cargo flexibly even in a narrow space. In addition, steering knob synchronizer function is available as an option.



# **Excellent Durability for Demanding Work**

#### Rugged Design with High Rigidity

The high rigidity mast, frame, front and rear axles ensure outstanding reliability even when performing heavy-duty work.

#### [Mast]

A heavy mast rail profile for excellent rigidity.

#### [Frame]

The successful high rigidity structure of previous models is adopted.

[Front axle] The proven reliable design of previous models is adopted.

#### [Rear axle]

The durability of the power steering cylinders is improved.

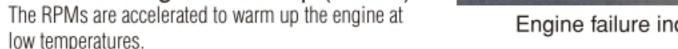
#### Improved Reliabilities for the Hydraulic and **Electrical Systems**

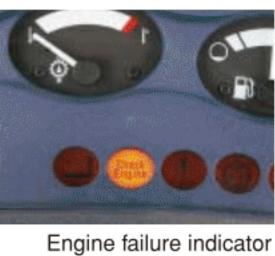
The main hydraulic pipe connectors are face-sealed using

#### Engine Protection for Maintaining the Engine in Top Condition

The electronic engine controls upgrade the performance of the engine protection (fail-safe functions).

- Trouble diagnosis: Engine malfunctions are automatically detected and an alarm lamp blinks.
- Overheating prevention (Diesel): The engine output and RPMs are reduced when
- the coolant temperature is high. • Automatic engine warm-up (Diesel):





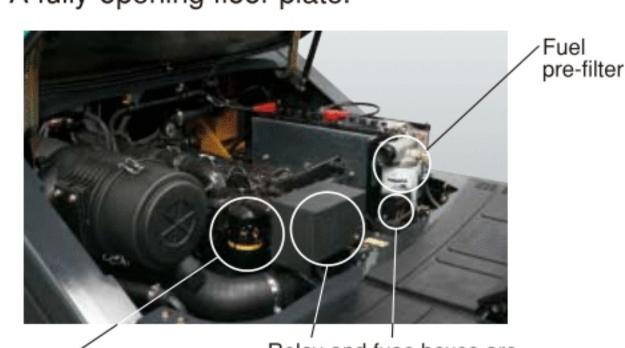
• Automatic air pre-heating (Diesel): The engine is automatically pre-heated when starting it at low temperatures.



# Careful Design Facilitates Inspection and Servicing

#### Filter Layout Optimization for Improved Serviceability

A fully-opening floor plate.



Relay and fuse boxes are Fuel máin filter arranged in the same location

#### Easy Radiator Cleaning



#### Wide Opening Engine Hood with a Lock for Easy Servicing



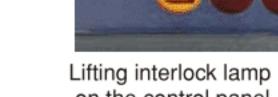
locking provides

# Advanced Design in Pursuit of "Safety and Comfort"

### **Effective Safety Mechanisms**

#### "Operator Presence Sensing system"

The Operator Presence Sensing system incorporates a Lifting/Traveling interlocking function. This is a safety function for disabling traveling and lifting mechanisms when the operator is not correctly occupying the seat. An alarm buzzer sounds if the operator leaves the seat while traveling.





When the operator

leaves the seat,

OPS is activated

on the control panel

\*The traveling interlocking function only disengages traction and does not automatically apply the brakes. \*Operator Presence Sensing system: ISO3691-1 compliant

#### A Neutral Safety Function for Preventing a Sudden Start

The engine cannot be started unless the F-R switch is in the neutral position.



Neutral indicator for at-a-glance information

#### Parking Brake Alarm



type brake lever

ISO-Compliant Enhanced Overhead Guard for Operator's Protection



#### Comfortable Braking with the Organ-type Pedal Suspension Seat and Cab Floating Structure **Absorb Vibrations**

The deluxe suspension seat features improved vibration resistance and reduces the burden on the body. The cab floating structure enables the entire cab to be isolated from the frame and the rubber cushioning of the engine mounts reduces

the vibrations transmitted from the engine and road surface. The overall design concept is operator and load friendly.

