

SPECIFICATIONS

	PORTABLE OVENS			COMPACT IN-SHOP MODELS		
	10 A-20	10 B-20	50	125	350	1000
Capacity	10 to 20 lbs.		50 to 70 lbs.	125 to 175 lbs.	350 to 400 lbs.	Sixteen 12" Spools / 1000 lbs.
Outside Dimensions	7" dia. X 23" high		11" dia. X 23" high	16"H x 16"W x 24 1/2"D	22"H x 22"W x 24 1/2"D	39 3/4"H x 30 1/4"W x 30 3/4"D
Inside Dimensions	3" dia. X 19" high		7" dia. X 19" high	8 1/4"H x 9 3/4"W x 19"D	14"H x 16"W x 19"D	24"H x 21 3/4"W x 24"D
Unit Weight (approx.)	14 lbs.		32 lbs.	58 lbs.	110 lbs.	330 lbs.
Electrode Size	up to 18"		up to 18"	up to 18"	up to 18"	up to 24"
Line Cord	3 wire - 8 ft.		3 wire - 8 ft.	3 wire - 8 ft.	3 wire - 8 ft. None	None
Element	100W - 115Volt	130W - 115Volts	300W - 115 Volt	1000W - 115 Volts	1500W - 115V or 220V	3000W - 220/440 V-1 Phase
Thermostat	No	Yes	Yes	Yes	Yes	Yes
Pilot Light	Yes		Yes	Yes	Yes	Yes
Temp. Range	Av. 275° F	100° - 300° F	100° - 400° F	100° - 550° F	100° - 550° F	100° - 550° F
Door Latch	Lift Lid		Lift Lid	Push / Pull	Push / Pull	Push / Pull
Stacking	No		No	Yes	Yes	Yes

All specifications are subject to change without notice

Note: Weight capacity depends on electrode length

AND FOR FLUX CONDITIONING AND CONTROL...

FLUX HOPPERS AND HOLDING OVENS

The 100 lb. capacity hopper and 600 lb. capacity holding oven illustrated at right are just part of a complete range of flux conditioning / control units available from Gullco. All ovens are equipped with low watt density elements to maintain uniform temperature through the flux load. All hoppers and holders are designed to assure that the most stringent flux specifications are maintained.



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CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gulco.com
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LATIN AMERICA - GULLCO INTERNATIONAL LIMITED Phone: 55-11-99485-1338 e-mail: rogerio_macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik Phone: +49(0)173 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.marlens@ms-gmbh.com

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OVI2204

WELDING AND CUTTING AUTOMATION

GULLCO



WELDING ELECTRODE DRYING OVENS



Compact In-Shop Models...

...Portable Models

Eliminate the risk of costly rework and rejects.

Ensure consistent physical properties and x-ray quality welds.

Protect low hydrogen quality in electrode and flux-core wire.

Protect coatings on aluminum, bronze, cast iron stainless and other electrodes.

NOTE: Weight and Capacity may vary depending on type and density of electrode.

Improve weld consistency and reduce cost

MAINTAIN CONSISTENT WELD ELECTRODE PROPERTIES TO ENSURE HIGH QUALITY WELDS

GULLCO

WELDING AND CUTTING



THE PORTABLES....

They're lightweight, durable and completely portable, easy to load, easy to carry, ready to provide low cost control of welding quality in the shop or in the field. Reduce operating costs by providing your welding operators with fast access to electrodes at the point of work. There's a model exactly suited for your requirements.



Thermometer #1029-8

8" Thermometer

For use with the portable oven models 10 A-20 and 10B-20. Fits securely into the standard oven rod lifter.

20 LB. CAPACITY PORTABLES

MODEL 10A-20

Operates on 115 volt, AC and is equipped with rod lifter, pilot light and has 1" high false bottom to prevent moisture damage to electric connections. The oven temperature, not controlled by thermostat, average 275° F and provides absolute electrode stability when used in conjunction with temperature controlled ovens.

MODEL 10B-20

Operates on 115 volt, AC only. Has rod lifters, pilot light, and thermostat that maintains oven temperature in 100° F to 300° F range, providing independent control of electrode welding quality.



50 lbs CAPACITY PORTABLES

MODEL 50

This handy portable oven, only 23" high and 11" in diameter, gives fast access to up to 50 lbs of stabilized rods in the shop or in the field. It operates on 115 volt, AC. Thermostatic control maintains oven temperature in the 100° - 300° F range. High performance / efficiency feature include:

- Central calrod element ensures uniform distribution of heat in oven
- a full 2 inches of insulation surrounds oven wall
- Equipped with two separate rod lifters to give the welding operator fast access to different rod types

...AND COMPACT, IN SHOP MODELS



Model 125
- for operation on 115 or 220 Volt, AC.



Model 350
- for operation on 115 or 220 Volt, AC

These Gullco Stabilizing Ovens have gained international recognition and acceptance based on a variety of quality performance features including:

- Compact, modular design with controls recessed for protection.
- Shelves easily removed to accommodate large size loads.
- Oven fully insulated to prevent heat loss and a pilot light indicates oven operation.
- Thermostat control, incorporating on/off switch, maintains oven temperature in 100° - 550° F range.
- Model 125 and 350 feature nesting feet and sockets for safe, easy stacking.

Compact and Stackable

HIGH TEMP TO 595° F AVAILABLE ON MOST MODELS



Model 1000
- for operation on 220/440 Volt, AC

1000 Lb. CAPACITY HIGH TEMPERATURE ELECTRODE RE-BAKING AND STABILIZING OVEN



...available in two Models - one equipped with an Indicating Control System and the other with an Electronic Digital Programmer and Controller.

Custom configured palletized multi-compartment OVENS

Do your specs involve different temperatures or bake times?

Gullco has a configuration to suit your needs!



Thermometer Accessory- Model T23 - Thermometer with amounting bracket and screw for front mounting on the Model 125 and 350 ovens.

SPECIFICATIONS

	PORTABLE OVENS			COMPACT IN-SHOP MODELS		
	10 A-20	10 B-20	50	125	350	1000
Capacity	9 kg.		23 kg.	57 kg.	159 kg.	454 kg.
Outside Dimensions	178mm Dia x 585mm High		279 D x 584 H	407 W x 407 H x 622 L	559 W x 559 H x 622 L	768 W x 1016 H x 768 L
Inside Dimensions	76mm Dia. x 483mm High		177 dia. X 483 high	248 W x 209 H x 482 L	405 W x 356 H x 482 L	552 W x 610 H x 610 L
Unit Weight (approx.)	7 kg.		16 kg.	27 kg.	50 kg.	150 kg.
Electrode Size	up to 457mm		up to 457mm	up to 457mm	up to 457mm	up to 457mm
Line Cord	2428mm		2428mm	2428mm	2428mm	None
Element	100W - 115Volt	130W - 115Volts	300W - 115 Volt	1000W - 115 Volts	1500W - 115V or 220V	3000W - 220/440 V-1 Phase
Thermostat	No	Yes	Yes	Yes	Yes	Yes
Pilot Light	Yes		Yes	Yes	Yes	Yes
Temp. Range	135° C	38° - 148° C	38° - 148° C	38° - 228° C	38° - 288° C	38° - 288° C
Door Latch	Lift Lid		Lift Lid	Push / Pull	Push / Pull	Push / Pull
Stacking	No		No	Yes	Yes	Yes

All specifications are subject to change without notice

Note: Weight capacity depends on electrode length

AND FOR FLUX CONDITIONING AND CONTROL...

FLUX HOPPERS AND HOLDING OVENS

The 45 kg. capacity hopper and 272 kg. capacity holding oven illustrated at right are just part of a complete range of flux conditioning / control units available from Gullco. All ovens are equipped with low watt density elements to maintain uniform temperature through the flux load. All hoppers and holders are designed to assure that the most stringent flux specifications are maintained.



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GERMANY - ms gmbh Melchior Schweißtechnik Phone: +49(0)173 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.marlens@ms-gmbh.com

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WELDING AND CUTTING AUTOMATION



WELDING ELECTRODE DRYING OVENS



Compact In-Shop Models...



...Portable Models



Eliminate the risk of costly rework and rejects.

Ensure consistent physical properties and x-ray quality welds.

Protect low hydrogen quality in electrode and flux-core wire.

Protect coatings on aluminum, bronze, cast iron stainless and other electrodes.

NOTE: Weight and Capacity may vary depending on type and density of electrode.

Improve weld consistency and reduce cost

MAINTAIN CONSISTENT WELD ELECTRODE PROPERTIES TO ENSURE HIGH QUALITY



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THE PORTABLES....

They're lightweight, durable and completely portable, easy to load, easy to carry, ready to provide low cost control of welding quality in the shop or in the field. Reduce operating costs by providing your welding operators with fast access to electrodes at the point of work. There's a model exactly suited for your requirements.



Thermometer #1029-8

8" Thermometer

For use with the portable oven models 10 A-20 and 10B-20. Fits securely into standard oven rod lifter

9KG. CAPACITY PORTABLES

MODEL 10 A-20

Operates on 115 volt AC and is equipped with rod lifter, pilot light and has 25.4 mm high false bottom to prevent moisture damage to electric connections. The oven temperature, not controlled by thermostat, averages 135° C and provides absolute electrode stability when used in conjunction with temperature controlled ovens.

MODEL 10 B-20

Operates on 115 or 220 volt, AC only. Has rod lifters, pilot light, and thermostat that maintains oven temperature in 38° C to 148° C range, providing independent control of electrode welding quality.



23 kg. CAPACITY PORTABLES

MODEL 50

This handy portable oven, only 584mm high and 280mm in diameter, gives fast access to up to 23 kg. of stabilized rods in the shop or in the field. It operates on 115 volt, AC. Thermostatic control maintains oven temperature in the 38° to 148° C range. High performance / efficiency feature include:

- Central calrod element ensures uniform distribution of heat in the oven
- a full 51 mm inches of insulation surround the ovens walls
- Equipped with two separate rod lifters to give the welding operator fast access to different rod types

...AND COMPACT, IN SHOP MODELS



Model 125
- for operation on 115 or 220 Volt, AC.



Model 350
- for operation on 100 or 220 Volt, AC

These Gullco Stabilizing Ovens have gained international recognition and acceptance based on a variety of quality performance features including:

- Compact, modular design with controls recessed for protection.
- Shelves easily removed to accommodate large size loads.
- Oven fully insulated to prevent heat loss and a pilot light indicates oven operation.
- Thermostat control, incorporating on/off switch, maintains oven temperature in 38° - 288° C range.
- Model 125 and 350 feature nesting feet and sockets for safe, easy stacking.

Compact and Stackable

HIGH TEMP TO 313°C AVAILABLE ON MOST MODELS



Model 1000
- for operation on 220/440 Volt, AC

454 kg. CAPACITY HIGH TEMPERATURE ELECTRODE RE-BAKING AND STABILIZING OVEN



...available in two Models - one equipped with an Indicating Control System and the other with an Electronic Digital Programmer and Controller.

Custom configured palletized multi-compartment OVENS

Do your specs involve different temperatures or bake times?

Gullco has a configuration to suit your needs!



Thermometer Accessory- Model T23 - Thermometer with amounting bracket and screw for front mounting on the Model 125 and 350 ovens.

THE MOST COMPLETE RANGE OF STABILIZING OVENS

PORTABLE WELDING OVENS

These electrode ovens are lightweight but durable. The design makes this oven model easy to carry and easy to load. The welding ovens provide low cost control of welding quality in the shop or at the job site. Available in 20 lb. (9 kg) capacity and 50 lb. (22.6 kg) capacity models.

MODEL 350



MODEL 125



MODEL 50
50 lb (22.6 kg)
Capacity Electrode
oven with handle
and wheel assembly for
easier portability



MODEL 10A-20

WELDING OVENS: COMPACT IN-SHOP MODELS

The in-shop models are designed to maintain electrode integrity at a higher temperature range. All in-shop models have a recessed control panel for protection as well as removable shelves and thermostat control. These models are available in 125 lb. (56.7 kg), 350 lb. (136 kg) and 1000 lb. (453.5 kg) capacities.

1000 POUND (453.5 kg) CAPACITY HIGH TEMPERATURE ELECTRODE RE-BAKING OVEN

Available in two models, one equipped with an Indicating Control System and the other with an Electronic Digital Programmer Controller.



WELDING AND CUTTING AUTOMATION

GULLCO



WELD FLUX HOPPERS AND REBAKE OVENS



Flux Holding Ovens

Flux Rebake Ovens

Maintain critical flux specifications with precise temperature control

Utilizes low watt density elements to allow for accurate uniform temperature control

NOTE: Weight and capacity will vary depending on type and density of flux.

Flux Hopper and Rebake Ovens for Submerged Arc Welding

FLUX HOPPERS AND FLUX HOLDING OVENS ASSURE FLUX SPECIFICATIONS ARE MAINTAINED

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GERMANY - ms gmbh Melchior-Schweißtechnik Phone: +49(0)172 5437722 Fax: +49(0)206 928 38-38 e-mail: christian.martens@ms-gmbh.com

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WELDING AND CUTTING

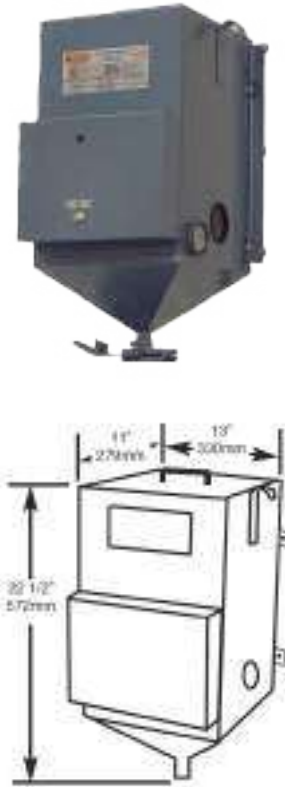


FLUXHOPPERS

100 lb. (45.3 kg) HOPPER

MODEL GOV 100 FH:

This 100 lb. (45.3 kg) Capacity Flux Hopper is designed for mounting either directly above the welding head or on the welding manipulator to maintain the flux in its original dry state. It is complete with mountings lugs, lift-off loading lid, thermometer, flux level window, flux screen and a flux heating system incorporating 40 watts of low density elements. The temperature is controlled by a thermostat. The temperature range is 100° to 400° F (37.7° to 204.4°C). All for operation on 115 / 230 volts, 50/60 cycle AC power supply. Weight 27 lb (12.2 kg).

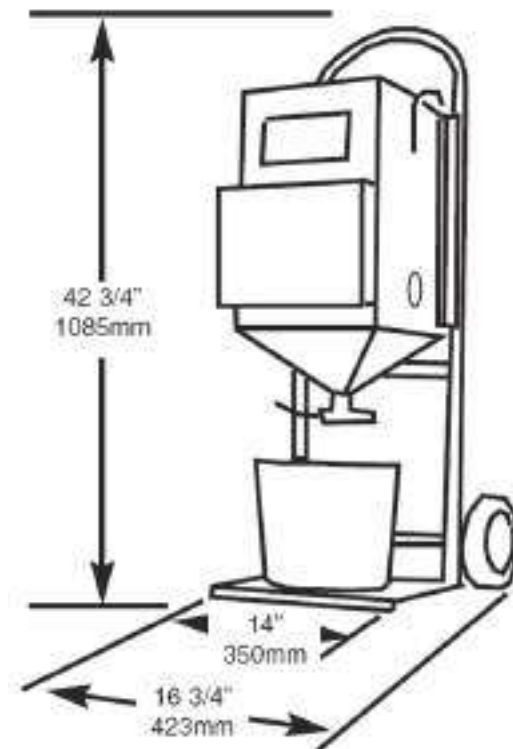


FLUXHOLDING OVENS

MODEL

GOV 100 PFD:

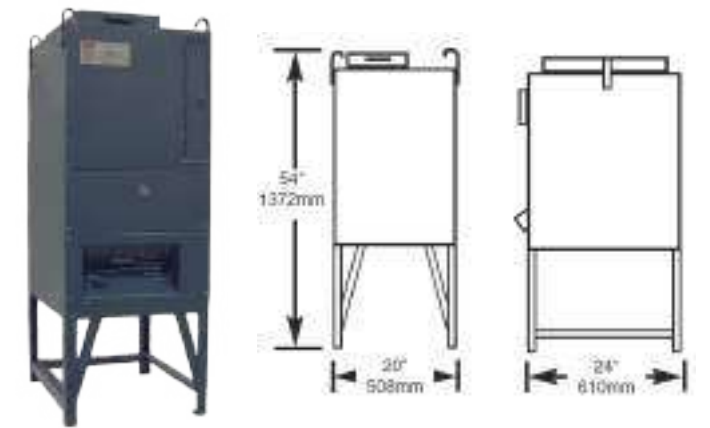
This portable 100 lb. (45.3 kg) capacity Flux Holding Oven uses the same flux hopper as Model GOV 100 FH except it is supplied complete with a portable carrier, a 25 lb. (11.3 kg) capacity flux bucket for transfer of the flux to the welding head. Flux bucket gravity feed from a positive lever type valve at the base of the Hopper. The 100 lb. (45.3 kg) hopper can be readily detached from its portable carrier and mounted directly above the welding head or on the welding manipulator. All for operation on 115 / 230 volts, 50/60 cycle AC power supply. Weight 50 lb.



200 LB. HOLDING OVEN

MODEL GOV 200 FD:

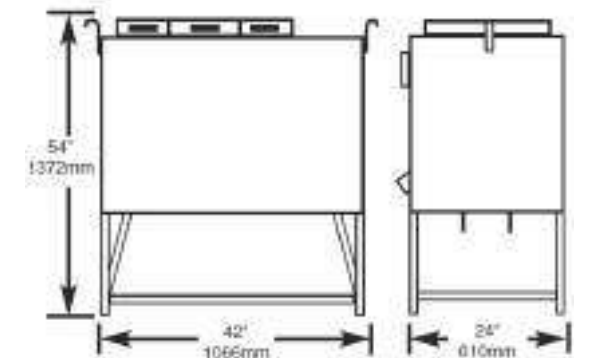
This insulated 200 lb. (90.7 kg) capacity Flux Holding Oven is generally located in the storage area and is used to keep the flux in its dry state or to dry out flux that has picked up moisture. It is complete with lifting lugs, and hinged loading lid, thermometer and a flux heating system incorporating 2250 watts of low density elements. The temperature is controlled by a thermostat. The temperature range is 100° to 550°F. (37.7° to 287.7°C) All for operation on 115 / 230 volts, 50/60 cycle AC power supply. Weight 155 lb. (70.3 kg)



600 LB. HOLDING OVENS

MODEL GOV 600 FD3:

This fully insulated 600 lb. (272.2 kg) capacity Flux Oven incorporates three (3) individual 200 lb. (90.7 kg) hoppers, enabling up to three (3) different types of flux to be stored and dried simultaneously. It is complete with three (3) individual thermometers and a flux heating system incorporating 4500 watts of low density elements. Temperature is controlled by three (3) individual thermostats so that each hopper is individually controlled. Temperature range 100° to 550°F (37.7° to 287.7°C). All for operation on 220, 440 or 575 volts, 3 phase power supply.



600 LB FLUX BAKE OVEN Model GOV 600 FDH:

This fully insulated 600 lb. capacity high temperature Flux Bake Oven is similar in design to the above Model GOV 600 FD3, except incorporating high temperature insulation, high temperature wiring and the flux heating system which incorporates 11,400 watts of low density elements. Temperature range 100° to 850°F. Each hopper controlled by an individual thermostat to provide individual temperature control. All for operation on 220, 440 or 575 volts, 3 phase power supply. Weight 350 lb. *

NOTE: Special voltage requirements available. Please call for information.

* Voltage must be specified at time of placing order

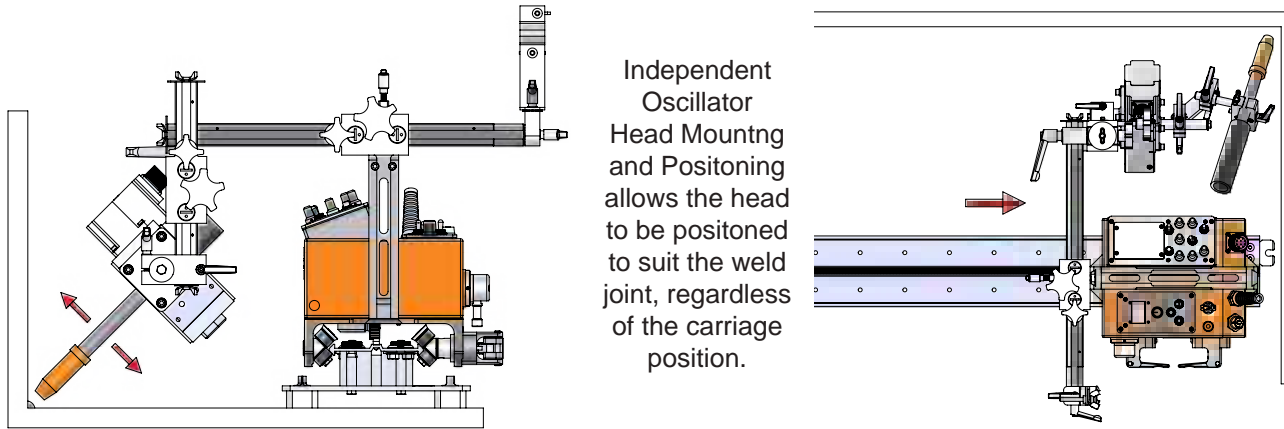
SUBMERGED ARCMOGGY

MODEL GM-02

This SAM® trackless welding carriage can be equipped to produce precision, quality submerged arc or MIG welds. It is guided by adjustable horizontal guide roller assemblies which maintain a set distance from a vertical member or a unique optional "handled" steering device. The unit comes complete with a removable attachment post that holds a wire feed head, flux hopper & valve (submerged arc unit only), wire spool, controls and adjustable weld positioning brackets with horizontal and vertical slides that enable full positioning of the weld gun either behind or beside the carriage.



**UNIVERSALLY INDEPENDANT
OSCILLATOR HEAD**

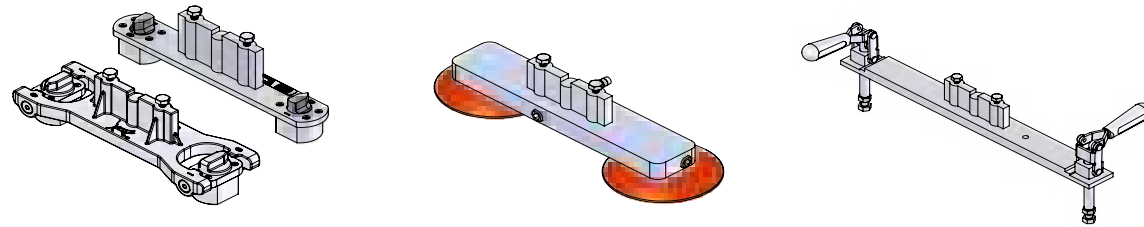


Independent Oscillator Head Mounting and Positioning allows the head to be positioned to suit the weld joint, regardless of the carriage position.

COMPATIBLE WITH NEW AND EXISTING TRACK SECTIONS



COMPATIBLE WITH NEW AND EXISTING TRACK SECTIONS



Powerful On/Off Magnets Available with 1 or 2 track mounting pads instead of magnets

Vacuum Cups available with 1 or 2 stainless steel tack mounting pads instead of Vacuum Cups

Plunger Levers suitable for track sections formed into rings

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	e-mail: indsales@gullco.com	
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	e-mail: c.zhang@gullco.com	
SINGAPORE - GULLCO INTERNATIONAL LIMITED	Phone: +65-9385-4488	
	e-mail: bettylim@gullco.com	
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	
	e-mail: rogerio.macedo@gullco.com	
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)206 999 36-36
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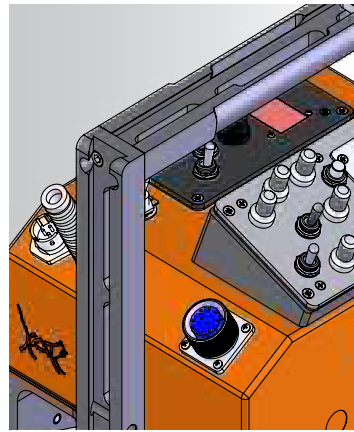
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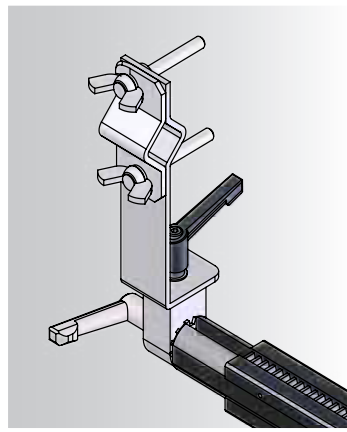
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WELDING AND CUTTING AUTOMATION
PRODUCTIVITY - DURABILITY - SERVICE

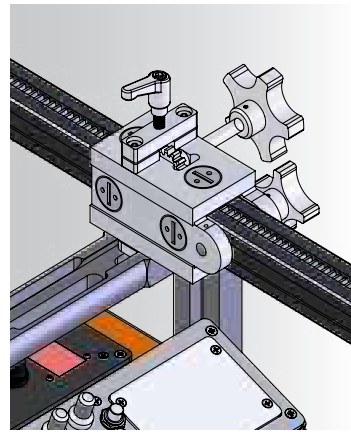
KAT® 300 SERIES
ENGINEERED . FEATURE RICH



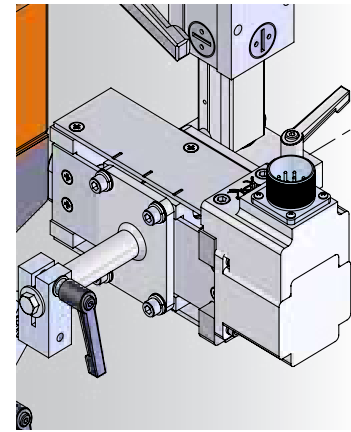
VARIABLE POSITION RACK MOUNTING HANDLE



VERSATILE CABLE CLAMP

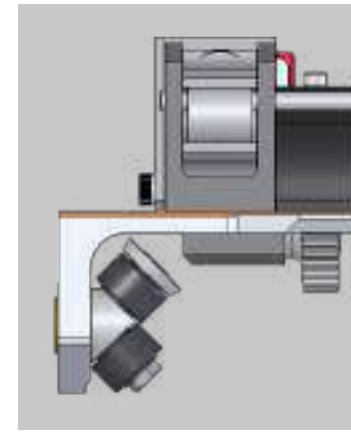


QUICK INSTALL/ADJUSTMENT RACK BOX

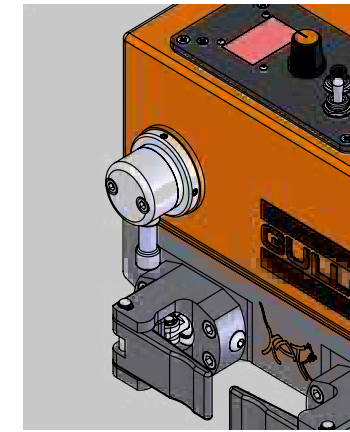


INDEPENDANT OSCILLATOR HEAD

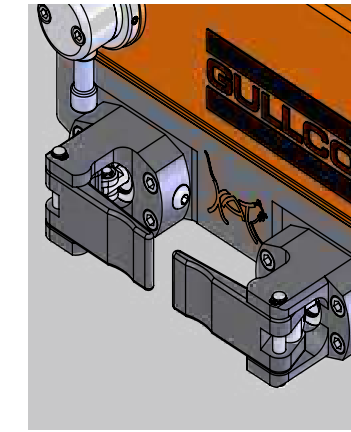
Universally adjustable oscillation head mounting and positioning. 2" (51mm) Linear Oscillator Head (Also available in a 4" (102mm) Stroke or a Radial Oscillator Head



INDUSTRY PROVEN CARRIAGE DRIVE SYSTEM

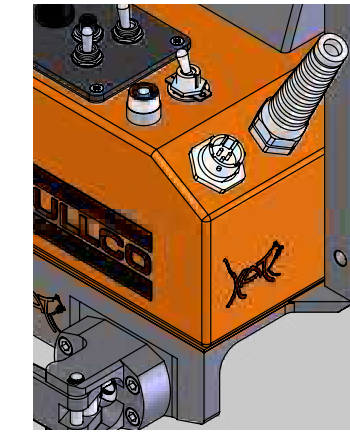


QUICK ENGAGE DRIVE GEAR CLUTCH

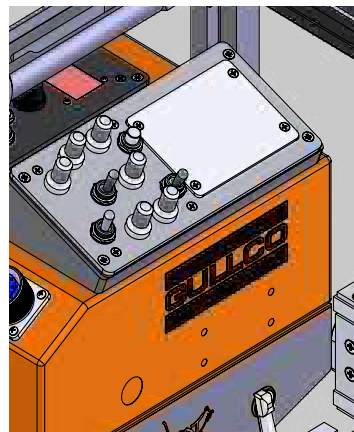


PADDLE LOCK SELF ALIGNING WHEELS

Easy carriage to track mounting system uses self aligning wheels and quick operation latches to facilitate attaching the carriage anywhere along the track.

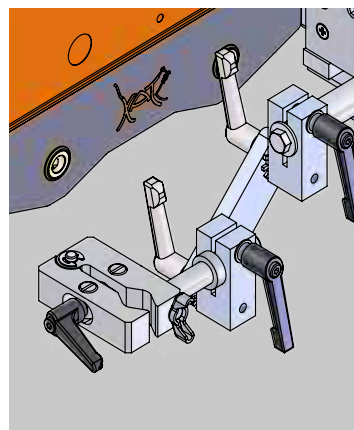


AUTOMATIC ARC ACTIVATION SIGNAL



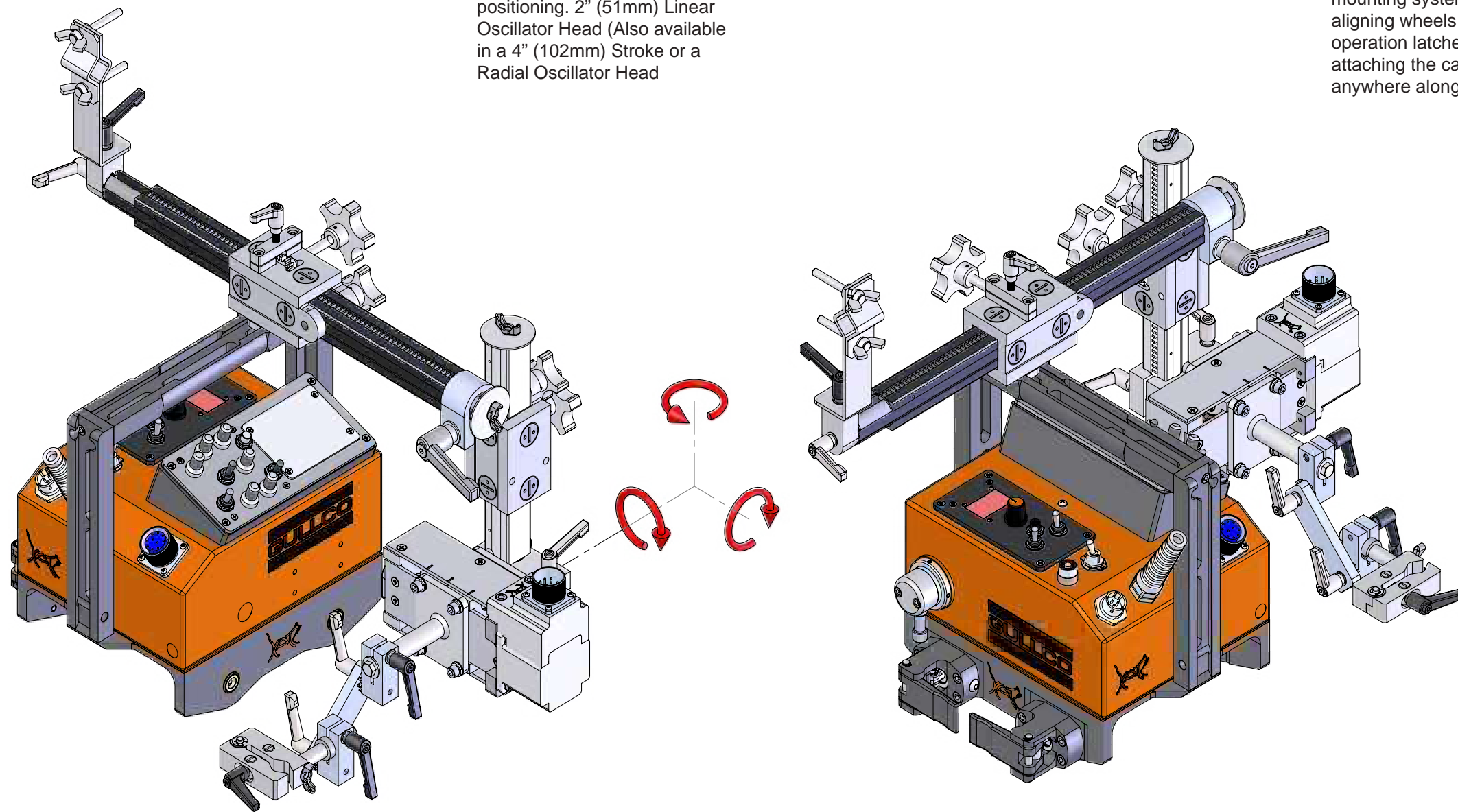
INDUSTRY PROVEN OSCILLATOR CONTROL

High visibility LED display. Precision control of carriage travel, oscillation speed, oscillation width and dwells



QUICK RELEASE INSULATED TORCH HOLDER

Detach and re-attach the Torch Holder quickly and accurately.

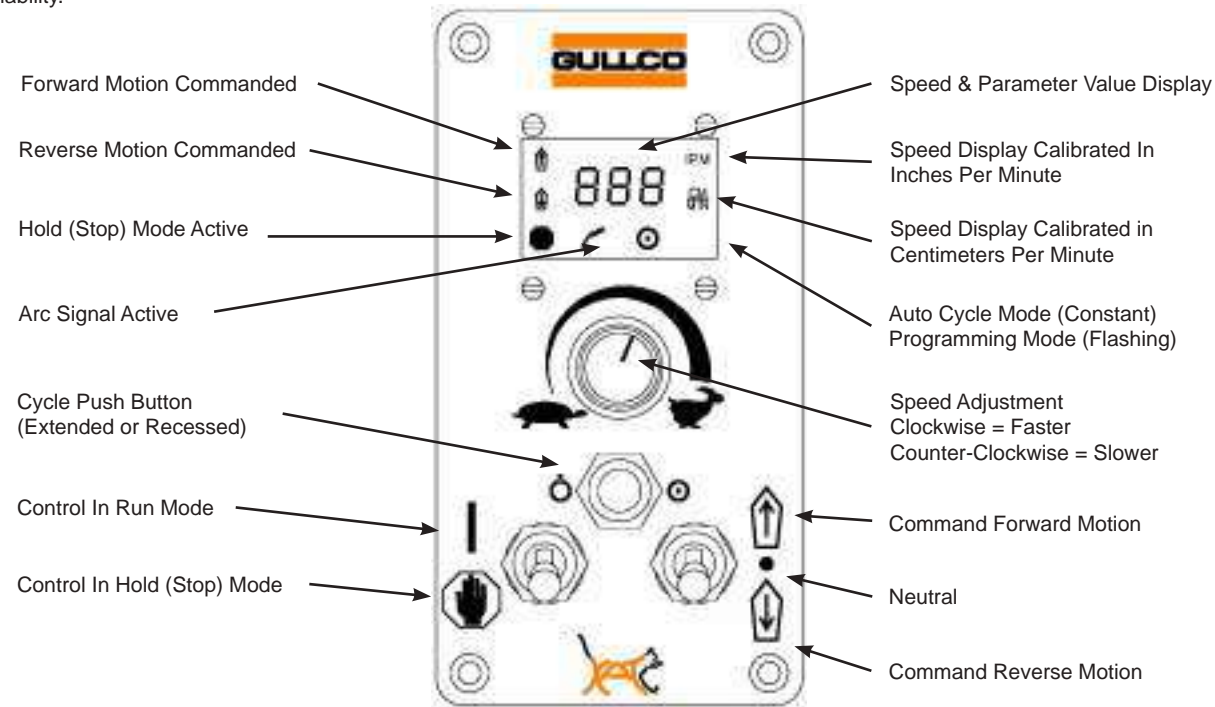


ADDITIONAL CARRIAGE FEATURES

The Gullco KAT® is used throughout the world to automate a wide variety of welding and cutting operations. The KAT® is small and light yet robust with many features which include:

- Tool-less Setup, Adjustment & Operation
- OSHA Safety Orange
- Ingress Protection (Sealed Unit) including Conformal Coated Circuit Boards
- Energy Efficient
- Universal Compatibility to all welding power sources and wire feeders
- Compatible with all existing rigid track and the new semi rigid track sections

The Gullco Standard Platform (GSP) range of controls have switching for forward / neutral / reverse, run / stop, Manual / Auto & program variable increment/decrement (where applicable) and a rotary encoder for speed control. This micro-processor based, 24 volt DC motor control can be supplied to provide a variety of "optional" functions such as indexing, weld oscillation and auto-weld. The selected "option" function and carriage travel speed/ direction are directed by a single GSP control. This ensures high levels of accuracy, quality and reliability.



PARTNUMBERCONFIGURATION

Select a option and voltage to configure a KAT® specifically suited to your needs

GK- -300-D

MODEL OPTIONS	
MODEL	DESCRIPTION
W	Welding Package
AW	Auto-weld
L	Linear Oscillator
R	Radial Oscillator
PC	Plasma Cutting
FC	Flame Cutting



WELDING AND CUTTING CARRIAGE - KAT® FOR RIGID & SEMI RIGID TRACK

The Gullco KAT® is used throughout the world to automate a wide variety of welding and cutting operations. The KAT® is small and light yet robust with many features which include:

- Tool-less Setup, Adjustment & Operation
- Self-aligning Wheels (Easy Installation)
- Dynamic Dovetail Racking for versatile torch positioning
- Quick clutch mechanism
- OSHA Safety Orange
- Ingress Protection (Sealed Unit) including Conformal Coated Circuit Boards
- Energy Efficient
- Universal Compatibility to all welding power sources and wire feeders
- Torch holder memory for fast torch removal and accurate repositioning after cleaning
- Compatible with all existing rigid track and the new semi rigid track sections



THE MOST DURABLE, DYNAMIC, AND VERSATILE CARRIAGE IN THE INDUSTRY

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 Phone: 1-905-953-4140 Fax: 1-905-953-4138 e-mail: sales@gulco.com

U.S.A - GULLCO INTERNATIONAL INC.
 Phone: 1-440-438-8333 Fax: 1-234-808-8146 e-mail: ussales@gulco.com

EUROPE - GULLCO INTERNATIONAL (U.K.) LIMITED
 Phone: +44 1257-253579 Fax: +44 1257-254629 e-mail: uksales@gulco.com

AUSTRALIA - GULLCO INTERNATIONAL PTY LIMITED
 Phone: 61 (0)7 3348 5515 Fax: 61 (0)7 3348 5510 e-mail: ausales@gulco.com

INDIA - GULLCO INTERNATIONAL INDIA PVT LIMITED
 Phone: +91-20-2551-1433 Fax: +91-20-2551-1433 e-mail: indsales@gulco.com

CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED
 Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gulco.com

SINGAPORE - GULLCO INTERNATIONAL LIMITED
 Phone: +65-9385-4488 e-mail: benjy jim@gulco.com

LATIN AMERICA - GULLCO INTERNATIONAL LIMITED
 Phone: 55-11-99485-1338 e-mail: rogerio.macedo@gulco.com

GERMANY - ms gmbh Melchior Schweißtechnik
 Phone: +49(0)73 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.marlens@ms-gmbh.com



AUTOMATED WELDING SYSTEM KAT® 300 SERIES CARRIAGE

SPECIFICATIONS:

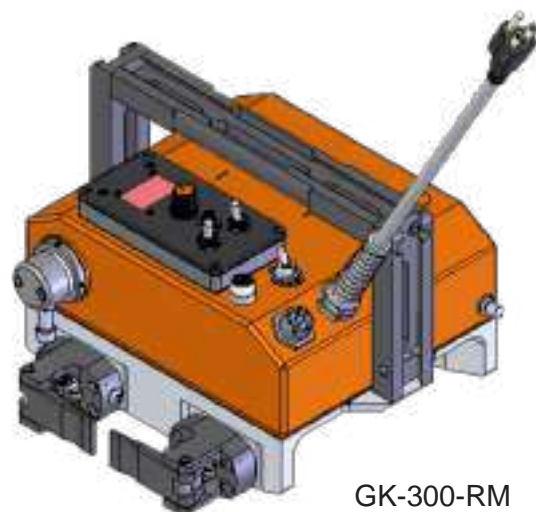
Weight: 17 lb (7.7 kg)

Speed Range: 2.5 - 83.1 cm/min (1 - 32.7 IPM)

Racking Weight: 9 lb (4 kg)

Power Requirements: 42 VAC, 115 VAC, 230 VAC
Models available.

Vertical Capacity: 56 lb (25.4 kg)

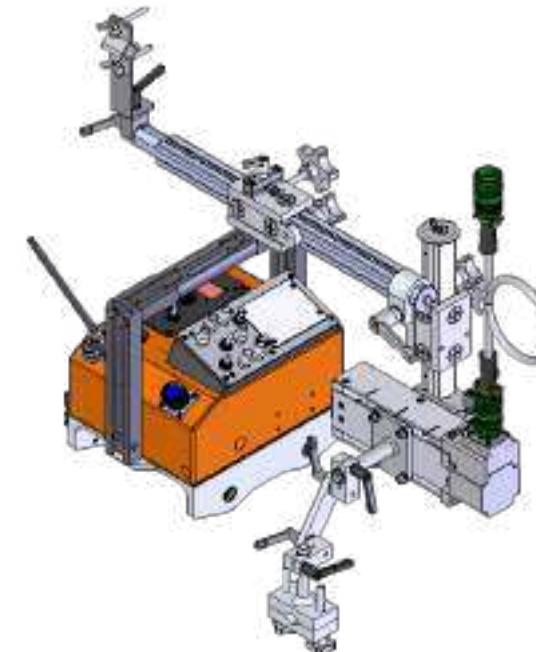


GK-300-RM

**GK-L-300 KAT® Rugged Light Weight Carriage
Linear Welding Oscillation Combination**

Carriage Speed 1 - 32.7 IPM (2.5 - 83.1 cm/min)
Heavy duty quick action self-aligning wheels
combined with two track mounting paddled locks.
Accurate Carriage speed control by conformal coated
ingress protected 24 volt Gullco microprocessor.

Maximum load capacity 56 lb (25.4 kg) regardless
of weld position. With forward/stop/reverse switch,
high speed return, infinitely variable multi-turn speed
potentiometer and LED display. Oscillator control
provides Auto Arc Start , independent dwell at each
end and center of the 1.5" stroke, infinitely variable 0
to 5 seconds; oscillation speed potentiometer, speed
range 8 to 188 cycles per minute (16 to 376 passes
per minute). Weld oscillator head mounted on
infinitely variable dovetailed tool-less racking system.



FEATURE RICH ENGINEERED DESIGN

**DYNAMIC
RACKING**

Using a machined dovetail racking system and locking rack box, torch positioning is versatile and adjustable. The rack box can be positioned anywhere along the racking and torch removal and adjustment is simple.



**TORCHHOLDER
MEMORY**

The torch holder has been designed for quick and easy removal of the torch so that cleaning and accurate repositioning of the welding torch in the optimal position is simple and consistent.



**SELF-ALIGNING
WHEELS**

Self-aligning wheels means the carriage is mounted to the track correctly and easily every time. This ensures smooth carriage motion and maximizes the life of the track.

