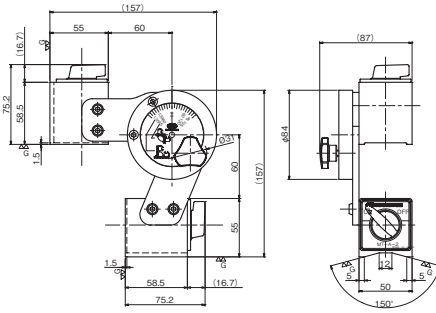


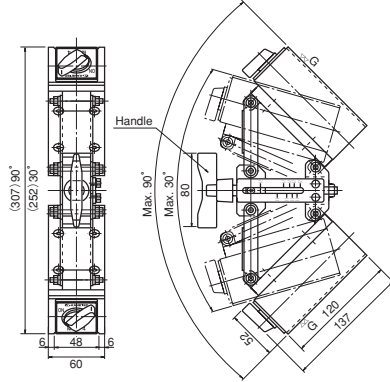
Model MT-A MAGSUPPORTER*



Holding power
800N
MT-A-2



Holding power
1500N
MT-A-4



[Application]

Suitable for mating and keeping jointing parts of iron plates or members during welding work.

[Features]

A powerful holding type by use of a high-performance permanent magnet.

MT-A-2

- Both inside and outside welding are possible.

<Note 1>

- Any desired holding angle can be set in a range of 45° and 135° (angle scale provided).
- ON/OFF function and V-groove provided.

MT-A-4

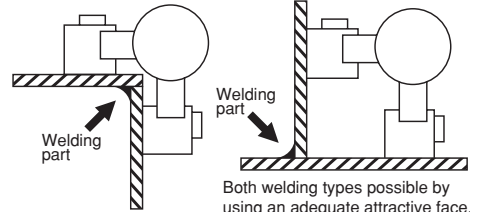
- Any desired holding angle can be set in a range of 30° and 90° (angle scale provided).
- Angle adjustment with a handle.
- ON/OFF function provided.

Model	Holding Power	Holder Dimensions			Holding Angle	Mass
		Width	Length	Height		
MT-A-2	800N (80kgf) × 2	50 (1.96)	60 (2.36)	55 (2.16)	45° - 135°	3.5kg / 7.71 lb
MT-A-4	1500N (150kgf) × 2	60 (2.36)	120 (4.72)	52 (2.04)	30° - 90°	5 kg / 11.0 lb

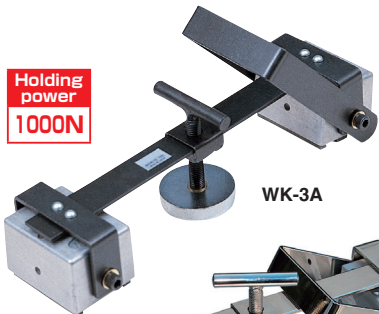
The holding power is based on a test piece of SS400, 10 mm thick, ground surface.

<Note 1> <Inside welding>

<Outside welding>

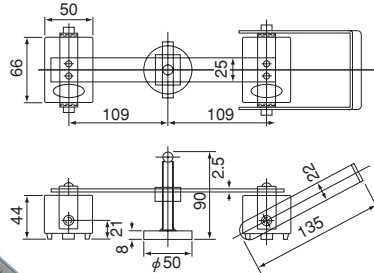


Model WK CLAMPER FOR WELDING



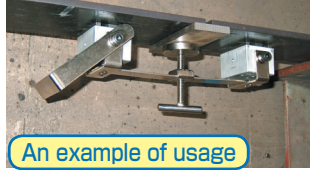
Holding power
1000N

WK-3A



Holding power
1000N

WK-T3B



An example of usage

[Application]

Suitable as a holding tool for welding on such work sites of construction, bridge, ship building and piping.

[Features]

- The magnet part has a minimum necessary free rotating angle range for easy mounting on workpieces.
- The exterior of the magnet holder part is made of aluminum to prevent adhesion of iron powder on the top and side faces.
- Model WK-T3B has a construction that is highly resistant to heat.
- These claspers have a large mechanical strength to withstand rough handling.

Model	Max. Temperature	Holding Power	Mass
WK-3A	60°C	1000N (100kgf) × 2	2.3kg / 5.07 lb
WK-T3B	180°C		

The holding power is based on a test piece of SS400, 10 mm thick, ground surface.

