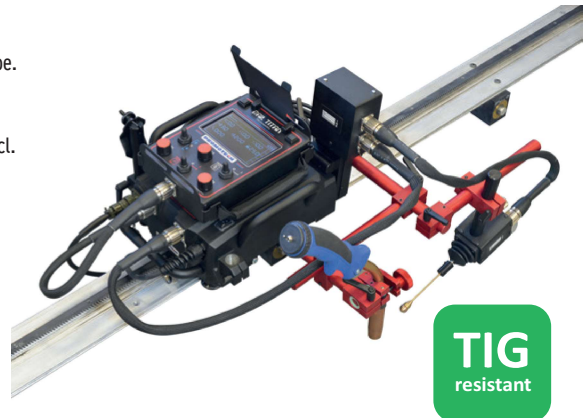




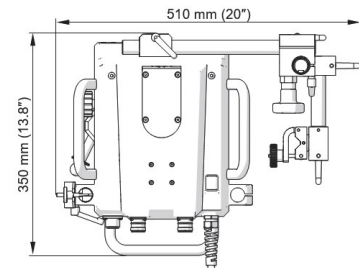
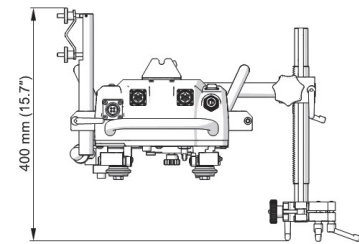
Rail Titan is fully modular mechanized tractor that can be custom configured for TIG-MIG-MAG welding, oxy-fuel or plasma cutting and gouging applications on flat or curved plate, tube and pipe. Linear torch oscillator produces straight, triangle, trapezoid and square weld paths. Rail Titan can travel on hi-flex, semi-flexible, rigid or ring tracks that can be clamped to ferrous materials with magnetic units and to non-ferrous materials by means of vacuum track system incl. vacuum pump and vacuum units.

#### Primary features and benefits:

- Suitable for TIG welding (HF resistant)
- Robust design with die-cast aluminum housing
- Ergonomic remote control pendant with simple and easy to find control knobs makes adjustments possible without lifting of the operators welding hood
- Programmable path of stitch welds
- Suitable for variety of circumferential and irregular surface applications down to min. radius of 100 mm (4")
  - Ring tracks on diameters from 200 mm (8") OD up to 3 m (10 ft) OD
  - Hi-Flex tracks on diameters from 1500 mm (59") OD upwards
  - Semi-flexible tracks can be flexed to minimum radius of 5 m (16 ft) without permanent deformation
- Seam tracking enables active compensation of torch position vertically and horizontally with and without oscillation
- New type of signal sockets/plugs feature increased HF immunity and improved grip for easier tightening & loosening
- Suitable for all welding positions on both ferromagnetic and non-ferromagnetic materials thanks to rack and pinion drive and various tracks equipped with magnetic or vacuum units
- Rail Titan produces consistent high quality welds and cuts in a fraction of the time required by manual operations
- Wide input voltage range: 100-240V, 50-60Hz 1ph (single phase)



Dimensions:



RAIL TITAN TECHNICAL SPECIFICATION		
Voltage		1-100-240V, 50-60Hz
Power		120 W
Welding position (according to EN ISO 6947 and AWS/ASME)	Horizontal	PA/1F/1G PB/2F PC/2G PD/4F PE/4G
	Vertical	PF/3G PG/3F (contact your dealer) PG/3G
Fixing on pipes and round workpieces	Ring tracks (OD)	200 mm (8") - 3 m (10 ft)
	Hi-flex tracks (OD)	Minimum 1.5 m (5 ft)
	Hi-flex tracks (ID)	Minimum 3.4 m (11 ft)
	Semi-flex tracks (OD)	Minimum 10 m (32 ft)
Torch type		MIG/MAG, TIG, oxy-fuel, plasma
MIG/MAG torch diameter		16-22 mm (0.63-0.87")
Minimum workpiece thickness for magnetic clamping		5 mm (0.2")
Horizontal pulling force		400 N
Vertical pulling force		315 N
Horizontal speed		0-250 cm/min (0-98 in/min)
Vertical speed		0-250 cm/min (0-98 in/min)
Oscillation type		Linear
Weld path		Straight, triangle, trapezoid, square
Oscillation width		0.1-11.8 cm (0.04-4.5")
Oscillation speed		10-200 cm/min (5-78 in/min)
Oscillation dwell time at center and on ends		0-5 s
Maximum oscillator pulling force		100 N
Weight (incl. standard accessories)		13 kg (29 lbs)
Product Code (115-230 V, 50-60 Hz, plug EU)		WOZ-0654-10-20-00-0

Linear oscillation with trapezoid, triangle, square and straight line paths

Ring tracks from 200 mm (8") OD up to 3 m (10 ft) OD

Hi Flex Track  
min OD 1500 mm (5 ft)  
min ID 3400 mm (11 ft)

Min. path convex radius for semi-flexible tracks is 5 m (16 ft)

