



# FORKLIFT ATTACHMENTS



# HINGED FORKS



Hinged forks are a versatile attachment used to handle long loads such as lumber, pipes, or metal bars smoothly and efficiently. This attachment tilts the forks up (up to 40°) and down (up to 50°) to cradle and dump loads easily. With a scoop installed, the truck can also work as a bucket truck. And of course, the hinged forks can handle ordinary palletized loads as well. This attachment really offers multi-job versatility. Hinged forks come in two variations: a dual cylinder type and a heavy-duty single cylinder type (for 2 - 4.5 ton trucks). The single cylinder type has a shorter overhang and an increased allowable load. In addition, hinged forks can be used in combination with a variety of attachments including a scoop, wide finger bar, long forks, and fork extension sleeves, to respond efficiently to various job requirements.

Max. load (kg)		( Trucks with a VM300 mast )	
		Dual cylinder type:	(Single cylinder type)
FQ D 10, FB10	800	FD45	3800( 4300 )
R H XG-D/FHGE15, FB15	1250	FD50	4250
R H XG-D/FHGE18, FB18	1500	FD60	5000
R H XG-D/R H XGE20, FB20	1750( 1800 )	FD70	6000
R H XG-D/R H XGE25, FB25	2150( 2300 )	FD80	6200
R H XG-D/R H XGE30, FB30	2550( 2750 )	FA20D	1700( 1800 )
FD35, FB35	2700	FA25D	2100( 2300 )
FQ D 35	3200( 3350 )	FA30D	2500( 2750 )
FQ D 40	3500( 3850 )		
Load center (mm)		( FD80:600 500 )	
Dumping clearance (mm)		Dual cylinder type: (Single cylinder type)	
FQ D 10, FB10	2400	FD35, FB35	2145
R H XG-D/FHGE15 - 18, FB15 - 18	2280	FQ D 35 - 40, FD45 - 50	2125( 2145 )
R H XG-D/R H XGE20 - 25, FA20D - 25D FB20 - 25	2265( 2250 )	FD60 - 70	2130
R H XG-D/R H XGE30, FB30	2165( 2170 )	FD80	2000
FA30D	2170		

All FB models come with dual lift cylinders.

# SIDE SHIFTER

The forks can be shifted left or right 75, 100, 120, or 150 mm. They move together with the load backrest allowing the operator to align them perfectly with the pallet notches, without repositioning the truck. The side shifter attachment is an ideal solution for load handling in narrow spaces where close stacking of loads is required or it is difficult to reposition the truck when picking up or depositing a load. Side shifters come in three types: shaft type, hook type and integral-hook type (for 1 to 3 ton trucks).

Max. load (kg)		( Trucks with a VM300 mast )	
		Shaft type; (Hook type);	<Integral-hook type>
FQ D 10	900( 950 ) 950	FD80	8000
R H XG-D/FHGE15	1400( 1450 ) 1450	FD100	10000
R H XG-D/FHGE18	1600( 1650 ) 1700	FA20D	1950( 1950 )
R H XG-D/R H XGE20	1950( 1950 ) 2000	FA25D	2450( 2450 )
R H XG-D/R H XGE25	2450( 2450 ) 2500	FA30D	2900( 2900 )
R H XG-D/R H XGE30	2900( 2900 ) 3000	FB10/FRB10	900( 950 ) 950 ( 1000 )
FD35	3100	FRB13	1200
FQ D 35	3500	FRB14	1250
FQ D 40	4000	FB15/FRB15	1400( 1450 ) 1450 ( 1450 )
FD45	4500	FB18/FRB18	1600( 1650 ) 1700 ( 1650 )
FD50	5000	FB20/FRB20	1950( 1950 ) 2000 ( 1900 )
FD60	6000	FB25/FRB25	2450( 2450 ) 2500 ( 2400 )
FD70	7000	FB30	2900( 2900 ) 3000 ( )
		FB35	3100
Load center (mm)		( FQ D 35 - FD100:600 ) 500	
Side shift (mm, each side)			
FQ D 10, R H XG-D/FHGE15 - 30, FD35, FA20D - 30D	100	FD50 - 100	150
FQ D 35 - 40, FD45	120	FB10 - 30/FRB10 - 25	100/75

Optionally available for compact reach truck models FRB10 - 13 and low-overall-height reach truck models FRB9 - 13. Optionally available for engine-powered trucks (1 - 4.5 ton models), Acroba series trucks (1 - 3.5 ton models) and battery-powered trucks (1 - 3 ton models) with a VFM or VFHM mast. Optionally available in combination with long forks (1 - 10 ton trucks) or a wide finger bar (1 - 5 ton trucks). Optionally available for Acroba series trucks (2 - 3 ton models) with wide tread.



Shaft type

Attachments for hinged forks

## LFH Long forks for the hinged fork attachment



Long forks are suitable for transporting light, bulky loads or for scooping up loads from a distance, when the truck cannot come too close to them.

Truck model	Long fork model	LFH 77	LFH 85	LFH 92	LFH 107	LFH 122	LFH 137	LFH 152	LFH 167	LFH 182	LFH 197	LFH 212
FQ D 10, FB10		STD										
R H XG-D/FHGE15 - 18, FB15 - 18				STD								
R H XG-D/R H XGE20 - 25, FA20D - 25D FB20 - 25				STD								
R H XG-D/R H XGE30, FD35, FA30D FB30 - 35					STD							
FQ D 35 - 40, FD45					STD							
FD50 - 70					STD							
FD80						STD						

## WFH Wide finger bar for the hinged fork attachment



The wide finger bar is suitable for handling long, unstable loads such as railway sleepers or plywood.

