

GRENDIA ES

Diesel and LPG Counterbalance
4 Wheel Pneumatic Tyres • 1.5 – 3.5 tonnes

FD/FG15N
FD/FG18N
FD/FG20CN
FD/FG20N
FD/FG25N
FD/FG30N
FD/FG35N

Outstanding performance... exceptional value for money

Developed to help your operator achieve maximum productivity, GRENDIA sets the highest of standards for IC engine counterbalance forklift trucks. No other forklift truck includes so many advanced features in its standard specification. That's why GRENDIA is such unbeatable value for money. What's more, its durable components, low-maintenance design and fuel economy will continue to keep down the cost of forklift ownership, year after year.

The name GRENDIA means 'Green Diamond': green for environmental protection; diamond for high quality, reliability and sound investments.

Fast, stable and exceptionally powerful, GRENDIA forklift trucks offer a potent combination of high efficiency, low emissions and very low noise levels. To that, Mitsubishi has added a host of ergonomic features to maximise comfort, control and precision. The result is a forklift that can be relied upon to deliver top performance, whatever the application, whatever the conditions.

Frame and body

- **Stylish but purposeful design** reflects this machine's intention to work productively, non-stop, whatever the conditions.
- **Robust construction** has been designed and rigorously tested to ensure high stability, rigidity and protection.

Mast and fork assembly

- **Heavy-duty, high-visibility masts** give dependable, durable performance and clear forward view, for handling of heavy loads in tough environments with total confidence.

Drive

- **Powerful diesel and LPG engines** are proven to industrial standard and comply with latest emission control regulations.
- **Advanced diesel technology** lowers fuel consumption and ensures complete, clean burning – as well as low noise levels.
- **Advanced LPG technology** includes an engine management system for precise control of performance – with high fuel economy and minimal emissions.
- **Advanced, fully floating powertrain** maximises gradeability and travel speed while minimising noise and vibration.



