

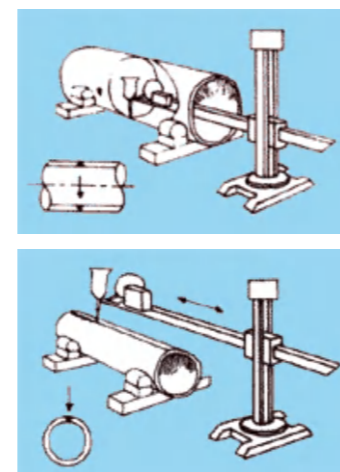
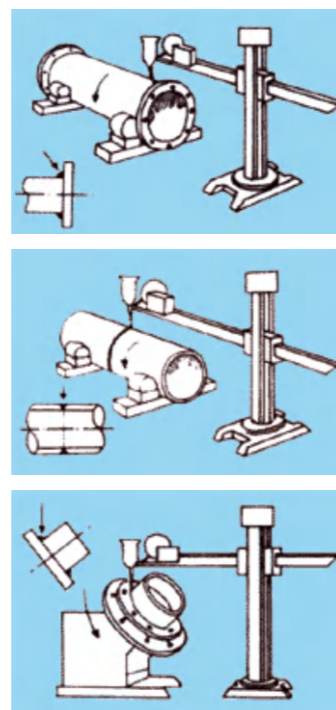
焊接操作机 Welding Manipulator

焊接操作机是与焊接滚轮架、焊接变位机等相组合，对构件的内外环缝、角焊缝、内外纵缝进行焊接，可根据用户的需求选择结构并配套各种焊机以及增加跟踪、摆动、监控、焊剂回收输送等辅助功能，也可为用户设计制造各种特制专用操作机。

- ◎结构形式分为固定式、固定带回转式、移动带回转式三种;
- ◎横臂和立柱的截面进行科学计算、保证了横臂水平伸缩的稳定性;
- ◎横臂的升降装置配有意外防坠落装置，采用棘条棘爪机构，更安全可靠;
- ◎横臂前端配有十字微调机构，可以在遥控盒上进行操作;
- ◎导向轮轴为偏心轴，可以方便消除滚轮与导轨之间的间隙;
- ◎立柱回转分为手动和电动两种形式，回转到位后的锁紧机构也分为手动和气动两种形式;
- ◎电器部分包括电控箱和遥控盒两部分组成，并留有与变位机和滚轮架的控制接口。

Welding manipulator is used when the weld head has to be moved to a position relative to the work piece. It provide the perfect solution as the boom can be lifted and lowered on the column and can be extended or retracted as required, The ends of boom are machined to carry a welding head; and can composed of auto welding mechanical equipment via welding rotator, welding positioner and welder ,widely applied to industries such as boiler, pressure vessel, petroleum, chemical industry and mechanism.

- + Structure : stationary, stationary and revolve , moving and revolve type.
- + Cross section of boom and column are rectangular-section beams, with double-rail, welded into shape、stress-relieved and mechanical machined finely, ensuring higher precision.
- + Drooping of boom along horizontal travel is 2mm/m.
- + Boom lifting device including ratchet-type anti-dripping unit on the column, safe and reliable to prevent chains from incidental broken.
- + Guide roller is eccentric structure, decrease clearance between roller and rail surface, ensuring smooth and no shivering boom travel.
- + Column revolve unit has motor driven and manual drive type.
- + Control box includes control box and pendant , interface with positioner and rotator also prepared.