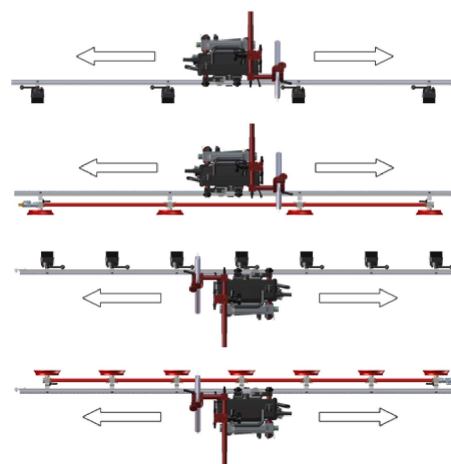
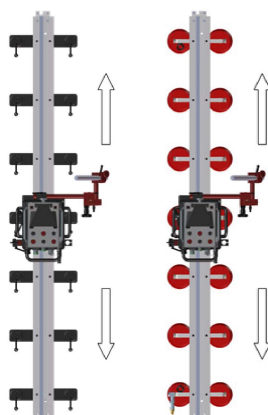
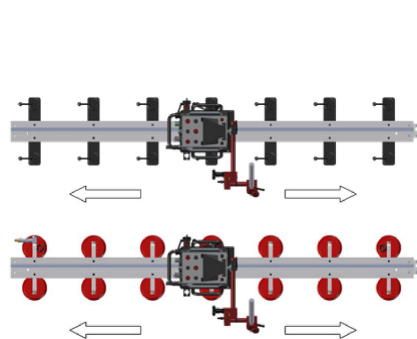
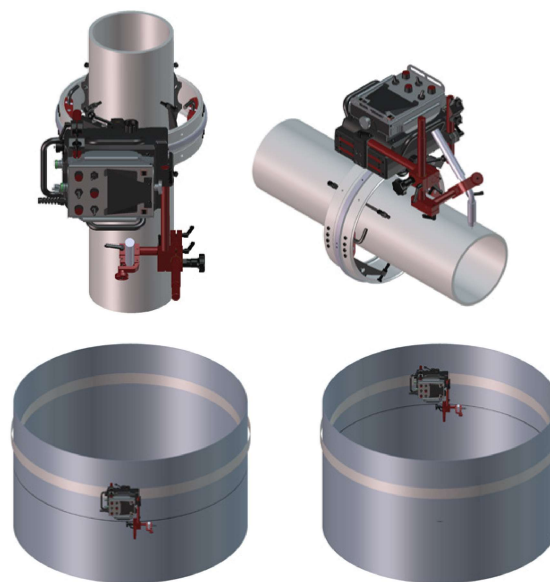
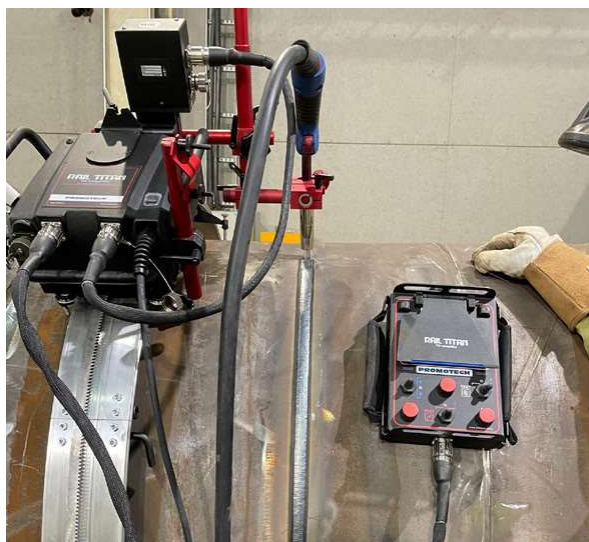
Continuous welding

Stitch welding

Horizontal speed  
0-250 cm/min

Vertical speed  
0-250 cm/min

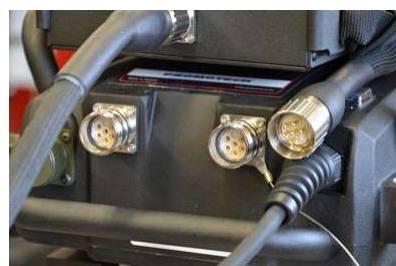
Rail Titan can work in all welding positions on both ferromagnetic and non-ferromagnetic materials by using rack and pinion drive and various tracks equipped with magnetic or vacuum units.



