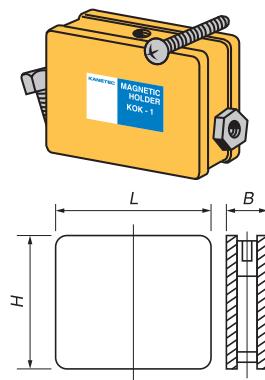


MAGNETIC HOLDERS

KOK / KOC / KOC / WK

Model KOK ALL-CATCH



[Application]

Versatile holders having four attractive faces to meet various applications. These holders also have threaded holes to enable fixtures to be mounted for connection.

Model	Holding Power	Dimensions			Tapped Hole	Mass
		B	L	H		
KOK-1	200N (20kgf)	17.0 (0.66)	50 (1.96)	40 (1.57)	M5 (0.19) X 0.33 lb	150g/280g
KOK-2	300N (30kgf)	27.6 (10.8)	50 (1.96)	40 (1.57)	0.8 (0.03)	0.61 lb

※The holding power applies to SS400, thickness 10 mm and ground surface.

Model KOC CABLE HANGER



[Application]

Most suitable for holding welding cable, for putting fixtures in order on work sites of shipbuilding, iron and steel manufacturing, bridge building, canneries and similar operations.

[Features]

- Strong holding power capable of destacking stacked thin iron sheets.
- Lateral sliding resistance of 80N (8kgf) gives the hanger good holding power.

Model	Holding Power	Dimensions			Mass
		Length	Width	Height	
KOC-1A	300N (30kgf)	50 (1.96)	27.6 (1.08)	40 (1.57)	400g/0.88 lb

※The holding power applies to SS400, thickness 10mm and ground surface.

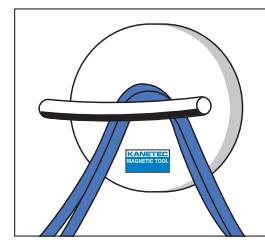
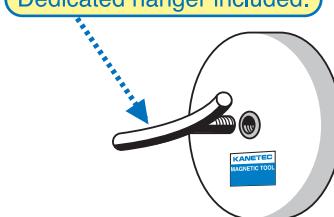
※Height of hook part 87 mm.

Model KOC MAGNETIC HANGER

Strong type



Dedicated hanger included.



[Application]

Powerful magnetic hangerholder most suitable for cable arrangement and provisional wiring work on sites. Applicable to a wide range of uses as a hanger, since it powerfully attaches sheets, steel lockers, refrigerators, etc.

Model	Holding Power	Dimensions	Hanger Setting Screw	Mass
KOC-70	130N (13kgf)	ø66 (2.59) X 11 (0.43)	M6 (0.23) X 1.0 (0.03)	210g/0.46 lb
KOC-80	300N (30kgf)	ø80 (3.15) X 13 (0.51)		420g/0.93 lb

※The holding power applies to SS400, thickness 10mm and ground surface.

Model WK POWERFUL MAGNETIC HOLDER

[Application]

Suitable as holding tools for tentative installation and tack welding on such work sites of construction, bridge, ship building and piping.

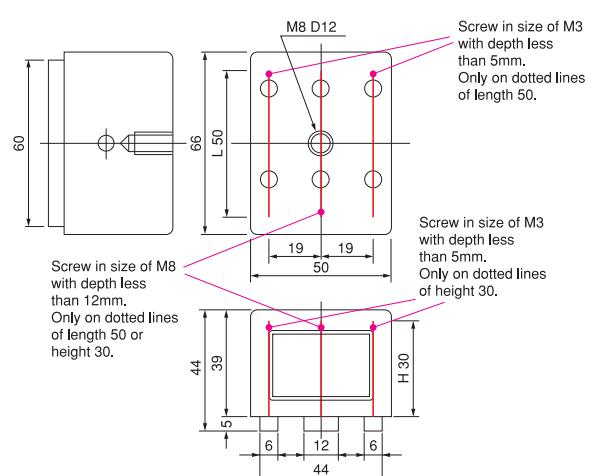
[Features]

- There are three faces where additional machining (such as drilling) can be done. (Refer to the dimension drawing)
- The exterior is made of aluminum to prevent adhesion of iron powder to the top and side faces.
- Model WK-TP has a construction that is highly resistant to heat.



Model	Heat Resistance	Holding Power	Mass
WK-P	60°C		
WK-TP	180°C	1000N (100kgf)	0.75kg/1.65 lb

※The holding power applies to SS400, thickness 10mm and ground surface.



MAGNETIC HOLDERS

MAGNETIC TOOLS FOR WELDING OPERATION

LIFTING MAGNET

ENVIRONMENTAL CHIP & SLUDGE EQUIPMENT MAGNETIZERS AND DE-MAGNETIZERS

MAGNETIC EQUIPMENT TRANSPORTATION SEPARATORS

HIGH GRADE MAGNETIC MEASURING INSTRUMENTS MATERIALS

66

Types of magnetic holders

Product Name	Model	Application
Electromagnetic holder	KE-B・E(D)・R・K・V	
Permanent electromagnetic holder	KEP・KE-HA	Used for automation of press machines and shearing robots.
Permanent magnetic holder	KM	Imbedded in molds to hold various workpieces.

Model KE-B ELECTRO MAGNETIC HOLDER

Used in automated manufacturing lines as the magnetic force can be turned on and off or increased or decreased by remote operation via a rectifier (to be installed additionally).



KE-5B

KE-4B



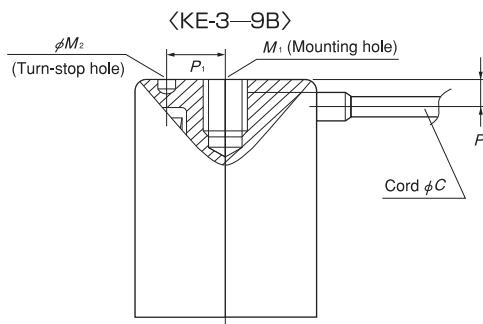
KE-3B



KE-2B



KE-1B



[Application]

You can use these holders for a wide range of operations such as material feed for automatic press, prevention of deflection for shearing material, and various automatic processes, as well as the holding hands of industrial robots.

[Features]

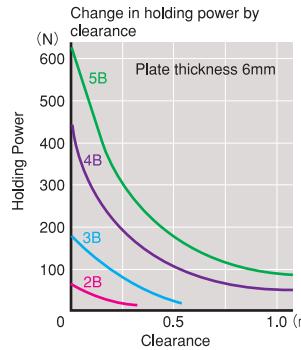
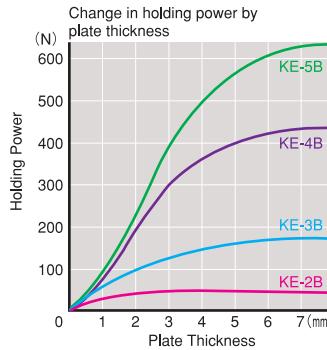
- Special cables that have specially high durability against bending and vibration are used. (Employed in all models except for KE-1B.)
- Electrical control can be used for turning on and off the magnetic force and for remote on/off control.
- Usable for continuous operation.
- Finished by plating.