Truck model	Finger bar width
FQ D 10, R H XG-D/FHGE15 - 18 FB10 - 18	1250 mm
R H XG-D/R H XGE20 - 25, FA20D - 25D FB20 - 25	1480 mm
R H XG-D/R H XGE30, FD35, FA30D FB30 - 35	1520 mm
FQ D 35 - 40, FD45	1850/2050 mm
FD50	1850 mm
FD60 - 70	2000/2080 mm

## HFS Scoop for the hinged fork attachment



The scoop with fork pockets can be installed on the forks easily and quickly, and it is suitable for scooping and dumping powder and loose material. The scoop is available in two types: Type I with a flat front edge and Type II with a toothed edge.

Truck model	Scoop capacity (heaped)
FQ D 10, R H XG-D/FHGE15 - 18 FB10 - 18	0.6 m³
R H XG-D/R H XGE20 - 25 (STD - WIDE) FB20 - 25 (STD - WIDE)	0.7 - 0.8 m³
R H XG-D/R H XGE30, FD35 (STD - WIDE) FB30 - 35 (STD - WIDE)	0.8 - 0.85 m³
FQ D 35 - 40, FD45 - 50	1.0 m³
FD60 - 70	1.5 m³
FD80	1.6 m³

## EFH Fork extension sleeves for the hinged fork attachment



Fork extension sleeves play almost the same role as the long fork attachment, but they can be installed or removed quickly to handle different types of loads. Three to five types of fork extension sleeves are available for each truck model.

Truck model	Fork extension sleeve length (mm)	1050	1200	1350	1500	1650	1800	1950	2100	2250
FQ D 10, FB10										
R H XG-D/FHGE15 - 18, FB15 - 18										
R H XG-D/R H XGE20 - 25, FB20 - 25										
R H XG-D/R H XGE30, FD35, FB30 - 35										
FQ D 35 - 40, FD45										
FD50										
FD60 - 70										
FD80										

# FORK POSITIONER

The fork positioner allows the operator to adjust the fork spacing hydraulically for various pallet configurations, without leaving the operator's seat. They are used primarily in high volume operations where there is a great variety of pallet sizes to be handled. The top and bottom shaft type of positioner produces less vibration and prevents the fork spacing from widening during handling. It is especially suitable for handling coil stock or flanged containers. The attachment also comes as an integral hook type (2 - 3 ton engine-powered models) and a screw type.

Max. load (kg)		( Trucks with a VM300 mast )	
		Top and bottom shaft type; <Integral-hook type>; (Screw type)	
FQ D 10	900	FD70	6700( 7000 )
R H XG-D/FHGE15	1400	FD80	7700( 8000 )
R H XG-D/FHGE18	1600	FD100	10000( 10000 )
R H XG-D/R H XGE20	1900 2000 ( 2000 )	FA20D	1900( 2000 )
R H XG-D/R H XGE25	2400 2500 ( 2500 )	FA25D	2400( 2500 )
R H XG-D/R H XGE30	2900 3000 ( 3000 )	FA30D	2900( 3000 )
FD35	3200	FB10	900
FQ D 35	3500( 3500 )	FB15	1400
FQ D 40	4000( 4000 )	FB18	1600
FD45	4500( 4500 )	FB20	1900
FD50	4900( 4850 )	FB25	2400
FD60	5800( 6000 )	FB30	2900
		FB35	3200
Load center (mm)		( FQ D 35 - FD100:600 ) 500	
Fork spacing (top and bottom shaft type) (mm)			
FQ D 10, R H XG-D/FHGE15 - 18, FB10 - 15, FB18	260 - 870	FQ D 35 - 40, FD45 - 50	380 - 1220
R H XG-D/R H XGE20 - 25, FA20D - 25D, FB20 - 25	310 - 975	FD60 - 70	360 - 1690
R H XG-D/R H XGE30, FA30D, FB30	310 - 1035	FD80	410 - 1790
FD35, FB35	370 - 1035	FD100	455 - 2115

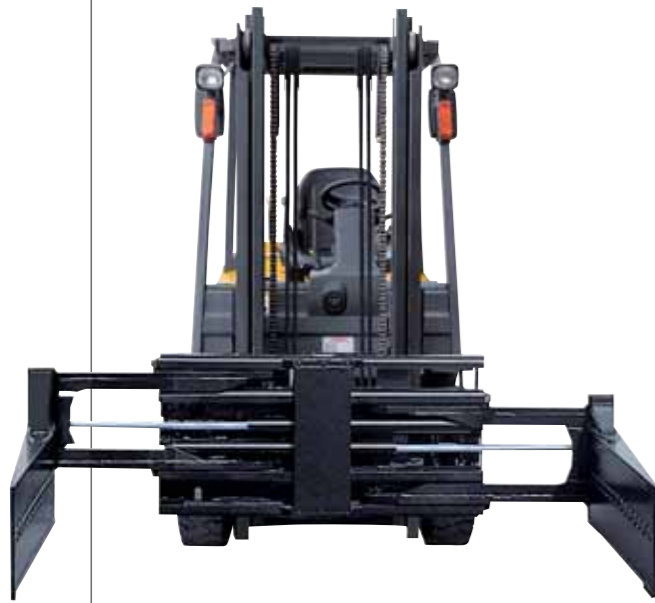
Optionally available for engine-powered trucks (2 - 4.5 ton models), Acroba series trucks (2 - 4 ton models), and battery-powered trucks (2 - 3.5 ton models) with a VFM or VFHM mast. Available for all trucks with long forks. Optionally available for engine-powered trucks (2 - 3.5 ton models), Acroba series trucks (2 - 3 ton models) and battery-powered trucks (2 - 3.5 ton models) with a wide finger bar or high-backrest. Optionally available for Acroba series trucks (2 - 3 ton models) with wide tread.



Top and bottom shaft type



# LOAD GRAB



The load grab attachment is designed to clamp and transport baled loads. Typical loads consist of waste paper, wrapped livestock feed and bedding, cotton, boxes and bags. The operator can pick up, deposit and stack loads without any help. The load grab allows palletless handling to save money on pallet purchases, maintenance and storage, and improves warehouse space utilization.

