



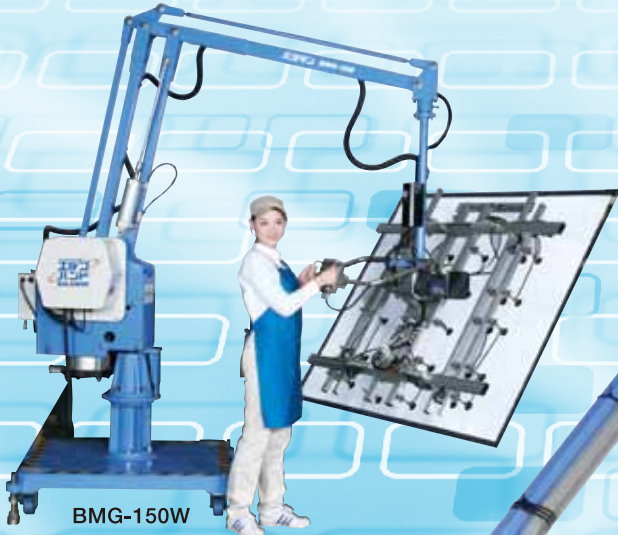
# TOYO KOKEN ERGO-HAND BALAMAN

BALAMAN general catalogue



ISO9001:2008 Certified  
ISO14001:2004 Certified

*Change the transfer operation of heavy products with various shapes to be light duty.*



BMG-150W



BMS-250



BMG-38S

 **TOYO KOKEN K. K.**



# Realize the efficiency and cost reduction in operability and safety features.

**Our many experiences of technologies actively contribute to change every kind of transfer operation to be light duty.**

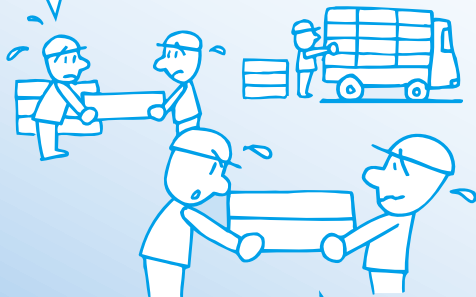
Material handling equipment of TOYO KOKEN are taking an active part covering incoming, machining, processing, production, storage, and distribution of materials and products.

BALAMAN Series which save labor of transfer and transportation of heavy loads are offered in various types such as "Pneumatic BALAMAN".

A wide variety of hand attachments are applicable to heavy loads of any shape which can be made to order.



Transportation by two persons takes a lot of time and inefficient.



A low priced machine should be set in small space for transferring workpieces.



# logistics by our many experiences



UBMG-150W



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ISO9001:2008 Certified  
ISO14001:2004 Certified

**[ ERGO-HAND® ]**

The purpose is to enhance the safety and work efficiency by design the machine and equipment in conformity with human body and capability.

(ergonomics)

"ERGO-HAND" is our new brand expressing the TOYO KOKEN technologies by fusing the terms of "ergonomics" and "hand (human hand technology)"

# We propose BALAMAN, which suits your transfer prod and installation conditions.

We propose the best-suited type of main unit, base, attachment, etc. based on the shape, weight, etc. of the transfer products (workpiece).

BALAMAN will strongly support your heavy manual labor at the transfer operation sites which is covering from receiving raw materials/materials to processing/production processes, storage/shipping operations, etc. where product flows are versatile and wide-ranging, by choosing the best-suited model for the transfer products and the installation conditions.

What are the work pieces and operations?

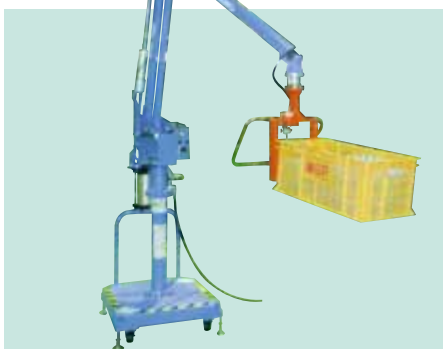
What about the installation space?

- ✓ Size of workpiece
- ✓ Shape of workpiece
- ✓ Weight of workpiece
- ✓ Material of workpiece
- ✓ Palletize
- ✓ Depalletize
- ✓ Assembly, ...etc.

- ✓ Working range
- ✓ Height of ceiling
- ✓ Method of installation
- ✓ Layout of workplace

We propose the custom-made attachments and the operation methods in which our accumulated know-how.

We propose the installation method, by choosing from the various styles of arm.



ucts



What is the "ERGO-HAND BALAMAN"?



ERGO-HAND BALAMAN is a transfer manipulator that is different from a crane, and it can transfer the product in all directions as operator intended by utilizing the principle of leverage.

BMG-38S



# The highly functional attachments reduce the burden of heavy products.

The highly functional attachments that can deal with varieties of heavy products have enabled the safe, rapid and nimble working.

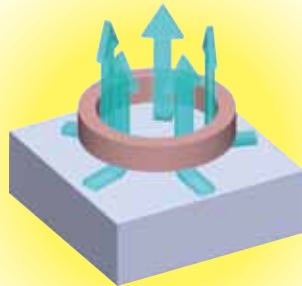
Performance of "ERGO-HAND BALAMAN" is optimized by the attachment that can securely hold different shapes of workpieces (heavy products) and realize labor (heavy work) reduction at a variety of job sites.

ERGO-HAND BALAMAN has flexible operability and the varieties of attachments that are developed based on our many years of experiences and achievements which have made the transferring/conveyancing heavy work in all areas to be safer and more rapid.

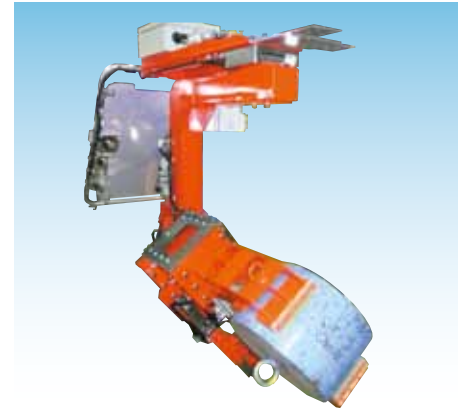
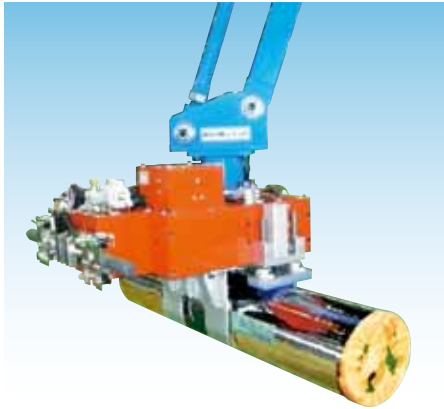
## Holding Method of Workpiece



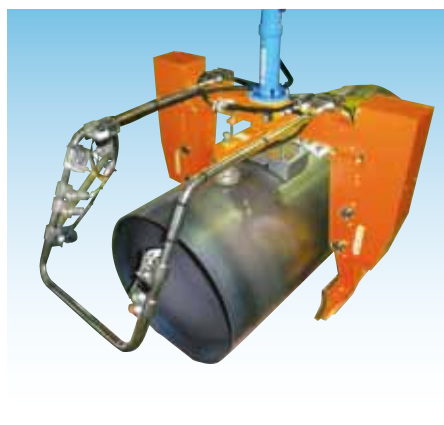
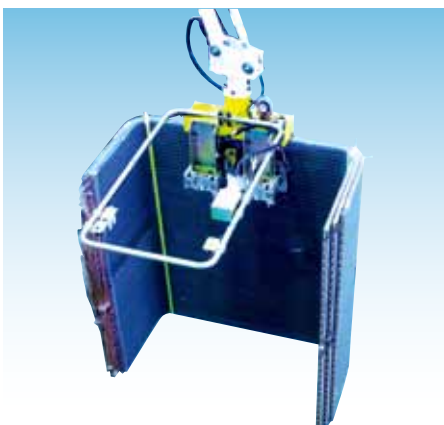
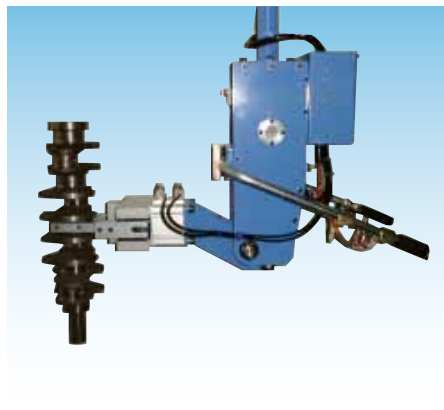
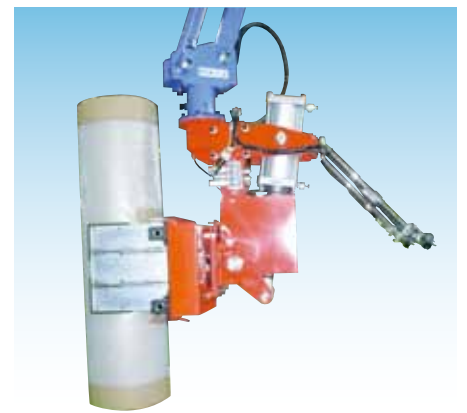
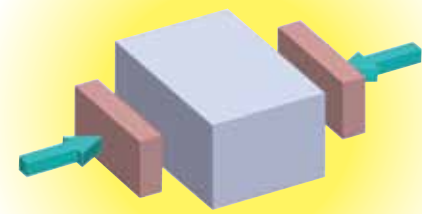
Vacuum Type



