# **AXÍA EM**

# SBV/SBF12-16N3(I)(S)(R) Series

# PLATFORM STACKER

1.25 - 1.60 tonnes

# HIGH PERFORMANCE INTUITIVE OPERATION

The compact and versatile AXiA EM 1.25 and 1.60 tonne platform stacker series is the perfect choice for high level stacking applications, order picking, and transport operations in narrow spaces.

#### **SPECIFICATIONS**

SBV12N3	SBV16N3
SBV12N3I	SBV16N3I
SBF12N3R	SBV16N3S
SBF12N3S	SBF16N3R
SBF12N3IR	SBF16N3S
SBF12N3IS	SBF16N3IR

WHEN
RELIABILITY IS
EVERYTHING...



# **AXÍA EM** SBV/SBF12-16N3(I)(S)(R) Series

### PLATFORM STACKER

1.25 - 1.60 tonnes



The series is available in foldable platform models with optional sidebars for use in narrow spaces, fixed platform rear entry models for fast operations where maximum operator protection is required, and fixed platform side entry models for easy on-off access on both sides for picking applications. There are also wide straddle models available to allow greater flexibility in pallet handling, including closed and specialised carrier material. These models also enable the use of a variety of special handling attachments e.g. spikes, clamps, rolls, etc.

AXiA EM has a sturdy 4-point chassis where the drive system is designed to increase traction and stabilisation proportional to the load. This keeps the truck consistently stable for safe, productive performance and confident operation.

#### **BRAKES**

 High-efficiency regenerative braking Some charge is regenerated back into the battery, and gives more effective control and reduces brake wear.

#### DRIVE

requirements.

- Powerful AC drive motor Excellent traction, smooth, quiet, controlled operation, extended shift length and lower maintenance
- Controlled Cornering System The truck senses both the velocity of the steering and the angle of a turn and reduces speed early for maximum stability and accurate, positive cornering.

#### Large drive wheel

Increased radius extends the life of the wheel and reduces vibration on uneven surfaces for a more comfortable drive

#### **ELECTRICAL AND CONTROL** SYSTEMS

- Combi controller lift system Proportional rocker switch control for lifting and lowering.
- Built-in Li-ion battery Fast opportune charging removes the need for extra batteries and allows 24/7 operation. (Option)
- Mounted battery plug Plug is contained within a tray so there is no risk of loose cables getting caught when changing the battery.
- Sealed electrical connectors Sealed compartment prevents system failure and corrosion from water and dust.

#### **FORKS AND MAST**

- Robust, tapered forks
- Strong welded construction with pointed tips for effortless pallet entry. Access to pallets in racks or block stacks is easier, quicker and safer.
- Initial Lift

This allows for better ground clearance on ramps, inclines, and uneven floors, and allows for double pallet handling. (I models only)

#### Wide Straddle Legs

Leas feature tandem wheels as standard. Straddle models have low profile forged forks. Open space allows a variety of specialised handling assemblies to be used. (Straddle models only)

- Robust, clear view mast Optimised design means excellent visibility of the forks and load.
- Exceptionally smooth 'no knock' transition between mast stages Vulkollan dampers ensure quieter movement over the lift range.
- Load carrier stop in Initial Lift models

This enables quicker, easier, and safer alignment when double stacking pallets.

 Smooth landing of the fork carriage Hydraulic attenuation in the free-lift cylinder makes this much quieter.







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# SBV/SBF12-16N3(I)(S)(R) Series

### PLATFORM STACKER

1.25 - 1.60 tonnes



Continuing improvement may lead to changes in these specifications

#### **FRAME AND BODY**

spaces.

# Compact, robust chassis Built for intensive operations, with great inherent strength and high residual capacities. Narrow and compact, the truck excels in small

#### Shared components in stackers and pallet trucks

Service costs and downtime are kept to a minimum and allows a more unified user experience for better familiarity and greater productivity.

#### High stability design

Traction, dampening and stability are all optimised to work in close harmony and produce unequalled drivability and stability — particularly beneficial when stacking.

# OPERATOR COMPARTMENT AND CONTROLS

Ergonomic ErgoSteer tiller head
 Best-in-class, impact-resistant tiller
 head with large, easy-to-reach buttons
 placed at a patented ergonomic
 distance for reduced fatigue and safer
 operation. IP65 rated.

#### Conventional tiller arm

The standard mechanical steering option offers easy steering for low-intensity work. The design of the linkage system allows for a more compact, optimised arm than most stackers.

#### Power steering

Power steering allows for a short tiller arm with a reduced steering angle for comfortable, precise control and smooth cornering. (Option)

#### Pivot steering

Electric-powered steering without arm offers less operator fatigue in combination with the ergonomic platform. (Option)

#### Damped platform

Foldable platforms and side/rear entry platforms are damped to ensure minimum vibrations and bumps for greater operator comfort. (All models)

#### Adjustable EasyRide electric damping

Unique electric damping capability allows operator to adjust the platform to their weight or preference — ideal for applications on ramps, uneven floors, and working over long distances. (Option on fixed platform trucks)

#### Foldable side bars

High, cushioned ergonomic side bars can be moved up or down and can be quickly switched to suit different operations. (Option)

#### Operator Presence Sensor

This locks all movement of the truck and its mast if the operator is not present.

# Creep speed function and tiller-up drive

Both help to maximise safety and control in confined spaces. (Option on foldable platform trucks)

#### Choice of three operating modes (PRO, ECO and Easy)

Different driver modes: PRO for advanced drivers, ECO for low energy consumption, Easy for sensitive goods or beginners.

#### **OTHER FEATURES**

#### RapidAccess features

These allow quick and easy entry to all areas for checks and maintenance.

#### Storage compartment

Operator can store tools and other required items.







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# AXIAEM **OPTIONAL LI-ION BATTERY SYSTEMS**

## **MAKE YOUR FORKLIFT GO EVEN FURTHER**



Tried, tested and proven in the field. lead-acid batteries have been the long-standing choice for companies employing electric lift trucks. However, with long charging times, demanding maintenance requirements, the need for extra batteries, and high risk of operator misuse, day-to-day use can be a challenge.