PADDLELOCKS

Quick installation paddle locks provide smooth transition of the self-aligning wheels onto the track.

**SEMI RIGID
TRACK**

Semi rigid track is made from precision extruded aluminum and a securely affixed steel rack. The interchangeable end design enables fast accurate joining of the track sections and provides smooth movement of the carriage along the track in both flat and curved surfaces. Flexibility to a minimum diameter of 24ft (7315.2mm) internal or external.

**MACHINED
UNDERCARRIAGE**

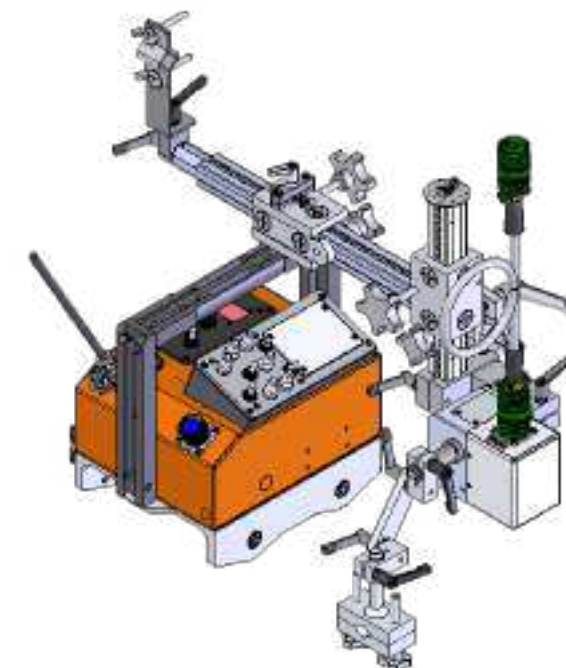
Lightweight design engineered for optimal setup times utilizing the self-aligning wheels and paddle lock technology.



**GK-R-300 KAT® Rugged Light Weight Carriage
Radial Welding Oscillation Combination**

Carriage Speed 1 - 32.7 IPM (2.5 - 83.1 cm/min)
Heavy duty quick action self-aligning wheels
combined with two track mounting paddled locks.
Accurate Carriage speed control by conformal coated
ingress protected 24 volt Gullco microprocessor.

Maximum load capacity 56 lb (25.4 kg) regardless
of weld position. With forward/stop/reverse switch,
high speed return, infinitely variable multi-turn speed
potentiometer and LED display. Oscillator control
provides Auto Arc Start , independent dwell at each
end and center of the 0.8 - 45° oscillation width
stroke, infinitely variable 0 to 5 seconds; oscillation
speed potentiometer, speed range 1° - 45° per
second. Weld oscillator head mounted on infinitely
variable dovetailed tool-less racking system.



ACCESSORIES

GK-165-068 - CUTTING TORCH HOLDER

Accepts standard 1 3/8" (35 mm) cutting torches with 32 pitch rack. Supplied with calibrated angle of tilt scale and 1 1/8" (29 mm) or 1 1/2" (38 mm) square clamp.



GK-165-068-M Accepts 1.280" (32.50mm) cutting torches. Supplied with calibrated angle of title scale as above.

ON/OFF GAS FLOW TOGGLE VALVE - GS-010-031-TV On/Off toggle valve for use with acetelyne torches.

GK-171-047-2 - RACK ARM - 18" (457.2 mm) long 1-1/8" (29 mm) Square Rack Arm with rack and one ends turned to 1-1/8" (29 mm) diameter.



GK-171-650 - HEAVY DUTY RACK BOX 10" (254 mm) long with adjustable nylastic bearing plugs for 1 1/8" (29 mm) square rack arm.



RIGID TRACK SECTIONS For use with the Gullco KAT@ Travel Carriage Model GK-200 in most portable applications. Standard track sections are supplied in 48, 96 and 120 inch (1219, 2438 and 3048 mm) lengths complete with rack and interlocking ends.



ON/OFF MAGNET ASSEMBLIES - GK-165-215 feature two powerful magnets each with 150 lbs (45 kg.) of holding power and on/off knob for easy installation.



GK-165-074-2 - 4 MOTION SEMI-AUTO TORCH HOLDER

Mounts on the KAT@ horizontal rack arm to provide 5" (127 mm) of vertical adjustment and 360° torch rotation & two directonal angle tilt.



GK-184-200 CIRCLE CUTTING ACCESSORY Undercarriage: equipped with gear assembly that is engaged and driven by carriage gear system. This also includes a clutch that allows free-wheeling during set-up. Radius arm— 36" long with slide/lock for diameter size adjustment. Magnet/Holder for centering pin. (not shown in cover photo).

KAT@100 SERIES AUTOMATION CARRIAGE



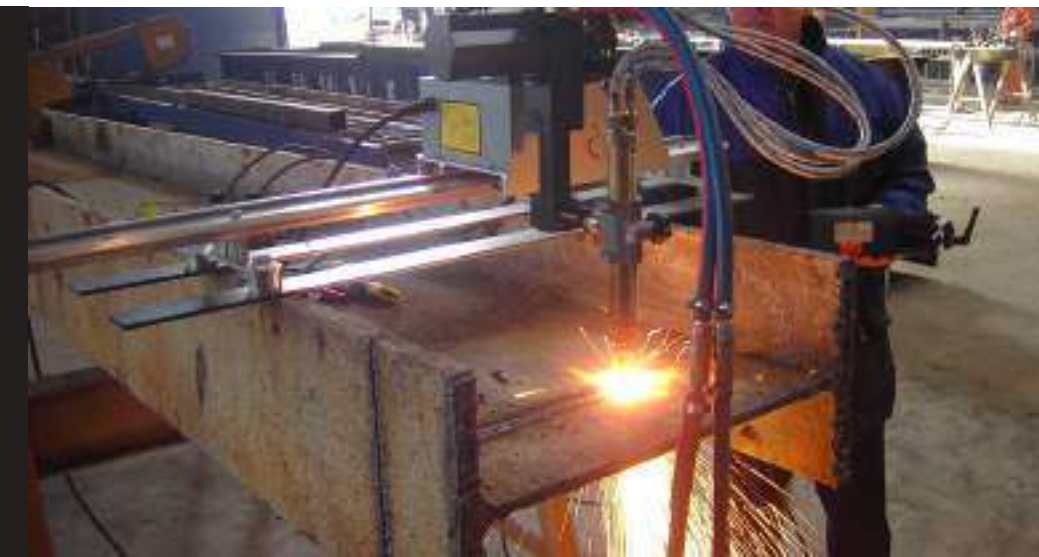
The GULLCO® KAT@100 automation carriage is the major component of an automated system designed to improve welding and cutting applications by increasing quality and reducing the cost of operations by increasing productivity.

Operator safety is greatly enhanced by the use of GULLCO® low voltage (24 VDC) control and switch mode power supply integration. The carriage consists of a low voltage 24 VDC permanent magnet gear motor which engages the track through a set of spur gears. An easy to engage clutch lever permits free-wheeling of the carriage for rapid positioning. The carriage is designed to run on rigid KAT@ track to provide stable consistent results.

KAT@100 series carriages come in 2 models to automate both welding and cutting applications along with a variety of accessories to help improve efficiency including torch positioning and movement as well as arc start integration.

The simplest in the series of KAT@ mechanized automation. The 100 is designed to be an entry level carriage with simple setup, minimal control complexity and quickly integrates into a variety of welding and cutting applications.

INCREASE PRODUCTIVITY AND PRECISION
ALL POSITION WELDING AND CUTTING CARRIAGE



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CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED	Phone: +8621-50460341	Fax: +8621-50463554
	e-mail: c.zhang@gullco.com	
SINGAPORE - GULLCO INTERNATIONAL LIMITED	Phone: +65-9385-4488	
	e-mail: beatty.lim@gullco.com	
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	
	e-mail: rogerio.macedo@gullco.com	
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)206 999 36-36
	e-mail: christian.merlans@ms-gmbh.com	

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SPECIFICATIONS

Speed Range: 1 – 85.5 in/min [2.5 – 217.2 cm/min] No Load Horizontal 2 - 72 in/min [5.1 – 182.9 cm/min] Full Load Vertical

Weight of Carriage: 13.2 lbs. [6 kg]

Vertical Load Capacity: 50 lbs. [23 kg]

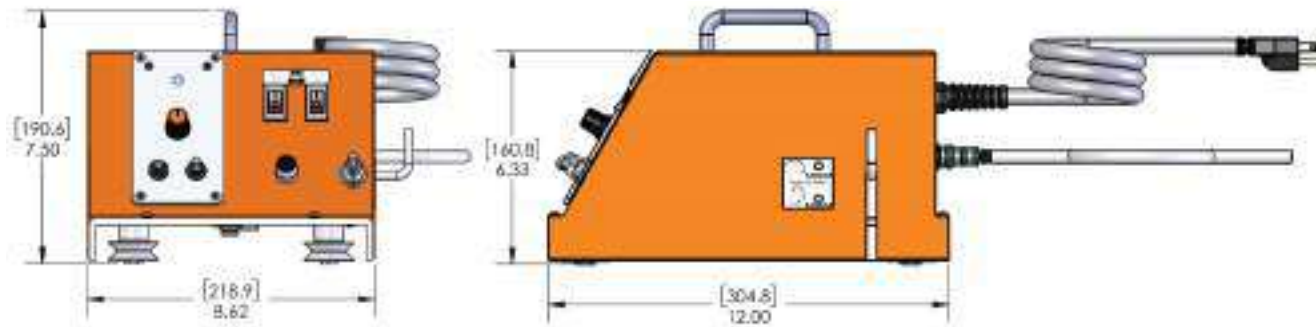
Motor: 24 VDC permanent magnet gear motor

Supply Voltage: 85 to 264 VAC, single phase, 50/60 Hz.

Complies with: CE Certification



DIMENSIONS



**KAT@100 WELDING AUTOMATION
CARRIAGE - GK-100-W**



The GK-100-W carriage is equipped with 2 auxillary ports to work in combination with the arc start cable accessory. This provides automatic starting of the welding torch and carriage movement simultaneously.

Carriage and accessories sold seperately

**KAT@100 WELDING CUTTING
CARRIAGE - GK-100-FC**



The GK-100-FC carriage is designed for flame cutting applications. Used in combination with the racking and gas toggle valve to make the flame ignition and carriage movement seamless.

Carriage and accessories sold seperately

CONTROL



The KAT@100 series of carriages uses the GULLCO® GSP-1100 control which provides the following benefits:

- Regenerative braking to the motor when the control is put into the STOP setting. This overrides all other controls and when activated will bring the motor to a dead stop. This provides precise control over the end point of the weld or cut
- Tach feed back control to constantly monitor and correct the speed of the motor providing precise and consistent carriage speed regardless of load variance
- Forward, neutral and reverse carriage travel
- Variable speed control within the range 1 – 85.5 in/min [2.5 – 217.2 cm/min] No Load Horizontal 2 - 72 in/min [5.1 – 182.9 cm/min] Full Load Vertical
- Easily visable LED to identify when the carriage is powered on and ready for operation



WELDING AND CUTTING CARRIAGE - KAT® FOR RIGID TRACK



The Gullco Rigid KAT® is used throughout the world to automate a wide variety of welding and cutting operations. It is a durable, reliable precision travel carriage designed for use on rigid track which enables it to operate along any plane. The rigid track can be used in straight sections or can be formed for use on curved surfaces. Gullco manufactures several systems and accessories designed for use with the Rigid KAT® making it one of the most versatile pieces of welding and cutting automation equipment available in the industry.

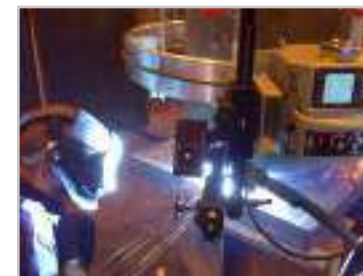
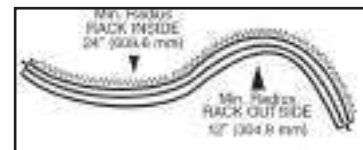
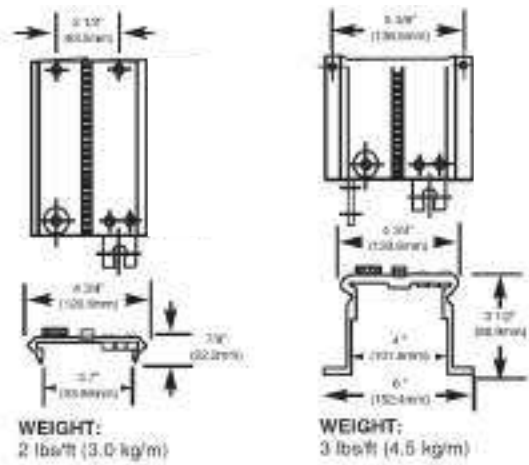
Rigid KAT® Automation Carriage Accessories	
1 - Rack Arm	6 - 4 Motion Semi-Automatic Gun Holder
2 - Rack Box	7 - Remote Control Pendants
3 - Clamps	8 - Idler Carriages
4 - Semi-Automatic Gun Holder	9 - Cable Support Clamps
5 - Bronze Cutting Torch Holder	10 - Riser Bracket

RIGID KAT® TRACK SYSTEMS

Gullco Rigid Track is made from precision extruded aluminum and a securely affixed steel rack. The interchangeable end design enables fast accurate joining of the track sections. Standard Track, used in most portable applications, is available in 48, 96 and 120 inch (1219, 2438 and 3048 mm) lengths and can be formed to suit the work contour. Deep Section Track is used in permanent, straight run applications. It is available in 60" and 120" (1524 and 3048mm) lengths. The track is securely mounted on ferrous materials using round or square magnet assemblies. Vacuum mount assemblies can be used on non-ferrous or ferrous materials.



TRACK MOUNTING DEVICES



MULTI-PASS WELDS



CLADDING OVERLAY



ALL POSITION

Reliable automation that improves quality and reduces costs in welding and cutting operations

ALL POSITION - PRECISE CONTROL - VARIABLE

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Phone: +65-9385-4466		e-mail: benney.jim@gulco.com
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-99485-1338		e-mail: rogerio.macedo@gulco.com
GERMANY - ms gmbh Melchior-Schweißtechnik		
Phone: +49(0)172 5437722	Fax: +49(0)206 928 38-38	e-mail: christian.martens@ms-gmbh.com





AUTOMATED WELDING SYSTEM

The Gullco Rigid KAT® carriage is used throughout the world to automate and improve the quality and efficiency of single or multiple "head" welding and cutting operations. Welding guns or cutting torches mounted on the KAT® carriage move along Gullco standard or deep section track at precisely controlled speeds along the desired path in forward or reverse direction. Gullco's Rigid KAT® carriage enables welding guns or cutting torches to operate with precise motion from start to finish regardless of the number of passes or the work pieces involved, improving the quality, efficiency and repeatability of the process. Poor or awkward accessibility, operator fatigue, or inconsistent workmanship are eliminated. This unit is designed for operation on flat or curved surfaces as the track can be used in straight sections or roll formed to follow the contour of the work piece. The self-aligning wheel system of the carriage grips the top and bottom of the track, enabling it to travel along any plane. The adjustable wheel assembly keeps the carriage snug to the track, while allowing it to be easily mounted and removed from the track at any point. The positive drive of the KAT® is obtained from a uniquely designed rack and pinion system, driven by a low voltage permanent magnet motor and gearhead power unit assembly.



AUTO-WELD CARRIAGE SYSTEM

The KAT® Auto-Weld Carriage option enables a wide variety of automated welding and cutting overlay cycles that can be repeatedly performed. The GSP control in this unit controls travel direction/speed and length of travel path and synchronizes them with precise weld start and weld stop settings. This travel carriage is pre-drilled for mounting



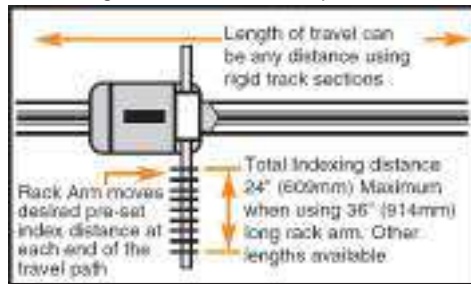
Auto-Weld accessories (sold separately). It is ideal for stitch welding and seam welding applications where repeatability is desired. The reliability and precision of this automated welding and cutting system reduces cost, adds efficiency and improves quality.



A

CLADDING / OVERLAY SYSTEM

The Indexing option Rigid KAT® uses a GSP control that combines control of the carriage movement and start/stop parameters with precise indexing of the torch at the end of the path. This fully automates and increases the efficiency of overlay welding operations, flame spray work, hard facing etc. At the end of the path the travel carriage

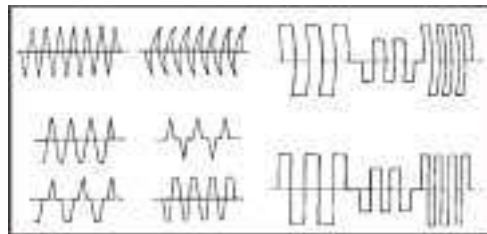


automatically stops and reverses direction while at the same time indexing the gun/torch. It can be programmed to weld or not weld during indexing. Carriage is pre-drilled or quick mounting of the indexing unit (sold separately).

I

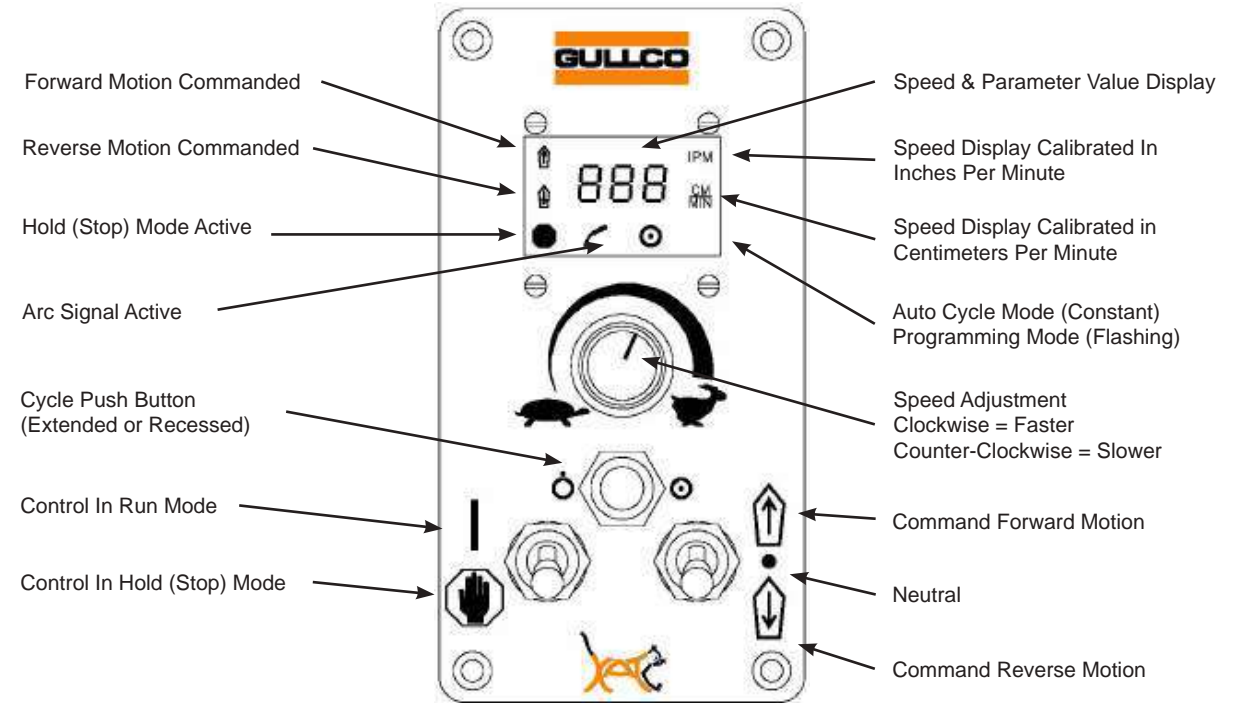
OSCILLATION WELDING SYSTEM

The oscillator is available with a linear, pendulum, tangential or step (square pattern) motion to the welding gun with adjustable motorized stroke width, infinitely variable stroke speed adjustment, three independent position dwell times, motorized centre line positioning and automatic wire feed start and travel start/stop interface.



O

The Gullco Standard Platform range of controls have switching for forward / neutral / reverse, run / stop, Manual / Auto & program variable increment/decrement (where applicable) and a rotary encoder for speed control. This micro-processor based, 24 volt DC motor control can be supplied to provide a variety of "optional" functions such as indexing, weld oscillation and auto-weld. The selected "option" function and carriage travel speed/ direction are directed by a single GSP control. This ensures high levels of accuracy, quality and reliability.



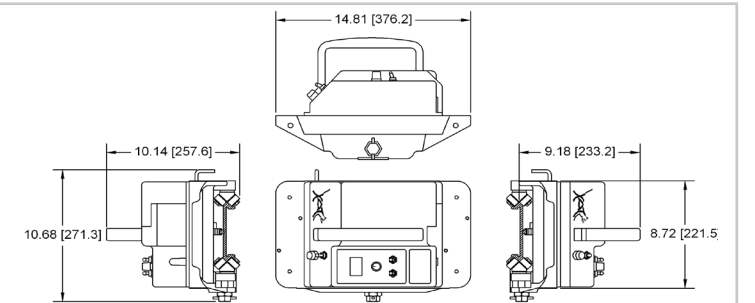
Select a speed, voltage and option to configure a KAT® specifically suited to your needs

GK-200- [] - []

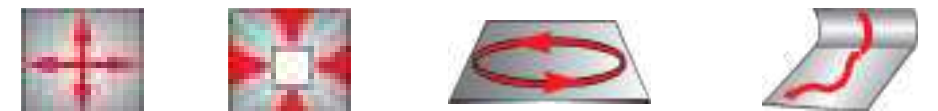
SPEED RANGES		VOLTAGES	
MODEL	SPEED RANGE	MODEL	INPUT SUPPLY
RL	0.5 to 16.4 IPM (1.2 to 41.6 cm/min)	A	42 VAC
RM	1 to 32.7 IPM (2.5 to 83.1 cm/min)	B	115 VAC
RH	2.7 to 88.4 IPM (6.7 to 224 cm/min)	C	230 VAC

SPECIFICATIONS

Weight: 29 lbs (13 kg)
 Vertical Load Capacity: 100 lbs (45 kgs)
 Drive Motor: 24 VDC permanent magnet gear motor
 Supply Voltage: 42, 115, 230 VAC, single phase
 Complies With: CSA & CE Certification



Unique Drive System and Wheel Assemblies Enable Travel in All Positions Including Overhead

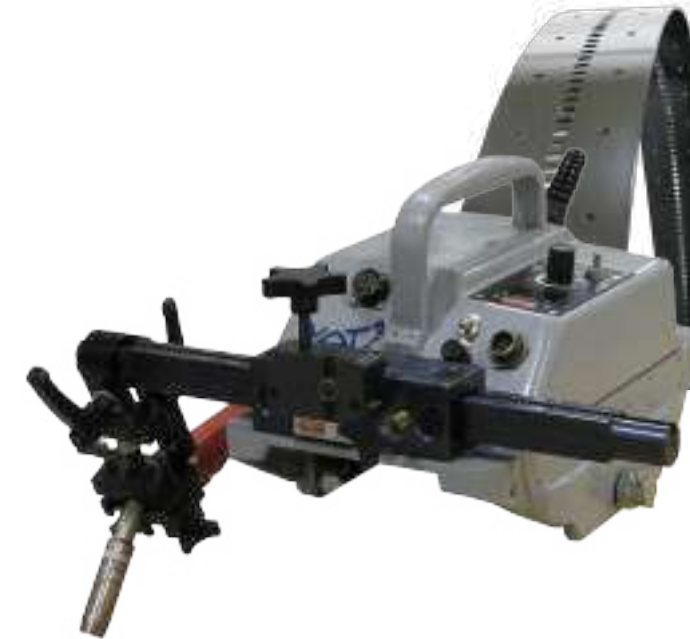


Positive drive rack and pinion system

Self-aligning wheel assemblies run on both top and bottom of track... enabling operation on any plane.



WELDING AND CUTTING CARRIAGE - KAT® FOR FLEXIBLE TRACK



The Gullco Flexible KAT® is used throughout the world to automate a wide variety of welding and cutting operations.

It is a durable, reliable precision travel carriage designed for use on flexible track which enables it to operate on straight or curved surfaces along any position.

Gullco manufactures several systems and accessories designed for use with the Flex KAT® making it one of the most versatile pieces of welding/cutting automation equipment available.



MULTI-PASS WELDS



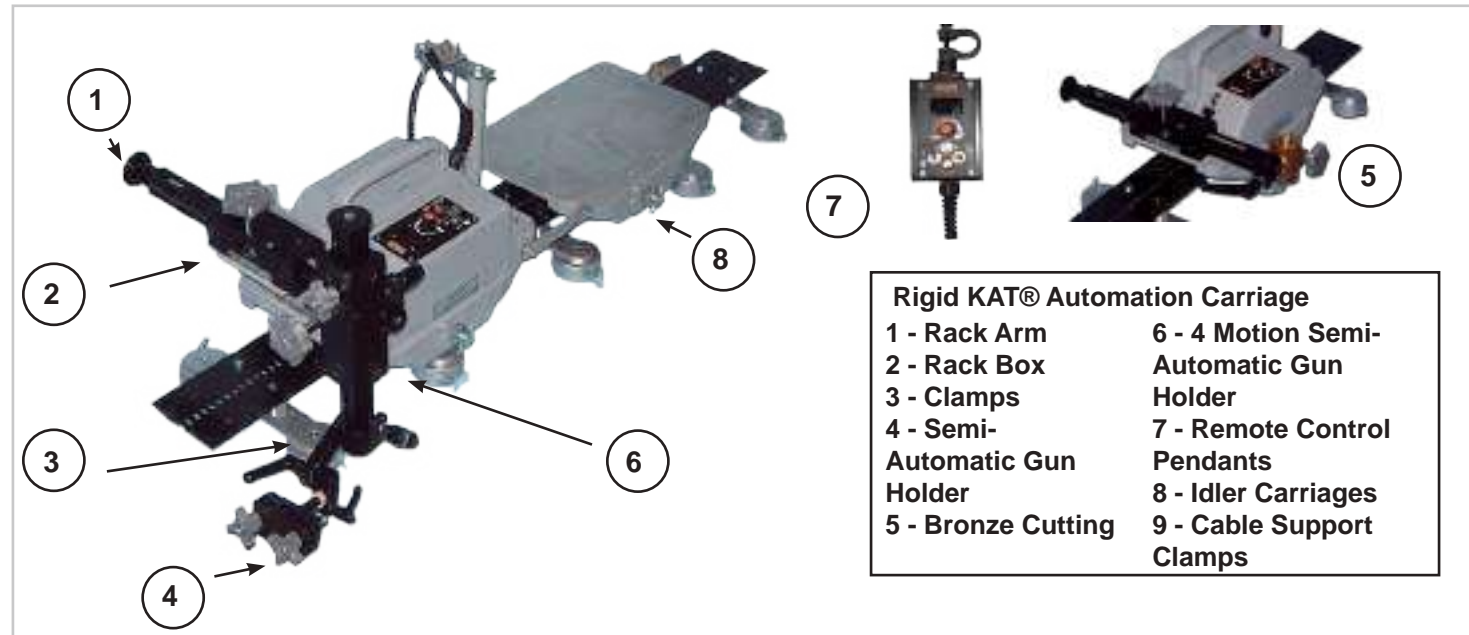
CLADDING OVERLAY



ALL POSITION

Reliable automation that improves quality and reduces costs in welding and cutting operations

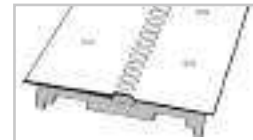
ALL POSITION - PRECISE CONTROL - VARIABLE



- Rigid KAT® Automation Carriage**
- 1 - Rack Arm
 - 2 - Rack Box
 - 3 - Clamps
 - 4 - Semi-Automatic Gun Holder
 - 5 - Bronze Cutting
 - 6 - 4 Motion Semi-Automatic Gun Holder
 - 7 - Remote Control Pendants
 - 8 - Idler Carriages
 - 9 - Cable Support Clamps

FLEX KAT® TRACK AND MOUNTING DEVICES

Gullco Heavy Duty Flexible Track is specifically designed for use with Gullco Flexible KAT® all position travel carriages. Flexible Track is made from specialty tempered spring steel and can be easily mounted to conform with curved surfaces. This Flexible Track can be used in applications involving curved surfaces 60" (1524 mm) diameter and greater. The track is securely mounted on ferrous materials using round or square magnet assemblies and vacuum mount assemblies for non-ferrous materials.



Flexible-Track Stiffener
Extruded aluminum for attachment to Gullco Flexible Track sections for "rigid track" applications. Supplied in 8 ft. sections



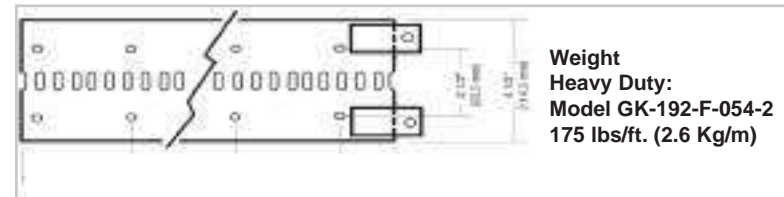
KAT® FLEXIBLE-TRACK HEAVY DUTY FLEX-TRACK
Model GK-192-F-054-2
Supplied in 8 ft. (2438 mm) lengths. Also available in custom lengths up to 8 ft. (2438 mm) with interlocking ends to facilitate complete circles for diameter 60" (1524 mm), O.D. & I.D. and over. Tracks are easily joined for continuous runs. Other lengths available on request.



Rare Earth On/Off Track Magnet



Vacuum Track Mounting Device



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Phone: 1-440-439-8533 Fax: 1-234-808-4148 e-mail: ussales@gullco.com

EUROPE - GULLCO INTERNATIONAL (U.K.) LIMITED
Phone: +44-1257-253579 Fax: +44-1257-254829 e-mail: uksales@gullco.com

AUSTRALIA - GULLCO INTERNATIONAL PTY LIMITED
Phone: 61 (0)7 3348 5515 Fax: 61 (0)7 3348 5510 e-mail: ausales@gullco.com

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Phone: +91-20-2551-1433 Fax: +91-20-2551-1433 e-mail: indsales@gullco.com

CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED
Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gullco.com

SINGAPORE - GULLCO INTERNATIONAL LIMITED
Phone: +65-9385-4466 e-mail: benney.jim@gullco.com

LATIN AMERICA - GULLCO INTERNATIONAL LIMITED
Phone: 55-11-99485-1338 e-mail: rogerio.macedo@gullco.com

GERMANY - ms gmbh Melchior Schweifstechnik
Phone: +49(0)172 5437722 Fax: +49(0)206 928 38-38 e-mail: christian.martens@ms-gmbh.com





AUTOMATED WELDING SYSTEM

The Gullco Flex KAT® Carriage is used throughout the world to automate and improve the quality and efficiency of single or multiple "head" welding and cutting operations. Welding guns or cutting torches are mounted on the KAT® carriage as it moves along Gullco Flex Track at precisely controlled speeds along the desired path in forward or reverse direction. Gullco's Flex KAT® carriage enables welding guns or cutting torches to operate with precise motion from start to finish regardless of the number of passes or the work pieces involved. This improves the quality, efficiency and repeatability of the process. Poor or awkward accessibility, operator fatigue, or inconsistent workmanship are eliminated.

This unit is designed for operation on curved surfaces as the flexible track can be positioned to follow the contour of the work piece. The self-aligning wheel system of the carriage grips the top and bottom of the track, enabling it to travel along any plane. The adjustable wheel assembly keeps the carriage snug to the track, while allowing it to be easily mounted and removed from the track at any point. The positive drive of the KAT® is obtained from a uniquely designed sprocket that engages with slots in the track, driven by a low voltage permanent magnet motor and gear-head power unit assembly.



AUTO-WELD CARRIAGE SYSTEM

The KAT® Auto-Weld Carriage option enables a wide variety of automated welding and cutting overlay cycles that can be repeatedly performed. The GSP control in this unit controls travel direction and speed and length of travel path and synchronizes them with precise weld start and weld stop settings. This travel carriage is pre-drilled for mounting

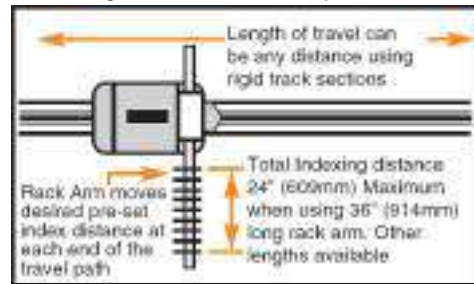


Auto-Weld accessories (sold separately). It is ideal for stitch welding and seam welding applications where repeatability is desired. The reliability and precision of this automated welding and cutting system reduces cost, adds efficiency and improves quality.

A

CLADDING / OVERLAY SYSTEM

The Indexing option Flex KAT® uses a GSP control that combines control of the carriage movement and start/stop parameters with precise indexing of the torch at the end of the path. This fully automates and increases the efficiency of overlay welding operations, flame spray work, hard facing etc. At the end of the path the travel carriage

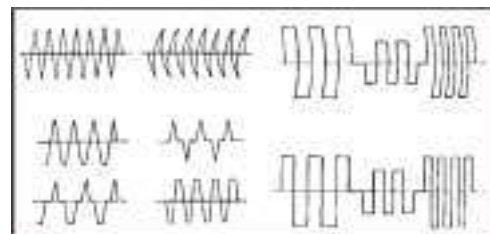


automatically stops and reverses direction while at the same time indexing the gun/torch. It can be programmed to weld or not weld during indexing. Carriage is pre-drilled for quick mounting of the indexing unit (sold separately).

I

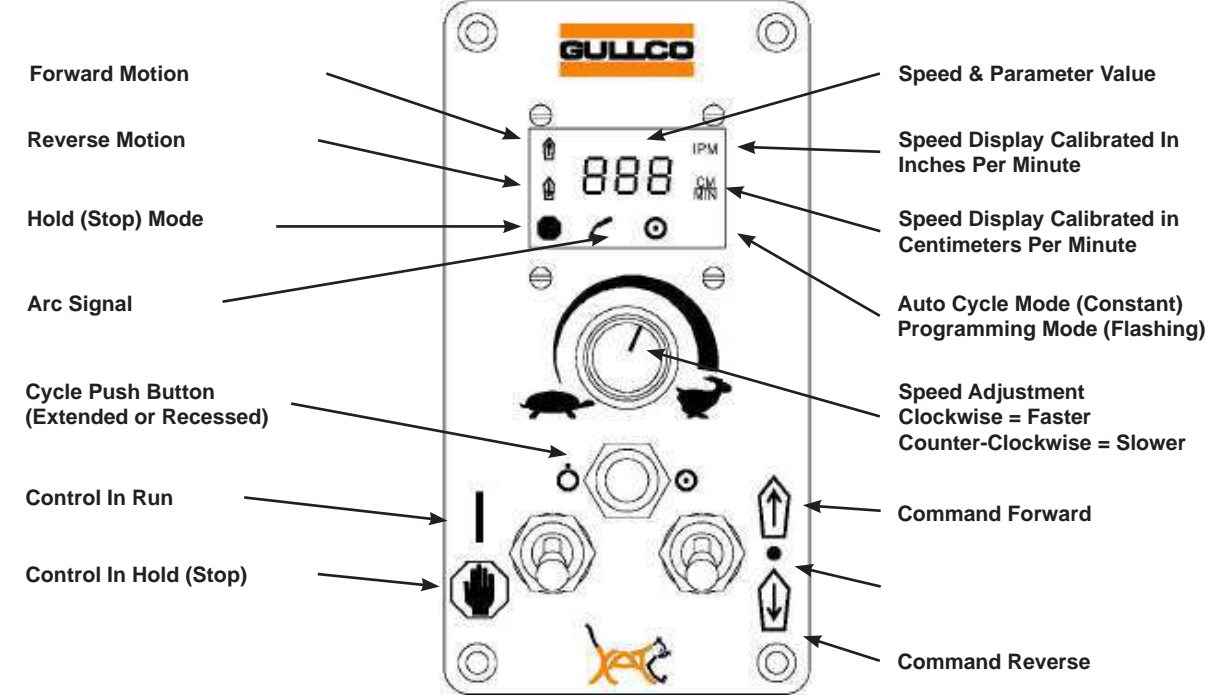
OSCILLATION WELDING SYSTEM

The oscillator is available with a linear, pendulum, tangential or step (square pattern) motion to the welding gun with adjustable motorized stroke width, infinitely variable stroke speed adjustment, three independent position dwell times, motorized centre line positioning and automatic wire feed start and travel start/stop interface.



O

The Gullco Standard Platform range of controls have switching for forward / neutral / reverse, run / stop, Manual / Auto & program variable increment/decrement (where applicable) and a rotary encoder for speed control. This microprocessor based, 24 volt DC motor control can be supplied to provide a variety of "optional" functions such as indexing, weld oscillation and auto-weld. The selected "option" function and carriage travel speed/ direction are directed by a single GSP control. This ensures high levels of accuracy, quality and reliability.



Select a speed, voltage and option to configure a KAT® specifically suited to your needs

GK-200- [] [] [] - []

SPEED RANGES		VOLTAGES	
MODEL	SPEED RANGE	MODEL	INPUT SUPPLY
FL	0.8 to 25.8 IMP (2 to 65.4 cm/min)	A	42 VAC
FM	1.5 to 51.5 IPM (3.9 to 131 cm/min)	B	115 VAC
		C	230 VAC

SPECIFICATIONS

Weight: 29 lbs (13 kg)
Vertical Load Capacity: 100 lbs (45 kgs)
Drive Motor: 24 VDC permanent magnet gear motor
Supply Voltage: 42, 115, 230 VAC, single phase 50/60 Hz., 200 Watts
Complies With: CSA & CE Certification



Unique Drive System and Wheel Assemblies Enable Travel in All Positions Including Overhead

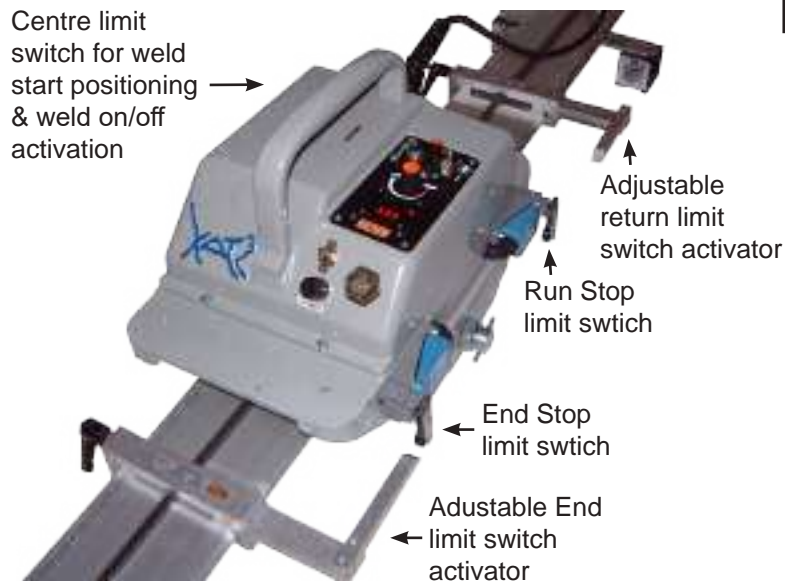


Ball studded drive sprocket engages apertures in the track

Self-aligning wheel assemblies run on both top and bottom of the track... enabling operation on any plane.



AUTOMATIC WELDING CARRIAGE - KAT® AUTO-WELD

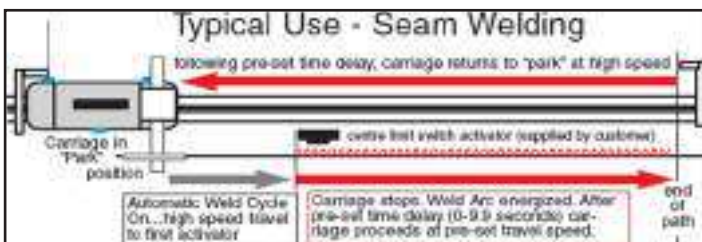


MODEL GK-200-R*-A
For use on KAT® Rigid Track

MODEL GK-200-F*-A
For use on KAT® Rigid Track

* See reverse side for speed and voltage requirements

The KAT® Carriage Auto-Weld enables a wide variety of automated welding cycles that can be repeatedly performed along any plane. The advanced Auto-Weld control monitors, via distance travelled, and responds to limit switches mounted on the KAT® which in turn respond to adjustable activators mounted at appropriate positions on the KAT® Track. Travel direction/speed and length of travel path are synchronized with precise weld start and weld stop settings. By combining different control settings and limit switch activator positions, a wide variety of welding cycles can be repeatedly performed. The KAT® Auto-Weld Combination is ideal for stitch welding and seam welding applications where repeatability and accuracy are desired. The reliability and precision of this automated welding system reduces cost, adds efficiency and improves quality.



Increase Production and Precision with Weld Automation

PRECISION AND REPEATABLE WELDS CAN BE PRODUCED ALONG ANY PLANE



SPECIFICATIONS

KAT® Travel Carriage Auto-Weld Combination comprises:

Gullico Auto-Weld KAT® Travel Carriage with heavy duty self-aligning wheel assemblies and closed loop tack feedback for accurate speed control when running in any plane, regardless of load. Maximum 100 lbs. (45 kgs). Carriage is controlled by the Gullico low voltage 24 volt GSP microprocessor pulsed width modulation motor control, interfacing with the forward/stop/reverse switch and infinitely variable 4-turn speed potentiometer. LED display in IPM or cm/min and with a ten position rotary switch to adjust various functions. Operates on 42, 115 or 230 volts, single phase, 50/60 Hz A.C. power supply. Please specify voltage/speed when ordering. (see below)

Limit Switches - 3 limit switches are mounted on the outside of the carriage. One each for forward, reverse and centre limit for weld start positioning and weld on/off activation.

Adjustable Park and End Limit Switch Activators - for mounting on Gullico KAT® Rigid or Flex Track. Centre limit switch activator(s) to be supplied by the customer.

Optional

Remote Pendant Control Kit - Uses GSP control removed from KAT® Carriage...enabling remote operator control of the Auto-Weld unit. See below for details

NOTE: Gullico also has Kat Carriage models available with controls for Oscillation visit www.gullico.com for more information.

AUTO-WELD CONTROL SYSTEM

Provides settings to establish:

- Operating position
- Travel start delay after arc start signal, adjustable 0 - 9.9 seconds.
- Crater fill delay, allowing the wire feed signal to stay active after carriage stop, adjustable 0- 9.9 seconds.
- Post weld delay, sets a delay adjustable 0 - 9.9 seconds after each crater fill delay for burnback or postflow to occur.
- Weld direction- forward, reverse, or "forward & reverse"
- Center limit switch use, to enable rapid travel to weld start point using center limit switch.*
- Stitch weld electronically programmed using carriage travel distance, adjustable 0.1 - 99.9 in. or cm.
- Carriage travel distance, adjustable 0.1 - 99.9 in. or cm.
- Automatic carriage return to home. Limit switch activated.
- Continual forward and reverse of carriage using limit activators.
- Weld Step Back feature

*Note: Centre Limit Switch Activator to be supplied by customer



RIGID KAT® AUTO-WELD

MODEL	SPEED RANGE
L	0.5 to 16.4 IPM (1.2 to 41.6 cm/min)
M	1 to 32.7 IPM (2.5 to 83.1 cm/min)
H	2.7 to 88.4 IPM (6.7 to 224 cm/min)

Select a speed range and voltage to determine your Rigid KAT® Auto-Weld Model Number.