The load grab attachment is available in three designs, in addition to standard arm: fork arm type for 2 - 4.5 ton trucks; wide-spacing type for 1 - 3.5 ton engine-powered trucks and for 2 - 3 ton Acroba series trucks; slide-bushing type for truck models FD60 - FD80.

( Trucks with a VM300 mast )					
	Max. load (kg)	Arm spacing (mm)		Max. load (kg)	Arm spacing (mm)
FG(D) J10	700		FA20D	1550 1200	500 - 2000
R(H) JG-D/FHGE15	1200	500 - 1800 (600 - 1900)	FA25D	2000 1600	(600 - 2100) 500 - 1800
R(H) JG-D/FHGE18	1300		FA30D	2300 1900	500 - 2100(600 - 2200) 500 - 1900
R(H) JG-D/F(H) JGE20	1550 1200	500 - 2000 600 - 2100	FB10/FRB10	700/700	
R(H) JG-D/F(H) JGE25	2000 1600	500 - 1800	FRB13	950	
R(H) JG-D/F(H) JGE30	2300 1900	500 - 2100 (600 - 2200) 500 - 1900	FRB14	1050	500 - 1800
FD35	2300 1900		FB15/FRB15	1200/1200	
FG(D) J85	2650 2500		FB18/FRB18	1300/1300	
FG(D) J10	3150 2900	600 - 2200 600 - 2100	FB20/FRB20	1550/1500	500 - 2000
FD45	3550 3200		FB25/FRB25	2000/1900	
FD50	3700	500 - 2100	FB30	2300	500 - 2100
FD60	4200				
FD70	4800	500 - 2300			
FD80	5200				
Load center (mm) ( FG(D) J85 - FD80: 600 ) 500					

Figures in brackets < >, in" Max. load ", are given for the fork arm type. Figures in parentheses ( ), in" Arm spacing ", are for the wide-spacing type and those in brackets < > are for the fork arm type. Optionally available for compact reach truck models FRB10 - 13 and low-overall-height reach truck models FRB9 - 13. Optionally available for engine-powered trucks (2 - 3 ton models), Acroba series trucks (2 - 3 ton models) and battery-powered trucks (2 - 3 ton models), with a VFM or VFHM mast. The side shift feature can be combined on engine-powered trucks (2 - 3.5 ton models) and battery-powered trucks (2 - 3 ton models). Load backrests corresponding to arm spacing are available for engine-powered trucks (2 - 3.5 ton models) with a load grab. Optionally available for Acroba series trucks (2 - 3 ton models) with wide tread.

# ROTATING LOAD GRAB



The rotating load grab is a load grab attachment with a rotator. This attachment is useful in load handling operations where the aisle width or stacking space is restricted. For example, with this attachment, the truck can pass through a narrow aisle by rotating a load that is longer than the width of the aisle to a vertical position. The rotating load grab attachment is available in two types: an integral type and a hook type. Each type comes in a standard arm version and a fork arm version (2 - 3 ton trucks). A variety of arms are available.

( Trucks with a VM300 mast )					
Max. load (kg)	Standard arm		Fork arm		
	Integral type	Hook type	Integral type	Hook type	
R(H) JG-D/F(H) JGE20, FB20	1250	1150	1000	800	
R(H) JG-D/F(H) JGE25, FB25	1600	1500	1400	1200	
R(H) JG-D/F(H) JGE30, FB30	1900	1700	1700	1500	
FG(D) J85	2400				
FG(D) J10	2700				
FD45	3100				
Load center (mm) ( FG(D) J85 - 40, FD45: 600 ) 500					
Arm spacing (mm) ( ) : Wide-spacing type, < > : Fork arm type					
R(H) JG-D/F(H) JGE20 - 25	500 - 2000(600 - 2100)		500 - 1800		
R(H) JG-D/F(H) JGE30	500 - 2100(600 - 2200)		500 - 1900		
FG(D) J85 - 40, FD45			500 - 2100		

# FORK CLAMPS



The fork clamp is a load grab attachment which has forks in place of arms. This attachment is designed to clamp and transport baled cotton or bags. It is also used to handle ordinary pallet loads. The left and right forks can move independently, for efficient handling of a variety of load sizes from small to large, without needing to reposition the truck if the forks are not aligned with the pallet notches. The fork clamp comes in two arm spacing types: standard and wide.

( Trucks with a VM300 mast )					
Max. load (kg)	Standard arm		Fork arm		
	Integral type	Hook type	Integral type	Hook type	
FG(D) J10, FB10	650		R(H) JG-D/R(H) JGE20, FB20	1450	
R(H) JG-D/FHGE15, FB15	1150		R(H) JG-D/R(H) JGE25, FB25	1900	
R(H) JG-D/FHGE18, FB18	1250		R(H) JG-D/R(H) JGE30, FB30	2300	
Load center (mm) 500					
Arm spacing (mm) ( ) : Wide-spacing type					
FG(D) J10, R(H) JG-D/R(H) JGE15 - 18, FB10 - 18	510 - 1810(610 - 1910)				
R(H) JG-D/R(H) JGE20 - 25, FB20 - 25	500 - 2000(600 - 2100)				
R(H) JG-D/R(H) JGE30, FB30	500 - 2100(600 - 2200)				

Optionally available for 2 - 3 ton trucks with a VFM or VFHM mast. Several types of arm series and arm spacing series are available. For 2 - 3 ton trucks, the fork clamp attachment can be used in combination with a side shifter or a load backrest.

# ROTATING FORK CLAMPS

The rotating fork clamp is a fork clamp attachment with a rotator. With this attachment, the truck carrying a load that is wider than the aisle can pass through a narrow aisle by rotating the attachment. Rotating fork clamps are available as an integral type and a hook type.

