

INTRODUCTION

Thank you for purchasing your Centurion Series Reflow system.

This document contains information to answer all the frequently asked questions in relation to the installation of a Centurion Series Reflow system.

Section 1 – Important Installation Requirements

Section 2 – Machine Footprint

Section 3 – Training

If you have any further questions, please don't hesitate to contact your local Vitronics Soltec Customer Support Group.

US/Canada	
vssupport@itweae.com	800-737-8110, option 5 573-317-3054, option 5
MEXICO	
vssupport@itweae.com	01-800-718-1614 (From US) 1-800-639-9574 (Direct) +52 (33) 33-65-6511
EUROPE	
vssupport@itweae.com	31-162-483280
ASIA	
vssupport@itweae.com	+65 9794 0019

Thank you for your cooperation, may I take the opportunity of wishing you many years of quality production with your new Centurion Series Reflow system

Sincerely,

Pat O'Brien
Vice President/General Manager

CENTURION

Series

PRE-INSTALLATION INSTRUCTION



Customer Service and Support

US/Canada	
vssupport@itweae.com	800-737-8110, option 5 573-317-3054, option 5
MEXICO	
vssupport@itweae.com	01-800-718-1614 (From US) 1-800-639-9574 (Direct) +52 (33) 33-65-6511
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GENERAL INFORMATION

DIMENSION CENTURION MODELS

MODEL	720A/820A	720N/820N/930A	930N/1040A	1040N/1240A	1240N
Length in mm/inch❶	4144/163.1	4854/191.1	5564/219.1	6274/247.0	6984/247.0
Height in mm/inch	1542/60.7				
Width in mm/inch	1600/63.0				

SHIPPING WEIGHT

MODEL	720A/820A	720N/820N/930A	930N/1040A	1040N/1240A	1240N
Shipping weight	2100kg/4630lb	2300kg/5071lb	2600kg/5732lb	2800kg/6173lb	3100kg/6834lb

TRANSPORT & STORAGE CONDITIONS

DESCRIPTION	
Temperature	-25° to 55° C (-13° to 131° F)
Relative humidity	30% to 95%

ENVIRONMENTAL CONDITION

DESCRIPTION	
Operation temperature	5° C to 40° C(41° F to 104° F)
Transport and storage temperature	-25° C to 55° C(-13° F to 131° F)
Humidity	30 to 95%
Altitude ❶	Max 1000 Meters(3300 Feet)
Noise level	<70dB,Typically 63dB

SUPPLY REQUIREMENTS

DESCRIPTION	720/820/930/1020/1040/1240
Power supply	Standard 3 phase hot wire + Ground, 50/60 Hz, Max. KW, AMPS see below table with Supply tolerance +10%, -10%
Nitrogen pressure (required). Connection hose 12mm	Minimum 4.8 bar (70 PSI) running value 6.2bar(90 PSI)
Nitrogen consumption (non-CATHOX)	40m³/Hr. / 24 CFM
Nitrogen consumption (with CATHOX)	20 m³/Hr. / 11.8 CFM
Nitrogen purity (required)	The higher the better; purity> 99.99% is sufficient for the process (10PPM purity)

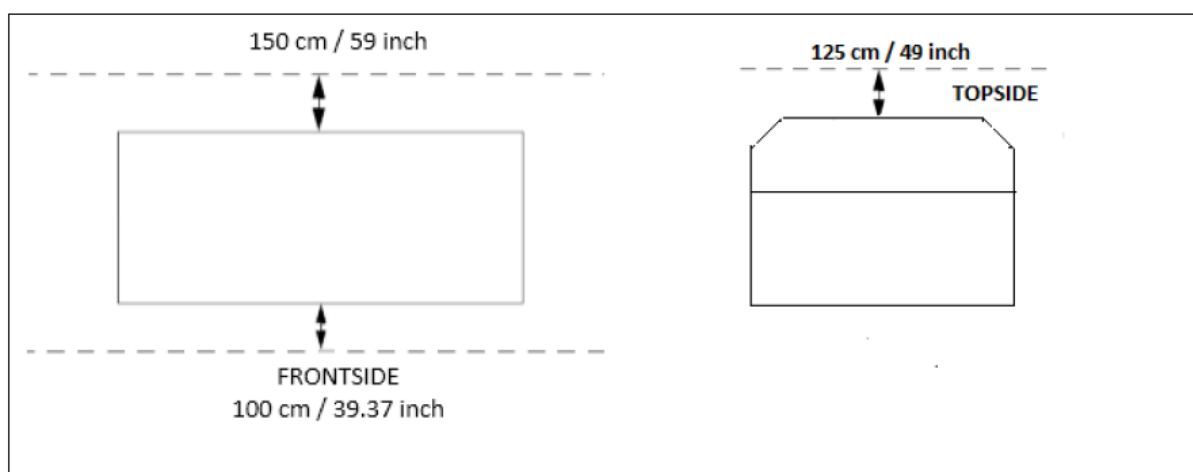
The Nitrogen consumption volume above is based on factory testing results, Deviation may exist due to different customer application.