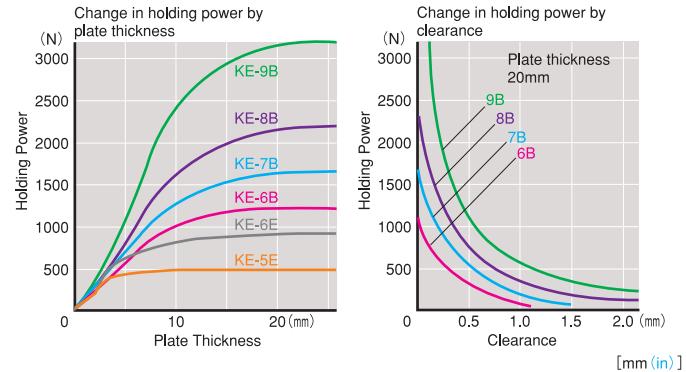
Precaution for use

Rust and scratches on the attractive face affect the holding power adversely. Repair it periodically.

KE-2B/3B/4B/5B



KE-5E/6E/6B/7B/8B/9B



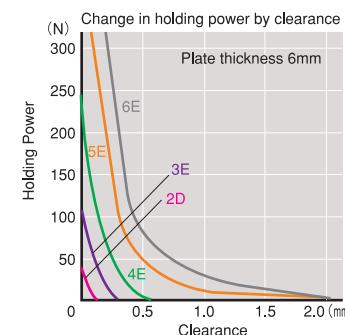
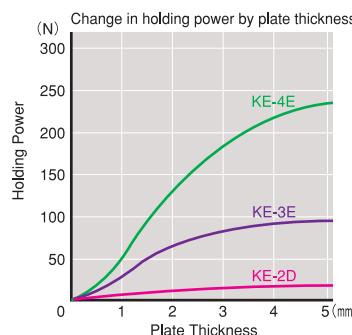
Model	Dimensions	Max.Holding Power	Hole Dimensions			Power Cord	Voltage	Current	Working Rate	Applicable Rectifier	Mass
			M ₁	M ₂	P ₁						
KE-1B	ø10 (0.39) × 30 (1.18)	8N (0.8kgf)	M4 (0.15) × 0.7 (0.02)	—	—	—	—	0.18A	100% ED	KR-T101-6/24	15g/0.03 lb
KE-2B	ø20 (0.78) × 40 (1.57)	28N (2.8kgf)	Depth 6 (0.23)	—	—	7 (0.27)	24 VDC	0.07A		KR-T101-6/24	60g/0.13 lb
KE-3B	ø30 (1.18) × 40 (1.57)	180N (18kgf)	M6 (0.23) × 1.0 (0.03)	ø4 (0.15) Depth 2 (0.07)	10 (0.39)	8 (0.31)	24 VDC	0.19A		KR-T103-6/24	150g/0.33 lb
KE-4B	ø40 (1.57) × 40 (1.57)	400N (40kgf)	Depth 12 (0.47)	ø4 (0.15) Depth 3 (0.11)	15 (0.59)	8.5 (0.33)	24 VDC	0.24A		RH-M102B-24	300g/0.66 lb
KE-5B	ø50 (1.96) × 50 (1.96)	600N (60kgf)	M8 (0.31) × 1.25 (0.04)	ø5 (0.19) Depth 4 (0.15)	18 (0.70)	10 (0.39)	24 VDC	0.12A		KR-N101	560g/1.23 lb
KE-6B	ø60 (2.36) × 60 (2.36)	1100N (110kgf)	Depth 15 (0.59)	—	—	12 (0.47)	90 VDC	0.19A		KR-N103	1.0kg/2.20 lb
KE-7B	ø70 (2.75) × 60 (2.36)	1500N (150kgf)	M10 (0.39) × 1.5 (0.05)	—	—	15 (0.59)	90 VDC	0.20A		RH-M102B	1.4kg/3.08 lb
KE-8B	ø80 (3.15) × 60 (2.36)	2000N (200kgf)	Depth 15 (0.59)	ø6 (0.23) Depth 6 (0.23)	—	—	90 VDC	0.26A		RH-M105A	1.7kg/3.74 lb
KE-9B	ø90 (3.54) × 60 (2.36)	3300N (330kgf)	—	—	—	—	90 VDC	0.35A		RH-M205A	2.2kg/4.85 lb
※B type: Cord length 0.3 m (11.8 inches) (0.25-m (9.8 inches) lead for KE-1B only)											P71

*The maximum holding power of models other than KE-5B to 9B applies to SS400, 10 mm (0.39") thick, ground test piece held on the whole area and for KE-5B to 9B, applies to SS400, 20 mm (0.78") thick, ground test piece held on the whole area.

*For KE-3B to 9B, a drip-proof type is also available.

1N=0.1kgf

Model KE-D·E ELECTRO MAGNETIC HOLDER

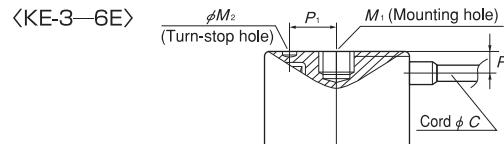


[Application]

Thin type electromagnetic holders suitable for a robotic hand as they provide vertical motion in a certain range in limited space.

[Features]

- Special cables that have specially high durability against bending and vibration are used. (Employed in all models except for KE-2D.)
- Usable for continuous operation.
- Finished by plating.



Precaution for use

Rust and scratches on the attractive face affect the holding power adversely. Repair it periodically.

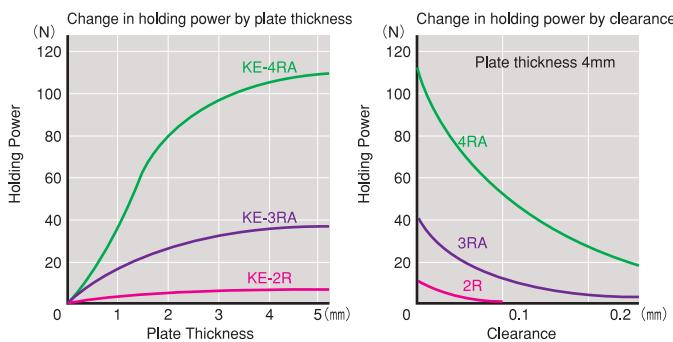
[mm (in)]

Model	Dimensions	Max. Holding Power	Hole Dimensions			Power Cord	Voltage	Current	Working Rate	Applicable Rectifier		Mass
			M ₁	M ₂	P ₁					C	P ₂	
KE-2D	ø20 (0.78) × 25 (0.98)	18N (1.8kgf)	M4 (0.15) × 0.7 (0.02) Depth 8 (0.31)	ø2.1 (0.08) Depth 2.5 (0.09)	7.5 (0.29)	—	24 VDC	0.04 A	ED	KR-T101-6/24 KR-T103-24 RH-M102B-24 RH-M105A-24		30g/0.06 lb
KE-3E	ø30 (1.18) × 25 (0.98)	80N (8kgf)	M6 (0.23) × 1.0 (0.03) Depth 12 (0.47)	ø4 (0.15) Depth 2 (0.07)	10 (0.39)	7.5 (0.29)	24 VDC	0.085A	100%	KR-N101 KR-N103	RH-M105A RH-M205A	100g/0.22 lb
KE-4E	ø40 (1.57) × 25 (0.98)	220N (22kgf)	ø4 (0.15) Depth 2.5 (0.09)	15 (0.59)	—	ø3.7 (0.14)	8 (0.31)	0.12 A		KR-N101 KR-N103	RH-M105A RH-M205A	190g/0.42 lb
KE-5E	ø50 (1.96) × 30 (1.18)	490N (50kgf)	M8 (0.31) × 1.25 (0.04)	ø5 (0.19) Depth 3 (0.11)	18 (0.70)	9.5 (0.37)	90 VDC	0.044A		KR-N101 KR-N103	RH-M105A RH-M205A	380g/0.83 lb
KE-6E	ø60 (2.36) × 30 (1.18)	880N (90kgf)	Depth 15 (0.59)	ø5 (0.19) Depth 4 (0.15)	20 (0.78)	11 (0.43)	90 VDC	0.065A		RH-M102B	RH-M210A	P71 500g/1.10 lb

※E type: Cord length 0.3 m (0.2-m lead for KE-2D only) ※The maximum holding power applies to SS400, 10-mm thick, ground-finished test piece held on the whole area.

