



## WELDING AND ASSOCIATED EQUIPMENT for railway track maintenance and repair







# INTRODUCTION

All over the world millions of passengers and millions of tons of freight are carried by trains every day. This heavy traffic is generating wears and defects in the contact area between rail and train wheels.

Various defects appear even on the most recent and the best maintained railway networks.

The repairs of those defects through the replacement of damaged rails and two thermite welds are an expensive and not really advisable process.

Another technique of repairs is resurfacing by arc-welding. This method has been used for decades in railway networks all over the world.

The quality of resurfacing depends directly on the welder's skills and abilities. One issue is then to give the welders high enough skills to be able to guarantee a repairs execution as per the best international practices. Otherwise a bad welding can create internal defects such as porosities which can turn out to be even more dangerous than the original defect.

## IDEAL WELDING SOLUTIONS FOR YOU RAILWAY TRACK MAINTENANCE

CTF France Sauron answer to this challenge is simple: automated welding. Our TRANSLAMATIC robotic welders ensure consistent high quality and traceability of welds while improving safety and comfort of operators.

We also offer a wide range of associated equipment such as power sources, rail preheaters as well as other tooling and accessories necessary for railway track repair and maintenance.

Supplier of SNCF since 1978, our know-how in automated resurfacing is well recognized in France.

Today CTF France Sauron has also grown as an international actor with presence in more than 20 countries all over the world. We are looking forward to welcoming you among our valued customers in a close future.



# TRANSLAMATIC 1252

TRANSLAMATIC 1252 is a programmable robotic arc-welding machine specifically designed for on-track reconditioning of manganese or carbon crossings by hardfacing the worn and/or damaged surface using a self-shielded flux-cored wire.

Automatic control allows, in one single programming, to weld 3 or 4 patterns of the crossing (frogs and nose) by successively alternating the weld beads on each pattern which very significantly limits the increase in temperature of the manganese crossing.



- ✓ OPERATOR SAFETY AND COMFORT
- ✓ CONSISTENT HIGH QUALITY WELDS
- ✓ EXTENDED OPERATIONAL WORK AREA
- ✓ SPECIFIC WELDING PROGRAM FOR MANGANESE CROSSINGS
- ✓ TRACEABILITY OF ALL WELDING EVENTS
- ✓ ROBUST AND LIGHT-WEIGHT CONSTRUCTION
- ✓

TRANSLAMATIC 1252 can also be used to repair rail surface defects and rail butts. Adjustable support legs (optional) allow it to operate on tramway crossings.

## ► TOOLING AND ACCESSORIES / OUTILLAGES ET ACCESSOIRES

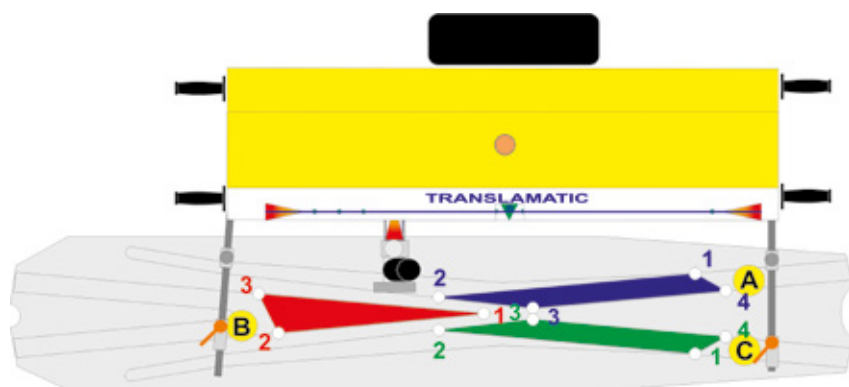
CDBA00000	CDBA00001	CDBB00001	CDBB00002	CBAD90000
				
Welding Cable "-" 15 m <i>Câble de soudage "-" 15 m</i>	Welding Cable "+" 15 m <i>Câble de soudage "+" 15 m</i>	Rail Ground Clamp <i>Prise de masse rail</i>	Crossing Ground Clamp <i>Prise de masse cœur</i>	Adjustable Support Legs Kit <i>support pieds réglables</i>