Single lever with lock to position Rail Titan to track



Silicone covers protect against dirt and spatter



New type of signal sockets and plugs

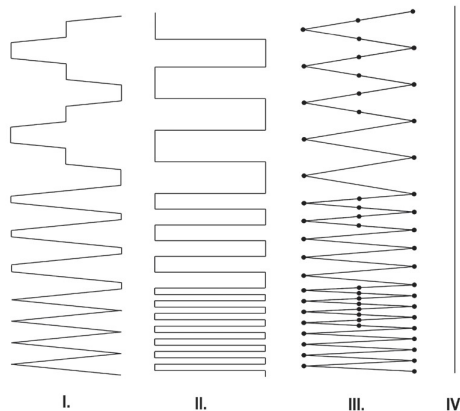


TIG welding of titanium plate

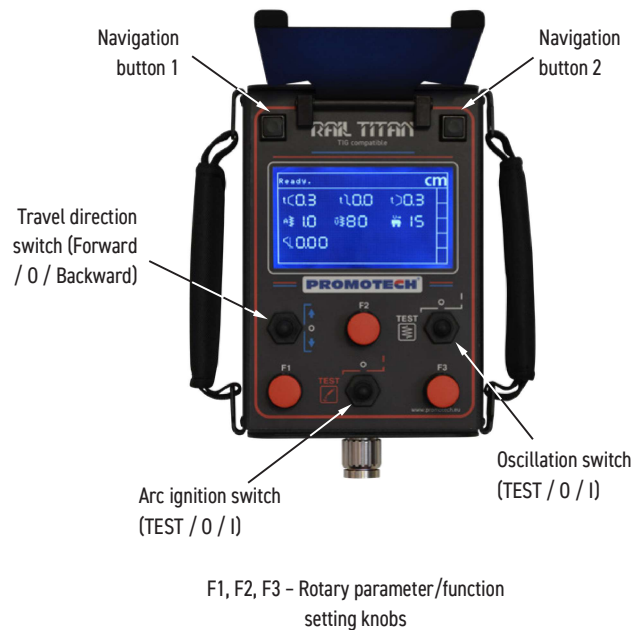


Seam tracking works with and without oscillation

## Weld paths



- |               |   |
|---------------|---|
| I. Trapezoid  | The tractor travels continuously even during dwell mode. Weld path is determined by weave speed and dwell time at center and onsides of the weld path.      |
| II. Square    | The tractor travels only during dwell and stops during oscillator cross travel. Only dwell time determines the weld path, and weave speed has no influence. |
| III. Triangle | The tractor travels only during weaving. Both the tractor and oscillation stop during dwell mode.   |
| IV. Straight  | The tractor travels continuously while oscillation is switched-off.   |



## Standard accessories



Power cord 3 m (10 ft)  
PWD-0466-18-00-00-0 (230 V CEE)  
PWD-0466-16-00-00-0 (115 V USA)  
PWD-0466-23-00-00-0 (115 V UK)



6.5 m (21 ft)  
arc ignition cable  
KBL-0466-17-00-00-0



5 m (16.5 ft) remote control cable  
3 m (10 ft) remote control cable  
0.5 m (1.5 ft) remote control cable



Rackholder  
ZSP-0475-62-00-00-0



Clamping block  
with levers  
KST-0525-11-00-00-0



Short rod torch holder  
with fits-all clamp  
UCW-0476-20-00-00-0



Contact block  
ZDR-0523-76-00-00-0



Cable anchor  
UCW-0654-02-00-00-0



300 mm (12") rod  
WSP-0523-16-00-00-0



300 mm (12") rack  
RAM-0523-17-00-00-0

## Optional equipment

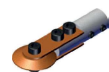
Configuration with seam tracking horizontally and vertically requires an optional seam tracking attachment and a motorized vertical slide



Motorized vertical slide  
OSK-0654-04-00-00-0



Seam tracking attachment  
CZJ-0654-05-00-00-0



Sensor tip (rod required)  
ADT-0506-43-00-00-0



Sensor tip (rod required)  
ADT-0506-40-00-00-0



Rod for sensor tips  
WSP-0523-07-01-13-0



Sensor tip (rod required)  
ADT-0506-41-00-00-0



Signal cable to connect  
Rail Titan to OSC-8  
pendulum oscillator  
PWD-0654-10-00-00-0



Transport Attachment  
PEP-0523-93-00-00-0



Contact block for Hi-Flex track  
ZDR-0673-08-00-00-0



### Standard shipping set:

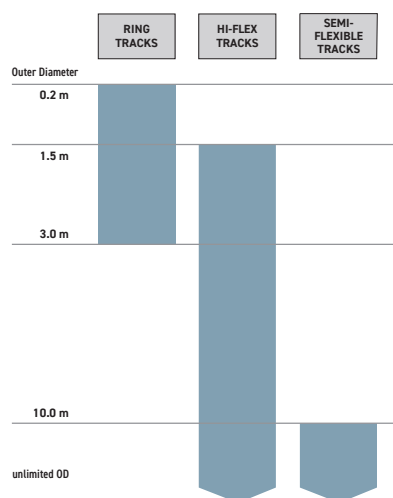
- Rail Titan tractor
- Plastic box
- Remote control pendant
- 5 m (16.5 ft) remote control cable
- 3 m (10 ft) remote control cable
- 0.5 m (1.5 ft) remote control cable
- Power cord
- 6.5 m (21 ft) arc ignition cable
- 300 mm (12") rod
- 300 mm (12") rack with 180 mm (7") adjustment
- Rack holder
- Clamping block with levers
- Short rod torch holder with fits-all clamp
- Cable anchor
- Contact block
- 6 mm hex wrench
- Operator's manual

Shipping weight: 23 kg. Shipping dimensions (W x L x H): 515 mm x 830 mm x 340 mm

### Applications:

- Trailer manufacturing
- Truck tanks
- Oil tanks
- Water storage tanks
- Pressure vessels
- Vessel overlay / hardfacing
- Bridge girders
- Structural steel
- Structural towers
- Panel welding
- Transformers
- Shipyards
- Any application demanding long continuous welds

Promotech offers a wide range of tracks suitable for variety of circumferential and irregular surface applications down to min. radius of 100 mm (4")



### Ring tracks suitable for Rail Titan and Rail Tug

For circumferential applications from 200 mm OD up to 3000 mm OD (from 8" to 10 ft.)