1N=0.1kgf

Model KE-R ELECTRO MAGNETIC HOLDER



[Application]

Small and light, for meeting uses in carrying press material which is not easily released by its own weight ; also for holding hands of industrial robots.

[Features]

- Special cables that have specially high durability against bending and vibration are used. (Employed in all models except for KE-2R.)
- The workpiece is released quickly by the spring pressure of the projection at the center of the attractive face. The spring pressure can be adjusted according to workpiece situations.
- Electrical control such as a reverse exciting circuit is not necessary.
- Quick attach and detach enables speedy automation.
- Usable for continuous operation.
- Finished by plating.

※Use these holders for workpieces whose surface where the holder comes in contact is not rough. They are not suitable for thin plates that may be deformed by the pressing force.

Precaution for use

Rust and scratches on the attractive face affect the holding power adversely. Repair it periodically.

[mm (in)]

Model	Dimensions	Max. Holding Power	Tapped Hole	Voltage	Current	Working Rate	Applicable Rectifier	Mass
KE-2R	ø20 (0.78) × 25 (0.98)	5N (0.5kgf)	M5 (0.19) × 0.8 (0.03) Depth 5 (0.19)	24 VDC	0.04 A		KR-T101-6/24 KR-T103-24 RH-M102B-24 RH-M105A-24	35g/0.07 lb
KE-3RA	ø30 (1.18) × 25 (0.98)	30N (3kgf)	M6 (0.23) × 1.0 (0.03) Depth 12 (0.47)	24 VDC	0.085A	100%ED		100g/0.22 lb
KE-4RA	ø40 (1.57) × 25 (0.98)	100N (10kgf)	—	24 VDC	0.12 A		P71	160g/0.35 lb

※Projection is provided at the center of attractive face with ø2 × max length 1mm for KE-2R & ø2.5 × max length 1mm for KE-3RA and 4RA.

※If the pressing force cannot release the workpiece smoothly, use a rectifier enclosed in parentheses. ※RA type: Cord length 0.3 m (0.2-m lead for KE-2R only)

※The maximum holding power applies to SS400, 10-mm thick, ground-finished test piece held on the whole area.

- Allowable temperature: The electromagnetic holders KE, permanent electromagnetic holders KEP and hybrid holders KE-H must be used under the conditions of ambient temperature 40°C or below and temperature of workpieces to hold 50°C or below. For higher temperature, please contact us.
- The holding power of KE-B, KE-E (D) and KE-RA (R) on various thickness of steel plates and the holding power relative to various gaps are as shown in the graphs.
- The maximum holding power is the power that can be obtained under the most favorable conditions including materials, shapes and finishes of workpieces to hold. Thus, for practical use, choose a suitable model in consideration of a large drop in the holding power depending on situations. Generally, the lifting capacity drops to a half or below of the holding power obtained from the graphs. If you plan to use holders in particular situations such as for workpieces having holes and grooves on the attractive face to

disable the utilization of the whole area or where big acceleration (G) will be applied to workpieces to be held and transported, please contact us.

The electromagnetic holders when powered off still have residual magnetism. If the mass of the workpiece is greater than the residual holding power, the workpiece will come off, but if not, it is usually necessary to use a rectifier equipped with a reduction-of-magnetization function by reverse excitation, except for the holders equipped with the automatic release function.

The electromagnetic holders are not of waterproof construction. If waterproof holders are required, please contact us.

If you want to use an uninterruptible power supply for a rectifier for electromagnetic holders, please consult with us in advance.

MAGNETIC HOLDERS

MAGNETIC HOLDERS

MAGNETIC TOOLS

MAGNETIC TOOLS FOR WELDING OPERATION

LIFTING MAGNET

MAGBORE

CHIP & SLUDGE TRANSPORTERS

ENVIRONMENTAL EQUIPMENT

MAGNETIZERS AND DEMAGNETIZERS FOR TRANSPORTATION

MAGNETIC EQUIPMENT SEPARATORS

HIGH GRADE MAGNETIC SEPARATORS

MEASURING INSTRUMENTS

MAGNETIC MATERIALS

Model KE-K PLATE TYPE MAGNETIC HOLDER



[Application]

Applicable for automatic working systems which lift workpieces in limited strokes and transport repeatedly in vertically narrow spaces.

Also, applicable to a wide range of uses, from various automated equipment to industrial robot hands, as well as to feeding material in automatic presses and preventing warping in shearing material.

[Features]

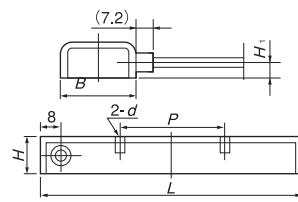
- Usable for automatic operation.
- As thin as 15 to 20 mm yet powerful.

[mm (in)]

Model	Dimensions						Max. Holding Power	Voltage	Current	Working Rate	Applicable Rectifier	Mass
	B	H	H ₁	L	P	d						
KE-K310A	30	15	6.5	100 (3.93)	40 (1.57)		M4 (0.15)		0.11A		KR-T101-6/24	0.2 kg/0.44 lb
KE-K315A	(1.18)	(0.59)	(0.25)	150 (5.90)	70 (2.75)		Depth 6 (0.23)	100N (10kgf)	0.20A	100%	KR-T103-24	0.3 kg/0.66 lb
KE-K510A	50	20	9.0	100 (3.93)	40 (1.57)		M6 (0.23)	180N (18kgf)	0.17A	ED	RH-M102B-24	0.45kg/0.99 lb
KE-K515A	(1.96)	(0.78)	(0.35)	150 (3.93)	70 (2.75)		Depth 8 (0.31)	260N (26kgf)	0.30A		RH-M105A-24	0.65kg/1.43 lb

*Max. holding power is as for 2mm thick steel plate.

*K type: Cord length 0.3 m



Model KE-V ELECTRO MAGNETIC V HOLDER



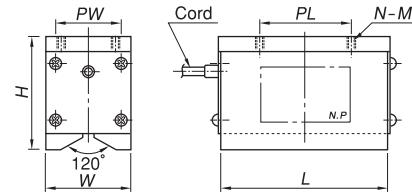
[Application]

These holders are suitable for transportation of small round bars and pipes in automated lines.