- · Six-step reclining backrest
- 170 mm slide distance backward and forward
- · Seat cushion adjustment dial
- · The retractable seat belt

The organ-type pedal allows an operator to control braking comfortably without lifting the heel from the floor.



#### The Low Noise Design

The low-noise design of the compact engine reduces unpleasant noise levels during operation.

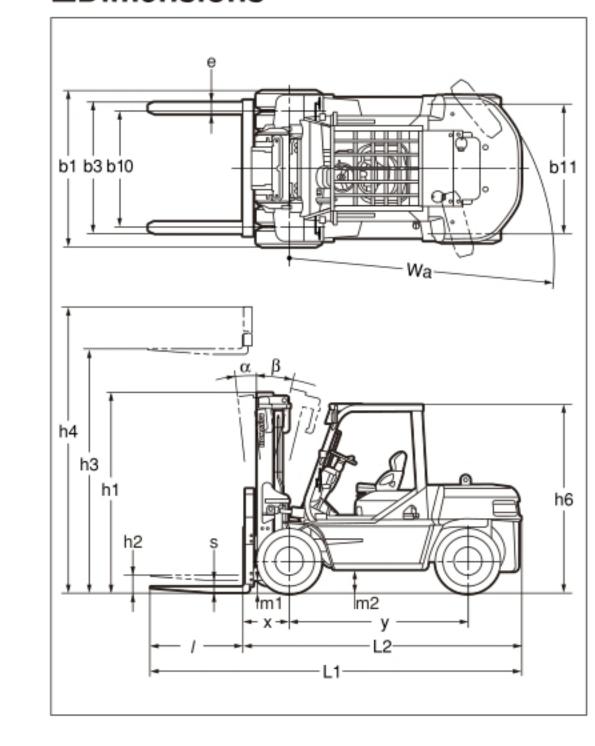
#### DX50 Series Specifications

Manufacturer's Designation

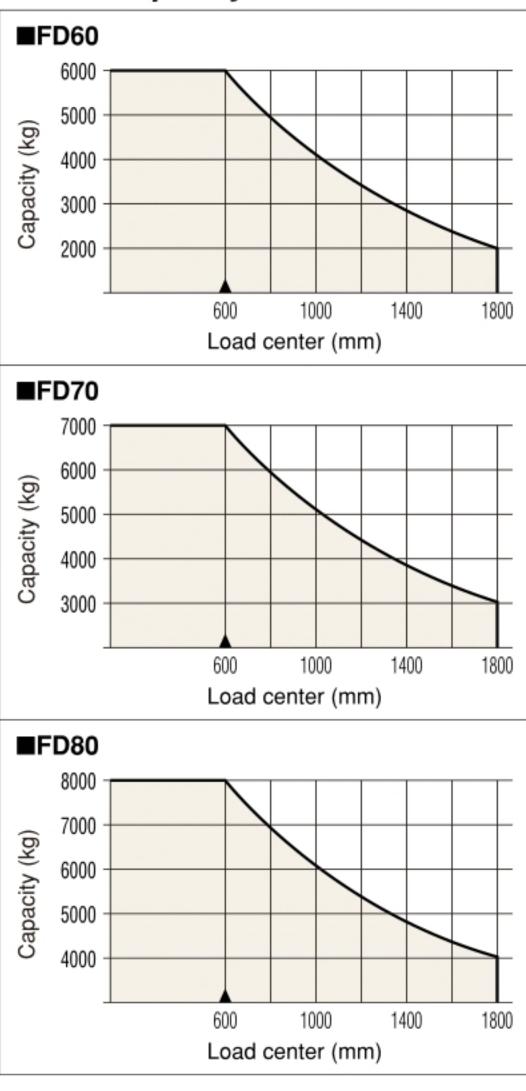
1.2 Model

S	1.3	Power Type	Elect	ric. Dies	el, Gasoline, LPG, Cable		Diesel	Diesel	Diesel
Characteristics	1.4	Operation Type		,	<u> </u>		Sitting	Sitting	Sitting
teri	1.5	Rated Capacity	0	Q Rated Capacity			6000	7000	8000
rac	1.6	Load Center	С		Load Center	kg mm	600	600	600
Sha	1.8	Load Distance	x		xle Center to Fork Face	mm	580	585	635
0	1.9	Wheelbase	y	11011117	inio Contor to Fork Face	mm	2300	2300	2300
	2.1	Service Weight	,			kg	8555	9245	10910
_	2.2	Oct vice vveignt			Front	kg	12950	14330	16565
igh	2.2.1		Loaded		Rear	kg	1605	1915	2345
We	2.3	Axle Loading			Front	kg	3890	3725	4270
	2.3.1			aded	Rear	kg	4665	5520	6640
	3.1	Tyre Type			Tical	Ng	Pneumatic	Pneumatic	Pneumatic
	3.2	туге туре	Front	Front					8.25-15-18PR(I)
s)	3.3	Tyre Size	Rear				1,		8.25-15-18PR(I)
Dimensions Tyres Weight	3.5	Number of Wheel	Front/Rear (x:		-driven)		4x/2	4x/2	4x/2
_	3.6	Tread, Front		b10			1470	1470	1540
	3.7	Tread, Rear	b11			mm	1640	1640	1640
	4.1	Tilting Angle	α/β	Forwar	d/Backward	degree	6/12	6/12	6/12
	4.2	Mast Height, Lowered	h1		e Mast		2500	2585	2710
				-		mm			
	4.3	Std. Free Lift	h2		Std. Mast, from Ground	mm	215	220	220
	4.4	Std. Lift Height	h3	-	e Std. Mast, from Ground	mm	3000	3000	3000
	4.5	Mast Height, Extended	h4	Z-Stage	e Std. Mast	mm	4350	4350	4350
	4.7	Height, Overhead Guard	h6			mm	2440	2440	2440
