



# Railtrac 1000

– A unique, flexible, **multi-purpose** system for **welding and cutting**.



**GLOBAL SOLUTIONS FOR LOCAL CUSTOMERS - EVERYWHERE**



## ■ Flexible answer to stiff requirements

Railtrac is a system of components that can be configured to create the optimal solution for your mechanized welding application. To minimize problems associated with harsh environments, most mechanical parts are constructed in aluminum or stainless steel. Railtrac is designed for horizontal and horizontal to vertical (up, not down).

### **Joint rail system for stiff or flexible rail applications**

The extendable Railtrac combi-rail enables the same tractor to run on a flexible rail or the same rail stiffened with a stiffener bar. The stiffener-bar rail fits into the existing holes in the rail. This makes it possible to weld straight as well as curved surfaces. The combi-rail is clean, without a rack for driving the tractor.

### **Five different versions**

The Railtrac can be delivered in different versions. F is the basic version which is a drive unit only. For FR we have added an automatic return function. FW has a weaving unit that can be used when you want to fill up a welding joint. The most advanced unit is the FWR which has both the weaving and return functions. If the welding process requires a lower welding speed there is a version of the FW unit, FW1000 L, with a lower travel speed.

### **Interval welding and backfill function are standard**

Each Railtrac 1000 is supplied with software for programmable interval welding as standard. Only weld length and distance between the welds need to be set. Backfill, i.e. welding in reverse for a preset distance before stopping, is also programmable. Backfill is used as an alternative to crater filling.

### **Direct connection to all new modern ESAB wire feeders**

Railtrac 1000 can be easily connected to most ESAB wire feeders with no major modification.

### **Five programs can easily be stored**

As many as five different programs can be stored. Each program is individual and can be retrieved from the control box or the remote control.

### **Remote control of welding parameters and immediate program shift**

Using two potentiometers on the remote control, both welding current and voltage can be adjusted during welding. Stepping up or down between the alternative motion programs is also easy, depending on welding position.

### **Resilient programming units with great potential**

Straightforward, logically-designed programming units are used to set the values for five different programs. All speeds are calibrated in cm and mm, for the greatest possible precision and welding quality. Membrane push-buttons and weatherproof casings permit use outdoors.

### **Remote control for the harshest environments**

Using the robust and lightweight remote control that comes with the Railtrac FW1000 and Railtrac FWR1000, the operator can access and control every function without lifting his welding visor. Individually shaped buttons for:

- Start and stop
- Shift program
- Travel or welding direction (cutting direction)
- Travel or welding speed (cutting speed)
- Weaving width
- Zero line displacement
- Welding current (wire-feed speed)
- Welding voltage
- Backfill function



## ■ Broad range of accessories

### Tractor unit

The tractor unit is the motive force. It is available in five different versions, from the simplest (drive only) to a unit featuring driving, weaving and automatic return.

Railtrac F1000, drive only	0398 146 002
Railtrac FR1000, drive and return	0398 146 003
Railtrac FW1000, drive and weaving	0398 146 012
Railtrac FW1000 L, low-speed drive and weaving	0398 146 014
Railtrac FWR1000, drive, weaving and return	0398 146 013



### Rails

The rail is the component you mount the tractor on. The light flexible aluminium rail can be used on objects that are flat, curved or round and can be fitted to the surface in different ways. It is supplied in standard 2.5 metre lengths and can be extended to any required length with a quick-extension bracket. The rail can be mounted permanently on the work object or temporarily fixed with magnets or vacuum fixtures. It may also be attached to the outside or inside of a tube. A stiffener bar may be used to stiffen the flexible rail.

Flexible alu rail, 2.5 metres	0398 146 115
Flexible alu rail, 2.5 metres with 8 magnets	0398 146 112
Flexible alu rail, 2.5 metres with vacuum attachments	0398 146 113
Stiffener bar, 2.5 metres	0398 146 116
Magnetic attachment, at least 8 pcs per 2.5 metres	0398 146 100
Vacuum attachment, 90°, at least 4 pcs per 2.5 metres	0398 146 104
Vacuum attachment, 200°, at least 4 pcs per 2.5 metres	0398 146 105
Screw attachment for stiffened rail, at least 8 pcs per 2.5 metres	0398 146 114



*Rails for tubes, contact your ESAB distributor*



### Weaving unit

The W30 weaving unit is mounted as standard on FW and FWR tractors, but can also be used as a separate unit for different automation solutions. Two versions are available, with weaving widths of 30 or 80 mm. Control unit is included.



