



ESAB LEGIO™

A modular Friction Stir Welding system



Extrusions



Aerospace



Automotive



Shipbuilding



ESAB LEGIO™ machines are a standardised, flexible, modular system designed for easy utilisation of Friction Stir Welding. The outstanding welding characteristics make LEGIO™ the most attractive solution for effective production even for small batches in various sizes.

ESAB has developed Friction Stir Welding equipment for a multitude of different industry segments welding non-ferrous metals. These machines are successfully operating in the aerospace, automotive, shipbuilding, energy and other industries which take advantage of solid state welding.

The FSW System LEGIO™



Members of the LEGIO™ family

In a series of seven sizes there are five basic designs - S, ST, U, UT and double headed ST.

The S- and ST-models are designed for linear welding (x and z), U- and UT-models for 2-D (x-y and z) and double headed versions are for welding hollow profiles.

Size	Vertical down force (kN)	Welding depth (mm)			
		AA 6000	AA 5000	AA 2000 AA 7000	Cu (oxygen free)
FSW 1	6	3	2	1,5	0,8
FSW 2	12,5	5	3,5	2,5	1,5
FSW 3	25	10	7	5	3
FSW 4	60	18	10	9	7
FSW 5	100	35	20	18	12
FSW 6	150	60	40	25	25
FSW 7	200	100	75	70	40

Welding Speed

Standard welding speed for all models is up to 2 m/min (79 ipm)

Design

All machines are designed with a rigid framework for high performance during load conditions. The welding head travels on heavy-duty linear bearings and is driven by a rack and pinion drive system.

Process control system

All LEGIO™ machines have an ESAB HMI control system especially developed for Friction Stir Welding. The controller has the capability of controlling the welding process (the vertical Z-axis) either by force or position control. An hydraulic cylinder with a closed loop system controls the Z-axis.



- The HMI (Human Machine Interface) has menu based software which makes it easy to store and recall welding programs
- An alarm handling system with alarm history is also included
- PC network connections and data transfer are available as options

*ESAB reserves the right to alter specifications without prior notice
ESAB is approved according to ISO 9001:2000*



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