Precaution for use

Rust and scratches on the attractive face affect the holding power adversely. Repair it periodically.



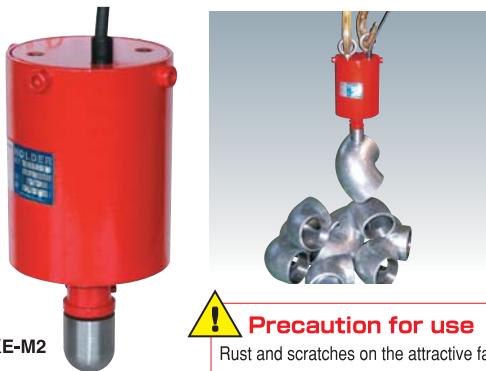
[mm (in)]

Model	Dimensions						Max. Holding Power [kgf]				Applicable Diameter	Voltage	Current	Working Rate	Applicable Rectifier	Mass
	W	H	L	PW	PL	N	M	φ10	φ30	φ50	φ80					
KE-V306	30	50	60 (2.36)		30 (1.18)			M6 (0.23)	15 (0.59)	20 (0.78)						0.6kg/1.32 lb
KE-V309	(1.18)	(1.96)	90 (3.54)		50 (1.96)			Depth 10 (0.39)	17 (0.66)	40 (1.57)	—					0.9kg/1.98 lb
KE-V312			120 (4.72)	—	70 (2.75)	2 (0.07)		20 (0.78)	60 (2.36)							1.1kg/2.42 lb
KE-V510	50	70	100 (3.93)		80 (3.15)			M8 (0.31)	80 (3.15)	100 (3.93)						2.2kg/4.85 lb
KE-V515	(1.96)	(2.75)	150 (5.90)		80 (3.15) + 80 (3.15)	3 (0.11)	(0.39)	Depth 10 (0.39)	130 (5.11)	180 (7.08)	—					3.0kg/6.61 lb
KE-V520			200 (7.87)					180 (7.08)	260 (10.2)							4.0kg/8.80 lb
KE-V815	75	100	150 (5.90)	50	80 (3.15)	4 (0.15)		M8 (0.31)	160 (6.29)	160 (6.29)						6.5kg/14.3 lb
KE-V823	(2.95)	(3.93)	225 (8.85)		(1.96)			Depth 12 (0.47)	300 (11.8)	340 (13.3)	—					10kg/22.0 lb
KE-V830			300 (11.8)		80 (3.15) + 80 (3.15)	6 (0.23)			450 (17.7)	520 (20.4)						13kg/28.6 lb

*V type: Cord length 0.3 m (11.8" approx)

*The maximum holding power applies to cold finished steel bars held on the whole area.

Model KE-M STICK TYPE MAGNETIC HOLDER

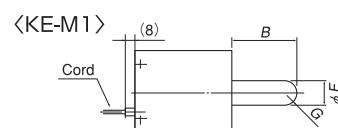


[Application]

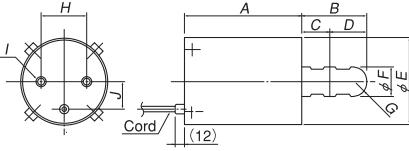
Most suitable for automatic transfer and feeding of irregular shaped components such as castings mainly in automotive related manufacturers.

[Features]

These electromagnetic holders have a single long pole enabling it to lift parts that are randomly placed in buckets one by one by adjusting the voltage of the rectifier.



KE-M2, M3



[mm (in)]

Model	Dimensions										Max. Holding Power	Voltage	Current	Working Rate	Applicable Rectifier	Mass
	A	B	C	D	E	F	G	H	I	J						
KE-M1	60	40	—	—	50.8	12	SR6	30	2 (0.07) — M6 (0.23)	15	20N (2kgf)					
	(2.36)	(1.57)			(2.00)	(0.47)	(0.23)	(1.18)	Depth 10 (0.39)	(0.59)						0.8kg/1.76 lb
KE-M2	100	55	25	30	76.3	25	SR12.5	50	2 (0.07) — M8 (0.31)	25	90N (9kgf)					
	(3.93)	(2.16)	(0.98)	(1.18)	(3.00)	(0.98)	(0.49)	(1.96)	Depth 12 (0.47)	(0.98)						3.5kg/7.71 lb
KE-M3	160	80	30	50	114.3	35	SR17.5	80	2 (0.07) — M12 (0.47)	40	250N (25kgf)					
	(6.29)	(3.15)	(1.18)	(1.96)	(4.50)	(1.37)	(0.69)	(3.15)	Depth 20 (0.78)	(1.57)						10kg/22.0 lb

*50%ED (Effective Duty - Repeating cycle of power on 5 min, and pause 5 min.)

*M type: Cord length 0.3 m.

*The maximum holding power applies to such usage that the tip is brought in contact with the flat surface of an SS400 block and pulled up vertically.

Model KEP MAGNETIC HOLDER

Electromagnet release type



[Features]

- Permanent magnetic holder for long time attraction without trouble of dropping due to power failure. It is turned ON/OFF with electric control.
- Magnetic force turns OFF(releases)by power supply control and it is turned ON at all other times.
- The interruptible power supply is not required.

How to Use

Power source is 24 VDC. When using 4 holders at the same time, connect their wires in series and use them with power of 96 VDC.

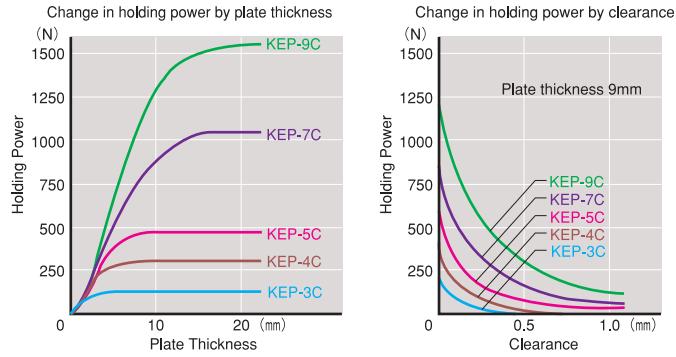
In this case, a voltage variable rectifier (e.g. KR-T205) enables adjustment of the demagnetizing voltage (power on amount at OFF) to facilitate operation.

Release Only at Power Supply

The power-on time must be 5 seconds or less. The power-off time must be 10 times or long'er.

Residual Magnetism

As an inevitable nature of the permanent electromagnetic holder, 3% to 4% of the holding power will remain as residual holding power even when it is released. If the weight of the lifted workpiece is lighter than this holding power, it may not be released. In such a case, the workpiece can be released easily by attaching a thin nonmagnetic film on the attractive face. But, the holding power will drop in squared proportion.



Precaution for use

Rust and scratches on the attractive face affect the holding power adversely. Repair it periodically.