Fortunately, there's a new battery system on the block: Li-ion from Mitsubishi Forklift Trucks.

Designed to meet your business' demands — including multi-shift (24/7) operations — without the need for spare batteries, our high-performance Li-ion battery system is up to 30% more efficient than lead-acid counterparts. Plus, it's virtually error-proof, thanks to its ultra-low-maintenance design which prevents cell damage.

Gas-emission free No need for air ventilation.

#### Exceptional high battery and charger efficiency

State-of-the-art technology delivers up to 30% more power efficiency than lead-acid batteries.

#### Maintenance-free design

No need for daily checks and water re-fills. This reduces the risk of operators damaging cells and reducing their lifetime. Needs a full charge each week to activate cell balancing.

#### No need for spare batteries or charging room

You can save both space and costs in multi-shift applications, maximising profitability.

#### Quick charge capabilities

Just 15 minutes is all your battery needs to keep your truck going for a few more hours. It only takes 1 to 2 hours to fully charge a completely discharged battery.

#### Higher sustained voltage

This gives more consistent lifting and driving performance — particularly noticeable towards the end of a shift.

#### Multiple safety features

This includes circuit protection, deepdischarge and overcharge protection, and individual cell temperature and voltage monitoring.

#### On-the-go performance and monitoring

The system's integrated monitoring system has an easy-to-read display unit.

#### Wide choice of battery and charger capacities

The most suitable power supply can be matched to the exact requirements of a specific application.



Clean Li-ion batteries are ideal for sensitive environments such as those in the food or packaging industries.

## Fully integrated Li-ion battery

Features a sophisticated CANbus communication and an automatic ON/OFF synchronization between battery and truck. Battery level, notifications and alarms are integrated into the truck display, to secure clear and easy overview for the truck operator.



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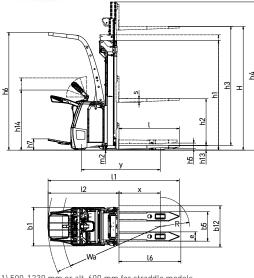
	CHARACTERISTICS						
1.1	Manufacturer				Mitsubishi F	orklift Trucks	
1.2	Manufacturer's model designation			SBV12N3	SBV12N3I	SBV16N3	SBV16N3I
1.3	Power source			Battery	Battery	Battery	Battery
1.4	Operator type			Pedestrian / Stand-on	Pedestrian / Stand-on	Pedestrian / Stand-on	Pedestrian / Stand-o
1.5	Load capacity	Q	kg	1250	1250	1600	1600
1.6	Load center distance	С	mm	600	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	х	mm	800	800	800 1)	800
1.9	Wheelbase	у	mm	1429	1503	1503 <sup>2)</sup>	1533
1.7	WEIGHT	у	111111	1427	1303	1303	1333
2.1b	Truck weight without load, with maximum battery weight		kg	1350	1450	15/0	1//0
	Axle loadings with nominal load & maximum battery weight, drive / load side				1020 / 1495 13)	1560	1660 1235 / 1975 <sup>13)</sup>
2.2	Axle loadings with normal toad & maximum battery weight, drive / load side		kg	1005 / 1410 <sup>13)</sup> 825 / 310 <sup>13)</sup>	855 / 375 <sup>13)</sup>		
2.3	, , ,		kg	825 / 310 137	855 / 3/5 107		1095 / 485 13)
	WHEELS, DRIVE TRAIN						
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul	Vul / Vul	Vul / Vul	Vul / Vul
3.2	Tyre dimensions, drive side	_	mm	235 × 75	235 × 75	235 × 75	235 × 75
3.3	Tyre dimensions, load side	Ø	mm	85 × 76 <sup>3)</sup>	85 × 76 <sup>3)</sup>	85 × 76 3)	85 × 76 <sup>3)</sup>