L S	4.19			L1		mm	4700	4785	4890
Sio	4.20	Length, to Fork Face	L2			mm	3480	3565	3670
nen	4.21	Width, at Tyre	b1	Double		mm	1980	1980	2050
Ë	4.22		s/e/l		ess x Width x Length	mm	65 x 150 x 1220		
	4.23			2328, Iy	pe A/B/no		Class4, A	Class4, A	Class4, A
	4.24	Width, Fork Carriage	b3	Hadaa	M	mm	1690	1690	1800
	4.31	Ground Clearance	m1	Under		mm	220	220	235
	4.32	Dight Apple Otenting Aigle	m2		ter of Wheelbase	mm	295	295	295
	4.33	0 0		Plus lo	Plus load length		3830	3935	4085
	4.35	Turning Radius	Wa	od 10t/0	) m d	mm km/h	3250	3350	3450
	5.1	Travel Speed (FWD)  Lifting Speed	Loaded, 1st/2nd			km/h	11.0/29.0	11.0/29.0	11.0/26.0
			Unloaded, 1st/2nd Loaded			km/h	12.0/31.0	12.0/31.0	12.0/31.0
	5.2					mm/s	500	450	400
ချင			Unloaded			mm/s	560	500	450
Performance	5.3	Lowering Speed	Unloaded			mm/s	550	480	460
for	F.C	May Drawbar Dull	************		m/h 0 min rating	mm/s	580	500	500
Per	5.6	Max. Drawbar Pull	Loaded 1.5 km/h, 3 min rating			kN	44	44	44
	5.8	Max. Gradeability	Loaded 1.5 km/h, 3 min rating  Operation/Type			%	29	29	24
	5.10	Service Brake					Foot/Hydraulic	Foot/Hydraulic	Foot/Hydraulic
	5.11	Parking Brake		ation/Co	TILIOI		Hand/Mechanical FHPS	Hand/Mechanical FHPS	Hand/Mechanical
	5.12	Steering	Type			Wah			FHPS
	6.4	Battery	Voltage/Capacity at 5-hour rating			V/ah	24/52 Kamatau	24/52 Kamatau	24/52 Kamatau
	7.1	Make					Komatsu SAA4D95LE-5-A	Komatsu SAA4D95LE-5-A	Komatsu
9	7.0	Model  Reted Output SAE not				LM			SAA4D95LE-5-A
Engine	7.2	Rated Output, SAE net				kW	2250	69 2250	69 2250
	7.3	Rated RPM				min-1	2250		
<u>.</u>	7.3.1	•				Nm@min-1	343@1600	343@1600	343@1600
	7.4	No. of Cylinder/Displacement				cm <sup>3</sup>	4-3260	4-3260	4-3260
	7.6	Fuel Tank Capacity				Ltr	140	140	140
Others	8.2	Relief Pressure for Attachment				bar Ltr	181	181	181
Oth	8.2.1						TOPOELOW	115	TOPOELOW
	8.7	Transmission					TORQFLOW	TORQFLOW	TORQFLOW