Model	Dimensions						Max. Holding Power	Voltage	Current	Working Rate	Applicable Rectifier	Mass
	φD	H	P	A	B	C						
KEP-3C	30 (1.18)	40	10 (0.39)	22	M6 (0.23)	φ4 (0.15)	150N (15kgf)	24 VDC	0.45A	10%ED	KR-T103-24 KR-T101-6/24 	0.17kg/ 0.37 lb
KEP-4C	40 (1.57)	40	15 (0.59)	25	Depth 10 (0.39)	Depth 3 (0.11)	250N (25kgf)		0.54A			0.31kg/ 0.68 lb
KEP-5C	50 (1.96)	50	18 (0.70)	25	M8 (0.31)	φ5 (0.19)	350N (35kgf)		0.58A			0.6 kg/ 1.32 lb
KEP-7C	70 (2.75)	60	20 (0.78)	35	M10 (0.39)	φ6 (0.23)	900N (90kgf)		0.50A			1.5 kg/ 3.30 lb
KEP-9C	90 (3.54)	90	20 (0.78)	35	Depth 16 (0.62)	Depth 6 (0.23)	1500N (150kgf)		0.45A			2.4 kg/ 5.29 lb

※ The maximum holding power applies to SS400, 20-mm thick, ground-finished test piece held on the whole area.

※ Cord length 0.3 m.

Model KE-H HYBRID HOLDER



Precaution for use

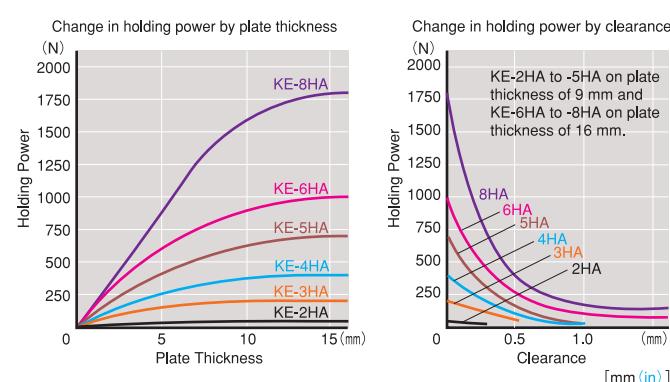
Rust and scratches on the attractive face affect the holding power adversely. Repair it periodically.

[Application]

Applicable to systems requiring high speed for robot hands and repeated transport operations in an automated line.

[Features]

- Very little residual holding power permits the speedy release of the workpiece. This enables high-speed operation, for example, an attaching / detaching cycle of 5 to 6 cycle/sec for a lightweight workpiece.
- Because it is a permanent electromagnetic type, the holder consumes little power and generates little heat, and thus is suitable for continuous, long period operation.
- The holding power is switchable to high, low and off according to normal supply, shutoff and reverse supply of power, respectively. This enables a wide variety of uses. (When at "low," the holding power is about 1/3 of that at "high.")
- Powerful rare earth magnet offers high holding power in spite of the small size of the holder.



Model	Dimensions	Max. Holding Power	Tapped Hole	Voltage	Current	Working Rate	Applicable Rectifier	Mass
KE-2HA	φ20 (0.78) × 25 (0.98)	50N (5kgf)	M4 (0.15) × 0.7 (0.02) Depth 4 (0.15)	24 VDC	0.07A	100%ED	KR-H1005 KR-H1015 RH-H102A 	55g/ 0.12 lb
KE-3HA	φ30 (1.18) × 40 (1.57)	200N (20kgf)	M6 (0.23) × 1.0 (0.03)		0.11A			140g/ 0.31 lb
KE-4HA	φ40 (1.57) × 40 (1.57)	400N (40kgf)	Depth 6 (0.23)		0.15A			280g/ 0.61 lb
KE-5HA	φ50 (1.96) × 50 (1.96)	700N (70kgf)	M8 (0.31) × 1.25 (0.04)		0.2 A			530g/ 1.17 lb
KE-6HA	φ60 (2.36) × 60 (2.36)	1000N (100kgf)	Depth 10 (0.39)		0.22A			960g/ 2.11 lb
KE-8HA	φ80 (3.15) × 60 (2.36)	1800N (180kgf)	M10 (0.39) × 1.5 (0.05) Depth 10 (0.39)		0.28A			1.6kg/ 3.52 lb

※ For continuous high speed operations, a non-contact rectifier (RH-H102A) needs to be used.

※ HA type: Cord length 0.3 m (0.2 m for KE-2HA only)

※ The maximum holding power applies to SS400, ground test piece held on the whole area. Test piece thickness: 10 mm for KE-2HA~4HA and 20 mm for KE-5HA~8HA.

MAGNETIC HOLDERS

LIFTING MAGNET
MAGBOREMAGNETIZERS AND ENVIRONMENTAL CHIP & SLUDGE SEPARATORS
MAGNETIC EQUIPMENT FOR TRANSPORTATIONHIGH GRADE MAGNETIC SEPARATORS
MEASURING INSTRUMENTS
MATERIALS

Model KR RECTIFIER FOR HOLDER
Dedicated to electromagnetic/permanent electromagnetic holders


KR-T101-6/24

[Application]

A standard type to rectify an input from an AC power source to DC and output it to electromagnetic holders.

[Features]

- This model comes in various output voltages and output currents selectable according to required capacities.

Model	Input		Output		Dimensions			Reversing Circuit	Applicable Holder	Mass
	Voltage	Fuse	Voltage	Current	Width	Depth	Height			
KR-T101-6/24	Single-phase 100 VAC	0.5A	6/24 DC	1A	200 (7.87)	160 (6.29)	100 (3.93)	—	KE-1B—4B KE-2R—4RA KE-2D—4E KEP-3C—9C	2.7kg/5.95 lb
KR-T103-24		2A	24 VDC	3A			120 (4.72)	—	KE-K310A KE-K530A	
KR-N101		1A	90 VDC	1A	140 (5.51)	110 (4.33)	80 (3.15)	—	KE-5B—9B KE-5E,6E	
KR-N103		3A	90 VDC	3A			—	—	KE-5B—9B KE-5E,6E	1.1kg/2.42 lb

※¹...The rectifier for KE-1B is KR-T101-6/24A only. The rectifiers for KEP-3C—9C are KR-T101-6/24 and KR-T103-24 only. (consult your Kanetec dealer if there are questions)

Model RH-M HIGH-SPEED CONTROLLER
Dedicated to electromagnetic holders


RH-M102B

[Application]

These are important, breakthrough products that can make standard electromagnetic holders respond to higher speed work handling by robot hands, etc.

[Features]

- The residual holding power, a factor to delay workpiece attaching and detaching, can be eliminated quickly to speed up the lines that use standard electromagnetic holders.(The demagnetizing time may become longer depending on materials of workpieces.)
- External operation is possible.

Model	Input		Output		Dimensions			Demagnetize Function	Applicable Holder	Mass	
	Voltage		Voltage	Current	Width	Depth	Height				
RH-M102B-24	Single-phase 100 VAC ±10% 50/60Hz	0—24 VDC	2A	140 (+5) 5.51 (+0.19)	175 (6.89)	230 (9.05)	Provided	24V	KE-2B—4B KE-2D—4E KE-KA KE-V306—312	4.3kg/9.48 lb	
RH-M102B		0—90 VDC						90V	KE-5B—9B KE-5E,6E KE-V510—830 KE-M		
RH-M105A		0—90 VDC	5A	170 (6.69)	175 (6.89)	260 (10.2)		90V	KE-5B—9B KE-5E,6E KE-V510—830 KE-M		
RH-M105A-24		0—24 VDC						24V	KE-2B—4B KE-2D—4E KE-KA KE-V306—312		
RH-M205A	Single-phase 200 VAC ±10% 50/60Hz	0—90 VDC	10A	282 (11.1)	290 (11.4)			90V	KE-5B—9B KE-5E,6E KE-V510—830 KE-M	6.0kg/13.2 lb	
RH-M210A		0—90 VDC									


Precaution for use

- The rectifier KR Series and RH Series use electronic PC boards and small relays inside the rectifiers and therefore, are not suitable for use, for example, on cranes where they are subjected to vibrations constantly. For installation in places that are subjected to constant vibrations, anti-vibration measures need to be taken. The RH Series external signal input wires must be shielding wires and must be limited to 10 m long maximum.