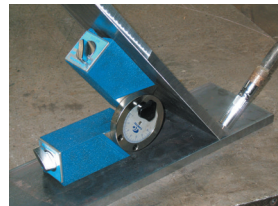
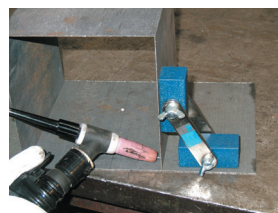
Model KM-W MAGNETIC HOLDER



Holding Power
200N
KM-06W



Holding Power
1300N
KM-12W



[Application]

Suitable for temporary holding during drilling and assembly.

[Features]

- Two magnets combined for easy angle setting.
- An angle scale provided. (KM-12W)
- The magnetic force can be turned on and off by operating the lever. (KM-12W)
- The V-groove allows the holder to be attached to certain poles and curved surfaces in addition to the flat surface. (KM-12W)

Model	Holding Power	Holder Dimensions			Length	Holding Angle	Mass
		Width	Length	Height			
KM-06W	200N (20kgf)	26 (1.02)	60 (2.36)	25 (0.98)	129 (5.07)	Free	0.7kg / 1.54 lb
KM-12W	1300N (130kgf)	50 (1.96)	117 (4.60)	55 (2.16)	273 (10.75)	Free	4.5kg / 9.92 lb

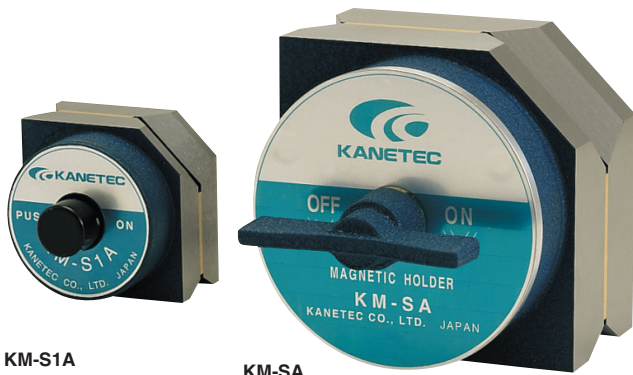
※ The holding power is per holder on one side and based on a test piece of SS400, 10 mm thick, ground surface.

! Precautions for use These holders cannot be used for work where heat is applied for long hours. If the magnet is subjected to high temperature, its magnetic force will drop or be lost suddenly, causing the workpiece to come off the attractive face. Exercise caution.

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MAGNETIC TOOLS & EQUIPMENT FOR WELDING OPERATION

Model KM-SA HEXAGONAL MAGNETIC HOLDER



KM-S1A

KM-SA

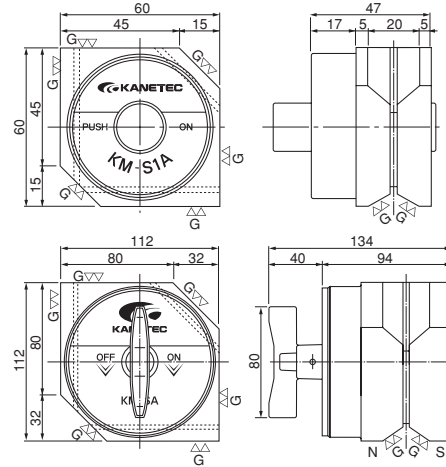
[Application]

These holders provide strong holding power for temporary holding during welding and temporary assembly. These holders can also be used as a block.

[Features]

- The holding angle can be set to 45°, 90° and 135°.
- The small type is equipped with a pushbutton and the large type with a rotary handle for turning on and off the magnetic force.
- The V-groove provided makes this holder to generate strong holding power on curved surface as well as flat surface of workpieces.

<Min. diameter of workpieces that can be held> KM-SA: φ6 and over, KM-S1A: φ5 and over



[mm (in)]

Holding Power	
Steel bar	Steel plate
200-300N	200-600N

Holding Power	
Steel bar	Steel plate
600-900N	1200-1400N



Model	Holding Power		Dimensions	Mass
	Steel bar	Steel plate		
KM-SA	600-900N (60-90kgf) { 150-200N (15-20kgf) }	1200-1400N (120-140kgf) { 800-1000N (80-100kgf) }	112(4.40) × 112(4.40) × 94(3.70)	6.0kg/ 13.2 lb
KM-S1A	200-300N (20-30kgf) { 50-70N (5-7kgf) }	200-600N (20-60kgf) { 100-350N (10-35kgf) }	60(2.36) × 60(2.36) × 47(1.85)	0.85kg/ 1.87 lb

※ The holding power on steel plate is based on a test piece of SS400, 10 mm thick, ground surface.
Note : The holding power in { } is for attraction on one face in the case of double-face attraction.