#### ■Dimensions



#### ■Load capacity curve



#### ■Right angle stacking aisle width

9	,	gic	luon	mg u	1010	, i i di ci	•	
**********	Length of	Width of pallet (mm)						
model	pallet (mm)	800	900	1000	1100	1200	1300	1400
	800	5050	5050	5050	5050	5050	5050	5050
	900	5050	5050	5050	5050	5050	5050	5050
	1000	5050	5050	5050	5050	5050	5050	5050
6.0t	1100	5050	5050	5050	5050	5050	5050	5050
	1200	5050	5050	5050	5050	5050	5050	5050
	1300	5125	5125	5125	5125	5125	5125	5125
	1400	5225	5225	5225	5225	5225	5225	5225
	800	5155	5155	5155	5155	5155	5155	5155
	900	5155	5155	5155	5155	5155	5155	5155
	1000	5155	5155	5155	5155	5155	5155	5155
7.0t	1100	5155	5155	5155	5155	5155	5155	5155
	1200	5155	5155	5155	5155	5155	5155	5155
	1300	5235	5235	5235	5235	5235	5235	5235
	1400	5335	5335	5335	5335	5335	5335	5335
	800	5305	5305	5305	5305	5305	5305	5305
	900	5305	5305	5305	5305	5305	5305	5305
	1000	5305	5305	5305	5305	5305	5305	5305
8.0t	1100	5305	5305	5305	5305	5305	5305	5305
	1200	5305	5305	5305	5305	5305	5305	5305
	1300	5385	5385	5385	5385	5385	5385	5385
	1400	5485	5485	5485	5485	5485	5485	5485

# ■Maximum load and overall height of mast by lifting height (2-stage free view mast, double tyre, load center 600 mm)

FD70-10

maximum	L	oad capacity (k	(g)	Overall height [Lowered / Extended*] (mm)			
fork height (mm) model	FD60	FD70	FD80	FD60	FD70	FD80	
3000	6000	7000	8000	2500/4350	2585/4350	2710/4350	
3300	6000	7000	8000	2650/4650	2735/4650	2860/4650	
3500	6000	7000	8000	2750/4850	2835/4850	2960/4850	
3700	6000	7000	8000	2850/5050	2935/5050	3060/5050	
4000	6000	7000	8000	3000/5350	3085/5350	3210/5350	
4300	6000	7000	8000	3150/5650	3235/5650	3360/5650	
4500	6000	7000	8000	3350/5850	3435/5850	3560/5850	
5000	6000	7000	8000	3700/6350	3785/6350	3910/6350	
5500	6000	6700	7700	4050/6850	4135/6850	4260/6850	
6000	5700	6500	7500	4300/7350	4385/7350	4510/7350	

\* With standard load backrest

Aisle width shownin this table are not inclusive any operational clearance.