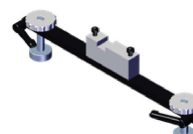
Ring tracks can be equipped with various supports depending on the customer's needs.



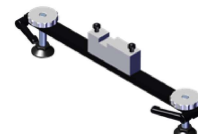
Bracket for ring track supports to expand pipe diameter range by 50 mm downwards  
DYS-0523-14-14-00-0



Support with bolts  
WSP-0654-11-00-00-0



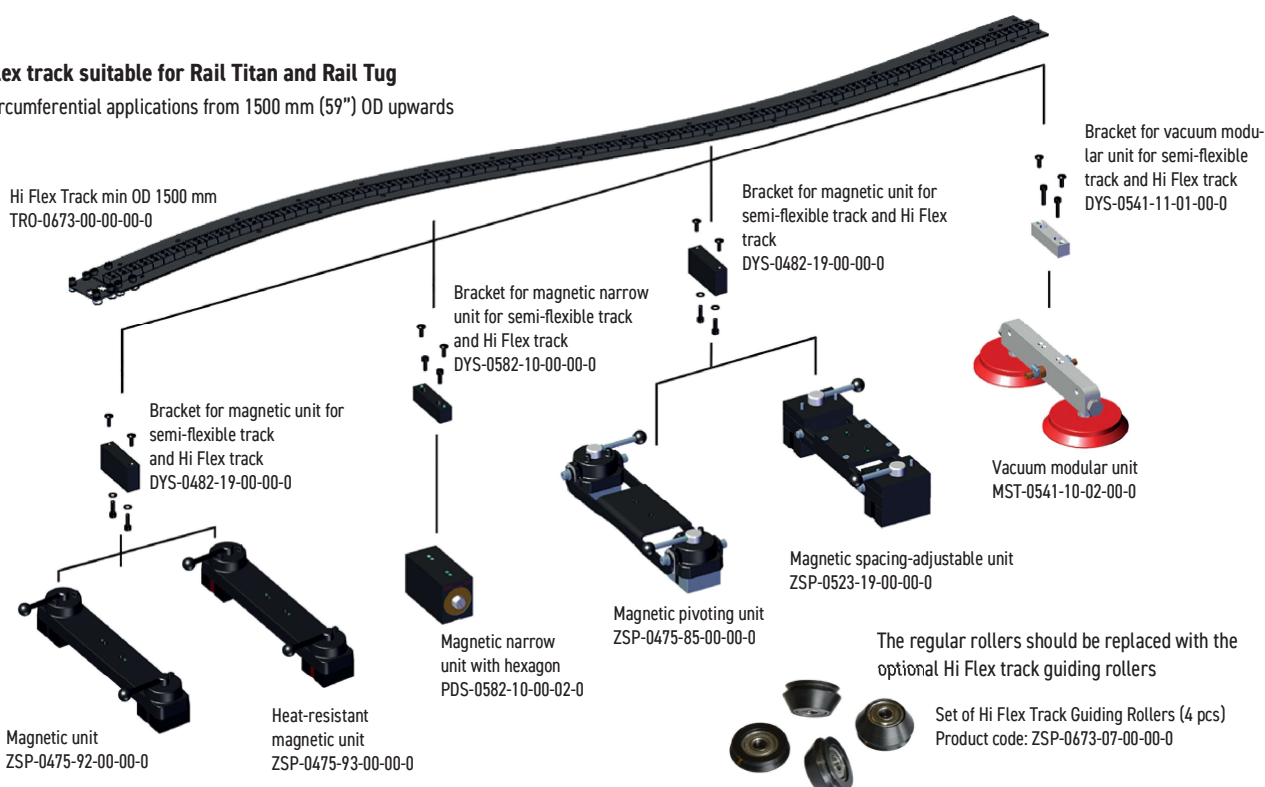
Support with magnets  
WSP-0654-13-00-00-0