VOLTAGES	
MODEL	INPUT SUPPLY
A	42 VAC
B	115 VAC
C	230 VAC

GK-200-R - A

REMOTE PENDANT CONTROL KIT

...for use with Rigid/Flex KAT® Auto-Weld systems. - Comprising Remote Pendant (no control) attached to 8 ft (843.84 cm) control cable one end and KAT® control blanking plate other end with internal connectors at each end. This remote pendant uses the GSP control removed from the KAT® Carriage. This kit can be easily field installed (or factory installed at no charge)

FLEX KAT® AUTO-WELD

MODEL	SPEED RANGE
L	0.8 to 25.8 IPM (2 to 65.4 cm/min)
M	1.5 to 51.5 IPM (3.9 to 131 cm/min)
H	4.2 to 139.1 IPM (10.6 to 353 cm/min)

Select a speed range and voltage to determine your Flex KAT® Auto-Weld Model Number.

VOLTAGES	
MODEL	INPUT SUPPLY
A	42 VAC
B	115 VAC
C	230 VAC

GK-200-F - A

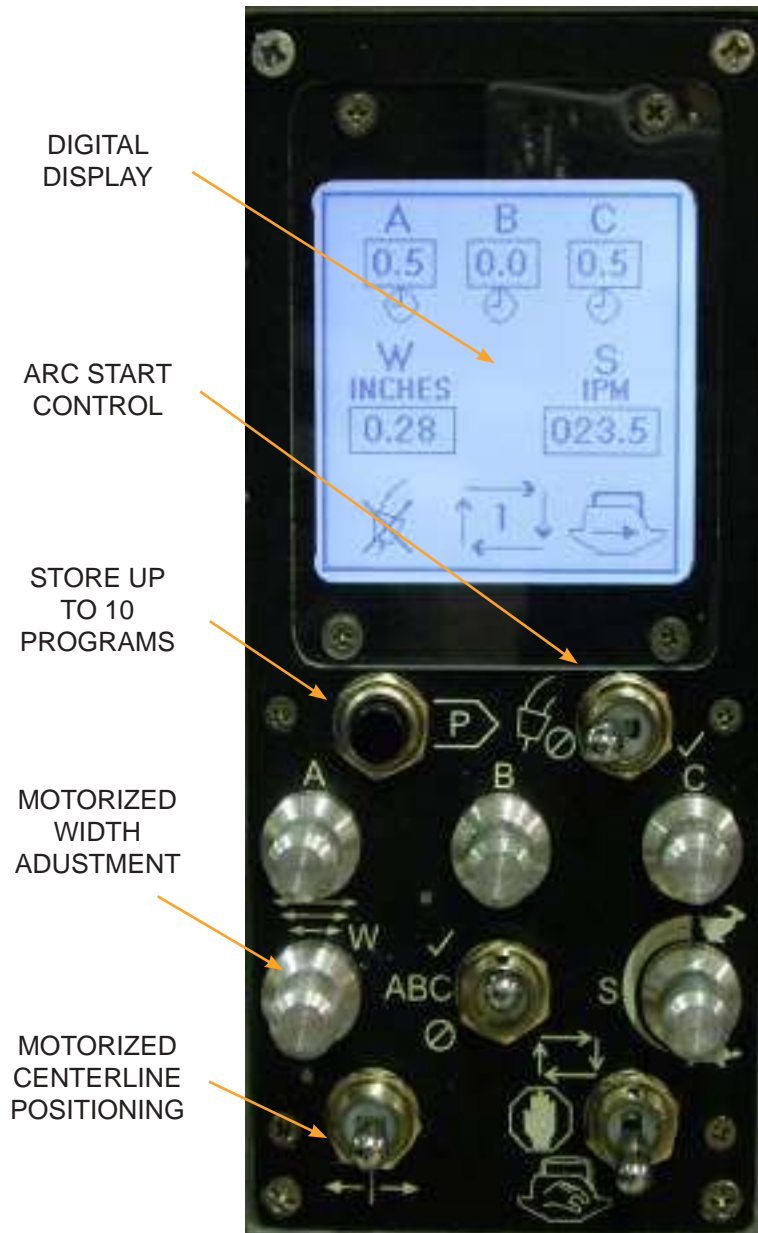
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LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-90485-1338		e-mail: rogerio.macedo@gullico.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437722	Fax: +49(0)209 998 38-38	e-mail: christian.melchior@ms-gmbh.com

OSCILLATOR CONTROL



RADIAL OSCILLATOR



This advanced oscillation package is designed to increase production and improve the quality of the weld produced in automatic mechanized welding operations by minimizing weld defects such as poor penetration, incomplete fusion, overlap and undercut.

The GK-200 Series Compact Oscillator Carriage combination comes with the option for linear or radial oscillation head and can be equipped for use on either rigid or flexible track.

The oscillator is available with a linear, pendulum, tangential or step (square pattern) motion to the welding gun with adjustable motorized stroke width, infinitely variable stroke speed adjustment, three independent position dwell times, motorized centre line positioning and automatic wire feed start and travel start/stop interface.

By combining welding gun oscillation movement with the precision controlled travel speed of the Kat carriage, up to 10 weld programs can be produced and stored.

LINEAR OSCILLATOR



WELDING AND CUTTING AUTOMATION



AUTOMATED OSCILLATION WELDING CARRIAGE - KAT®



Ideal for heavy fabrication industries such as: Shipbuilding, Tank Welding, Pipeline and Bridge Construction

Motorized weld center line adjustment

Motorized stroke width adjustment

Precise oscillation speed control

Stores up to 10 different weld programs for quick recall of frequently used processes

Linear or Radial Oscillation Capability

ALL POSITION WELDING AND CUTTING AUTOMATION CARRIAGE

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GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)172 5437722	Fax: +49(0)206 928 38-38 e-mail: christian.martens@ms-gmbh.com

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Models For All-Positions, Flat or Curved Surface Weld Oscillation

The Gullco KAT® Oscillator Package is comprised of the compact oscillator head, controls, mounting brackets, connecting cable, 1-1/8" heavy duty micro fine rack boxes with rack arms for horizontal and vertical adjustments and standard MIG gun holder, together with a KAT® carriage for rigid track or flex track as shown above.

Model Series GK-200-F (left) is supplied with a Gullco KAT® specifically designed for operation on spring steel KAT® Flexible Track.

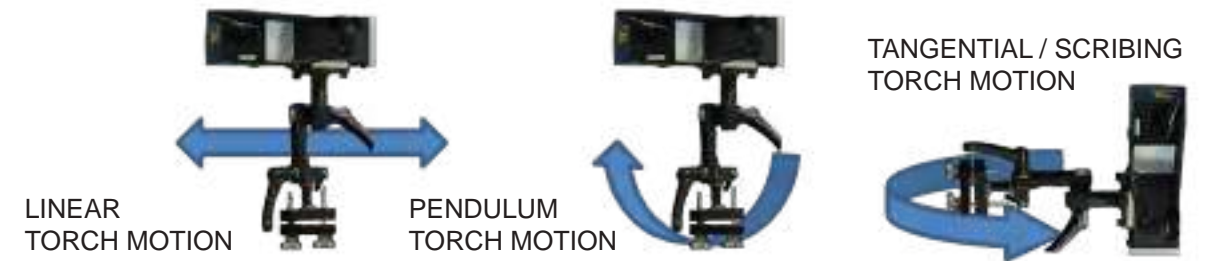
Model Series GK-200-R Combo (right) is supplied with a KAT® specifically designed for operation on rigid aluminum KAT® track.

All are equipped with the Gullco microprocessor-based programmable control with a closed loop feedback system for complete speed accuracy regardless of load [0-100 lbs. (45kgs)] when operating in any weld position.

Detailed information is provided on the back page of this brochure.

Also Available Are The Linear or Radial Separate Remote Controlled Compact Oscillator Assembly - Model GK-201-100-RC

This assembly is comprised of either radial or linear Oscillator Head with MIG gun holder, Remote Control Box, Control Cable (up to 20ft), Micro Fine Rack Boxes, Rack Arms, and Brackets. It can be mounted on existing KAT® All-Position Travel Carriages, Welding Head Manipulators, Side Beam Carriages, etc.



TANGENTIAL AND PENDULUM OR LINEAR MOTION

The oscillator heads are capable of producing three distinct motions when mounted in either the horizontal or vertical position. Shown in the above (right) is a tangential or scribing motion. The other, (middle) is a pendulum motion. Combined with the third linear straight line head they meet all welding oscillation requirements.

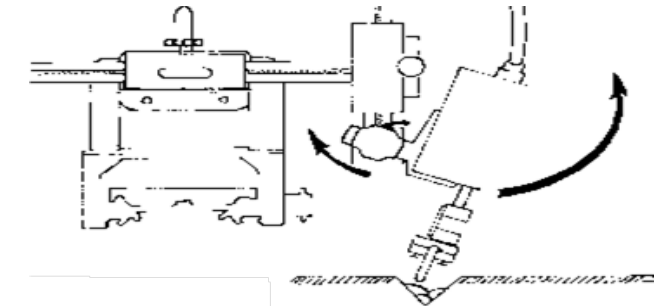
MOTORIZED CENTRELINE ADJUSTMENT

With independent, electronically controlled dwells (0-5 sec.) at each end of the stroke and at the centre of the stroke path.

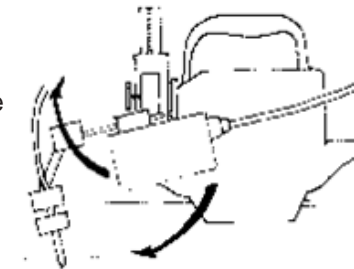


MOTORIZED STROKE WIDTH - Easy, precise adjustment to provide the required weld pattern.

OSCILLATION SPEED CONTROL- Oscillation speed is electronically controlled by a speed potentiometer (140 inches per minutes (linear) 45° per second (radial).



The proper torch angle/position is established quickly and easily with the Gullco KAT® Oscillator Head. It's simply a matter of tilting the oscillator, which can be adjusted side to side or forward and backward this results in the elimination of the time consuming and generally ineffective procedure of tilting the carriage or track.



Combining High Precision With Exceptional Versatility

High precision, state-of-the-art controls on the KAT® carriage automatically direct the desired forward/reverse movement or dwell of the welding gun and its oscillation motion to produce the numerous weld patterns shown below. The carriage control enables the carriage speed and direction to be pre-set and shown on its

LED display in IPM or cm/min. The oscillator controls enable pre-setting of the carriage delay/start after wire feed start, dwell times, stroke speed, stroke width, program storage and cycle start.

Control information is available on the following page

Some of the Weld Patterns Attainable With the KAT® Oscillator System

ANGULAR OSCILLATION PATTERN

KAT CARRIAGE TRAVELS CONTINUOUSLY

WITH OSCILLATOR HEAD VERTICAL TO WORK

COMBINING OSCILLATION AND OSCILLATOR DWELL

SPECIAL OSCILLATION

Tilted - for welding on horizontal plane

Straight Line - Back and forth oscillation

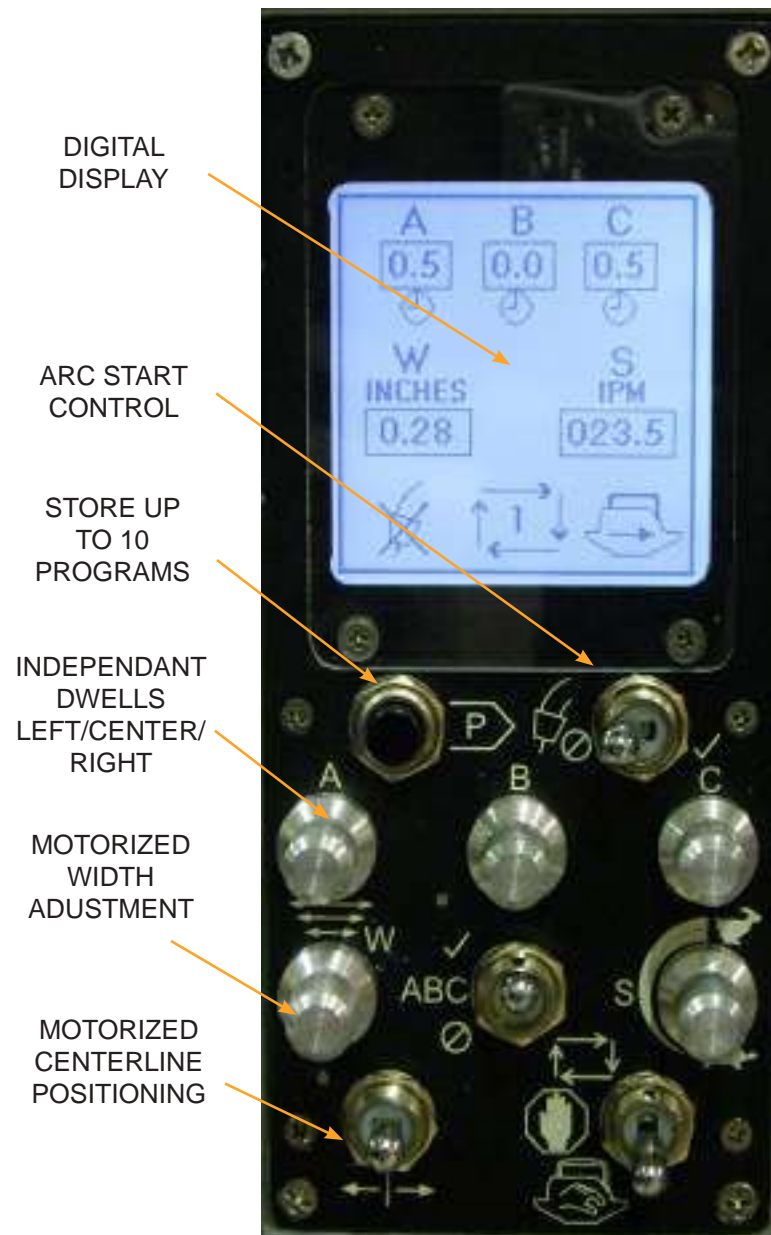
STEP OSCILLATION PATTERN

KAT CARRIAGE TRAVELS ONLY DURING END DWELLS

Oscillation Head Vertical

Oscillation Head Horizontal

OSCILLATOR CONTROL



This advanced oscillation package is designed to increase production and improve the quality of the weld produced in automatic mechanized welding operations by minimizing weld defects such as poor penetration, incomplete fusion, overlap and undercut.

The GK-200 Series Remote Control Oscillator comes with the option for linear or radial oscillation head and can be equipped for use with our KAT® Welding Automation Carriage for automating a variety of applications.

The oscillator is available with a linear, pendulum, tangential motion to the welding gun with remote control adjustable oscillation width, variable oscillation speed adjustment, three independent position dwell times, motorized centre line positioning and automatic wire feed start and stop. Other patterns can be achieved when oscillation head is used in combination with the KAT® Carriage.

KAT® OSCILLATOR CARRIAGE



WELDING AND CUTTING AUTOMATION



REMOTE CONTROL WELD OSCILLATION HEAD



Ideal for heavy fabrication industries such as: Shipbuilding, Tank Welding, Pipeline and Bridge Construction

Electronic weld center line adjustment

Electronic stroke width adjustment

Precise oscillation speed control

Stores up to 10 different weld programs for quick recall of frequently used processes

Linear or Radial Oscillation Capability

VERSATILE REMOTE CONTROLLED WELD OSCILLATION HEAD

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SPECIFICATIONS

Linear Oscillator Head - GK-201-100-RC*-L	
Oscillation Speed	0.5 - 140 in/min (1 - 355 cm/min)
Oscillation Width	0.09 - 2.5 in (0.23 - 6.35 cm)
Total Slide Distance	2 in (5.1 cm)
Motor	24 VDC Stepper Motor
Weight	5.5 lb (2.5 kg)
Dimensions	10-1/4 x 3-1/4 x 2-3/8 in (26.0 x 8.3 x 6.0 cm)

Radial Oscillator Head - GK-201-100-RC*-R	
Oscillation Speed	1° - 45° per second
Oscillation Width	0.8° - 45°
Total Slide Distance	45°
Motor	24 VDC Stepper Motor
Weight	3.9 lb (1.75 kg)
Dimensions	4-7/8 x 2-3/4 x 3-1/2 in (12.4 x 7.0 x 8.9 cm)

* Voltage Selection A:42v B:115v C:230v

ELECTRONIC CENTRELINE ADJUSTMENT

With independent, electronically controlled dwells (0-5 sec.) at each end of the stroke and at the centre of the stroke path.

OSCILLATION SPEED CONTROL

Oscillation speed is electronically controlled by a speed potentiometer (140 inches per minutes (linear) 45° per second (radial)).

ELECTRONIC STROKE WIDTH

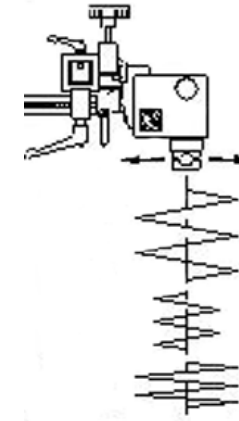
Easy, precise adjustment to provide the required weld pattern.

TANGENTIAL AND PENDULUM OR LINEAR MOTION

The oscillator heads are capable of producing three distinct motions when mounted in either the horizontal or vertical position. On the left is a linear motion on the right is a tangential or scribing motion, in the middle is a pendulum motion both created using the radial oscillation head.

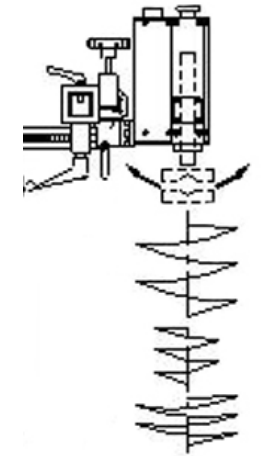


LINEAR OSCILLATOR PATTERN



The weld oscillation head can produce a variety of welding patterns based on oscillation speed, dwell times and head or workpiece movement. The versatility and durability of the head makes the oscillator perfect for a variety of welding applications including, shipbuilding, tank welding, pipe welding, overhead welding and a list of other fabrication applications where weld oscillation is necessary.

RADIAL OSCILLATOR PATTERN



The remote control oscillator is ideal for use with a manipulator stand (KR-1000-WSB) and excels in pipe welding applications in combination with a weld positioner. *support stand and bracketry sold separately

Combining High Precision With Exceptional Versatility



CLADDING AND OVERLAY SYSTEM - KAT® INDEXER



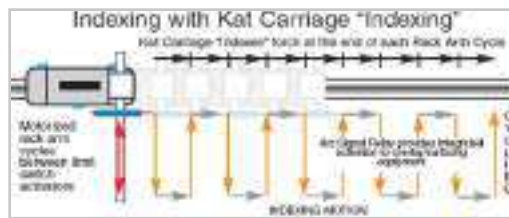
The Gullco KAT® Indexing System is typically used to automate single or multi-head overlay and cladding welding operations, hard surfacing, etc. The automatic routine drives a motorized device (either the KAT® carriage or the motorized rack arm), cycling back and forth between limit switches. When the device that is cycling reaches a limit switch, it pauses, and the other motorized device starts to index the gun/torch a preset distance in a preset direction allowing for consistent uniform weld patterns.

An Arc Signal Relay is supplied with the system to provide integrated arc activation signals to the overlay/surfacing equipment. Two Gullco Standard Platform (GSP) controls, each with dedicated microprocessor chips, are used to control the automatic, two axis indexing system. One GSP control is the Cycle Control and the other is the Index Control. Each control offers user programmable parameters and variables to allow fine tuning and functional control of the automatic cycle.

Gullco Indexing Systems, enable repetitive overlay-surfacing cycles to be performed, with precise motion of the gun/torch from start to finish, regardless of the number of passes of the work pieces involved.



A Remote Control Pendants Is Available When Required



Automates Overlay and Cladding Welding Operations

MODELS AVAILABLE FOR USE WITH RIGID AND FLEXIBLE TRACK SYSTEMS



SPECIFICATIONS

Main Components: KAT® Travel Carriage (Flex KAT® for use on flexible track or Rigid KAT® for use on rigid track), KAT® Carriage/Indexer controls, Motorized Indexer Rack Box, Heavy Duty Rack Arm, Control Cable, Limit Switch activators for Carriage and Rack Arm, Torch Holder for standard MIG gun.

Controls: Two GSP controls mounted in the KAT®, each with dedicated microprocessor chips, are used to control the automatic, two axis indexing system. One drives the KAT® carriage; and one drives the motorized rack arm. They provide: Auxiliary wire feeder on/off, 16 Position Switch giving selectable index increments, Maximum travel of 24" (609 mm) using 36" (914 mm) long rack arm, Two Digit Display indicating the time that rack arm will index, KAT® Carriage Forward/ Reverse Switch and Carriage speed potentiometer, rack arm Jog Switch and Left/Off/Right switch, Auto On/Off switch, LED display.

Indexing Motorized Rack Box: Complete with limit switches and activators to prevent rack arm overrun, high torque gear motor to provide precise repeatability of the rack arm indexing distance. Standard assembly combines heavy duty 8" (203 mm) long rack box with 1-1/8" (29 mm) sq. x 36 (914 mm) long rack arm. Other lengths available.

Flex or Rigid KAT® Travel Carriage: with microprocessor pulse width modulation motor controls offering operator interface of forward, stop, reverse and infinitely variable control of the speed, within the range of the models. Travel speeds of the KAT® and rack box are electronically controlled using an optical tachometer on the back of each gear-motor. Through the use of this closed loop, feedback circuitry, each motor control can obtain accurate and constant speed control of the equipment when running in any plane, regardless of the load (within the rating of the equipment). The length of the KAT® travel path is pre-set by positioning the Track Stops at each end of the desired path. They engage and activate limit switches on the KAT® Travel Carriage to: automatically stop the travel carriage and reverse its movement, activate the control that indexes the rack arm and signals the welding gun to weld or not weld during indexing.

Safety is greatly enhanced by the use of Gullco's low voltage (24V), highly advanced controls and power supply system. Three line voltage inputs, 42, 115 and 230 VAC, single phase, 50/60 Hz, are available (see chart below).

RIGID KAT® AUTO-WELD

MODEL	SPEED RANGE
L	0.5 to 16.4 IPM (1.2 to 41.6 cm/min)
M	1 to 32.7 IPM (2.5 to 83.1 cm/min)
H	2.7 to 88.4 IPM (6.7 to 224 cm/min)

Select a speed range and voltage to determine your Rigid KAT® Indexer Model Number.

VOLTAGES	
MODEL	INPUT SUPPLY
A	42 VAC
B	115 VAC
C	230 VAC

REMOTE PENDANT CONTROL KIT

For use with the Rigid and Flexible Track KAT® Indexer System. Comprising of Remote Pendant (no control) attached to 8 ft. (843.84 cm) control cable on one end and KAT® control blanking plate on the other end with internal connectors at each end. This remote pendant uses the GSP controls removed from the KAT® Carriage. This kit can be easily field installed (or factory installed at no charge)

FLEX KAT® AUTO-WELD

MODEL	SPEED RANGE
L	0.8 to 25.8 IPM (2 to 65.4 cm/min)
M	1.5 to 51.5 IPM (3.9 to 131 cm/min)
H	4.2 to 139.1 IPM (10.6 to 353 cm/min)

Select a speed range and voltage to determine your Flex KAT® Indexer Model Number.

VOLTAGES	
MODEL	INPUT SUPPLY
A	42 VAC
B	115 VAC
C	230 VAC

Remote Control Indexer for Miscellaneous Rotation Equipment

Comprising of one (1) control box with switches for rack arm jog, cycle start and speed potentiometer. Index distance setting in a range from 0.01 to 9.99 in increments of 0.01. A single limit switch on 15 ft. (4572 mm) cable to provide 1/8" (29 mm) rack arm 36" (914 mm) long providing 24" (609 mm) of variable speed arm travel 1 to 32.7" (25 to 83.1 cm) per minute with limit switches to prevent rack arm over-travel and to stop the wire feeder. Two (2) adjustable rack arm limit switch stops and one (1) four-motion welding gun holder.



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Phone: 61 (0)7 3348 5515	Fax: 61 (0)7 3348 5510	e-mail: ausales@gulco.com
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SINGAPORE - GULLCO INTERNATIONAL LIMITED		
Phone: +65-9385-4466		e-mail: beony.jim@gulco.com
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-99485-1338		e-mail: rogerio.macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437732	Fax: +49(0)209 999 38-38	e-mail: christian.melchior@ms-gmbh.com



REMOTE CONTROL WELD INDEXER



The Gullco remote controlled indexing system is typically used to automate a orbital overlay welding or surfacing applications. After each activation of the rotation limit switch the motorized arm will travel a preset distance, in a preset direction at a variably controlled speed (indexing) to produce the desired weld pattern. Variations on the process parameters are available to the operator through the easy to use programmable control.

The remote controlled indexer system is used through the world to automate and improve quality and efficiency of single or multi head overlay or surfacing operations. Welding guns/torches are mounted on the end of the motorized rack arm and are parallel to the workpiece. Detrimental factors such as poor or awkward accessibility, operator fatigue, or inconsistent weld quality are eliminated with this automated process.

Automates Overlay and Cladding Welding Operations

MODELS AVAILABLE FOR USE WITH RIGID AND FLEXIBLE TRACK SYSTEMS



SPECIFICATIONS

The remote control indexer comes with a variety of features including arc signal relay which provides integrated arc activation signals and is not dedicated to any specific welding equipment.

Incorporating the Gullco GSP style control capable of interfacing with the indexer motorized rack box, the rack box limit switches, rotational limit switches and the arc activation signal to provide programmable welding cycles for a variety of overlay and cladding applications. The control offers user programmable parameters to allow fine-tuning and precise control of the weld cycle.

Indexing Motorized Rack Box: Complete with limit switches and activators to prevent rack arm overrun, high torque gear motor to provide precise repeatability of the rack arm indexing distance. Standard assembly combines heavy duty 8" (203 mm) long rack box with 1-1/8" (29 mm) sq. x 36 (914 mm) long rack arm. Other lengths available.

Safety is greatly enhanced by the use of Gullco's low voltage (24V), highly advanced controls and power supply system. Three line voltage inputs, 42, 115 and 230 VAC, single phase, 50/60 Hz, are available (see chart below).

Flex or Rigid KAT® Travel Carriage: with microprocessor pulse width modulation motor controls offering operator interface of forward, stop, reverse and infinitely variable control of the speed, within the range of the models. Travel speeds of the KAT® and rack box are electronically controlled using an optical tachometer on the back of each gear-motor. Through the use of this closed loop, feedback circuitry, each motor control can obtain accurate and constant speed control of the equipment when running in any plane, regardless of the load (within the rating of the equipment). The length of the KAT® travel path is pre-set by positioning the Track Stops at each end of the desired path. They engage and activate limit switches on the KAT® Travel Carriage to: automatically stop the travel carriage and reverse its movement, activate the control that indexes the rack arm and signals the welding gun to weld or not weld during indexing.

RIGID KAT® AUTO-WELD

MODEL	SPEED RANGE
L	0.5 to 16.4 IPM (1.2 to 41.6 cm/min)
M	1 to 32.7 IPM (2.5 to 83.1 cm/min)
H	2.7 to 88.4 IPM (6.7 to 224 cm/min)

Select a speed range and voltage to determine your Rigid KAT® Indexer Model Number.

VOLTAGES	
MODEL	INPUT SUPPLY
A	42 VAC
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C	230 VAC

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FLEX KAT® AUTO-WELD

MODEL	SPEED RANGE
L	0.8 to 25.8 IPM (2 to 65.4 cm/min)
M	1.5 to 51.5 IPM (3.9 to 131 cm/min)
H	4.2 to 139.1 IPM (10.6 to 353 cm/min)

Select a speed range and voltage to determine your Flex KAT® Indexer Model Number.

VOLTAGES	
MODEL	INPUT SUPPLY
A	42 VAC
B	115 VAC
C	230 VAC

Remote Control Indexer for Miscellaneous Rotation Equipment

Comprising of one (1) control box with switches for rack arm jog, cycle start and speed potentiometer. Index distance setting in a range from 0.01 to 9.99 in increments of 0.01. A single limit switch on 15 ft. (4572 mm) cable to provide 1/8" (29 mm) rack arm 36" (914 mm) long providing 24" (609 mm) of variable speed arm travel 1 to 32.7" (25 to 83.1 cm) per minute with limit switches to prevent rack arm over-travel and to stop the wire feeder. Two (2) adjustable rack arm limit switch stops and one (1) four-motion welding gun holder.



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LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-99485-1338		e-mail: rogerio_macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437722	Fax: +49(0)206 999 35-38	e-mail: christian.marfais@ms-gmbh.com

HYDRAULIC KAT® AUTOMATION CARRIAGE

The Gullco Hydraulic KAT® is a heavy duty, all position automation carriage. It is hydraulically powered and self propelled in both the forward and reverse direction at precisely controlled speeds. The Hydraulic KAT® runs along a special track using self aligning wheels to grip the top and bottom of the track enabling travel along any plane.

The bogey wheel assembly keeps the carriage snug to the track, while allowing it to be easily mounted and removed from the track at any point. The positive drive of the KAT® is obtained from either a pinion that engages with the rack of the rigid track, or a ball drive gear that engages with slots in the flexible track. These are driven by a low speed, high torque hydraulic motor and gear-head power unit assembly.

As the Hydraulic KAT® automation carriage is most often used in waterjet cutting applications, the KAT® lower housing and wheel housing assembly are hard anodized and the mating surfaces are dry lube filmed for maximum internal moisture resistance. All gears and metallic parts are plated for added durability and all carriages are equipped with a lower housing gear cover.

No Electrical Components - Ideal for Waterjet Cutting

ALL POSITION CUTTING AND WELDING CARRIAGE



WELDING AND CUTTING



SPECIFICATIONS

Carriage Weight: 23 lbs (10.4 kg)

Vertical Load Capacity: 150 lbs (68 kg)

Hydraulic Supply: 1,000 psi (69 bars) recommended, with a flow of 4 gpm (18.2 lpm)

Certification: C.E. Certification

MODEL	SPEED RANGE	TRACK USED
GK-190-H-018	0 - 4.9 in/min (0 - 12.4 cm/min)*	Rigid
GK-190-H-036	0.5 - 9.8 in/min (1.3 - 24.9 cm/min)*	Rigid
GK-190-H-090	1 - 26.5 in/min (0 - 19.1 cm/min)*	Rigid
GK-190-H-017	0 - 7.5 in/min (2.5 - 38.1 cm/min)*	Flexible
GK-190-H-035	1 - 15 in/min (2.5 - 38.1 cm/min)*	Flexible
GK-190-H-089	2 - 40.5 in/min (5.1 - 102.9 cm/min)*	Flexible

* The speed range given above is based on an oil pressure of 1,000 psi (69 Bars) with a flow of 4 gallons per minute (18.2 litres per minute). This is intended only as a guide and greater detail is provided in the operation manual.



Displacement cu. in./rev. (cu. cm./rev.)		.50 (8,2)
Speed (RPM)	Per GPM (3,8 LMP) Theo.	471
	@ Continuous Flow	2000
	@ Peak Flow	2500
Flow GPM (LPM)	Continuous	4 (16)
	Peak	5 (20)
Torque lb. in. (Nm)	Per 100 Δ P (Theo.)	7.8 (0,88)
	Continuous	57 (6,44)
	Peak	117 (13,2)
Pressure PSI (Bar)	Continuous Δ P	1000 (69)
	Peak Δ P	2000 (138)
Back Pressure PSI (Bar)	w/o external case drain	360 (24,8) cont. 1100 (76) Peak
	w/ external case drain	2000 (138) cont. 2500 (172) Peak
Weight lbs (kg)		3.5 (1,59)

ACCESSORIES

GK-181-027 - Cable Support Assembly - A raised cable/hose clamp that attaches to the KAT® carriage, with an adjustable swivel clamp, used to reduce cable/hose drag and interference.

GK-166-153 - High Speed Gear Assembly - An external gear assembly is available which can easily be fitted to any of the rigid track KAT® carriages to increase the available speed range by approximately 266.5%. This is not available for Flex KAT® carriages.

GK-166-169 - Low Speed Gear Assembly - A similar external gear assembly to that above, for lowering the speed range by approximately 42.6% is also available. This is not available for Flex KAT® carriages.

Other Accessories - The KAT® carriage is designed to incorporate rack boxes and rack box riser brackets, as well as links for towing idler carriages. See www.gullico.com for more details on these and other accessories.

Δ PSI = True pressure difference between inlet and outlet ports

Maximum pressure at the motor inlet port of 2500 PSI (172 Bar) without regard to Δ PSI and/or back pressure ratings or combination thereof.

Continuous rating = Motor may be run continuously at these ratings

Peak operation 10% of every minute

Recommended Viscosity = 100 SUS (20 cSt) at operating temperature

Recommended Maximum System Operating Temperature = 180° F (82° C)

Recommended Filtration = 10 Micrometer

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LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-99485-1336		e-mail: rogerio.macedo@gullico.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 943722	Fax: +49(0)208 899 38-38	e-mail: christian.mertens@ms-gmbh.com



WORLD LEADERS IN THE DESIGN,
MANUFACTURE & DISTRIBUTION OF AUTOMATED
WELDING SYSTEMS AND ACCESSORIES
CUT COSTS, IMPROVE QUALITY, AND INCREASE EFFICIENCY WITH THESE PROVEN
GULLCO PRODUCTS



KAT®SYSTEMS	MOGGY®	WELDPREP	OVENS	CERAMICBACKING
<ul style="list-style-type: none"> Oscillators Torch indexers Flex & Rigid KAT® Programmable Travel Carriages Seam Trackers Bridge Units Circle Cutting System 	<ul style="list-style-type: none"> Trackless Fillet & Butt Welding, Stitch Welding control Radial Oscillation Control 6" V-groove Track Available 	<ul style="list-style-type: none"> Bevellers Positioners Grippers Kamel Pipe Turning Rolls 	<ul style="list-style-type: none"> Flux Rebake Flux Holding Flux Hoppers Electrode Stabilizing 	<ul style="list-style-type: none"> KATBAK® Ceramic Weld Backing Impart Uniform X-Ray Quality Back Beads Eliminate Costly Grinding & Re-welds Knuckle Joints for Use On Flat or Curved Surfaces

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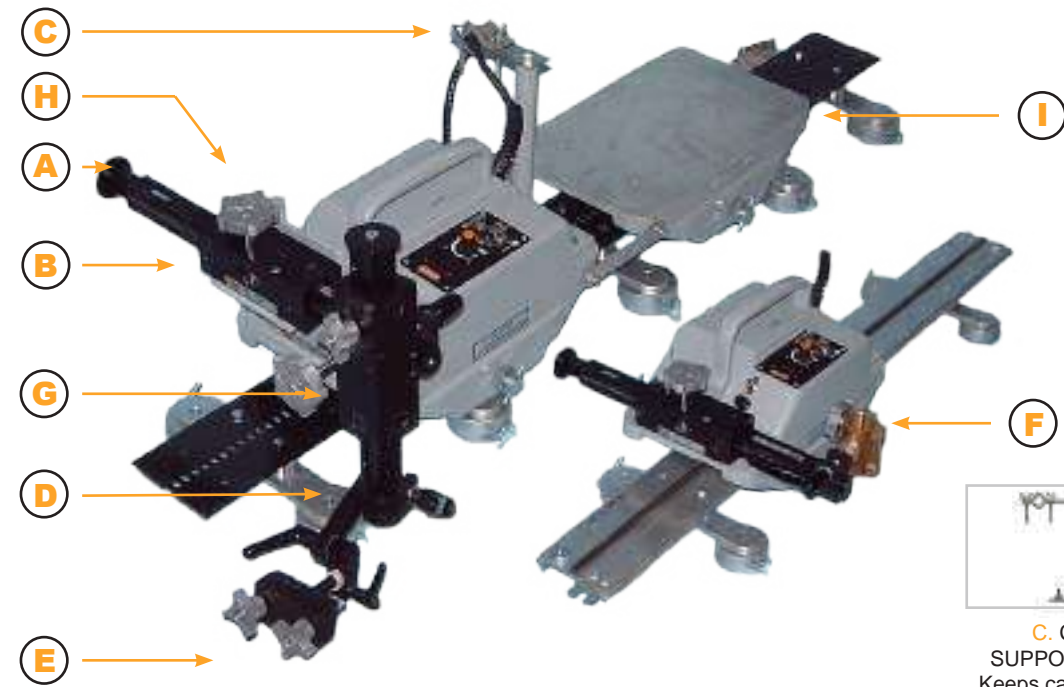
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KA-21-05

WELDING AND CUTTING AUTOMATION



WELDING AND CUTTING CARRIAGE ACCESSORIES - KAT®



A. RACK ARM
Square with one end turned. Heavy duty & Extra heavy duty



B. RACK BOX
Available with standard or micro adjustment. Cross head & Arm Mount rack boxes also available



C. CABLE SUPPORT CLAMP
Keeps cables clear of work area



D. CLAMPS
Available as swivel or square.



E. SEMI-AUTOMATIC GUN HOLDERS
Suitable for most semi-automatic welding guns



F. BRONZE CUTTING TORCH HOLDERS
Accepts standard 1 3/8" (35 mm) cutting torch



G. 4 MOTION SEMI-AUTO GUN HOLDER
Mounts on the KAT® horizontal rack arm to provide 5" (127 mm) of vertical adjustment 360° torch rotation & two directional angle tilt



H. RISER BRACKET
To mount rack box higher than carriage when required



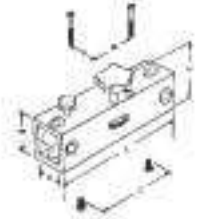
I. IDLER CARRIAGE
For conveying auxiliary welding and cutting equipment



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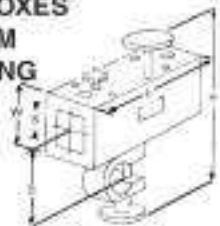
RACK BOXES



		H	W	L	S	A	B	C
HEAVY DUTY GK-171-650 GK-171-655*	In.	4.25	2.0625	6	1.125	1.625	2.625	-
	mm.	10.8	52.39	152.4	28.57	41.27	66.67	-
EXTRA HEAVY DUTY GK-190-650 GK-190-655*	In.	4.5	2.5	10	1.5	2	3.3	6
	mm.	114.3	63.5	254	38.1	50.8	83.82	152.4

***WITH MICRO FINE ADJUSTMENT GEAR BOX**

RACK BOXES FOR ARM MOUNTING



		H	W	L	S	D
HEAVY DUTY GK-171-685 GK-171-690*	In.	7	2.0625	6	1.125	1.75
	mm.	177.8	52.39	152.4	28.57	44.45
EXTRA HEAVY DUTY GK-190-685 GK-190-690*	In.	7.5	2.5	10	1.5	2.25
	mm.	190.5	63.5	254	38.1	57.15

***WITH MICRO FINE ADJUSTMENT GEAR BOX**

RACK ARMS



HEAVY DUTY RACK ARMS

1 1/8" (29mm) square rack arm and rack with one end turned to 1 1/8" (29mm) diameter

- GK-171-047-1** 12" (305mm) long
 - GK-171-047-2** 18" (457mm) long
 - GK-171-047-3** 24" (610mm) long
 - GK-171-047-4** 36" (914mm) long
- other lengths available on request

EXTRA HEAVY DUTY RACK ARMS

1 1/2" (38mm) square rack arm and rack with one end turned to 1 1/8" (29mm) diameter

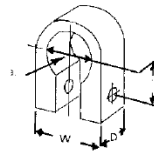
- GK-190-047-2** 18" (457mm) long
 - GK-190-047-3** 24" (610mm) long
 - GK-190-047-4** 36" (914mm) long
- other lengths available on request

CLAMPS

Swivel Clamps

for mounting torch holders, rack boxes and other KAT® accessories

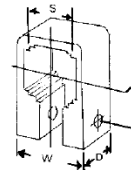
		Dia.	W	D	A
HEAVY DUTY GK-166-183	In.	1.125	1.625	1.25	.775
	mm.	28.57	41.27	31.75	19.68



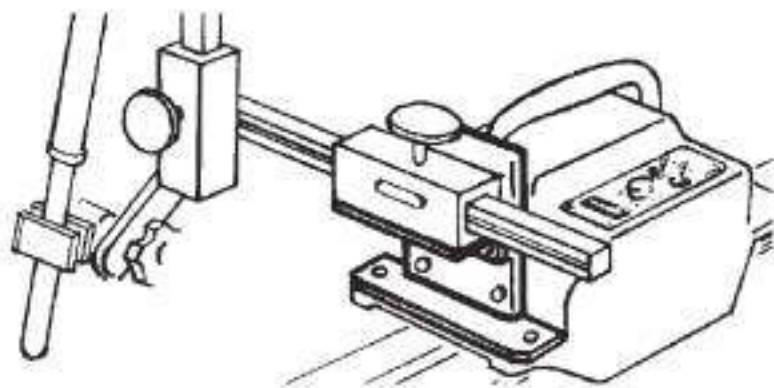
Square Clamps

for mounting welding guns, cutting torches and other KAT® accessories

		Dia.	W	D	A
HEAVY DUTY GK-166-236	In.	1.125	1.625	1.125	1.0625
	mm.	28.57	41.27	28.57	27
EXTRA HEAVY DUTY GK-190-236	In.	1.5	2.125	1.25	1.437
	mm.	38	54	31.75	36.5



RACKBOX RISER BRACKET



MODEL GK-190-066

For applications that require a mounting surface higher than the level provided with the rack box mounted directly on the front of the KAT® Carriage. Height can be increased by 2, 4 or 6" (51, 102 or 152 mm).

TORCH HOLDERS AND ASSEMBLIES



SEMI-AUTOMATIC 4 MOTION WELDING GUN HOLDER

MODEL GK-165-074-2

(complete unit)... For mounting on the KAT® horizontal rack arm to provide 5" (127 mm) of vertical adjustment, 360° torch rotation and two directional tilt. Supplied complete with standard 1 1/8" (29 mm) I.D. swivel clamp* and insulated linkage for the gun holder which is suitable for most semi-automatic welding guns. Gun holder jaws are adjustable from 5/8" (16 mm) to 1 1/2" (38 mm) *Note: can be supplied with 1 1/8" (29 mm) or 1 1/2" (38 mm) square clamp.

SEMI-AUTOMATIC GUN HOLDER



MODEL GK-165-145 (complete unit)... Complete with standard 1 1/8" (29 mm) I.D. swivel clamp* and insulated linkage for the gun holder which is suitable for most semi-automatic welding guns. Gun holder jaws are adjustable from 5/8" (16 mm) to 1 1/2" (38 mm) *Note: can be supplied with 1 1/8" (29 mm) or 1 1/2" (38 mm) square clamp

IDLER CARRIAGES

GK-171-154

Provides an 8 3/4" x 14 7/8" platform on which a variety of welding/cutting equipment can be mounted and towed individually or in tandem along straight or formed sections of KAT® Track by the Gullco KAT® Travel Carriage. Self aligning retractable wheels enable easy mounting at any point along the track. Load capacity is 100lbs.



REMOTE CONTROL PENDANT

Supplied with 8 ft. (244 cm) cable providing control of numerous KAT® functions.



STANDARD CUTTING TORCH HOLDERS

GK-165-068

Accepts standard 1 3/8" (35 mm) cutting torches with 32 pitch rack. Supplied with calibrated angle of tilt scale and 1 1/8" (29 mm) or 1 1/2" (38 mm) square clamp.



GK-165-068-M Accepts 1.280" (32.50mm) cutting torches. Supplied with calibrated angle of title scale as above.