# required for the transfer operation

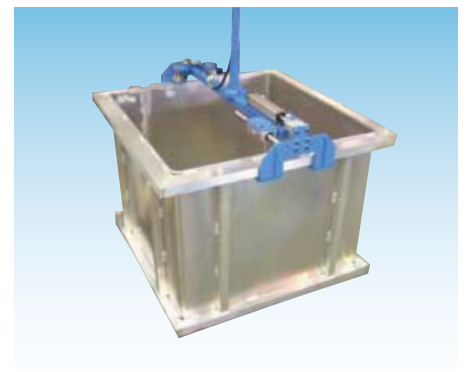


Outside Clamping Type

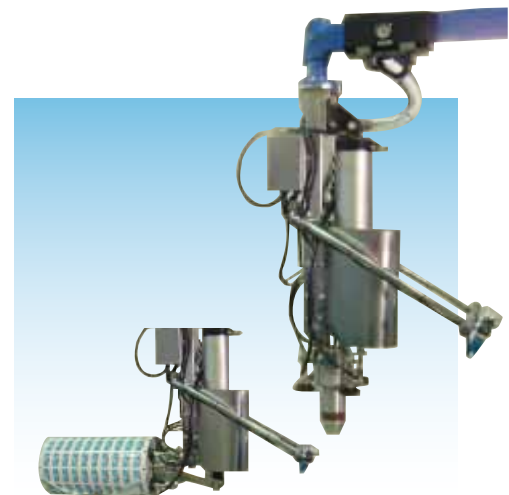
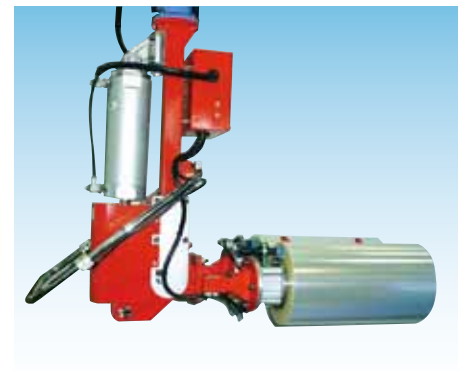
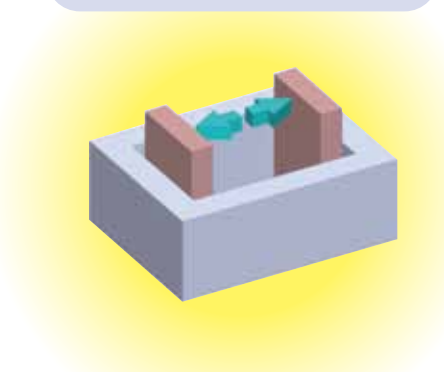




Hook/Hanging Type

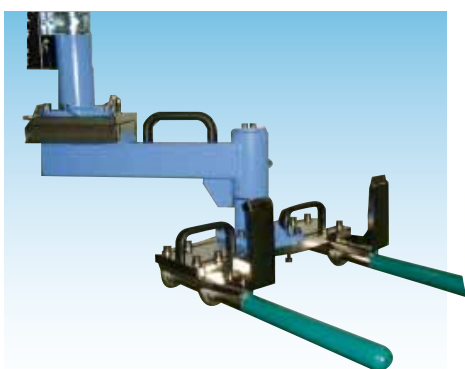
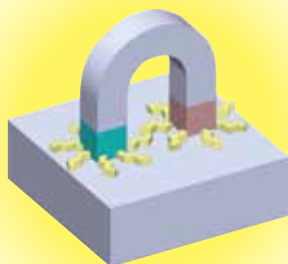


Inside Clamping Type

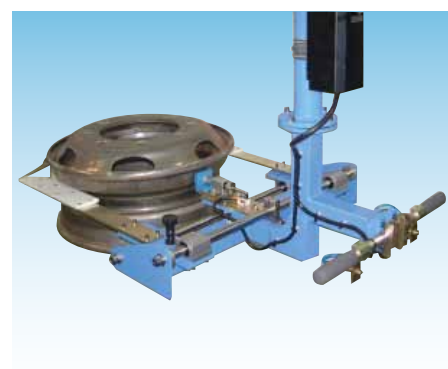
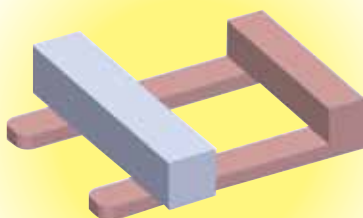




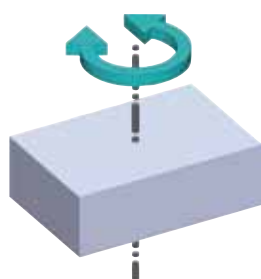
Magnet Type



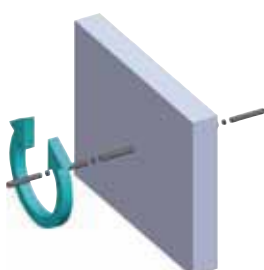
Fork/Insertion Type



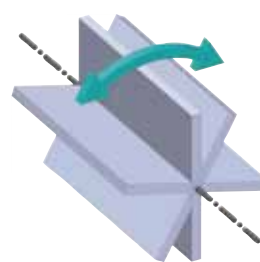
The optimum working posture is realized by adding various mechanisms to the attachments that hold various workpieces.



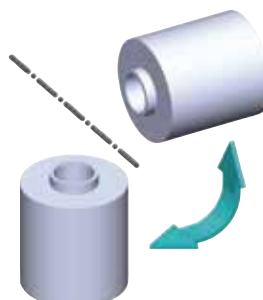
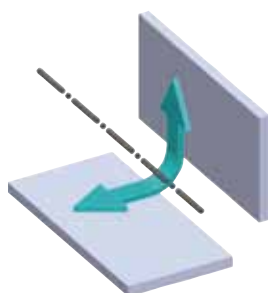
Horizontal Rotation



Vertical Rotation



Tilting/Turning Over



Pulling Up/ Down

Motions of the attachment use the air cylinder, rotary actuator, servomotor, etc. in addition to the manual.

# Versatile arm types that fit the working space and operations.

## BMF type



- 1-axis rotation type which is the standard and easy-to-use.
- The model range is from 75kg to 500kg and is standardized.
- The fixed type and the movable type can be selected.

\*This feature is not applicable to some models.

## BMS type



- The 2-axis rotation type which is compatible with various installation spaces.
- This type is best suited for lateral loading/unloading operation.
- The fixed type and movable type can be selected.

## BMG type



- Suitable for low ceiling site.
- The fixed type and movable type can be selected.

## BMC type



## BMS-C type



Ceiling-Mount Type

## BMH type



- Cover the wide operation area in combination with the ceiling-rail system.