- With regard to failures due to use of holders made by other manufacturers, we may not be able to answer technical questions. Such use also voids the warranty even if a failure occurs within the warranty period.

Model KR-H RECTIFIER FOR HYBRID HOLDER



KR-H1015

[Application]

Rectifiers dedicated to hybrid holders.

●KR-H1005/1015 (Relay contact type)

For less frequent operations (ON/OFF about once per minute).

●RH-H102A (Non-contact type)

For frequent operations.

[mm (in)]						
Model	Input	Output	Dimensions	Applicable Holder	Mass	
KR-H1005	100 VAC 50/60Hz Single-phase	24 VDC 0.5A	145 (5.70) X 100 (3.93) X 210 (8.26)	KE-2HA—8HA	1.7kg/3.74 lb	
KR-H1015		24 VDC 1.5A			2.0kg/4.40 lb	
RH-H102A		24 VDC 2.0A			4.3kg/9.48 lb	

※ External control terminals included.

Electromagnetic Holders and Applicable Rectifiers and Number of Controllable Holders

All holders connected in parallel.

Electromagnetic holders KE-B Series

Rectifier	Holder	KE-1B	KE-2B	KE-3B	KE-4B	KE-5B	KE-6B	KE-7B	KE-8B	KE-9B
KR-T101-6/24		4	11	4	3					
KR-T103-24			34	12	10					
KR-N101				—	—	6	4	4	3	2
KR-N103				—	—	20	12	12	9	7
RH-M102B-24			25	9	7	—	—	—	—	—
RH-M102B			—	—	—	15	9	9	7	5

(Unit:pcs)

Thin electromagnetic holder KE-D/E Series

Rectifier	Holder	KE-2D	KE-3E	KE-4E	KE-5E	KE-6E
KR-T101-6/24		20	9	6		
KR-T103-24		60	28	20	—	—
RH-M102B-24		45	21	15		
KR-N101				—	18	12
KR-N103				—	54	36
RH-M102B				—	40	27

Automatic release type electromagnetic holder KE-R Series

Rectifier	Holder	KE-2R	KE-3RA	KE-4E
KR-T101-6/24		20	9	6
KR-T103-24		60	28	20

Rectangular electromagnetic holder KE-K Series

Rectifier	Holder	KE-K310A	KE-K315A	KE-K510A	KE-K515A
KR-T101-6/24		7	4	4	2
KR-T103-24		22	12	14	8
RH-M102B-24		16	9	10	6

Permanent electromagnetic holder KEP-C Series

Rectifier	Holder	KEP-3C	KEP-4C	KEP-5C	KEP-7C	KEP-9C
KR-T101-6/24		1	1	1	1	1
KR-T103-24		5	4	4	4	5

Hybrid holder KE-HA Series

Rectifier	Holder	KE-2HA	KE-3HA	KE-4HA	KE-5HA	KE-6HA	KE-8HA
KR-H1005		6	4	3	2	2	1
KR-H1015		19	12	9	6	6	4
RH-H102A		25	16	12	9	8	6

Calculation of controllable pieces

Number of controllable units = Output current of rectifier / Current of electromagnetic holder X approx. 0.8 (omit figures below decimal point)

※ "X0.9" for RH-M and RH-H.

(Example) In case of KR-N101-6/24 and KE-2B;

1/0.07kw X 0.8 (Value 11.428...thus 11) Number of unit = 11

MAGNETIC HOLDERS

MAGNETIC TOOLS FOR WELDING OPERATION

LIFTING MAGNET

MAGNETIZERS AND ENVIRONMENTAL CHIP & SLUDGE EQUIPMENT

MAGNETIC SEPARATORS

MEASURING INSTRUMENTS

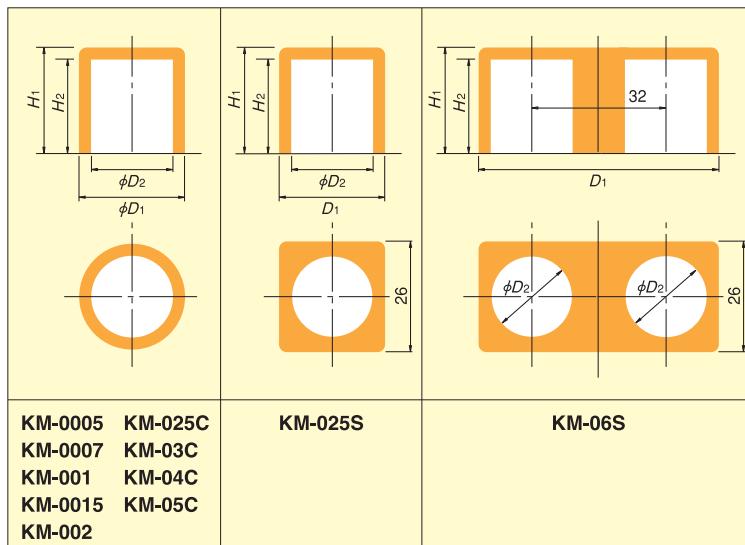
MAGNETIC MATERIALS

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Model KM MAGNETIC HOLDER

List of Magnetic Holders

Dimensions	Height	OD "h" Tolerance	Plating	Painting	Peripheral Knurling
$\phi 5$	X 8	KM-0005			
	X13		KM-0005L		
$\phi 7$	X 8	KM-0007			
	X13		KM-0007L		
	X 8		KM-0010H		KM-0010J
$\phi 10$	X15	KM-H001	KM-001		
	X18		KM-T001		
	X15	KM-H0015	KM-0015		
$\phi 15$	X18		KM-T0015		
	X 8		KM-0018H		KM-0018J
	X15	KM-H002	KM-002		
$\phi 20$	X18		KM-T002		
	X10		KM-0025H		KM-0025J
	X25	KM-H0025		KM-025C	
$\phi 26$	X30		KM-T0025		
	X25			KM-03C	
	X33		KM-T003		
$\phi 30$	X30			KM-04C	
	X40			KM-05C	
	26X26	X25		KM-025S	
26X60	X25			KM-06S	



area.....Workable area

↑ Arrows indicate the attractive face.



[Application]

Can be used to hold down drawings, rules and paper patterns. The models with tapped holes on the back can be used widely by installing them on jigs.

Can be incorporated in press dies.

Can hold workpieces during wire cutting.

[Features]

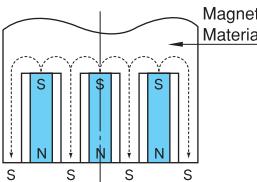
● Four specifications, OD tolerance, plating, painting and peripheral knurling, are available for selection according to applications.

● When suitable OD "h" tolerances are selected, they can be incorporated in dies.