( Trucks with a VM300 mast )			
Integral type (hook type)	R(H) JG-D R(H) JGE FB 20	R(H) JG-D R(H) JGE FB 25	R(H) JG-D R(H) JGE FB 30
	Max. load	kg 1150( 1050 )	1500( 1400 )
Load center	mm 500		
Arm spacing (standard/wide-spacing type)	mm 500 - 2000/600 - 2100		500 - 2100/500 - 2200



# ROTATING PAPER ROLL CLAMPS

Rotating paper roll clamps are an ideal solution for all professional paper handling operations, such as in paper mills, paper coating factories and paper warehouses. In particular, the swing type is suitable for work sites where a variety of roll diameters need to be handled. The integral type, consisting of a carriage integrated with a rotator, offers an increased allowable load and excellent front visibility to prevent damage to the piping parts due to falling objects. The hook type is suitable for users who want to use paper roll clamps without a rotator for a particular job. The lineup of paper roll clamps is expanded by field-proven Cascade brand paper roll clamps available for 2 - 3 ton trucks. The swing type clamps for 2 to 3.5 ton trucks come in six diameter ranges. For example, clamps with a roll range of 600 to 1200 mm improve stacking efficiency in vertical handling of rolls; those with a roll range of 300 to 1300 mm are preferred for horizontal handling of rolls; and those with a roll range of 600 to 1450 mm are suitable for handling large rolls. You can choose the right attachment for your job requirements from among a variety of paper roll clamps with lots of arm variations.

( Trucks with a VM300 mast )			
Max. load (kg)	Integral type; (Hook type); < Cascade make >		
	FA25D	FA30D	FB10/FRB10
FG(D) J10	650( 550 )		1900( 1700 ) 1700
R(H) JG-D/FHGE15	1050( 1000 )		2300( 2100 ) 2000
R(H) JG-D/FHGE18	1100( 1100 )		650( 550 ) 550
R(H) JG-D/F(H) JGE20	1500( 1350 ) 1350		FRB13 700
R(H) JG-D/F(H) JGE25	1900( 1700 ) 1700		FRB14 850
R(H) JG-D/F(H) JGE30	2300( 2100 ) 2000		FB15/FRB15 1050( 1000 ) 950
FD35	( 2300 )		FB18/FRB18 1000
FG(D) J85	2400( 2300 )		FB20/FRB20 ( 1350 ) 1200
FG(D) J10	2800( 2500 )		FB25/FRB25 ( 1700 ) 1500
FD45	3100( 2800 )		FB30 ( 2100 )
FA20D	1500( 1350 ) 1350		FB35 ( 2300 )
Load center (mm) : 600 : 650 : 800			
Roll range (mm)			
FG(D) J10, R(H) JG-D/FHGE15 - 18, FB10 - 15, FRB10 - 18 270 - 1200			
R(H) JG-D/R(H) JGE20 - 30, FD35, FA20D - 30D, FB20 - 30, FRB20 - 25 300 - 1300			
Cascade make R(H) JG-D/R(H) JGE20 - 30, FA20D - 30D 260 - 1300			
FG(D) J85 - 40, FD45, FB35 350 - 1600			

Optionally available for compact reach truck models FRB10 - 13 and low-overall-height reach truck models FRB9 - 13. Five additional models of paper roll clamps are optionally available for engine-powered trucks (2 - 3.5 ton models), Acroba series trucks (2 - 3 ton models), and battery-powered trucks (2 - 3.5 ton models), in addition to the standard model. One other paper roll clamp model is available for engine-powered trucks (3.5 - 4.5 ton models), in addition to the standard model. For Cascade brand paper roll clamps, three models are available for engine-powered trucks (2 - 3 ton models) and Acroba series trucks (2 - 3 ton models), in addition to the standard model. Two additional arm models are optionally available for battery-powered trucks (1 - 1.8 ton models) and reach trucks (1 - 2.5 ton models), in addition to the standard model. Five additional arm models are available for engine-powered trucks (2 - 3.5 ton models), Acroba series trucks (2 - 3 ton models), and battery-powered trucks (2 - 3.5 ton models), in addition to the standard model. The hook version is also available for engine-powered trucks (2 - 3.5 ton models), Acroba series trucks (2 - 3 ton models) and battery-powered trucks (2 - 3.5 ton models) with a VFM or VFHM mast. Cascade brand models are also available for 2 to 3 ton trucks with a VFM or VFHM mast.



Swing type

## CARTON CLAMPS



The carton clamp is an attachment suitable for handling and transporting cartons and crates containing electronic appliances or bottled liquids. The clamp has large contact areas and flexible arms that bend. It applies even clamping pressure over the entire load to reduce product damage. This attachment allows palletless handling to save money on pallet purchases, maintenance and storage costs.

( Trucks with a VM300 mast )

	FQ( D )10	F( H )G-D FHGE 15	F( H )G-D FHGE 18	F( H )G-D FHGE 20	F( H )G-D FHGE 25	
Max. load	kg	450	900	1100	1200	1600
Load center	mm	510				
Arm spacing	mm	560 - 1930				
Side shift (each side)	mm	0 - 342				

Five additional arm models are optionally available, in addition to the standard model.

## BLOCK CLAMPS

Handle concrete blocks safely and efficiently by clamping the load from both sides. In many cases, concrete blocks, each row with a length of 39 cm, are handled two or three rows at a time. Therefore, the arm size is determined for such an application.

( Trucks with a VM300 mast )

	F( H )G-D FHGE 20	F( H )G-D FHGE 25	F( H )G-D FHGE 30	
Max. load	kg	1350	1600	2000
Load center	mm	615		
Arm dimensions	mm	1185 x 160 x 180		
Arm spacing	mm	700 - 1500		
Number of clamped rows	mm	2 rows		



## TURNAFORKS



The turnafork is a dual-purpose attachment on which the arms rotate from a pallet-handling position to a clamp handling position: that is, the forks can be placed horizontally to use them as ordinary forks; and they can be rotated upright to use them like a load grab attachment. The automatic change is made quickly from the driver's seat.