W30, 30 mm weaving width, complete unit with torch holder

0398 145 031

W80, 80 mm weaving width, complete unit with torch holder

0398 145 032

### Torch holders

The system features different torch holders for different torches and applications. All Railtrac units come with a torch holder and slide as standard.



Torch holder and slide

0398 145 222

Torch holder for ESAB PSF torches

0398 145 101

Universal pivoted torch holder

0398 145 104

Torch holder for IMP cutting torch

0398 145 260

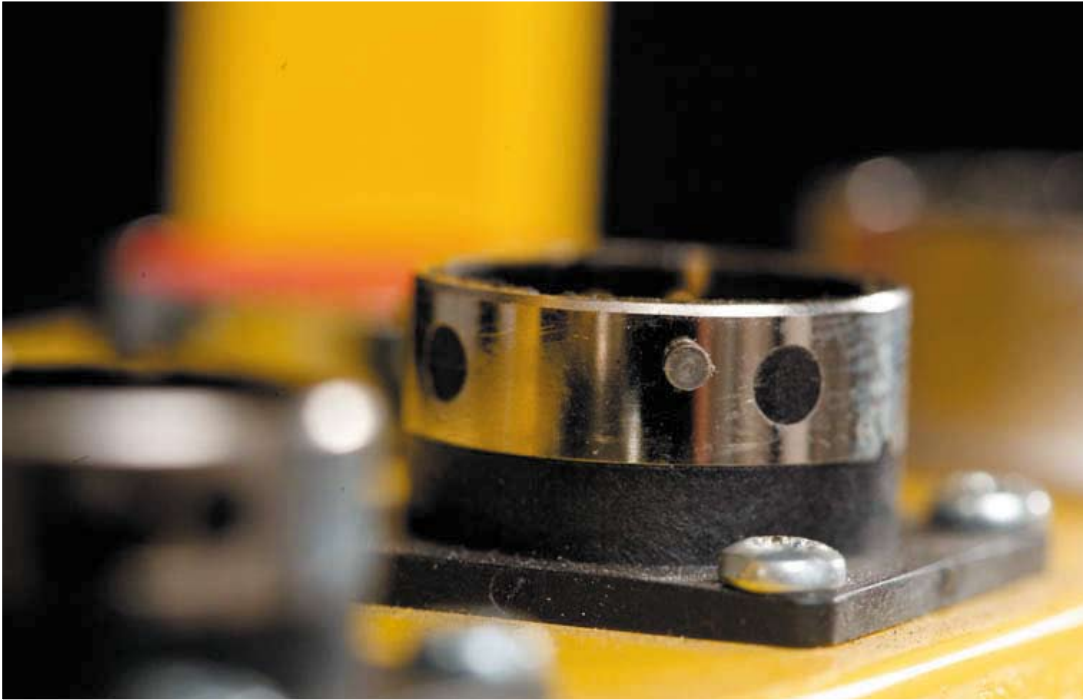
### Tilt bracket

The tilt bracket enables the Railtrac to weave when welding fillet joints. It is mounted between drive and weaving unit. The weaving unit can be tilted from 0 to 80 degrees.



Tilt bracket

0398 145 200



### Turn bracket

The turning bracket is used to change the angle of the weaving unit at  $\pm 45$  degrees from travel direction.

Turn bracket

0398 145 201



### Floating head

This component helps maintain constant stick-out at the welding torch.

Floating head

0398 145 211



### Control units

Two different types of control units are available for the Railtrac 1000 series: one for the F and FR1000, one for the FW and FWR1000 as well as FW1000L. The first controls travel and programs only, while the latter controls travel, programs and weaving.

Control unit for F1000 and FR1000

0398 145 178

Control unit for FW1000 and FWR1000

0398 145 176

Control unit for FW1000 L

0398 145 179



### Remote control

A remote control may be connected to the FW1000 and FWR1000, for control of key parameters.