# TRANSLAMATIC 1252



## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Power supply: <i>Alimentation :</i>	110 – 240V AC
Operating voltage: <i>Tension de fonctionnement :</i>	27V DC
Protection rating: <i>Indice de protection :</i>	IP23
Operational work area: <i>Surface de travail :</i>	1250 mm in length (X-axis) – 350 mm in width (Y-axis) <i>1250 mm en longueur (axe X) – 350 mm en largeur (axe Y)</i>
Welding speed: <i>Vitesse de dépôt:</i>	300 mm/min
Dimensions: <i>Dimensions :</i>	1775 x 630 x 425 mm
Weight: <i>Poids :</i>	38 kg



## TOOLING AND ACCESSORIES / OUTILLAGES ET ACCESSOIRES

CDBE00000	CDBC00000	CBYA00000	CBDB00000	CBCA00001
Dye Penetrant Inspection Kit <i>Kit de ressuage</i>	Small Service Tool Kit <i>Coffret petit outillage de service</i>	CLEANBEAD Needle Scaler <i>Marteau à aiguilles CLEANBEAD</i>	Digital Thermometer <i>Thermomètre digital</i>	2B3S5 Frog Preheater <i>Rampe de préchauffage 2B3S5</i>



# TRANSLAMATIC 1252



TRANSLAMATIC 1252 robotic arc-welder for positioning the welding gun on the crossing or rail to be repaired with a possibility to move the welding gun up to 1250mm in length (X-axis) and up to 350mm in width (Y-axis).

Supplied with clamps for quick and easy installation on the track.

Weight / Poids : 38 kg

CHARLIE control box for controlling the welding gun X and Y movements, wire feed and welding power source.

Control box records data related to the weld such as operator name or code, location (KP, line, track), date of the weld, type of consumable used, etc., and allows a possibility to download such data via an external memory device for further processing or storage on PC.

Weight / Poids : 3 kg



## ► TOOLING AND ACCESSORIES / OUTILLAGES ET ACCESSOIRES

CBCA00003	CBDA00001	CBDA00004	CBDA00006	CBYC00000
				
TURBO 900 Rail Preheater	Cup Grinder d.108  d.108	Disc Grinder d.230  d.230	Tangential Grinder d.175  d.175	HUMIDISTOP Wire Container

# TRANSLAMATIC 1252

ROLL n'ROLL wire feeder and PGA welding gun equipped with a gear motor which pulls the welding wire by means of rollers located close to the weld pool thus preventing the wire from getting stuck.

Wire feeder is rugged, portable and totally enclosed. Spool diameter: 300mm. Maximum wire spool capacity: 16kg.

16 kg Weight

PLUTONARC P250 three phase inverter-based welding power source capable to provide up to 250A for welding in TRANSLAMATIC mode with self-shielded flux-cored wire.

Weight / Poids : 29 kg

PLUTONELEC 1314 three-phase petrol engine generator capable to provide 400V and 230V in three-phase, and 230V in single-phase.

Weight / Poids : 160 kg

Alternatively the following generators can be provided with TRANSLAMATIC 1252 system:

TRANSHYDRO 600S, PLUTONELEC 1318, PLUTONELEC 2107.



## ► TOOLING AND ACCESSORIES / OUTILLAGES ET ACCESSOIRES

CEBB00000	CEBA00000	CAAY00008	CZAY00061	CAAY00001
				
TRANSLAMANGA Welding Wire <i>Fil de soudage TRANSLAMANGA</i>	TRANSLARAIL Welding Wire <i>Fil de soudage TRANSLARAIL</i>	Operator Badge <i>Carte opérateur</i>	Pen Reader <i>Crayon lecteur</i>	USB Memory Stick <i>Clé mémoire USB</i>