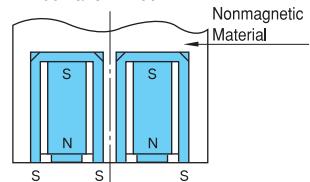
● When tapped holes are made on the back, they can be used in various applications.

Jig Application Example

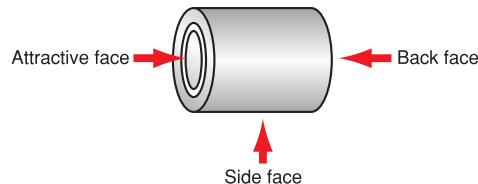
Applied to KM-0005 and KM-0007



Applied to KM-001 and KM-002



Names of Faces



Upper Limit of Working Temperature

The holding power drops as body temperature rises. The following types are available. It returns to be recovered when temperature drops to normal temperature.

■ Type A

Superior in terms of temperature. The holding power as high as 85% can be maintained at 350°C assuming the holding power at 20°C is 100%. It can be used up to 400°C intermittently for a short period of time.

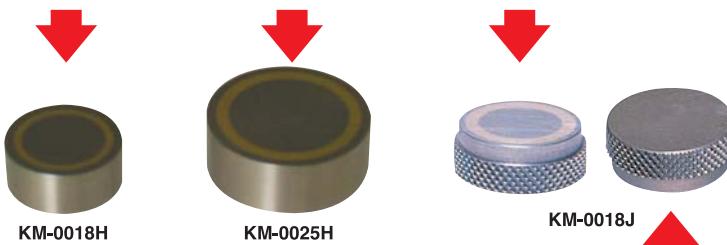
■ Type B

The holding power drops to about 95% at 100°C and to about 85% at 200°C assuming the holding power at 20°C is 100%. For continuous use, the upper limit is 150°C and for intermittent use for a short period of time, it may be used up to 200°C.

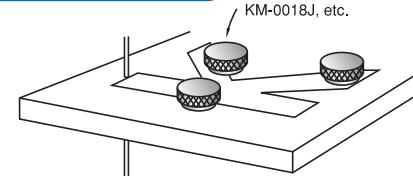
■ Type C

The holding power drops to about 85% at 50°C and to about 70% at 100°C assuming the holding power at 20°C is 100%. The upper limit for continuous use is 100°C.

Arrows indicate the attractive face.



An example of application



These holders can be used to hold pieces cut out by a wire to prevent such pieces from affecting the remaining parts or from falling.

OD "h" Tolerance

Model	Dimensions			Holding Power	Surface Treatment	Tapped Hole	Machinable Range				Max. Temperature	Tapping	Mass
	OD × Height	"h" Tolerance	Height Tolerance				D_1	D_2	H_1	H_2			
KM-0005	ø5 (0.19) × 7 (0.27)	8 (0.31)	—0.012	None	0.3N (0.03kgf)	None	5 (0.19)	4.5 (0.17)	8	7	Type B	Not possible	1.5g/0.003 lb
KM-0007	ø7 (0.27) × 7 (0.27)	8 (0.31)	—0.015				7 (0.27)	6.5 (0.25)	(0.31)	(0.27)			2.5g/0.005 lb
KM-H001	ø10 (0.39) × 9 (0.35)	15 (0.59)	—0.036	0	8N (0.8kgf)	None	10 (0.39)	9.5 (0.37)	15 (0.59)	12 (0.59)	Type A	Prepared hole up to 3.0 deep possible on the back	11g/0.024 lb
KM-H0015	ø15 (0.59) × 9 (0.35)	15 (0.59)	—0.043				20N (2kgf)	14 (0.55)				20g/0.044 lb	40g/0.088 lb
KM-H002	ø20 (0.78) × 9 (0.35)	15 (0.59)	—0.052	—0.1	40N (4kgf)	None	20 (0.78)	18 (0.70)	26 (1.02)	24 (0.94)	Type A	Prepared hole up to 4.0 deep possible on the back	100g/0.222 lb
KM-H0025	ø26 (1.02) × 9 (0.35)	25 (0.98)	—0.052				100N (10kgf)	25 (0.98)	25 (0.98)	21 (0.82)		Prepared hole up to 4.0 deep possible on the back	100g/0.222 lb

*The holding power applies to SS400, thickness 10mm and ground surface.

Plating

Model	OD × Height	Holding Power	Surface Treatment	Tapped Hole	Machinable Range				Max. Temperature	Tapping	Mass
					D_1	D_2	H_1	H_2			
KM-0005L	ø5 (0.19) × 13 (0.51)	1.8N (0.18kgf)	Nickel plating	None	5 (0.19)	4.5 (0.17)	13 (0.51)	10 (0.39)	Type A	Not possible	2.5g/0.005 lb
KM-0007L	ø7 (0.27) × 13 (0.51)	4N (0.4kgf)			7 (0.27)	6.5 (0.25)	—	—			
KM-0010H	ø10 (0.39) × 8 (0.31)	3N (0.3kgf)		—	—	—	—	—			5g/0.011 lb
KM-001	ø10 (0.39) × 15 (0.59)	8N (0.8kgf)		10 (0.39)	9.5 (0.37)	15 (0.59)	12 (0.47)	Type A	Prepared hole up to 3.0 deep possible on the back	11g/0.024 lb	
KM-T001	ø10 (0.39) × 18 (0.70)	20N (2kgf)		18 (0.70)	—	—			Provided	12g/0.026 lb	
KM-0015	ø15 (0.59) × 15 (0.59)	20N (2kgf)		15 (0.59)	14 (0.55)	15 (0.59)			Prepared hole up to 3.0 deep possible on the back	20g/0.044 lb	
KM-T0015	ø15 (0.59) × 18 (0.70)	50N (5kgf)		18 (0.70)	—	—			Provided	23g/0.051 lb	
KM-0018H	ø18 (0.70) × 8 (0.31)	50N (5kgf)		—	—	—			Not possible	16g/0.035 lb	
KM-002	ø20 (0.78) × 15 (0.59)	40N (4kgf)		20 (0.78)	18 (0.70)	15 (0.59)			Prepared hole up to 3.0 deep possible on the back	40g/0.088 lb	
KM-T002	ø20 (0.78) × 18 (0.70)	40N (4kgf)		18 (0.70)	—	—			Provided	45g/0.100 lb	
KM-0025H	ø25 (0.98) × 10 (0.39)	90N (9kgf)		—	—	—			Not possible	40g/0.088 lb	
KM-T0025	ø26 (1.02) × 30 (1.18)	100N (10kgf)		26 (1.02)	24 (0.94)	30 (1.18)	21 (0.82)		Type A	120g/0.266 lb	
KM-T003	ø30 (1.18) × 33 (1.29)	150N (15kgf)		30 (1.18)	27 (1.06)	33 (1.29)	28 (1.10)			180g/0.400 lb	

*The holding power applies to SS400, thickness 10mm and ground surface.

Peripheral knurling

Model	OD × Height	Holding Power	Surface Treatment	Tapped Hole	Max. Temperature	Features	Mass
KM-0010J	ø10 (0.39) × 8 (0.31)	3N (0.3kgf)	Nickel plating	None	Type B	Peripheral knurling	5g/0.011 lb
KM-0018J	ø18 (0.70) × 8 (0.31)	50N (5kgf)					16g/0.035 lb
KM-0025J	ø25 (0.98) × 10 (0.39)	90N (9kgf)					40g/0.088 lb

*The holding power applies to SS400, thickness 10mm and ground surface.