GRENDIA ES

FD15-35N Models

Diesel Counterbalance • 4 Wheel Pneumatic Tyres • 1.5 – 3.5 tonnes

Characteristics										
1.1	Manufacturer (abbreviation)		Mitsubishi	Mitsubishi	Mitsubishi		Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi
1.2	Manufacturer's model designation		FD15N	FD18N	FD20CN		FD20N	FD25N	FD30N	FD35N
1.3	Power source: (battery, diesel, LP gas, petrol)		Diesel	Diesel	Diesel		Diesel	Diesel	Diesel	Diesel
1.4	Operator type: pedestrian, (operator)-standing, -seated		Seated	Seated	Seated		Seated	Seated	Seated	Seated
1.5	Load capacity	Q	kg	1500	1750	2000	2000	2500	3000	3500
1.6	Load centre distance	c	(mm)	500	500	500	500	500	500	500
1.8	Load distance, axle to fork face	x	(mm)	400	400	415	455	455	490	490
1.9	Wheelbase	y	(mm)	1400	1400	1400	1600	1600	1700	1700
Weight										
2.1	Truck weight, without load / including battery (simplex mast, lowest lift height)		kg	2590	2780	3020	3440	3720	4360	4800
2.2	Axle loading with maximum load, front/rear (simplex mast, lowest lift height)		kg	3580 / 480	3940 / 570	4430 / 670	4690 / 730	5480 / 730	6530 / 830	7270 / 1000
2.3	Axle loading without load, front/rear (simplex mast, lowest lift height)		kg	1110 / 1450	1060 / 1700	1120 / 1980	1500 / 1920	1480 / 2230	1780 / 2580	1720 / 3050
3.1	Tyres: V=solid, L=pneumatic, SE=solid pneumatic - front/rear			SE / SE (L / L)	SE / SE (L / L)	SE / SE	SE / SE (L / L)	SE / SE (L / L)	SE / SE (L / L)	SE / SE (L / L)
3.2	Tyre dimensions, front			6.50-10	6.50-10	6.50-10	7.00-12	7.00-12	28x9-15	250-15
3.3	Tyre dimensions, rear			5.00-8	5.00-8	5.00-8	6.00-9	6.00-9	6.50-10	6.50-10
3.5	Number of wheels, front/rear (x=driven)			2x / 2	2x / 2	2x / 2	2x / 2	2x / 2	2x / 2	2x / 2
3.6	Track width (centre of tyres), front	b10	(mm)	890	890	890	960	960	1060	1060
3.7	Track width (centre of tyres), rear	b11	(mm)	900	900	900	980	980	980	980
Dimensions										
4.1	Mast tilt, forwards/backwards	α/β	°	6 / 10	6 / 10	6 / 10	6 / 10	6 / 10	6 / 10	6 / 10
4.2	Height with mast lowered (see tables)	h1	(mm)	2140	2140	2140	2145	2145	2165	2300
4.3	Free lift (see tables)	h2	(mm)	80	80	80	100	100	100	100
4.4	Lift height (see tables)	h3	(mm)	3290	3290	3290	3300	3300	3270	3300
4.5	Overall height with mast raised	h4	(mm)	4340	4340	4340	4360	4360	4330	4360
4.7	Height to top of overhead guard	h6	(mm)	2145	2145	2145	2154	2154	2173	2183
4.8	Seat height	h7	(mm)	1109	1109	1109	1114	1114	1114	1114
4.12	Tow coupling height	h10	(mm)	290	290	290	310	310	330	340
4.19	Overall length	l1	(mm)	3330	3371	3429	3558	3625	3795	3860
4.20	Length to fork face (includes fork thickness)	l2	(mm)	2260	2301	2359	2488	2555	2725	2790
4.21	Overall width	b1/b2	(mm)	1065/1480	1065/1480	1065/1480	1150 / 1640	1150 / 1640	1275/1710	1275/1710
4.22	Fork dimensions (thickness, width, length)	s / e / l	(mm)	35x100x1070	35x100x1070	35x100x1070	40 x 100 x 1070	40 x 100 x 1070	45 x 125 x 1070	45 x 125 x 1070
4.23	Fork carriage to DIN 15 173 A/B/no			2A	2A	2A	2A	2A	3A	3A
4.24	Fork carriage width	b3	(mm)	920	920	920	1000	1000	1000	1000
4.31	Ground clearance under mast, with load	m1	(mm)	110	110	110	115	115	135	150
4.32	Ground clearance at centre of wheelbase, with load (forks lowered)	m2	(mm)	135	135	135	135	135	165	170
4.33	Working aisle width with 1000 x1200 mm pallets, crosswise	Ast	(mm)	3550	3580	3635	3855	3885	4070	4130
4.34	Working aisle width with 800 x1200 mm pallets, crosswise	Ast	(mm)	3350	3380	3435	3655	3685	3870	3930
4.35	Turning circle radius	Wa	(mm)	1950	1980	2022	2196	2233	2380	2440
4.36	Minimum distance between centres of rotation	b13	(mm)							
Performance										
5.1	Travel speed, with/without load		km/h	19 / 19.5	19 / 19.5	19 / 19.5	19 / 19.5	19 / 19.5	19 / 19.5	19 / 19.5
5.2	Lifting speed, with/without load		m/s	0.60 / 0.65	0.60 / 0.65	0.60 / 0.65	0.64 / 0.67	0.64 / 0.67	0.51 / 0.54	0.43 / 0.46
5.3	Lowering speed, with/without load		m/s	0.52 / 0.50	0.52 / 0.50	0.52 / 0.50	0.50 / 0.50	0.50 / 0.50	0.53 / 0.50	0.42 / 0.40
5.5	Rated drawbar pull, with/without load		N	11800 / 11500	11700 / 11500	11400 / 11500	17200 / 16700	17000 / 16600	16600 / 16600	15800 / 15800
5.7	Gradeability, with/without load		%	32/-	28/-	24 / -	35/-	30/-	24 / -	20 / -
5.9	Acceleration time (10 metres) with/without load		s							
5.10	Service brakes (mechanical/hydraulic/electric/pneumatic)			Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic	Hydraulic
IC Engine										
7.1	Manufacturer / Type			S4Q2 VE 28,0kW01	S4Q2 VE 28,0kW01	S4Q2 VE 28,0kW01	S4S-DPB 38kW	S4S-DPB 38kW	S4S-DPB 38kW	S4S-DPB 38kW
7.2	Rated output to ISO 1585		kW	28	28	28	38	38	38	38
7.3	Rated speed to DIN 70 020		rpm	2500	2500	2500	2300	2300	2300	2300
7.4	Number of cylinders / cubic capacity		/cm3	4 / 2505	4 / 2505	4 / 2505	4 / 3331	4 / 3331	4 / 3331	4 / 3331
7.5	Fuel consumption according to VDI 60 cycle		l/h / kg/h	*	*	*	*	*	*	*
Miscellaneous										
8.1	Type of drive control			Powershift / 1	Powershift / 1	Powershift / 1	Powershift / 1	Powershift / 1	Powershift / 1	Powershift / 1
8.2	Maximum operating pressure for attachments		bar	180	180	180	180	180	180	180
8.3	Oil flow for attachments		l/min	62	62	62	75	75	73	73
8.4	Noise level, value at operator's ear (EN 12053)		dB(A)	*	*	*	*	*	*	*
8.5	Towing coupling design / DIN type, ref.			PIN	PIN	PIN	PIN	PIN	PIN	PIN