CABLE SUPPORT CLAMP

GK-181-027

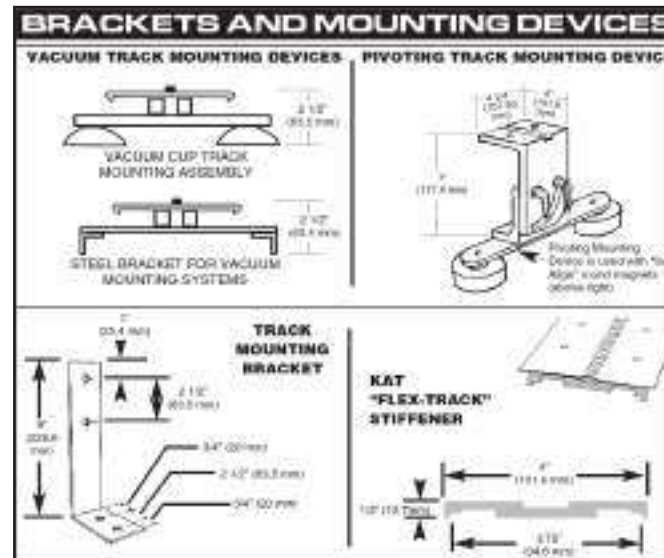
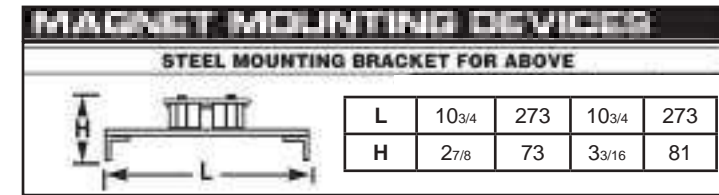
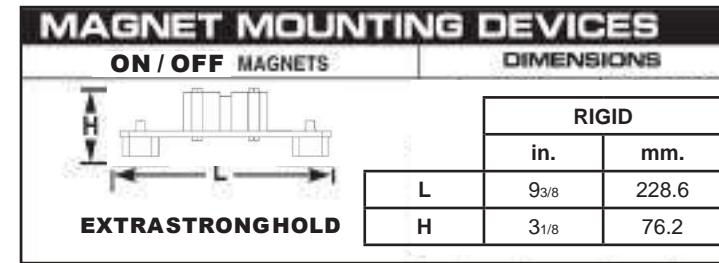
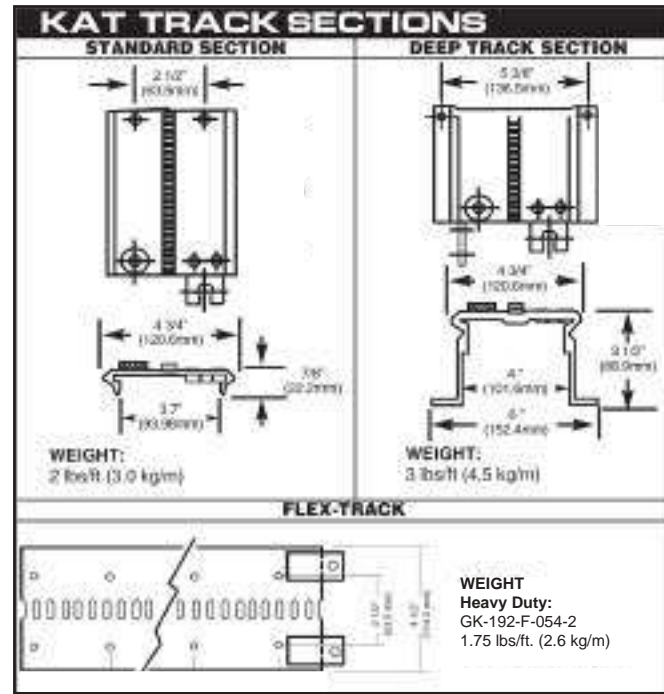
Swivel clamp assembly is readily mounted on the front or back of the KAT® Travel Carriage to keep cables clear of the work area. Clamp can be adusted to provide approximately 1 3/4" diameter holding opening



SEAM TRACKER SYSTEM



...high precision tracking system that maintain the torch in optimum operating position regardless of variations in the weld seam...providing improved quality and efficiency in a wide variety of welding operations.



TRACK AND MAGNETS FOR THE KAT® AUTOMATION CARRIAGE



A track mounting device for any material

DURABLE TRACK AND MOUNTING DEVICES FOR WELDING AND CUTTING AUTOMATION

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CANADA - GULLCO INTERNATIONAL LIMITED
Phone: 1-905-953-4140 Fax: 1-905-953-4138 e-mail: csales@gulco.com

U.S.A - GULLCO INTERNATIONAL INC.
Phone: 1-440-438-8333 Fax: 1-234-808-8146 e-mail: ussales@gulco.com

EUROPE - GULLCO INTERNATIONAL (U.K.) LIMITED
Phone: +44 1257-253579 Fax: +44 1257-254629 e-mail: uksales@gulco.com

AUSTRALIA - GULLCO INTERNATIONAL PTY LIMITED
Phone: 61 (0)7 3348 5515 Fax: 61 (0)7 3348 5510 e-mail: ausales@gulco.com

INDIA - GULLCO INTERNATIONAL INDIA PVT LIMITED
Phone: +91-20-2551-1433 Fax: +91-20-2551-1433 e-mail: indsales@gulco.com

CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED
Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gulco.com

SINGAPORE - GULLCO INTERNATIONAL LIMITED
Phone: +65-9385-4468 e-mail: berny.jim@gulco.com

LATIN AMERICA - GULLCO INTERNATIONAL LIMITED
Phone: 55-11-99485-1338 e-mail: rogerio.macedo@gulco.com

GERMANY - ms gmbh Melchior Schweißtechnik
Phone: +49(0)173 5437722 Fax: +49(0)206 999 35-36 e-mail: christian.marlens@ms-gmbh.com



GULLCO RIGID KAT® TRACKS

KAT® Track is manufactured in "Standard" and "Deep" sections... each designed to suit a specific range of applications. Both are made to the highest quality levels and incorporate the following top performance features:

PRECISION EXTRUDED ALUMINUM TRACK—made from aluminum that is solution heat treated and artificially aged to produce an alloy having excellent mechanical and corrosion resistant properties. The track is light but strong and the standard section can be readily formed to suit the work contour.

SUPPORTING STEEL RACK—is securely fixed to the KAT® track to provide a smooth, positive drive. The long-life rack easily supports the Kat carriage under maximum load when used in a vertical position.

END DESIGN—enables any two lengths of track to mate accurately and, because of symmetry of design, track lengths can be turned end to end. It is even possible to mate standard and deep track sections.

FAST, EASY JOINING—a dovetail and taper screw that provides accurate location between mating track lengths. The track can be joined in the time it takes to tighten two knurled thumb screws.

VERSATILE MOUNTING—Both standard and deep section tracks have fixing holes on 6" (152.4 mm) pitch along their entire length to provide ample means for mounting or securing brackets.

STANDARD SECTION TRACK

For use with the Gullco KAT® Travel Carriage Model GK-200 in most portable applications. Standard track sections are supplied in 48, 96 and 120 inch (1219, 2438 and 3048 mm) lengths complete with rack and interlocking ends. Standard track can be hard anodized and also formed to desired contours by Gullco or the customer. (see below)

MODEL	LENGTH	LENGTH
GK-165-052	48" (1219 mm)	GK-165-051
GK-165-054	120" (3048 mm)	96" (2438 mm)

also available up to 20 ft (6096 mm) long-special order

DEEP SECTION TRACK For use with the Gullco KAT® Travel Carriage in applications involving straight permanent runs where greater stiffness is required. Supplied in 60" and 120" (1524 and 3048 mm) lengths complete with interlocking ends. Deep Section Track can also be supplied internally stiffened and hard anodized.

MODEL	LENGTH	LENGTH
GK-166-258	60" (1524 mm)	GK-166-260
	120" (3048 mm)	

also available up to 20 ft (6096 mm) long-special order

FORMING STANDARD KAT® TRACK

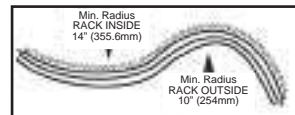
The following information is provided as a guide to customers ordering Standard Section track preformed to the desired contour by Gullco, or to be formed in their own shop.

- "Track Datum" always refers to the track surface to which the rack is fixed.
- When the rack is on the outside of the curve, the "Track Datum Radius" must be greater than 12" (304.8 mm).
- When the rack is on the inside of the curve, the "Track Datum Radius" must be greater than 24" (610 mm).
- Always specify whether rack is on the inside or outside of the curve.
- Standard formed track lengths are 36" (914 mm) and 84" (2133 mm). This is because the first 6" (152 mm) at either end of a track cannot be formed and is therefore removed after bending.

6. When calculating the "Track Datum Radius", allowance must be made for the method of fixing the track to the work. The minimum allowable work to "Track Datum" distance (to permit free movement of the KAT® carriage) is 1-1/2" (38 mm) and when using the standard magnet assemblies this distance is 2-7/8" (73 mm).

KAT® formed track may be held in position by track mounting devices (i.e. magnets, steel brackets tack welded in position, or vacuum cups), or it may be permanently attached to framework alongside the work piece.

If your formed track is of a very permanent nature, it is often advisable to have a section formed and stiffened with welded aluminum side plates. This gives the stiffness of a deep section track in a formed shape. This method is often used in complete ring sections for cutting or welding large diameter pipes.



GULLCO KAT® FLEXIBLE TRACK

KAT® FLEXIBLE TRACK HEAVY DUTY FLEXIBLE TRACK

Model GK-192-F-054-2

Supplied in 8ft. (2438 mm) lengths. Also available in custom lengths up to 8 ft. (2438 mm) with interlocking ends to facilitate complete circles for diameter 60" (1524 mm), O.D.& I.D. and over.

Other lengths available on request.



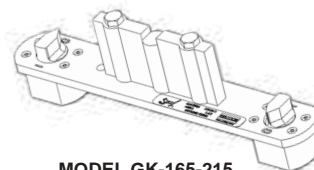
Track Mounting Devices

Shown at right are the Round and Square Magnet devices and steel bracket assemblies used to mount either Gullco Rigid KAT® tracks or Flex-KAT® tracks on ferrous surfaces. Gullco's Vacuum Track Mounting system, described in a separate bulletin, holds KAT® Tracks in position on non-ferrous and ferrous materials.

ON/OFF MAGNET ASSEMBLIES - GK-165-215 feature two powerful magnets each with 150 lbs (45 kg.) of holding power and on/off knob for easy installation.

SELF ALIGNING ON/OFF MAGNET ASSEMBLIES - GK-165-263 feature two powerful magnets each with 150 lbs (45 kg.) of holding power and positive on/off switch. The magnets are mounted in a special self aligning bracket to allow for use on curved surfaces.

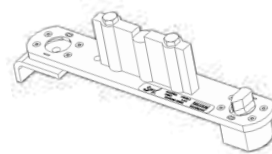
STEEL BRACKET ASSEMBLIES - GK-165-217 are used with magnet assemblies to provide track stability. They also must be used for added safety, tack welded to the work surface in vertical and overhead welding applications. The models can be used with each of the magnet assemblies. Standard brackets are mild steel but are available in stainless steel on request.



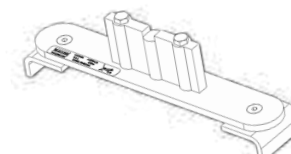
MODEL GK-165-215
Consists of two (2) GK-165-211 magnets with on/off switch. Track datum height 3-1/8" (79.4 mm)



MODEL GK-165-263
Consists of two (2) GK-165-211 magnets with on/off switch in a self aligning support bar assembly. Track datum height 3-1/8" (79.4 mm)



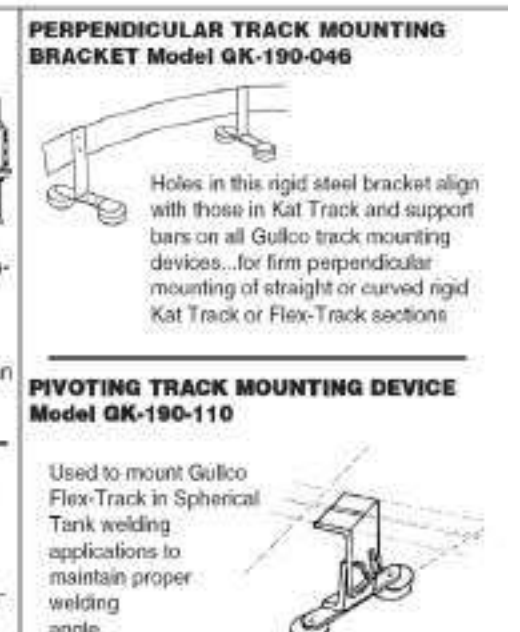
MODEL GK-165-219
Consists of one (1) GK-165-211 magnet with on/off switch, one (1) steel angle bracket. Track datum height 3-1/8" (79.4 mm)



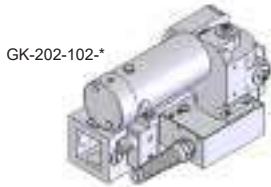
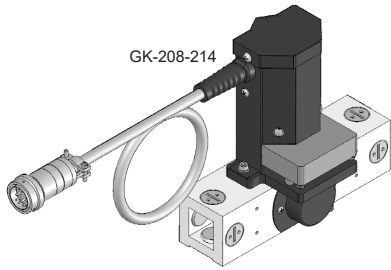
MODEL GK-165-217
Consists of 2 steel angle brackets. Track datum height 3-1/8" (79.4 mm)



Gullco Heavy Duty "Flexible Track" is specifically designed for use with the Gullco "Flexible KAT® All Position Travel Carriages as shown in application at left. Flexible Track is made from tempered spring steel and can be easily mounted to conform with curved surfaces. This Flexible Track can be used in applications involving curved surfaces 60" (1524 mm) diameter and greater.

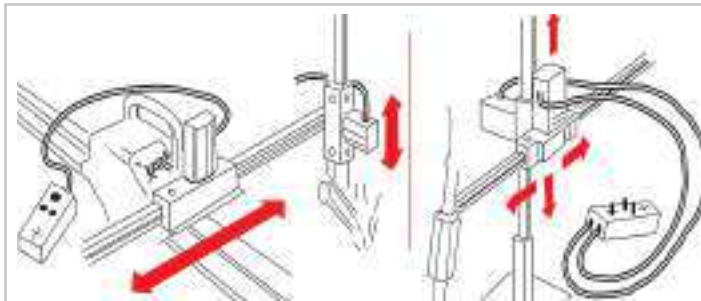


MOTORIZED WELD TORCH POSITIONING ASSEMBLY



GK-202-102-L / GK-202-102-M / GK-202-102-H
1-1/8" INDEXER MOTORIZED RACK BOX

RACK BOX SPEED
 L = 0.5-15.4 IN/MIN [1.2-41.6 CM/MIN]
 M = 1-32.7 IN/MIN [2.5-83.1 CM/MIN]
 H = 2.7-88.4 IN/MIN [6.7-224.3 CM/MIN]



Motorized Rack Arm assemblies mounted on KAT® carriage providing both horizontal and vertical motorized torch movement.

Compound Motorized Rack Arm Assembly applied with support accessory provides horizontal and vertical torch movement. Typical use for this "mini-torch manipulator system" is shown on the reverse side of this sheet.

Improve the precision and efficiency of welding and cutting operations with these Gullco accessories. The motorized rack box moves the arm to the left or right and up or down when used vertically on command from a "joystick" equipped control box. A high speed override switch enables the operator to quickly position the torch prior to using low speed movement to follow the weld seam. Two assemblies can be combined to provide remote adjustment capabilities on both the X and Y axis, both controlled by a single joystick. The following components are used to provide assemblies suited to various applications requirements.

GK-208-214

An 8" (203mm) long, 1 1/8" (29mm) motorized rack box with adjustable nylastic bearing plugs, mounting holes suited to the Gullco KAT® carriage, and a control cable with quick disconnect plug for connection to the pendant control box.

GK-208-215

Motorized Rack Box with Swivel Clamp - 1-1/8" (29 mm) complete with 24" (609.6 mm) arm

GK-208-217

A 10" (254mm) long, 1 1/2" (38mm) extra heavy duty motorized rack box with adjustable nylastic bearings plugs, mounting holes suited to the Gullco KAT® carriage and control cable described above.

GK-208-218

Motorized Rack Box with Swivel Clamp - 1-1/2" (38 mm)

GK-208-100

Remote pendant control box features a joystick that gives the operator precise control of rack arm movement in either direction, vertically or horizontally. The control incorporates an easy to use, precise joystick and speed control knob for adjustment of rack arm movement.

Remote Horizontal and Vertical Torch Adjustments

PRECISION WELD TORCH MOVEMENTS AUTOMATED WITH THIS MOTORIZED POSITIONING ASSEMBLY

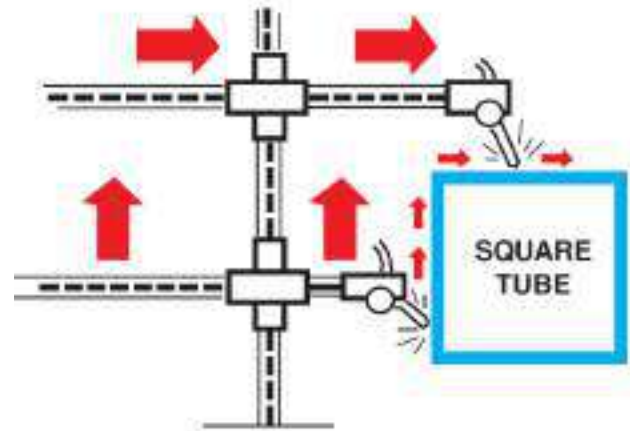


SPECIFICATIONS

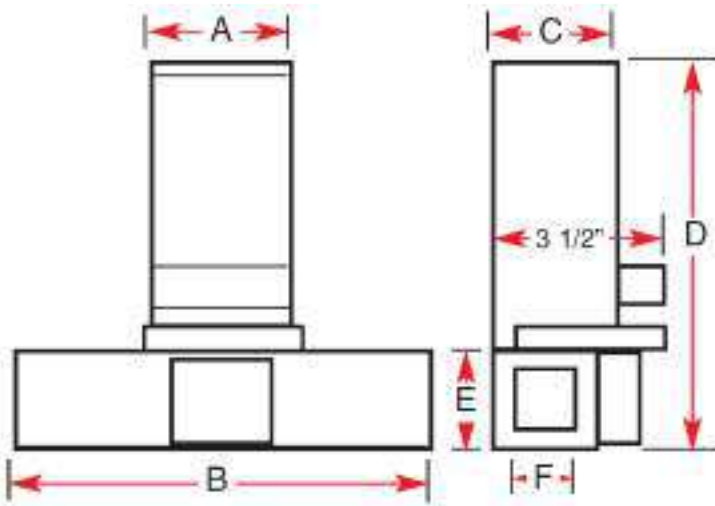
STANDARD APPLICATION

Gullco Motorized Rack Arm Assemblies provide an effective, precise manipulator system for positioning cutting torches or welding guns. A typical application is illustrated at right:

A Compound Rack Arm Assembly is shown being used to cut or weld two sides of a square tube. Using the joy stick-equipped pendant control the vertically mounted box in the assembly moves up the arm to produce the vertical cut or weld. The arm of the second box is then extended to produce the horizontal cut or weld.



DIMENSIONS (PER DRAWING)



A		B		C		D		E		F	
in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
3	76.2	8	203.2	2 3/4	69.85	7 3/8	187.3	2	50.8	1 1/8	28.57
3	76.2	10	254	2 3/4	69.85	7 7/8	200	2 1/2	63.5	1 1/2	38.1

Compound Assemblies:

Comprised of two motorized rack boxes mounted at right angles to provide up/down, in/out movement of two 24" (610 mm) long rack arms. Supplied with two 15 ft. (4572 mm) control cables.

GK-208-216

As above to work with 1 1/8" (29 mm) rack boxes and arms.

GK-208-219

1 1/2" (38 mm) rack boxes.

The capacity of these motorized rack arms is 50 lbs. (20.4 kg) load vertical. The extra heavy duty 1 1/2" (38 mm) arm provides an additional 33% rigidity over the 1 1/8" (29 mm) arm. Safety is assured by the use of Gullco's low voltage (24 volt) micro processor based control system for operation in either 42, 110 or 230 volt A.C single phase 50/60 Hz power supply. Specify voltage when ordering.

Gullco motorized rack arms can be readily adapted to any existing welding fixture for operations requiring infinite precise adjustment of the welding gun position.

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CANADA - GULLCO INTERNATIONAL LIMITED
 Phone: 1-905-953-4140 Fax: 1-905-953-4138 e-mail: sales@gulco.com

U.S.A - GULLCO INTERNATIONAL INC.
 Phone: 1-440-438-8333 Fax: 1-234-808-4146 e-mail: ussales@gulco.com

EUROPE - GULLCO INTERNATIONAL (U.K.) LIMITED
 Phone: +44 1257-253579 Fax: +44 1257-254629 e-mail: uksales@gulco.com

AUSTRALIA - GULLCO INTERNATIONAL PTY LIMITED
 Phone: 61 (0)7 3348 5515 Fax: 61 (0)7 3348 5510 e-mail: ausales@gulco.com

INDIA - GULLCO INTERNATIONAL INDIA PVT LIMITED
 Phone: +91-20-2551-1433 Fax: +91-20-2551-1433 e-mail: indsales@gulco.com

CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED
 Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gulco.com

SINGAPORE - GULLCO INTERNATIONAL LIMITED
 Phone: +65-9385-4468 e-mail: betty_lim@gulco.com

LATIN AMERICA - GULLCO INTERNATIONAL LIMITED
 Phone: 55-11-99485-1338 e-mail: rogerio_macedo@gulco.com

GERMANY - ms gmbh Melchior Schweißtechnik
 Phone: +49(0)173 5437722 Fax: +49(0)206 999 35-30 e-mail: christian.marlans@ms-gmbh.com

The E.A.H.S is a standalone unit meaning it does not interface with the wire feeder. The arc activation trigger signal of the welding equipment that is used to start/stop the welding process must come from a separate piece of equipment, i.e. customer supplied control or other Gullco equipment. This advanced Electric Arc Height Sensor package uses Gullco's sophisticated, yet easy to use, E.A.H.S. remote pendant control, in conjunction with a 4" linear slide assembly and current sensing control box, to provide precision arc height control during the welding process.



BENEFITS DERIVED FROM AUTOMATED TORCH HEIGHT CONTROL:

- Increased productivity and weld quality
- Pre-programmed control of key welding parameters
- Minimized material distortion
- Reduced consumable waste
- Improved weld aesthetic
- No bulky probes to install or maintain
- Independent control of all welding torch movements in the vertical plane
- Easy integration for automated applications
- Adaptable in confined areas
- The slide can be installed in any position using multiple mounting positions and optional brackets



ELECTRONIC ARC HEIGHT SENSOR - E.A.H.S



KEY FEATURES

- Two modes allowing Constant Voltage and Constant Current to provide height tracking for both MIG, TIG and plasma applications
- Lightweight and durable components to reduce operator fatigue and increase torch height tracking automatically.
- Standard slide features engraved top, bottom and center marks for quick slide position reference to aid setup
- Easy setup and torch calibration
- Sensor control box design allows the operator to use their standard existing welding cables
- Extremely accurate arc detection
- Torch height adjustments with 0.001inch resolution
- Automatic torch retraction at the end of operation allows for easy cleaning and repositioning during repeatable applications

**TORCH HEIGHT CONTROL THROUGH VOLTAGE OR CURRENT DETECTION
ACCURATE ARC DETECTION AND PRECISION CONTROL OVER WELD PARAMETERS**

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EUROPE - GULLCO INTERNATIONAL (U.K.) LIMITED	Phone: +44 1257-253579	Fax: +44 1257-254629
AUSTRALIA - GULLCO INTERNATIONAL PTY LIMITED	Phone: 61 (0)7 3348 5515	Fax: 61 (0)7 3348 5510
INDIA - GULLCO INTERNATIONAL INDIA PVT LIMITED	Phone: +91-20-2551-1433	Fax: +91-20-2551-1433
CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED	Phone: +8621-50460341	Fax: +8621-50463554
SINGAPORE - GULLCO INTERNATIONAL LIMITED	Phone: +65-9385-4488	
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)206 999 38-38



FEATURES:

EAHS Control

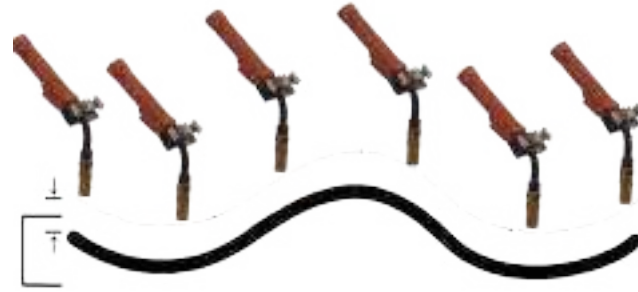
- Compact and Lightweight
- Can be stored up to 25 ft. away from the application
- Status LEDs , clear and visible during operation

Operator Pendant

- OLED graphics display for setup and programming
- Jog switch for simple and precise torch adjustment
- Program, Mode and Edit switch for quick parameter setup and adjustment

4" Slide Assembly

- Find home function allows the EAHS to automatically detect the maximum slide adjustment prior to operation
- 12lbs of vertical and horizontal slide capacity
- 0.001 inch adjustment resolution



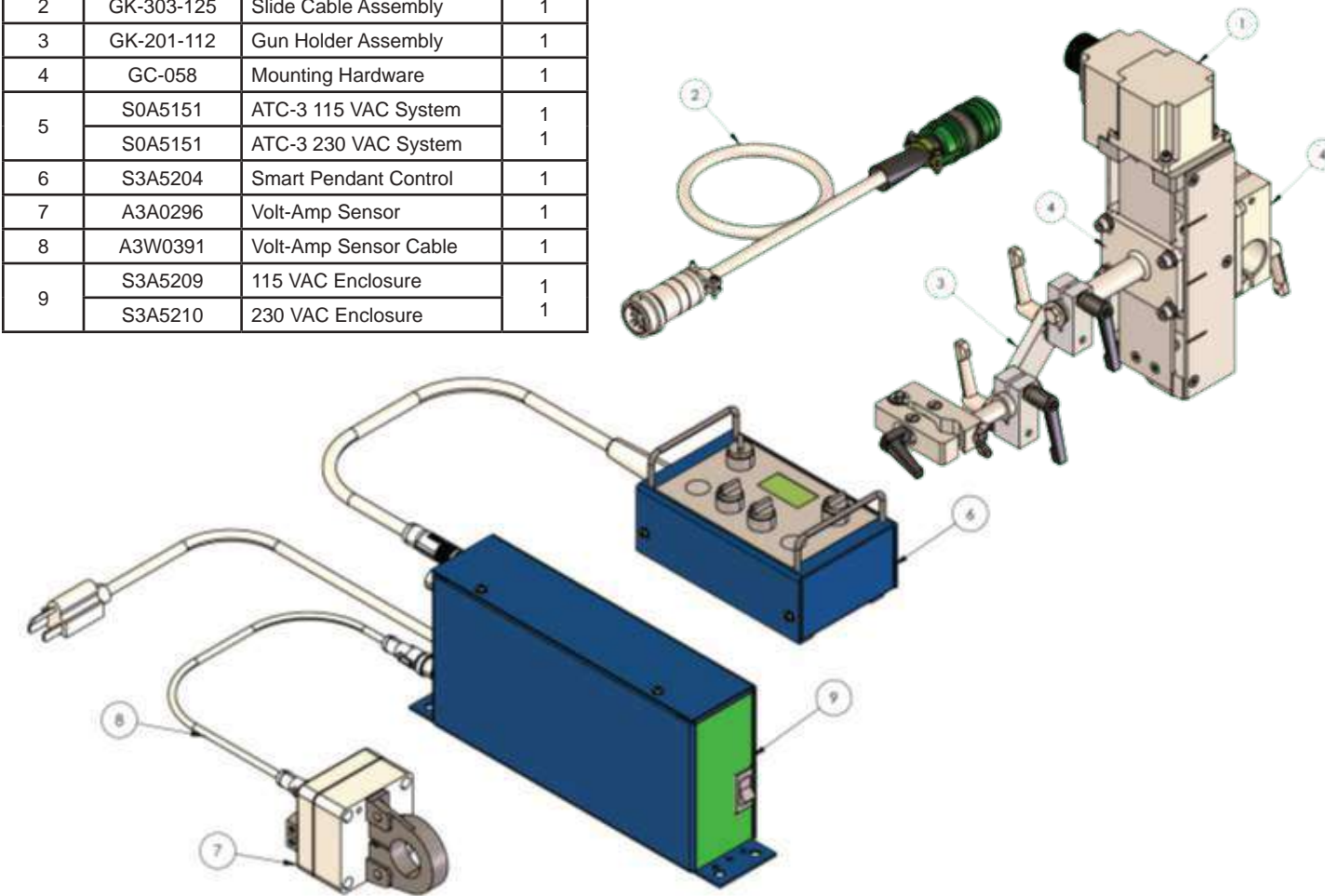
The E.A.H.S. works by measuring welding current and comparing it to a target value that has been set by the operator and automatically adjusting the height of the welding gun to maintain the target welding current or voltage.

This equipment is intended to precisely and automatically control the torch height throughout the process, by detecting small changes in either voltage or current and adjusting the torch holder mounted to the slide to maintain optimal torch tip to work piece distance.

The longitudinal movement can be obtained from either the work piece traveling while the linear remains stationary, or, by a KAT® carriage carrying the E.A.H.S. equipment down the length of the work piece.

Combining the welding gun height control with the precision controlled travel speed of the KAT® carriage will ensure high quality welds are produced.

ITEM	PART NO.	DESCRIPTION	QTY.
1	GK-303-001	4" Slide Assembly	1
2	GK-303-125	Slide Cable Assembly	1
3	GK-201-112	Gun Holder Assembly	1
4	GC-058	Mounting Hardware	1
5	S0A5151	ATC-3 115 VAC System	1
	S0A5151	ATC-3 230 VAC System	1
6	S3A5204	Smart Pendant Control	1
7	A3A0296	Volt-Amp Sensor	1
8	A3W0391	Volt-Amp Sensor Cable	1
9	S3A5209	115 VAC Enclosure	1
	S3A5210	230 VAC Enclosure	1

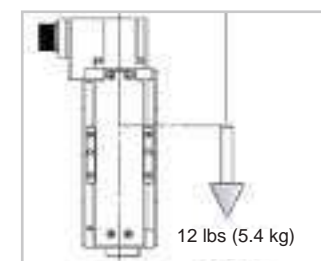


ATC-3 Control Enclosure Specifications	
Enclosure Dimensions	4.75"H X 2.25"W X 11.00"L (121 mm x 57 mm x 279 mm)
Mounting Dimensions	1.25" W x 10.25" L, four 0.25" diameter hole
Weight	4 lbs (1.8 kg)
Operating Temperature	-10°F (-23°C) to +140°F (+60°C)
Dwell Time	0.02 to 2.0 seconds (left and right)
Velocity	100 – 6700 steps/sec
Peak Motor Current / Phase	2.0 – 6.0 amps
Two Remote I/O Outputs	Isolated Solid State Relay (SSR) 28VDC max @ 100 ma
Two Remote I/O Inputs	Isolated 28 VDC input @ 10 ma.

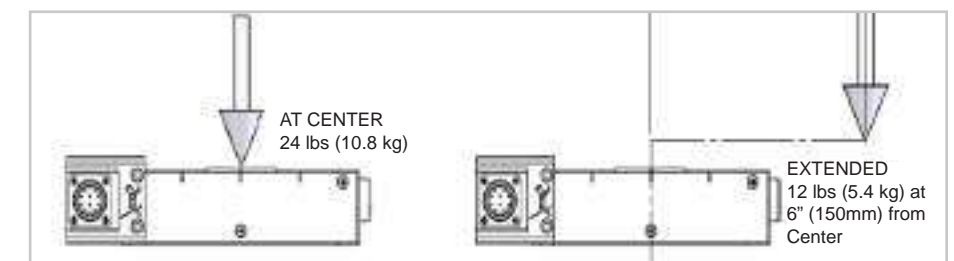
4" Slide Assembly	
Slide Dimensions	10.25"H x 5.1"W x 2.375"L (260.3mm x 129.5mm x 60.3 mm)
Mounting Dimensions	4.75"H x 2.375"W (120.6 mm x 60.3 mm) 1/4" (6.3 mm) hole x 10 @ 1.888" (47.9 mm) TYP
Weight	5.5 lbs (2.49 kg)
Slide Capacity	12lbs (5.44 kg)
Max Travel Distance	4" (101.6 mm)
Travel Speed	Programmable 1 IPM (254 mm/min) to 45 IPM (1114 mm/min)

ATC-3 Operator Pendant Specifications	
Enclosure Dimensions	2.0"H x 3.5"W x 5.75"L (50mm x 89mm x 147 mm)
Mounting Dimensions	Hand held
Weight	3 lbs (1.4 kg)
Operating Temperature	-10°F (-23°C) to +140°F (+60°C)
Power Requirements	24 VDC @ 0.2 amps

12LB VERTICAL SLIDE CAPACITY*



12LB HORIZONTAL SLIDE CAPACITY*



* For other configuration capacities, please consult your Gullco sales representative or request info at www.gullco.com

ARC LENGTH SYSTEM | PLASMA AND TIG



TP-300-AVC



The Arc Length System is used in combination with TIG welding and plasma cutting power sources to give automatic control of the arc voltage to maintain arc length.

The ALS monitors the arc voltage by comparing it with the level set on the TP-300-AVC front control panel and makes changes to the torch position as necessary. Once the torch height has been selected it will be maintained despite any changes in the height of the work piece.

The Arc Length System can be used for DC or AC welding using TIG or Plasma cutting processes and is manufactured to be extremely durable. The linear slide is robust needing no maintenance or lubrication and is completely dust and dirt resistant.

MAINTAIN CONSISTENT WELDING AND CUTTING QUALITY
ARC VOLTAGE DETECTION AUTOMATICALLY MAINTAINS TORCH POSITION



FEATURES:

One unit for both TIG and Plasma applications

Precision control of the torch positioning using the control box adjustments

LED Digital Readout of preset parameters

Arc Length Control Timer: Start delay can be set between 0 - 10 Seconds

Precision control of the sensitivity and actuator speed of the corrective changes made to the arc length

Control shows when welding current is flowing and start delay time has elapsed

Control Box can be mounted on an Idler Carriage or stands freely on its own

SPECIFICATIONS:

Auxiliary supply power: 110V (105-120V) 50/60hz 1A max or 230V (220-240V) 50/60hz 0.6A max

Welding / cutting current range: 20A-400A, (max 400A@60%).

Welding voltage range: 10V-35V DC (option to set higher on request)

Cutting voltage range: 100V-350V DC

Positioner (linear actuator) voltage output: 0-15V DC (max 1A)

Positioner (linear actuator) type: DC permanent magnet

Digital meter accuracy – real value: +/- 1% +/-1 digit

Protection class IP22

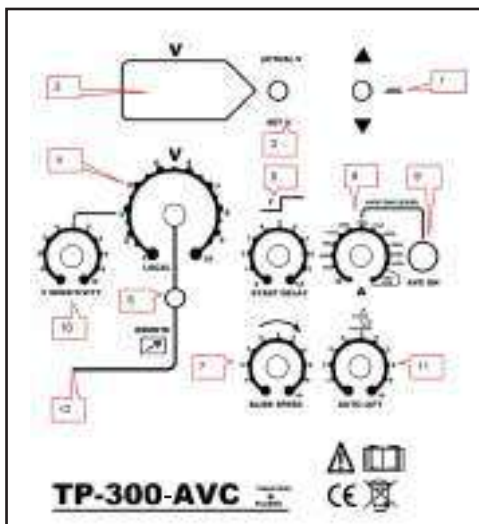
Max no load (OCV) for TIG 99.9V DC (Or 120V peak)

Max no load (OCV) for plasma cutting 400V DC

Linear Slide Range: 4"

Linear Slide Speed: 6"/min (15.2cm/min)

Linear Slide Max Load: 12lb



- 1) Torch Jog up & down switch
- 2) Voltmeter display
- 3) Voltage Set/Actual switch
- 4) Arc voltage control (Arc Length Control)
- 5) Start delay timer
- 6) Local remote switch
- 7) Speed control
- 8) AVC start/stop point control
- 9) LED Display
- 10) Sensitivity Control
- 11) Auto lift (or retract)
- 12) Remote Control input



Results shown produced with optional linear oscillator.

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EUROPE - GULLCO INTERNATIONAL (U.K.) LIMITED		
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SINGAPORE - GULLCO INTERNATIONAL LIMITED		
Phone: +65-9385-4466		e-mail: beonyim@gulco.com
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-90485-1338		e-mail: rogerio.macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437732	Fax: +49(0)209 998 38-38	e-mail: christian.melchior@ms-gmbh.com



KAT® Rigid Track Carriage - GK-200-RH•N
KAT® Flexible Track Carriage - GK-200-FH•N

Heavy-duty self-aligning wheel assemblies, closed loop tack feed-back for accurate speed control when running in any plane, regardless of load. (Maximum 100 lbs.) (45 kgs). The carriage is controlled by the Gullco low voltage 24 volt GSP microprocessor pulse width modulation motor control, interfacing with the forward/stop/reverse switch and infinitely variable 4-turn speed potentiometer. The LED display is in IPM or cm/min. The motor control can be upgraded to provide auto forward/reverse, limit switches and auto wire feed start.



Heavy-Duty Rack Box - GK-171-650

6" (152.4 mm) long with adjustable nylastic bearing plugs, for 1-1/8" (29 mm) square rack arm.



Rack Box Riser Bracket - GK-190-066

Provides an adjustable mounting surface – 2" (50.8 mm), 4" (101.6 mm) or 6" (152.4 mm) above the normal KAT® Carriage Rack Box mounting surface. System complete with mounting screws and can accommodate both rack boxes. Models GK-171-650 heavy duty 1-1/8" (29 mm) and GK-190-650 extra heavy duty 1-1/2" (38 mm).



18" (457.2 mm) long heavy duty 1-1/8" (29 mm) Square Rack Arm - GK-171-047-2
 With rack and both ends turned to 1-1/8" (29 mm) diameter.



GK-200-023 Adaptor Stud Assembly - Consists of the below

Heavy-Duty Rack Box - GK-171-686

4" (101.6 mm) long with adjustable nylastic bearing plugs, for 1-1/8" (29 mm) square rack arm, with 3/8" threaded stud with 1-1/8" (29 mm) swivel clamp.



10-1/4" (260.3 mm) long 1-1/8" (29 mm) Square Rack Arm - GK-171-047-10.25
 With rack and one ends turned to 1-1/8" (29 mm) diameter.



Gouging Torch Adaptor Stud Attachment - GK-200-017

The adaptor stud is used to facility the mounting of the gouging head to the rack arm.



Adaptor Block - GK-171-112

The block holds the adaptor stud and attaches to the rack arm for adjustment of the gouging head

Optional Accessories



Rigid Track Idler Carriage - GK-200-022

Flexible Track Idler Carriage - GK-200-F-022

Complete with heavy duty self-aligning wheel assemblies providing 8-3/4" x 14-7/8" (222 mm x 378 mm) flat surface for mounting equipment and can be towed behind a KAT® Travel Carriage. (complete with a towing kit).

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N7500-23-01

ARCAIR-MATIC N7500 GOUGING SYSTEM



The Arcair-Matic® N7500 gouging system is highly productive for any metal fabrication operation where gouging and welding represents a large portion of the work schedule. This applies to almost all metals, including stainless steel, carbon, manganese, and chrome-moly steels.

All functions can be controlled, from determining gouge parameters, start/stop function, travel delay, and the capability to manually feed or retract the electrode in the Torch Head. The operator can view the amperage and voltage during gouging sequence easily while maintaining the electrode on the weld seam that's being back gouged.

A single electrode contact shoe assembly accepts a full range of jointed electrodes from 5/16" (7.9 mm) through 3/4" (19.1 mm).



Five Times Faster, Ten Times Less Grinding

INSURE QUALITY AND CONSISTENCY WITH PRE-SELECTED GROOVE DEPTH

Arcair



GULLCO.COM





KAT® Carriage System

- ★ Designed to operate on rigid or flexible track
- ★ Provides precise control of the application parameters
- ★ L.E.D Display for easy visibility of the application parameters during operation
- ★ Can be adapted for both Welding and Cutting applications

Digital LCD Remote Pendant



- ★ Ease of use – start/stop function, travel delay, electrode diameter
- ★ Rough machining feature to stall the feed of the electrode to compensate for pitted area or out-of-round steel rolls, thereby maintaining the concentricity of the shaft/roll
- ★ “Travel delay” function assures excellent groove geometry at the very beginning of the groove, thereby eliminating the need for a starting pad
- ★ Shock-absorbent bumper
- ★ Patent Pending



Torch Head

- ★ Redesigned Torch Head with an extended front end – gives the operator better view of the weld seam that’s being back-gouged
- ★ Can be oriented 360 degrees in any direction giving flexibility to fit the application



Digital Circuitry Control Box

- ★ Redesigned digital circuitry control box
- ★ A synergic mode ensures conformity to pre-determined, pre-selected groove depth and width specifications

Arcair®, an industry leader in air carbon-arc products, introduces the Arcair-Matic® N7500, a new and improved automatic gouging system that provides versatility, flexibility and safety features built with an enhanced gouging function. Combined with the KAT® Automated Carriage further improvements to productivity, consistency and quality are achieved.

Covering a broad range of applications, this automated gouging system can be utilized on almost all metals, including stainless steel, carbon, manganese, and chrome-moly steels. It is perfect for work with pressure vessels, wind towers, shipbuilding, railroads, bridge and girder manufacturing, and with heavy equipment used in mining industries.

As a bonus feature, use the remote pendant to track actual arc time to help schedule routine maintenance; additionally, it enables you to monitor and manage cost of the gouging project / job.

The remote pendant is enclosed in a splash-proof panel design to operate in high humidity/outside conditions and withstand impact from a distance of three feet.

The Arcair-Matic N7500 can be used with CC/CV power supplies available in the industry. It utilizes the contactor in the welding power supply unit thereby eliminating the need for the external contactor used in prior models.

One unit can service both US (120VAC) and International (220VAC) markets.

As a safety feature, “NO CURRENT” detect and low voltage functions that shut down the system when these conditions are sensed. These functions ensure optimum groove quality and prevent damage to the equipment and work.