POWER SUPPLIES REQUIREMENTS

Models	Start Up KW @ 200V	Startup KW @ 208V	Startup KW @ 220V	Startup KW @ 240V	Startup KW @ 380V	Startup KW @ 400V	Start Up KW @ 415V	Startup KW @ 440V	Startup KW @ 460V	Startup KW @ 480V
CT720	41	43	48	55	44	48	51	44	48	51
CT820	41	44	48	56	44	48	51	45	48	52
CT930	42	45	49	57	45	49	52	45	49	52
CT1020	42	45	49	57	45	49	52	45	49	52
CT1040	43	45	50	57	46	50	53	46	50	53
CT1240	43	46	50	58	46	50	53	47	50	54

Models	Start Up Amps @ 200V	Startup Amps @ 208V	Startup Amps @ 220V	Startup Amps @ 240V	Startup Amps @ 380V	Startup Amps @ 400V	Startup Amps @ 415V	Startup Amps @ 440V	Startup Amps @ 460V	Startup Amps @ 480V
CT720	118	121	125	134	67	69	71	58	60	62
CT820	119	122	126	134	67	69	71	59	60	62
CT930	121	124	128	136	68	71	72	60	61	63
CT1020	121	124	128	136	68	71	72	60	61	63
CT1040	123	126	130	138	69	72	73	61	62	64
CT1240	125	128	132	140	70	73	74	61	63	65

CLEARANCE REQUIREMENTS FOR OPERATION/MAINTENANCE



1. OPEN THE CRATE

1. Take off top cover A.
2. Remove left and right-side panels B.
3. Remove front and rear covers C.
4. Remove the plastic wrapping from around the machine. Be careful not to scratch the covers.
5. Remove cardboard boxes and additional components, along with the documentation package and place in a safe location so they can be used later in the installation process.

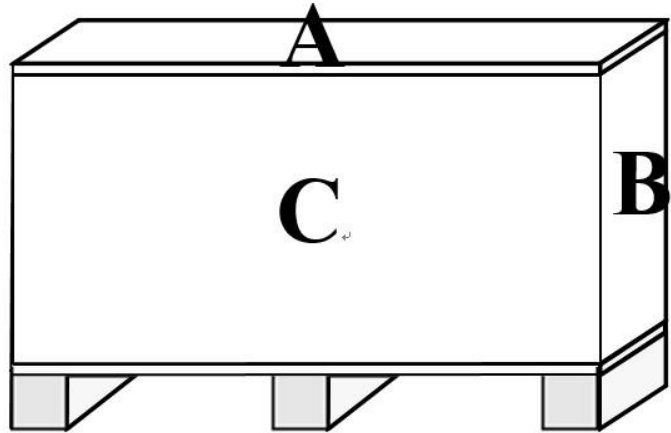


FIGURE 1 CRATE



Please follow above uncrating steps (1, 2, 3, etc) to uncrate machine, otherwise the machine could be damaged or personal injury may occur.

2. LIFTING WITH FORKLIFT

The reflow machine can be picked and placed in position before taking off the transport straps that are wrapped on the machine



CAUTION: Before lift-up and transport the Centurion machine, please refer to the [Installation sheet](#) at the end of the document in terms of the fork specification and lifting points

The Centurion machine is a piece of large industrial equipment. Only qualified forklift operators or riggers should unpack, move, and position the oven. Always keep fingers hands and feet clear while lifting and positioning the Centurion machine