Arrows indicate the attractive face.

The T type bolt is optionally supplied.



Painting

Model	OD × Height	Holding Power	Surface Treatment	Tapped Hole	Machinable Range				Max. Temperature	Tapping	Mass
					D_1	D_2	H_1	H_2			
KM-025C	ø26 (1.02) × 25 (0.98)	100N (10kgf)	Painting	M6 (0.23), depth 8 (0.31)	26 (1.02)	25 (0.98)	25 (0.98)	23 (0.90)	Type C	Provided	80g/0.177 lb
KM-03C	ø30 (1.18) × 25 (0.98)	150N (15kgf)			30 (1.18)	27 (1.06)	21 (0.82)	21 (0.82)			110g/0.244 lb
KM-04C	ø40 (1.57) × 30 (1.18)	300N (30kgf)		M8 (0.31), depth 12 (0.47)	40 (1.57)	36 (1.41)	30 (1.18)	24 (0.94)			240g/0.533 lb
KM-05C	ø50 (1.96) × 40 (1.57)	500N (50kgf)			50 (1.96)	46 (1.81)	40 (1.57)	33 (1.29)			500g/1.111 lb
KM-025S	26 (1.02) × 26 (1.02) × 25 (0.98)	100N (10kgf)		None	26 (1.02)	25 (0.98)	25 (0.98)	23 (0.90)	Type C	Prepared hole up to 3.0 deep possible on the back	110g/0.244 lb
KM-06S	26 (1.02) × 60 (2.36) × 25 (0.98)	200N (20kgf)		M6 (0.23), depth 10 (0.39)	60 (2.36)	—	—	—		Provided	250g/0.555 lb

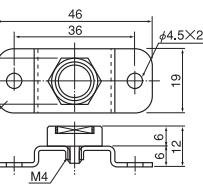
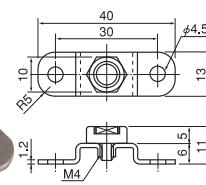
*The holding power applies to SS400, thickness 10mm and ground surface.

Model KM-RB

HEXAGONAL PERMANENT MAGNETIC HOLDER (WITH MALE THREAD)

Model KM-RT

HEXAGONAL PERMANENT MAGNETIC HOLDER (WITH PLATE)



[Application]

This holder is used as a jig.
This holder is used for transporting light workpieces in manufacturing lines, etc.

[Features]

- This holder can be easily attached to any place, since its top end is threaded.
- When used in combination with the plate (type with plate) as an accessory, the holders can be installed in places where tapped holes can not be opened.
- Since this holder is plated with nickel, it can be used under various circumstances.

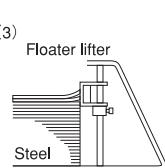
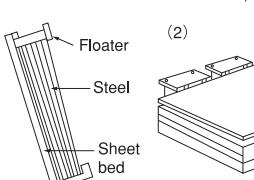
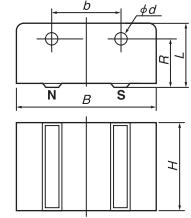
Model	Holding Power	Mass
KM-RB10	10N (1kgf)	5g/0.011 lb
KM-RB14	40N (4kgf)	10g/0.022 lb
KM-RT10	10N (1kgf)	10g/0.022 lb
KM-RT14	40N (4kgf)	18g/0.039 lb

※ The holding power applies to SS400, thickness 10 mm and ground surface.

MAGNETIC TOOLS

Model KF STEEL SHEET SEPARATOR "FLOATER" * (STANDARD TYPE)

Steel sheet separator



EXAMPLE OF APPLICATION

(1) «DELIVERY OF LARGE IRON SHEET»

Use it by standing sheets vertically against a wall, etc.
You can make good use of the separating force if the Floater is used by standing large sheets in this manner ; thereby minimizing the effect of the weight of the sheets and enhancing the separating force.

(2) «SEPARATION OF STUCK SHEETS»

Efficient if you use several Floaters in combination.
For separation of large steel sheets or other iron sheets stuck with oil or grease, increase the number of Floaters.

(3) «SHEETS PILED UP HIGHLY»

Use a lifter.
If steel sheets are piled up high, use a Floater on a lifter (Most adequate level of the Floater is a bit higher than the top sheet).

[Application]

Most suitable for removing iron or steel sheets one by one thereby facilitating feeding in automatic steel sheet feeding lines or for separating each iron sheet and for feeding it into a machine (for press or shearing operation).

[Features]

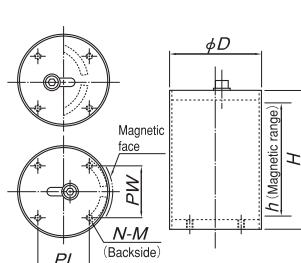
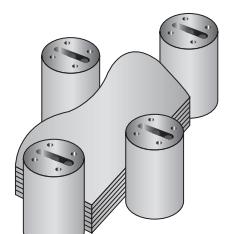
- The highest separating capacity is ensured by two rails on the magnetic polar surface.
- Not only steel sheets but also finished pressed workpieces, circular workpieces and irregular workpieces can be separated at fixed intervals by use of several separators.
- Compact type with highly efficient ferrite magnet. It can be attached easily to machines. Couple it in conformity with the size, shape and weight of the steel sheets in use.
- One set consists of two units.

Model	Dimensions				Setting Face		Mass	
	B	H	L	ℓ	No. of Hole	ϕd	b	
KF-5B	65 (2.55)	87 (3.42)	55.5 (2.18)	45.0 (1.77)	4	8 (0.31)	40 (1.57)	1.0kg/2.2lb×2
KF-10	125 (4.92)		61.5 (2.42)	51.5 (2.02)		56 (2.20)	2.0kg/4.4lb×2	
KF-20	127 (5.00)		66.5 (2.61)	56.5 (2.22)		80 (3.15)	2.5kg/5.5lb×2	
KF-30	210 (8.26)		72.0 (2.83)	60.0 (2.36)		150 (5.90)	7.0kg/15lb×2	
KF-40	254 (10.0)					11 (0.43)	12.0kg/26lb×2	

Model KF-HC POWERFUL CIRCULAR STEEL SHEET SEPARATOR "FLOATER" *



An example of usage



KF-HC0813
(An example of special fabrication)

[Application]

Used to separate irregular workpieces (steel sheets) that do not have a straight line of sufficient length.

[Features]

- The magnetic force can be adjusted by changing the location of the internal magnet.
- Small but powerful.

Model	Dimensions							Mass
	D	H	h	PL	PW	N	M	
KF-HC0813	76.3 (3.00)	130.0 (5.11)	100 (3.93)	—	(2.36)	(0.07)	M 8 (0.31)	Approx. 2kg/4.4 lb
KF-HC1218	114.3 (4.50)	175.0 (6.89)	140 (5.51)	65	65	4 (0.15)	M 8 (0.31)	Approx. 7kg/15.4 lb
KF-HC1424	139.8 (5.50)	235.0 (9.25)	195 (7.67)	80	80	(3.15)	M10 (0.39)	Approx. 14kg/30.8 lb