Model KM-S HEXAGONAL MAGNETIC HOLDER

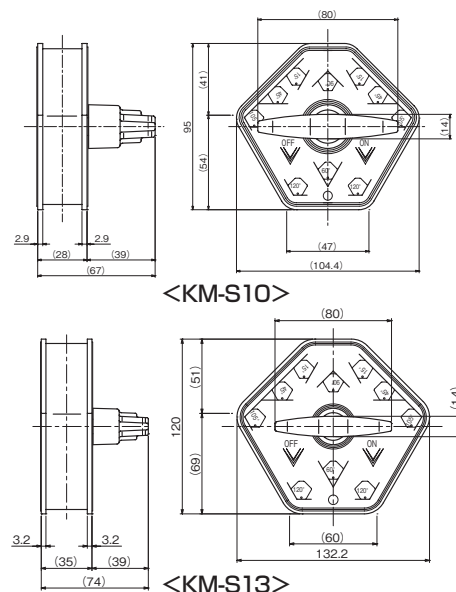


Holding Power	
Steel plate	150-250N

KM-S10

Holding Power	
Steel plate	250-450N

KM-S13



[mm (in)]



[Application]

Usable for temporary holding during welding and temporary assembly. These holders hold workpieces firmly.

[Features]

- The holding angle can be set to 15°, 45°, 60°, 90°, 105° and 120°.
- The magnetic force can be turned on and off.
- The holding power on steel plates is about the same as when both faces of KM-S9 and S12 are used and at angles other than 105°, the holding power drops little when two faces are used.

Model	Holding Power		Dimensions	Mass
	Steel Plate			
KM-S10	150-250N (15-25kgf)		104 (4.09) × 95 (3.74) × 67 (2.63)	0.9kg/1.98 lb
KM-S13	250-450N (25-45kgf)		132 (5.19) × 120 (4.72) × 74 (2.91)	1.6kg/3.52 lb

※ The holding power on steel plate is based on a test piece of SS400, 10 mm thick, ground surface.



Precautions for use

These holders cannot be used for work where heat is applied for long hours. If the magnet is subjected to high temperature, its magnetic force will drop or be lost suddenly, causing the workpiece to come off the attractive face. Exercise caution.

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Model KM-S SIMPLE HEXAGONAL HOLDER



KM-S12

KM-S9

Holding Power	
Steel bar	Steel plate
250-400N	250-700N

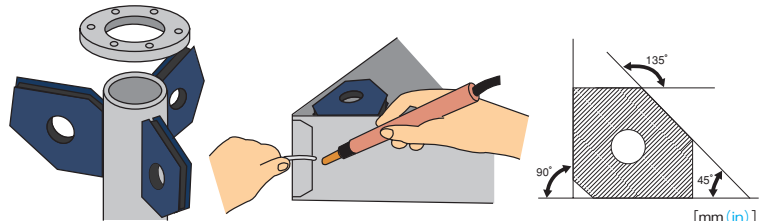
Holding Power	
Steel bar	Steel plate
100-200N	150-500N

[Application]

These holders are used for tack welding and temporary assembly during welding and assembly work. They can be used in wide applications as they hold round pipes and round steel bars.

[Features]

- The holding angle can be set to 45°, 90° and 135°.
- Compact and handy. Lower cost and simpler than the hexagonal holder KM-S.
- The concave attractive face can hold certain round steel bars.



Model	Holding Power		Dimensions	Dia. of Steel Bar	Mass
	Steel bar	Steel Plate			
KM-S9	100-200N (10-20kgf) 50-100N (5-10kgf)	150-500N (15-50kgf) 100-300N (10-30kgf)	90(3.54) × 90(3.54) × 14(0.55)	min φ 10 (0.39)	0.5kg/ 1.10 lb
KM-S12	250-400N (25-40kgf) 150-250N (15-25kgf)	250-700N (25-70kgf) 200-500N (20-50kgf)	120(4.72) × 120(4.72) × 26(1.02)	min φ 24 (0.94)	1.2kg/ 2.64 lb

※ The holding power on steel plate is based on a test piece of SS400, 10 mm thick, ground surface.
Note: The holding power in [] is for attraction on one face in the case of double-face attraction.