( Trucks with a VM300 mast )

		F( H )G-D FHGE20 FB 20		F( H )G-D FHGE25 FB 25	
		Clamp handling	Pallet handling	Clamp handling	Pallet handling
Max. load	kg	800	1500	1000	1800
Load center	mm	610			
Arm (length x width x thickness)	mm	1220 x 255 x 65			
Arm spacing	mm	515 - 1600 for clamp handling; 710 - 1790 for pallet handling			

## BALE HANDLERS

Suitable for handling nearly any type of baled product such as hay, cotton, or waste paper. With spikes inserted deep into the bale, the load won't fall off the attachment during handling. The bale handler can handle loads easily in places with low doorway or ceilings, such as inside a container. They help reduce the dust from hay and prevent bales from spilling. The attachment comes in a vertical handling model (Types A and B) and a horizontal handling model (Types C and D), to match the type and number of bales to be handled.

( Trucks with a VM300 mast )

		F( H )G-D / F( H )GE20-25			
		A (standard)	B	C	D
Bale type		Regular size (handles 8 bales)	Mini size (handles 10 bales)	Regular size (handles 8 bales)	Mini size (handles 12 bales)
Handling direction		Vertical		Horizontal	
Handler front frame size	mm	1070 x 2100			
Max. load	kg	450			660
Load center	mm	240			

Optionally available for trucks with a VFM or VFHM mast.



Vertical handling type

## DRUM CLAMPS



The drum clamp is designed for handling drums. Arms with the same radius as the drum to be handled clamp the load safely and securely. A check valve is installed to prevent the load from falling due to shocks while traveling. There is also a rotating drum clamp consisting of a drum clamp with a rotator. The rotating drum clamp is suitable for can-manufacturing factories and can-washing work. The rotating drum clamp allows the operator to grab drums lying on their sides and stack them vertically, or to load or unload drums easily on a trailer truck using the rotation feature.

( Trucks with a VM300 mast )

	FQ( D )10	F( H )G-D FHGE 15	F( H )G-D FHGE 18	F( H )G-D FHGE 20	F( H )G-D FHGE 25	
Max. load	kg	500	900	1000	1200	1400
Load center	mm	620				
Arm spacing	mm	510 - 1310				
Arm length	mm	1050				

A contact pad model is available, in addition to the standard model.

## MULTI-PURPOSE CLAMPS

Multi-purpose clamps offer the versatility to perform a variety of functions smoothly and efficiently, with only one attachment. A multi-purpose clamp consists of stabilizer forks, side arms and base forks to clamp and rotate loads. With stabilizer forks and side arms removed, the remaining attachment can be used as ordinary forks.

By using rotation feature, you can move bagged loads from the company's own pallets onto shipping pallets, without spilling the load.

With side arms removed, the attachment efficiently handles cotton bales, bags and boxes on a pallet, or it can be used as a load stabilizer to handle carbonated beverages securely.

Using a bucket in place of the side arms, the attachment can be used to rotate and dump loose material.

Multi-purpose clamps are available in an integral type and a hook type.

( Trucks with a VM300 mast )

		F( H )G-D FHGE 20	F( H )G-D FHGE 25	F( H )G-D FHGE 30
Max. load	kg	100( 900 )	130( 1200 )	170( 1600 )
Load center	mm	550		
Side arm width	mm	700		
Clamp spacing	mm	750 - 1200		760 - 1210
Side arm spacing	mm	500 - 650		

Wide-spacing clamps are also available.





## ROTATING FORKS



Rotating forks can rotate together with the carriage (finger bar) continuously through 360 degrees, clockwise or counterclockwise. This gives the driver the ability to quickly dump or invert a load. Using a box or bucket with fork pockets in combination, the attachment allows the transportation or side-dumping of loose material, liquids, or fresh concrete.

The integral rotating fork attachment is a heavy-duty type which has a shorter load center and an increased allowable load because part of the attachment is incorporated into the mast.

( Trucks with a VM300 mast )			
Max. load (kg)		- Integral type; (Hook type)	
FQ D J10	800( 700 )	FD60	( 4300 )
R H JG-D/FHGE15	1250( 1200 )	FD70	( 5100 )
R H JG-D/FHGE18	1500( 1350 )	FA20D	1750( 1650 )
R H JG-D/R H JGE20	1750( 1650 )	FA25D	2300( 2100 )
R H JG-D/R H JGE25	2300( 2100 )	FA30D	2750( 2500 )
R H JG-D/R H JGE30	2750( 2500 )	FB10	800( 700 )
FD35	( 2750 )	FB15	1250( 1200 )
FQ D J35	3100( 3000 )	FB20	1750( 1650 )
FQ D J40	3500( 3200 )	FB25	2300( 2100 )
FD45	4000( 3600 )	FB30	2750( 2500 )
FD50	4200	FB35	( 2750 )
Load center (mm)		( FQ D J35 - FD70:600 ) 500	

The hook type is optionally available for engine-powered trucks (1 - 3.5 ton models), Acroba series trucks (2 - 3 ton models), and battery-powered trucks (1 - 3.5 ton models) with a VFM or VFHM mast. Optionally available for Acroba series trucks (2 - 3 ton models) with wide tread. Three to eight models of long rotating forks are available for some truck models.