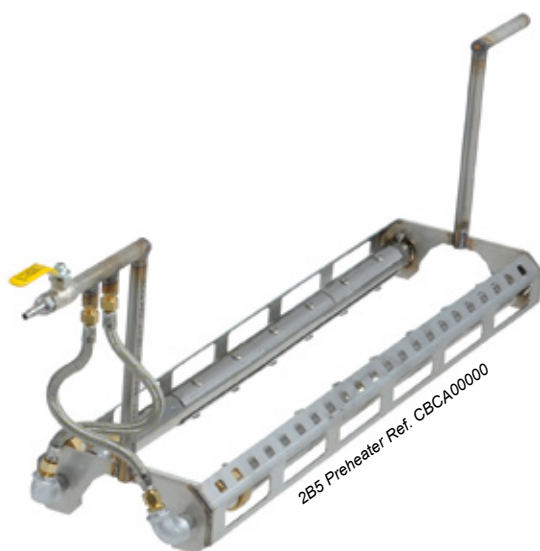
# 2B5 PREHEATER

CBCA00000

2B5 PREHEATER has been specifically designed to preheat rails in carbon steel before welding. It is particularly suited for preheating of rail heads and butts.

Its mechanical design allows a quick and easy installation on the rail avoiding fish plates.

2B5 PREHEATER allows the rail to reach 350°C in approximately 6 minutes (wind speed less than 5km/h). Two fixed burners ensure progressive and uniform rise in temperature over an effective length of 500 mm.



- ✓ QUICK AND EASY INSTALLATION
- ✓ 350°C IN 6 MINUTES
- ✓ PROGRESSIVE AND UNIFORM PREHEATING
- ✓ SUITABLE FOR RAIL HEADS AND BUTTS

A 5m long gas hose with couplers completes the preheater.

## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Framework:	stainless steel
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Operation:	C3H8 propane gas or C4H10 butane gas
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Working pressure:	1.5 bar
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Heating length:	500 mm
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1.5 kg/h
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Dimensions:	L 1125 x W 192 x H 325 mm
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Weight:	8.65 kg
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# 2B3S5 PREHEATER

2B3S5 PREHEATER has been specifically designed to preheat carbon crossings before welding. It is particularly suited for preheating of the crossing nose and/or wings.

Due to the adjustable angle between the burners on one of the preheater ends, it perfectly fits to all noses. Two burners each divided into 3 heating sections ensure progressive and uniform rise in temperature over an effective length of 500 mm. The temperature of 350°C can be reached in approximately 6 minutes (wind speed less than 5km/h).



- ✓ QUICK AND EASY INSTALLATION /
- ✓ 350°C IN 6 MINUTES
- ✓ PROGRESSIVE AND UNIFORM PREHEATING
- ✓ SUITABLE FOR CROSSING NOSE AND WING

A 5m long gas hose with couplers completes the preheater.

*Une lyre d'alimentation de 5 m avec coupleurs complète la rampe.*

## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Frame:	stainless steel
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Operation:	C3H8 propane gas or C4H10 butane gas
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Working pressure:	1.5 bar
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Heating length:	500 mm
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Burner consumption:	1.5 kg/h
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Dimensions:	L 1125 x W 192/100 x H 325 mm
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Weight:	8.85 kg
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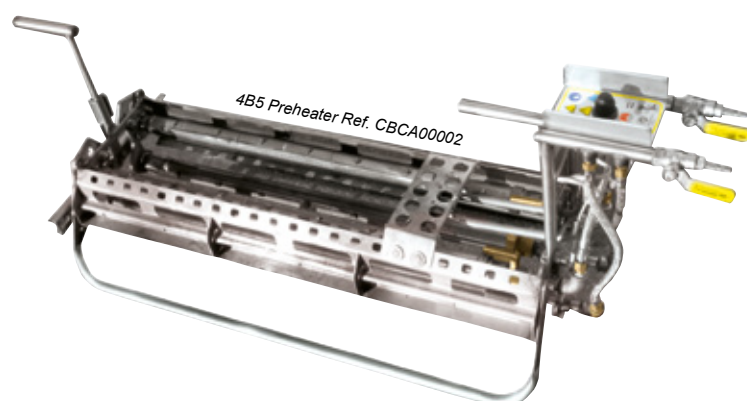
# 4B5 PREHEATER

CBCA00002

4B5 PREHEATER has been specifically designed to preheat carbon steel rails before welding. It is particularly suited for preheating of plain rails.