Remote control

0398 145 942



### Transformer

This transformer allows you to use the Railtrac 1000 with non-ESAB welding power sources, or for other applications.

Transformer

0457 467 880





## Connection cables

We have an assorted collection of connection cables that fits different types of wire feeder.

Connection cable standard	0457 360 880
Connection cable for Railtrac, with transformer	0457 360 881
Connection cable for MED 44B and MEK 2	0457 360 882
Connection cable for MEH 30 and MEH 44	0457 360 883

See also the Cable key diagram on next page



## Other

The quick-extension bracket facilitates rapid mounting and dismounting when using two rails.

Quick-extension bracket for flexible rail	0398 146 120
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Each Railtrac unit is delivered in a carrying box

Carrying and storage box	0398 145 199
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Technical specification		Railtrac F1000 Flexi	Railtrac FR1000 Flexi Return	Railtrac FW1000 Flexi Weaver	Railtrac FW1000L Flexi Weaver	Railtrac FWR1000 Flexi Weaver Return
Power supply	VAC/VDC	36-46/40-60	36-46/40-60	36-46/40-60	36-46/40-60	36-46/40-60
Power consumption, max	W	30	30	80	80	80
Weight, excl. rails	kg	6	6	7	7	7
Measurements, LxWxH	mm	170x400x190	170x400x190	170x350x190	170x350x190	170x350x190
Rail measurements – flexi rail	mm	60x5	60x5	60x5	60x5	60x5
Stiffener bar	mm	40x10	40x10	40x10	40x10	40x10
Minimum bend dia. externally	mm	Ø3000	Ø3000	Ø3000	Ø3000	Ø3000
Slide for height adjustment	mm	±22	±22	±22	±22	±22
Slide for lateral adjustment	mm	±28	±28	-	-	-
Mechanical lateral adjustment	mm	-	-	±35	±35	±35
Welding speed	cm/min	10-150	10-150	10-150	5-99	10-150
Quick transport	cm/min	150	150	150	99	150
Preheating time	s	0.0-9.9	0.0-9.9	0.0-9.9	0.0-9.9	0.0-9.9
Interval welding	cm	1-99	1-99	1-99	1-99	1-99
Crater-filling time	s	0.0-9.9	0.0-9.9	0.0-9.9	0.0-9.9	0.0-9.9
"Backfill"	mm	0-99	0-99	0-99	0-99	0-99
Weaving speed	mm/s	-	-	6-60	6-60	6-60
Weaving width	mm	-	-	1-30	1-30	1-30
Electrical 0-line displacement	mm	-	-	±12.5	±12.5	±12.5
Pause time at outer edge	s	-	-	0.0-9.9	0.0-9.9	0.0-9.9
Weaving pattern	No.	-	-	3	3	3
Number of programs	No.	5	5	5	5	5
Temp. machine and magnets	°C	0-70	0-70	0-70	0-70	0-70
Temp. vacuum attachment	°C	0-90	0-90	0-90	0-90	0-90
Safety class	DIN 40050	IP 23	IP 23	IP 23	IP 23	IP 23