ORDERING INFORMATION

Complete N7500 System

Includes Remote Pendant, Control Box and Torch Head (Part No. 65-991-015)



System Cable Assembly Options*

120VAC Power Supply Cable

Part No.	Description
96-130-304	10 ft (3 m)

220VAC Power Supply Cable

Part No.	Description
96-130-305	10 ft (3 m)

Pendant Cable Assembly

Part No.	Description
96-170-069	14" (0.36 m)
96-170-070	15 ft (5 m)
96-170-071	25 ft (8 m)
96-170-072	50 ft (15 m)

Motor Cable Assembly

Part No.	Description
96-130-335	3 ft (0.9 m)
96-130-336	15 ft (5 m)
96-130-337	25 ft (8 m)
96-130-338	50 ft (15 m)

Power Supply Communication Cable Assembly

Part No.	Description
96-130-339	15 ft (5 m)
96-130-340	25 ft (8 m)
96-130-341	50 ft (15 m)

DC Power Cable

Part No.	Description
96-130-254	4 ft (1.2 m)
96-130-256	15 ft (5 m)
96-130-300	25 ft (8 m)

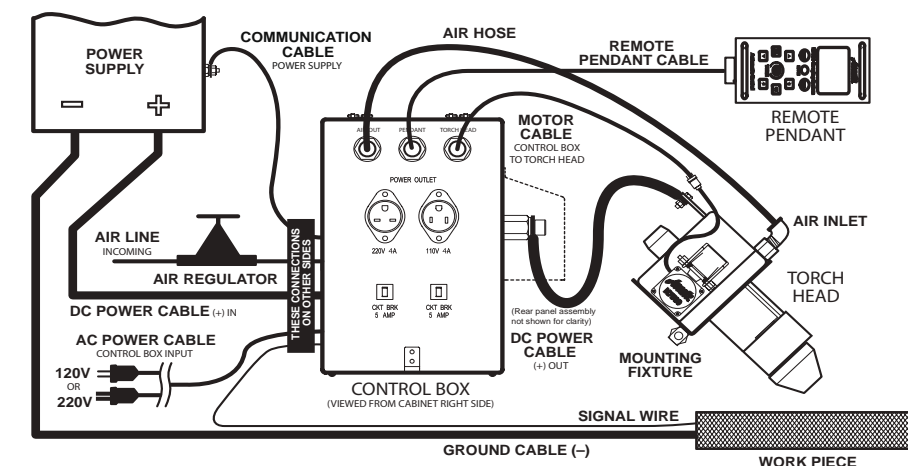
NOTE: Minimum 2 Power Cables Required

Air Hose Assembly

Part No.	Description
94-396-051	4 ft (1.2 m)
94-396-049	15 ft (5 m)
94-396-048	25 ft (8 m)

*Must be ordered separately

N7500 Assembly Set-Up





VACUUM TRACK MOUNTING SYSTEM FOR KAT®

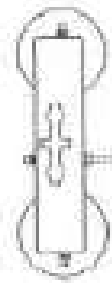


The Gullco vacuum mounting systems are designed to firmly hold the KAT Rigid and Flex Tracks in position on ferrous and non-ferrous materials. The systems are durable and dependable while incorporating a light weight design for portability. There are Vacuum/KAT® carriage packages specifically designed for automatic welding and cutting applications.

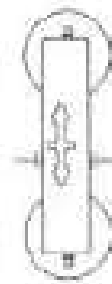
Quick Setup Time - Lightweight Design - Portable

VACUUM SYSTEM FOR MOUNTING CARRIAGE TRACK ON NON-MAGNETIC MATERIALS

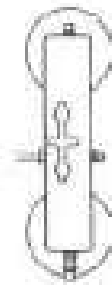
VACUUM MANIFOLD MOUNTING UNITS



GV-168-083-2 (Blocked End)
Designed for use on the track section at the end of the vacuum mounting system run. Equipped with 1 mounting pad, 2 vacuum cups, 3 plugs and 1 hose connector



GV-168-055 (In Between)
Designed for use as the "in between" mounting units in both Rigid and Flex Track systems. Equipped with 1 mounting pad, 2 vacuum cups, 2 plugs and 2 hose connectors.



GV-168-083-1 (Connecting End)
Comprised of manifold block equipped with 1 disconnect coupling suited for connection to end of vacuum pump hose or to connect one track assembly to a second track assembly. Equipped with 1 mounting pad, 2 vacuum cups, 2 plugs and 1 male hose connector.

MOUNTING BRACKET



Model GV-192-F-410
Comprised of mounting pad, support bar and 2 stainless steel mounting angle brackets.

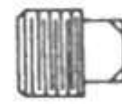
FITTINGS



FLEXIBLE HOSE CONNECTOR GV-168-071
For interconnecting vacuum mounted track sections 36" (914mm) long.



FLEXIBLE HOSE SECTIONS GV-168-072
used in various lengths to connect manifold assemblies. Secured by hose clamps **GV-192-F-076**



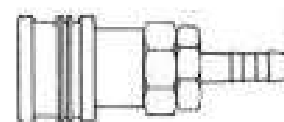
PLUG GF-168-007 for unused manifold openings



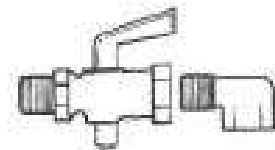
HOSE CONNECTOR GF-168-005



QUICK CONNECT COUPLING GV-168-009



QUICK CONNECT COUPLING GF-168-010



ON/OFF VALVE Model GV-192-F-074
Used on-line or as required in Flex-Track Systems

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GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)73 5437722	Fax: +49(0)206 999 38-38	e-mail: christian.marlens@ms-gmbh.com



BASIC VACUUM MOUNTING COMPONENTS

Described on these pages are the vacuum systems that Gullco makes available for mounting KAT® Rigid Track and KAT® Flex Track on ferrous and non-ferrous materials.

The portable vacuum pump for these systems is described below. At right are the basic vacuum components used in both the rigid and flex track mounting assemblies. They are supplied by Gullco as complete, ready-to-use assemblies or as individual parts, either for standard lengths of track or for continuous runs of any specified length.



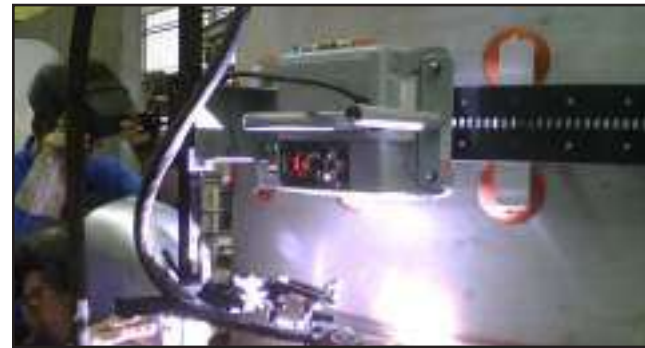
PORTABLE VACUUM UNIT Model GV-168-050

Comprised of electric motor driven, 2.4 cfm capacity vacuum pump mounted on cylindrical safety reservoir. Complete with vacuum gauge, filter, non-return valve, necessary fittings and 10 ft. (3048 mm) of flexible hose with quick disconnect coupling. *Recommended 3 pieces of **GK-165-054** Rigid or **GK-192-F-054-2** Flexible Track per vacuum pump.



VACUUM MANIFOLD BLOCK MOUNTING UNIT

Comprised of two vacuum cups, manifold block and mounting pad. The manifold has openings at each end and at the centre of each side for fittings required in assemblies such as hose connectors, couplings, valves and plugs. Heat resistance of the vacuum cup is 450°F for short durations and 350°F continuous. Minimum temperature is -40°F.



VACUUM MANIFOLD ASSEMBLIES

Link any number of Vacuum Block Mounting Units to provide a complete, in-line track mounting system. The end units are supplied with appropriate fittings for attachment to the pump or the next series of mounting units, while all "in-between" units have hose connectors on each side.



MOUNTING BRACKET

Comprised of mounting pad, support bar and two stainless steel mounting angle brackets. This component is primarily used to provide extra track stiffness to Flex-Track vacuum mounting assemblies and as tack welded support to provide an extra measure of safety in applications involving vertically mounted KAT® Rigid Track or Flex Track

FOR MOUNTING GULLCO RIGID KAT® TRACK

Gullco can supply a ready-to-use kit to vacuum mount KAT® Track, providing manifold block mounting units for mounting on 30" (761 mm) centers along with all appropriate hoses, fittings, etc.

For convenience, three kits are available for mounting standard 48", 96" and 120" (1219, 2438 and 3048mm) lengths of KAT® Track. They are described at right. It should be noted that these kits are supplied for use only with the designated track length. If lengths are to be joined, interconnecting fittings must be ordered.

3 lengths of 120" (3048mm) track can be handled by one vacuum pump (**Model GV-168-050**) depending on work surface finish.



Gullco Flex-Track is 8 ft. (2438 mm) and has holes for the attachment of manifold block mounting units and stainless steel mounting brackets. In some applications, the number of manifold block units may be safely reduced by using brackets so the number of each supplied will vary according to application requirements. For convenience, two kits are available for vacuum mounting KAT® Flex-Track, one meeting minimum stiffness requirements, the other providing standard stiffness.



ASSEMBLIES FOR MOUNTING STANDARD LENGTHS OF KAT TRACK

Model GV-168-051-A for mounting 48" (1219mm) KAT Track comprised of 2 vacuum manifold block mounting units at 30" (761mm) centers complete with flexible hose between manifolds and male quick connect couplings for connecting the pump.

Model GV-168-053-A for mounting 96" (2438mm) KAT Track- as above, but 3 vacuum manifold block mounting units.

Model GV-168-070-A for mounting 120" (3048mm) KAT Track as above, but 4 Vacuum manifold block mounting units.

VACUUM MOUNTED HEIGHT KAT® RIGID TRACK



ASSEMBLIES FOR MOUNTING 96" (2438 mm) LENGTHS OF KAT® FLEX- TRACK

Model **GV-192-F-409** recommended for mounting on the heavy duty flex track, model **GK-192-F-054-2** comprised of 8 vacuum manifold block mounting units at 12" (304.8 mm) centers when complete with flexible hose between manifolds, intermediate shut-off valve and male quick connect coupling for connection to vacuum pump hose.

ASSEMBLIES FOR MOUNTING 96" (2438 mm) LENGTHS OF KAT® FLEX TRACK



SEAM TRACKER SLIDES

Ball Bushing Slides for WSG-1200 KAT® Tracker		
Part Number	WS-250-100-S-4	WS-250-100-S-6
Stroke	4" (101 mm)	6" (152 mm)
Capacity	40 lbs (18 kg)	40 lbs (18 kg)
Moment Load	217 lbf.in (250 kgf.cm)	87 lbf.in (100 kgf.cm)

Linear Way Slides for WSG-1200 KAT® Tracker		
Part Number	WS-250-100-L-8	WS-250-100-S-6
Stroke	8" (203 mm)	12" (304 mm)
Capacity	40 lbs (18 kg)	40 lbs (18 kg)
Moment Load	868 lbf.in (1000 kgf.cm)	868 lbf.in (1000 kgf.cm)

Linear Way Slides for WSG-2200 KAT® Tracker		
Part Number	WS-250-100-L-8	WS-250-100-S-6
Stroke	8" (203 mm)	12" (304 mm)
Capacity	99 lbs (45 kg)	99 lbs (45 kg)
Moment Load	217 lbf.ft (3000 kgf.cm)	217 lbf.ft (3000 kgf.cm)

Ball Bushing Slides for WSG-2200 KAT® Tracker	
Part Number	WS-250-200-S-6
Stroke	6" (152 mm)
Capacity	99 lbs (45 kg)
Moment Load	694 lbf.in (800 kgf.cm)

WSG-2200 Slide

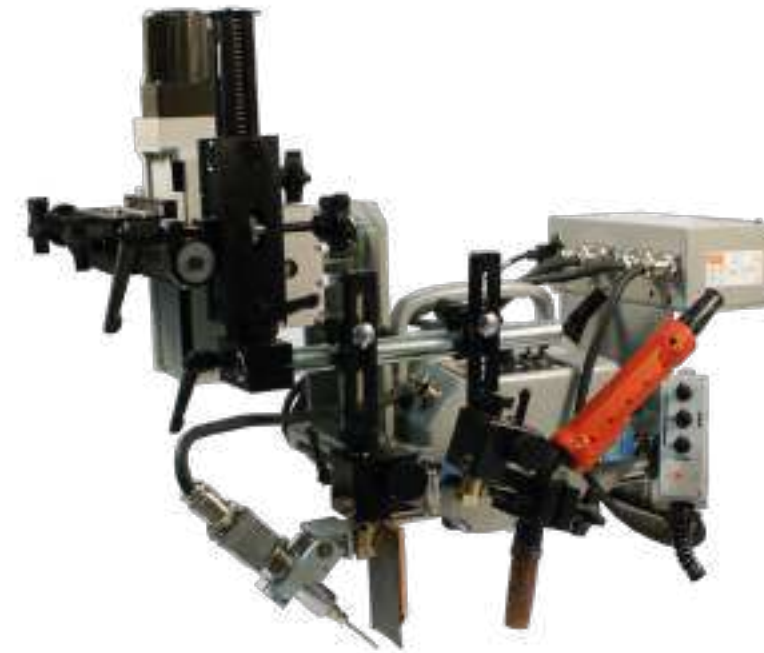
WSG-1200 Slide



WELDING AND CUTTING AUTOMATION



ELECTRONIC SEAM TRACKING SYSTEM - KAT®



KAT® Tracker weld seam tracking models WSG-1200 & WSG-2200 offer practical solutions to weld seam tracking and torch positioning in the automation of welding, where a constant torch position, both vertically and horizontally, is required in relation to the joint being welded.

The WSG-1200 is best suited for standard applications such as the positioning of a regular Mig welding gun, and provides a tracking accuracy of +/- 0.012" [0.3 mm]. Whereas, the WSG-2200 is typically used for heavier duty applications, such as SAW, and provides a tracking accuracy of +/- 0.019" [0.5 mm].

Both systems are compact and light in weight. The WSG-1200 is ready for quick and easy installation to a Gullco "Kat®" travel carriage. Each system consists of the following main components:

1. Control box.
2. Remote control pendant.
3. Motorized cross slide assembly.
4. Sensing probe and micro cross slide.

* Carriage sold separately

High Precision Weld Tracking System

MAINTAIN THE TORCH IN OPTIMUM OPERATING POSITION TO PRODUCE THE HIGHEST QUALITY WELDS

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LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	e-mail: rogerio_macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)206 999 38-38 e-mail: christian.marlens@ms-gmbh.com

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ST2204



The quality and efficiency achieved with today's automated welding systems can be impaired by material warpage, misalignment, irregular edge fit-up, different material thickness and other conditions that cause variations in the weld seam. Gullco KAT® Trackers restore optimum performance when these conditions are encountered. They continually sense the slightest variation across the weld seam and automatically correct the position of the weld torch.

The trackers are designed for incorporation and use with the Gullco KAT® travel carriage system but can readily be used with other travelling and rotating devices employed in automated welding operations.

The systems are effectively employed to cut costs and increase productivity in a wide range of applications such as tank, pressure vessel, pipe and structural component fabrication and deep groove welding operations.

Gullco KAT® Trackers are available in standard or heavy duty models to meet virtually all requirements. A brief description of each is provided below.



KAT® Tracker Model WSG-1200 Electronic Seam Tracker

KAT® Trackers are precise, dependable and highly versatile. They can be used with a wide range of Gullco accessories/ systems such as oscillators, bridge units, multiple torch assemblies etc. Contact Gullco with your requirement.

GULLCO KAT® TRACKERS

These Trackers provide precise vertical and horizontal tracking plus...

ELECTRONIC "END OF PLATE DETECTION"

- puts the tracking system on "hold"... Preventing the torch from driving into the plate and allowing welding to continue to the plate edge.

ELECTRONIC "TACK DETECTION"

- interrupts the automatic tracking action when a tack-weld is encountered preventing the torch from rising prematurely...and returns the system to normal action when it reaches the end of the tack weld.

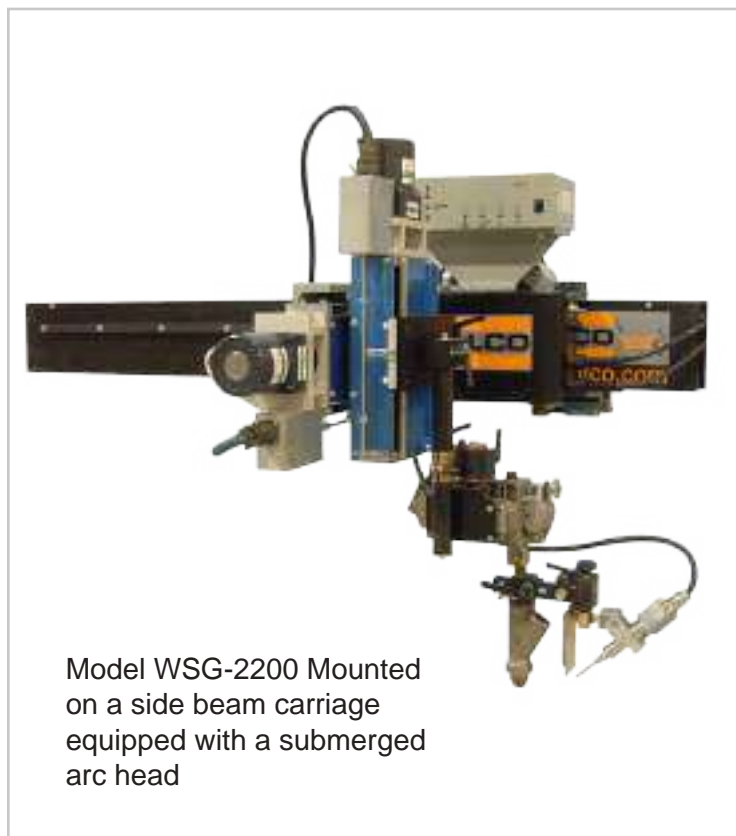
MODEL WSG-1200:

This model has up to 55 lb. (25kg) vertical load capacity at 4" (100mm) extension from the face plate. The standard stroke is 4" x 4" (100x100mm).

MODEL WSG-2200:

The heavy duty version of model WSG-2200 with a vertical load capacity up to 100 lbs. (45 kg) at 6" (150mm) extension from the face plate. The standard stroke is 6"x6" (150x150mm).

Note: The above data applies to standard slide assemblies. Other slide lengths, speed and higher capacities are available.



Model WSG-2200 Mounted on a side beam carriage equipped with a submerged arc head

SPECIFICATIONS

GULLCO MODEL WSG-1200 KAT® TRACKER SYSTEM COMPONENTS

Main Control Box, Pendant Remote Control Box, Probe, Probe Micro Cross-Slide, Motorized Cross-Slide Assembly, Probe-To-Torch Mounting Bracket, Control Cables from Probe and Cross-Slide to Main Control Box, Torch Holder with vertical/horizontal adjustment, Brackets for mounting Cross-Slide and Main Control Box on KAT® Travel Carriage.

MAIN CONTROL BOX

Incorporates main power switch, On/Off pilot light, signal lights indicating sensing function and fuse. Electronic circuit components incorporated in modular system with circuit boards for easy maintenance.
Size: (H) 5-1/2" (W) 2" (D) 1-1/2" (140 x 50 x 38mm.)
Weight: 2 lbs. (900 grams)



PENDANT REMOTE CONTROL BOX

Incorporates manual/automatic changeover switch and inching switch -vertical up/down and horizontal left/right.
Size: (H) 5-1/2" (W) 2" (D) 1-1/2" (140 x 50 x 38mm.)
Weight: 2 lbs. (900 grams)



PROBE

Supplied complete with replaceable 1/8" dia. Probe tip. The assembly incorporates a Shock Protector that protects the system's electronics by breaking when heavy shock is encountered.



PROBE MICRO CROSS SLIDE

Provides precise manual pre-positioning of probe relative to torch prior to automatic operations. Stroke plus or minus 3/4" (20mm).
Weight: 1-3/4 lbs. (900 grams)

Power Requirements: 110/115 Volt AC - Single phase 50/60 Hz
Longer slides, other speeds and higher capacity units available on request.

Gullco Mechanical Seam Trackers and Height Sensors:

Designed for use with the Gullco KAT® Travel Carriage to accurately maintain the required, pre-set distance between the gun or torch and the workpiece in automated welding and cutting operations.

Three models are available to effectively meet various application needs. All are constant velocity, spring-type sensors utilizing hardened and ground slide bars with recirculator ball bushings to provide 1-3/4" (44mm) of torch float.*

Model GK-190-600 Height Sensor has an adjustable swivel copper guide wheel to contact the work surface.

Model GK-190-602 Height Sensor has a stainless steel ball transfer that is particularly useful to maintain contact on curved surfaces or vertical applications.

Model GK-190-603 Seam Tracker is specifically designed for fillet welding applications.

*Other float distances available on request.

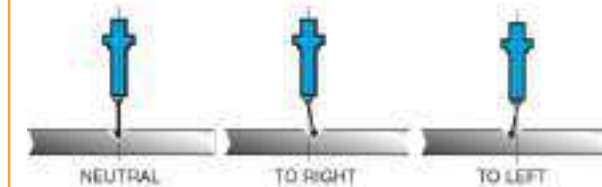


Sensing modes that cover virtually all tracking requirements

GULLCO KAT® TRACKERS MODEL WSG-1200 & 2200 SINGLE DIRECTION SENSING

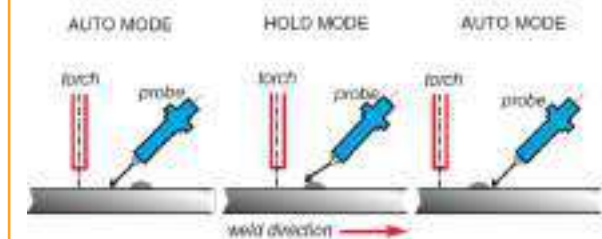


TWO DIRECTIONAL RIGHT/LEFT SENSING



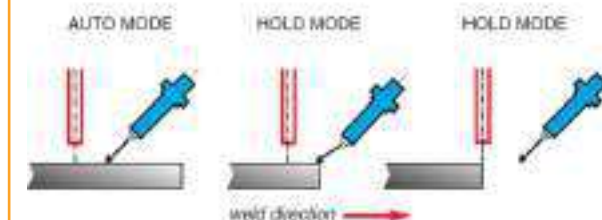
plus...

WELD TACK DETECTION



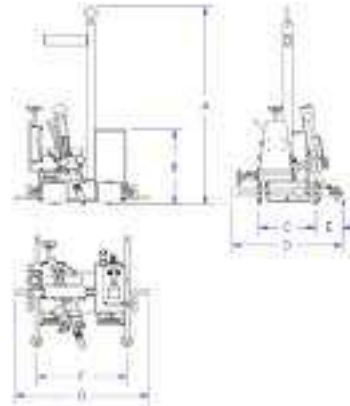
plus...

END OF PLATE DETECTION

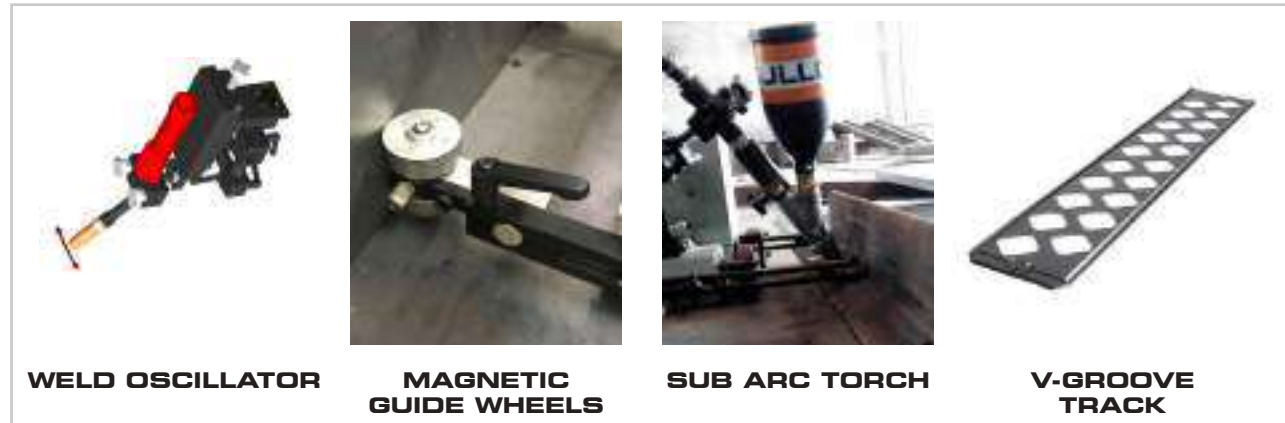


STANDARD CARRIAGE DIMENSIONS

	IMPERIAL	METRIC
A	25.00"	635.0 mm
B	9.57"	243.1 mm
C	7.25"	184.2 mm
D	14.01"	355.7 mm
E	Min 1.44" Max 7.06"	Min 3.6 mm Max 179.3 mm
F	11.50"	292.1 mm
G	17.00"	431.8 mm



MOGGY® CARRIAGE ACCESSORIES



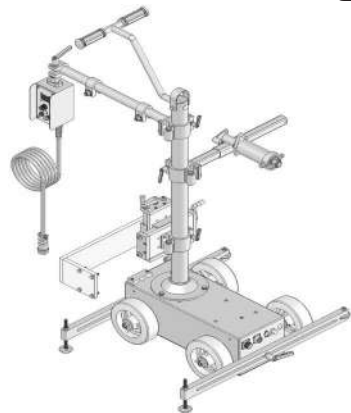
WELD OSCILLATOR

MAGNETIC GUIDE WHEELS

SUB ARC TORCH

V-GROOVE TRACK

SUBMERGED ARC MOGGY - SAM®



The versatility and reliability of the Gullco MOGGY® trackless travel carriage system and a variety of quality engineered components combine to provide a highly flexible self-contained welding unit. This SAM® unit is designed to produce precision, quality Submerged Arc or MIG welds.

Power Supply: For operation on either 42/115/230 volts, single phase, 50/60 Hz AC. (Specify voltage when placing order - A= 42V B= 115V, C= 230V)

Speed Range: 4 to 66.1 IPM (10 to 168 cm/min)

Weight: 172 lbs (78 kg)

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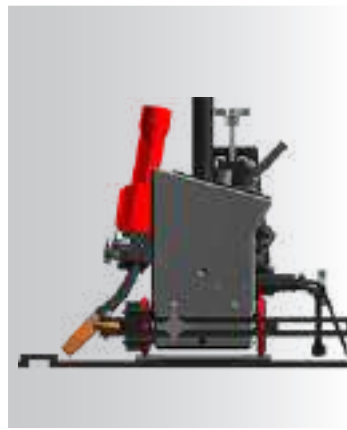


WELDING AND CUTTING AUTOMATION
PRODUCTIVITY - DURABILITY - SERVICE
MOGGY® AUTOMATION CARRIAGE
ENGINEERED . FEATURE RICH

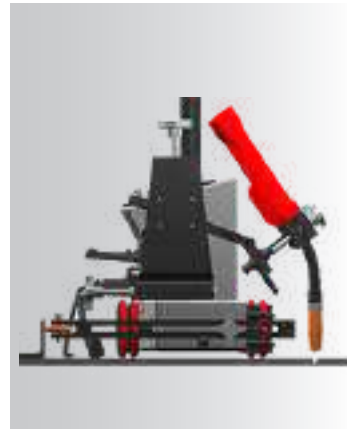




FILLET JOINT WELDING



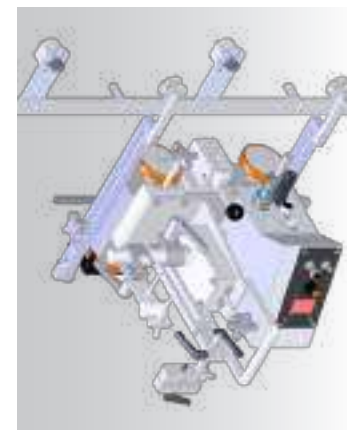
LAP JOINT WELDING



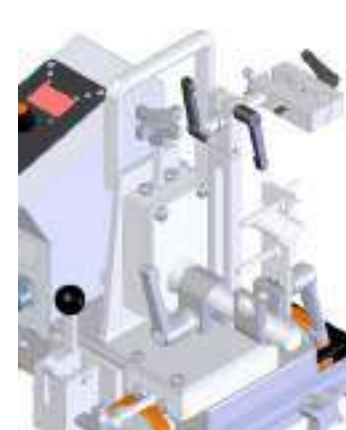
BUTT JOINT WELDING



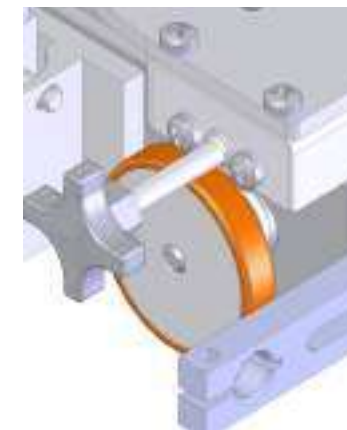
DUAL TORCH WELDING
Simultaneous activation of two wire feed signals.



MAGNETIC GUIDE RAIL - 3 O'CLOCK



FINE ADJUSTMENT SLIDES
Precise control over torch positioning and adjustments.



SILICON DRIVE WHEELS
Removeable wheels provide excellent traction on a variety of surfaces at a temperature range of -65°F to 450°F (-53.8°C - 232.2°C)



LED DISPLAY
Highly visable during welding for easy adjustment.



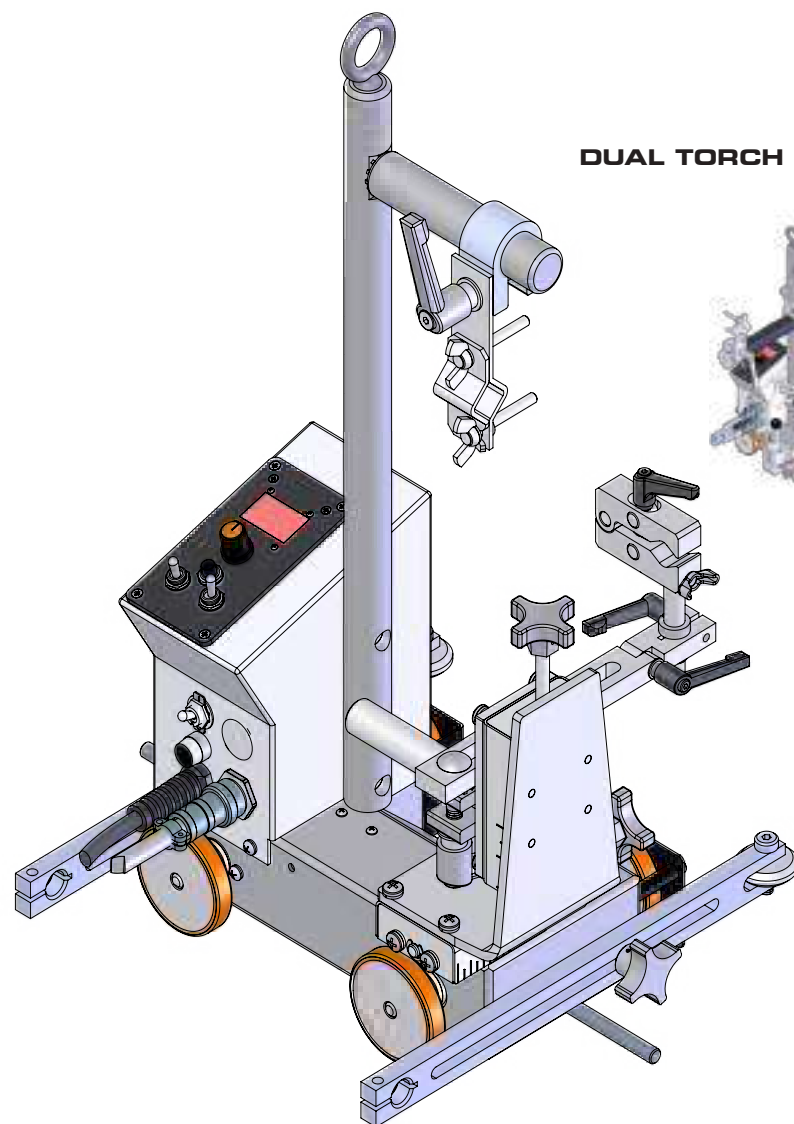
COPPER GUIDE WHEELS

Guide wheels are configured to follow the materials vertical member or the plate edge to guide the carriage during operation.



QUICK RELEASE INSULATED TORCH HOLDER

Detach and re-attach the Torch Holder quickly and accurately.

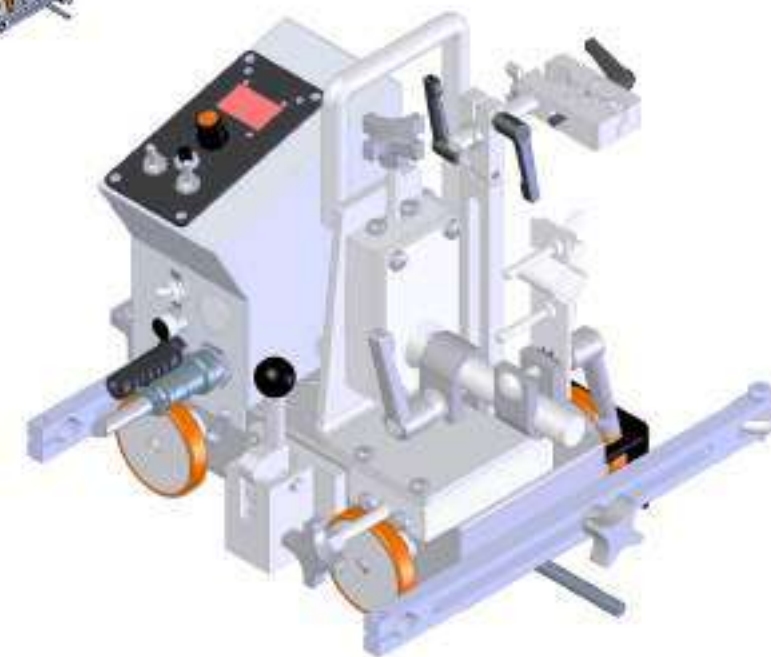


STANDARD CARRIAGE
CONTINUOUS AND STITCH WELDING FUNCTIONS

DUAL TORCH CARRIAGE



BATTERY POWERED CARRIAGE



MAGNETIC CARRIAGE
ADDED STABILITY AND VERTICAL OPERATION

ADDITIONAL CARRIAGE FEATURES

The Gullco MOGGY® is used throughout the world to automate a wide variety of welding and cutting operations. The MOGGY® is durable and robust with many features which include:

- Tool-less Setup, Adjustment & Operation
- Energy Efficient 24V DC Motor for safety
- Universal Compatibility to all welding power sources and wire feeders
- Tack feed back for accurate weld distance and stitch weld spacing
- Weld step back function
- Programmable pre-flow and post-flow settings
- Run on V-Groove track
- Can be setup to weld at the front, center or back of the carriage
- Operates in forward or reverse

SPECIFICATIONS

Speed Range: 3.25 – 100.50 in/min [8.26 – 255.27 cm/min]

Maximum Incline: 30°

Gun Positioning Slides: 1-3/4" (44.5 mm)
Vertical and Horizontal Stroke

Weight of MOGGY®: 31 lbs. (14.1 kg)
complete with all attachments (single gun model)

Supply Voltage: Either 42, 115, or 230 VAC,
single phase, 50/60 Hz., 30 watts

Drive Motor:
24 VDC permanent magnet gear motor

Drive Wheel Temp Range:
-65°F to 450°F (-54°C to 232°C)

Complies with: C.S.A. & N.R.T.L.
(file #LR35006-8) & C.E. Certification.

BATTERY POWERED MODEL

Battery Life: 11hrs*

Charge Time: 3hrs at 1 amp

Voltage: 28.8V 3.0ah Capacity

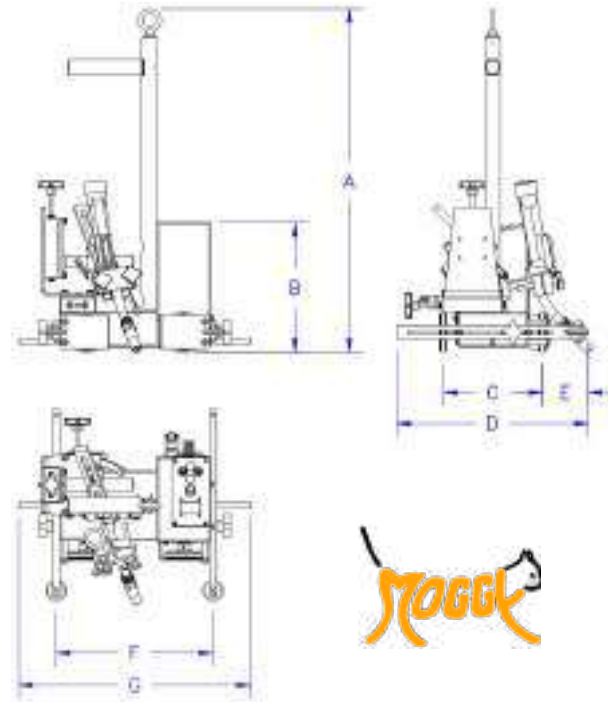
Battery Working Temperature: -5°C - 50°C
discharging at -20°C - 75°C

Battery has on board protection against
overcharging, over current draw and over
discharge

*based on an 8IPM travel speed

CARRIAGE DIMENSIONS

	IMPERIAL	METRIC
A	25.00"	635.0 mm
B	9.57"	243.1 mm
C	7.25"	184.2 mm
D	14.01"	355.7 mm
E	Min 1.44" Max 7.06"	Min 3.6 mm Max 179.3 mm
F	11.50"	292.1 mm
G	17.00"	431.8 mm



WELDING AND CUTTING AUTOMATION



TRACKLESS WELDING CARRIAGE - MOGGY®



Ideal for automatic horizontal fillet, lap or butt
welding applications

Control allows for both continuous or stitch
welding operations

Dual gun holder assemblies make automated
simultaneous welding efficient

MOGGY® wheels can be inverted to allow
carriage to operate on v-groove track

The MOGGY® can be equipped with a variety
of accessories including: weld oscillator, cutting
torch attachment and internal radius guide
wheels

GM-03-100 - STANDARD CARRIAGE

GM-03-200 - DUAL TORCH CARRIAGE



Automate Fillet, Lap, and Butt Welds with Precision

VERSITILE TRACKLESS AUTOMATION CARRIAGE FOR A VARIETY OF APPLICATIONS

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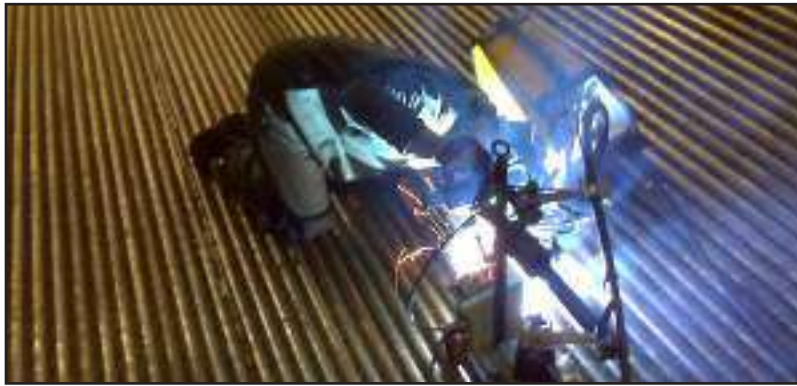
GERMANY - ms gmbh Melchior Schweißtechnik
Phone: +49(0)73 5437722 Fax: +49(0)206 999 36-30 e-mail: christian.marlens@ms-gmbh.com

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MG2204



TRACKLESS AUTOMATION WELDING CARRIAGE



The MOGGY® is intended to automate and improve the quality of welding and cutting operations by carrying the welding gun(s) or cutting torch(es), at precisely controlled speeds, along the path of the joint. The MOGGY® carriage also provided interface between the welding and cutting motion and the arc start and stop signals. The automation carriage is normally guided by adjustable guide wheels which are set to always drive the carriage slightly into the vertical member (usually either the vertical member of a fillet joint or a template/fence placed parallel to the joint). Industry standard 6" v-groove track may also be used to guide the parth of the MOGGY®. The carriage is flexible enough to allow it to be easily configured for horizontal lap, butt and fillet weld joints as well as a variety of cutting processes.

Using the MOGGY® automation carriage system will add accuracy and uniformity to welding and cutting applications while increasing productivity. Typical applications include shipbuilding, offshore construction, steel fabrication, etc.

Standard MODEL GM-03-100

MOGGY® Carriage with control for continuous or stitch welding, and with a control that uses a Gullco microprocessor to provide accurate repeatability regardless of travel speeds for weld distance on and weld distance off. It has a forward/stop/reverse switch, wire feed start on/off switch, travel speed potentiometer, auto wire feed start with delay carriage start, wire feed connector with 15 ft. (4572mm) control cable. All functions displayed in an LED window.

FILLET JOINT WELDING



The MOGGY® performing a fillet weld using a template, guide or fence positioned parallel to the workpiece. The actual workpiece is often used as the guide.

LAP JOINT WELDING



The MOGGY® is performing a lap joint weld. It is guided by Industry Standard 6" (152.4mm) v-groove track running parallel to the joint.

BUTT JOINT WELDING



The MOGGY® is ideal for butt joint welding. Here the MOGGY® is using a fence to guide it accurately along the desired path. Standard v-groove track can also be used.

DUAL GUN WELDING



Dual gun holder assembly mounted on the MOGGY® enables positioning of two guns and simultaneous activation of two wire feed signals. MOGGY® is guided by the workpiece.

JOINT TRACKING



Adjustable height guide roller assemblies are available to track joints with a vertical member higher or lower than the set height of guide roller wheels.

RADIAL OSCILLATOR

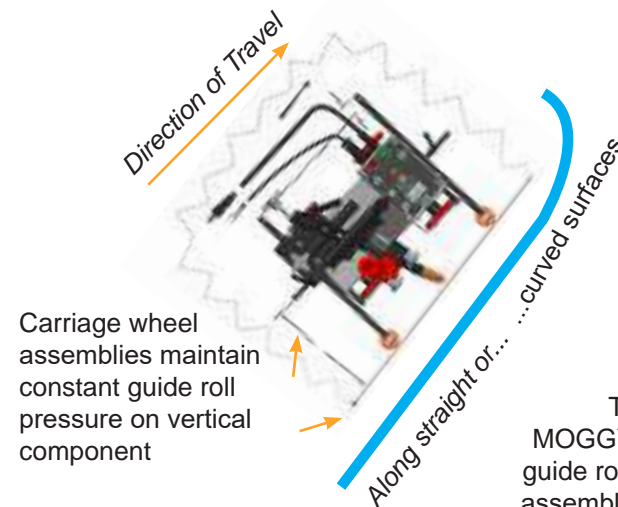


Replaces the standard gun holder assembly in order to weave the gun across the joint while the MOGGY® provides the weld travel motion.



Precise Torch Alignment To The Seam

Adjustable guide rolls mounted on the front or back of the carriage monitor the slightest seam variations following straight or curved surfaces...maintaining optimum torch positioning as the carriage travels.

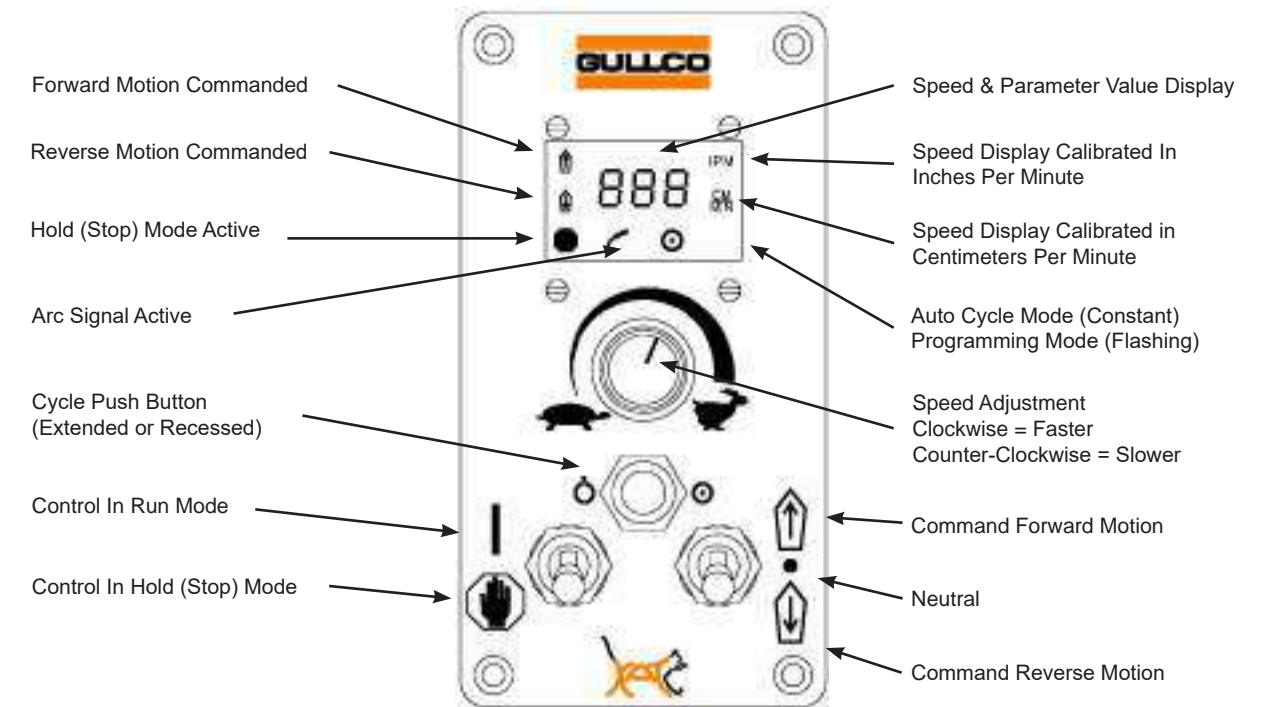


Carriage wheel assemblies maintain constant guide roll pressure on vertical component

The MOGGY® guide roller assemblies can be configured in a variety of ways enabling extreme versatility.