3.4	Castor wheel dimensions (diameter x width)		mm	150 × 55	150 × 55	150 × 55	150 × 55
3.5	Number of wheels, load / drive side (x = driven)			$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$
3.6	Track width (center of tyres), drive side	b10	mm	497	497	497	497
3.7	Track width (center of tyres), load side	b11	mm	402	390	402	390
	DIMENSIONS						
4.2a	Height with mast lowered	h1	mm	see tables	see tables	see tables	see tables
4.2b	Height	h1	mm	see tables	see tables	see tables	see tables
4.3	Free lift	h2	mm	see tables	see tables	see tables	see tables
4.4	Lift height (stroke)	h3	mm	see tables	see tables	see tables	see tables
4.5	Height with mast extended	h4	mm	see tables	see tables	see tables	see tables
4.6	Initial lift (stroke)	h5	mm	000 (00)	110	000 (00100	110
4.7	Height to top of overhead guard	h6	mm	2283	2283	2283	2283
4.7	Seat- or stand height	h7		171	171	171	171
4.9	Height of tiller arm / steering console (min./max.)	h14	mm	1099 / 1512	1099 / 1512	1099 / 1512	1099 / 1512
	· ·		mm				
4.10	Height of support legs	h8	mm	82	87	80	87
4.15	Fork height, fully lowered	h13	mm	89	93	89	93
4.19	Overall length	11	mm	2090 / 2450 4) 14)	2163 / 2523 4) 14)	2164 / 2525 4) 14)	2193 / 2554 4) 14)
4.20	Length to fork face	12	mm	920 / 1280 4) 14)	993 / 1353 4) 14)	994 / 1355 4) 14)	1023 / 1384 4) 14)
4.21	Overall width	b1	mm	748	748	748	748
4.22	Fork dimensions (thickness, width, length)	s/e/l	mm	70 / 180 / 1170	70 / 180 / 1170	70 / 180 / 1170 5)	70 / 180 / 1170
4.24	Fork carriage width	b3	mm	670	670	730	730
4.25	Outside width over forks (minimum / maximum)	b5	mm	570	570	570 <sup>6)</sup>	570
4.26	Inner width of support legs	b4	mm	N/A 7)	N/A 7)	N/A 7)	N/A 7)
4.32	Ground clearance at center of wheelbase, (forks lowered)	m2	mm	32	20-130	25	20-130
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	mm				
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	mm	2509 / 28464)[28419]	2581 / 29194)[29149]	2582 / 29214)[29159]	2611 / 29504)[29449]
4.35	Turning radius	Wa	mm	1743 / 20804 [20759]	1815/2153 <sup>4)</sup> [2148 <sup>9)</sup> ]	1816 / 2155 <sup>4)</sup> [2149 <sup>9)</sup> ]	1845 / 2184 <sup>4)</sup> [2178 <sup>9</sup>
	PERFORMANCE						
5.1	Travel speed, with / without load		km/h	6.0 / 6.010) 8.5 / 8.511)	6.0 / 6.010 8.5 / 8.511	6.0 / 6.010 8.5 / 8.511	6.0 / 6.010 8.5 / 8.511)
5.2	Lifting speed, with / without load		m/s	0.20 / 0.34	0.20 / 0.34	0.16 / 0.28	0.16 / 0.28
5.3	Lowering speed, with / without load		m/s	0.47 / 0.40	0.47 / 0.33	0.42 / 0.41	0.42 / 0.36
5.7	Gradeability, with / without load		%	8.7 / 8.7	11.9 / 17.2	6.1 / 6.1	11.3 / 17.2
5.9	Acceleration time (10 metres) with / without load		S	5.7 / 5.3 <sup>13)</sup>	5.7 / 5.3 13)	6.3 / 5.3 13)	6.3 / 5.3 13)
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		3	Electric 12)	Electric 12)	Electric 12)	Electric 12)
J. 1 U	ELECTRIC MOTORS			Electric '2'	Electric '-'	Electric 127	Electric 127
/ 1			1.347	2./	2 /	2 /	2 /
6.1	Drive motor capacity (60 min. short duty)		kW	2.4	2.4	2.4	2.4
6.2	Lift motor output at 15% duty factor		kW	3.0 15)	3.0 15)	3.0 15)	3.0 15)
6.4	Battery voltage/capacity at 5-hour discharge		V/Ah	24 / 270-400	24 / 270-400	24 / 270-400	24 / 270-400
6.5	Battery weight		kg	285-350	285-350	285-350	285-350
6.6a	Energy consumption according to EN16796		kW/h	0.68 16)	0.68 16)	0.72 16)	0.72 16)
	MISCELLANEOUS						
8.1	Type of drive control			AC	AC	AC	AC
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		dB (A)	<70	<70	<70	<70
10.7.2	Whole-body vibration (EN 13 059:2002)				see instruct	ion handbook	
	Hand-arm vibration (EN 13 059:2002)						