4B5 PREHEATER allows the rail to reach 350°C in approximately 6 minutes (wind speed less than 5km/h). Two articulated burners and two fixed burners allow a progressive and uniform heating of all the rail, from foot to head, over an effective length of 500 mm.

Piezo type system makes it very simple and rapid to ignite the 4B5 PREHEATER.



- ✓ QUICK AND EASY INSTALLATION
- ✓ 350°C IN 6 MINUTES
- ✓ PROGRESSIVE AND UNIFORM PREHEATING
- ✓ SUITABLE FOR PLAIN RAILS

A 5m long gas hose with couplers completes the preheater.

## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

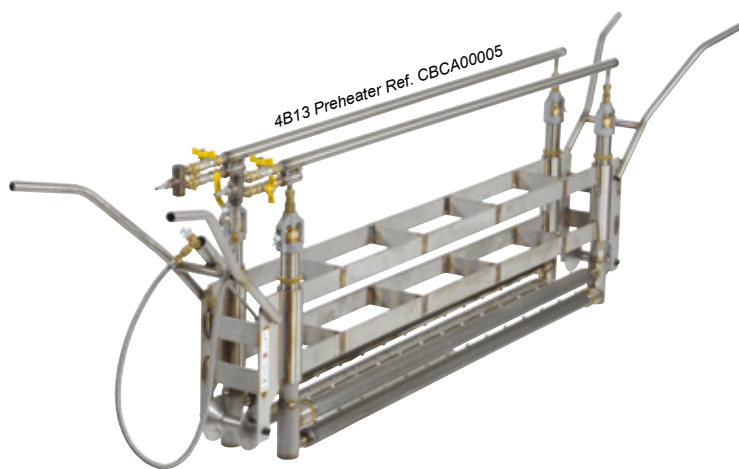
Frame: :	stainless steel <i>inox</i>
Operation: :	C3H8 propane gas or C4H10 butane gas <i>propane C3H8 ou butane C4H10</i>
Working pressure: :	1.5 bar
Heating length: :	500 mm
Burner consumption:	1.5 kg/h
Dimensions: :	L 1145 x W 400 x H 460 mm
Weight: :	22 kg

# 4B13 PREHEATER

4B13 PREHEATER has been specifically designed to preheat carbon steel rails before depositing of stainless steel bead by TRANSLAMATIC 350M robotic welder.

Its mechanical design allows a quick and easy installation on track by two operators. Stainless steel frame fitted with two rollers makes it easy to move the preheater on track.

Two sets of two superimposed burners on each side of the preheater allow a progressive and uniform heating of all the rail, from foot to head, over an effective length of about 1200 mm.



- ✓ FOUR POWERFUL BURNERS
- ✓ EXTENDED LENGTH OF PREHEATING
- ✓ EASY TO MOVE ON TRACK
- ✓ SUITABLE FOR DEPOSITING STAINLESS STEEL BEAD

A 5m long gas hose with quick couplers completes the preheater.

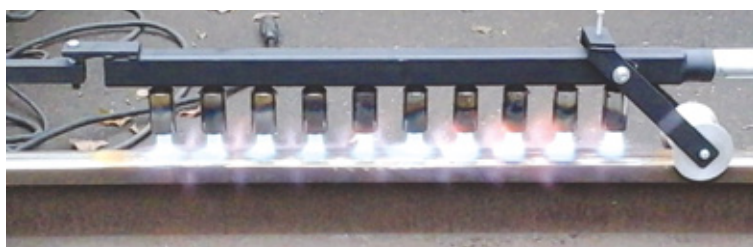
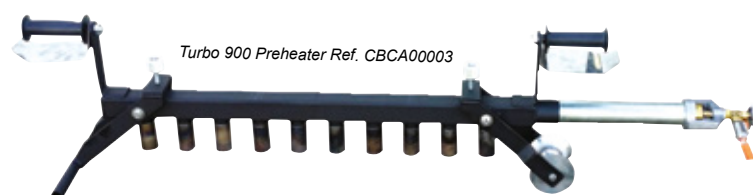
## SPECIFICATIONS