CARRIAGE CONTROL LAYOUT



Accessories available:

GK-194-O-330 - Radial Oscillator complete with bracketry for mounting on Gullco MOGGY® Carriage.

GM-03-059 - Adjustable Guide Roller Assembly enables joint tracking where the vertical member is lower/higher than set height of guide roller wheels.

GM-01-065 - Cutting Torch Holder Assembly enables automated torch cutting operations.

GM-01-070 - Dual Gun Holder Assembly enables the use of two independently positioned welding guns with two wire feed signals simultaneously activated.

SPECIFICATIONS

Speed Range: 3.25 – 100.50 in/min [8.26 – 255.27 cm/min]

Maximum Incline: 30°

Gun Positioning Slides: 1-3/4" (44.5 mm)
Vertical and Horizontal Stroke

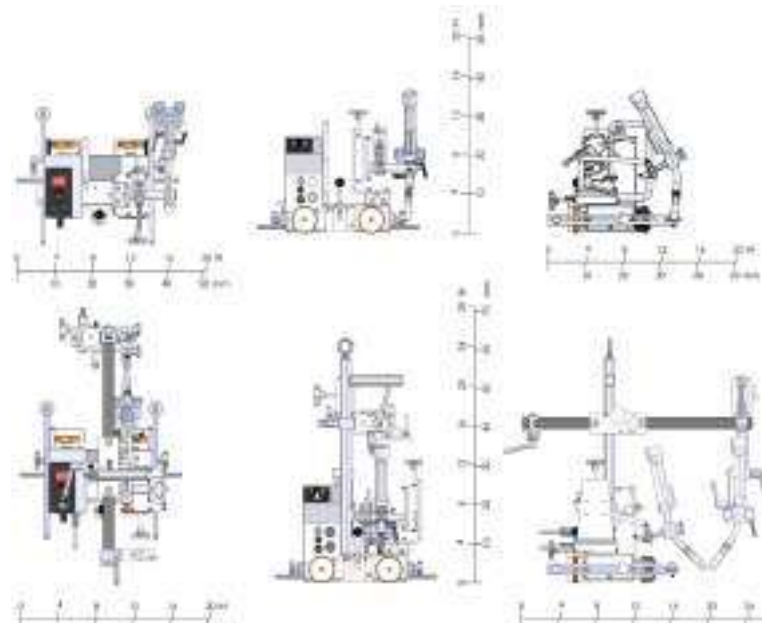
Weight of MOGGY®: 31 lbs. (14.1 kg)
complete with all attachments (single gun model)

Drive Motor:
24 VDC permanent magnet gear motor

Drive Wheel Temp Range:
-65°F to 450°F (-54°C to 232°C)

Complies with: C.E. Certification.

DIMENSIONS



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BMOG2204

BATTERY FEATURES

Battery: LG® 28.8V 3000mAh Li-Ion Battery Pack

Battery Life: 9hrs*

Protection: 8S 4A PCM protects from overcharge, over discharge, over drain, short circuit, over temperature damage

Battery Working Temperature: -20°C (-4°F) - 75°C (167°F)

Weight: 14Oz (396 g)

Battery Life Meter: Easily visible during operation

Charge Cycles - 500 full charges

Air Shipment Certified- UN38.3

*based on an 14IPM travel speed



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	e-mail: c.zhang@gulco.com	
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	e-mail: bernyjim@gulco.com	
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	
	e-mail: rogerio.macedo@gulco.com	
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)206 999 38-38
	e-mail: christian.marlens@ms-gmbh.com	

WELDING AND CUTTING AUTOMATION



BATTERY POWERED TRACKLESS WELDING CARRIAGE - MOGGY®



GM-05-100 - STANDARD CARRIAGE

GM-05-200 - DUAL TORCH CARRIAGE

GM-05-300 - MAGNETIC BASE

**GM-05-400 DUAL TORCH
MAGNETIC BASE**

Ideal for safety related applications with mandatory 50V or less. Automatic fillet, lap or butt welding applications

9h Battery life during standard welding applications

Full battery charge in 1h30 mins from 0%

Control allows for both continuous or stitch welding operations

Dual gun holder assemblies make automated simultaneous welding efficient

The MOGGY® can be equipped with a variety of accessories including: weld oscillator, cutting torch attachment and internal radius guide wheels

May be charged, through convenient plug on carriage. Protected battery is safe from debris and harsh work environments

Eliminate extra cables with this low voltage, battery operated carriage
VERSATILE TRACKLESS AUTOMATION CARRIAGE FOR A VARIETY OF APPLICATIONS



GULLCO.COM



TRACKLESS AUTOMATION WELDING CARRIAGE



The MOGGY® is intended to automate and improve the quality of welding and cutting operations by carrying the welding gun(s) or cutting torch(es), at precisely controlled speeds, along the path of the joint. The MOGGY® carriage also provides interface between the welding and cutting motion and the arc start and stop signals. The automation carriage is normally guided by adjustable guide wheels which are set to always steer the carriage slightly into the vertical member (usually either the vertical member of a fillet joint or a template/fence placed parallel to the joint). Industry standard 6" v-groove track may also be used to guide the path of the MOGGY®. The carriage is flexible enough to allow it to be easily configured for horizontal lap, butt and fillet weld joints as well as a variety of cutting processes.

Using the MOGGY® automation carriage system will add accuracy and uniformity to welding and cutting applications while increasing productivity. Typical applications include shipbuilding, offshore construction, steel fabrication, etc.

Standard MODEL GM-05-100

MOGGY® Carriage with control for continuous or stitch welding, uses a Gullco microprocessor to provide accurate repeatability regardless of travel speeds for weld distance on and weld distance off. It has a forward/stop/reverse switch, travel speed potentiometer, auto wire feed start with delay carriage start and step back function, wire feed connector with 15 ft. (4572mm) control cable. All functions displayed in an LED window.

FILLET JOINT WELDING



The MOGGY® performing a fillet weld using a template, guide or fence positioned parallel to the workpiece. The actual workpiece is often used as the guide.

LAP JOINT WELDING



The MOGGY® is performing a lap joint weld. Guided by optional Industry Standard 6" (152.4mm) v-groove track running parallel to the joint.

BUTT JOINT WELDING



The MOGGY® is ideal for butt joint welding. Here the MOGGY® is using a fence to guide it accurately along the desired path. Standard v-groove track can also be used.

DUAL GUN WELDING



Dual gun holder assembly mounted on the MOGGY® enables positioning of two guns and simultaneous activation of two wire feed signals. MOGGY® is guided by the workpiece.

JOINT TRACKING



Adjustable height guide roller assemblies are available to track joints with a vertical member higher or lower than the set height of guide roller wheels.

RADIAL OSCILLATOR

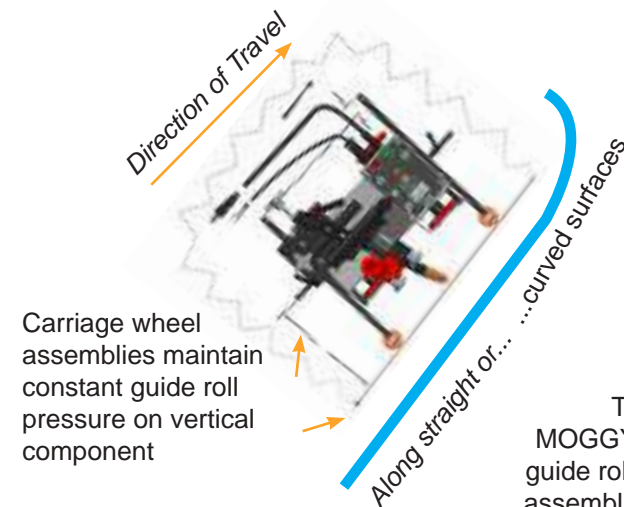


Replaces the standard gun holder assembly in order to weave the gun across the joint while the MOGGY® provides the weld travel motion.



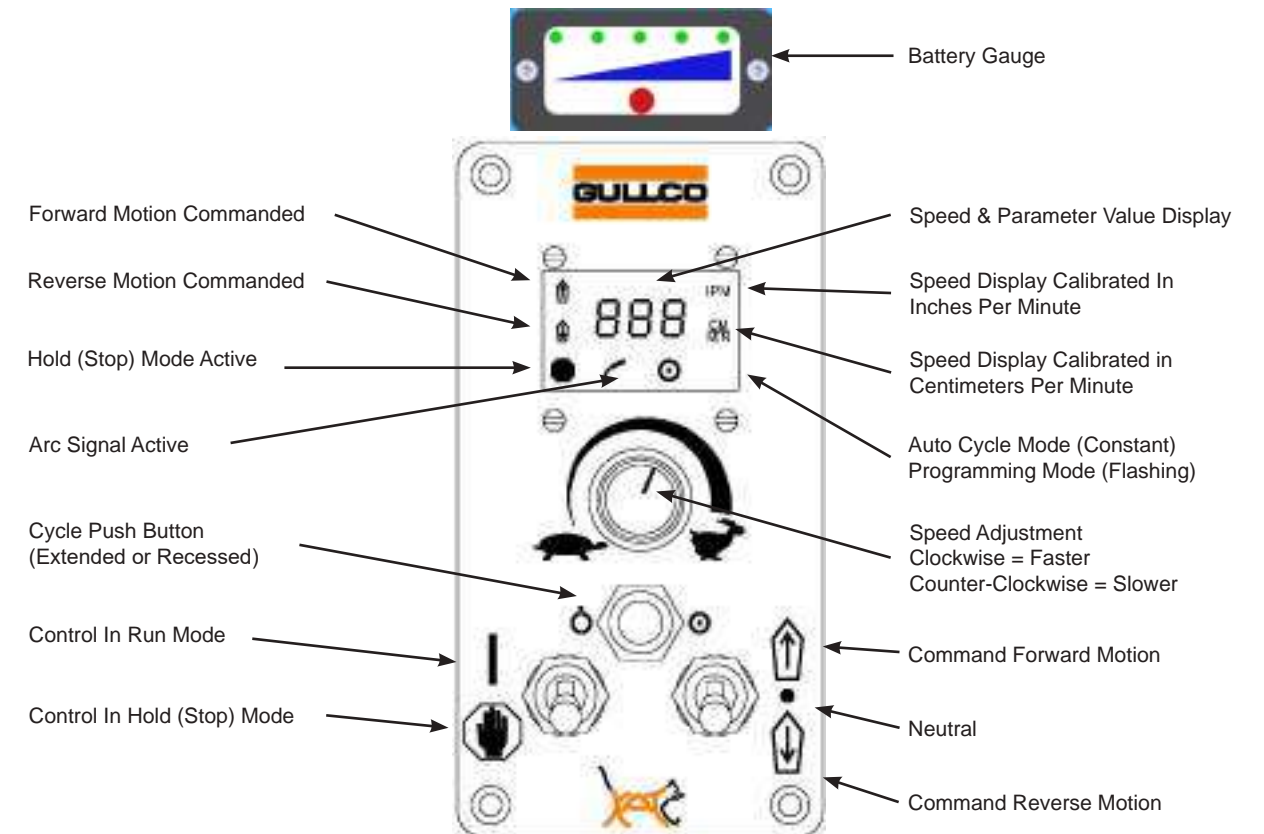
Precise Torch Alignment To The Seam

Adjustable guide rolls mounted on the front or back of the carriage monitor the slightest seam variations following straight or curved surfaces...maintaining optimum torch positioning as the carriage travels.



The MOGGY® guide roller assemblies can be configured in a variety of ways enabling extreme versatility.

CARRIAGE CONTROL LAYOUT



Accessories available:

GK-194-O-330 - Radial Oscillator complete with bracketry for mounting on Gullco MOGGY® Carriage.

GM-03-059 - Adjustable Guide Roller Assembly enables joint tracking where the vertical member is lower/higher than set height of guide roller wheels.

GM-01-065 - Cutting Torch Holder Assembly enables automated torch cutting operations.

GM-05-070 - Dual Gun Holder Assembly enables the use of two independently positioned welding guns with two wire feed signals simultaneously activated.

SPECIFICATIONS

Speed Range: 3.25 – 100.50 in/min [8.26 – 255.27 cm/min]

Gun Positioning Slides: 1-3/4" (44.5 mm)
Vertical and Horizontal Stroke

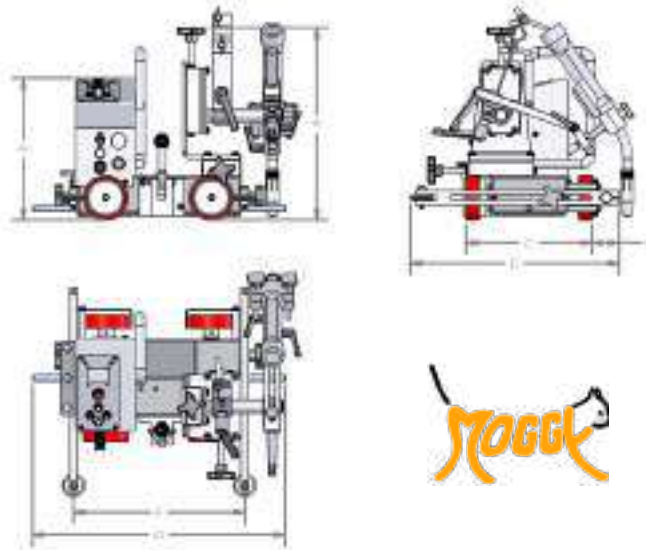
Weight of MOGGY®: 31 lbs. (14.1 kg)
complete with all attachments (single gun model)

Supply Voltage: Either 42, 115, or 230 VAC,
single phase, 50/60 Hz., 30 watts

Drive Motor:
24 VDC permanent magnet gear motor

Drive Wheel Temp Range:
-65°F to 450°F (-54°C to 232°C)

Complies with: C.S.A. & N.R.T.L.
(file #LR35006-8) & C.E. Certification.



CARRIAGE DIMENSIONS

	IMPERIAL	METRIC
A	12.90"	327.3 mm
B	9.50"	241.3 mm
C	8.45"	214.6 mm
D	14.01"	355.7 mm
E	Min 1.95" Max 5.46"	Min 4.93 mm Max 138.7 mm
F	11.50"	292.1 mm
G	17.00"	431.8 mm

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Phone: +44 1257-253579 Fax: +44 1257-254629 e-mail: uksales@gulco.com

AUSTRALIA - GULLCO INTERNATIONAL PTY LIMITED
Phone: 61 (0)7 3348 5515 Fax: 61 (0)7 3348 5510 e-mail: ausales@gulco.com

INDIA - GULLCO INTERNATIONAL INDIA PVT LIMITED
Phone: +91-20-2551-1433 Fax: +91-20-2551-1433 e-mail: indsales@gulco.com

CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED
Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gulco.com

SINGAPORE - GULLCO INTERNATIONAL LIMITED
Phone: +65-9385-4488 e-mail: benji.jim@gulco.com

LATIN AMERICA - GULLCO INTERNATIONAL LIMITED
Phone: 55-11-99485-1338 e-mail: rogerio.macedo@gulco.com

GERMANY - ms gmbh Melchior Schweißtechnik
Phone: +49(0)173 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.marlens@ms-gmbh.com

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MAG2204

WELDING AND CUTTING AUTOMATION



TRACKLESS WELDING CARRIAGE - MAGNETIC MOGGY®



Magnetic base allows for out of position welding applications

Ideal for automatic horizontal fillet, lap or butt welding applications

Control allows for continuous or stitch welding operations

Dual gun holder assemblies make automated simultaneous welding efficient

The MOGGY® can be equipped with a variety of accessories including: weld oscillator, cutting torch attachment and internal radius guide wheels

GM-03-300 - MAGNETIC CARRIAGE

GM-03-400 - DUAL TORCH MAGNETIC CARRIAGE



Automate Fillet, Lap, and Butt Welds with Precision

VERSITILE TRACKLESS AUTOMATION CARRIAGE FOR A VARIETY OF APPLICATIONS



GULLCO.COM



TRACKLESS AUTOMATION WELDING CARRIAGE



The Magnetic MOGGY® is intended to automate and improve the quality of welding and cutting operations by carrying the welding gun or cutting torch, at precisely controlled speeds, along the path of the joint as well as providing the interface between the welding and cutting motion and the arc start and stop signal. The Magnetic MOGGY® is normally guided by adjustable guide wheels which are used to keep a set distance from the joint path.

The carriage is flexible enough to allow it to be easily configured for horizontal lap, butt and fillet weld joints as well as a variety of cutting processes. The GM-03-300 model provides continuous mode welding and cutting and accurate distance stitch weld functionality, regardless of travel speed adjustment. Using the Magnetic MOGGY® automation carriage system will add accuracy and uniformity to welding and cutting operations while increasing productivity. Typical applications include shipbuilding, offshore construction, steel fabrication industries, etc.

MAGNETIC MOGGY CARRIAGE - GM-03-300

Magnetic MOGGY® Carriage with control for continuous or stitch welding, and with a control that uses a Gullco microprocessor to provide accurate repeatability regardless of travel speeds for weld distance on and weld distance off. It has a forward/stop/reverse switch, wire feed start on/off switch, travel speed potentiometer, auto wire feed start with delay carriage start, wire feed connector with 15 ft. (4572mm) control cable. All functions displayed in an LED window.

FILLET JOINT WELDING



The MOGGY® performing a fillet weld using a template, guide or fence positioned parallel to the workpiece. The actual workpiece is often used as the guide.

BUTT JOINT WELDING



The MOGGY® is ideal for butt joint welding. Here the MOGGY® is using a fence to guide it accurately along the desired path.

LAP JOINT WELDING



The MOGGY® is performing a lap joint weld. It is guided by the use of a fence or other trackable verticle length of the joint.

DUAL GUN WELDING



Dual gun holder assembly enables positioning of two guns and simultaneous activation of two wire feed signals. MOGGY® is guided by the workpiece.

JOINT TRACKING



Adjustable height guide roller assemblies are available to track joints with a vertical member higher or lower than the set height of guide roller wheels.

RADIAL OSCILLATOR

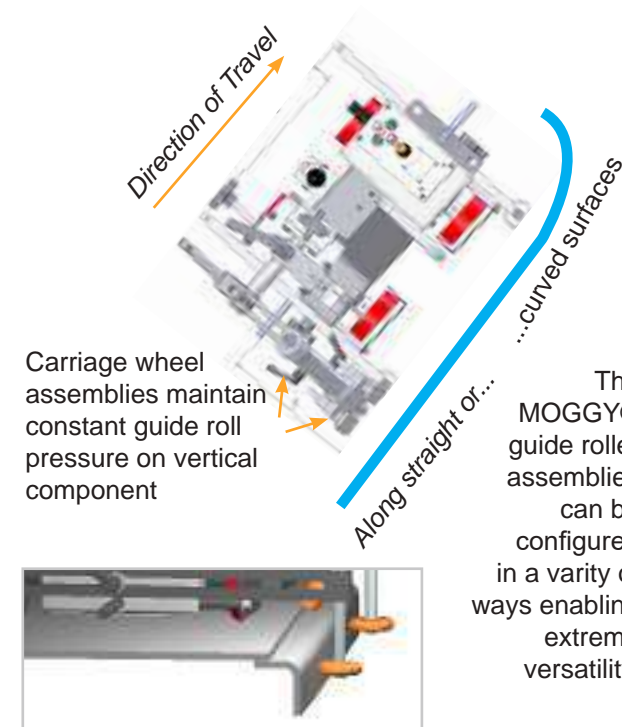


Replaces the standard gun holder assembly in order to weave the gun across the joint while the MOGGY® provides the weld travel motion.



Precise Torch Alignment To The Seam

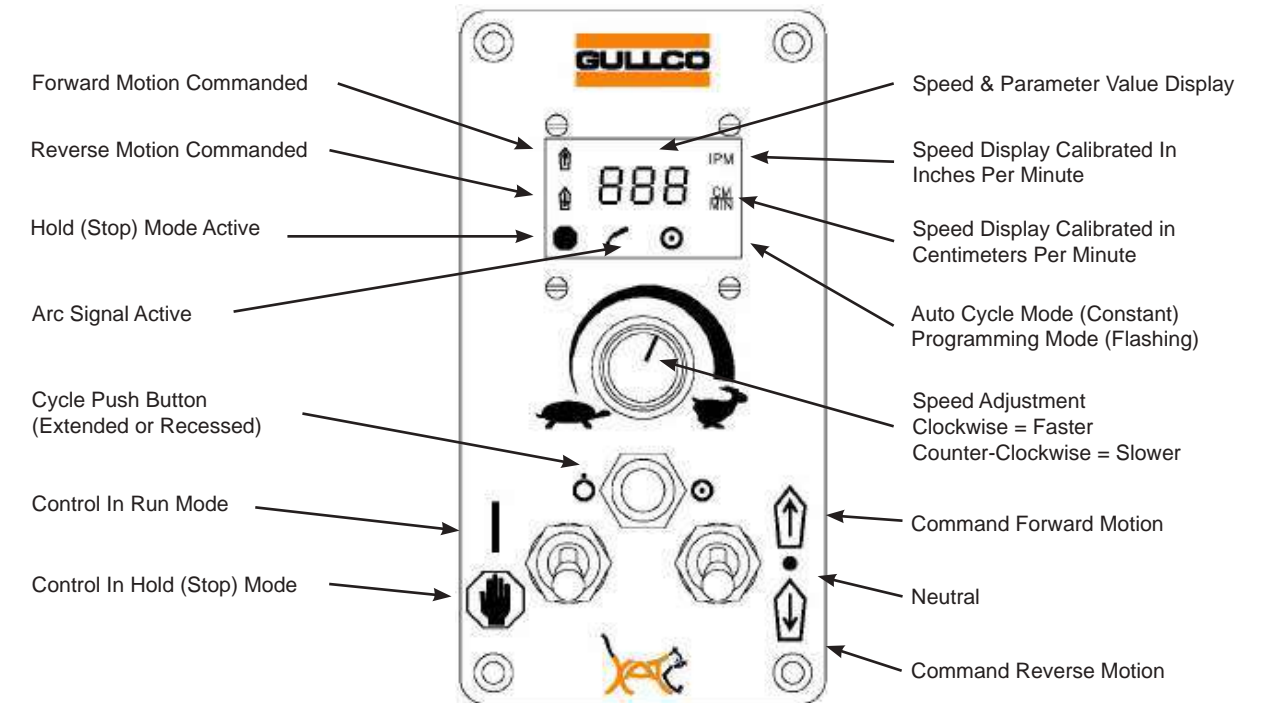
Adjustable guide rolls mounted on the front or back of the carriage monitor the slightest seam variations following straight or curved surfaces...maintaining optimum torch positioning as the carriage travels.



Carriage wheel assemblies maintain constant guide roll pressure on vertical component

The MOGGY® guide roller assemblies can be configured in a variety of ways enabling extreme versatility.

CARRIAGE CONTROL LAYOUT



Accessories available:

GK-194-O-330 - Radial Oscillator complete with bracketry for mounting on Gullco MOGGY® Carriage.

GM-03-059 - Adjustable Guide Roller Assembly enables joint tracking where the vertical member is lower/higher than set height of guide roller wheels.

GM-01-065 - Cutting Torch Holder Assembly enables automated torch cutting operations.

Also available as a SUBMERGED ARC MOGGY®

For more information on the submerged arc welding carriage and other products visit.

www.gullco.com

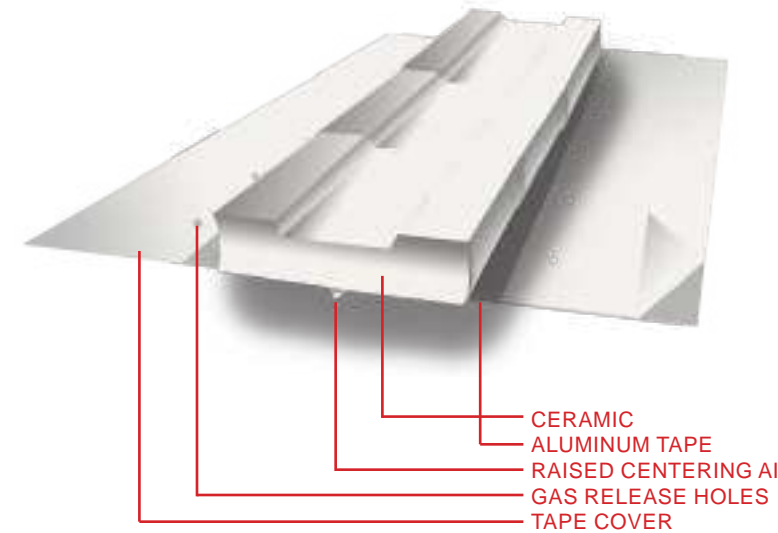


As a manufacturer and distributor of ceramics, Gullco can provide you with a KATBAK® ceramic weld backing to meet your needs. To maximize the benefits of your KATBAK® ceramic use in combination with the KAT® weld automation carriage.

WELDING AND CUTTING AUTOMATION



CERAMIC WELD BACKING TAPE - KATBAK®



- Impart x-ray quality back beads on the root pass.
- Weld one side only
- Deposit more weld metal
- Eliminate defects and rework
- Eliminate costly unnecessary gouging and grinding
- Industry first, raised centering aid makes aligning and applying the ceramic quicker and more accurate
- Size 1/4" (6.3 mm) to 2" (51 mm) special sizes and configurations available
- Conveniently packaged and sealed in plastic for moisture proof protection
- Industry leading 4" heat receptive pressure sensitive foil for improved adhesion to work piece

KATBAK® CERAMIC FEATURES AND BENEFITS:

- A microprocessor controlled gas furnace ensures even temperature control during baking of the ceramics insuring none of the ceramics are under or, over baked
- A fume test has been done on the adhesive tape. A copy is on Share File. This test is very important for health and safety.
- Gullco does NOT use any dangerous components in our ceramics that could cause health issues.
- Gas holes allow tape to stay in contact with plate holding ceramic tight to the plate being welded.
- Gullco uses a 4" wide tape which provides superior adhesion to competitive tapes
- A raise centering aid helps placement and alignment of the ceramic over the joint.
- Ceramics come with radiused segments to allow better contact with the material.
- Gullco provides ceramic in 30 foot boxes or slightly more to allow for less waste and are packaged in vacuum sealed bags for longer shelf life. 13) Gullco ceramics are high density ceramics, baked at high temperature to offer the best heat absorption for ensuring excellent quality welds.



TANK BUILDING



PIPE WELDING



SHIP BUILDING



INFRASTRUCTURE

Gullco does not use any dangerous components in our ceramics
IMPROVE WELD QUALITY AND REDUCE COST WITH KATBAK® CERAMIC WELD BACKING

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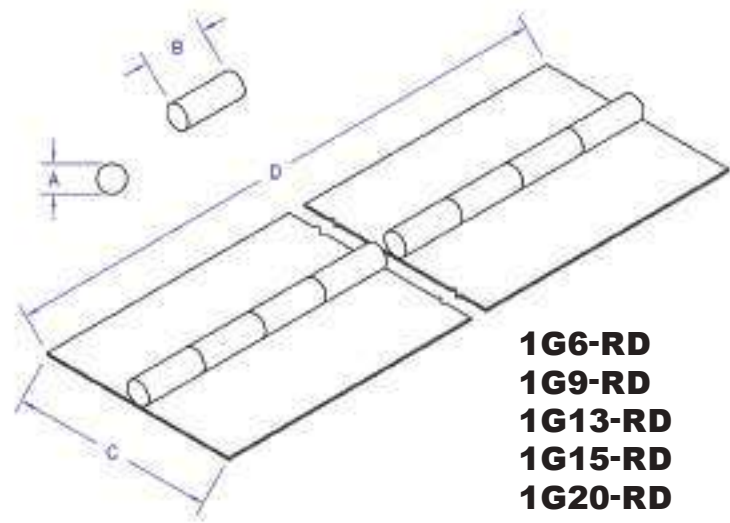
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	e-mail: ausales@gullco.com	
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	e-mail: indsales@gullco.com	
CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED	Phone: +8621-50460341	Fax: +8621-50463554
	e-mail: c.zhang@gullco.com	
SINGAPORE - GULLCO INTERNATIONAL LIMITED	Phone: +65-9385-4488	
	e-mail: beattyjim@gullco.com	
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	
	e-mail: rogerio.macedo@gullco.com	
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)226 999 36-36
	e-mail: christian.merlans@ms-gmbh.com	

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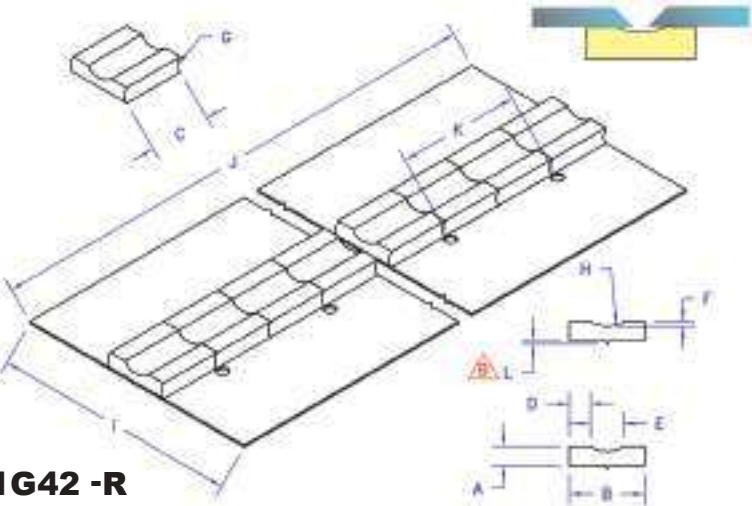
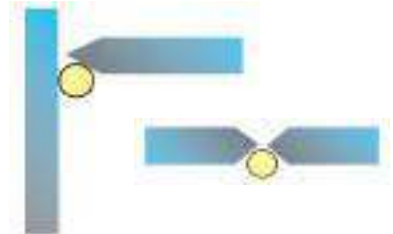
KB2204





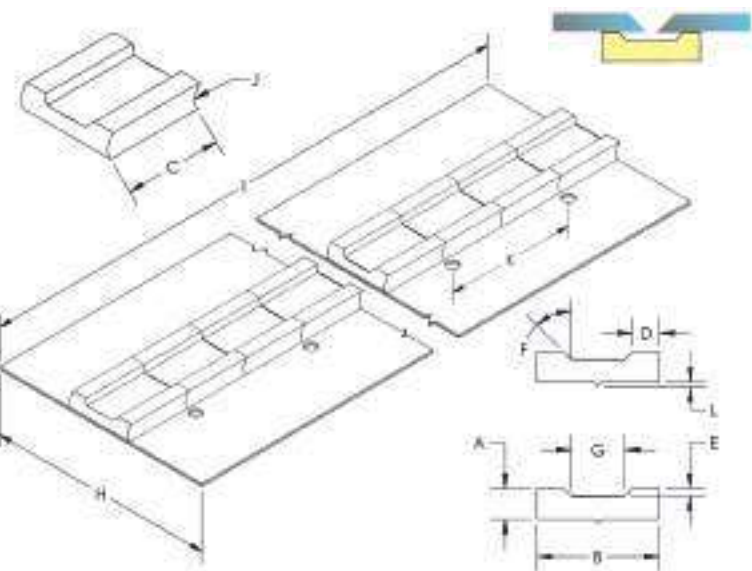
A	1G6-RD	1/4	6mm
	1G9-RD	3/8	9 mm
	1G13-RD	1/2	13mm
	1G15-RD	5/8	15mm
	1G-20RD	7/8	20mm
B		1"	25.4 mm
C		3" Tape	76.2 mm
D		24"	609.6 mm

1G6-RD
1G9-RD
1G13-RD
1G15-RD
1G20-RD



A	1/4"	6.35 mm
B	1"	25.4 mm
C	1" Min.	25.4 mm
D	9/32"	7.14 mm
E	7/16"	11.11 mm
F	1/16"	1.58 mm
G	3/16" Radius	4.76 mm
H	13/32" Radius	10.31mm
I	4" Tape	101.60 mm
J	24" Overall	609.60 mm
K	2"	50.80 mm
L	3/64"	1.2 mm

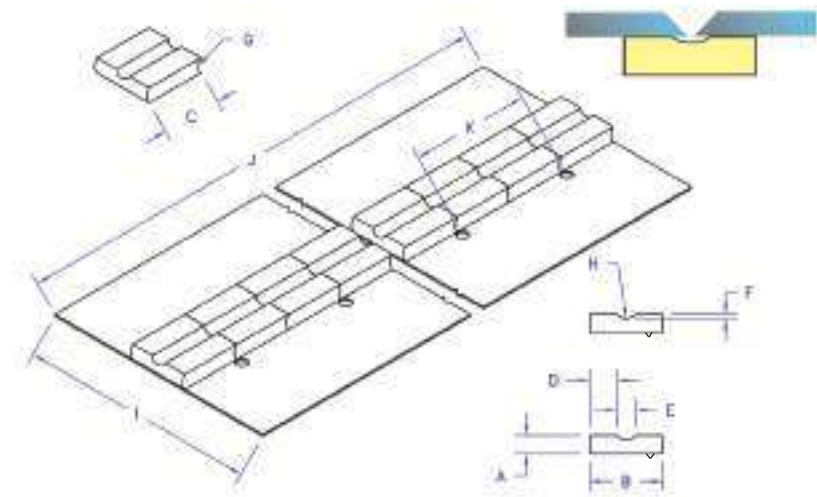
1G42 -R



A	5/16" MIN.	[7.93mm]
B	7/8" Min. - 1" Max.	(22-25mm)
C	1"	(25.4mm)
D	5/32" (Ref.)	(3.96mm)
E	1/16"	(1.58mm)
F	45 °	45 °
G	7/16"	(11.11mm)
H	4" MIN.	(101.6mm)
I	24" Overall	(609.6mm)
J	3/16" Radius	(4.76mm)
K	2"	(50.80 mm)
L	3/64"	(1.2 mm)

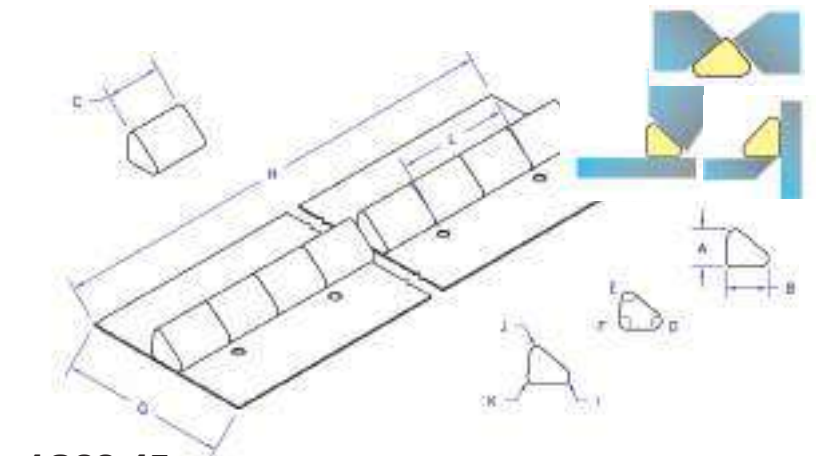
1G93-R

* Available in 1/4" to 2" (6.3 mm to 50.8 mm) tiles



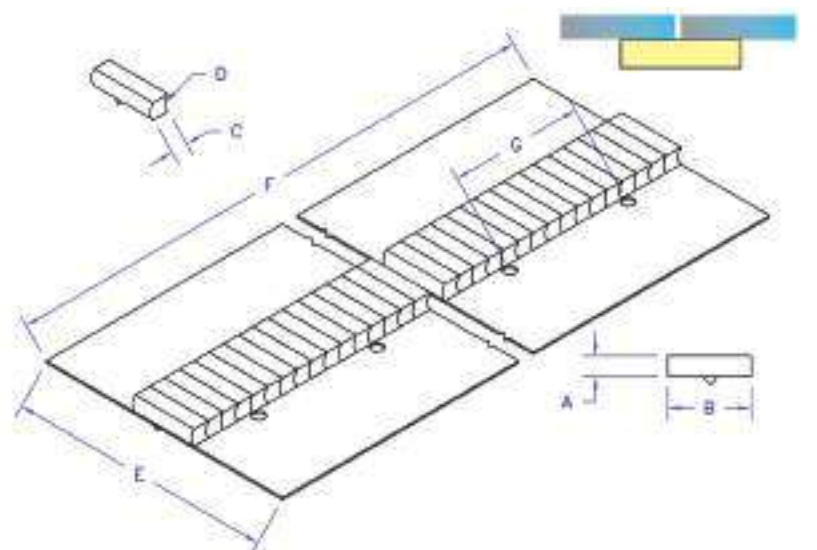
A	1/4"	6.35 mm
B	1"	25.4 mm
C	1" Min.	25.4 mm
D	3/8"	9.52 mm
E	1/4"	6.35 mm
F	1/16"	1.58 mm
G	3/16" Radius	4.76 mm
H	5/32" Radius	3.96 mm
I	4" Tape	101.60 mm
J	24" Overall	609.60 mm
K	2"	50.80 mm
L	3/64"	1.2 mm

1G43-R



A	1/4"	6.35 mm
B	1"	25.4 mm
C	1" Min.	25.4 mm
D	3/8"	9.52 mm
E	1/4"	6.35 mm
F	1/16"	1.58 mm
G	3/16" Radius	4.76 mm
H	5/32" Radius	3.96 mm
I	4" Tape	101.60 mm
J	24" Overall	609.60 mm
K	2"	50.80 mm
L	3/64"	1.2 mm

1G33-45
1G33-60
1G33-90

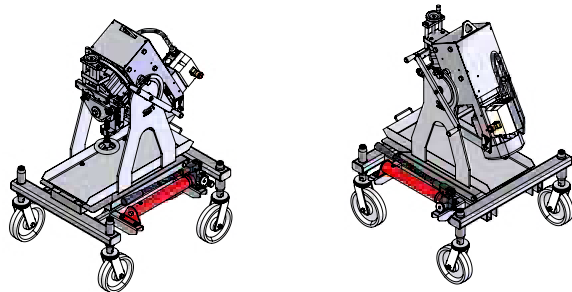


A	1/4"	6.35 mm
B	1"	25.4 mm
C	1/4" Min.	6.35 mm
D	3/16" Radius	4.76 mm
E	4" Tape	101.6 mm
F	24" Overall	609.6 mm
G	2"	50.8 mm

1G42-FR-1/4

*Available in 1/4" to 2" (6.3 mm to 50.8 mm) tiles

KBM® REVERSIBLE UNDERCARRIAGE



Bevel both top and bottom of the plate with one reversible beveling machine. Lockable pivot system allows the beveler to work on the top or bottom side of the plate, reducing material handling providing increased productivity and cost savings in applications which require two sided beveling.

Accessories available:

- KBM®: Reversible Undercarriage Conversion Kit
- Hydraulic Undercarriage
- 3 Cutter types available for different material densities
- Angle bevel pins for standard bevel angles (custom angles available)
- Narrow clamp roller assembly (for narrow material)
- Slide base kit (for thick material)
- Adjustable plate support for improved feeding
- Air jet assembly (Eliminates chip congestion around cutter)
- Toolbox
- Chip collection tray

KBM-18 SPECIFICATIONS

Maximum Bevel Width:	0.71" (18.00 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in ² (45 Kg/mm ²)
Maximum Bevel Depth:	0.61" (15.6 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in ² (45 Kg/mm ²)
Min. Plate Thickness:	1/4" (6.0mm) Thinner material can be bevelled, consult the factory for details
Max. Plate Thickness:	1.45" (37mm)
Bevel Speed:	156" (400 cm) per minute*
Motor:	2HP, 3 Phase, available for 230, 460 and 575V~ at 60Hz and also 380 and 400/415V~ at 50Hz supply
Weight:	340 lbs. (154Kg.) including undercarriage assembly

* Top speed can vary depending on bevel depth, voltage and frequency fluctuation

KBM-28 SPECIFICATIONS

Maximum Bevel Width:	1.10" (28.00 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in ² (45 Kg/mm ²)
Maximum Bevel Depth:	0.95" (24.2 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in ² (45 Kg/mm ²)
Min. Plate Thickness:	5/16" (8.0 mm)
Max. Plate Thickness:	1.96" (50mm) Thicker material can be accommodated with optional slide base kit
Bevel Speed:	78.7" (200 cm) per minute*
Motor:	3HP, 3 phase, available for 230, 460 and 575V~ at 60Hz and also 380 and 400/415V~ at 50Hz supply
Weight:	979 lbs. (444Kg.) including undercarriage assembly

* Top speed can vary depending on bevel depth, voltage and frequency fluctuation



WELDING AND CUTTING AUTOMATION
PRODUCTIVITY - DURABILITY - SERVICE

KBM® PLATE BEVELLER

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	e-mail: rogerio.macedo@gullco.com	
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)226 999 38-38
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KBMF2204

Detailed product literature available for each product shown in this brochure



**HIGH SPEED
UP TO
4m PER MIN***



QUIET OPERATION



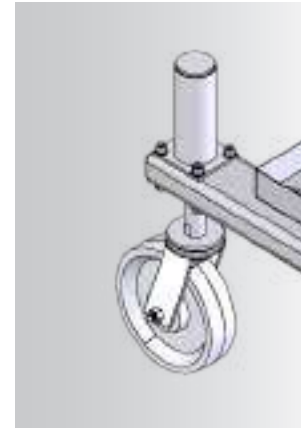
**NO HEAT
AFFECTED ZONE**

Zero heat transfer into material, eliminating distortion.