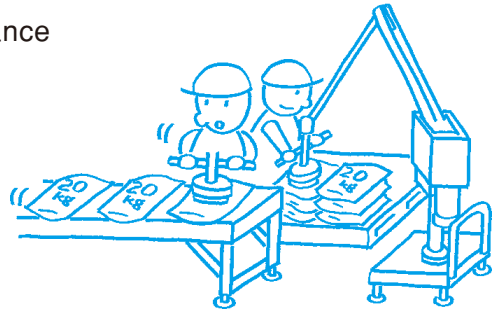
# PNEUMATIC BALAMAN

# Two control systems can be adapted to transfer products and do operations

## REGULATOR CONTROL

The control system that set up weight of the transfer product in advance and select balance condition by operation switch.

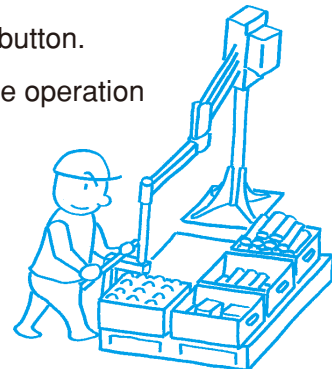
- Suitable for lot production that transfers the same products continuously.
- Since the state of balance can be switched rapidly, it is suitable for operations that require the shorter tact time.
- Apply for the balance operations only.
- Set up the multiple weights and select the balance with the select switch.



## DOUBLE CONTROL

The control system can deal with random weights where the weight of transfer products is detected every time.

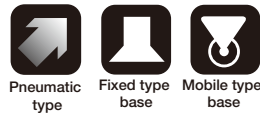
- Suitable for handling various kinds of transfer workpieces.
- The balancing pressure is set up every time after lifting up the transfer products by the crane operation.
- Available to switch to balancing condition mode by balance button.
- The transfer in the air is possible to select either by the crane operation or by the balance operation.



- Safety function**
- The workpieces/arm can be stopped and held at the existing position even when the supply air is lost.
  - Prevent the jump-up of the arm even if the work piece was self-destructed.
  - The interlocking circuits with various attachments are featured.

# BMG-30~150

The capability of flexible transfer is ensured even in the low ceiling space.



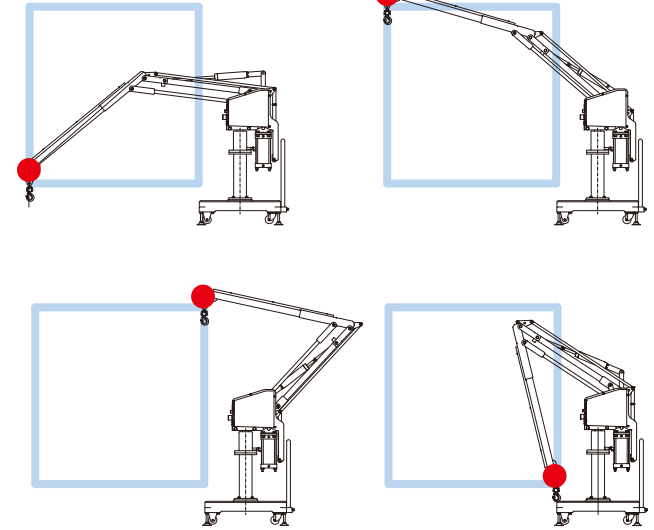
<b>30</b> kg	<b>38</b> kg	<b>50</b> kg	<b>75</b> kg	<b>150</b> kg
Suspended load 30kg	Suspended load 38kg	Suspended load 50kg	Suspended load 75kg	Suspended load 150kg

## Pneumatic type



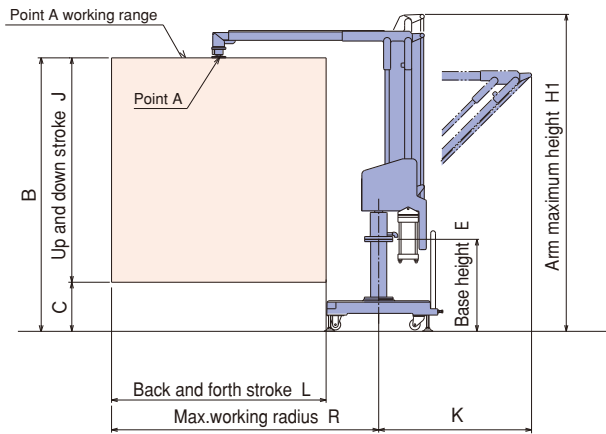
BMG-38S

### ● Point A



Note: The photo shows the system with attachments. The standard system does not include any attachment.

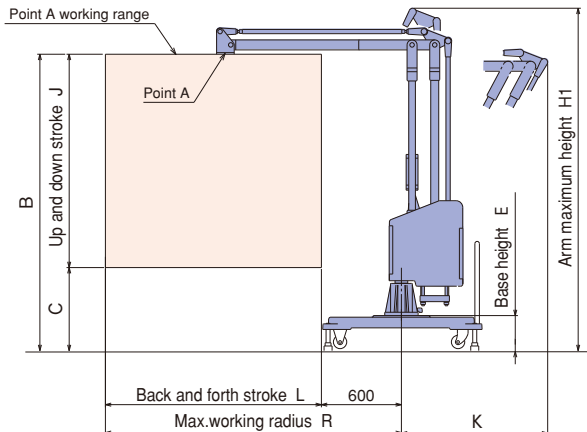
\*The maximum working radius can be changed. (The load capacity varies according to the change.)  
\*The load capacity includes the weight of attachment. In addition to workpiece.



Model	Max. load (kg)	H1 (mm)	B (mm)	C (mm)	E (mm)	J (mm)	K (mm)	R (mm)	L (mm)	Approx. Mass (kg)	Base	
											Fixed type	Mobile type
BMG-30W	30	2260	1950	350	656	1600	1090	1905	1530	100	FSG-30W	SNG-30W
BMG-38S	38	2480	2220	220	656	2000	1175	2375	1870	100	FSG-38S	SNG-38S
BMG-38W	38	2500	2190	190	656	2000	1260	2375	1870	140	FSG-38W	SNG-38W
BMG-50W	50	2260	1950	350	656	1600	1090	1905	1530	135	FSG-50W	SNG-50W

● Arm ratio: 8:1, 10:1 (BMG-38W/S)  
● Refer to the attached table [P21] for the details of the applicable bases.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMG-30W	0.49	600	10 (15)	47 (31)	177	0.4
BMG-38S/ W	0.49	600	10 (15)	74 (49)	221	1.5 (0.75)
BMG-50W	0.49	600	10 (15)	74 (49)	276	0.75



Model	Max. load (kg)	H1 (mm)	B (mm)	C (mm)	E (mm)	J (mm)	K (mm)	R (mm)	L (mm)	Approx. Mass (kg)	Base	
											Fixed type	Mobile type
BMG-75W	75	2441	2096	496	136	1600	1097	2220	1620	220	FSG-75W	—
		2528	2183	583	223	1600	1097	2220	1620		SNG-75W	
BMG-150W	150	2441	2096	496	136	1600	1097	2220	1620	290	FSG-150W	—
		2568	2223	623	263	1600	1097	2220	1620		SNG-150W	

● Arm ratio: 8:1  
● Refer to the attached table [P21] for the details of the applicable bases.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor mm/sec
BMG-75W	0.49	500	10 (20)	121 (60)	377	1.5 (0.75)
BMG-150W	0.49	500	10 (20)	189 (94)	589	1.5

# BMF-75~500

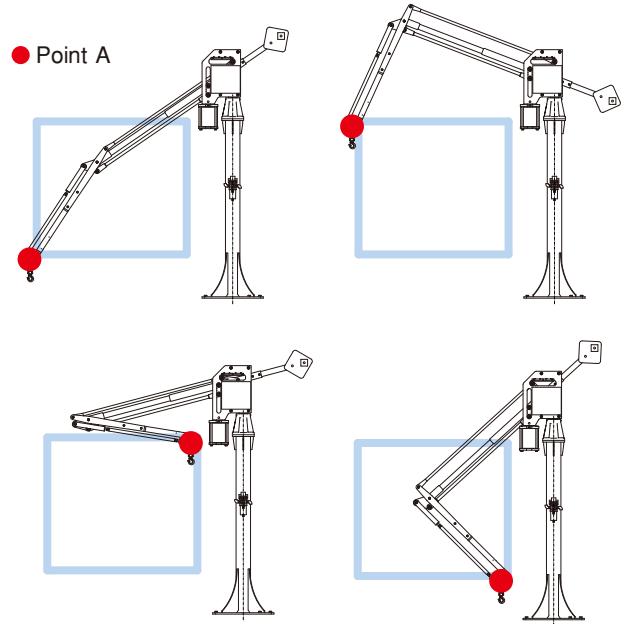
1-axis rotation type which is the standard and easy-to-use