Auto-style controls



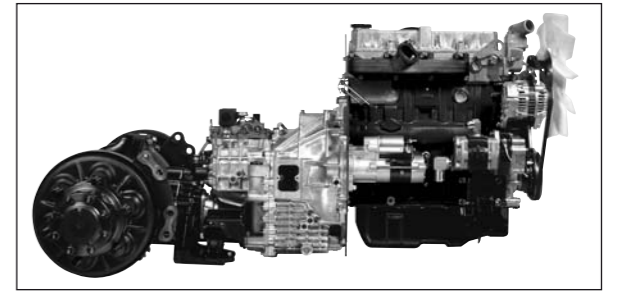
Adjustable steering column



Cowl-mounted levers



Stylish, robust construction



Fully floating powertrain

GRENDIA THE GREEN DIAMOND

The green colour of our trucks is a sign of our commitment to protecting the environment.

The diamond shapes in our logo are a reminder that – like a diamond – a Mitsubishi forklift truck guarantees quality, reliability and a sound investment.

Continuing improvement may lead to changes in these specifications.

* Available on request

GRENDIA ES

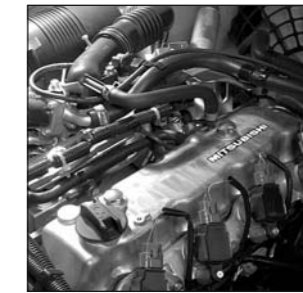
FG15-35N Models

LPG Counterbalance • 4 Wheel Pneumatic Tyres • 1.5 – 3.5 tonnes

Characteristics											
1.1	Manufacturer (abbreviation)		Mitsubishi	Mitsubishi	Mitsubishi		Mitsubishi	Mitsubishi	Mitsubishi	Mitsubishi	
1.2	Manufacturer's model designation		FG15N	FG18N	FG20CN		FG20N	FG25N	FG30N	FG35N	
1.3	Power source: (battery, diesel, LP gas, petrol)		LP gas	LP gas	LP gas		LP gas	LP gas	LP gas	LP gas	
1.4	Operator type: pedestrian, (operator)-standing, -seated		Seated	Seated	Seated		Seated	Seated	Seated	Seated	
1.5	Load capacity	Q	kg	1500	1750	2000		2000	2500	3000	3500
1.6	Load centre distance	c	(mm)	500	500	500		500	500	500	500
1.8	Load distance, axle to fork face	x	(mm)	400	400	415		455	455	490	490
1.9	Wheelbase	y	(mm)	1400	1400	1400		1600	1600	1700	1700
Weight											
2.1	Truck weight, without load / including battery (simplex mast, lowest lift height)		kg	2530	2730	2960		3340	3610	4250	4700
2.2	Axle loading with maximum load, front/rear (simplex mast, lowest lift height)		kg	3580 / 440	3940 / 520	4420 / 630		4650 / 660	5440 / 670	6490 / 760	7220 / 940
2.3	Axle loading without load, front/rear (simplex mast, lowest lift height)		kg	1110 / 1410	1060 / 1650	1110 / 1940		1460 / 1850	1440 / 2170	1730 / 2520	1680 / 2980
3.1	Tyres: V=solid, L=pneumatic, SE=solid pneumatic - front/rear			SE / SE (L / L)	SE / SE (L / L)	SE / SE		SE / SE (L / L)	SE / SE (L / L)	SE / SE (L / L)	SE / SE (L / L)
3.2	Tyre dimensions, front			6.50-10	6.50-10	6.50-10		7.00-12	7.00-12	28x9-15	250-15
3.3	Tyre dimensions, rear			5.00-8	5.00-8	5.00-8		6.00-9	6.00-9	6.50-10	6.50-10
3.5	Number of wheels, front/rear (x=driven)			2x / 2	2x / 2	2x / 2		2x / 2	2x / 2	2x / 2	2x / 2
3.6	Track width (centre of tyres), front	b10	(mm)	890	890	890		960	960	1060	1060
3.7	Track width (centre of tyres), rear	b11	(mm)	900	900	900		980	980	980	980
Dimensions											
4.1	Mast tilt, forwards/backwards	α/β	°	6 / 10	6 / 10	6 / 10		6 / 10	6 / 10	6 / 10	6 / 10
4.2	Height with mast lowered (see tables)	h1	(mm)	2140	2140	2140		2145	2145	2165	2300
4.3	Free lift (see tables)	h2	(mm)	80	80	80		100	100	100	100
4.4	Lift height (see tables)	h3	(mm)	3290	3290	3290		3300	3300	3270	3300
4.5	Overall height with mast raised	h4	(mm)	4340	4340	4340		4360	4360	4330	4360
4.7	Height to top of overhead guard	h6	(mm)	2145	2145	2145		2154	2154	2173	2183