Support with plastic feet  
WSP-0654-12-00-00-0

### Hi-Flex track suitable for Rail Titan and Rail Tug

For circumferential applications from 1500 mm (59") OD upwards



## Semi-flexible track suitable for Rail Bull, Rail Titan and Rail Tug

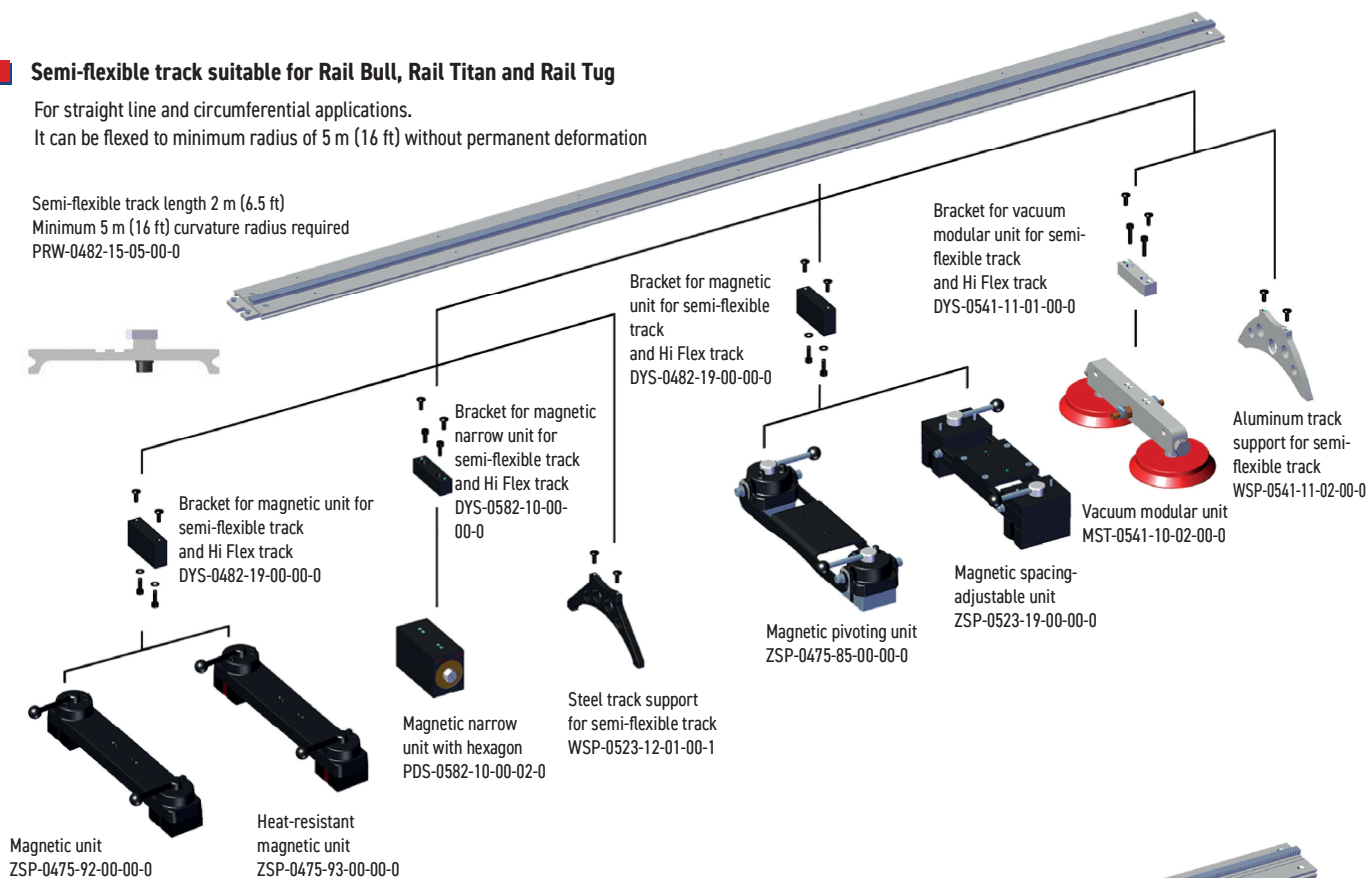
For straight line and circumferential applications.

It can be flexed to minimum radius of 5 m (16 ft) without permanent deformation

Semi-flexible track length 2 m (6.5 ft)