Model KM-TH ANGLE CLAMP

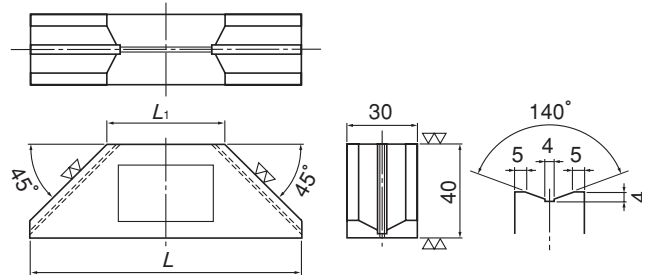


KM-TH16A

Holding Power
550N

KM-TH12A

Holding Power
450N



[Application]

Usable for temporary holding during tack welding and assembly and for holding down gages and rulers.

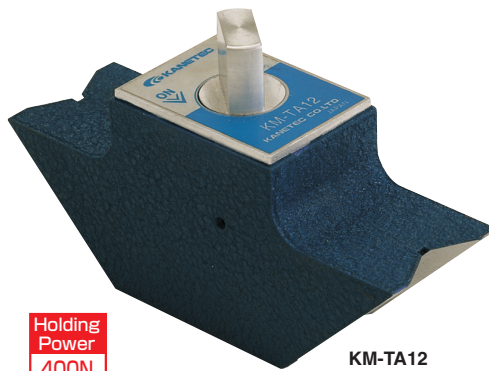
[Features]

- The all trapezoidal sides provide a strong magnetic force. The angles of 45°, 90° and 135° can be used.

Model	Holding Power	Dimensions		Mass
		L	L ₁	
KM-TH12A	450N (45kgf)	115 (4.52)	50 (1.96)	0.8kg/1.76 lb
KM-TH16A	550N (55kgf)	155 (6.10)	90 (3.54)	1.2kg/2.64 lb

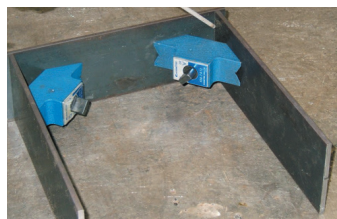
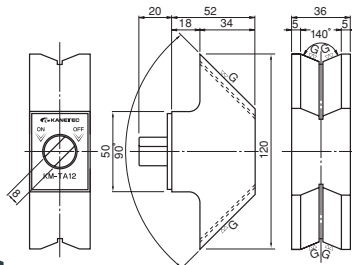
※ The holding power is based on a test piece of SS400, 10 mm thick, ground surface.

Model KM-TA ANGLE CLAMP



Holding Power
400N

KM-TA12



[Application]

This clamp can be used for temporary holding and temporary assembly during welding. It can hold workpieces firmly.

[Features]

- The V-groove provided on the attractive face enables this clamp to be used for workpieces having curved surfaces such as round steel bars and pipes in addition to flat workpieces.
- ON/OFF function provided.
- Holding angle 90° only.

Model	Holding Power	Dimensions			Mass
		Length	Width	Height	
KM-TA12	400N (40kgf)	72 (2.83)	36 (1.41)	120 (4.72)	1kg/2.20 lb

※ The holding power is based on a test piece of SS400, 10 mm thick, ground surface.

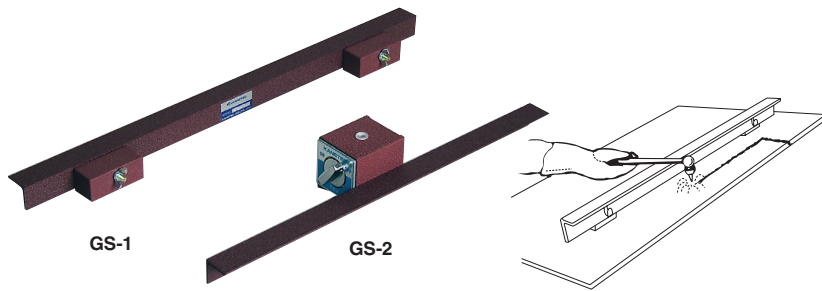


Precautions for use

These holders cannot be used for work where heat is applied for long hours. If the magnet is subjected to high temperature, its magnetic force will drop or be lost suddenly, causing the workpiece to come off the attractive face. Exercise caution.