Pneumatic type	Fixed type base	Mobile type base	Single link	Double link
<b>75</b> kg	<b>150</b> kg	<b>250</b> kg	<b>375</b> kg	<b>500</b> kg
Suspended load 75kg	Suspended load 150kg	Suspended load 250kg	Suspended load 375kg	Suspended load 500kg

## Pneumatic type

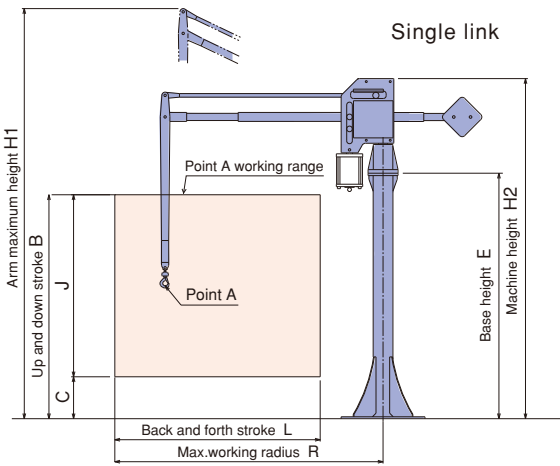


BMF-150W



Note: The photo shows the system with attachments. The standard system does not include any attachment.

\*Select the double link type if it needs to keep level of the workpiece.



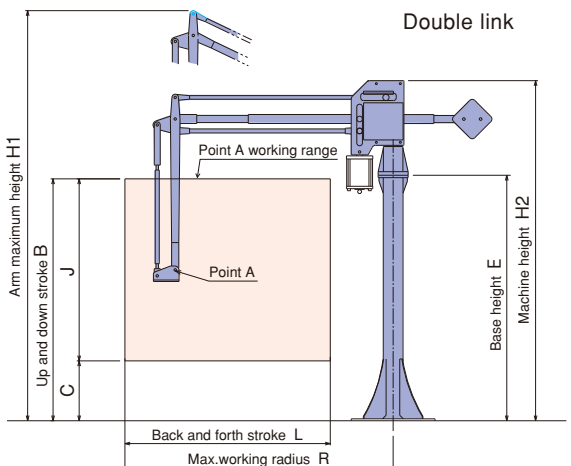
## BMF-S

Model	Max. load (kg)	H1 (mm)	H2 (mm)	B (mm)	C (mm)	E (mm)	J (mm)	L (mm)	R (mm)	Approx. Mass (kg)	Base	
											Fixed type	Mobile type
BMF-75S	75	3487	2840	1870	350	2050	1520	1715	2240	180	FSF-75S	SNF-75S
BMF-150S	150	3487	2840	1870	350	2050	1520	1715	2240	220	FSF-150S	SNF-150S
BMF-250S	250	3525	2945	1840	320	2010	1520	1715	2260	355	FSF-250S	SNF-250S
BMF-375S	375	3525	2945	1840	320	1970	1520	1715	2260	383	FSF-375S	SNF-375S
BMF-500S	500	4045	3245	2050	300	1868	1750	2040	2870	900	FSF-500S-K	—

● Arm ratio: 8:1 for 75 and 150, 7:1 for 250 and above

● Refer to the attached table [P21] for the details of the applicable bases.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMF-75S	0.49	500	10 (20)	101 (50)	331	1.5 (0.75)
BMF-150S	0.49	500	10 (20)	179 (90)	589	1.5
BMF-250S	0.49	400	15 (30)	213 (107)	841	2.2 (1.5)
BMF-375S	0.49	400	15 (30)	307 (153)	1211	3.7 (1.5)
BMF-500S	0.49	200	20 (30)	361 (241)	825	3.7 (2.2)



## BMF-W

Model	Max. load (kg)	H1 (mm)	H2 (mm)	B (mm)	C (mm)	E (mm)	J (mm)	L (mm)	R (mm)	Approx. Mass (kg)	Base	
											Fixed type	Mobile type
BMF-75W	72	3487	2840	2020	500	2050	1520	1715	2240	200	FSF-75W	SNF-75W
BMF-150W	142	3487	2840	2020	500	2050	1520	1715	2240	275	FSF-150W	SNF-150W
BMF-250W	236	3525	2945	2020	500	2010	1520	1715	2260	404	FSF-250W	SNF-250W
BMF-375W	351	3525	2945	2020	500	1970	1520	1715	2260	430	FSF-375W	SNF-375W
BMF-500(4W)	435	4045	3245	2250	500	1868	1750	2040	2870	1110	FSF-500W-K	—

● Arm ratio: 8:1 for 75 and 150, 7:1 for 250 and above

● Refer to the attached table [P21] for the details of the applicable bases.

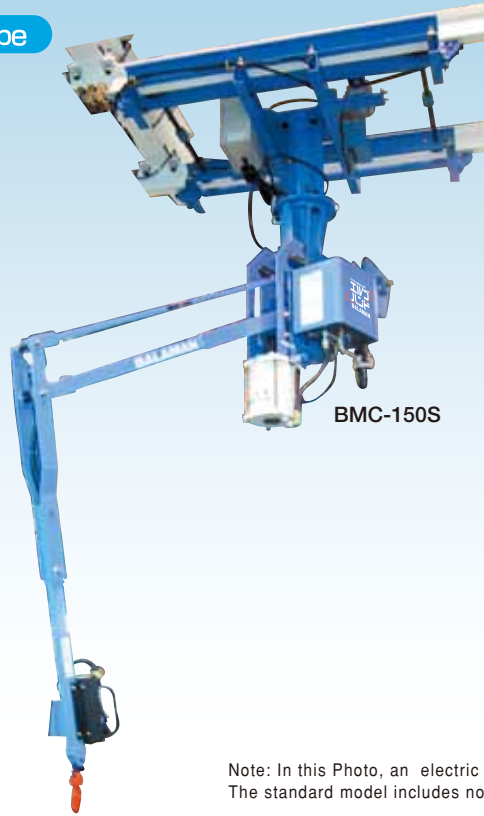
Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMF-75W	0.49	500	10 (20)	101 (50)	331	1.5 (0.75)
BMF-150W	0.49	500	10 (20)	179 (90)	589	1.5
BMF-250W	0.49	400	15 (30)	213 (107)	841	2.2 (1.5)
BMF-375W	0.49	400	15 (30)	307 (153)	1211	3.7 (1.5)
BMF-500(4W)	0.49	200	20 (30)	361 (241)	825	3.7 (2.2)

# BMC-75~500

Ceiling-mount type that ensures the effective use of the floor space



Pneumatic type



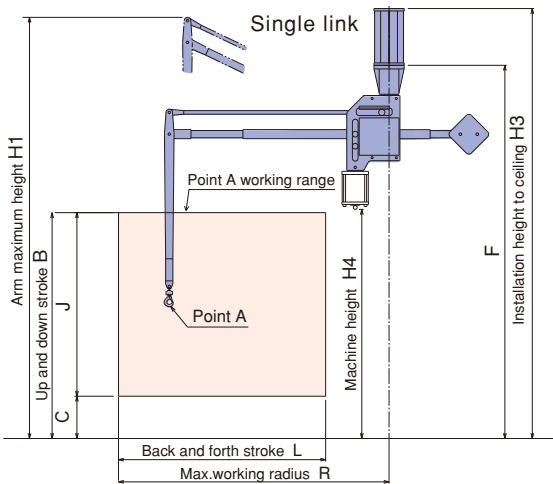
BMC-150S



BMC-500S

Note: In this Photo, an electric trolley unit (optional) is combined. The standard model includes no electric trolley unit.

- \* The maximum working radius can be changed. (The load capacity varies according to the change.)
- \* The load capacity includes the weight of attachment in addition to workpiece.