Minimum 5 m (16 ft) curvature radius required

PRW-0482-15-05-00-0



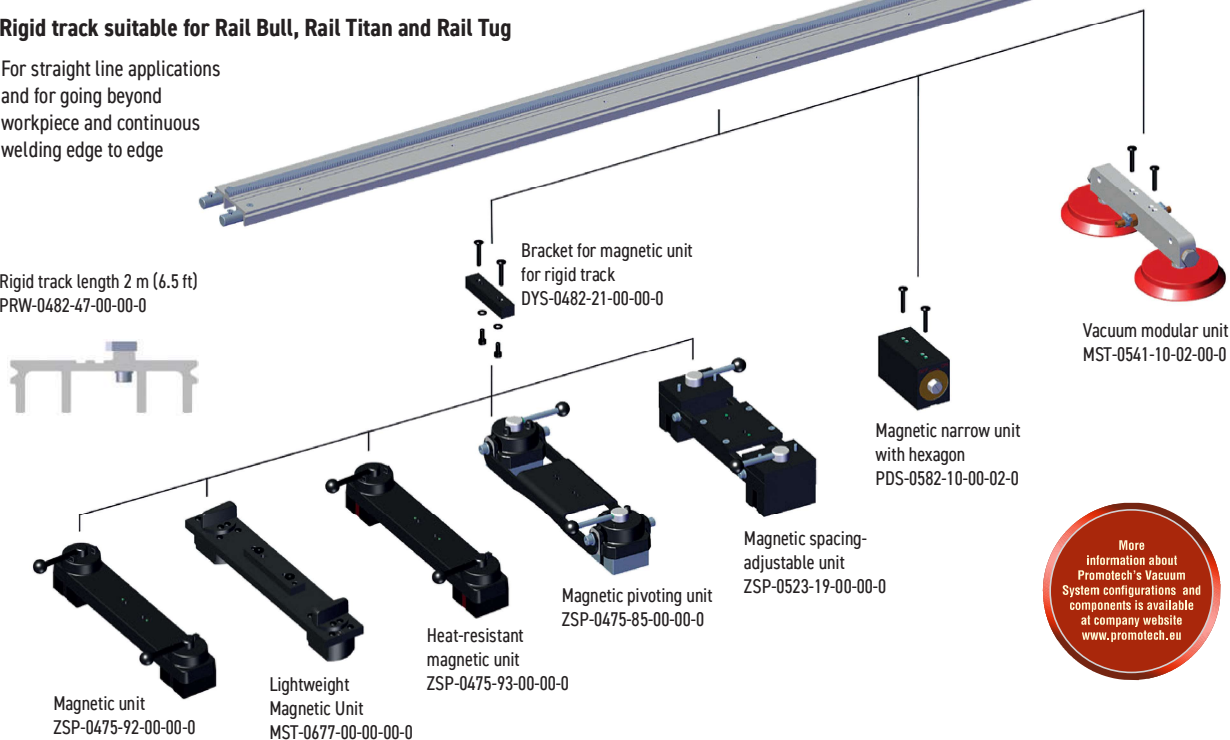
## Rigid track suitable for Rail Bull, Rail Titan and Rail Tug

For straight line applications

and for going beyond workpiece and continuous welding edge to edge

Rigid track length 2 m (6.5 ft)

PRW-0482-47-00-00-0



## Optional accessories for variety of applications:



# VACUUM TRACK SYSTEM



Promotech's vacuum fixing system provides firm grip of rail tracks on both ferromagnetic and non-ferromagnetic materials.

Lightweight and modular design enables easy adjustment and fitting of the system to specific needs depending on welding or cutting applications and working positions (e.g. flat, horizontal or vertical). Vacuum fixing system can be applied to both rigid and semi-flexible tracks to enable usage on surface with a radius of more than 5 m (16 ft).

## Features

- back up reservoir for added safety in case of a power failure; back up vacuum offers additional time to safely secure a welding tractor and tracks; it also greatly reduces installation time of the whole system
- maximum plate temperature up to +320°C (608°F)
- only 100 mm (4") minimal distance from heat source to vacuum pads

## Applications

- welding and cutting of non-ferromagnetic materials (aluminum or stainless steel constructions)
- welding and cutting of thin or coated ferromagnetic materials when magnetic adhesion may be insufficient

## Technical specification

Promotech's system consists of a vacuum pump that generates vacuum and of vacuum units that fix the semi-flexible or rigid track to the surface.

A single pump provides gauge pressure sufficient for up to 21 vacuum units.

A single vacuum unit provides suction power of 1400 N (at gauge pressure of -0.7 bar / -10 psig).

The permitted load is up to 30 kg (66 lbs) - welding/cutting tractor with accessories.

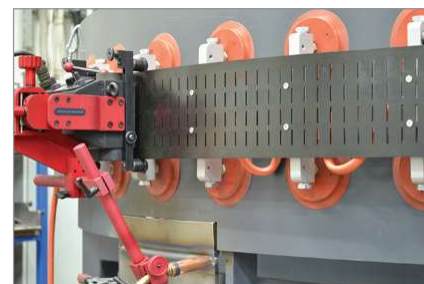
Semi-flexible track can be fixed on flat or curved surfaces with a radius of at least 5 meters (16 ft).

An optional manifold can separately connect vacuum units of up to four rails, what allows rail leapfrogging during operation.

Temperature of material on which vacuum pads are used cannot exceed +320°C (608°F).

Heat source must be kept at least 100 mm (4") away from vacuum pads.

Safety eye bolts are provided to suspend vacuum rail tracks and protect them against accidental fall.



### VACUUM TRACK SYSTEM PARAMETERS

Maximum number of vacuum units per vacuum pump	21			
Minimum curvature radius of semi-flexible track	5 m (16 ft)			
Vacuum unit holding force	1400 N (at gauge pressure of -0.7 bar / -10 psig)			
Working positions	flat, horizontal, vertical			
Maximum permitted track load	30 kg (66 lbs)			
Minimum number of vacuum units	Track type	Horizontal position	Wall position	Curve
	Hi-Flex Track	8	8	8
	Semi-Flex Track	4	7	7
	Rigid Track	4	7	-
Permitted ambient temperature near vacuum units	from -20°C to 200°C (from -4°F to 392°F)			