# SBV12-16N3(I) Series

## **PLATFORM STACKER FOLDING PLATFORM**





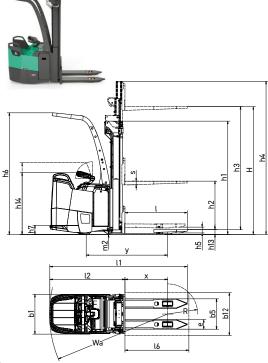
- 1) 500-1230 mm or alt. 600 mm for straddle models
- 2) at x=800 mm
- 3) bogie (tandem)
- 4) platform up / down
- 5) variable length 800-1600, for straddle models 800-1400
- 6) variable fork width 550-660
- 7) derive from b5 and e
- 8) with pivot power steering
- 9) with overhead guard
- 10) without side protection bars
- 11) with side protection bars
- 12) incl. also parking brake 13) Varies acc. to configuration
- 14) For l1 / l2 with OHG add +350 mm to platform up
- 15) 12% duty factor
- 16) Varies acc. to config. and actual usage pattern 17) There are two standard straddle/support legs widths available to choose from (ref. b1/b4)

	CHARACTERISTICS						
1.1	Manufacturer				Mitaubiahi E	orklift Trucks	
1.1	Manufacturer's model designation			SBF12N3R	SBF12N3IR	SBF16N3R	SBF16N3IR
1.3	Power source			Battery	Battery	Battery	Battery
	Operator type			Stand-on	Stand-on	Stand-on	Stand-on
1.4		Q	l. m				
1.5	Load capacity		kg	1250	1250	1600	1600
1.6	Load center distance	С	mm	600	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	Х	mm	800	800	800 1)	800
1.9	Wheelbase	У	mm	1429	1503	1503 <sup>2)</sup>	1533
	WEIGHT						
2.1b	Truck weight without load, with maximum battery weight		kg	1420	1520	1600	1730
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg			1320 / 1835 <sup>13)</sup>	1355 / 1895 <sup>13)</sup>
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg			1130 / 390 <sup>13)</sup>	1175 / 445 <sup>13)</sup>
	WHEELS, DRIVE TRAIN						
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul	Vul / Vul	Vul / Vul	Vul / Vul
3.2	Tyre dimensions, drive side		mm	235 × 75	235 × 75	235 × 75	235 × 75
3.3	Tyre dimensions, load side	Ø	mm	$85 \times 76^{3}$	$85 \times 76^{3}$	$85 \times 76^{-3}$	$85 \times 76^{-3}$
3.4	Castor wheel dimensions (diameter x width)		mm	150 × 55	150 × 55	150 × 55	150 × 55
3.5	Number of wheels, load / drive side (x = driven)			$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$
3.6	Track width (center of tyres), drive side	b10	mm	497	497	497	497
3.7	Track width (center of tyres), load side	b11	mm	402	390	402	390
	DIMENSIONS						
4.2a	Height with mast lowered	h1	mm	see tables	see tables	see tables	see tables
4.2b	Height	h1	mm	see tables	see tables	see tables	see tables
4.3	Free lift	h2	mm	see tables	see tables	see tables	see tables
4.4	Lift height (stroke)	h3	mm	see tables	see tables	see tables	see tables
4.5	Height with mast extended	h4	mm	see tables	see tables	see tables	see tables
4.6	Initial lift (stroke)	h5	mm	000 (00)	110	000 (00.00	110
4.7	Height to top of overhead guard	h6	mm	2283	2283	2283	2283
4.8	Seat- or stand height	h7	mm	170	170	170	170
4.9	Height of tiller arm / steering console (min./max.)	h14	mm	1119 / 1428	1119 / 1428	1119 / 1428	1119 / 1428
4.10	Height of support legs	h8	mm	82	87	80	87
4.15	Fork height, fully lowered	h13	mm	89	93	89	93
4.19	Overall length	11		2482	2556	2556	2585
	Length to fork face	12	mm mm	1312		1386	1415
4.20	Overall width				1386		
4.21		b1	mm	748	748	748	748
4.22	Fork dimensions (thickness, width, length)	s/e/l	mm	70 / 180 / 1170	70 / 180 / 1170	70 / 180 / 1170 5)	70 / 180 / 1170
4.24	Fork carriage width	b3	mm	670	670	730	730
4.25	Outside width over forks (minimum / maximum)	b5	mm	570	570	570 6)	570
4.26	Inner width of support legs	b4	mm	N/A 7)	N/A 7)	N/A 7)	N/A 7)
4.32	Ground clearance at center of wheelbase, (forks lowered)	m2	mm	32	20-130	25	20-130
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	mm	2878	2956	2957	2986
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	mm				
4.35	Turning radius	Wa	mm	2112	2190	2191	2220
	PERFORMANCE						
5.1	Travel speed, with / without load		km/h	8.5 / 8.5	8.5 / 8.5	8.5 / 8.5	8.5 / 8.5
5.2	Lifting speed, with / without load		m/s	0.20 / 0.34	0.20 / 0.34	0.16 / 0.28	0.16 / 0.28
5.3	Lowering speed, with / without load		m/s	0.47 / 0.40	0.47 / 0.33	0.42 / 0.41	0.42 / 0.36
5.7	Gradeability, with / without load		%	8.7 / 8.7	11.4 / 15.0	6.1 / 6.1	10.9 / 15.0
5.9	Acceleration time (10 metres) with / without load		s	5.7 / 5.3 13)	5.7 / 5.3 13)	6.3 / 5.3 13)	6.3 / 5.3 13)
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric 12)	Electric 12)	Electric 12)	Electric 12)
	ELECTRIC MOTORS						
6.1	Drive motor capacity (60 min. short duty)		kW	2.4	2.4	2.4	2.4
6.2	Lift motor output at 15% duty factor		kW	3.0 15)	3.0 15)	3.0 15)	3.0 15)
6.4	Battery voltage/capacity at 5-hour discharge		V/Ah	24 / 270-400	24 / 270-400	24 / 270-400	24 / 270-400
6.5	Battery weight		kg	285-350	285-350	285-350	285-350
6.6a	Energy consumption according to EN16796		kW/h	0.68 16)	0.68 16)	0.72 16)	0.72 16)
	MISCELLANEOUS						
8.1	Type of drive control			AC	AC	AC	AC
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		dB (A)	<70	<70	<70	<70
10.7.2	Whole-body vibration (EN 13 059:2002)		(,,	., 0		ion handbook	., 5
10.7.2	Hand-arm vibration (EN 13 059:2002)					ion handbook	
10.7.0					55550 460		



# SBF12-16N3(I)(R) Series

## **PLATFORM STACKER REAR ENTRY PLATFORM**



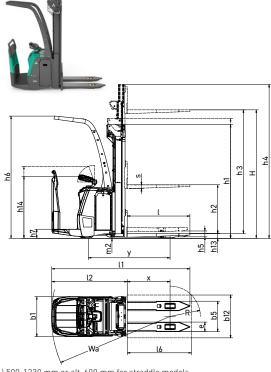
- 1) 500-1230 mm or alt, 600 mm for straddle models
- 2) at x=800 mm
- 3) bogie (tandem)
- 4) platform up / down
- 5) variable length 800-1600, for straddle models 800-1400
- 6) variable fork width 550-660
- 7) derive from b5 and e
- 8) with pivot power steering
- 9) with overhead guard
- 10) without side protection bars
- 11) with side protection bars
- 12) incl. also parking brake
- 13) Varies acc. to configuration
- 14) For l1 / l2 with OHG add +350 mm to platform up
- 15) 12% duty factor
- 16) Varies acc. to config. and actual usage pattern 17) There are two standard straddle/support legs widths available to choose

