IMPROVING PRODUCTIVITY WITH TWIN-WIRE SUBMERGED ARC WELDING MACHINES

TYPES PROFESSIONAL
+ Power source models SPEED ARC
+ TWIN-WIRE carriage models SPEED CAT And TWIN-WIRE stationary feeder models SPEED FEED
+ Greater Deposition Rate with TWIN-WIRE
+ Service & warranty

Afzaiash padosmi ba bhehr giri az destegaha hay jooshakari zirehodari do sim

Professional

SPEED ARC marni tfezhe madal hay +
+ Trazak jooshakari zirehodari do sim madal hay +
+ Feidr aistagahi zirehodari dousim madal hay +
+ Freh rossob palater ba feidr dousim +
+ Doura fomant ba yekhtipayi va fomadat +

www.gaamelectric.com
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Submerged Arc welding (SAW) process can be performed in various ways, from the simplest process using a single wire to more advance Twin-Wide. Choosing the right SAW process for your operation can help you increase deposition rates and productivity.

Twin-wire SAW uses two relatively small-diameter wires but only a single power source and typically a single contact tip. It can increase deposition rates up to 35 percent in comparison with single-wire DC SAW without significantly increasing heat input. The increase comes from the greater current density achieved by pushing a similar current over smaller, cross-sectional areas of wire.

In Twin-Wire SAW Process the speed of truck is increasing significantly, at least twice, which cause decreasing of production cost.

In the world today, people automatically think of the name SAW process, whenever high speed of welding of very thick metals with very high current and high deposition rate are mentioned.

GAAM ELECTRIC has started production of SAW welding machines with cooperation of Kjellberg (Germany) which is the innovator and the first manufacturer of welding electrode in 1922. And now more than 25 years experience of GAAM ELECTRIC and using the patents, enabling us to compete with the best SAW machine producers in the world and have some advantage to them.

- Duration: 1922
- Kjellberg
- Type: Professional
- Power source models: SPEED ARC
- Carriage models: SPEED CAT
- Stationary feeder models: SPEED FEED

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GAAM ELECTRIC TWIN-WIRE SUBMERGED ARC
WELDING EQUIPMENT

Is combined of these two options:

Option 1: Power Source type “SPEED ARC”, plus a (wire feeder + carriage ) type "SPEED CAT"
(Is used wherever it is preferred the work piece be stopped and the carriage and wire feeder can travel).

Option 2: Power source type “SPEED ARC” plus a (wire feeder+stationary equipments) type "SPEED FEED" (is used wherever the work piece can move and the wire feeder don’t travel).

EXCELLENT FEATURES OF POWER SOURCE TYPE SPEED ARC

- Possibility of high speed welding of very thick metals with very high current and high deposition rate.
- Very good appearance, high quality of welding.
- Ideal for welding in very hard and heavy duty conditions even with 100% duty cycle in maximum current output.
- Facility of selection static characteristic (CC or CV) and excellent static characteristic.
- Indicator for overload protection.
- Very much robust and reliable construction.
- Facility of gouging process in models 1000TS.
- Possibility of preset adjustment control of welding current, Arc voltage and carriage speed before welding.
- Designed according to international standards CE, IEC,ISO.
- Service & Warranty

TECHNICAL DATA (SPEED ARC Power Sources)

<table>
<thead>
<tr>
<th>WELDING OUTPUT</th>
<th>SPEED ARC 1001 T (TS)</th>
<th>SPEED ARC 1203 T</th>
<th>SPEED ARC 1401 T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Current</td>
<td>A 1000</td>
<td>1200</td>
<td>1400</td>
</tr>
<tr>
<td>Welding Current at 100% Duty Cycle</td>
<td>A 1000</td>
<td>1200</td>
<td>1200</td>
</tr>
<tr>
<td>Open Circuit Voltage</td>
<td>V 80</td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MAINS CONNECTION</th>
<th>(Three Phase , 50Hz , 400V)³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed Power (Max)</td>
<td>KVA 59</td>
</tr>
<tr>
<td>Primary current at 100% Duty Cycle</td>
<td>A 84</td>
</tr>
<tr>
<td>Fuse</td>
<td>A 100(D)</td>
</tr>
<tr>
<td>Main Cable (Cu, Nyy)</td>
<td>mm² 4×25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MISCELLANEOUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation Class</td>
</tr>
<tr>
<td>Cooling</td>
</tr>
<tr>
<td>Protection Class</td>
</tr>
<tr>
<td>Dimension (LxWxH)</td>
</tr>
<tr>
<td>Weight</td>
</tr>
</tbody>
</table>

F: Fasted action fuse        D: Delayed action fuse

1. Other duty cycles on request  2. Other Voltages / frequencies on request
3. Gaam Electric reserves the rights to change the specifications without notice.
4. Two last digit number of the name of machine ( for ex. 03 in 1203T ) indicates to the version of it.