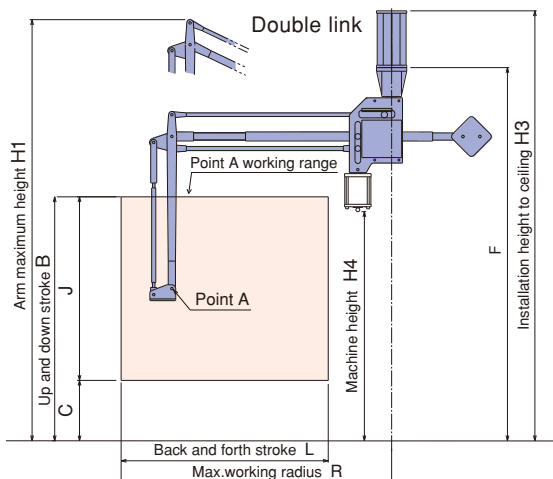


## BMC-S

Model	Max. load (kg)	H1 (mm)	H3 (mm)	H4 (mm)	B (mm)	C (mm)	F (mm)	J (mm)	L (mm)	R (mm)	Approx. Mass (kg)	Base		
												Fixed type	Manual trolley	Electric trolley
BMC-75S	75	3487	3560	1921	1870	350	3090	1520	1715	2240	180	CSC-75S	MTC-75S	ATC-75S
BMC-150S	150	3487	3560	1897	1870	350	3090	1520	1715	2240	220	CSC-150S	MTC-150S	ATC-150S
BMC-250S	250	3525	3590	1728	1840	320	3190	1520	1715	2260	355	CSC-250S	—	ATC-250S
BMC-375S	375	3525	3630	1728	1840	320	3230	1520	1715	2260	383	CSC-375S	—	ATC-375S
BMC-500S	500	4045	4235	1826	2050	300	3870	1750	2040	2690	900	CSC-500S	—	ATC-500S

- Arm ratio: 8:1 for 75 and 150, 7:1 for 250 and above
- Refer to the attached table [P21] for the details of the applicable bases.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMC-75S	0.49	500	10 (20)	101 (50)	331	1.5 (0.75)
BMC-150S	0.49	500	10 (20)	179 (90)	589	1.5
BMC-250S	0.49	400	15 (30)	213 (107)	841	2.2 (1.5)
BMC-375S	0.49	400	15 (30)	307 (153)	1211	3.7 (1.5)
BMC-500S	0.49	200	20 (30)	361 (241)	825	3.7 (2.2)



## BMC-W

Model	Max. load (kg)	H1 (mm)	H3 (mm)	H4 (mm)	B (mm)	C (mm)	F (mm)	J (mm)	L (mm)	R (mm)	Approx. Mass (kg)	Base		
												Fixed type	Manual trolley	Electric trolley
BMC-75W	72	3487	3560	1921	2020	500	3090	1520	1715	2240	200	CSC-75W	MTC-75W	ATC-75W
BMC-150W	142	3487	3560	1897	2020	500	3090	1520	1715	2240	275	CSC-150W	MTC-150W	ATC-150W
BMC-250W	236	3525	3590	1728	2020	500	3190	1520	1715	2260	404	CSC-250W	—	ATC-250W
BMC-375W	351	3525	3630	1728	2020	500	3230	1520	1715	2260	430	CSC-375W	—	ATC-375W
BMC-500(4W)	435	4045	4235	1826	2250	500	3870	1750	2040	2690	1100	CSC-500W	—	ATC-500W

- Arm ratio: 8:1 for 75 and 150, 7:1 for 250 and above
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BMC-150W	0.49	500	10 (20)	179 (90)	589	1.5
BMC-250W	0.49	400	15 (30)	213 (107)	841	2.2 (1.5)
BMC-375W	0.49	400	15 (30)	307 (153)	1211	3.7 (1.5)
BMC-500(4W)	0.49	200	20 (30)	361 (241)	825	3.7 (2.2)

# BMS-30~250

The 2-axis rotation type which can compatible with various installation spaces



Pneumatic type



Fixed type base



Mobile type base



30 kg  
Suspended load 30kg



50 kg  
Suspended load 50kg



75 kg  
Suspended load 75kg



125 kg  
Suspended load 125kg



150 kg  
Suspended load 150kg



250 kg  
Suspended load 250kg

Pneumatic type



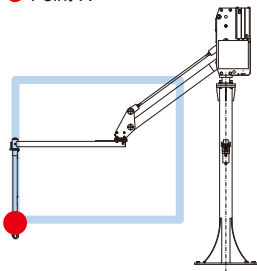
BMS-50

Pneumatic type

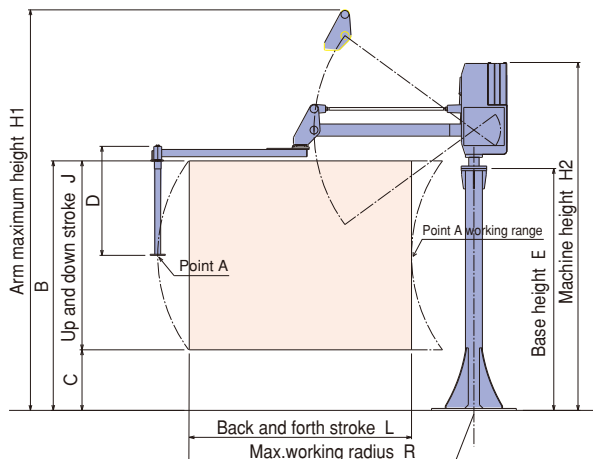
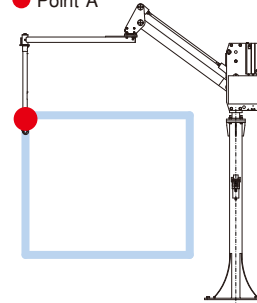


BMS-75

● Point A



● Point A



## BMS

Model	Max. load (kg)	H1 (mm)	H2 (mm)	B (mm)	C (mm)	D (mm)	E (mm)	J (mm)	L (mm)	R (mm)	Approx. Mass (kg)	Base	
												Fixed type	Mobile type
BMS-30	30	2982	1800	1300	500	900	1920	2529	1540	1990	80	FSS-30	SNS-30
BMS-50	50	3338	2110	1610	500	900	1988	2855	1525	2118	120	FSS-50	SNS-50
BMS-75	75	3307	2060	1560	500	900	1997	2873	1835	2350	150	FSS-75	SNS-75
BMS-125	125	3278	2000	1500	500	900	1983	2926	1535	2190	180	FSS-125	SNS-125
BMS-150	150	3451	2156	1656	500	900	2023	3035	1812	2354	280	FSS-150	SNS-150
BMS-250	250	3633	2165	1665	500	1000	1952	3250	1876	2552	420	FSS-250	SNS-250

● Arm ratio: 30=10:1, 50=7:1, 75=6:1, 125=5:1, 150=6:1

● Refer to the attached table [P21] for the details of the applicable bases.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMS-30	0.54	600	10 (15)	48 (32)	221	0.4
BMS-50	0.54	600	10 (15)	85 (56)	316	0.75
BMS-75	0.54	500	10 (20)	157 (78)	503	1.5 (0.75)
BMS-125	0.54	500	15 (30)	121 (60)	603	1.5 (0.75)
BMS-150	0.54	500	15 (30)	186 (93)	841	2.2

# BMS-30~250C

Ceiling-mount type that ensures the effective use of the floor space



Pneumatic type



Short tube for ceiling attachment



Ceiling type mobile trolley



Suspended load 30kg



Suspended load 50kg



Suspended load 75kg



Suspended load 125kg

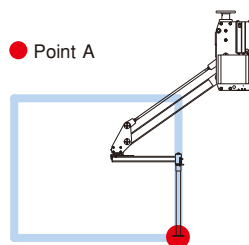
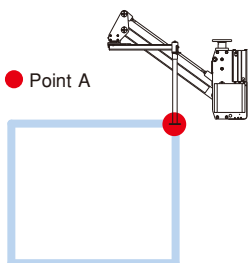


Suspended load 150kg

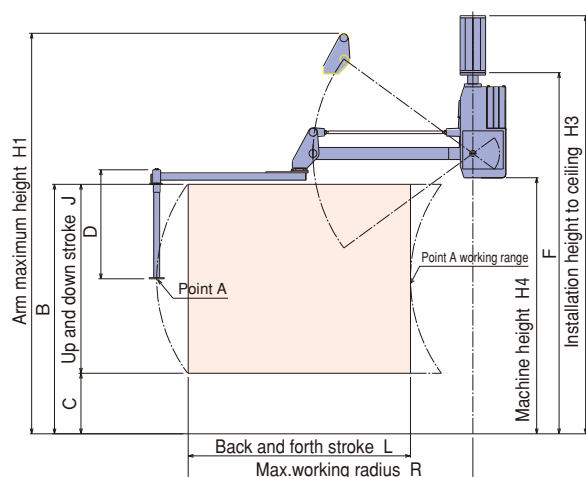


Suspended load 250kg

Pneumatic type



\*The maximum working radius can be changed. (The load capacity varies according to the change.)  
\*The load capacity includes the weight of attachment in addition to workpiece.