	CHARACTERISTICS						
1.1	Manufacturer				Mitsuhishi F	orklift Trucks	
1.2	Manufacturer's model designation			SBF12N3S	SBF12N3IS	SBF16N3S	SBF16N3IS
1.3	Power source			Battery	Battery	Battery	Battery
1.4	Operator type			Stand-on	Stand-on	Stand-on	Stand-on
1.5	Load capacity	Q	kg	1250	1250	1600	1600
	Load center distance	c	-	600	600		
1.6			mm			600	600
1.8	Load wheel axle to fork face (forks lowered)	Х	mm	800	800	800 1)	800
1.9	Wheelbase	У	mm	1429	1503	1503 <sup>2)</sup>	1533
	WEIGHT						
2.1b	Truck weight without load, with maximum battery weight		kg	1420	1520	1600	1730
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg			1320 / 1835 <sup>13)</sup>	1355 / 1895 <sup>13)</sup>
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg			1130 / 390 <sup>13)</sup>	1175 / 445 <sup>13)</sup>
	WHEELS, DRIVE TRAIN						
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul	Vul / Vul	Vul / Vul	Vul / Vul
3.2	Tyre dimensions, drive side		mm	235 × 75	235 × 75	235 × 75	235 × 75
3.3	Tyre dimensions, load side	Ø	mm	85 × 76 3)	85 × 76 3)	85 × 76 3)	85 × 76 3)
3.4	Castor wheel dimensions (diameter x width)		mm	150 × 55	150 × 55	150 × 55	150 × 55
3.5	Number of wheels, load / drive side (x = driven)			4 <sup>3)</sup> / 1× + 1	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$
3.6	Track width (center of tyres), drive side	b10	mm	497	497	497	497
3.7	Track width (center of tyres), load side	b11	mm	402	390	402	390
5.7	DIMENSIONS	DII	111111	402	370	402	370
4.2a	Height with mast lowered	h1	mm	see tables	see tables	see tables	see tables
	Height	h1		see tables	see tables	see tables	see tables
4.2b	•		mm				
4.3	Free lift	h2	mm	see tables	see tables	see tables	see tables
4.4	Lift height (stroke)	h3	mm	see tables	see tables	see tables	see tables
4.5	Height with mast extended	h4	mm	see tables	see tables	see tables	see tables
4.6	Initial lift (stroke)	h5	mm		110		110
4.7	Height to top of overhead guard	h6	mm	2283	2283	2283	2283
4.8	Seat- or stand height	h7	mm	170	170	170	170
4.9	Height of tiller arm / steering console (min./max.)	h14	mm	1130 / 1297 8)	1130 / 1297 <sup>8)</sup>	1130 / 1297 8)	1130 / 1297 8)
4.10	Height of support legs	h8	mm	82	87	80	87
4.15	Fork height, fully lowered	h13	mm	89	93	89	93
4.19	Overall length	11	mm	2482	2556	2556	2585
4.20	Length to fork face	12	mm	1312	1386	1386	1415
4.21	Overall width	b1	mm	748	748	748	748
4.22	Fork dimensions (thickness, width, length)	s/e/l	mm	70 / 180 / 1170	70 / 180 / 1170	70 / 180 / 1170 5)	70 / 180 / 1170
4.24	Fork carriage width	b3	mm	670	670	730	730
4.25	Outside width over forks (minimum / maximum)	b5	mm	570	570	570 <sup>6)</sup>	570
	Inner width of support legs				N/A 7)	N/A 7)	N/A 7)
4.26	Ground clearance at center of wheelbase, (forks lowered)	b4	mm	N/A 7)			
4.32		m2	mm	32	20-130	25	20-130
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	mm	2878	2956	2957	2986
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	mm				
4.35	Turning radius	Wa	mm	2112	2190	2191	2220
	PERFORMANCE						
5.1	Travel speed, with / without load		km/h	8.5 / 8.5	8.5 / 8.5	8.5 / 8.5	8.5 / 8.5
5.2	Lifting speed, with / without load		m/s	0.20 / 0.34	0.20 / 0.34	0.16 / 0.28	0.16 / 0.28
5.3	Lowering speed, with / without load		m/s	0.47 / 0.40	0.47 / 0.33	0.42 / 0.41	0.42 / 0.36
5.7	Gradeability, with / without load		%	8.7 / 8.7	11.4 / 15.0	6.1 / 6.1	10.9 / 15.0
5.9	Acceleration time (10 metres) with / without load		s	5.7 / 5.3 <sup>13)</sup>	5.7 / 5.3 <sup>13)</sup>	6.3 / 5.3 13)	6.3 / 5.3 13)
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)			Electric 12)	Electric 12)	Electric 12)	Electric 12)
	ELECTRIC MOTORS						
6.1	Drive motor capacity (60 min. short duty)		kW	2.4	2.4	2.4	2.4
6.2	Lift motor output at 15% duty factor		kW	3.0 15)	3.0 15)	3.0 15)	3.0 15)
6.4	Battery voltage/capacity at 5-hour discharge		V/Ah	24 / 270-400	24 / 270-400	24 / 270-400	24 / 270-400
	Battery weight						
6.5	, ,		kg	285-350	285-350	285-350	285-350
6.6a	Energy consumption according to EN16796		kW/h	0.68 16)	0.68 16)	0.72 16)	0.72 16)
	MISCELLANEOUS						
8.1	Type of drive control			AC	AC	AC	AC
10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		dB (A)	<70	<70	<70	<70
10.7.2	Whole-body vibration (EN 13 059:2002)				see instruct	on handbook	
	Hand-arm vibration (EN 13 059:2002)				see instruct		



# SBF12-16N3(I)(S) Series

## **PLATFORM STACKER** SIDE ENTRY PLATFORM



- 1) 500-1230 mm or alt. 600 mm for straddle models
- 2) at x=800 mm
- 3) bogie (tandem)
- 4) platform up / down
- 5) variable length 800-1600, for straddle models 800-1400
- 6) variable fork width 550-660
- 7) derive from b5 and e
- 8) with pivot power steering
- 9) with overhead guard
- 10) without side protection bars
- 11) with side protection bars
- 12) incl. also parking brake
- 13) Varies acc. to configuration
- 14) For l1 / l2 with OHG add +350 mm to platform up
- 15) 12% duty factor
- 16) Varies acc. to config. and actual usage pattern 17) There are two standard straddle/support legs widths available to choose