**NO VIBRATION
OPERATION**

Removes operator fatigue and improves workplace safety



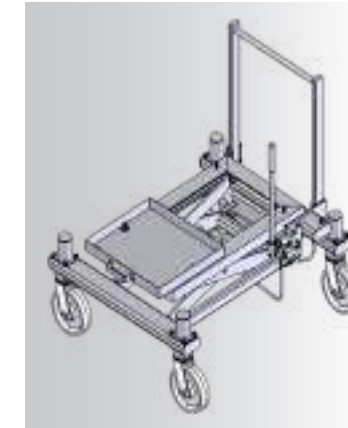
**CASTER SPRING LOADED
WHEEL ASSEMBLIES**

The spring loaded caster wheel assemblies allow for smooth positioning and beveller operation on uneven surfaces



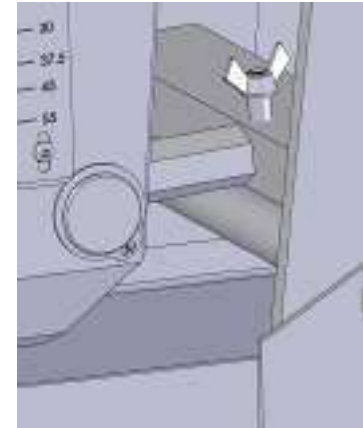
**EXCEPTIONAL
MOTOR GEARBOX**

Class leading, high quality heavy duty gear-motor



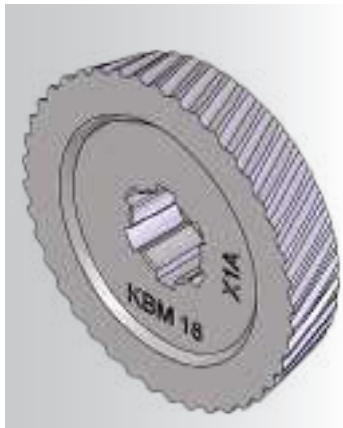
**HYDRAULIC
UNDERCARRIAGE**

Setting and adjusting the height of the beveller is quick and uniform, cutting down on material handling cost by being able to bring the beveller to the workpiece



**VARIETY OF BEVEL
ANGLES**

Angle bevel pins for 30°, 22 1/2°, 37 1/2°, 45° and 55°. Other bevel angles available upon request.



DURABLE CUTTER

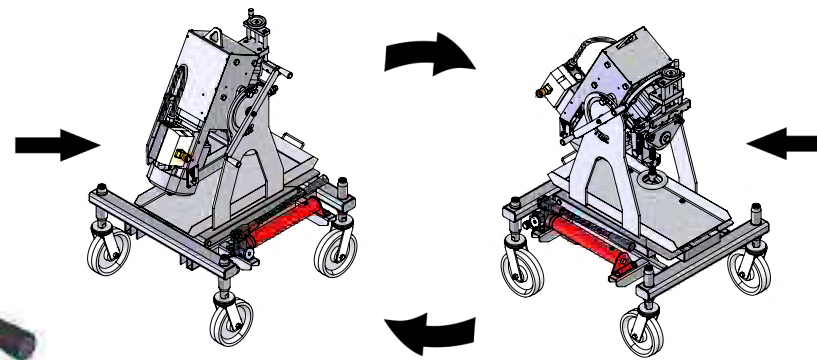
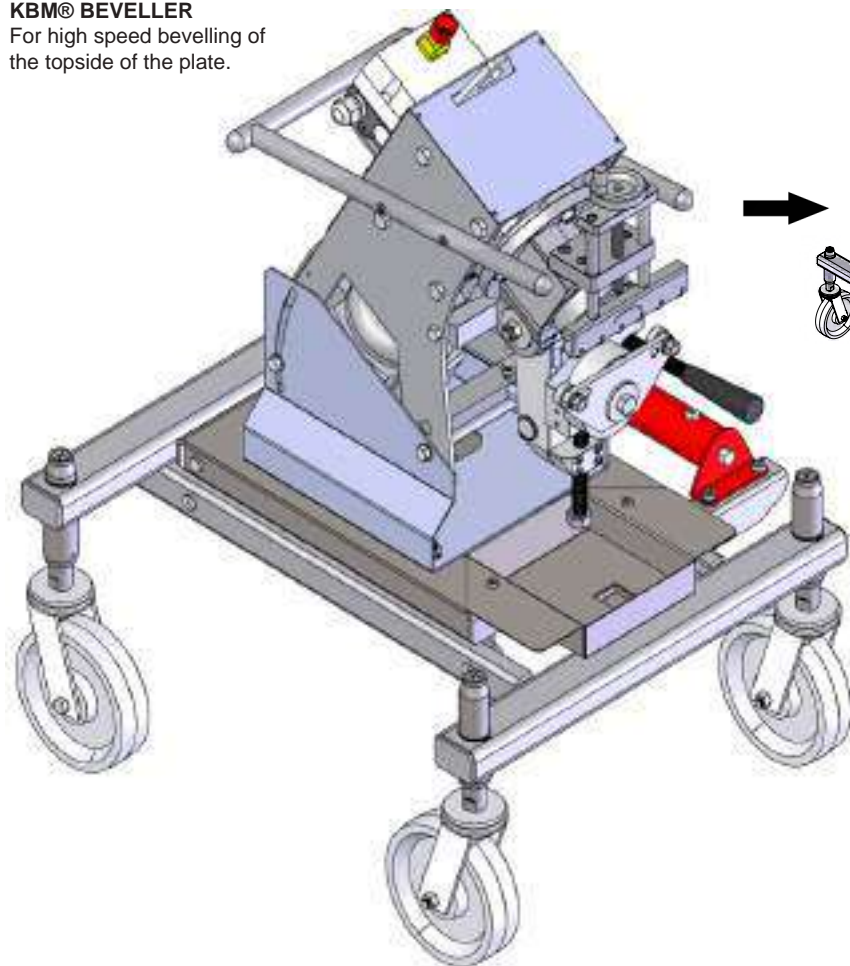
Superior cutter properties due to extensive research and engineering proven over years of industry use.



**CONSISTENT
RELIABLE BEVEL**

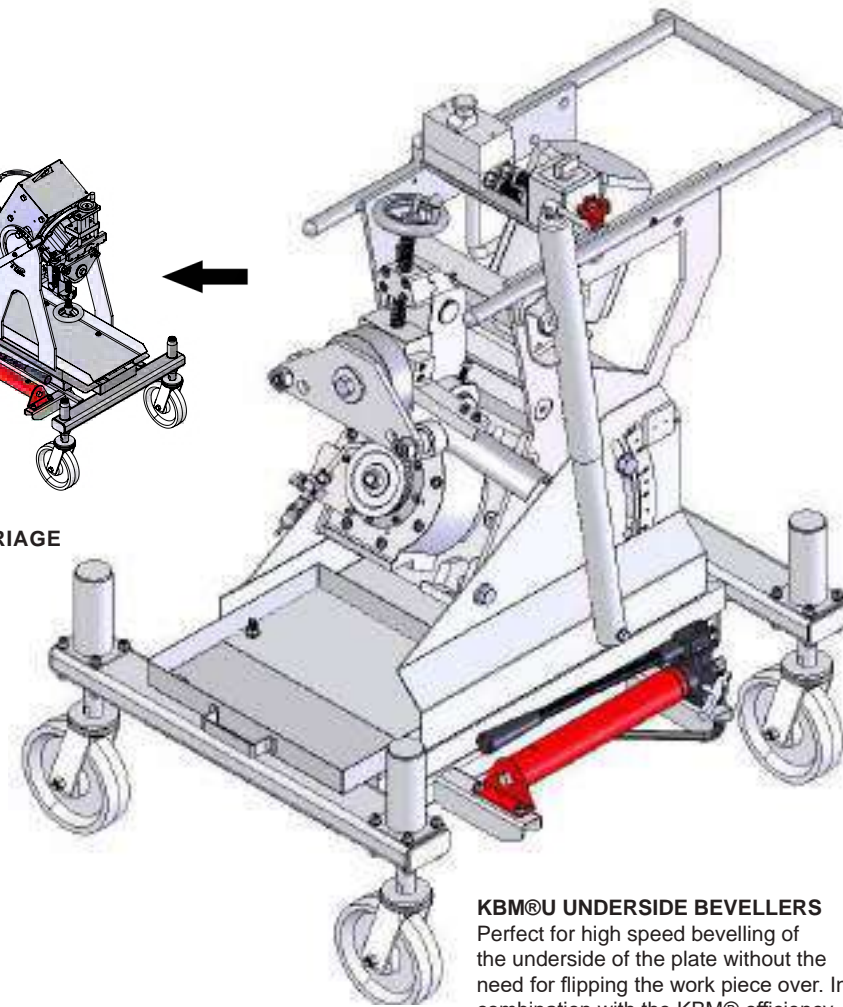
Constant bevel angle and root face are maintained throughout the bevel

KBM® BEVELLER
For high speed bevelling of the topside of the plate.



**KBM-R REVERSIBLE UNDERCARRIAGE
& CONVERSION KIT**

Convert existing bevellers into a reversible beveller capable of bevelling the top and bottom of the plate.



KBM®U UNDERSIDE BEVELLERS
Perfect for high speed bevelling of the underside of the plate without the need for flipping the work piece over. In combination with the KBM® efficiency is greatly increased when bevelling both the top and bottom of the plate.

ADDITIONAL BEVELLER FEATURES

The Gullco KBM® is used throughout the world to automate the plate bevelling process. The KBM® is durable with many features which include:

- Up to 4m per minute bevel speed
- Bevels Mild Steel, Stainless Steel & Aluminium
- Most robust motor gearbox in the industry
- Energy Efficient Operation
- Self-aligning, spring-loaded caster wheel assemblies
- Hydraulic undercarriage allows beveller to meet all standard bench heights quickly and easily
- Hoisting hook for portability and transport
- Produces clean bevels which are immediately ready to weld

PLATE EDGE BEVELLING MACHINE - KBM®-18



KBM-18-100

KBM®-18 Plate Edge Bevelers - Portable - Self Propelled

These plate bevelers produce clean machined bevels with no thermal distortion on mild steel, stainless steel and aluminum plate from 1/4" (6.0 mm) to 1 1/2" (38.1 mm) thick. The KBM-18® automatically bevels the topside of the plate which results in a reduction of time and cost. Savings are further enhanced when the KBM-18U® underside plate beveler is used in applications where both sides of the material require beveling.

Adjustable undercarriage for easy height adjustment. The KBM-18® can be purchased with an adjustable height, self-aligning, spring-loaded caster wheel assembly for self-propelled beveling along any length of plate maintaining a uniform bevel and consistent root face. Undercarriage sold separate.

Angle Bevel Pins Enable Bevel Angle Adjustment ... KBM®-18 units are supplied with angle bevel pin for 30°. 22 1/2°, 37 1/2°, 45° and 55° bevels angle pins sold separately. Pins for other bevel angles are available upon request.



Operates at 10 feet (3 meters) per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 22 1/2° THROUGH 55°





KBM-18-080

HYDRAULIC ADJUSTABLE UNDERCARRIAGE

For easy height adjustment KBM-18® units can be supplied with two types of undercarriage. Both are supplied with Gullco exclusive self-aligning caster wheel assemblies to maintaining a uniform bevel and consistent root face. Undercarriage sold separate



KBM-18-069

CASTER SPRING LOADED ADJUSTABLE UNDERCARRIAGE

Adjustable undercarriages come with Gullco's adjustable height self-aligning spring loaded caster wheel assemblies for self-propelled operation. Best suited for applications where constant machine height is required. The spring-loaded wheels help to eliminate imperfections in the ground to ensure a clean consistent bevel. Sold separate.

Maximum Bevel Width:	0.71" (18.00 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in 2 (45 Kg/mm2)
Maximum Bevel Depth:	0.61" (15.6 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in 2 (45 Kg/mm2)
Min. Plate Thickness:	1/4" (6.0mm) Thinner material can be bevelled, consult the factory for details
Max. Plate Thickness:	1 1/2" (38.1 mm)
Bevel Speed:	13' (4 m) per minute*
Motor:	2HP, 3 Phase, available for 230, 460 and 575V~ at 60Hz and also 380 and 400/415V~ at 50Hz supply
Weight:	340 lbs. (154Kg.) including undercarriage assembly
Complies With:	C.S.A./N.R.T.L. (File # LR 35006-6) and C.E. Regulations

KBM-18U® UNDERSIDE BEVELLING

The KBM-18U® is perfect for beveling the underside of the plate without need for flipping the work piece over. Safety is increased as there is no need for constant maneuvering of heavy workloads. Production can further be increased with use of both models simultaneously.



* top speed can vary depending on bevel depth, voltage and frequency fluctuation

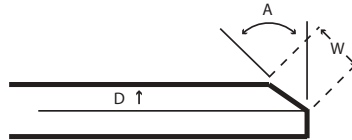
KBM-18® can be supplied with the following standard equipment:

- 1- KBM-18-X1C Deep Tooth Cutter (medium cut)
- 1- Set Bevel Angle Pins for 22 1/2°, 37 1/2°, 45° and 55°
- 1- Tool Kit

ACCESORIES AVAILABLE:

- Gullco KBM-18-069 Adjustable Height Undercarriage
- KBM-18-X1C: Medium Tooth Cutter (smooth finish)
- KBM-18-X1H: High Tensile Cutter
- GBM-18 (Specify Degree Required): Angle Bevel Pins for angles other than those supplied as standard)
- GBM-18-0.5: Cutter Shims
- GBM-18-1.0: Cutter Shims

MAXIMUM RECOMMENDED BEVELLING CAPACITIES



BEVEL ANGLE	TENSILE STRENGTH					
	64,000 lbs/in ² (45 kg/mm ²)		71,000 lbs/in ² (50 kg/mm ²)		85,000 lbs/in ² (60 kg/mm ²)	
A	W	D	W	D	W	D
22 1/2°	0.71" (18 mm)	0.66" (16.6 mm)	0.67" (17 mm)	0.62" (15.7 mm)	0.55" (14 mm)	0.51" (13 mm)
30°	0.71" (18 mm)	0.61" (15.6 mm)	0.59" (15 mm)	0.51" (13 mm)	0.51" (13 mm)	0.44" (11.2 mm)
37 1/2°	0.67" (17 mm)	0.53" (13.5 mm)	0.55" (14 mm)	0.44" (11.1 mm)	0.47" (11.9 mm)	0.37" (9.5 mm)
45°	0.67" (17 mm)	0.47" (12 mm)	0.55" (14 mm)	0.39" (9.9 mm)	0.47" (11.9 mm)	0.33" (8.4 mm)
55°	0.59" (15 mm)	0.34" (8.6 mm)	0.55" (14 mm)	0.32" (8 mm)	0.47" (11.9 mm)	0.27" (6.8 mm)



KBM-18-100
KBM-18-069

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GERMANY - ms gmbh Melchior Schweißtechnik Phone: +49(0)73 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.sterlitz@ms-gmbh.com

UNDERSIDE PLATE BEVELLING MACHINES - KBM-18U®



KBM-18U®

These plate bevellers produce clean machined bevels with no thermal distortion on mild steel, stainless steel and aluminum plate from 1/4" (6.0 mm) to 1 1/2" (38.1 mm) thick. Thinner material can be bevelled. Please consult the factory for details. The KBM-18U® automatically bevels the underside of plate eliminating the need to flip the work piece which results in a reduction of time and cost. Savings are further enhanced when the KBM-18® top-side plate beveller is used in applications where both sides of the material require beveling.

Adjustable undercarriage for easy height adjustment. The KBM-18U® can be purchased with a hydraulic adjustable height, self-aligning, spring-loaded caster wheel assembly for self-propelled beveling along any length of plate maintaining a uniform bevel and consistent root face.

Angle Bevel Pins Enable Bevel Angle Adjustment ... KBM-18U® units are supplied with angle bevel pin for 30°. 22 1/2°, 37 1/2°, 45° and 55° bevels angle pins sold separately. Pins for other bevel angles are available upon request.

KBM-18U®	KBM-18®
...beveling the under-side of the plate	...beveling the top-side of the plate

Operates at 10 feet (3 meters) per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLE 22 1/2° THROUGH 55°





KBM-18-080

HYDRAULIC ADJUSTABLE UNDERCARRIAGE

For easy height adjustment KBM-18U® units can be supplied with two types of undercarriage. both are supplied with gulloco exclusive self-aligning caster wheel assemblies to maintaining a uniform bevel and consistent root face. undercarriage sold separate



KBM-18-069

CASTER SPRING LOADED ADJUSTABLE UNDERCARRIAGE

Adjustable undercarriages come with gulloco's adjustable height, self-aligning spring loaded, caster wheel assemblies for self-propelled operation. best suited for applications where constant machine height is required. The spring-loaded wheels help to eliminate imperfections in the ground to ensure a clean consistent bevel. Sold separate.

Maximum Bevel Width:	0.71" (18.00 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/ in ² (45 kg/mm ²)
Maximum Bevel Depth:	0.61" (15.6 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/ in ² (45 kg/mm ²)
Min. Plate Thickness:	1/4" (6.0mm) Thinner material can be bevelled, consult the factory for details
Max. Plate Thickness:	1 1/2" (38.1 mm)
Bevel Speed:	120 in. (304.8 cm) per minute*
Motor:	2 hP, 3 Phase, available for 230, 460 and 575v~ at 60hz and also 380 and 400/415v~ at 50hz supply
Weight:	340 lbs. (154 kg.) including undercarriage assembly
Complies With:	C.S.A./n.r.T.I. (File # Ir 35006-6) and C.E. regulations

KBM-18® TOPSIDE BEVELLER

The KBM-18® is perfect for beveling the topside of the plate without need for flipping the work piece over. Safety is increased as there is no need for constant maneuvering of heavy workloads. Production can further be increased with use of both models simultaneously.



* top speed can vary depending on bevel depth, voltage and frequency fluctuation

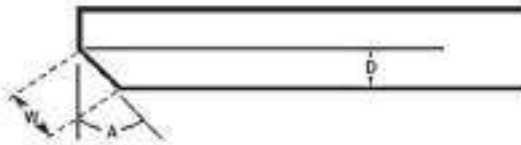
KBM-18U® can be supplied with the following standard equipment:

- 1- KBM-18-X1C Deep Tooth Cutter (medium cut)
- 1- Set Bevel Angle Pins for 22 1/2°, 37 1/2°, 45° and 55°
- 1- Tool Kit

AccESoriES AvAiilABle:

- KBM-18-069 Adjustable Height Undercarriage
- KBM-18-X1C: Medium Tooth Cutter (smooth finish)
- KBM-18-X1H: high Tensile cutter
- GBM-18 (Specify degree required): Angle bevel Pins for angles other than those supplied as standard)
- GBM-18-0.5: Cutter Shims
- GBM-18-1.0: Cutter Shims

MAXIMUM RECOMMENDED BEVELLING CAPACITY



BEVEL ANGLE	TENSILE STRENGTH					
	64,000 lbs/in ² (45 kg/mm ²)		71,000 lbs/in ² (50 kg/mm ²)		85,000 lbs/in ² (60 kg/mm ²)	
A	W	D	W	D	W	D
22 1/2°	0.71" (18 mm)	0.66" (16.6 mm)	0.67" (17 mm)	0.62" (15.7 mm)	0.55" (14 mm)	0.51" (13 mm)
30°	0.71" (18 mm)	0.61" (15.6 mm)	0.59" (15 mm)	0.51" (13 mm)	0.51" (13 mm)	0.44" (11.2 mm)
37 1/2°	0.67" (17 mm)	0.53" (13.5 mm)	0.55" (14 mm)	0.44" (11.1 mm)	0.47" (11.9 mm)	0.37" (9.5 mm)
45°	0.67" (17 mm)	0.47" (12 mm)	0.55" (14 mm)	0.39" (9.9 mm)	0.47" (11.9 mm)	0.33" (8.4 mm)
55°	0.59" (15 mm)	0.34" (8.6 mm)	0.55" (14 mm)	0.32" (8 mm)	0.47" (11.9 mm)	0.27" (6.8 mm)



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 Phone: +8621-50460341 Fax: +8621-50463554 e-mail: c.zhang@gulloco.com

SINGAPORE - GULLCO INTERNATIONAL LIMITED
 Phone: +65-9385-4488 e-mail: bettylim@gulloco.com

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 Phone: 55-11-99485-1338 e-mail: rogerio.macedo@gulloco.com

GERMANY - ms gmbh Melchior Schweißtechnik
 Phone: +49(0)173 5437722 Fax: +49(0)206 999 35-30 e-mail: christian.marfais@ms-gmbh.com

PLATE BEVELLING MACHINE - HEAVY DUTY KBM-28®



KBM-28-100

KBM-28® Plate Edge Beveller -
Heavy Duty - Portable - Self-Propelled - No Noise

KBM-28® Bevellers produce clean machined bevels with no thermal distortion on mild steel, stainless steel and aluminum plate from 5/16" (8.0 mm) to 2"(50.0 mm) thick. The KBM-28® automatically bevels the topside of the plate reducing time and cost. Savings are further enhanced when the KBM-28U® underside beveller is used in applications where both sides of the plate require beveling.

This portable plate beveller has an adjustable undercarriage for easy height adjustment. The KBM-28® units can be purchased with Gullco's exclusive adjustable height, self-aligning, spring-loaded caster wheel assembly for self-propelled beveling along any length of plate which helps to maintaining a uniform bevel and consistent root face. Sold separate

Angle Bevel Pins Enable Bevel Angle Adjustment ...
KBM-28® units are supplied with angle bevel pin for 30°. 22 1/2°, 37 1/2°, 45° and 55° bevels angle pins sold separately. Pins for other bevel angles are available upon request.

KBM-28®	KBM-28U®
...for bevelling the top-side of plate	...for bevelling the under-side of plate

Operates at 6.5 feet (2 meters) per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 22 1/2° THROUGH 55°





KBM-28-080

HYDRAULIC ADJUSTABLE UNDERCARRIAGE

For easy height adjustment KBM-28® units can be supplied with two types of undercarriages. Both are supplied with Gullico exclusive self-aligning caster wheel assemblies for self-propelled bevelling along the length of the plate, maintaining a uniform bevel and consistent root face. Undercarriage sold separate

KBM-28U® UNDERSIDE BEVELLER

The KBM-28U® is perfect for bevelling the underside of the plate without need for flipping the work piece over. In combination with the KBM-28® efficiency is greatly increased when bevelling both the top and bottom of the plate.



Maximum Bevel Width:	1.10" (28.00 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in ² (45 Kg/mm ²)
Maximum Bevel Depth:	0.95" (24.2 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in ² (45 Kg/mm ²)
Min. Plate Thickness:	5/16" (8.0 mm)
Max. Plate Thickness:	2" (50.0 mm)
Bevel Speed:	78.7" (200 cm) per minute*
Motor:	3 HP, 3 phase, available for 230, 460 and 575V~ at 60Hz and also 380 and 400/415V~ at 50Hz supply
Weight:	979 lbs. (444Kg.) including undercarriage assembly
Complies With:	C.S.A./N.R.T.L. (File # LR 35006-6) and C.E. Regulations

* Top speed can vary depending on bevel depth, voltage and frequency fluctuation



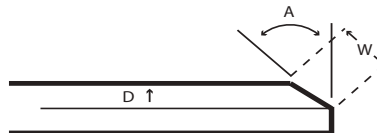
Accessories available:

- KBM-28-X1C: Medium Tooth Cutter (smooth finish)
- KBM-28-X1H: HighTensile Cutter
- GBM-28 (Specify Degree Required): Angle Bevel Pins for angles other than those supplied as standard
- GBM-28-0.5: Cutter Shims
- GBM-28-1.0: Cutter Shims
- KBM-28-080: Hydraulic Undercarriage

KBM-28® can be supplied with the following standard equipment:

- 1- KBM-28-X1C Deep Tooth Cutter (medium cut)
- 1- Set Bevel Angle Pins for 22 1/2°, 37 1/2°, 45° and 55°
- 1- Tool Kit

MAXIMUM RECOMMENDED BEVELLING CAPACITIES



BEVEL ANGLE	TENSILE STRENGTH					
	64,000 lbs/in ² (45 kg/mm ²)		71,000 lbs/in ² (50 kg/mm ²)		85,000 lbs/in ² (60 kg/mm ²)	
A	W	D	W	D	W	D
22 1/2°	1.10" (28 mm)	1.02" (26 mm)	1.02" (26 mm)	0.95" (24 mm)	0.91" (23 mm)	0.84" (21.3 mm)
30°	1.10" (28 mm)	0.95" (24.2 mm)	0.98 (25 mm)	0.85 (21.6 mm)	0.89" (22.5 mm)	0.77" (19.5 mm)
37 1/2°	1.06" (27 mm)	0.84" (21.4 mm)	0.98" (25 mm)	0.78" (19.8 mm)	0.83" (21 mm)	0.66" (16.7 mm)
45°	1.02" (26 mm)	0.72" (18.4 mm)	0.94" (24 mm)	0.67" (17 mm)	0.83" (21 mm)	0.58" (14.9 mm)
55°	0.98" (25 mm)	0.56" (14.3 mm)	0.91" (23 mm)	0.52" (13.2 mm)	0.83" (21 mm)	0.47" (12 mm)



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GERMANY - ms gmbh Melchior Schweißtechnik
 Phone: +49(0)173 5437722 Fax: +49(0)206 999 35-30 e-mail: christian.marlens@ms-gmbh.com



UNDERSIDE PLATE BEVELLING MACHINE - KBM-28U®



KBM-28U®

KBM-28U® Underside Plate Edge Beveller - Heavy Duty

These Plate Bevelers produce clean machined bevels with no thermal distortion on mild steel, stainless steel and aluminum plate from 5/16" (8.0 mm) to 2" (50.0 mm) thick. The KBM-28U® bevels the underside of the plate eliminating the need to flip the workpiece which results in a reduction of time and cost. Savings are further enhanced when both topside and underside units are used when both sides of a work piece require beveling.

Adjustable undercarriages for easy height adjustment. The KBM-28U® units can be purchased with Gullco's hydraulic adjustable height, self-aligning undercarriage for self-propelled beveling along any length of plate maintaining a uniform bevel and consistent root face. Sold separate

Angle Bevel Pins Enable Bevel Angle Adjustment ... KBM-28U® units are supplied with angle bevel pin for 30°. 22 1/2°, 37 1/2°, 45° and 55° bevels angle pins sold separately. Pins for other bevel angles are available upon request.

KBM-28U ®	KBM-28 ®
<i>... bevelling the under-side of plate</i>	<i>... bevelling the top-side of plate</i>

Operates at 6.5 feet (2 meters) per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 22 1/2° THROUGH 55°





KBM-28-080

HYDRAULIC ADJUSTABLE UNDERCARRIAGE

For easy height adjustment KBM-28U® units can be supplied with an undercarriage. This undercarriage uses Gullico exclusive self-aligning caster wheel assemblies for self-propelled bevelling along the length of the plate, maintaining a uniform bevel and consistent root face. Undercarriage sold separate.

KBM-28-100

The KBM-28® is perfect for bevelling the topside of the plate without need for flipping the work piece over. In combination with the KBM-28U® efficiency is greatly increased when bevelling both the top and bottom of the plate.



Maximum Bevel Width:	1.10" (28.00 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in2 (45 Kg/mm2)
Maximum Bevel Depth:	0.95" (24.2 mm) at standard 30° bevel angle on material with a tensile strength of 64,000 lb/in2 (45 Kg/mm2)
Min. Plate Thickness:	5/16" (8.0 mm)
Max. Plate Thickness:	2" (50.0 mm)
Bevel Speed:	78.7" (200 cm) per minute*
Motor:	3 HP, 3 phase, available for 230, 460 and 575V~ at 60Hz and also 380 and 400/415V~ at 50Hz supply
Weight:	890 lbs. (404Kg.) including undercarriage assembly
Complies With:	C.S.A./N.R.T.L. (File # LR 35006-6) and C.E. Regulations

* Top speed can vary depending on bevel depth, voltage and frequency fluctuation

KBM-28U® can be supplied with the following standard equipment:
 1- KBM-28-X1C Deep Tooth Cutter (medium cut)
 1- Set Bevel Angle Pins for 22 1/2°, 37 1/2°, 45° and 55°
 1- Tool Kit



- Accessories available:
- KBM-28-X1C: Medium Tooth Cutter (smooth finish)
 - KBM-28-X1H: HighTensile Cutter
 - GBM-28 (Specify Degree Required): Angle Bevel Pins for angles other than those supplied as standard
 - GBM-28-0.5: Cutter Shims
 - GBM-28-1.0: Cutter Shims
 - KBM-28-080: Hydraulic Undercarriage
 - KBM-28-002: Adjustable Undercarriage

MAXIMUM RECOMMENDED BEVELLING CAPACITIES



BEVEL ANGLE	TENSILE STRENGTH					
	64,000 lbs/in ² (45 kg/mm ²)		71,000 lbs/in ² (50 kg/mm ²)		85,000 lbs/in ² (60 kg/mm ²)	
A	W	D	W	D	W	D
22 1/2°	1.10" (28 mm)	1.02" (26 mm)	1.02" (26 mm)	0.95" (24 mm)	0.91" (23 mm)	0.84" (21.3 mm)
30°	1.10" (28 mm)	0.95" (24.2 mm)	0.98" (25 mm)	0.85" (21.6 mm)	0.89" (22.5 mm)	0.77" (19.5 mm)
37 1/2°	1.06" (27 mm)	0.84" (21.4 mm)	0.98" (25 mm)	0.78" (19.8 mm)	0.83" (21 mm)	0.66" (16.7 mm)
45°	1.02" (26 mm)	0.72" (18.4 mm)	0.94" (24 mm)	0.67" (17 mm)	0.83" (21 mm)	0.58" (14.9 mm)
55°	0.98" (25 mm)	0.56" (14.3 mm)	0.91" (23 mm)	0.52" (13.2 mm)	0.83" (21 mm)	0.47" (12 mm)



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 Phone: 55-11-99465-1338 e-mail: rogerio.macedo@gullico.com

GERMANY - ms gmbh Melchior Schweißtechnik
 Phone: +49(0)173 5437722 Fax: +49(0)206 999 35-30 e-mail: christian.marlens@ms-gmbh.com

PLATE EDGE BEVELLING MACHINE - KBM@50



KBM-50

Produces milled quality bevels at 1 meter per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 15° TO 60°

Adjustable bevel angle between 15° - 60°

Durable hardened steel frame

Motorized feeding with two polyurethane wheels

Trolley complete with height adjustment, chip deflection, chip box, and swivel wheels with brake

These plate bevellers produce clean milling style bevels with no thermal distortion on mild steel, stainless steel, titanium and aluminum plate from 8 mm to 50 mm thick. Thinner material can be bevelled (please consult the factory for details).

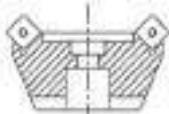

The KBM@50 automatically bevels the topside of the plate which results in a reduction of time and cost. The KBM@50 is ideal for a variety of metal fabrication industries including: tanks, silos, pipes and pipelines, cranes, digging machines, railcar manufacturing, shipyards and windtowers.



Milling Cutter Motor Power	230/400*, 4Kw, 50/60 Hz, 4 pols
Feed Motor Power	0.09 Kw
Bevel Adjustment	5-30mm (diagonal 50mm)
Milling Cutter Diameter	63mm
Plate Thickness	8mm - 50mm
Bevel Angle	15°-60°
Bevel Speed	0-1m/min
Cutter Speed	750 RPM
Height Adjustment	200mm
Weight	185kg
Unit Dimensions	600x600x1600mm



* Special voltages available upon request

Cutter Image	Diameter	Insert	N°	Material	Insert Code	Option
	Ø63 mm H=40 mm Ø=22 mm (1x)	12.7x12.7 Thickness 4.76mm	5	MP91M	ISO SDHTI204AETN-42 SP6519	Coated SDHTI204AETN-42 X500 For Light Alloy
	Ø63 mm H=45 mm Ø= 22 mm (1x)	Ø16 Thickness 4.8mm	5	IC928	RMT1607-FW-T20	High Tensile Steel HTS

RECOMMENDED BEVELLING CAPACITIES

MATERIAL	TYPE	15°			30°			45°			60°		
		L	S	V	L	S	V	L	S	V	L	S	V
Steel R<450 N/mm²	C15, C16	41.3	3.6	75.7	28.5	5.6	75.2	26.4	6.5	77	28.5	5.6	75.2
Steel R<550 N/mm²	Fe52, C45	40.6	3.4	69.3	27.7	5.3	69.3	25.5	6	69.3	27.7	5.3	69.3
Steel R<900 N/mm²	35NiCrMo6	38.3	2.8	55.8	25.5	4.3	53.4	23.3	5	54.8	25.5	4.3	53.4
Stainless Steel	AISI 304	38.7	3	57.8	26	4.5	58	24	5.3	59.5	26	4.5	58
Stainless Steel	AISI 316	36.9	2.5	48.4	24.5	3.9	47.7	22.2	4.4	47	24.5	3.9	47.7

Legend: L - Achievable Bevel Length (mm) S - Run Depth (mm) V - Chip Volume Produced

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CHINA - GULLCO INTERNATIONAL SHANGHAI LIMITED	Phone: +8621-50460341	Fax: +8621-50463554 e-mail: czhang@gullco.com
SINGAPORE - GULLCO INTERNATIONAL LIMITED	Phone: +65-9385-4488	e-mail: benzyim@gullco.com
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	e-mail: rogerio.macedo@gullco.com
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)73 5437722	Fax: +49(0)206 999 38-38 e-mail: christian.sterfenk@ms-gmbh.com

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KBM502204

CLADDING REMOVAL BEVELLING MACHINE - KBM@55



KBM-55

Framed in Steel and Aluminum Casting for durability

Hardened work plate with sliding rollers

Motorized feeding with four polyurethane wheels for smooth feeding of the workpiece

X, Z and A axis of adjustment

Unit complete with height adjustment devices, chip protection, chip box, and swivel wheels with brake

The KBM@55 automatically bevels the topside of the plate which results in a reduction of time and cost. The KBM@55 is ideal for a variety of metal fabrication industries including: tanks, silos, pipes and pipelines, cranes, digging machines, railcar manufacturing, shipyards and windtowers.

Removes Cladding from Plate Automatically

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 90° TO 75°




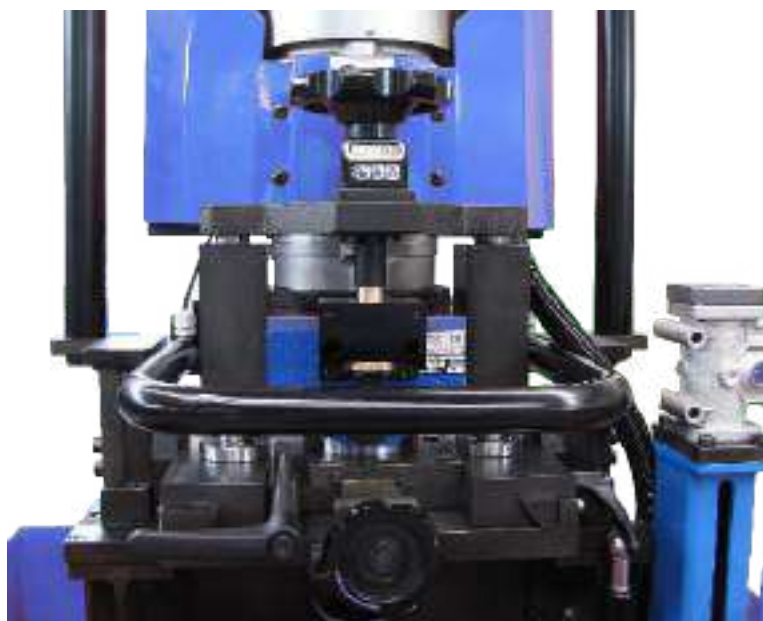
SPECIFICATIONS

Milling Cutter Motor Power	230/400 Volt, 4kw, 50/60 Hz, 4 pols
Bevel Width	Max 50 mm (1.9 in)
Bevel Angle Adjustment	90° to 75°
Plate Thickness	8mm - 100mm (0.3 - 1.9 in)
Bevel Speed	0 - 1.2 m/min (0 - 4 ft/min)
Cutter Speed	0-1m/min
Cutter Speed	750 RPM
Weight	860 lb (390kg)
Unit Dimensions	760x750x2100mm (30x29.5x83in)



* Special voltages available upon request

Cutter Image	Diameter	Insert	N°	Material	Insert Code	Option
 ART 844	Ø63 mm H=40 mm Ø=22 mm (1x)	ISO SDHT09 12,7x12,7 Thickness 4,76mm	7	WIDIA	865/R	For Light Alloy 865/A



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KBM552204

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GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)73 5437722	Fax: +49(0)206 999 38-38 e-mail: christian.sterfenk@ms-gmbh.com

PLATE EDGE BEVELLING MACHINE - KBM@80



Adjustable bevel angle between 15° - 77°

Durable hardened steel frame

Motorized feeding with two polyurethane wheels

Trolley complete with height adjustment, chip deflection, chip box, and swivel wheels with brake

These plate bevellers produce clean milling style bevels with no thermal distortion on mild steel, stainless steel, titanium and aluminum plate.

The KBM@80 automatically bevels the topside of the plate which results in a reduction of time and cost. The KBM@80 is ideal for a variety of metal fabrication industries including: tanks, silos, pipes and pipelines, cranes, digging machines, railcar manufacturing, shipyards and windtowers.

KBM-80

Produces milled quality bevels at 1 meter per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 15° TO 77°



SPECIFICATIONS

Milling Cutter Motor Power	230/400*, 4Kw, 50/60 Hz, 4 pols
Feed Motor Power	0.6 Kw
Bevel Adjustment	5-30mm width (diagonal 50mm)
Milling Cutter Diameter	80mm
Plate Thickness	8mm - 100mm
Bevel Angle	15°-77°
Bevel Speed	0-1m/min
Height Adjustment	200mm
Weight	185kg
Unit Dimensions	600x600x1600mm



* Special voltages available upon request

MAX ACHIEVABLE BEVEL AT START WITH ONE PASS

Angle	15°	30°	45°	60°	75°
Bevel Length	27mm	15.5mm	13.4mm	15.5mm	24.5mm
Run Depth	6.7mm	6.7mm	6.7mm	6.7mm	6mm

MAX ACHIEVABLE BEVEL AT START WITH MULTIPLE PASSES

Angle	15°	30°	45°	60°	75°
Bevel Length	53.4mm	56.5mm	59.6mm	54.9mm	66.6mm

RECOMMENDED BEVELLING CAPACITIES

MATERIAL	TYPE	15°			30°			45°			60°			70°		
		L	S	V	L	S	V	L	S	V	L	S	V	L	S	V
Steel R<450 N/mm ²	C15, C16	41.3	3.6	75.7	28.5	5.6	75.2	26.4	6.5	77	28.5	5.6	75.2	28.5	5.6	75.2
Steel R<550 N/mm ²	Fe52, C45	40.6	3.4	69.3	27.7	5.3	69.3	25.5	6	69.3	27.7	5.3	69.3	27.7	5.3	69.3
Steel R<900 N/mm ²	35NiCrMo6	38.3	2.8	55.8	25.5	4.3	53.4	23.3	5	54.8	25.5	4.3	53.4	66	2.7	86.7
Stainless Steel	AISI 304	38.7	3	57.8	26	4.5	58	24	5.3	59.5	26	4.5	58	66	2.7	93
Stainless Steel	AISI 316	36.9	2.5	48.4	24.5	3.9	47.7	22.2	4.4	47	24.5	3.9	47.7	66	2.7	89.4

Legend: L - Achievable Bevel Length (mm) S - Run Depth (mm) V - Chip Volume Produced

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GERMANY - ms gmbh Melchior Schweißtechnik Phone: +49(0)73 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.sterfenk@ms-gmbh.com

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KBM802204

J PREP PLATE BEVELLING MACHINE - KBM®90J



KBM-90J-100

Framed in Steel and Aluminum Casting for durability

Hardened work plate with sliding rollers

Motorized feeding with four polyurethane wheels for smooth feeding of the workpiece

Undercarriage complete with height adjustment, chip protection, chip box and swivel wheels with brakes

Produces J Prep bevels

The KBM®90J automatically bevels the topside of the plate which results in a reduction of time and cost. The KBM®90J is ideal for a variety of metal fabrication industries including: tanks, silos, pipes and pipelines, cranes, digging machines, railcar manufacturing, shipyards and windtowers.

Produces milled quality J Prep bevels at 1.2 m (4 ft) per minute

WITH ADJUSTABLE BEVELLING HEAD TO PRODUCE BEVEL ANGLES 0° TO 30°




SPECIFICATIONS

Milling Cutter Motor Power	230/400*, 5.5Kw, 50/60 Hz, 4 pols
Bevel Depth	Max 90 mm (3.5 in)
Bevel Width	Max 55 mm (2.1 in)
Bevel Angle Adjustment	0° - 30°
Plate Thickness	8mm - 100mm (0.3 - 3.9 in)
Bevel Speed	0 - 1.2 m/min (0 - 4 ft/min)
Cutter Speed	0-1m/min
Cutter Speed	0 - 900 RPM
Weight	923 lb (420 kg)
Unit Dimensions	760x750x2100mm (30x29.5x83in)



* Special voltages available upon request

Cutter Image	Diameter	Insert	N°	Material	Insert Code	Option
 ART C0920	Ø80 mm (3.1in) H=50 mm (1.9in) Ø= 27 mm (1in) (1x)	RCMT1606 Ø16 Thickness 6mm (.23in)	6	WIDIA	J1606	For Light Alloy J1606/A



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GERMANY - ms gmbh Melchior Schweißtechnik Phone: +49(0)73 5437722 Fax: +49(0)206 999 38-38 e-mail: christian.sterlitzki@ms-gmbh.com		

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KBM90J2204

KBM® BEVELLING MACHINES



KBM-50



KBM-80



KBM-50U



KBM-J



KBM-JU



KBM-55

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Phone: 61 (0)7 3348 5515	Fax: 61 (0)7 3348 5510	e-mail: ausales@gullco.com
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Phone: 91-20-65260382	Fax: 91-20-26836656	e-mail: india.io@gullco.com
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PIPE WELDING TURNING ROLLS - KAMEL ROLLS



Reduce pipe preparation costs with these portable automated turning rolls which rotates pipe from 2" to 16" (51- 406 mm) diameter. Two models are available; Model **KR-200-L** has a turning capacity of 1500 lbs (680 kg), and an infinitely variable forward/reverse speed range of 1-35.4 IPM (2.5-89.9 cm/min). Model **KR-200-M** has a turning capacity of 1500 lbs (680 kg) and an infinitely variable forward/reverse speed range of 2.2-70.8 IPM (5.6-180 cm/min). Rotation speed is precisely controlled and displayed in inches/mm per minute on an LED readout. Contact Gullco or your Gullco distributor for complete details on these highly efficient, cost effective turning rolls.

Electronic controls are immune to damage from high frequency and electromagnetic interference.

Portable: total weight of power and idler roll is 69 lbs. (31.3 kg). Use anywhere that 42, 115 or 220-240 volts 50/60 cycle single phase power supply is available.

Long life, 6" (15.24 cm) diameter roller bearing wheels with rubber tires provide friction drive and uniformly smooth pipe rotation.

Protected on/off foot switch on 7.5 ft (2.3 m) cable provides maximum convenience and freedom for operator.



Great For In-shop Pipe Manufacturing Applications

AUTOMATION PIPE TURNING ROLLS WITH FOOTSWITCH: KR-200-L AND KR-200-M



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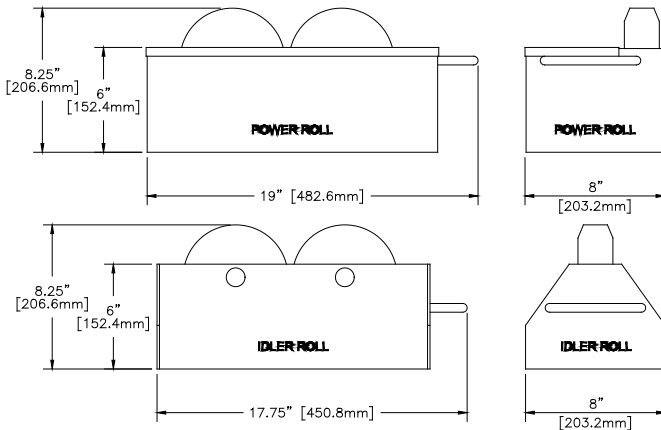


SPECIFICATIONS



	POWER ROLLS	
	Model KR-200-L	Model KR-200-M
TURNING CAPACITY	1500 lbs (680 kg)	1500 lbs (680 kg)
LOAD CAPACITY/ROLL	750 lbs (340 kg)	750 lbs (340 kg)
PIPE DIA. RANGE	2"-16" (51-406 mm)	2"-16" (51-406 mm)
SPEED RANGE	1-35.4 IPM (2.5-89.9 cm/min)	2.2-70.8 IPM (5.6-180 cm/min)
WEIGHT	48 lbs (21.8 kg)	48 lbs (21.8 kg)
	IDLER ROLLS Model KR-750	
LOAD CAPACITY	750 lbs (340 kg)	
PIPE DIA. RANGE	2"-16" (51-406 mm)	
WEIGHT	21 lbs (9.5 kg)	

DIMENSIONS: POWER AND IDLER ROLLS



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KR-11-21

FREE STANDING TORCH SUPPORTS AND TORCH / GUN HOLDERS

MODEL KR-1000 CSB TORCH SUPPORT 1 1/8" (28.6mm) square rack arms providing 22" (559 mm) of vertical adjustment and 10 1/2" (266.7 mm) of horizontal adjustment.