### PORTABLE VACUUM PUMP PARAMETERS

Voltage	1~ 230 V, 50-60 Hz 1~ 115 V, 50-60 Hz
Power	400 W
Gauge pressure obtainable	-0.8 bar (-11.5 psig) (where 0 is for atmospheric pressure, and -1 is for perfect vacuum)
Pump capacity	4 m³/h (141 ft³/h)
Ambient temperature	0-40°C (32-104°F)
Safety reservoir volume	10 l (0.35 ft³)
Weight (with safety reservoir)	23 kg (51 lbs)

## Portable vacuum pump with safety reservoir



- generates vacuum and supports up to 21 vacuum units
- AGR-0541-10-20-00-0 for 230 V
- AGR-0541-10-10-00-0 for 115 V with UK plug

Modular vacuum unit may perform various functions and can be easily configured in 4 different ways as



**Modular vacuum unit**  
• consists of 2 vacuum pads and manifold block  
MST-0541-10-02-00-0



entry unit



middle unit

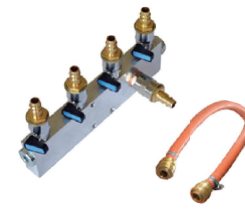


extension unit



end unit

Vacuum pad (spare part)  
SSW-0541-99-01-00-0



**4-way manifold with connection cable**  
• can separately connect vacuum units of up to four rails  
• allows rail leapfrogging during operation  
ROZ-0541-04-00-00-0



**Pump connection hose**  
• connects pump to entry vacuum unit (10 m / 33 ft)  
PWD-0541-06-00-00-0



**Cut-off valve (for entry vacuum unit)**  
ZWR-0541-10-01-30-0



**Threaded plug (for end vacuum unit)**  
KRK-0541-99-00-00-0



**Hose clamp**  
OPS-000005



**2-meter / 7-foot hose**  
• for interconnecting vacuum units within rail tracks  
• 1 per rail track  
• should be cut to the required length  
PWD-0541-10-07-00-0



**Coupled hose**  
• for interconnecting vacuum units of different rail tracks  
• 1 per additional rail track (serial connection)  
PWD-0541-10-04-00-0



**Quick coupling**  
SZB-000018



**Hose fitting**  
KRC-000013



**Hose extension adapter**  
LCZ-0541-05-00-00-0



**Safety eye bolt**  
SRB-000365

## Track elements



**Hi Flex Track**  
min OD 1500 mm  
TRO-0673-00-00-0



**Semi-flexible track**  
length 2 m (6.5 ft)  
PRW-0482-15-05-00-0



**Rigid track length 2 m (6.5 ft)**  
PRW-0482-47-00-00-0



**Bracket for vacuum modular unit for semi-flexible track and Hi Flex track**  
DYS-0541-11-01-00-0



**Flexible trackway**  
length 1.88 m (6.1 ft).  
PRW-0466-71-00-00-0

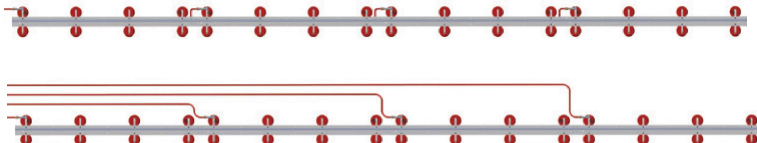


**Bracket for vacuum modular units for flexible trackway**  
DYS-0466-71-04-00-0

## System configuration for serial connection

System includes:

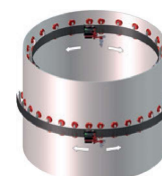
- Entry vacuum unit (1 unit per rail track)
- Middle vacuum units (up to 5 units per rail track)
- Extension vacuum unit (for serial connection)



4 vacuum units are required per rail track placed in horizontal position



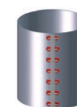
7 vacuum units are required per rail track placed on walls or curvatures



Vacuum units in use on stainless steel or aluminum tanks



Minimal OD is 10 m (32 ft)



Minimal OD is 3 m (10 ft)





## OSC-8 | PENDULUM WEAVE WELDER



The OSC 8 pendulum oscillator is designed to oscillate MIG/MAG torches with the diameter of 16–22 mm (5/8–7/8").

The oscillator is installed onto a 22 mm (7/8") diameter rod and connected to a welding device.

It can be controlled manually or by using an external START-STOP switch.

Using an optional freestanding support allows welding of rotating pipes or moving plates. An optional power supply allows connecting the oscillator to a 230 V or 115V power source.

OSC-8 is suitable for MIG/MAG automate processes in heavy fabrication industries such as: pipeline and bridge construction, shipbuilding and tank welding.