MAGNETIC TOOLS & EQUIPMENT FOR WELDING OPERATION

Model GS GUIDE SCALE

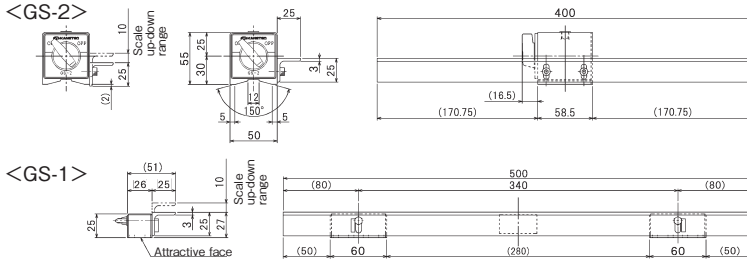


[Application]

Special guide tools for moving a torch while maintaining the height of the nozzle during gas welding.

[Features]

- A high-performance permanent magnet holds the scale firmly.
- Model GS-1 allows scale up-down adjustment according to the height of the nozzle.
- Model GS-2 allows its magnetic force to be turned on and off by lever operation for easy mounting and demounting.



[mm (in)]

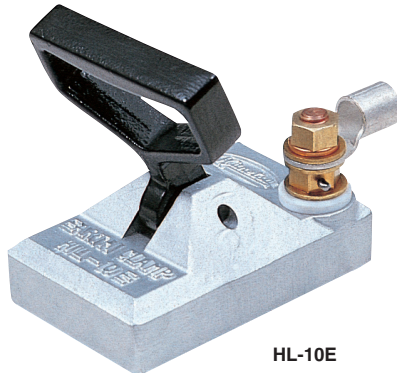
Model	Holding Power	Scale Length	Magnet		Mass
			Width	Height	
GS-1	200N (20kgf)	500 (19.6)	26 (1.02)	25 (0.98)	1.1kg/2.42 lb
GS-2	800N (80kgf)	400 (15.7)	50 (1.96)	55 (2.16)	1.4kg/3.08 lb

※ The holding power is based on a test piece of SS400, 10 mm thick, ground surface.

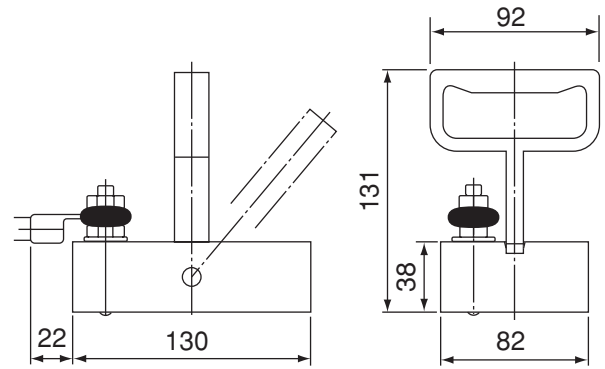
※ The holding power of GS-1 is the power per magnet holder.

※ The material of the scale is SS.

Model HL-E EARTH CLAMP



HL-10E



[Application]

Capable of connecting earth terminals on a wide variety of faces.

[Features]

- A high-performance permanent magnet is used for easy mounting and demounting by simple operation.

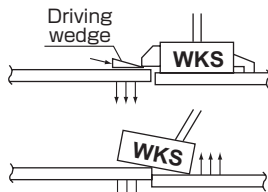
Model	Holding Power	Current Capacity	Mass
HL-10E	1600N (160kgf)	300A	1.5kg/3.30 lb

※ The holding power is based on a test piece of 16 mm thick mill scale steel plate.

Model WKS WELDING JIG FOR TACK WELDING

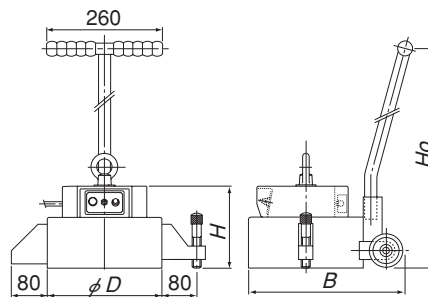
[Application]

Electromagnetic devices that can easily adjust positioning during tack welding of steel plates.