## LOAD PUSH/PULL



The load push/pull attachment is designed for slip sheet pallet handling to improve load handling efficiency and reduce pallet costs. The load push/pull option allows the operator to control a series of gripping and pulling operations – grip, pull, push, and push loads off platens – efficiently, with a single lever from the driver's seat. The retainer and side shifting features assure smoother, more efficient load handling. Suitable for a variety of industries when handling grain, fertilizers, fruit and vegetables, food, marine products, paper, chemicals, textiles, and construction materials. Available in three models for grain, fruit and vegetables, and van loading and unloading.

( Trucks with a VM300 mast )									
	For grain (30 kg) (Side shifter can be removed)			For fruit and vegetables Van loading and unloading					
	R H JG-D R H JGE FB 20	R H JG-D R H JGE FB 25	R H JG-D R H JGE FB 30	R H JG-D FHGE 15	R H JG-D FHGE 18	R H JG-D R H JGE 20	R H JG-D R H JGE 25		
Max. load	kg	1100	1300	1500	750	950	1200	1300	
Load center	mm	570			600				
Platen width	mm	950 - 1240			950 - 1210				
Push stroke	mm	1170			1220				
Side shift (either side)	mm	100			100				

Two additional models are optionally available for grain handling with engine-powered trucks (3 ton model) and one model for battery-powered trucks (3 ton model), in addition to the standard model. The load push/pull option for grain handling is also available for 2 - 3 ton trucks with a VFHM mast. An attachment for handling fruit and vegetables, and loading and unloading van, is also available for 1.5 - 2.5 ton trucks with a VFM mast.

## PANTOGRAPH FORKS



Double-link model

Pantograph forks provide an extra meter of reach across the bed of the truck. This attachment is suitable for applications where extra reach is required, such as when the truck cannot come close to the loading area due to obstacles. This arrangement has a telescopic pantograph mounted on the mast bracket, with a finger bar and forks attached to the front end. The pantograph fork attachment comes in single and double link models. A side shifting feature is available as an option.

( Trucks with a VM300 mast )			
Max. load (kg)		< -> with side shifter	
		R H JG-D/R H JGE20	R H JG-D/R H JGE25
Single link model (retracted - extended)	1450 - 700 1400 - 600	1750 - 850 1600 - 750	2000 - 950 1850 - 850
Double link model (retracted - extended)	1400 - 700 1300 - 600	1650 - 850 1500 - 750	1900 - 950 1750 - 850
Load center (mm)	500		
Reach stroke (mm)	900		

A large reach stroke model is another available option. Two models for long forks are optionally available, in addition to the standard model.

## LOAD STABILIZER

The load stabilizer is designed to transport unstable loads by holding them in place with the upper retainer. It is well suited for transporting unstable loads such as boxed beverages, soft drinks, bottled water and empty containers. This attachment allows faster operating speeds and more efficient handling procedures.

The load stabilizer comes in two versions: standard and wide range. A side shifting feature is available as an option for 2 - 3 ton trucks.

( Trucks with a VM300 mast )			
Max. load (kg)		- Integral type; (Hook type)	
FQ D J10	850	FA25D	2350
R H JG-D/FHGE15	1350	FA30D	2800
R H JG-D/FHGE18	1600	FB10	850
R H JG-D/R H JGE20	1850( 1450 )	FB15	1350
R H JG-D/R H JGE25	2350( 1800 )	FB20	1850
R H JG-D/R H JGE30	2800( 2200 )	FB25	2350
FA20D	1850	FB30	2800
Load center (mm)	500		
Holding range (mm)	1200 - 1800		
Upper retainer size (mm)	850x850		

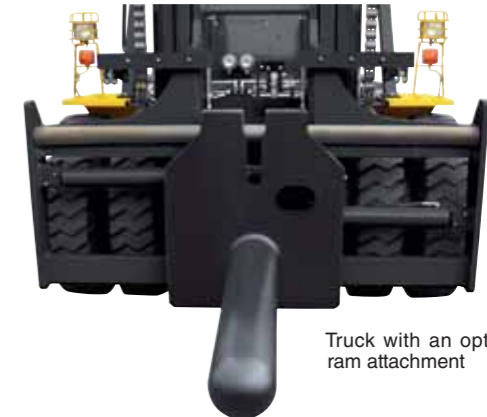
There are seven holding ranges available, in addition to the standard range. There are nine upper retainer types available (4 types for 3-ton trucks). Several types of contact pads and load backrests can also be selected, according to your job requirements. Optionally available for Acroba series trucks (2 - 3 ton models) with wide tread.



## RAM

The ram attachment is used to maneuver many types of coiled loads easily, such as wire coils, tires, metal reels, or cable reels.

( Trucks with a VM300 mast )			
Max. load (kg)			
FQ D J10, FB10	1000	FQ D J35, FB35	3500
R H JG-D/FHGE15, FB15	1500	FQ D J40	4000
R H JG-D/FHGE18, FB18	1750	FD45	4500
R H JG-D/R H JGE20, FB20	2000	FD50	5000
R H JG-D/R H JGE25, FB25	2500	FD60	6000
R H JG-D/R H JGE30, FB30	3000	FD70	7000
FD35	3500	FD80	8000
Load center (mm)	( FQ D J35 - FD80:600 ) 500		
Ram size (length x diameter) (mm)			
FQ D J10, R H JG-D/FHGE15 - 18, FB10 - 18	920x 115		
R H JG-D/R H JGE20 - 25, FB20 - 25	920x 140		
R H JG-D/R H JGE30, FD35, FQ D J35 - 40, FD45, FB30 - 35	1070x 160		
FD50 - 60	1220x 216		



Truck with an optional ram attachment

## CRANE ARM

The crane arm attachment consists of an inverted L-shaped arm attached to the finger bar with a hook on its end. This attachment is used for handling loads which cannot be palletized due to their odd shape or size by slinging them on the hook.