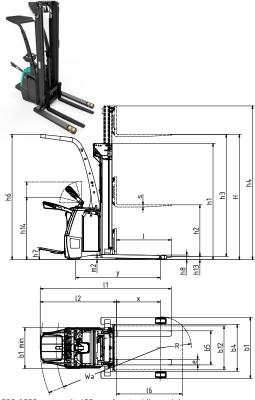
	CHARACTERISTICS					
1.1	Manufacturer			Mitsu	ubishi Forklift Tr	ucks
1.2	Manufacturer's model designation			SBV16N3S	SBF16N3SR	SBF16N3SS
1.3	Power source			Battery	Battery	Battery
1.4	Operator type			Pedestrian/Stand-on	Stand-on	Stand-on
1.5	Load capacity	Q	kg	1600	1600	1600
1.6	Load center distance	С	mm	600	600	600
1.8	Load wheel axle to fork face (forks lowered)	x	mm	800 <sup>1)</sup>	800 <sup>1)</sup>	800 1)
1.9	Wheelbase	У	mm	1543 <sup>2)</sup>	1543 <sup>2)</sup>	1543 <sup>2)</sup>
	WEIGHT					
2.1b	Truck weight without load, with maximum battery weight		kg	1580	1650	1650
2.2	Axle loadings with nominal load & maximum battery weight, drive / load side		kg	1320 / 1845 13)		
2.3	Axle loadings without load & with maximum battery weight, drive / load side		kg	1025 / 425 13)		
	WHEELS, DRIVE TRAIN					
3.1	Tyres: PT = Power Thane, Vul = Vulkollan, P = Polyurethane, N = Nylon, R = Rubber drive / load side			Vul / Vul	Vul / Vul	Vul / Vul
3.2	Tyre dimensions, drive side		mm	235 × 75	235 × 75	235 × 75
3.3	Tyre dimensions, load side	Ø	mm	85 × 76 3)	85 × 76 3)	85 × 76 3)
3.4	Castor wheel dimensions (diameter x width)		mm	150 × 55	150 × 55	150 × 55
3.5	Number of wheels, load / drive side (x = driven)			4 <sup>3)</sup> / 1× + 1	$4^{3)} / 1 \times + 1$	$4^{3)} / 1 \times + 1$
3.6	Track width (center of tyres), drive side	b10	mm	497	497	497
3.7	Track width (center of tyres), load side	b11	mm	985 / 1185 <sup>3)</sup>	985 / 1185 <sup>3)</sup>	985 / 1185 <sup>3)</sup>
	DIMENSIONS					
4.2a	Height with mast lowered	h1	mm	see tables	see tables	see tables
4.2b	Height	h1	mm	see tables	see tables	see tables
4.3	Free lift	h2	mm	see tables	see tables	see tables
4.4	Lift height (stroke)	h3	mm	see tables	see tables	see tables
4.5	Height with mast extended	h4	mm	see tables	see tables	see tables
4.6	Initial lift (stroke)	h5	mm	-	-	-
4.7	Height to top of overhead guard	h6	mm	2283	2283	2283
4.8	Seat- or stand height	h7	mm	171	170	170
4.9	Height of tiller arm / steering console (min./max.)	h14	mm	1099 / 1512	1119 / 1428	1130 / 1297 8)
4.10	Height of support legs	h8	mm	92 <sup>3)</sup>	92 <sup>3)</sup>	92 <sup>3)</sup>
4.15	Fork height, fully lowered	h13	mm	55	55	55
4.19	Overall length	11	mm	2184 / 2545 4) 14)	2576	2576
4.20	Length to fork face	12	mm	1034 / 1395 4) 14)	1426	1426
4.21	Overall width	b1	mm	1115 / 1315 3) 17)	1115 / 1315 3) 17)	1115 / 1315 3) 17)
4.22	Fork dimensions (thickness, width, length)	s/e/l	mm	40 / 100 / 1150 5)	40 / 100 / 1150 5)	40 / 100 / 1150 5)
4.23	Fork carriage to DIN	3/ 6/ (		FEM 2/A	FEM 2/A	FEM 2/A
4.24	Fork carriage width	b3	mm	840	840	840
4.25	Outside width over forks (minimum / maximum)	b5	mm	316 / 773	316 / 773	316 / 773
4.26	Inner width of support legs	b4	mm	855 / 1055 <sup>17)</sup>	855 / 1055 <sup>17)</sup>	855 / 1055 <sup>17)</sup>
4.32	Ground clearance at center of wheelbase, (forks lowered)	m2	mm	30 3)	30 <sup>3)</sup>	30 <sup>3)</sup>
4.33a	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise	Ast	mm	00 0)	3063 <sup>2)</sup>	3063 <sup>2)</sup>
4.33c	Working aisle width (Ast) with 1000 x 1200 mm pallets, load crosswise, platform up/down	Ast	mm	2688 / 3027 4)	3003	3003
4.34a	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise	Ast	mm	2000 / 3027	2997 <sup>2)</sup>	2997 <sup>2)</sup>
4.34c	Working aisle width (Ast) with 800 x 1200 mm pallets, load lengthwise, platform up/down	Ast	mm	2622/29612) <sup>4)</sup> [2955 <sup>9)</sup> ]	2///	2///
4.35	Turning radius	Wa	mm	1856/2195 <sup>2)4)</sup> [2189 <sup>9)</sup> ]	2231 2)	2231 <sup>2)</sup>
4.55	PERFORMANCE	****		1030/21/3 [210/]	2231	2231
5.1	Travel speed, with / without load		km/h	6.0/6.010) 8.5/ 8.511)	8.5 / 8.5	8.5 / 8.5
5.2	Lifting speed, with / without load		m/s	0.15 / 0.24	0.15 / 0.24	0.15 / 0.24
5.3	Lowering speed, with / without load		m/s	0.33 / 0.30	0.33 / 0.30	0.33 / 0.30
5.7	Gradeability, with / without load		%	6.1 / 6.1	6.1 / 6.1	6.1 / 6.1
5.9	Acceleration time (10 metres) with / without load		S	6.3 / 5.3 13)	6.3 / 5.3 13)	6.3 / 5.3 13)
5.10	Service brakes (mechanical / hydraulic / electric / pneumatic)		3	Electric 12)	Electric 12)	Electric 12)
3.10	ELECTRIC MOTORS			Licetific	Licetific	Licetific
6.1	Drive motor capacity (60 min. short duty)		kW	2.4	2.4	2.4
6.2	Lift motor output at 15% duty factor		kW	3.0 15)	3.0 15)	3.0 15)
6.4	Battery voltage/capacity at 5-hour discharge		V/Ah	24 / 270-400	24 / 270-400	24 / 270-400
6.5	Battery weight			285-350	285-350	285-350
6.6a	Energy consumption according to EN16796		kg kW/b	0.72 16)	0.72 16)	0.72 16)
J.Ud	MISCELLANEOUS		kW/h	U.1 Z ***	U.1 Z	U.1 Z ·
0 1	Type of drive control			AC	۸۲	۸۲
8.1 10.7	Level of noise at the ear level of the driver according to EN 12 053:2001 and EN ISO 4871 in work LpAZ		dB (A)	AC <70	AC <70	AC <70
10.7.2	Whole-body vibration (EN 13 059:2002)		ub (A)		e instruction handbo	
	Hand-arm vibration (EN 13 059:2002)				e instruction handbo	
10.7.3	Tiana arm vibration (Liv 13 037.2002)			Se	t mstruction nandbo	UK