Order number	Order information • Included — Not available o Component ◇ Accessory	Note	Railtrac F1000	Railtrac FR1000	Railtrac FW1000	Railtrac FW1000L	Railtrac FWR1000
<b>Basic equipment</b>							
	Weaving unit		—	—	•	•	•
	Control unit		•	•	•	•	•
	Remote control		—	—	•	•	•
	Universal torch holder with slide		•	•	•	•	•
	Automatic start/stop function		—	•	—	—	•
<b>Rails and attachments</b>							
0398 146 115	Flexible alu-rail, 2.5 m		o	o	o	o	o
0398 146 112	Flexible alu-rail, 2.5 m, 8 magnets		o	o	o	o	o
0398 146 113	Flexible alu-rail, 2.5 m, 4 vacuum attachments	1)	o	o	o	o	o
0398 146 116	Stiffener bar, 2.5 m		o	o	o	o	o
0398 146 100	Magnetic attachment, at least 8/2.5 m		o	o	o	o	o
0398 146 104	Vacuum attachment, at least 4/2.5 m, 90°	1)	o	o	o	o	o
0398 146 105	Vacuum attachment, at least 4/2.5 m, 200°	1)	o	o	o	o	o
0398 146 114	Screw attachment for stiffener rail	2)	o	o	o	o	o
<b>Accessories</b>							
0398 145 101	Torch holder PSF 400/500		◇	◇	◇	◇	◇
0398 145 104	Universal pivoted torch holder		◇	◇	◇	◇	◇
0398 145 215	Torch angle attachment		◇	◇	◇	◇	◇
0398 145 211	"Floating" head		◇	◇	◇	◇	◇
0398 145 200	Tilt unit for weaving unit		—	—	◇	◇	◇
0398 145 201	Turning unit for weaving unit		—	—	◇	◇	◇
0398 145 260	Attachment for IMP cutting torch		◇	◇	◇	◇	◇
0398 145 250	IMP cutting torch		◇	◇	◇	◇	◇
0398 145 199	Transport and storage box		◇	◇	◇	◇	◇

Notes

- 1) 2 pcs 0398 146 100 is necessary if used together with Railtrac FR or FWR
- 2) At least 8 pcs/2.5 m rail

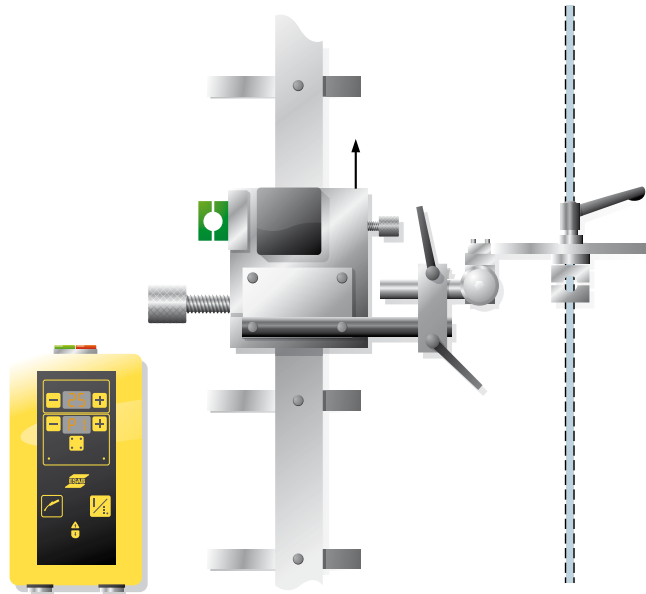
Cable key diagram												
Feeder unit	Brand	0457 360 880	0457 360 881	0457 360 883	0457 462 880	0443 341 880	0459 681 880	0457 467 880	Voltage	Current	Power	On/Off
Origo™ Feed 304; M12	ESAB	X							--	X	X	X
Origo™ Feed 484; M12	ESAB	X							--	X	X	X
Origo™ Feed 304; M13	ESAB	X							X	X	X	X
Origo™ Feed 484; M13	ESAB	X							X	X	X	X
Aristo™ Feed 3004, 4804	ESAB	X					X		X	X	X	X
MEK 4	ESAB	X			X				X	X	X	X
MEH 44	ESAB			X		X			X	X	X	X
Universal	?		X					X	?	?	X	X
		Cable 23 pins	Cable without plug	Cable 4 pins + 12 pins	Cable kit	Connection kit	Remote adapter kit	Transformer				