( Trucks with a VM300 mast )			
Max. load (kg)			
FQ D J10, FB10	1000	R H JG-D/R H JGE30, FB30	2850
R H JG-D/FHGE15, FB15	1500	FD35, FB35	2850
R H JG-D/FHGE18, FB18	1750	FQ D J35	3500
R H JG-D/R H JGE20, FB20	2000	FQ D J40	4000
R H JG-D/R H JGE25, FB25	2500		
Load center (mm)	( FQ D J20 - 25:545, FQ D J30 - FD40:610 ) 540		
Crane arm (horizontal length x attachment width) (mm)			
FQ D J10, R H JG-D/FHGE15 - 18, FB10 - 18	920x400		
R H JG-D/R H JGE20 - 25, FB20 - 25	1090x400		
R H JG-D/R H JGE30, FD35, FB30 - 35	1705x570		
FD35 - 40	1695x570		



# CRANE HOOK



The crane hook attachment is used for hoisting loads with standard forks. Bring both fork prongs to the center, install a hook block onto them and tighten it from both sides with two bolts. The attachment is suitable for hoisting flexible containers or bags containing powder or particles slung on the hook. It can be removed easily for normal pallet handling.

( Trucks with a VM300 mast )

Max. load (kg)			
FQ D J10	1000	FQ D J85	3500
R H JG-D/FHGE15	1500	FQ D J40	4000
R H JG-D/FHGE18	1750	FB10	1000
R H JG-D/F H JGE20	2000	FB15	1500
R H JG-D/F H JGE25	2500	FB20	2000
R H JG-D/F H JGE30	3000	FB25	2500
FD35	3500	FB30	3000
		FB35	3500
Load center (mm)		( FQ D J85 - 40; 600 ) 500	
Lift height (mm)			
FQ D J10, R H JG-D/FHGE15 - 18, FB10 - 15		2765	
R H JG-D/R H JGE20 - 25, FB20 - 25		2700	
R H JG-D/R H JGE30, FB30		2725	
FQ D J85 - 40, FB35		2660	

# FULL FREE MAST



4-cylinder model

The full free mast has a longer free lift than the standard mast. So long as the forks are raised within the free lift range, the mast height will remain unchanged, making it suitable for load handling in low-ceiling areas, such as inside ships, freight cars, or containers. The full free mast is available in 3-cylinder and 4-cylinder versions.

3-cylinder model (mast: VFM300)

	Max. load (kg)	Free lift (mm)		Max. load (kg)	Free lift (mm)
FQ D J10	1000	985	FD80	8000	1345
R H JG-D/FHGE15	1500	990	FA20D	2000	1040
R H JG-D/FHGE18	1750	990	FA25D	2500	1040
R H JG-D/R H JGE20	2000	1025	FA30D	3000	895
R H JG-D/R H JGE25	2500	1030	FB10/FRB10	1000	985/1175
R H JG-D/R H JGE30	3000	850	FRB13	1250	1175
FD35	3500	905	FRB14	1350	1175
FQ D J85	3500	960	FB15/FRB15	1500	990/1175
FQ D J40	4000	960	FB18/FRB18	1750/1800	990/1175
FD45	4500	1015	FB20/FRB20	2000	995/1135
FD50	5000	990	FB25/FRB25	2500	995/1135
FD60	6000	1255	FB30	3000	850
FD70	7000	1265			
Load center (mm)		( FQ D J85 - FD80; 600 ) 500			

4-cylinder model (mast: VFW300)

	Max. load (kg)	Free lift (mm)		Max. load (kg)	Free lift (mm)
R H JG-D/R H JGE20	1900	1040	R H JG-D/R H JGE30	2900	900
R H JG-D/R H JGE25	2400	1045			
Load center (mm)		500			

For trucks without a load backrest, the free lift height may vary.

# FORK EXTENSION SLEEVES

Fork extension sleeves are suitable for transporting bulky, yet light-weight loads or picking up loads that are out of reach. This attachment is available in three to six types to suit the size of the load. Fork extension sleeves can be removed easily if ordinary pallet handling is required.

( mm )

	Fork length (L)	Width (b)	Thickness (t)
FQ D J10, FB10, FRB9 - 10	1050-1200-1350-1500	120	50
R H JG-D/FHGE15 - 18, FB15, FRB13 - 18	1200-1350-1500-1650	120	58
R H JG-D/R H JGE20 - 25, FA20D - 25D, FB20 - 25	1200-1350-1500-1650-1800-1950	157	66
FRB20 - 25	1200-1350-1500-1650-1800	157	64
R H JG-D/R H JGE30, FA30D, FB30, FRB30	1350-1500-1650-1800-1950	157	73
FD35, FB35	1350-1500-1650-1800-1950-2100	184	76
FQ D J85 - 40, FD45	1500-1800-2100	184	76-81
FD50	1800-2100-2250	196	96
FD60	1650-2100-2250	196	96
FD70	1800-2100-2250	196	108
FD80	1800-2100-2250	214	114
FD100	1800-2200-2400	214	114

The effective length (L') of fork extension sleeves is 20 to 50 mm shorter than the fork length (L).



# 3-STAGE FULL FREE MAST



The 3-stage full free mast is a versatile attachment which doubles as a full free mast and a 3-stage mast that extends in three stages. Its large free lift allows the truck to go through doorways or under low ceilings easily and it provides high stacking which cannot be attained with the standard mast, thus improving storage space utilization. The 4-cylinder version is available as an option for 2 - 3 ton trucks.