Frame:	stainless steel
Operation:	C3H8 propane gas or C4H10 butane gas
Working pressure:	1.5 bar
Heating length:	1 230 mm
Burner consumption:	1.5 kg/h
Dimensions:	L 2380 x W 410 x H 700 mm
Weight:	75 kg

# TURBO 900 PREHEATER

CBCA00003

TURBO 900 PREHEATER has been specifically designed for preheating tramway carbon steel rails before welding. Its mechanical design allows a quick and easy installation on the rail. Ten burners ensure progressive and uniform rise in temperature over an effective length of 900 mm.



- ✓ QUICK AND EASY INSTALLATION
- ✓ TEN BURNERS
- ✓ PROGRESSIVE AND UNIFORM PREHEATING
- ✓ SUITABLE FOR TRAMWAY RAILS
- ✓

A 5m long gas hose with quick couplers completes the preheater.

## SPECIFICATIONS /

Frame: :	stainless steel
Operation: :	C3H8 propane gas
Working pressure: :	2 bar
Heating length: :	900 mm
Dimensions: :	L 1425 x W 320 x H 355 mm
Weight: :	8.65 kg



CBDA00001

# CUP 108 GRINDER

CUP 108 GRINDER is an angular gearbox hand grinding machine specifically suited to finish work after welding. Ergonomic adjustable handles and soft start combine ease, efficiency and comfort in use. For use with 108 x 50 X M14 cup grinding stones.



- ✓ EFFICIENCY AND COMFORT IN USE
- ✓ ERGONOMIC ADJUSTABLE HANDLES
- ✓ SUITED FOR FINISHING WORKS AFTER WELDING
- ✓

Available also in CUP 90 GRINDER (CBDA00002) version for use with 90 x 50 x M14 stones.



## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Output shaft: :	M14 threaded <i>fileté M14</i>
Power supply:	230 V – 50 Hz single-phase <i>monophasé 230 V – 50 Hz</i>
Power rating:	2 000 W
Speed: :	8 500 rpm <i>8 500 tr/mn</i>
Weight: :	6.4 kg

# TANGENTIAL 175 GRINDER

CBDA00006

TANGENTIAL 175 GRINDER is a hand grinding machine specifically suited for preparation work before welding. Adjustable handles allow a wide range of positions. For use with 175 x 25 x 18 mm grinding stones.



- ✓ EFFICIENCY AND COMFORT IN USE
- ✓ ERGONOMIC ADJUSTABLE HANDLES
- ✓ SUITED FOR PREPARATION WORKS BEFORE WELDING



## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Output shaft:	20 mm
Power supply:	230 V – 50 Hz single-phase
Power rating:	1 200 W
Speed:	7 640 rpm
Weight:	8.3 kg

# DISC 230 GRINDER

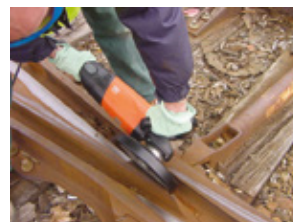
DISC 230 GRINDER is a hand grinding machine specifically suited to work on crossings and to release the joint by cutting after damaged rail butts welding.

For use with 230 x 5 mm discs.



- ✓ EFFICIENCY AND COMFORT IN USE
- ✓ RAIL JOINT RELEASE
- ✓ SUITED FOR CROSSINGS AND RAIL BUTTS

Available also in DISC 180 GRINDER (CBDA00003) version for use with 180 x 5 mm discs.



## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Output shaft: :	M14 threaded <i>fileté M14</i>
Power supply: :	230 V – 50 Hz single-phase <i>monophasé 230 V – 50 Hz</i>
Power rating: :	2 500 W
Speed: :	6 600 rpm <i>6 600 tr/mn</i>
Weight: :	7.2 kg






# GRINDING STONES / MEULES



In resurfacing job, the time dedicated to pre-weld and post-weld grinding is quite long. The use of a high performance grinding stone is the guarantee of time saving and job quality. Grinding stones which are used with our hand machines have been chosen for their quality and performance in very particular conditions of railway track worksites.



## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Grinding stone	Name	Code	Diameter	Speed	Min. order quantities
	CUP 108	CEDA00000	108 x 50 mm M14	8 500 rpm	100
	CUP 90	CEDA00001	90 x 50 mm M14	8 500 rpm	100
	TANGENTIAL 175	CEDB00000	175 x 25 mm x 18	6 700 rpm	100
	DISC 230	CEDC00000	230 x 5 mm	6 600 rpm	100
	DISC 180	CEDC00002	180 x 5 mm	8 500 rpm	100





# WELDING WIRE / *FILS DE SOUDAGE*

TRANSLARAIL is a gas-free flux-cored wire used for welding and repairing the surface of rails and crossings made of carbon steel. Specially designed for TRANSLAMATIC robotic welders, it can also be used for semi-automatic or hand welding with PLUTONARC 1624M wire feeder and IRONMATE torch.

TRANSLAMANGA is a gas-free flux-cored wire used for welding and repairing the surface of crossings made of 13% manganese steel. Like TRANSLARAIL, it can be used either with TRANSLAMATIC machines for robotic welding or with PLUTONARC 1624M wire feeder and IRONMATE torch for semi-automatic or hand welding.

TRANSLAINOX is a gas-free flux-cored wire used for depositing a stainless steel bead on the running surface of carbon rails and carbon or manganese crossings.



- ✓ GAS-FREE FLUX-CORED WIRE
- ✓ FOR CARBON STEEL RAILS AND CROSSINGS
- ✓ FOR MANGANESE STEEL CROSSINGS
- ✓ FOR STAINLESS STEEL BEAD

## SPECIFICATIONS / *CARACTÉRISTIQUES TECHNIQUES*

Name <i>Nom</i>	Code <i>Référence</i>	Diameter <i>Diamètre</i>	Packaging <i>Conditionnement</i>
TRANSLARAIL	CEBA00000	1.6 mm	15 kg on K300 spool <i>15 kg sur bobine K300</i>
TRANSLAMANGA	CEBB00000	1.6 mm	15 kg on K300 spool <i>15 kg sur bobine K300</i>
TRANSLAINOX	CEBA00001	1.6 mm	15 kg on K300 spool <i>15 kg sur bobine K300</i>

The quality of welding works executed with cored wires without gas requires that, among other things, consumables are totally free of humidity. Despite the great caution shown by the operators, it is not uncommon for a coil of wire to have traces of moisture or even corrosion.

HUMIDISTOP is a hermetically sealed container which preserves unused welding wire during transport and storage. Its aluminum structure guarantees perfect mechanical protection for all standardized spools of 200 and 300 mm. A desiccant bag ensures dry atmosphere inside the container.

Humidistop Ref. CBYC00000



- ✓ PROTECTS WIRE FROM HUMIDITY
- ✓ HERMETICALLY SEALED
- ✓ MADE OF ALUMINUM
- ✓

## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Diameter: <i>Diamètre :</i>	380 mm
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Height: <i>Hauteur :</i>	190 mm
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Empty weight: <i>Poids à vide :</i>	6.7 kg
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Spool size: <i>Taille de bobine :</i>	up to 300 x 100 mm – 15 kg <i>jusqu'à 300 x 100 mm – 15 kg</i>
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When welding with embedded electrodes or gas-free flux-cored wire, some slag might prove to be particularly adherent and difficult to remove with a simple hammer.

If these are not well cleaned, parts of remaining slag can cause inclusions in the following welding beads.

CLEANBEAD is a pneumatic hammer with needles which allows a fast, easy and complete cleaning of the weld beads. Its mechanical design reduces by approximately 80% the usual level of vibrations transmitted to the operator.



- ✓ PNEUMATIC HAMMER WITH NEEDLES
- ✓ FAST, EASY AND COMPLETE REMOVAL OF SLAG
- ✓ LOW LEVEL OF VIBRATIONS
- ✓ LOW COMPRESSED AIR CONSUMPTION

PLUTONAIR (CCDA00001) is a lightweight electric air compressor designed to feed air to CLEANBEAD needle hammer.