[Features]

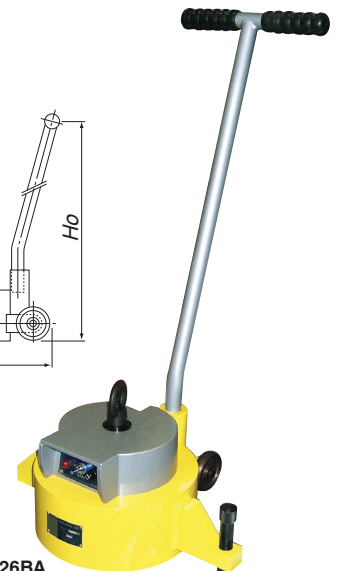
- Can be attracted at the meeting point by a turn of the switch.
- Correcting work can be done easily by driving a wedge.
- WKS-26 and 30 types are equipped with wheels for easy movement.
- WKS-16 type is handy type that is easy to carry or handle on work sites.
- They come with a rectifier.



[mm (in)]

Model	Holding Power		Dimensions				Power Source		Working Rate	Mass
	Steel plate 20 mm thick	Steel plate 50 mm thick	D	H	B	Ho	Voltage	Current		
WKS-16BA	8kN (800kgf)	10kN (1000kgf)	162 (6.37)	186 (7.32)	—	—	Single-phase 200 VAC	0.5 A	100% ED	Approx. 16kg/35.2 lb
WKS-26BA	20kN (2000kgf)	36kN (3600kgf)	258 (10.1)	185 (7.28)	435 (17.1)	813 (32.0)		1.5 A		Approx. 50kg/110 lb
WKS-30BA	25kN (2500kgf)	50kN (5000kgf)	296 (11.6)	220 (8.66)	473 (18.6)	828 (32.5)				Approx. 70kg/154 lb

WKS-26BA



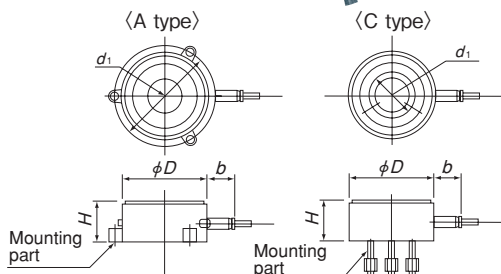
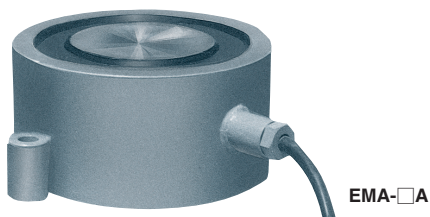
Precautions for use

These holders cannot be used for work where heat is applied for long hours. If the magnet is subjected to high temperature, its magnetic force will drop or be lost suddenly, causing the workpiece to come off the attractive face. Exercise caution.

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Model EMA WELDING JIG FOR ONE FACE WELDING

Rectifier required additionally



[Application]

Jigs developed for automatic welding of steel plates to hold steel plates and backing materials. These jigs can be used to hold cut-out pieces during EPM welding operations, to straighten workpieces and to secure stacked steel plates during fusing of stacked steel plates.

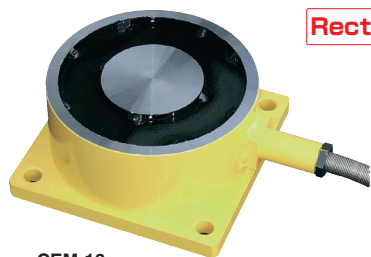
[Features]

- Holding and releasing workpieces can be controlled electrically.
 - Workpieces are secured to a welding frame by a strong magnetic force and therefore warping of steel plates due to welding heat can be prevented.
 - Drip-proof construction for outdoor operations. Highly resistant to impact and heat.
- ※The rectifier is of special specifications according to the number of magnets used.