4.8	Seat height	h7	(mm)	1109	1109	1109		1114	1114	1114	1114
4.12	Tow coupling height	h10	(mm)	290	290	290		310	310	330	340
4.19	Overall length	l1	(mm)	3330	3371	3429		3558	3625	3795	3860
4.20	Length to fork face (includes fork thickness)	l2	(mm)	2260	2301	2359		2488	2555	2725	2790
4.21	Overall width	b1/b2	(mm)	1065/1480	1065/1480	1065/1480		1150 / 1640	1150 / 1640	1275/1710	1275/1710
4.22	Fork dimensions (thickness, width, length)	s / e / l	(mm)	35x100x1070	35x122x1070	40x122x1070		40 x 100 x 1070	40 x 100 x 1070	45 x 125 x 1070	45 x 125 x 1070
4.23	Fork carriage to DIN 15 173 A/B/no			2A	2A	2A		2A	2A	3A	3A
4.24	Fork carriage width	b3	(mm)	920	920	920		1000	1000	1000	1000
4.31	Ground clearance under mast, with load	m1	(mm)	110	110	110		115	115	135	150
4.32	Ground clearance at centre of wheelbase, with load (forks lowered)	m2	(mm)	135	135	135		135	135	165	170
4.33	Working aisle width with 1000 x1200 mm pallets, crosswise	Ast	(mm)	3550	3580	3635		3855	3885	4070	4130
4.34	Working aisle width with 800 x1200 mm pallets, crosswise	Ast	(mm)	3350	3380	3435		3655	3685	3870	3930
4.35	Turning circle radius	Wa	(mm)	1950	1980	2022		2196	2233	2380	2440
4.36	Minimum distance between centres of rotation	b13	(mm)								
Performance											
5.1	Travel speed, with/without load		km/h	19 / 19.5	19 / 19.5	19 / 19.5		19 / 19.5	19 / 19.5	19 / 19.5	19 / 19.5
5.2	Lifting speed, with/without load		m/s	0.64 / 0.65	0.64 / 0.65	0.64 / 0.65		0.59 / 0.61	0.59 / 0.61	0.52 / 0.53	0.43 / 0.44
5.3	Lowering speed, with/without load		m/s	0.52 / 0.50	0.52 / 0.50	0.52 / 0.50		0.50 / 0.50	0.50 / 0.50	0.53 / 0.50	0.42 / 0.40
5.5	Rated drawbar pull, with/without load		N	15300 / 14800	15100 / 14700	14800 / 14800		15200 / 14900	15000 / 14800	17700 / 17700	16900 / 16900
5.7	Gradeability, with/without load		%	26/-	23/-	28/-		27/-	23/-	22/-	19/-
5.9	Acceleration time (10 metres) with/without load		s								
5.10	Service brakes (mechanical/hydraulic/electric/pneumatic)			Hydraulic	Hydraulic	Hydraulic		Hydraulic	Hydraulic	Hydraulic	Hydraulic
IC Engine											
7.1	Manufacturer / Type			K21 LE	K21 LE	K21 LE		K21 LE	K21 LE	K25 LE	K25 LE
7.2	Rated output to ISO 1585		kW	41	41	41		41	41	47	47
7.3	Rated speed to DIN 70 020		rpm	2700	2700	2700		2700	2700	2700	2700
7.4	Number of cylinders / cubic capacity		/cm3	4 / 2065	4 / 2065	4 / 2065		4 / 2065	4 / 2065	4 / 2488	4 / 2488
7.5	Fuel consumption according to VDI 60 cycle		l/h / kg/h	*	*	*		*	*	*	*
Miscellaneous											
8.1	Type of drive control			Powershift / 1	Powershift / 1	Powershift / 1		Powershift / 1	Powershift / 1	Powershift / 1	Powershift / 1
8.2	Maximum operating pressure for attachments		bar	180	180	180		180	180	180	180
8.3	Oil flow for attachments		l/min	60	60	60		68	68	73	73
8.4	Noise level, value at operator's ear (EN 12053)		dB(A)	*	*	*		*	*	*	*
8.5	Towing coupling design / DIN type, ref.			PIN	PIN	PIN		PIN	PIN	PIN	PIN