### Features & Benefits:

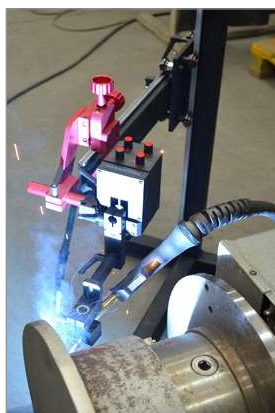
- lightweight and compact design
- two control modes: manual and external start
- four adjustable parameters (oscillation width, oscillation speed, oscillation dwell time on ends)
- simple control panel (four knobs)
- can work as stand-alone device or be a part of more advanced welding system
- optimal solution for various welding applications
- real improvement of the welding process
- uniform and high quality welding
- supply voltage 14-24 V (direct connection to the welding tractor or an external automation system)
- optional power supply 115 VAC or 230 VAC



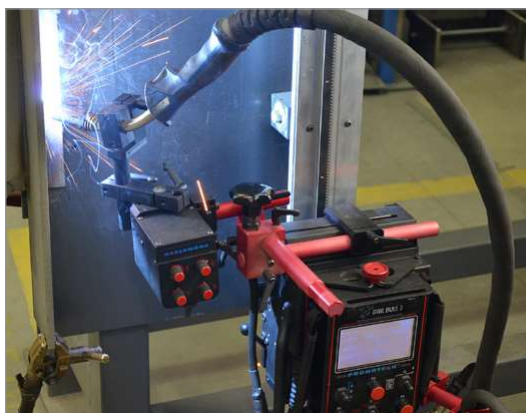
OSC-8 can work either as stand-alone Pendulum Weave Welder or along with freestanding support or along with welding tractors.



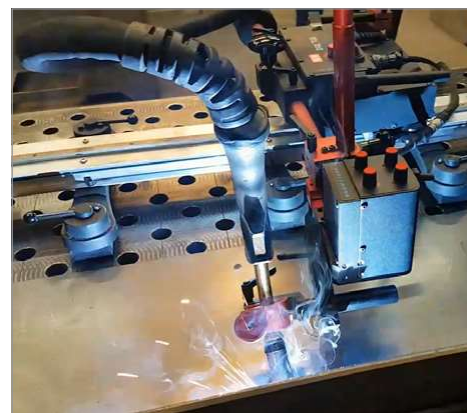




OSC-8 along with Freestanding Support

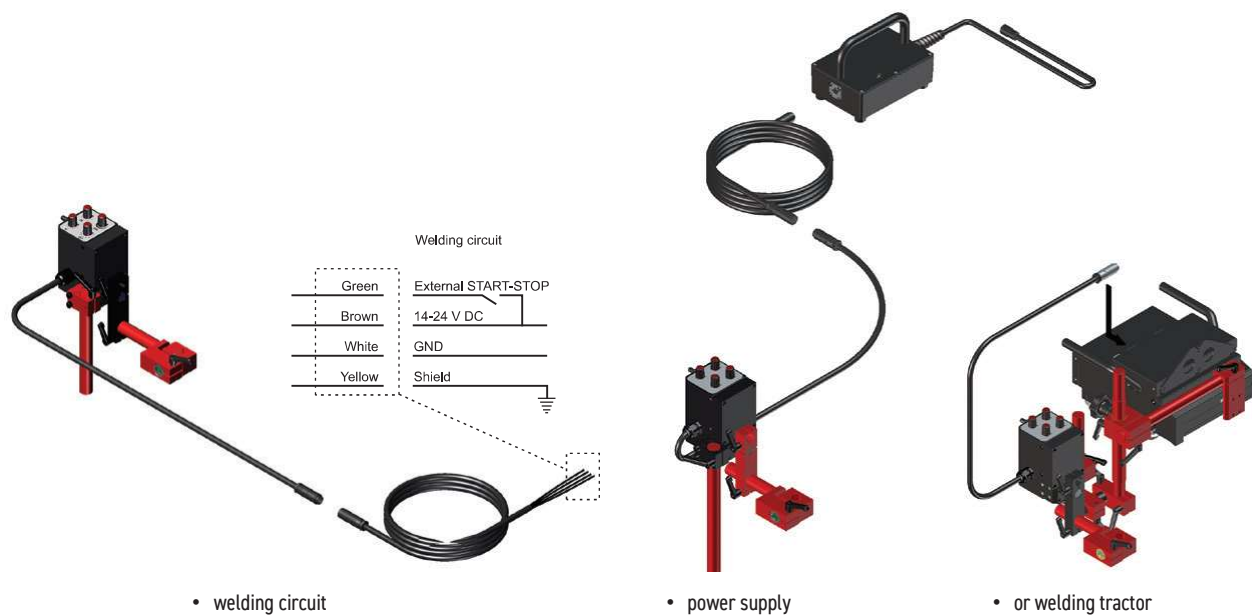


OSC-8 along with Rail Bull 2 tractor



OSC-8 along with Rail Tug tractor

Depending on welding system configuration in use the oscillator can work in either manual or external start mode and be connected to:



OSC-8 TECHNICAL SPECIFICATION	
Voltage	14-24 V DC
Power	50 W
Torch type	MIG/MAG
Torch diameter	16-22 mm (5/8-7/8")
Oscillation type	Pendulum
Oscillation width at r=150 mm (6")	1-30 mm (1-100%) 1/32-1-3/16" (1-100%)
Oscillation speed at oscillation width of 10 mm (3/8") and zero dwell time on ends	12-115 cycles/min (1-100%)
Oscillation dwell time on ends	0-3 s
Maximum torque	8 N-m (5.7 lb-ft)
Required ambient temperature	0-50°C (32-122°F)
Weight	2 kg (4 lbs)
Product code:	OSC-0497-10-00-00-0