操作方式
Operation mode

焊接操作机 Welding Manipulator

型号 Model	横梁 Boom				前端负载 Max load at extremity kg	立柱 Column 回转方式 Rotation angle (+180°)	台车 Traveling cart			功率 KW Power	包装 Package		
	升降行程 Vertical stroke m	伸缩行程 Horizontal stroke m	升降速度 Elevation speed m/min	伸缩速度 Traverse speed m/min			尺寸 Dimensions (D) × (E) × H m	轨距 Rail to c to c mm	速度 Speed m/min		Dim.(B&C) L × W × H (m)	Gross weight (tons)	
WM1515	1.5	1.5	0.3	0.12 - 1.2	100	Man.	2.9	1.25 × 1.2 × 0.2	1052	Man. Or 1.0	0.91	3.0 × 0.5 × 0.7	1.0
WM2020	2.0	2.0	0.3		100		Manual or motorized	3.4	1.25 × 1.2 × 0.2		1052	0.91	3.2 × 0.6 × 0.7
WM3030	3.0	3.0	1.0		200	5.5		2.4 × 1.9 × 0.4	1600	2.75	5.4 × 1.2 × 1.1	4.6	
WM3040	3.0	4.0	1.0		200	5.5		2.4 × 1.9 × 0.4	1600	2.75	6.0 × 1.2 × 1.1	5.1	
WM4040	4.0	4.0	1.0		200	6.5		2.4 × 1.9 × 0.4	1600	2.75	6.5 × 1.3 × 0.9	5.5	
WM4050	4.0	5.0	1.0		200	6.5		2.4 × 1.9 × 0.4	1600	2.75	7.0 × 1.3 × 0.9	6.0	
WM5050	5.0	5.0	0.9		300	7.8		2.6 × 2.1 × 0.5	1798	3.5	7.8 × 1.5 × 1.0	6.5	
WM5060	5.0	6.0	0.9		300	7.8		2.6 × 2.1 × 0.5	1798	3.5	8.3 × 1.5 × 1.0	7.0	
WM6060	6.0	6.0	0.9		300	9.7		2.6 × 2.1 × 0.5	1798	3.5	9.8 × 1.5 × 1.0	7.5	
WM7060	7.0	6.0	0.9		300	10.7		2.8 × 2.3 × 0.5	1998	4.25	10.8 × 1.5 × 1.0	8.5	
WM8060	8.0	6.0	0.9		300	11.7		2.8 × 2.3 × 0.5	1998	4.25	11.8 × 1.7 × 1.2	10.0	
WM8010	8.0	10.0	0.9		300	11.7	3.2 × 2.4 × 0.5	2200	5.0	11.8 × 1.7 × 1.2	12.0		

★ 立柱和横梁集装箱运输参考尺寸 goods reference Dim by Container

Notes:

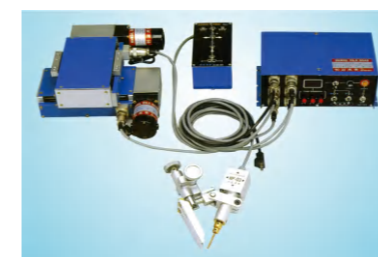
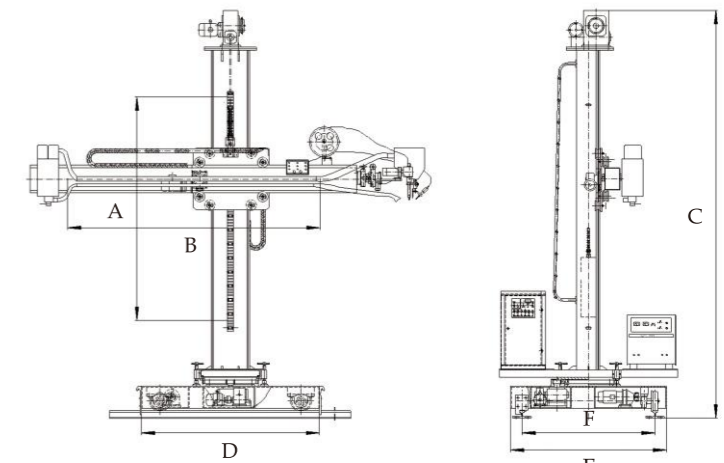
- a) Column motorized rotation: included only WM 3030 and above b) Trolley motorized with constant speed: included c) Remote control box with 6-12 m span: included d) Manual welding head cross slide: included e) Boom cable organizer: export product included f) Boom anti-fall safety device on WM 3030 and above: included g) Trolley anti-fall safety device: included h) Power source platform on trolley: included i) Shot blasted frame at SA 2 1/2: included j) Custom built welding manipulators available k) CE mark only under customer request l) Manual revolve then locked by screw m) The information contained in this brochure is intended to be accurate. However the manufacturer retain the rights to make changes in design which may not be included

Standard package includes:

- ◎Welding Manipulator and traveling cart ◎Remote control box adjust: i) Vertical and horizontal boom movement; ii) Trolley motion ◎Operation manual ◎One year warranty

Optional:

- +Flux recovery unit +Electric welding head cross slide +Trolley cable organizer +Rail track for trolley +Variable speed on traveling cart from 0.12 up to 1.20 m/minute +Work platform and operator's seat only in WM 5050 and larger +Seam tracker +Seam monitor system +Welding oscillator +Arc length control +Drive by linear ball bearing guide rail