## SBV/SBF16N3S(R)(S) Series

## PLATFORM STACKER WITH STRADDLE LEGS

1.60 tonnes



- 1) 500-1230 mm or alt. 600 mm for straddle models
- 2) at x=800 mm
- 3) bogie (tandem)
- 4) platform up / down
- 5) variable length 800-1600, for straddle models 800-1400
- 6) variable fork width 550-660
- 7) derive from b5 and e
- 8) with pivot power steering
- 9) with overhead guard
- 10) without side protection bars
- 11) with side protection bars
- 12) incl. also parking brake
- 13) Varies acc. to configuration
- 14) For l1 / l2 with OHG add +350 mm to platform up
- 15) 12% duty factor
- 16) Varies acc. to config. and actual usage pattern 17) There are two standard straddle/support legs widths available to choose from (ref. b1/b4)

## MAST PERFORMANCE AND CAPACITY



# SBV/SBF12-16N3(I)(S)(R) Series

## **PLATFORM STACKER**

1.25 - 1.60 tonnes

MAST TYPE	h3 + h13 mm	h1 mm	h4 mm	h2 + h13 mm
NARROW		SBV/SBF	12N3(R)(S)	
	2690	1857	3120	159
Duplex with clear	2990	2007	3420	159
view mast	3290	2157	3720	159
VICW IIIdast	3590	2307	4020	159
	4190	2607	4620	159
	2690	1857	3120	1389
Duplex with clear view and full free lift	2990	2007	3420	1539
	3290	2157	3720	1689
(TFV)	3590	2307	4020	1839
	4190	2607	4620	2139
NARROW		SBV/SBF	16N3(R)(S)	
	2900	2000	3405	1499
Duplex with	3200	2150	3705	1649
clear view and	3600	2350	4105	1849
full free lift (TFV)	3800	2450	4305	1949
(11.17	4200	2650	4705	2149
Triplex with clear	4350	2000	4882	1519
view and full free lift	4800	2150	5332	1669
(DTFV)	5400	2350	5932	1869

MAST TYPE	h3 + h13 mm	h1 mm	h4 mm	h2 + h13 mm					
WIDE STRADDLE	SBV/SBF16N3S(R)(S)								
	2900	2000	3410	1465					
Duplex with clear view and	3200	2150	3710	1615					
full free lift	3600	2350	4110	1815					
(WTFV)	3800	2450	4310	1915					
	4200	2650	4710	2115					

MAST TYPE	h3 + h13 mm	h1 mm	h4 mm	h2 + h13 mm				
INITIAL LIFT		SBV/SBF12N3I(R)(S)						
	2690	1862	3125	163				
Duplex with clear	2990	2012	3425	163				
view mast	3290	2162	3725	163				
(TV)	3590	2312	4025	163				
	4190	2612	4625	163				
	2690	1862	3125	1393				
Duplex with	2990	2012	3425	1543				
clear view and full free lift	3290	2162	3725	1693				
(TFV)	3590	2312	4025	1843				
(	4190	2612	4625	2143				
INITIAL LIFT		SBV/SBF1	6N3I(R)(S)					
	2900	2005	3412	1503				
Duplex with	3200	2155	3712	1653				
clear view and	3600	2355	4112	1853				
full free lift (TFV)	3800	2455	4312	1953				
,,	4200	2655	4712	2153				
Triplex with clear	4350	2005	4889	1523				
view and full free lift	4800	2155	5339	1673				
(DTFV)	5400	2355	5939	1873				

TV / DS = Duplex with clear view mast TFV / DEV = Duplex with clear view and full free lift DTFV / TREV = Triplex with clear view and full free lift