Railtrac 1000

# Railtrac in attractive packages suitable for most applications

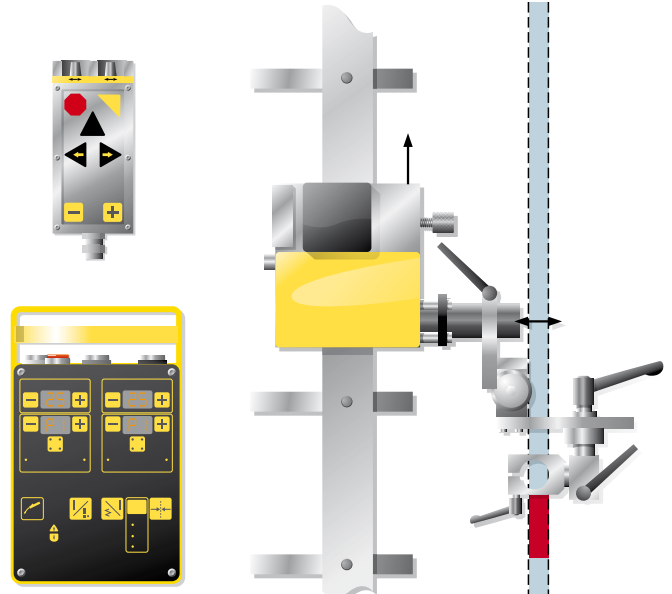
## Railtrac F1000 Flexi

A mechanised system with a flexible combi-rail, suitable for both inside and outside welding and cutting along sharp curves as well as straight surfaces. This model is also suitable for thermal cutting.



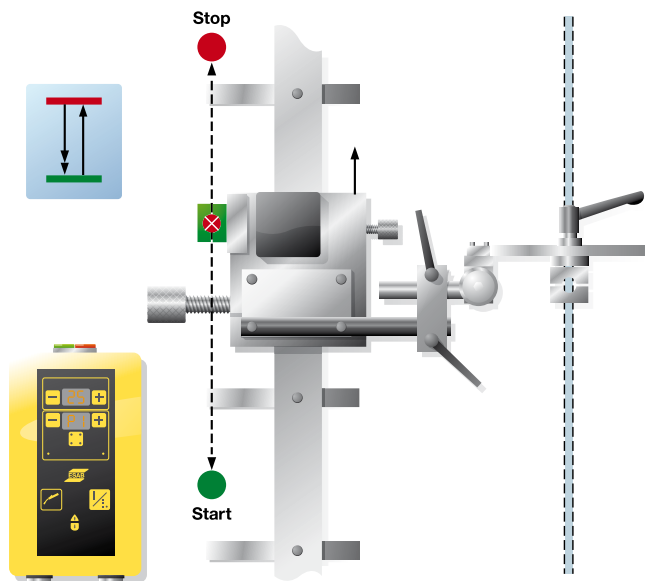
## Railtrac FW1000 Flexi Weaver

This version has a flexible combi-rail and a weaver for weaving in many different patterns. It is also equipped with a remote-control unit with a user-friendly design.



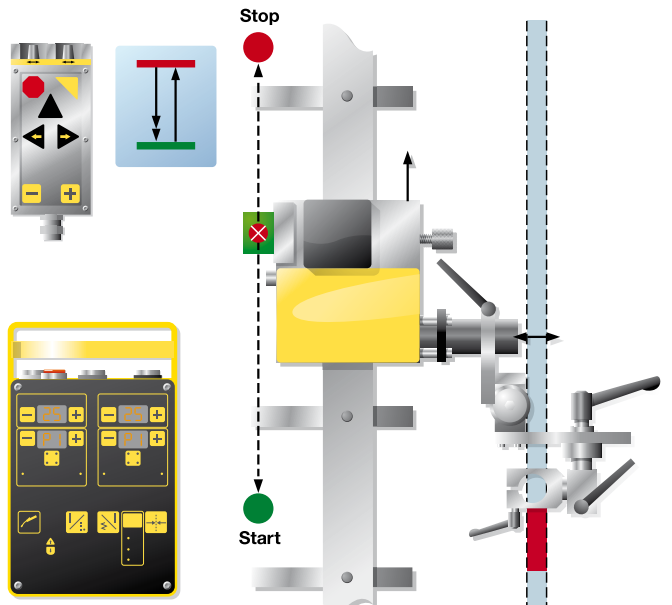
## Railtrac FR1000 Flexi Return

Railtrac FR 1000 has the combi-rail and facilities for movable start and stop for automatic return for any length. This system is ideal for use in fixed installations or where a weld is repeated over and over again.



## Railtrac FWR1000 Flexi Weaver Return

Like the Flexi Weaver, this system has a weaving unit, but it also has adjustable start, stop and return facilities. Equipped with a remote-control unit with a unique design, this is a very advanced solution for a number of applications.



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