焊缝跟踪器
Seam tracker



焊接摆动器
Welding oscillator



弧长控制器
Arc length control

可根据客户的要求设计制作各种专用的焊接设备，可选配的功能如下：

According to our customer's requirement, we can provide solutions to special equipment, Selection of the follows functions:



焊剂回收与输送系统
Flux auto-recovering system and feeding



焊缝监控系统
Monitor operating system

焊接操作机
Welding Manipulator



埋弧焊机
Welding manipulator with SAW & FCAW



氩弧焊机
Welding manipulator with TIG



环缝焊机
Girth welding manipulator



法兰焊机
Flange welding manipulator



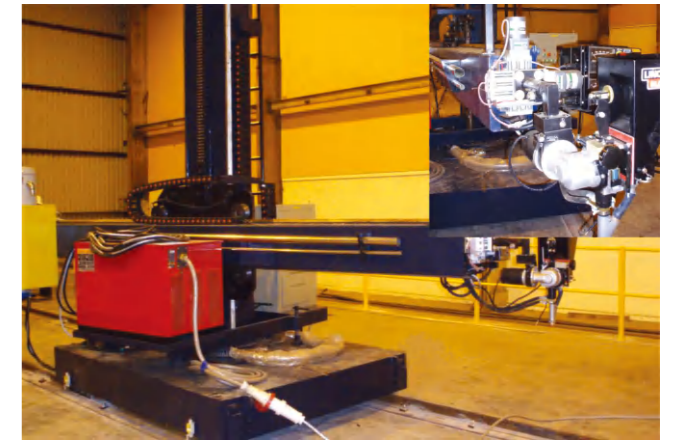
气保焊机
Welding manipulator with MAG



双立柱焊机
Double column welding manipulator



内壁焊机
Inner wall welding manipulator



纵缝焊机
Longitudinal welding manipulator



门架式焊机
Gantry welding manipulator



水泥罐焊机
Custom built welding manipulator



焊接中心
Welding manipulator with DC1000



焊接中心
Welding manipulator with DC1000

焊接操作机
Welding Manipulator

焊接操作机 Welding Manipulator

自动堆焊机 Automatic Hardfacing Machine

自动堆焊机是用来延长耐磨件寿命的表面堆焊设备，广泛应用于各类热轧辊、型钢辊、有色金属轧辊、磨煤辊等多种工件的硬面预保和修复工作；我们可根据客户的具体要求设计制作各种堆焊设备。

Automatic Hardfacing machine of our advanced technology in extended wear life equipments, widely used in each kind of hot roller, beam steel roller, color metals roller, and grind coal roller, etc various works pieces to prepare to protect and repair the work; We can customize various different specifications according to customer's need.

主要优点:

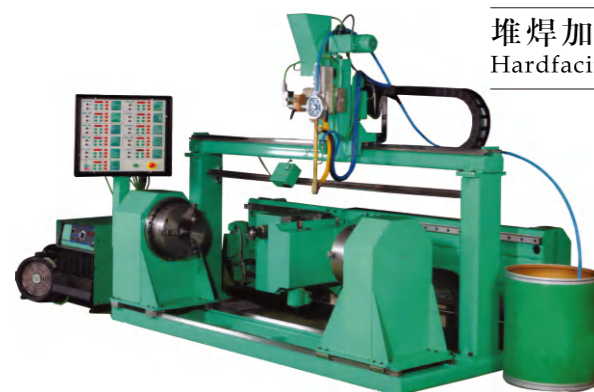
- 1、可实现堆焊过程和保温过程的同步进行，保证堆焊过程中的层间温度的数字化控制。
- 2、实现焊剂的自动回收，避免了粉尘的污染，改善工作环境。
- 3、堆焊过程的送丝稳定，送丝力矩大，可实现高速堆焊和摆动堆焊，增加熔深和熔敷效率。
- 4、摆动堆焊过程中加强了电弧对熔池的电磁和机械搅拌作用，使焊缝组织更趋于合理和均匀。
- 5、对于焊接过程中的所有工艺参数，包括电流、电压、送丝速度、行走速度、行走距离、焊道宽度，焊道摆宽，焊接时间等均可实现自动化控制，

Main advantage:

- 1, Can hardfacing process and heat preservation process synchronously, the control of temperature of layer within hardfacing process is numeral.
- 2, Carry out the automatic recovery of welding flux, avoiding the pollution of the dust, and improving work environment.
- 3, Feeding wire stably and its moment great, can carry out high speed welding and, increasing the welding deep and the efficiency of deposition.
- 4, Swing welding strengthened the arc function to mix blend the welding seam, make the seam organization gradually in reasonable and even.
- 5, All craft parameters within the welding process can be controlled automatic, include the welding current, voltage, wire speed, traverse speed, traverse distance, welding width, swing width, welding time etc.