## SPECIFICATIONS

CLEANBEAD hammer <i>Marteau CLEANBEAD</i>	
Vibration: <i>Vibration :</i>	3 m/s <sup>2</sup> according to ISO 8662-1 <i>3 m/s<sup>2</sup> suivant ISO 8662-1</i>
Noise: <i>Bruit :</i>	93 dBA / ISO 7574-2
Frequency: <i>Fréquence :</i>	145 Hz, (8 800 beats/min) <i>145 Hz, (8 800 coups/mn)</i>
Stroke: <i>Course :</i>	6 mm
Consumption: <i>Consommation :</i>	1,6 l/s
Pressure: <i>Pression :</i>	6.5 bar
Length: <i>Longueur :</i>	280 mm
Weight: <i>Poids :</i>	1.95 kg

PLUTONAIR compressor <i>Compresseur PLUTONAIR</i>	
Power Supply: <i>Alimentation :</i>	230V 50Hz - single phase - 1.5 kW <i>230V 50Hz - monophasé - 1.5 kW</i>
Noise: <i>Bruit :</i>	97 LWA
Speed: <i>Vitesse :</i>	2 850 rpm
Pressure: <i>Pression :</i>	8 bar
Flow Rate: <i>Débit :</i>	230 l/min
Tank capacity: <i>Réservoir:</i>	6 l
Dimensions: <i>Dimensions:</i>	370 x 310 x 530 mm
Weight: <i>Poids :</i>	17 kg

THERMO K digital thermometer is particularly well suited to difficult conditions of railway worksites. Its rugged holster increases thermometer's resistance to impacts.

THERMO K offers high accuracy and very short response time when measuring the temperature. Its probe is fitted with a "K" thermocouple specially designed for taking temperature of metals.



- ✓ LARGE BACKLIT DISPLAY
- ✓ MIN / MAX / AVG VALUES
- ✓ DATA LOGGING UP TO 500 POINTS
- ✓ INFRARED USB COMMUNICATION PORT

Rechargeable battery included in the supply.

## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Range:	-200°C / +1 372°C
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Accuracy:	±0.05% +0.3°C
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Dimensions:	173 x 86 x 38 mm
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Weight:	400 g
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In most of the cases repair and maintenance works on railway tracks are scheduled for nighttime. Proper lighting is essential for a safer and more efficient work environment.

LED balloon is a light source that provides natural, daylight-quality, 360°, glare-free and homogeneous light. It can be mounted on a 5.5 meter telescopic pole or directly to a power generator such as TRANSHYDRO 600S for example.



- ✓ SELF-INFLATABLE BALLOON LIGHT
- ✓ POWERFUL AND RELIABLE LIGHTING
- ✓ 6 x 100 W LED LIGHTS
- ✓ WEATHER-RESISTANT
- ✓ SAFE WORKING ENVIRONMENT
- ✓

## SPECIFICATIONS

Lighted area as per EN1838: :	3 300 m <sup>2</sup>
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Lighted area as per EN12464-2: :	650 m <sup>2</sup>
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Lights: :	6 x 100 W LED
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Average lifetime: :	50 000 h
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Maximum power: :	600 W
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Balloon: :	90 x 60 cm / high-resistance canvas
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Protection rating: :	IP54
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Pole: :	5 m long / aluminum
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Total weight: :	35 kg
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# TORCH LIGHT / LAMPE TORCHE