جهاز جوشکاری زیر بودری دو سیم گام الکتریک 
دو گزینه میتوانند داشته باشند:

گزینه اول : منبع قدرت تبب SPEED ARC   جوشکاری تبب
(چه هر گاه فقطه کار ثابت بوده و برای جوشکاری کردن به حرکت تراک نیاز
باشد مورد استفاده می‌گردد)

گزینه دوم : منبع انرژی تبب SPEED ARC   جوشکاری تابث
(چه هر گاه فقطه کار متحرک باشد و برای حرکت تراک وجود داشته باشد
مورد استفاده قرار می‌گیرند)

SPEED ARC

ویژگی‌های بررسی منبع انرژی تبب
- امکان جوشکاری وریاف سیبی ضخیم با سرعت بالا و با رخ رسوب سیبی
- نیاز
- کیفیت و ظاهر عالی جوش
- اینده آل ای نزدیک جوشکاری در شرایط سیبی سخت حتی با ضربیت کار
- فاصله تنظیم شناخته استانداردی CC / CV و مشخصه استانداردی سیبی عالی
- دارای مشاهده مشخصات اضافه بار
- ساختار سیبی مقاوم و منظم
- امکان انجام فرآیند کوگیانگ در مدل 1000 TS
- امکان تنظیم جریان جوشکاری، ولتیژ فوس و سرعت حرکت تراک قبل از
- شروع جوشکاری

ISO,IEC,CE

طرحی شده مطابق با استانداردهای ملی

dورة ضمانات با پشتیبانی و خدمات

3900 × 575 × 1075
EXCELLENT FEATURES OF TWIN-WIRE FEEDER AND CARRIAGE
TYPE: SPEED CAT

The SPEED CAT carriage is a four wheel drive with track system capabilities. It is self guiding and easy to operate, designed to be used with all Gaam Electric Sub Arc power sources. Powerful construction, low weight and excellent design make any change possible to access suitable situation like F1 or F2 rapidly. Butt and fillet welds can be made on thick or thin plates. The SPEED CAT is ideal for the following applications:

Ship and barge building, storage tank erection, bridge deck installation, beam, girder or column fabrication, and long seams on heavy weld metals.

SPEED CAT
تیپ: SPEED CAT

تیپ SPEED CAT مجی‌ره به‌جای جرخ که دو جرخ آن شیاردار است می‌باشد. کار با این تراک سی‌سی‌آر آسان یوده و یک‌پاره‌ای طراحی شده که با کلیه دستگاه‌های زیر بودنی کام‌الکتریک کار می‌کند. سیستم بر قدرت و وزن سبک و طراحی عالی ضرعت‌های تغییر و جابجای را در آن جای‌جو کاری در وضعیت‌های مختلف تغییر F2 (هندسی) تا 90 یا ۴۵ درجه نسبت به سطح افق) را با سرعت و به راحتی امکان پذیر می‌سازد.

روی ورق های ضخیم با تراک فولادی Fillet و Butt جوشکاری های ساده امکان پذیر است.

SPEED CAT
تیپ: SPEED CAT

کار با این تراک‌های این آمپر است می‌باشد: صنایع کشی و قاب سازی ساخت مخازن ذخیره، پل سازی، بوم‌ها، ستون‌ها، سازه‌های با طول زیاد و ساخته شده از ورق های ضخیم فولادی.
Have you ever find a carriage or stationary Feeders of TWIN-WIRE SUB ARC machines with so many advantageous?

1) Automatic compensation of input voltage
2) Automatic compensation of carriage loading variation using tacho (Option for SPEED CAT)
3) Preset of Arc voltage, welding current and speed of carriage before welding.
4) Robust construction and infinitely flexible.
5) Digital display of weld current, voltage, carriage speed.
6) Flexibility of machines insures to do various adjustment for different positions, shortly, precisely and simply.
7) Extra heavy duty and powerful Feeder of SPEED CAT carriage in maximum feeder at 100% duty cycle.
8) Calibrated carriage drive adjusts travel speeds from 0.12 to 1.8 m/min (For SPEED CAT)
9) Feasibility of adjusting the welding head in all of the needed positions.
10) Corner joint, T joint, Lap joint to the left or rights side of the tractor frame for convenience.
11) Special design of wire straightener using excellent device ensures soft and excellent trouble free for wire feeding while maintain coated copper of wire.
12) Flux hopper capacity of 7kg can be mounted in two locations for fillet or flat positions in the same level in order to get the maximum capacitance of flux.
13) Horizontal, vertical, and rotary slides allow to continuous, simple, very widely and precisely and quickly adjustment of the nozzle for the Fillet/Butt and other numerous positions and lets operator track irregular joints while welding as well as ESO (electrical stick out...)
14) Very widely adjustments of Wire reel hub in each three planes X,Y,Z ensures higher flexibility and stability.
15) Ability of 45 degree welding in case of the Fillet on the “H” or “I” shape profiles with more than 48 cm internal width even without using of guidance rail and without rotating the work piece. (For SPEED CAT)
16) Using built in – wrench system eliminates adjustments and increases the speed of process.
17) Laser height guided adjustment.
18) Two driven axes (4 wheel drive) makes precisely travelling of carriage (For SPEED CAT)
19) Facility of adding shaft extension ensures more stability of carriage, if necessary. (For SPEED CAT)
20) Soft start control for easy process start.
21) Burn back control to prevent wire sticking.
22) Control box is conventionally located on carriage. It can be mounted either on left or right, can move in X,Y, Z axis, or turned 360 degree in X,Y,Z and ZY plates. This facility makes control of parameters on box much easy and precise and eliminates the need to return to the power source for routine procedure changes.
23) Precise control of feeder speed using Tacho and the feedback ensures constant speed of feeder even hard condition. (Optional)

ACCESSORIES FOR SPEED CAT
- Voltmeter, amphere meter and speed meter
- Extensions for increasing width of the tractor to have excellent stability
- Laser light indicator
- Slide – guide rolls and special guides without rails
- Lock system for carriage travelling
- Special wheels with groove for rail guide
- Reel hob for MIG/MAG or flux cored welding

ACCESSORIES FOR SPEED FEED
- Voltmeter and amphere meter
- Laser light indicator

OPTIONAL
- 12m Inter cable welding cable and 3 m earth cable ( both 2×120 mm² ) including special protector cover
- Tachometer for carriage travelling ( for SPEED CAT)
- Flux recovery system
- Extension for increasing Z axis.