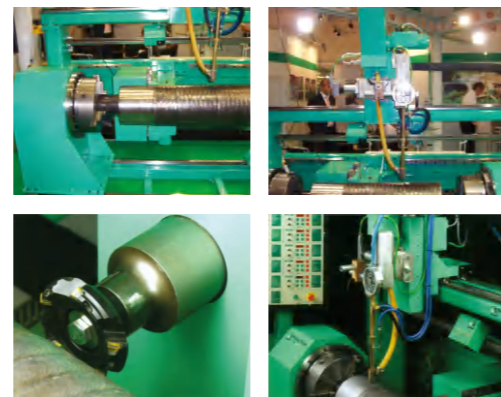


型号 Model	最大负载 tons Max load Cap	工件尺寸 mm Roller dimension		焊接方式 Welding	焊接速度 mm/min Welding speed	机头滑板 Feed Wire				应用 Application	选择功能 Optional
		直径 Diameter	长度 Length			方式 Feed way	速度 mm/min Speed	升降距离 mm Elevating stroke	水平距离 mm Horizontal stroke		
DH10	1.5	100-500	1000	气保焊接 MIG/MAG 埋弧焊接 SAW- with Flux 明弧焊接 SAW-with FCAW	100-1000	螺旋焊接 Helical welding 步进焊接 Stepping welding	手动Man 或者or 20-50	80	1000	钢厂各种 热轧冷轧辊	摆动 Swing 水冷 Cooling 加热 Pre-heating 吸尘 Sucting dust
DH20	4	200-1000	2000		80			2000			
DH40	25	200-1000	4000		80			4000			
DH60	100	特殊/Customize	6000		特殊/Customize			特殊/Customize			
Combo-DH (操作机WM +变位机WP)	5	800-1500	/		2000 or 特殊/Customize			2000 or 特殊/Customize			
DHP	10	800-2000	/	100-1000	2500	2500	水泥厂电 厂磨煤辊	常规圆周 Girth welding	600	1000	机车阀门气门、 模具底座等
	300	20-100	/	100-1000	/	600	1000		600	1000	
	600	100-300	/	100-1000	/	600	1000				



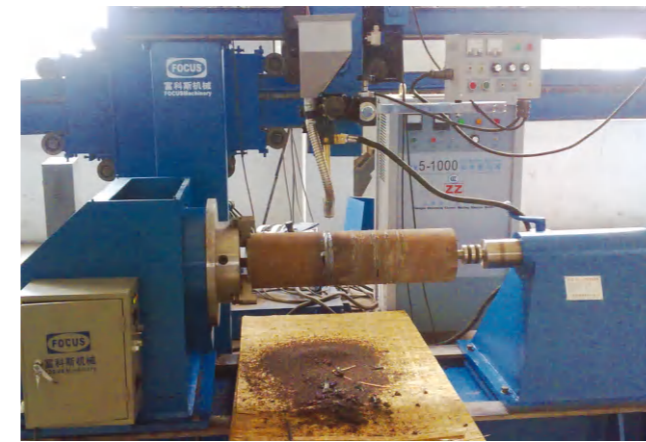
堆焊加工一体机 Hardfacing and Machining

- 堆焊、铣削加工一体化
Combo unitized Hardfacing and machining
- 程序化控制
PLC and HMI control
- 适应于明弧、埋弧、气体保护焊接
Multi process-open arc, subm-merged arc, gas shielded