MODEL KR-2000 CSB TORCH SUPPORT Same as above but 1 1/2" (38.1mm) square rack arms providing 18" (457 mm) vertical adjustment and 6.5" (165 mm) of horizontal adjustment. Supplied with swivel mounted standard rack-type cutting torch holder.

Weight: 42 lbs (19.05 kg)

MODEL KR-1000 WSB TORCH SUPPORT 1 1/8" (28.6 mm) square rack arm providing 22" (559mm) of vertical adjustment and 10 1/2" (266.7mm) of horizontal adjustment. Weight: 25 lbs. (11.34kg)

MODEL KR-2000 WSB TORCH SUPPORT Same as above but 1 1/2" (38.1mm) square rack arms providing 18" (457 mm) vertical adjustment and 6.5" (165 mm) of horizontal adjustment. Supplied with insulated 4 motion, semi-automatic gun holder and swivel arm that allows adjustment of gun angle tilt.

Weight: 42 lbs. (19.05 kg)

NOTE:

The above models can be, and often are, supplied with the Gullco Motorized Rack Arm, equipped with a remote joystick control. See www.gullco.com for more information.

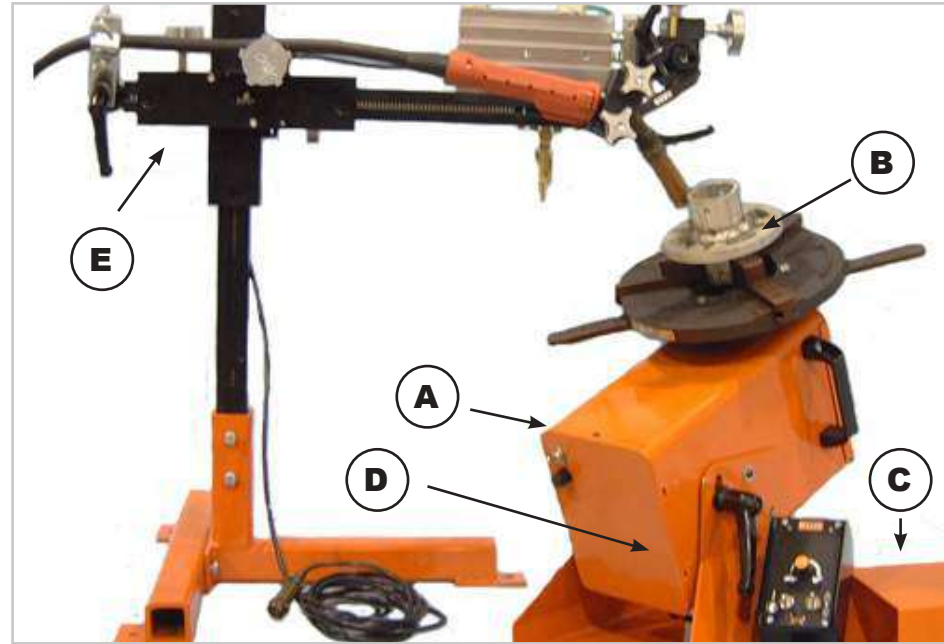


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Phone: 55-11-99485-1338		e-mail: rogerio.macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437722	Fax: +49(0)206 999 35-38	e-mail: christian.martens@ms-gmbh.com



AUTOMATED WELDING POSITIONER



- ITEM DESCRIPTION**
- A- Welding Positioner
 - B- 3 Jaw Gripper
 - C- Footswitch Assembly for Manual Operation
 - D- Wire-feed / Arc Start Signal Kit
 - E- Pneumatic Gun Positioning Assembly

AN ACCURATE AND RELIABLE
AUTOMATIC ROTARY WELD PRODUCTION SYSTEM
 FOR A FRACTION OF THE PRICE OF A P.L.C./SERVO SYSTEM.

Gullco's microprocessor control not only provides improved speed regulation to Gullco's proven "GP" range of positioners. It also allows the positioner to be expanded into a fully automated welding cell. The control uses a tach feedback system to ensure smooth and accurate rotation of the workpiece regardless of piece weight and has the ability to activate a pneumatic welding gun holder and wire-feed/arc activation signal, based on an operator defined welding cycle. The programmable microprocessor also provides adjustable positioning timing cycles, amount of weld rotation and weld on/off through 360°.



These welding positioners are positive drive rotary turn tables complete with mounting flange, drive and tilt mechanisms which incorporates a microprocessor based pulse width modulation motor control. Standard and Programmable models are available. The welding positioners are driven by a low voltage permanent magnet motor and gear head power unit assembly. The microprocessor motor control enables operator interface of start, stop, clockwise rotation and infinitely variable control of the speed, within the range of the model.

Rotation speed is electronically controlled using an optical tachometer located on the back of the gear-motor. Speeds within the range of the model are infinitely variable in both clockwise and counter-clockwise directions through a rotary speed adjustment potentiometer located on the remote control. Table tilt is manually set at any desired angle, from 0° through 90°, quickly and easily. Safety is greatly enhanced with Gullco low voltage (24 V) control and power supply system.



Increase Productivity, Quality and Profitability with Automation

AVAILABLE WITH A 2" THROUGH HOLE FOR LONGER WORK PIECES

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Phone: +8621-50460341	Fax: +8621-50463554	e-mail: c.zhang@gulco.com
SINGAPORE - GULLCO INTERNATIONAL LIMITED		
Phone: +65-9385-4488		e-mail: benny jim@gulco.com
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-99485-1338		e-mail: rogerio.macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437722	Fax: +49(0)206 999 38-38	e-mail: christian.marlens@ms-gmbh.com



GP/GPP 200 SERIES POSITIONERS ARE AVAILABLE IN STANDARD OR PROGRAMMABLE MODELS WHICH ARE EQUIPPED WITH CORRESPONDING REMOTE CONTROLS

STANDARD

The Standard Remote Control provides

- infinitely variable rotation speed within the model's speed range,
- forward/neutral/reverse switch,
- run/stop switch
- speed potentiometer



PROGRAMMABLE

The Programmable Remote Control with LED readout provides

- infinitely variable rotation speed within the model's speed range,
- forward/neutral/reverse switch,
- run/stop switch
- programmable microprocessor providing adjustable positioning timing cycles, amount of weld rotation, weld on/weld off through 360° and a signal to activate a pneumatically operated weld gun holder and wire feed arc activation.

FOOTSWITCHES (optional)

Three footswitch models are available;

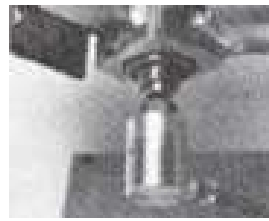
GP-200-024 - Run/Stop footswitch assembly for manual operation. This kit provides a run/ stop footswitch; a footswitch guard cover; a connecting control cable; and strain relief glands. When activated, the footswitch will provide a run signal to the control.



GP-200-025 - Variable Speed footswitch assembly for manual operation. This kit provides a run/stop/variable speed footswitch; a footswitch guard cover; a connecting control cable; and strain relief glands. When activated, the footswitch will provide a run signal to the control and allow regulation of the rotational speed via the compression of the footswitch pedal.

GP-200-023 - Forward/Stop/Reverse footswitch assembly for manual operation. This kit provides a directional footswitch; a footswitch guard cover; a connecting control cable; and strain relief glands. When activated, the footswitch will provide a run signal and rotary direction signal to the control.

PURGE-EQUIPPED MODELS, have a 1/4" (6.4 mm) hole through the centre of the table drive shaft and a gas rotary coupling mounted on the underside of the table ... the shaft having a 1/4" NTP tapped gas inlet hole.



GULLCO SELF-CENTERING WELDING GRIPPER

(optional) The **WPG-250** Gripper is quickly and easily mounted on any make of positioner, turntable or tailstock. They are slim but durable, weighing only about half that of a standard chuck, minimizing reduction in positioner capacity. Single lever operation provides smooth, positive self-centering action.



MOUNTING TABLE (optional) GP-200-016

12" (305mm) diameter mounting table. This round mounting table is used to facilitate direct mounting of components or fixtures and provides (6) radial mounting slots and various (3) hole pitch circle bolt patterns. The mounting table is quickly and easily mounted on the positioner spindle flange.



Gullco offers a wide range of accessories that provide low cost welding/cutting automation solutions including..



KR-1000 & 2000 WSB

KR-1000 WSB free standing support and welding gun holder assembly. 1- 1/8" (28.6mm) square rack arms and rack boxes provide 22" (558.8 mm) of vertical adjustment and 10-1/2" (266.7mm) of horizontal adjustment. Supplied with swivel mounted, adjustable gun holder assembly.

KR-2000 WSB Same as above, except uses 1-1/2" (38.1mm) rack arms and rack boxes and provides 18" (457.2 mm) of vertical and 6-1/2" (165.1 mm) of horizontal adjustment.

KR-1000 CSB & KR-2000 CSB are the same as above except they are supplied with swivel mounted, standard rack-type cutting torch holder instead of welding gun holder

CUSTOMIZED AUTOMATION

The above cutting torch and welding gun support assemblies can be, and often are, equipped with one or two Gullco motorized rack arms controlled by a remote joystick pendant.



KR-1000 & 2000 CSB

Model GP-300/350

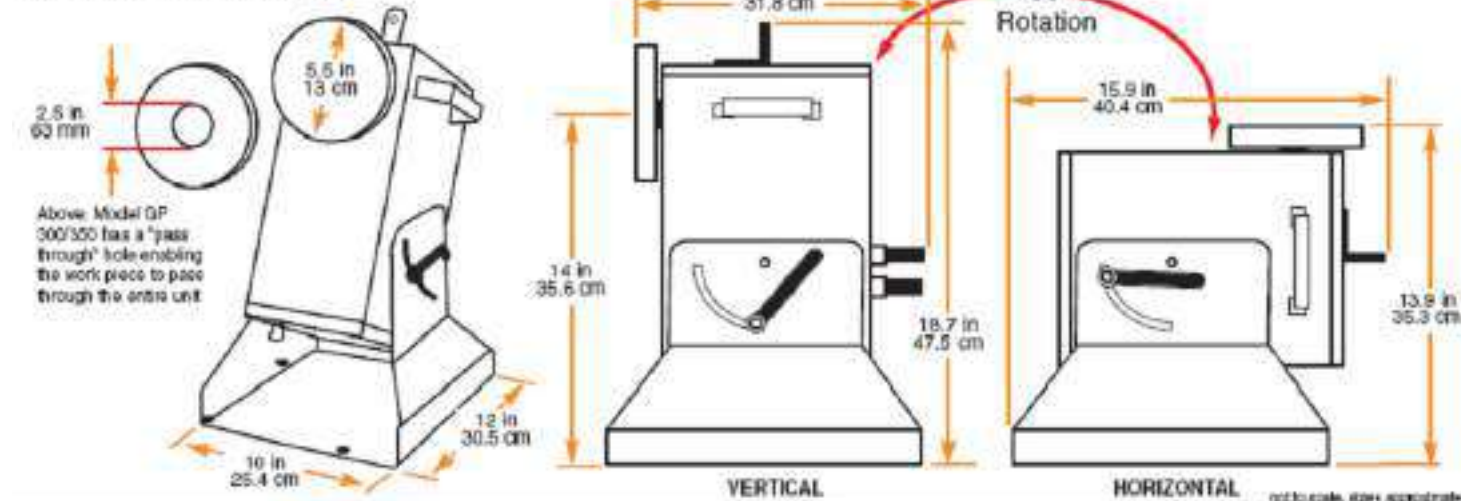
These "Through Hole" Positioners models are designed with a 2.5 inch (63 mm) "through hole" so the workpiece can be passed through the unit (max material of 2 3/8 OD) making production on long pieces easier and faster.



Pass through Hole Workpiece Passes Through The Positioner



SPECIFICATIONS



LOAD CAPACITY/SPEEDS

Models:

GP/GPP-(200 & 250)-M and GP (300 & 350)-M (Speeds 0.27 to 4.63 RPM) 150 lbs. (68 kg) at 3" (76 mm) center of gravity and 3" (76 mm) eccentricity with the table in the vertical position...300 lbs. (136 kg) with the table horizontal.

Models:

GP/GPP-(200 & 250)-H and GP (300 & 350)-H (Speeds 0.75 to 12.5 RPM) 75 lbs. (34 kg) at 3" (76 mm) center of gravity and 2" (51 mm) eccentricity with the table in the vertical position...150 lbs. (68 kg) with the table horizontal.

TABLE ROTATION

Electronically controlled, infinitely variable in either direction. Positive drive.

TABLE TILT

0° through 90°

ROTATIONAL TORQUE

GP/GPP-(200 & 250)-M and GP (300 & 350)-M 450 inch lbs. (518 kg.cm)

GP/GPP-(200 & 250)-H and GP (300 & 350)-H 150 inch lbs. (172 kg.cm) through the speed range. The maximum allowable eccentricity of "centre of gravity" on the work piece for a given load in inches is calculated as follows.

150 weight of work in lbs. The weight must not exceed the values for overhung load ratings shown below.

	(D) Distance		(L) Load	
	IN.	MM.	LBS.	KGS.
	3	76	150	68
	6	152	97	44
	9	229	72	33
	12	305	57	26

Model	Gas Purge	Programmable	Rotational Speed	Vertical Table Loading @ 3" C of G	Horizontal Table Loading
GP-200 & 300-M			0.27 - 4.63 RPM	150 LBS. (68 KG.)	300 LBS. (132 KG.)
GPP-200-M					
GP-250 & 350-M					
GPP-250-M			0.75 - 12.5 RPM	75 LBS. (35 KG.)	150 LBS. (68 KG.)
GP-200 & 300-H					
GPP-200-H					
GP-250 & 350-H					
GPP-250-H					

SELF-CENTERING WELDING GRIPPER



This 3 jaw self-centering gripper is designed for use with all welding positioners including Gullco's GP/GPP-200 Series of positioners. It provides high levels of efficiency and versatility in operations involving welding of fittings, flanges, and small diameter pipe. Specifications are provided on the reverse of this sheet. Contact Gullco or your Gullco distributor for more detailed information.

Quickly and easily mounted on any make of positioner, turntable or tailstock using three bolts provided with the gripper.

Self-Centering, fast, smooth close/open action lever to firmly lock or release workpiece.

Durable construction with a slim design, weighing only about half as much as a standard chuck. This feature provides minimal reduction in positioner capacity.

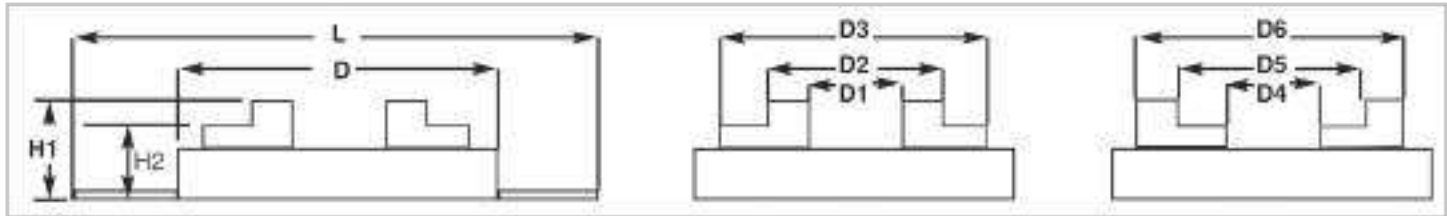
Ideal for the welding of fittings, flanges and small diameter pipe

INCREASE WELD QUALITY AND PRECISION WITH THE SELF-CENTERING GRIPPER FOR WELD POSITIONERS



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MODEL	DIMENSIONS - Inches - Per Diagram										
	GRIPPER (Inc. Handle)				GRIPPER BODY Clamping Range (min./max.)						WEIGHT
	D	L	H1	H2	D1	D2	D3	D4	D5	D6	LBS
WPG-250	10.0	17.5	2.75	1.88	0.38 - 6.25	4.25 - 10	9.15 - 15	.38 - 6.25	5.5 - 11.25	9.15 - 15	20
DIMENSIONS - mm											KG
WPG-250	254	444	70	48	10 - 159	108 - 254	23 - 381	10 - 159	140 - 286	232 - 381	9



Also Available From Gullco
**GULLCO MODEL GP/GPP-200
 WELDING POSITIONERS**

Capacities up to 150 lbs. (68 kg.) in
 the vertical position, 300 lbs. (132
 kg.)

Horizontal 0.27 to 4.63 rpm rotation
 and 0.75 to 12.5 rpm in the "H"



Table on the Gullco Model GP/GPP-200 Series of
 Welding Positioners (above left) is designed for
 mounting the

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Phone: 55-11-90485-1338		e-mail: rogerio.macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437732	Fax: +49(0)209 998 38-38	e-mail: christian.mertens@ms-gmbh.com

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GRIP-21-10

AUTOMATED ROTARY WELD SYSTEM



Automate your circumferential welding operations, add efficiency and increased precision with the highly versatile Automatic Rotary Weld System

The rotary weld table with tack feedback interfaced with a PLC to provide precision stop/start, weld stop/start, adjustable rotation speed, weld overlap, multi-pass welding and tack welding

Accurately adjustable tailstock with 6" (152 mm) pneumatic clamping slide.

Motorized torch positioning slide to enable quick and easy loading/unloading of the work piece.

Maximum weight capacity 300 lbs (136 kg)

Table lengths up to 20 ft (6096 mm)



Increase Weld Quality and Improve Production with Automation

IDEAL FOR AUTOMATING PRODUCTION OF CYLINDRICAL PARTS INCLUDING: FLANGES AND END CAPS



SPECIFICATIONS

The Gullco Automatic Rotary Weld System is a low cost automated welding machine that produces consistent, precision welds on cylindrical work pieces. It is designed to provide repeatable quality welds, either in high or low production. It is easy to operate while providing sophisticated operational flexibility.

The Gullco Automatic Rotary Weld System comes complete with...

- Gullco programmable Motor Control interfaced with a PLC providing adjustable rotation speed, rotation stop/start, weld stop/start, wire feed stop/start and emergency stop controls, LED display for all functions
- Headstock...full 360° rotation with adjustable overlap, weld parameters controlled electronically
- Multi-pass Welding...available with automatic torch height adjustment
- Torch Support with rack arm and micro-slide rack box providing vertical torch adjustment, 4 axis torch holder assembly
- Tailstock...accurately adjustable with 6" (152 mm) pneumatic clamping slide
- The bed is heavy duty steel construction available in lengths up to 20 ft (6096 mm)



Load Capacity	300 lbs (136 kg)
Pneumatic Tailstock stroke	6" (152 mm)
Max. Part Length	to 20 ft (6096 mm)
Weld Diameters	to 18" (475 mm)
Adjustable Rotation Speed	0.25 - 15 rpm
Drive Motor	24 volt DC
Voltage	- for operation on either 115/230 volt, single phase, 50/60 Hz Ac power supply.

SPECIFY VOLTAGE WHEN PLACING ORDER

The Gullco Automatic Rotary Weld System is also available as a multi-torch system

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Phone: 1-440-438-8333	Fax: 1-234-808-4146	e-mail: ussales@gulco.com
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SINGAPORE - GULLCO INTERNATIONAL LIMITED		
Phone: +65-9385-4468		e-mail: benji_lim@gulco.com
LATIN AMERICA - GULLCO INTERNATIONAL LIMITED		
Phone: 55-11-99485-1338		e-mail: rogerio_macedo@gulco.com
GERMANY - ms gmbh Melchior Schweißtechnik		
Phone: +49(0)173 5437722	Fax: +49(0)206 999 38-38	e-mail: christian.marlans@ms-gmbh.com



H BEAM CUTTING SYSTEM



The H Beam Cutting System combines the versatile KAT® automation carriage with a motorized torch to provide precision and speed to the cutting of beams.

The carriage is mounted on a track which can be unlocked and adjusted to allow for angled cuts.

By automating the vertical and horizontal cuts of the beam, increased productivity and cost savings can be achieved while reducing material handling and improving cut quality.

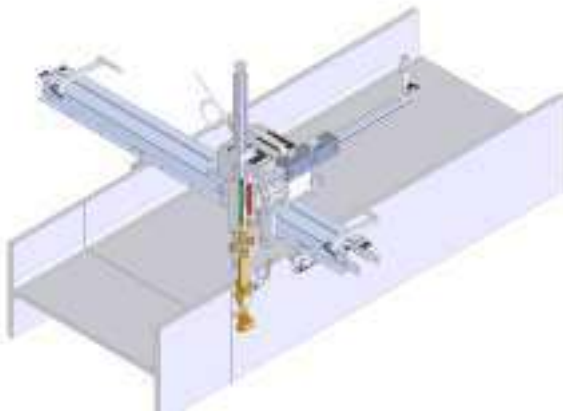
Cut beams with precision and speed

HINGED TRACK MOUNTING DEVICE ALLOWS FOR LINEAR AND ANGLED CUTS

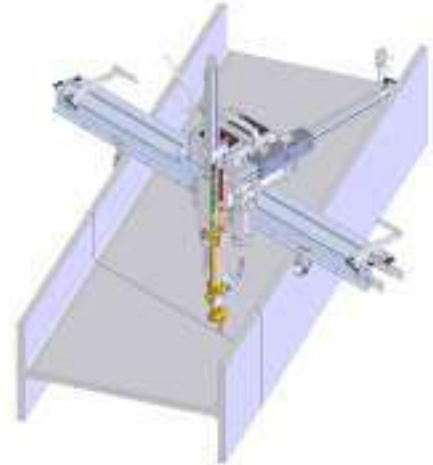
WELDING AND CUTTING



STRAIGHT CUT SETUP



ANGLED CUT SETUP



The H Beam system is designed with a track mounting device which uses on/off magnets on a swivel hinge to provide both linear and angular cuts. The mounting device is unlocked which allows the track to swivel on its axis. This is ideal for applications which also require cuts to be made on a 45° angle for butting two beams together.



Item	Part No.	Description	Qty
1	GS-570-006	KAT UPPER HOUSING	1
2	GS-570-003	RACK BOX ASSEMBLY	1
3	GS-570-001	TRACK MOUNTING DEVICE	2
4	GK-201-109	EXTENDED SWIVEL CLAMP	1
5	GK-191-P-200-2B	LOWER HOUSING ASSEMBLY	1
6	GK-191-P-061	LIMIT SWITCH ACTUATOR	2
7	GK-190-650	RACK BOX ASSEMBLY	1
8	GK-190-238	LIMIT SWITCH ACTUATOR	2
9	GK-190-066	RISER ASSEMBLY	1
10	GK-190-047-4	RACK ARM	2
11	GK-181-038	PIVOTING CABLE CLAMP	1
12	GK-166-258	5' TRACK ASSEMBLY	1
13	GK-165-068	CUTTING TORCH HOLDER	1
14	-	TORCH (NOT INCLUDED)	-

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WORLD LEADERS IN THE DESIGN,
MANUFACTURE & DISTRIBUTION OF AUTOMATED
WELDING SYSTEMS AND ACCESSORIES

CUT COSTS, IMPROVE QUALITY, AND INCREASE EFFICIENCY ...WITH THESE PROVEN
GULLCO PRODUCTS



KAT® SYSTEMS	MOGGY®	WELD PREP	OVENS	CERAMIC BACKINGS
<ul style="list-style-type: none"> Oscillators Torch indexers Flex & Rigid KAT® Programmable Travel Carriages Seam Trackers Bridge Units Circle Cutting System 	<ul style="list-style-type: none"> Trackless Fillet & Butt Welding, Stitch Welding control Radial Oscillation Control 6" V-groove Track Available 	<ul style="list-style-type: none"> Bevellers Positioners Grippers Kamel Pipe Turning Rolls 	<ul style="list-style-type: none"> Flux Rebake Flux Holding Flux Hoppers Electrode Stabilizing 	<ul style="list-style-type: none"> KATBAK® Ceramic Weld Backing Impart Uniform X-Ray Quality Back Beads Eliminate Costly Grinding & Re-welds Knuckle Joints for Use On Flat or Curved Surfaces

CONTACT GULLCO OR YOUR GULLCO DISTRIBUTOR TODAY FOR INFORMATION ON ANY OF THESE PRODUCTS

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Phone: +65-9385-4488 e-mail: benny.lim@gulco.com

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Phone: 55-11-99485-1336 e-mail: rogerio.macedo@gulco.com

GERMANY - ms gmbh Melchior Schweißtechnik
Phone: +49(0)173 943722 Fax: +49(0)208 999 38-38 e-mail: christian.merlens@ms-gmbh.com

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GAN2204

WELDING AND CUTTING AUTOMATION



CUSTOM GANTRY AND BRIDGE SYSTEMS



Gullco Gantry Units are custom designed assemblies that are used in a variety of applications such as automated seam welding, fabricated assemblies, stiffener seams and automated cutting operations such as stripping and edge preparation. **Gullco will custom design a gantry or bridge unit to meet your specific requirements.** A wide variety of custom design features and efficient, high end Gullco systems and components provide cost effective, reliable solutions for your welding and cutting automation needs.

Generate Accurate and Repeatable High Quality Weld Results

CUSTOM ENGINEERED TO AUTOMATE WELDING AND CUTTING OPERATIONS WITH PRECISION



WELDING AND CUTTING

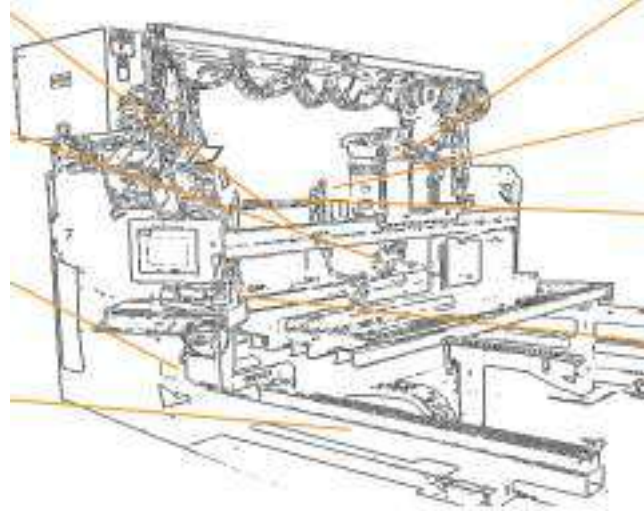


GANTRY BEAM - made from heavy duty track sections. spans range up to 18 ft.

WELDING GUN/CUTTING TORCH OR TOOL MOUNTING SYSTEMS - tailored to suit application requirements including mounting Seam Trackers, etc.

GANTRY SUPPORT CARRIAGES- Equipped with heavy duty cam type roller bearing assemblies.

LONGITUDINAL TRACK SECTIONS- interlocking design allows unlimited longitudinal travel.

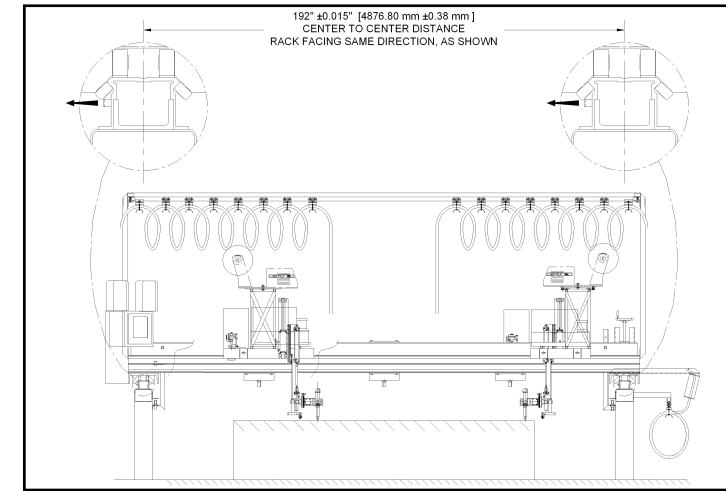


X-AXIS TRAVERSE CARRIAGE powered by Gullco KAT® 24volt gear motors.

Y-AXIS LONGITUDINAL DRIVE powered by Gullco low voltage, heavy duty drive systems.

CROSS DRIVE SHAFT- direct gear drive to each longitudinal track ensures accurate tracking of gantry.

CONTROL STATION- incorporates a touch screen 9460 industrial flat panel PC utilizing Citect HMI software to control functions such as automatic forward/reverse travel, variable speeds, automatic seam location/tracking and automatic operation of weld guns.



WELDING

This diagram shows a typical welding Gantry/Bridge unit design. The long tracks are located underneath the table providing protection. This also allows the work piece to be easily loaded at any point on the table as it is clear and easily accessible. The bridge unit can be equipped to automatically position and clamp the parts to be welded. It can also be supplied with mechanical, electronic or laser seam tracking equipment. Gullco can custom design a Gantry/Bridge system to meet your specific requirements.

LET GULLCO ENGINEER AND BUILD A GANTRY/BRIDGE SYSTEM FOR YOU
Seam Tracking is provided by Gullco designed vertical and horizontal tracking device.

GANTRY AND BRIDGE SYSTEM FEATURES



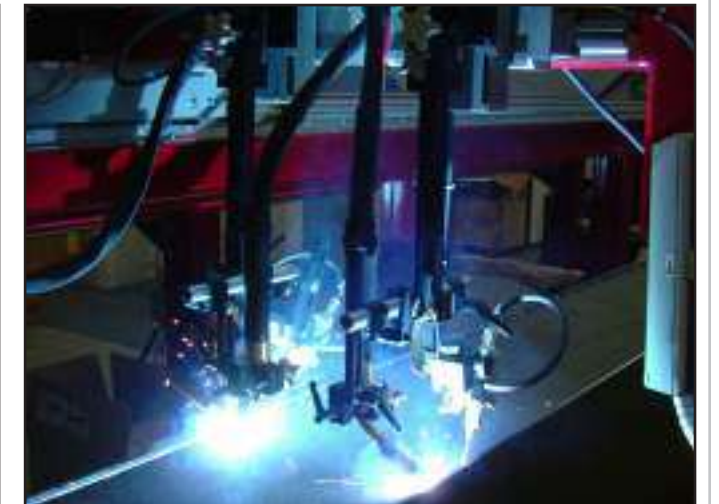
Touch screen industrial PC utilizing Citect HMI software.



Longitudinal track and cables are located underneath the table in protection.

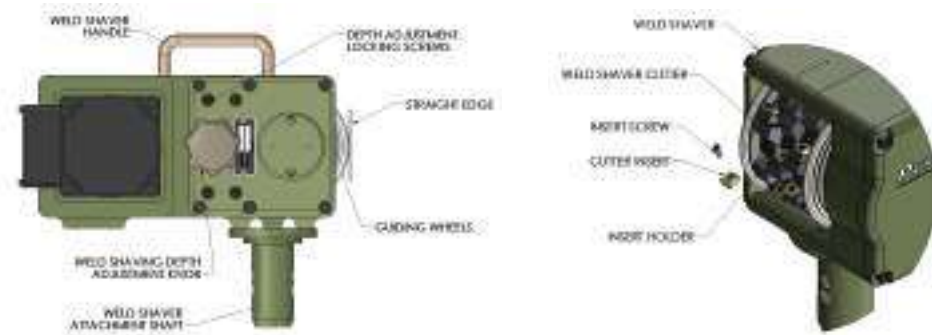


Gullco Gantry system is equipped with dual torches enabling simultaneous welds on both sides of aluminium trailer sidewall stiffeners in one pass.



Seam tracking is provided by a Gullco designed vertical and horizontal tracking device.

SHAVER HEAD



Utilizing a high torque servo motor coupled to a series of slotting cutters through a belt reduction, the Weld Shaver machines the weld seam off. The 5 in. (125 mm) diameter slotting cutters utilize standard carbide inserts which have two cutting edges. The insert can be rotated after the first edge becomes dull. These inserts are easily removed and installed in preset holders using a Torx driver. The servo motor allows the cutting speed to be accurately set and the cutting effort monitored during the process. The Weld Shaver can be configured to cut weld seams up to 2.25 in. (57 mm) in width.

SWS 100-3.7 SERIES WELD SHAV-ER HEAD

- SWS100-3.7 20 mm
- Power: 4.8 Hp [3.61 kW]
 - Maximum SFM: 3000 SFM
 - Cutting Width: .78 in. [20 mm]

- SWS100-3.7 39 mm
- Power: 4.8 Hp [3.61 kW]
 - Maximum SFM: 3000 SFM
 - Cutting Width: 1.53 in. [39 mm]

- SWS100-3.7 59 mm
- Power: 4.8 Hp [3.61 kW]
 - Maximum SFM: 3000 SFM
 - Cutting Width: 2.32 in. [59 mm]

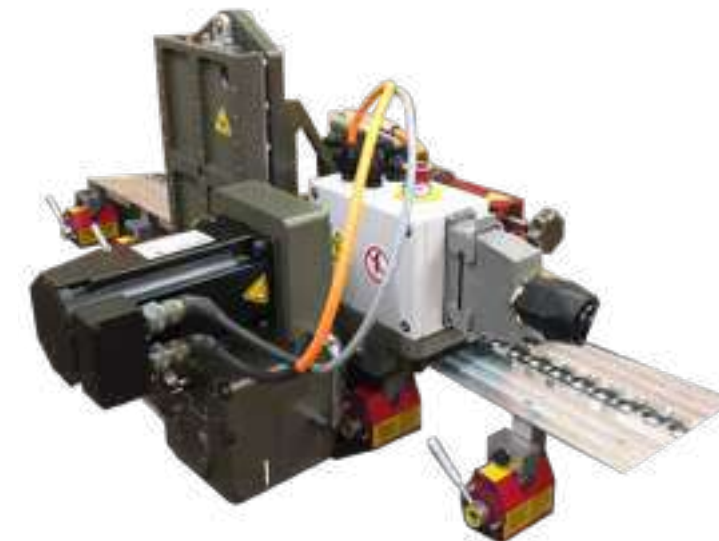
SWS 100-7.2 SERIES WELD SHAV-ER HEAD

- SWS100-7.2 20 mm
- Power: 8.4 Hp [6.24 kW]
 - Maximum SFM: 3900 SFM
 - Cutting Width: .78 in. [20 mm]

- SWS100-7.2 39 mm
- Power: 8.4 Hp [6.24 kW]
 - Maximum SFM: 3900 SFM
 - Cutting Width: 1.53 in. [39 mm]

- SWS100-7.2 59 mm
- Power: 8.4 Hp [6.24 kW]
 - Maximum SFM: 3900 SFM
 - Cutting Width: 2.32 in. [59 mm]

WELD SHAV-ER CARRIAGE



The weld shaver carriage uses force compliance to allow the weld shaver head to maintain contact over contoured surfaces and ensures a consistent and precision weld removal.

Force compliance technology combined with DC Servo Spindles increases:

- Quality
- Consistency
- Cutter Insert Life
- Operator Safety

The weld shaver removes up to 90% of the weld height at a rate of up to 3 ft/min (61 cm/min) and can remove welds of 0.375 - 3 Inches (0.9525 - 7.62 cm) wide in all positions.



SHIP BUILDING



TANK BUILDING



WIND TOWERS



PIPELINES

REMOVE WELDS AT A RATE OF 3 FT/MIN (61 CM/MIN) up to 3 IN (7.62 CM) WIDE

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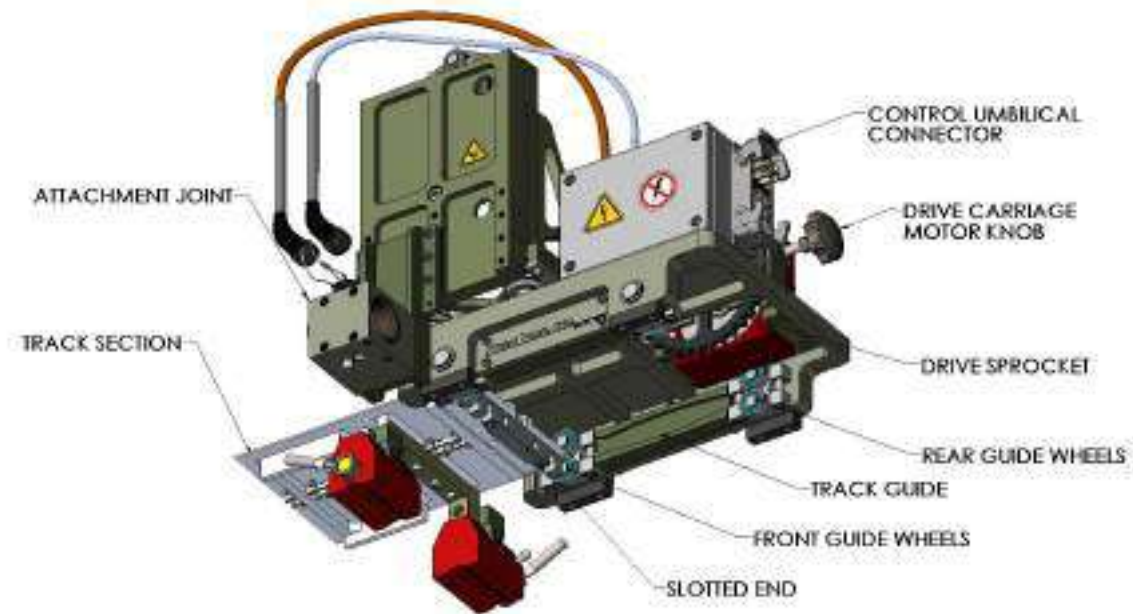
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LATIN AMERICA - GULLCO INTERNATIONAL LIMITED	Phone: 55-11-99485-1338	e-mail: rogerio.macedo@gullco.com
GERMANY - ms gmbh Melchior Schweißtechnik	Phone: +49(0)173 5437722	Fax: +49(0)206 999 36-36 e-mail: christian.merlans@ms-gmbh.com

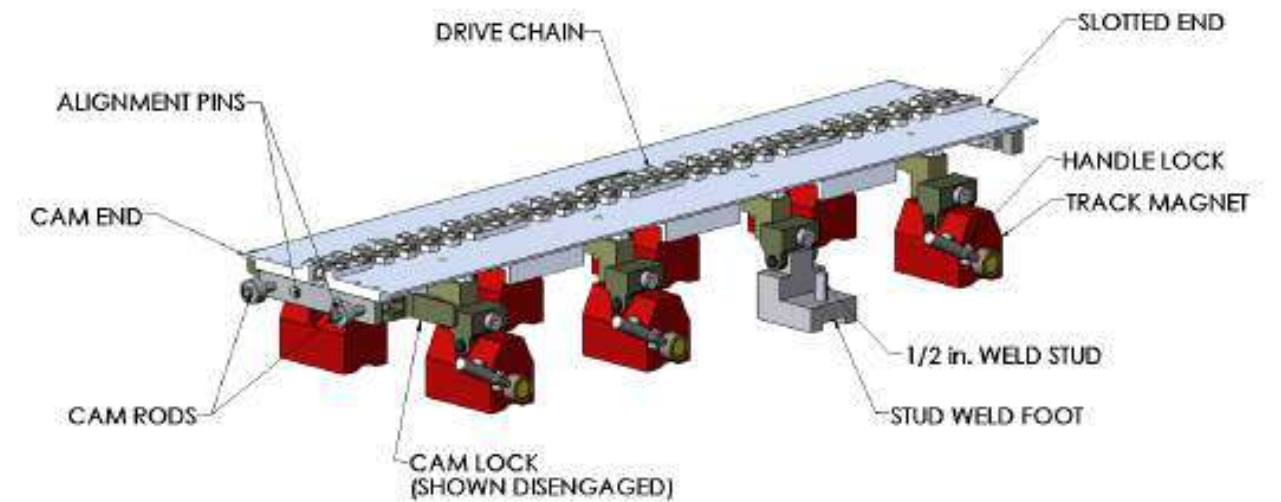


CARRIAGE OVERVIEW



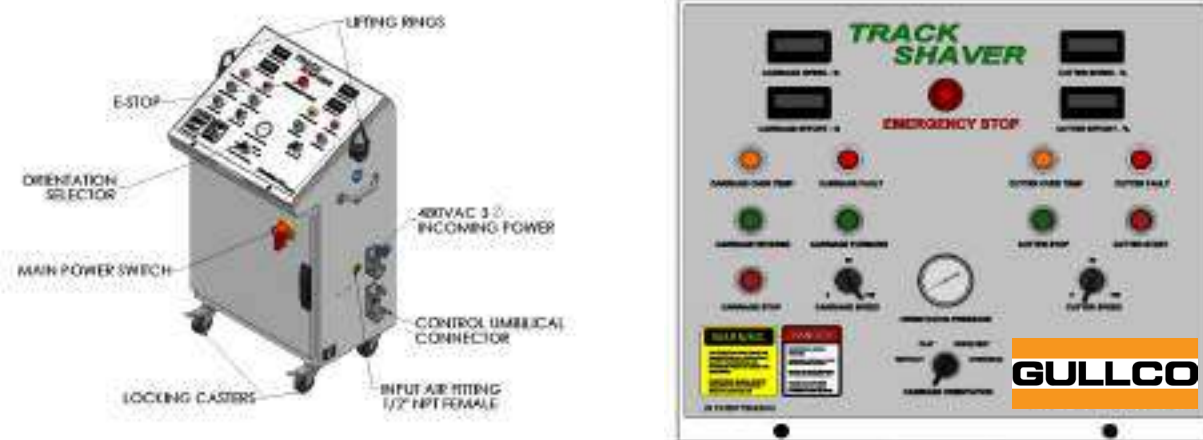
System is an automated solution for the rapid removal of weld beads above a panel surface. The Weld Shaver is moved along a track by the Drive Carriage with the user managing everything remotely from the Control Console. The TWS91 System is comprised of five major components; the Track (either Flex or High-Flex), the Drive Carriage, the Weld Shaver, the Control Umbilical, and the Control Console.

TRACK SECTIONS



The portable track is available in three configurations, a 35 in. (0.9m) High-Flex, 35 in. (0.9m) Flex, and a 70 in. (1.8m) Flex. All track configurations are held to the steel surface via eight (8) high strength magnets that generate over 200 lbs. (890 N) of holding force. These magnets must be supplemented with attachment feet that are secured to the panel via 1/2" weld studs during Horizontal, Vertical, or Overhead orientations, providing a "fail safe" connection. The High-Flex Track configuration must be utilized for any panel with a bend radius less than 10m (400 in.). The High-Flex Track has a minimum bend radius of 60 in. (1.5 m). The Flex Track may be used on any panel with a bend radius greater than 400 in. (10 m), allowing fewer track sections to be utilized.

CONTROL OVERVIEW



The Control Console allows the operator to completely manage the weld shaving process from a safe distance. The operator adjusts the Drive Carriage servo motor (Feed Rate) and the Weld Shaver servo motor (Cutting Speed) with rotary knobs. Speed and effort displays for each motor are also located on the console. The cutting force and retract is set from the Control Console, through the Orientation Selector. The Control Console is fitted with lifting eyes and locking casters for maneuvering the unit to and around the work area.

GANTRY TABLE SETUP



MANIPULATOR SETUP