Continuing improvement may lead to changes in these specifications.

* Available on request



Powerful diesel and LPG engines



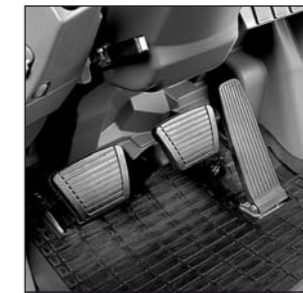
Clear-view overhead guard



GRENDIA - setting highest standards



Fully hydrostatic steering



Auto-style pedals



Fingertip hydraulic controls (optional)

GRENDIA THE GREEN DIAMOND

The green colour of our trucks is a sign of our commitment to protecting the environment.

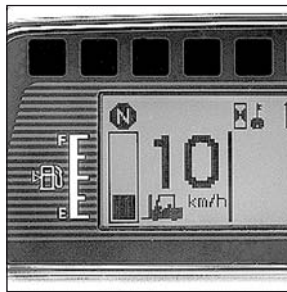
The diamond shapes in our logo are a reminder that – like a diamond – a Mitsubishi forklift truck guarantees quality, reliability and a sound investment.



Clear-view mast



Grip/horn for reversing (optional)



Informative LCD display

Steering system

- **Fully hydrostatic steering** is responsive, precise and effortless for the operator and requires little maintenance.

Brakes

- **Fully hydrostatic drum brakes** give excellent control with little effort and are easy to maintain.