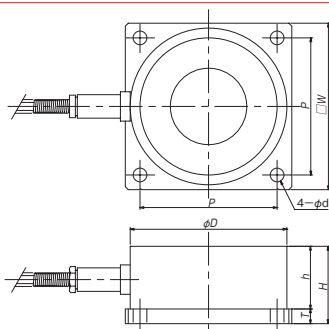
Model	Holding Power		Dimensions					Power Source		Working Rate	Mass	
	Steel Plate 20mm thick	Steel Plate 50mm thick	D	H	d ₁	b	Mounting hole	Voltage	Current			
EMA-25-A	20kN (2000kgf)	24kN (2400kgf)	245 (9.64)	100 (3.93)	290 (11.4)	150 (5.90)	70 (2.75)	3-φ21 (0.82)	200 VDC	1.0 A	100% ED	30kg/66.1 lb
EMA-25-C								3-M16 (0.62)				
EMA-26-A	21kN (2100kgf)	36kN (3600kgf)	255 (10.0)	120 (4.72)	305 (12.0)	200 (7.87)	70 (2.75)	4-φ26 (1.02)	200 VDC	1.4 A	100% ED	40kg/88.1 lb
EMA-30-A	25kN (2500kgf)	50kN (5000kgf)	296 (11.6)	150 (5.90)	340 (13.3)			3-φ23 (0.90)				
EMA-30-C					200 (7.87)			3-M20 (0.78)		1.75A		65kg/143 lb

Model CEM ELECTROMAGNET FOR CHAMFERING

Rectifier required additionally



CEM-16



[Application]

Suitable for securing workpieces during light duty work such as chamfering.

[Features]

- The periphery or four faces of workpieces can be worked during chamfering, for example, in one chucking to improve work efficiency.
- Damage to workpieces by mechanical clamping can be prevented.



[mm (in)]

Model	Max. Holding Power	Dimensions							Rated Voltage	Rated Current	Working Rate	Mass
		φD	h	T	H	P	φd	□W				
CEM-16	1000kgf	160 (6.29)	64 (2.51)	15 (0.59)	79 (3.11)	140 (5.51)	14 (0.55)	170 (6.69)	90 VDC	0.4 A	100% ED	Approx. 14 kg/30.8 lb
CEM-23	2000kgf	230 (9.05)	76 (2.99)	20 (0.78)	96 (3.77)	200 (7.87)	22 (0.86)	250 (9.84)		0.7 A		

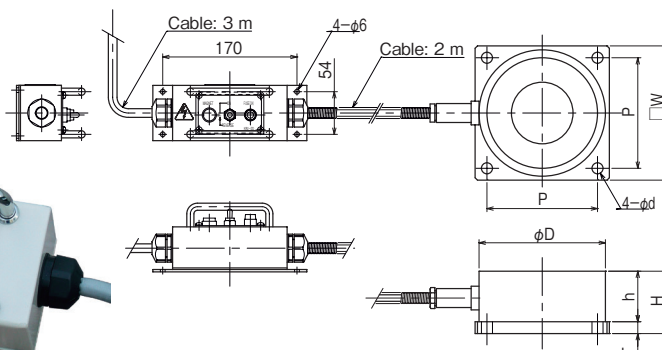
※Applicable rectifiers: RH-M102C/M105B/M205B/M210B.

Model CEM-SR ELECTROMAGNET WITH RECTIFIER FOR CHAMFERING

Rectifier added to electromagnetic CEM for chamfering!



CEM-23SR



[mm (in)]

[Application]

Suitable for securing workpieces during light duty work such as chamfering.

[Features]

- The built-in compact rectifier eliminates a need of a power source board, requiring simple wiring only.
- The magnet specifications are all the same as Model CEM.

Model	Max. Holding Power	Dimensions							Input	Power Consumption	Working Rate	Mass
		φD	h	T	H	P	φd	□W				
CEM-16SR	1000kgf	160 (6.29)	64 (2.51)	15 (0.59)	79 (3.11)	140 (5.51)	14 (0.55)	170 (6.69)	Single-phase, 100 VAC	41W	100% ED	14kg/30.8 lb
CEM-23SR	2000kgf	230 (9.05)	76 (2.99)	20 (0.78)	96 (3.77)	200 (7.87)	22 (0.86)	250 (9.84)		72W		



Precautions for use

These holders cannot be used for work where heat is applied for long hours. If the magnet is subjected to high temperature, its magnetic force will drop or be lost suddenly, causing the workpiece to come off the attractive face. Exercise caution.

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