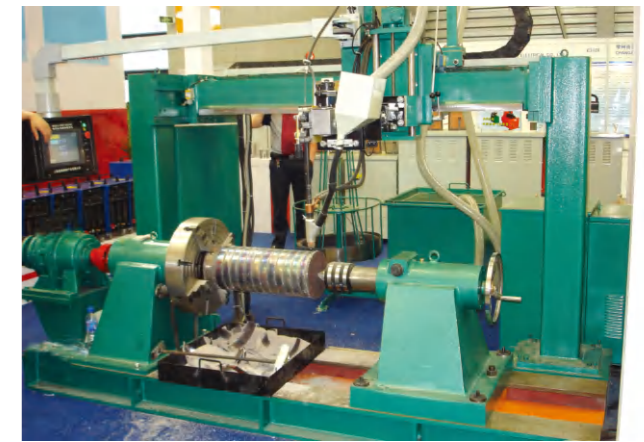


焊接操作机 Welding Manipulator

自动堆焊机 Automatic Hardfacing Machine



埋弧堆焊机
Hardfacing machine with SAW



埋弧堆焊机
Hardfacing machine with SAW



明弧堆焊机
Hardfacing machine with FCAW



平板堆焊机
Steel plate hardfacing machine



等离子喷焊
Hardfacing machine with PLASMA



多头堆焊机
Multi arc hardfacing machine

焊接操作机 Welding Manipulator

管道预制自动焊接机

Pipe Prefabrication Automatic Welding Machine

管道预制自动焊接机是为了提高生产效率、增强自动化程度、减轻焊工劳动强度、适应工厂化预制的迫切需要而专门设计、制造的。本焊机采用管子转动、焊接机头相对固定的方式实现自动焊接，焊接工艺采用高效率、低成本的气体保护焊或埋弧自动焊，操作简单。性能可靠，适用范围广。

Pipe prefabrication automatic welding machine is specially designed and manufactured for the purpose of meeting the requirements of enhancing productivity, increasing the extent of automatic, reducing welder's working intensity and adapting to piping workshop p-prefabrication. The welding head will be relatively fixed, while the piping spool piece revolving at a specific rate, and the high efficient and low cost shielded welding or SAW process is adopted, so it has the features of easy-operation, reliable-performance and wide-application field.

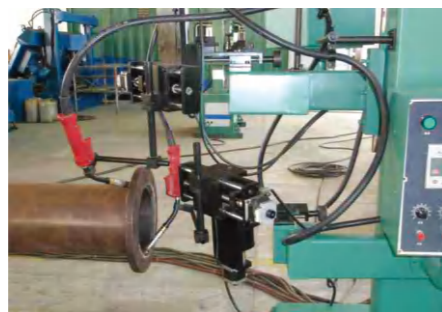


适用管径范围 Pipe diameter applicable	Φ50 - Φ426mm
滚轮线速度范围 Welding speed	70 - 1700mm/min
使用配套焊接方式 Welding process	MIG, MAG, SAW
使用接头形式 Seams	管+管、管+管件、管件+管件 pipe+pipe, pipe+piece, piece+piece

自动环缝焊接专机 Automatic girth seam machine

主要用于中小直径范围圆柱或圆筒形工件环缝的TIG、MIG/MAG、PLASMA的自动焊接，采用卧式、立式、和主轴可调结构设计，它由主轴箱、床身、气动尾座、托架、控制系统等组成。

Applicable for the welding of various cylinder workpiece by TIG, MIG, MAG and PLASMA, its structure including horizontal, stand and adjustable principal axis, and assembling with headstock, lathe bed, bracket, control system etc.



焊接操作机 Welding Manipulator



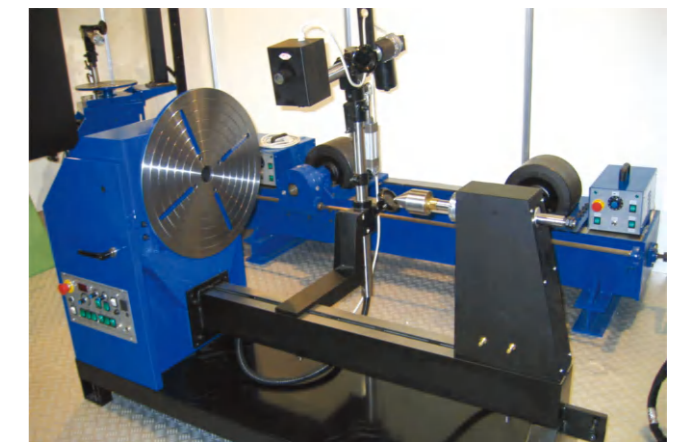
弯头焊接机
Elbow welding machine



法兰焊接机
Flange welding machine



环缝焊接机
Girth welding machine



环缝焊接机
Girth welding machine



弯头焊接机
Elbow welding machine



支管焊接机
Pipe welding machine

焊接操作机 Welding Manipulator

纵缝焊接专机 Longitudinal Seam Welders

纵缝自动焊机是实现薄壁筒体纵缝或矩形管邻接缝焊接的主要工艺设备。

纵缝自动焊机主要由机座、横梁、琴键式夹紧结构、芯轴、水冷铜衬垫、轴端托架、行走小车、十字滑架等组成。琴键式夹紧结构在琴键压指端产生最大25kg/cm的压力；横梁上设有焊接小车，通过导轨和驱动机构可在横梁上作直线运动。十字滑架，手动或电动可选；控制系统可增加自动弧长控制和横摆功能。LSW系列纵缝自动焊机适合配置TIG、MIG或PLASMA焊接电源，应用于焊接碳钢、不锈钢、钛及其他合金材料。

+LSW Type Longitudinal seam welders is a main process equipment used to produce linear welds on abutting edges of thin wall cylinder or rectangular tube.