CFCB00000

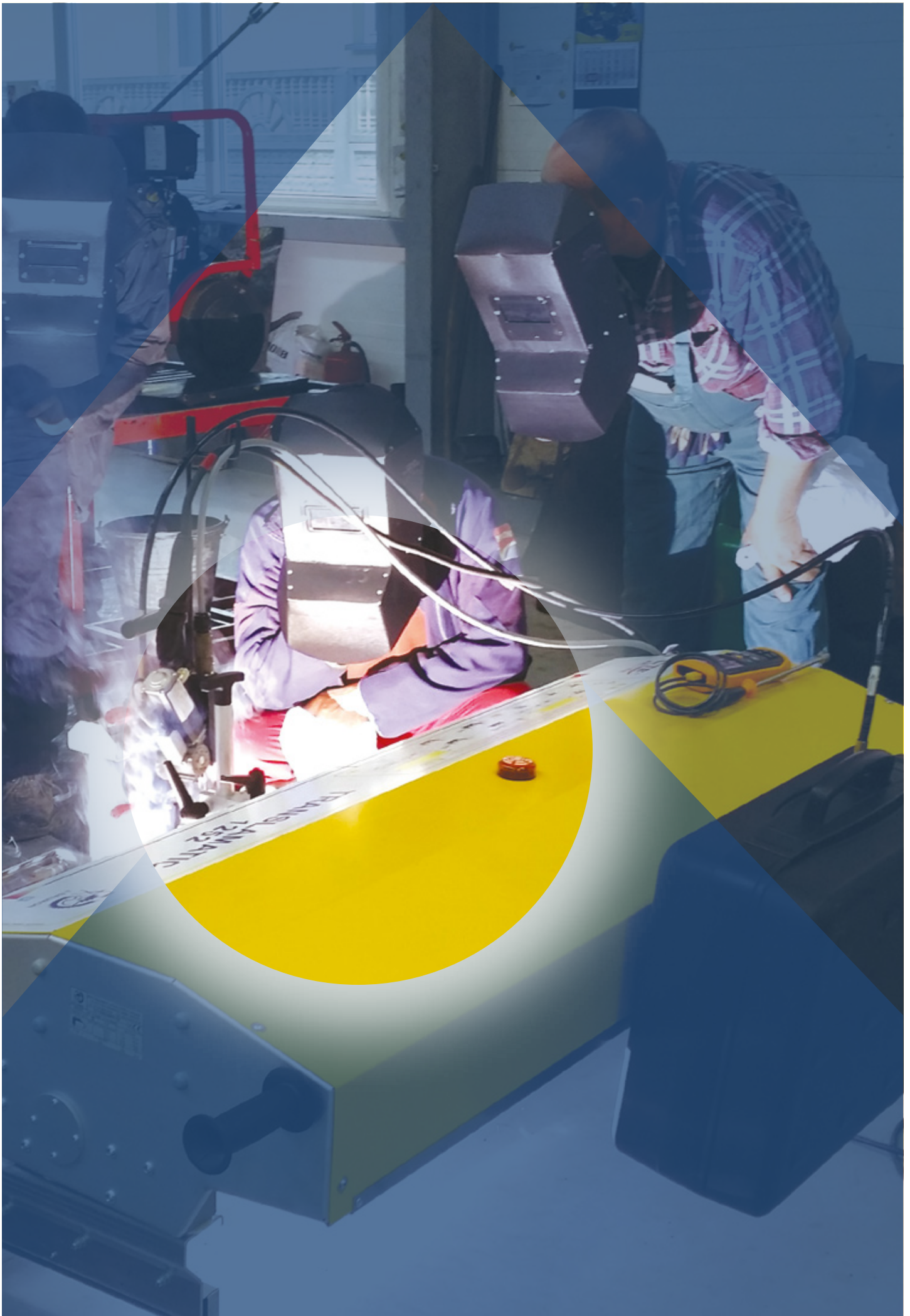
With two lighting modes (torch and spot lights), a mast extendable up to 830 mm and a 360° rotating head, this light is perfectly suited to the needs of railway track welding worksites. The torch light is featured with a rechargeable battery and a maintenance free LED array which can generate 3 000 lumens of bright clear light during up to 15 hours of run time.



- ✓ CLEAR AND BRIGHT LIGHT
- ✓ LONG RUN TIME
- ✓ RECHARGEABLE BATTERY
- ✓ EXTENDABLE MAST
- ✓

## SPECIFICATIONS / CARACTÉRISTIQUES TECHNIQUES

Light type:	LED
Average lifetime:	50 000 h 50 000 h
Lumen value:	2 000 (high) / 1 000 (low)
Protection rating: :	IP54
Battery:	12 V, rechargeable
Mast:	830 mm
Weight:	10 kg







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**SAURON**