Hydraulics

- **Powerful hydraulic system** offers high residual capacities for comfortable handling of heavier loads.

Electrical and control systems

- **Integrated Presence System (IPS)** prevents all movement of the truck and its mast if the operator is not seated, as well as providing a seatbelt warning light and parking brake alarm.
- **Operator identification system** can be activated – if owner wishes – to prevent unauthorised use of the truck.
- **Onboard diagnostics** and detailed fault diagnosis via computer connection alerts operators and service engineers to problems, speeds up servicing and prevents damage.

Operator compartment and controls

- **All-round visibility** together with ergonomic design and layout of all controls improves comfort, reduces fatigue, increases precision and raises productivity.
- **Fully adjustable, full-suspension seat** with hip restraints and safety belt keeps driver comfortable through the longest of shifts.
- **Adjustable steering column** with memory function helps guarantee optimum driving position, every time.
- **Cowl-mounted hydraulic levers** provide easy-to-reach, easy-to-use control of most operations.
- **Optional fingertip hydraulic controls** integrated into fully adjustable, comfortable armrest allow effortless precision.
- **Low noise level at operator's ear** and low vibration from powertrain increase comfort and reduce fatigue.
- **Clear, informative meter panel** includes essential warning lights and LCD display with speedometer, clock and dual hour meter.

Other features

- **Rapid access features** give quick and easy entry to all areas for checks and servicing.
- **Long service interval** and choice of high-quality components, together with low-maintenance design, minimises downtime and cost of ownership.

Options

- **Panel and fully tiltable cabins**
- **LED lights**
- **Fingertip hydraulic controls**
- **Grip/horn button for reversing**
- **Load weight indicator**
- **Clogging Prevention Package**
- **Clear-view roof panel**
- **Dust-Plus Protection Package**
- **Speed control**
- **Air conditioner or heater**

when **reliability** is **everything**

Like any product bearing the Mitsubishi name, our materials handling equipment benefits from the huge resources and cutting-edge technology of one of the world's largest corporations. So when we promise you **quality, reliability** and **value for money**, you know it's a guarantee we have the power to deliver.

Every model in our comprehensive, award-winning range of forklift trucks and warehouse equipment is built to a high specification and is designed to keep on working for you... day after day... year after year... whatever the job... whatever the conditions.

To ensure your truck stays in constant productive action, we have a network of local dealers – hand-picked for their commitment to customer care... and backed up by the Mitsubishi Forklift Trucks organisation. No matter where you are, we have a dealer close by – ready and willing to meet your needs.

That friendly local service covers everything from identifying the perfect model and configuration for your application to providing competitive, flexible finance and maintenance packages, unbeatable warranties, long and short term hire, and highly responsive field service and repairs... as well as the industry's quickest and most reliable parts supply.

Only Mitsubishi can give you this combination of global engineering excellence and outstanding local support... only Mitsubishi offers you such a quality product at such an affordable price... and only Mitsubishi places reliability as high as you do in its priorities. Contact your local dealer now and see what Mitsubishi can do for you.

You can find your nearest dealer at www.mitforklift.com



Integrated Presence System (IPS) provides:

- a hydraulic and travel interlock system that prevents all movement of the truck and its mast if the driver is not seated
- a seat belt warning light
- a parking brake alarm

The term 'Integrated Presence System' (IPS) is intended as a trading style, only to describe a number of design features on the Mitsubishi trucks to which IPS is applied. It does not imply that the truck can be driven without appropriate operator training and without due care and attention. The manufacturer (MCFE, Almere, the Netherlands) cannot accept any responsibility for any accidents or damage caused by incorrect or dangerous use of its equipment.



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NOTE: Performance specifications may vary depending on standard manufacturing tolerances, vehicle condition, types of tyres, floor or surface conditions, applications or operating environment. Trucks may be shown with non-standard options. Specific performance requirements and locally available configurations should be discussed with your distributor of Mitsubishi forklift trucks. Mitsubishi follows a policy of continual product improvement. For this reason, some materials, options and specifications could change without notice.