## BMS-C

Model	Max. load (kg)	H1 (mm)	H3 (mm)	H4 (mm)	B (mm)	C (mm)	D (mm)	F (mm)	J (mm)	L (mm)	R (mm)	Approx. Mass (kg)	Base		
													Fixed type	Manual trolley	Electric trolley
BMS-30C	30	2982	1800	1300	500	900	2012	2707	3082	1540	1990	80	CSS-30	MTS-30	ATS-30
BMS-50C	50	3338	2110	1610	500	900	2188	3046	3573	1525	2118	120	CSS-50	MTS-50	ATS-50
BMS-75C	75	3307	2060	1560	500	900	2114	2982	3452	1835	2350	150	CSS-75	MTS-75	ATS-75
BMS-125C	125	3278	2000	1500	500	900	2072	3006	3476	1535	2190	180	CSS-125	MTS-125	ATS-125
BMS-150C	150	3451	2156	1656	500	900	2143	3143	3613	1812	2354	280	CSS-150	MTS-150	ATS-150
BMS-250C	250	3633	2165	1665	500	1000	2242	3540	3940	1876	2552	420	CSS-250	—	ATS-250

● Arm ratio: 30=10:1, 50=7:1, 75=6:1, 125=5:1, 150=6:1

● Refer to the attached table [P21] for the details of the applicable bases.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMS-30C	0.54	600	10 (15)	48 (32)	221	0.4
BMS-50C	0.54	600	10 (15)	85 (56)	316	0.75
BMS-75C	0.54	500	10 (20)	157 (78)	503	1.5 (0.75)
BMS-125C	0.54	500	15 (30)	121 (60)	603	1.5 (0.75)
BMS-150C	0.54	500	15 (30)	186 (93)	841	2.2

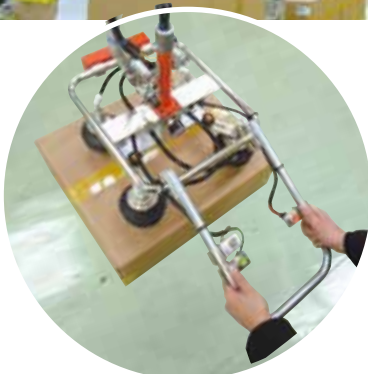
# BMH-30~130

Air Hoist with Balance Function

	<b>30</b> kg Suspended load 30kg	<b>60</b> kg Suspended load 60kg	<b>90</b> kg Suspended load 90kg	<b>130</b> kg Suspended load 130kg
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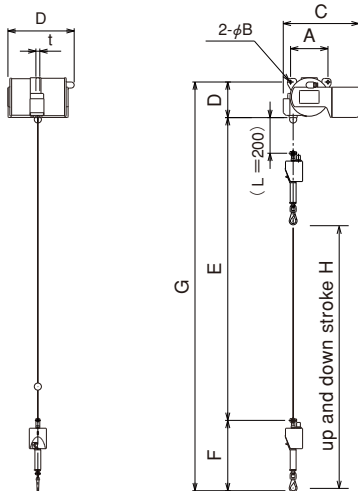


Pneumatic type



Note: The photo shows the system with attachments. The standard system does not include any attachment.

Note: The photo shows the installation example on the rail system. The standard system does not include the rail system.



## BMH

Model	Max. load (kg)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	t (mm)	Approx. Mass (kg)
BMH-30	30	180	16	385	179	1700	395	2274	1500	22	25
BMH-60	60	210	16	426	200	1700	395	2295	1500	22	35
BMH-90	90	220	21	435	261	2200	530	2991	2000	35	45
BMH-130	130	220	21	448	261	2200	530	2991	2000	35	50

●Wire length L = 200 mm at the upper stroke end is minimum length. It can be extended within the specified range.

●The Dimension F of BMH-30/60 is for regulator control with hook.

●The Dimension F of BMH-90/130 is for double control with hook.

Type	Air pressure Mpa	Lifting speed mm/sec	Cycle time sec	Air consumption NL/min	Max lifting speed NL/min	Applied compressor KW
BMH-30	0.49	600	10 (15)	52 (35)	208	0.4
BMH-60	0.49	600	10 (15)	79 (53)	317	0.75
BMH-90	0.49	500	15 (30)	94 (47)	353	1.5 (0.75)
BMH-130	0.49	500	15 (30)	144 (72)	541	1.5 (0.75)



# OTHER SERIES of BALAMAN

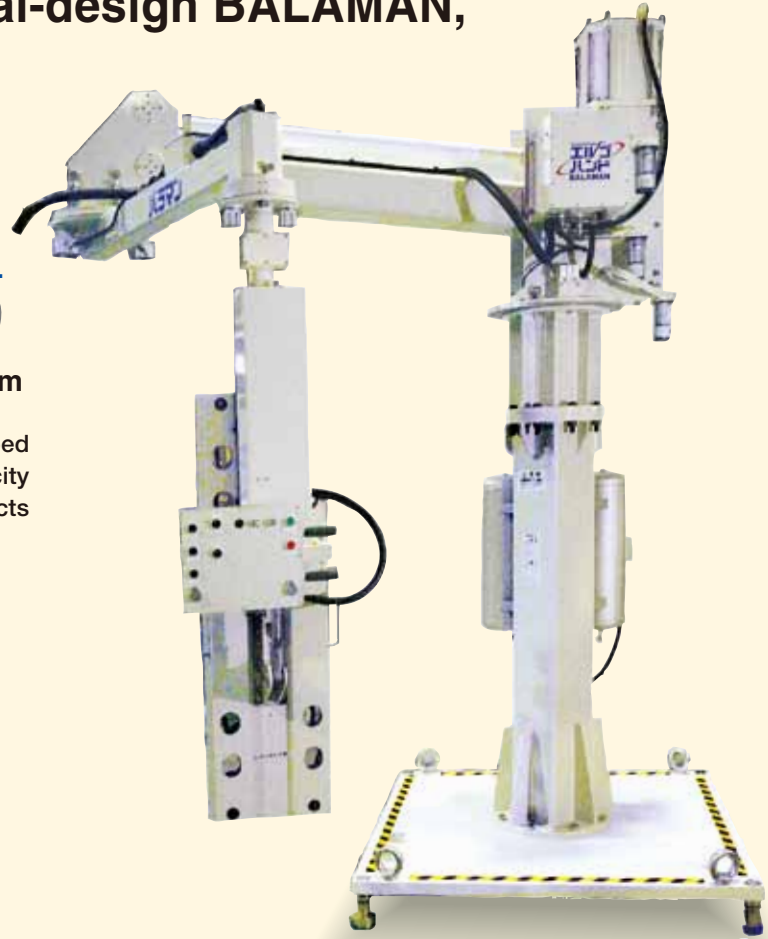
Extensive experience in original-design BALAMAN,  
including special applications  
and large-size machines.

Special specification and large-size  
machine for ultra-heavy products.

## **BMS500/700**

Take out the ultra-heavy products from  
sideward.

The large-size scalar-type machine is developed  
for wider operation range and heavy load capacity  
and best-suited for taking out the heavy products  
(500kg or over) such as a roll from sideward.