h3 + h13 = Lifting height

h1 = Lowered mast height

h4 = Raised mast height

h2 + h13 = Free lift

## **STANDARD EQUIPMENT & OPTIONS**

Standard Option	SBV12-16N3	SBV12-16N3I	SBF12-16N3R	SBF12-16N3IR	SBF12-16N3S	SBF12-16N3IS	SBV16N3S	SBF16N3SR	SBF16N3SS
GENERAL									
Drive motor 2.4 kW AC	•	•	•	•	•	•	•	•	•
Lift motor 3.0 kW DC (S3=12%)	•	•	•	•	•	•	•	•	•
Micro-computer with standard display (HMI-10), incl.		_	_	_	_	_	_	_	_
hour meter and BDI	•	•	•	•	•	•	•	•	•
Initial straddle lift (for double pallet handling and cross-docking)	-	•	-	•	-	•	_	_	_
Wide straddle legs for handling of also closed load carriers							_	_	_
(std width 855 or 1055 mm)	-	-	-	-	-	-	•	•	•
Foldable platform, without side protection bars (6.0 km/h)	•	•	-	-	-	-	•	_	_
Fixed operator protected platform, rear entry (8.5 km/h)	_	-	•	•	-	-	-	•	-
Fixed operator protected platform, side entry (8.5 km/h)	_	-	_	_	•	•	_	_	•
Mechanical steering tiller arm (fixed length 450 mm)	•	•	-	-	-	_	•	-	_
Power steering tiller arm	•	•	•	•	-	-		•	•
Pivot steering (Comfort Steering tiller arm)	-	_		•	•	•	-	•	
Vulkollan® drive wheel	•	•	•	•	•	•	•	•	•
Tandem load wheels dia 85 mm, Vulkollan®	•	•	•	•	•	•	•	•	•
Single load wheels dia 150 mm, Vulkollan®	_	_	_	_	_	_			
BATTERY AND CHARGER									
Battery connector: Rema 160	•	•	•	•	•	•	•	•	•
Battery compartment without rollers		•	•	•	•	•	•	•	•
Battery on steel rollers **	•	•		•	•	•	•	•	•
Quick release of battery lock	_					_			
(only in combination with steel rollers)		•	•	•	•	•			•
Li-ion batteries and chargers *	•	•	•	•	•	•	•	•	•
Lead acid batteries and chargers		•	•	•	•	•		•	•
ENVIRONMENT									
Grease nipples in lifting profiles and rust protected axles	•	•	•	•	•	•	•	•	•
Chill store design, down to -10°C		•	•	•	•	•	•	•	•
Cold store design, down to -30C° **		•		•	•	•	•	•	
DRIVE AND LIFT CONTROLS			-			-			
Speed regulated lift motor and proprtional valve for lowering,		_		_	_		-	_	
controlled by large rocker switch on tiller head	•	•	•	•	•	•	•	•	•
Tiller-up drive	•		_	_	_	_		_	_

<sup>\*</sup> Li-ion battery option is available in selected regions.



# **PLATFORM STACKER**



Mechanical steering tiller arm



Power steering tiller arm



Pivot (comfort) steering

<sup>\*\*</sup> Not in combination with Li-ion battery

## **STANDARD EQUIPMENT & OPTIONS**

= Standard = Option	SBV12-16N3	SBV12-16N3I	SBF12-16N3R	SBF12-16N3IR	SBF12-16N3S	SBF12-16N3IS	SBV16N3S	SBF16N3SR	SBF16N3SS
DRIVE WHEEL OPTIONS									
Vulkollan 93®	•	•	•	•	•	•	•	•	•
Tractothan 93	•	•		•	•	•	•		
Super grip 93									
PEVODYN-Soft 78	•	•		•	•			•	
Vulkollan 95 ELF®	•								
OTHER FEATURES AND OPTIONS									
Overhead guard (not in combination with mechanical steering)	•	•	•	•	•	•	•	•	•
Foldable side protection bars, incl. increased drive 8.5 km/h (only with foldable platform)	•	•	-	-	-	-	•	-	-
Fixed platform adjustable damped floor, electric by toggle switch for individual settings/preference	-	-	•	•	•	•	-	•	•
Foot protection, by light curtain in platform opening (rear entry platform version only)	-	-	•	•	-	-	-	•	-
Power steering		•	•	•	•	•	•	•	•
Active Spin Reduction		•	•	•	•		•	•	•
Multi-function display incl. hour meter and BDI (HMI-20), <99 individual PIN codes log in and graphic icons	•	•	•	•	•	•	•	•	•
Load backrest 1200	•	•	•	•	•	•	•	•	•
Key switch entry	•	•	•	•	•	•	•	•	•
12 V DC power socket (not in combination with 5 V USB)		•		•	•	•	•	•	
5 V USB socket (not in combination with 12 V)	•	•	•	•	•	•	•	•	•
Accessory rack	•	•	•	•	•	•	•	•	
(not in combinaton with OHG, already included in OHG)									
Writing desk incl. RAM C holder	•	•	•	•	•	•	•	•	
(accessory rack or OHG required)									
Equipment holder, RAM system size C	•	•	•	•	•	•	•	•	
(accessory rack or OHG required)		•	•			•			
Equipment holder, RAM system size C, 2 pcs	•	•	•	•	•	•	•	•	•
(accessory rack or OHG required)									
Equipment holder, RAM size D (accessory rack or OHG required)									
Special RAL colour		•	•	•	•	•	•	•	
Battery creep (limp home) safety feature,		_	_	_	_	_	_	_	
Lead-acid (DoD 15%) / Li-ion (DoD 7%)	•	•	•	•	•	•	•	•	•
Battery level audible warning,									
lead acid (DoD 20%) / Li-ion (DoD 10%)									
Service interval alarm	•	•	•	•	•	•	•	•	
Automatic log-off (HMI-20 required,	-								
not in combination with key switch entry)	•			•	•			•	
Revert to low speed at log-off									
(not in combination with 'at operator absent')	•	•	•	•		•		•	
Revert to low speed at operator absent									
(not in combination with 'at log-off')		•							
Floor spot Red or Blue (not combined, OHG required)									



# **PLATFORM STACKER**



Wide straddle legs



Foldable side bars



Initial lift

# WHEN RELIABILITY IS EVERYTHING...



AXÍA THE ALL ROUNDER With a name that reflects its manoeuvrability, AXiA combines award-winning ergonomics with high performance and low maintenance features to deliver a complete warehouse support package.

Efficient, versatile and durable, AXiA is the perfect choice for every workplace.

Like any product bearing the Mitsubishi Forklift Trucks name, our materials handling equipment benefits from the tremendous heritage, huge resources and cutting-edge technology of one of the world's largest corporations - Mitsubishi Heavy Industries Group.

Engineering spacecraft, jet planes, power plants and more, MHI specialises in those technologies where performance, dependability and superiority decide your success or failure...

So when we promise you quality, reliability and value for money, you know it's a quarantee we have the power to deliver.

That's why every model in our award winning and comprehensive range of lift trucks and warehouse equipment is built to a high specification – to ensure it keeps working for you. Day after day. Year after year. Whatever the job. Whatever the conditions.

#### YOU'LL NEVER WORK ALONE

As your local authorised distributor, we are here to keep your trucks working - through our extensive experience, our technical excellence and our commitment to customer care.

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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.

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#### QUALITY | RELIABILITY | VALUE FOR MONEY

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