( Trucks with a VFHM435 mast )

	Max. load (kg)	Free lift (mm)		Max. load (kg)	Free lift (mm)
FQ D J10	900	895	FD80	7000	1345
R H JG-D/FHGE15	1350	900	FA20D	1800	1040
R H JG-D/FHGE18	1550	900	FA25D	1800	1040
R H JG-D/R H JGE20	1900( 1800 )	1025( 1040 )	FA30D	2500	895
R H JG-D/R H JGE25	2200( 2200 )	1030( 1045 )	FB10/FRB10	900/1000	985/1175
R H JG-D/R H JGE30	2900( 2800 )	850( 900 )	FRB13	1100	1175
FD35	3500	905	FRB14	1300	1175
FQ D J85	3500	925	FB15/FRB15	1350/1500	990/1175
FQ D J40	4000	925	FB18/FRB18	1550/1700	990/1175
FD45	4500	1000	FB20/FRB20	1900/2000	1030/1135
FD50	4800	930	FB25/FRB25	2200/2500	1030/1135
FD60	5500	1255	FB30	2800	850
FD70	6200	1265	FB35	3300	905
Load center (mm)		( FQ D J85 - FD80; 600 ) 500			

Figures in ( ) are given for 4-cylinder model.  
The 3-stage full free mast for reach trucks is a high, lift-height type (7H).  
Optionally available for Acroba series trucks (2 - 3 ton models) with wide tread.  
The free lift height may vary for trucks without a load backrest.

# HIGH LOAD BACKREST

The high load backrest prevents high loads on the forks from spilling backward when the carriage is lifted to full height, thus protecting the driver from a falling load. Suitable for handling unitized loads with a large apparent specific gravity, such as cartons.

	Backrest height (H) (mm)	Backrest width (B) (mm)
FQ D J10, R H JG-D/FHGE15 - 18, FB10 - 15 R H JG-D/R H JGE20 - 25 FB20 - 25	( STD ) 1000	1060 1140
	1100	
	1200	
	1300	
	1400	
R H JG-D/R H JGE30, FD35, FB30, FB35	( STD ) 1220	1200
	1300	
	1400	





# OPTIONAL EQUIPMENT

## Engine-powered forklift trucks: FG (D)10 - FD100, FA20D - 30D

Mast	• High/ low mast • Full free mast • 3-stage full free mast • Long fork
Power train and hydraulics	• Double element air cleaner • Air cleaner (outside air suction type) • Radiator (plate fin type) • Hydraulic oil cooler • Torque converter oil cooler • Water separator
Operator's compartment	• Windshield with wiper • Fully open cabin • Steel cabin • Heater • Special lever arrangement • Power brake • Power clutch • Silent mast • Electric fan • Air conditioner
Safety devices	• OK monitor • Torque converter oil temperature indicator • Speedometer • Travel speed alarm • Backup buzzer sound volume control • Rear work light • Yellow strobe light • Red strobe light • Lamp guard • Detachable counterweight • Automatic greasing unit • Fire extinguisher
Environment	• Upright muffler • Catalytic muffler • Spark arrestor muffler • Oil-filled cylinder • Power cylinder boot • Tilt cylinder boot • LPG fuel system (LPG, LPG/gas) • Fishery specification (anticorrosion coating) • Cold-weather battery • Carriage for tire chains (for VM mast)
Tires	• Double tires • Special double tires • * Unique "solid tires" • * Unique "colored solid tires" • * Softone "solid tires" • J-lug tires • U-lug tires • Steel tires • Snow tires • AirBoss solid tires
Coating	• Anticorrosion coating • Coating in specified color

## Counterbalanced, battery-powered forklift trucks: FB10 - 35

Mast	• High/ low mast • Full free mast • 3-stage full free mast • Long fork
Operator's compartment	• Overhead guard with wire netting • Windshield with wiper • Overhead canvas • Special lever arrangement • Dual brake pedals
Safety devices	• Backup buzzer sound volume control • Alarm chime • Rear work light • Yellow strobe light • Red strobe light • Lamp guard • Battery watering system • Fire extinguisher
Environment	• Oil-filled cylinder • Tilt cylinder boot • Fishery specification • Cold storage specification • Fishery and cold storage specification
Charger and battery	• High capacity battery pack • Stationary battery charger (compact type)
Tires	• Double tires • Lib lug • U-lug tires • J-lug tires • * Unique "solid tires" • * Unique "colored solid tires" • * Softone "solid tires"
Coating	• Anticorrosion coating • Coating in specified color

## Reach type battery-powered forklift trucks: FRB9 - 30

Mast	• High/ low mast • Full free mast • 3-stage full free mast • Long fork
Operator's compartment	• Overhead guard canvas • Special lever arrangement
Safety devices	• Alarm chime • Rear work light • Stop and back-up lamp • Yellow strobe light • Red strobe light • Lamp guard • Battery watering system • Battery carrier • Fire extinguisher
Environment	• Oil-filled cylinder • Fishery specification • Cold storage specification • Fishery and cold storage specification • Fishery and cold storage specification (for extra low-temperature application)
Charger and battery	• High capacity battery pack • Stationary battery charger (compact type)
Tires	• Urethane trail wheel • Urethane drive wheel • Urethane drive wheel (with wire netting) • Urethane castor wheel
Coating	• Anticorrosion coating • Coating in specified color

Note: Optional equipment varies in specification with different truck models. Ask your local dealer for details.

## Optional equipment



Strobe light



Upright muffler



Windshield



LPG option



Panel cabin



Steel cabin (with other optional equipment)

TCM retains the right to change these products and specifications without incurring any obligation relating to such changes.

These products and specifications are subject to change without notice.

Photos and illustrations may or may not include optional equipment and accessories.

Features and specifications may vary depending on markets.

Photos used in this catalog may include trucks or attachments positioned for making a good photograph.

When leaving the truck, always make sure to lower any attachment to the ground for safety.



ISO 9001 Certification  
(TCM Shiga plant)



ISO 14001 Certification  
(TCM Shiga plant)

Manufactured by  
**TCM**<sup>®</sup>  
TCM CORPORATION

Bellport E  
6-22-7, Minami-Oi, Shinagawa-ku  
Tokyo 140-0013, Japan  
TEL:+81-3-6730-3370  
FAX:+81-3-6730-3371  
www.tcmglobal.net

Distributed by