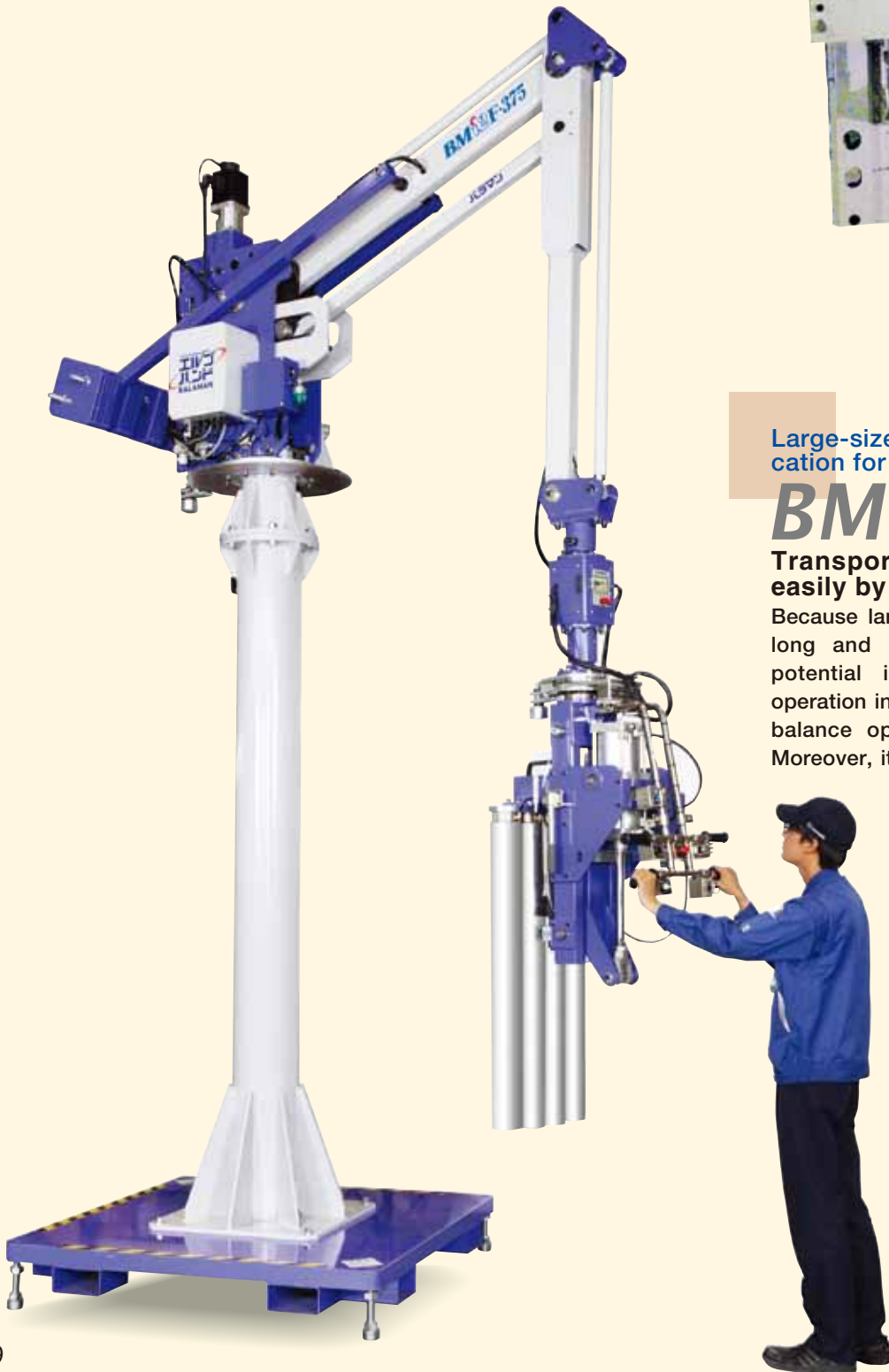


Large-size balancer with special speci-  
fication for heavy workpieces

## **BMi2F-375**

Transport long & heavy workpieces  
easily by various handling.

Because large-size electric balancer can transfer  
long and heavy workpieces, it has handling  
potential in various methods. For example,  
operation in vertical direction has crane operation,  
balance operation, position repeating function.  
Moreover, it can transport easily by installation of  
turning assistant device (option)  
for horizontal direction.



Turning assistant device (option)

30 kg

20 kg

10 kg

Hybrid balaman with microcomputer

## U2 series

Hybrid balaman which is equipped by microcomputer.

Regarding to all existing pneumatic balamans have air cylinder in order to move arm in vertical direction and have attachment control by pneumatic sequence circuit, but "Ultra Balaman" is hybrid balaman for the next generation which has air cylinder as same as pneumatic balaman and attempt to be improved by addition of new function or digital correction.

BMi2S-75

Intelligent type **i2**  
SERIES

Intelligent electric balaman

## i2 series

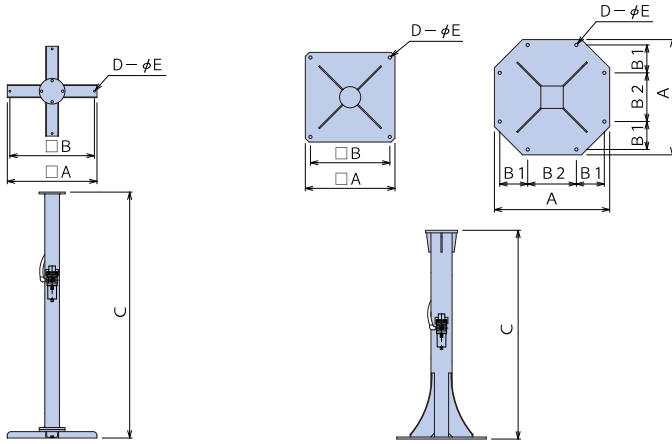
Intelligent balaman "i2 Series" is balancer which has been widely expanded from existing function to have balance function with electric control, position repeating function, and high efficiency · multifunction such as new function called Weight Indication.



U2BMG-50W

# BALAMAN mounting base

## Fixed type base



## Plate type

※Dimension C can be changed within specified limit

Model	Applicable model	A (mm)	B (mm)	B1 (mm)	B2 (mm)	C (mm)	D (mm)	E (mm)	Approx Mass(kg)
BMS-50	FSS-50	700	620	—	—	1988	4	25	110
BMi2S-50	FSiS-50	700	620	—	—	1816	4	25	160
BMF-75S	FSF-75S	700	620	—	—	2050	4	25	120
BMF-75W	FSF-75W								
BMS-75	FSS-75	700	620	—	—	2111	4	25	190
BMi2S-75	FSiS-75								
BMi2F-100	FSiF-100								
BMF-150S	FSF-150S	700	620	—	—	2050	4	25	130
BMF-150W	FSF-150W								
BMS-125	FSS-125	900	—	—	—	1983	8	25	250
BMS-150	FSS-150								
BMi2S-150	FSiS-150	900	—	218	380	1931	8	25	250
BMi2F-180	FSiF-180								
BMF-250S	FSF-250S	900	—	218	380	2010	8	25	210
BMF-250W	FSF-250W								
BMF-375S	FSF-375S	1100	—	266	464	1970	8	25	300
BMF-375W	FSF-375W								
BMS-250	FSS-250								
BMi2S-250	FSiS-250	1100	—	266	464	2038	8	25	330

Plate type(Foundation bolt) ※Dimension C can be changed within specified limit

Model	Applicable model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Approx Mass(kg)
BMi2S-150	FSiS-150-K	700	620	1931	4	25	210
BMi2F-180	FSiF-180-K			2139			
BMF-250S	FSF-250S-K	700	620	2010	4	25	160
BMF-250W	FSF-250W-K						
BMF-375S	FSF-375S-K	700	620	1970	4	25	190
BMF-375W	FSF-375W-K						
BMS-250	FSS-250-K	700	620	2038	4	25	240
BMi2S-250	FSiS-250-K						
BMF-500S	FSF-500S-K	outer diameter φ1100 P.C.D.1000	1868	6	25	330	330
BMF-500W	FSF-500W-K						

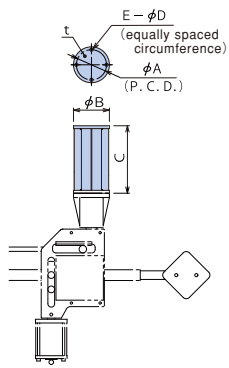
## Cross type

※Dimension C can be changed within specified limit

Model	Applicable model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Approx Mass(kg)
BMS-30	FSS-30	700	660	1920	4	14	46
BMG-30W	FSG-30W						
BMG-38S	FSG-38S						
BMG-38W	FSG-38W						
BMG-50W	FSG-50W	800	760	136	4	24	18
BMG-75W	FSG-75W						
BMG-150W	FSG-150W	800	760	136	4	24	25