+LSW Type Longitudinal seam welders includes: machine seat, crossbeam, Hold down fingers, Back-up mandrel, Water cooling copper interleaver, travel Carriage and Control, dual Axis Slides etc.

+Hold down fingers can generates a clamping force of up to 25 kg/cm through air-operated.

+Travel Carriage and Control is mounted on the crossbeam, it is driven by a DC motor to make the straight line sport on the Horizontal beam.

+Dual axis slides provided with manual or dynamoelectric type; control system can add the function of arc length control or welding oscillator.

+Suitable for various welding processes such as TIG, MIG/MAG, PLASMA, suitable for carbon steel, stainless steel, titanium and other alloys material.

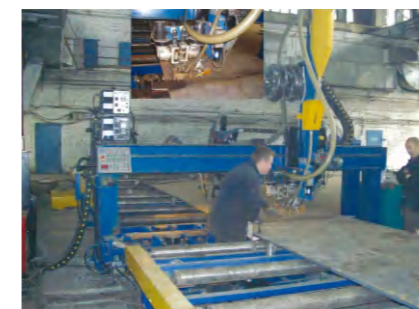


焊接操作机 Welding Manipulator

特殊焊接机 Special welding machine

机械导轮跟踪适用于等截面、衡器梁、拱型的构件或型钢的自动焊接，整机可根据需要设有焊接除尘装置、焊接自动回收装置等，性能可靠，操作方便，效率高。

The auto welding machine is suitable for auto-welding of the equal section, variable section and arch type steel structure or beam steel by idler pulley. According to customers requirement, we can provide with purifying weld-soot equipment, flux auto-recovering system-etc, easy-operation, high-efficiency.



拼板焊接机
Butting plate welding machine(FCB)



拼板焊接机
Butting plate welding machine(MAG)



衡器梁焊接机
Weighter beam welding machine

型号 Model	纵缝焊接机 LONGITUDINAL SEAM WELDER					外形 mm Overall L × W × H	毛重 tons Gross weight	
	焊接长度 mm Welding length		工件直径 mm Diameter vessel	焊接速度 mm/min Welding speed	工件厚度 mm Welding thickness			位移精度 mm per 1m Travel accuracy
	Net	Min ~ max	Min ~ max					
LSW5	500	700 ~ 1200	110 ~ 800	150 ~ 1500	0.2 ~ 3	± 0.2	1350 × 660 × 1400	0.7
LSW10	1000	700 ~ 1700	150 ~ 800	150 ~ 1500	0.2 ~ 3	± 0.2	1700 × 660 × 1800	2.1
LSW15	1500	700 ~ 2200	180 ~ 1000	150 ~ 1500	0.4 ~ 3	± 0.2	2500 × 800 × 2100	2.3
LSW20	2000	750 ~ 2750	230 ~ 1000	150 ~ 1500	0.4 ~ 6	± 0.3	3100 × 900 × 2100	2.5
LSW25	2500	800 ~ 3300	300 ~ 1000	150 ~ 1500	0.5 ~ 6	± 0.3	3700 × 900 × 2200	3.0
LSW30	3000	1000 ~ 4000	340 ~ 1200	150 ~ 1500	0.5 ~ 6	± 0.3	4200 × 1000 × 2200	3.4
LSW35	3500	1000 ~ 4500	400 ~ 1200	150 ~ 1500	1 ~ 8	± 0.4	4800 × 1000 × 2200	4.0
LSW40	4000	1100 ~ 5100	450 ~ 1200	150 ~ 1500	1 ~ 8	± 0.4	5730 × 1200 × 2300	5.3
LSW50	5000	1150 ~ 6150	500 ~ 1500	150 ~ 1500	1 ~ 10	± 0.5	7000 × 1250 × 2700	10.0

其他型号规格请咨询我司技术人员。
Other type and technical parameters can call FOCUS technical engineer.



刮板焊接机
Scraper welding machine



多头焊接机
Multi arc welding machine



多头焊接机
Multi arc welding machine