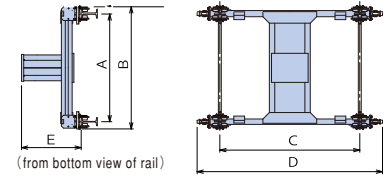
## Ceiling mounted prop

※Dimension C can be changed within specified limit



Model	Applicable model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	t (mm)	Approx Mass(kg)
BMS-30C	CSS-30	170	204	375	14	4	14	10
BMS-50C	CSS-50	165	200	527	19	4	16	12
BMi2S-50C	CSiS-50	165	200	336	19	4	16	13
BMC-75S	CSC-75S	175	210	470	19	4	18	15
BMC-75W	CSC-75W							
BMS-75C	CSS-75	210	250	470	23	4	20	20
BMi2S-75C	CSiS-75							
BMC-150S	CSC-150S	210	250	470	23	4	20	20
BMC-150W	CSC-150W							
BMS-125C	CSS-125	240	280	400	23	4	22	25
BMS-150C	CSS-150							
BMi2C-100	CSiC-100	210	250	500	23	4	20	20
BMi2S-150C	CSiS-150	240	280	500	23	4	22	27
BMi2C-180	CSiC-180	240	280	550	23	4	22	27
BMC-250S	CSC-250S	240	280	400	23	4	22	25
BMC-250W	CSC-250W							
BMC-375S	CSC-375S	240	280	400	23	4	22	25
BMC-375W	CSC-375W							
BMS-250C	CSS-250	240	280	525	23	4	22	37
BMi2S-250C	CSiS-250							
BMC-500S	CSC-500S	355	400	365	25	6	24	44
BMC-500W	CSC-500W							

## Ceiling type manual trolley

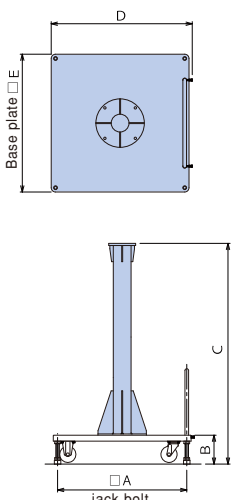


※Dimension E can be changed within specified limit

Model	Applicable model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	recommendable runway rail	Approx Mass(kg)
BMS-30C	MTS-30	900	1041	1200	1622	459	I~125×75×5.5	100
BMS-50C	MTS-50	900	1041	1200	1622	611	I~125×75×5.5	100
BMi2S-50C	MTiS-50	900	1041	1200	1622	420	I~125×75×5.5	100
BMC-75S	MTC-75S	900	1041	1200	1622	554	I~125×75×5.5	100
BMC-75W	MTC-75W							
BMS-75C	MTS-75	1000	1135	1300	1722	654	I~150×75×5.5	115
BMi2S-75C	MTiS-75							
BMi2C-100	MTiC-100	1000	1135	1300	1722	684	I~150×75×5.5	115
BMC-150S	MTC-150S	1000	1135	1300	1722	554	I~150×75×5.5	115
BMC-150W	MTC-150W							
BMS-125C	MTS-125	900	1041	1200	1622	420	I~125×75×5.5	100
BMS-150C	MTS-150							

## Mobile type base

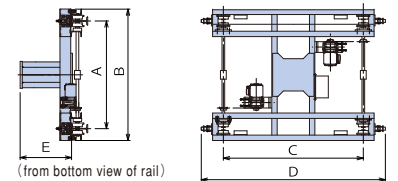
※Dimension C can be changed within specified limit



Model	Applicable model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Approx Mass(kg)
BMG-30W	SNG-30W	700	176	656	840	740	280
BMS-30	SNS-30	700	201	1920	840	740	400
BMG-38S	SNG-38S	700	201	656	840	740	380
BMG-38W	SNG-38W	700	216	656	840	740	450
BMG-50W	SNG-50W						
BMS-50	SNS-50	900	204	1988	1010	980	420
BMi2S-50	SNiS-50	900	219	1816	1010	980	580
BMF-75S	SNF-75S	1100	194	2050	1210	1180	450
BMF-75W	SNF-75W						
BMS-75	SNS-75	1100	199	1997	1210	1180	510
BMG-75W	SNG-75W	1100	194	194	1210	1180	400
BMi2S-75	SNiS-75	1100	209	2111	1210	1180	690
BMi2F-100	SNiF-100			2035			
BMG-150W	SNG-150W	1100	219	219	1210	1180	670
BMS-125	SNS-125	1200	253	1983	1310	1280	600
BMF-150S	SNF-150S	1200	268	2050	1310	1280	800
BMF-150W	SNF-150W						
BMS-150	SNS-150	1200	280	2023	1310	1280	1060
BMi2S-150	SNiS-150			1931			
BMi2F-180	SNiF-180	1300	305	2139	1507	1380	775
BMF-250S	SNF-250S			1970			
BMF-250W	SNF-250W	1400	315	1952	1607	1480	1065
BMF-375S	SNF-375S						
BMS-250	SNS-250	1400	195	2038	1480	1480	1393
BMi2S-250	SNiS-250						

※SNIS-250 shall be transferred by thefork-lift(No wheel)

## Ceiling type electric trolley



※Dimension E can be changed within specified limit

Model	Applicable model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	recommendable runway rail	running speed (at 50Hz) (m/min)	Approx Mass(kg)
BMS-30C	ATS-30	900	1120	1200	1610	383	I~125×75×5.5	20	160
BMS-50C	ATS-50	900	1120	1200	1610	535	I~125×75×5.5	20	160
BMi2S-50C	ATiS-50	900	1120	1200	1610	344	I~125×75×5.5	20	160
BMC-75S	ATC-75S	900	1120	1200	1610	478	I~125×75×5.5	20	160
BMC-75W	ATC-75W								
BMS-75C	ATS-75	1000	1220	1300	1710	578	I~150×75×5.5	20	180
BMi2S-75C	ATiS-75								
BMi2C-100	ATiC-100	1000	1220	1300	1710	608	I~150×75×5.5	20	180
BMC-150S	ATC-150S	1000	1220	1300	1710	478	I~150×75×5.5	20	180
BMC-150W	ATC-150W								
BMS-125C	ATS-125	1100	1435	1620	1902	643	I~200×100×7	18	430
BMS-150C	ATS-150								
BMi2S-150C	ATiS-150	1100	1435	1620	1902	643	I~200×100×7	18	430
BMi2C-180	ATiC-180								
BMC-250S	ATC-250S	1100	1435	1620	1902	443	I~200×100×7	18	430
BMC-250W	ATC-250W								
BMC-375S	ATC-375S	1200	1535	1620	1902	441	I~250×125×7.5	18	450
BMC-375W	ATC-375W								
BMS-250C	ATS-250	1200	1535	1620	1902	566	I~250×125×7.5	18	450
BMi2S-250C	ATiS-250								
BMC-500S	ATC-500S	1600	1935	1620	1902	401	I~300×150×10	13	600
BMC-500W	ATC-500W								

All products line-up for transfer and transportation.

**BABYHOIST**



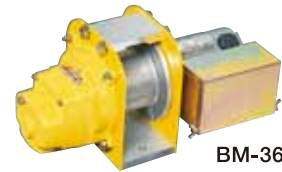
SBH-720

**LADDER LIFTER**



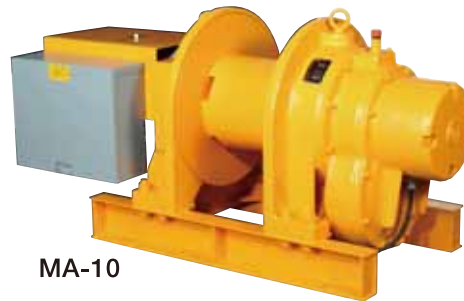
PV-MZ4

**WINCH**



BM-360

**MIGHTYPULLER**



MA-10

Let's watch our demonstrations at Youtube Channel:

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For inquiry: [koken-os@toyokoken.co.jp](mailto:koken-os@toyokoken.co.jp)



Yamanashi exhibition booth



Osaka exhibition booth

Shop

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For the latest information on products, see at <http://www.toyokoken.co.jp>

**⚠ Caution** ©For correct and safe operation, be sure to read the "Operation Manual" before starting the equipment.

◆Information in this catalog is as of Nov. 2017 Specifications may be modified for the purpose of improvement without notice.