1. Make sure the lifting forks are at least 1.8m (6 feet) long and enter from the rear of the Centurion machine only

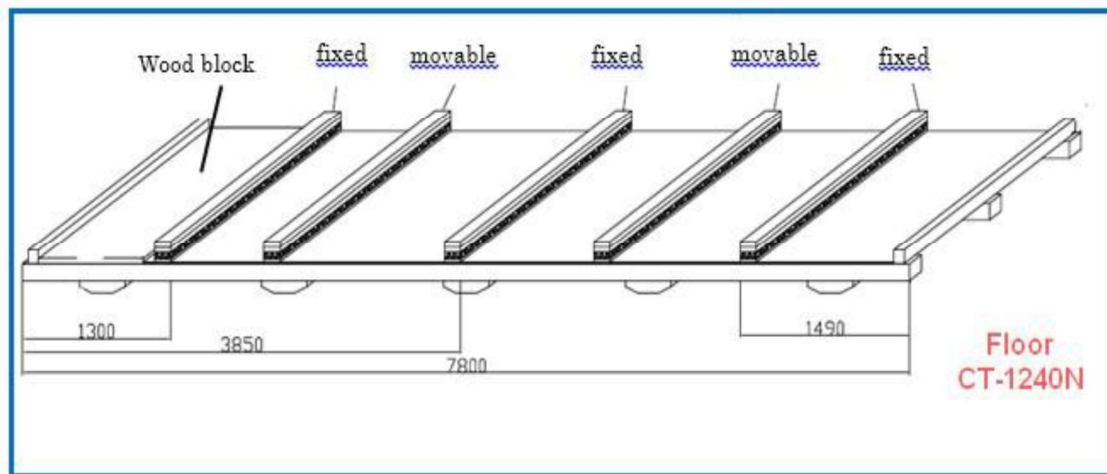


* = DISTANCE BETWEEN FORKS minimum 1200mm

FIGURE 2

FORKLIFT UNDER MACHINE

2. The Centurion machine is mounted on the wooden beams and bolted to a wooden skid. and bolts are installed and secured only at movable wooden beams at the existing leveling foot locations.



REFER TO THE FOLLOWING PROCEDURE TO REMOVE THE MACHINE FROM THE SKID

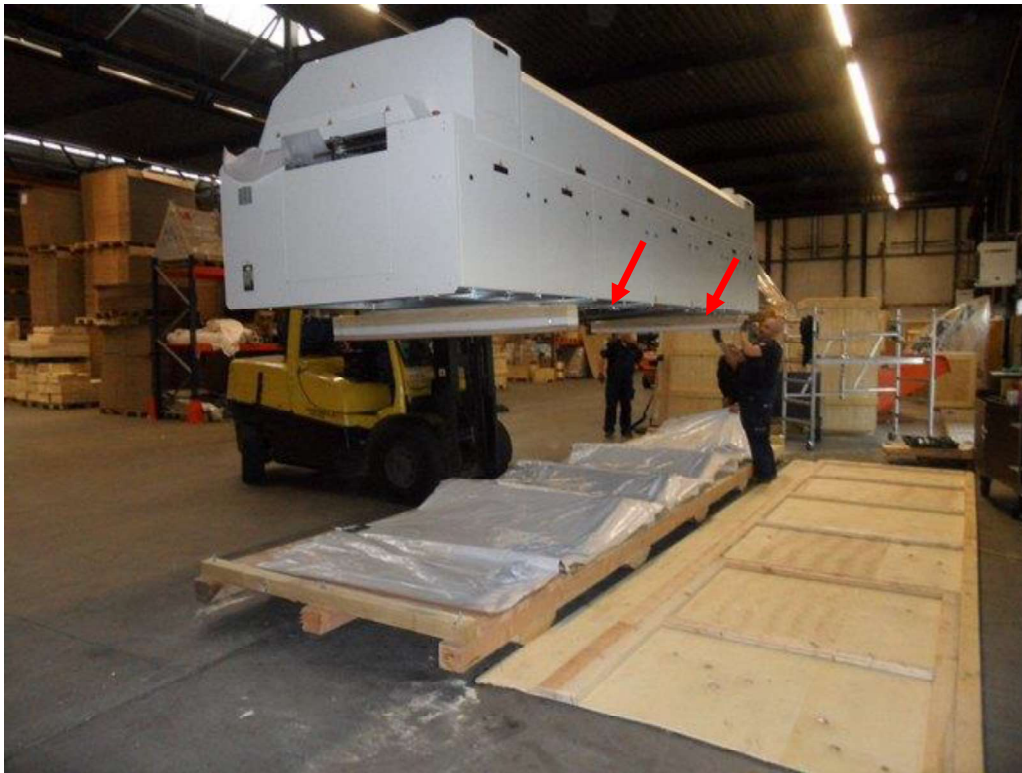
3. Use a 19mm ($\frac{3}{4}$ inch) socket wrench and ratchet to remove the (8x) long bolts from the top side of the movable wooden beams
4. When all bolts are removed from the shipping beams, carefully position a forklift, with the fork extensions at their widest setting under the frame. Make sure that the forks make proper contact with the base beams to avoid damage to the wiring and metal panels underneath the machine



5. Forks should be positioned to lift from the measured center of the Centurion machine with the forklift in place at the rear of the machine, carefully raise the system off the skid high enough to remove the shipping plates and bolts from the system frame.



CAUTION: The center of gravity of the machine is slightly toward the load end of the system



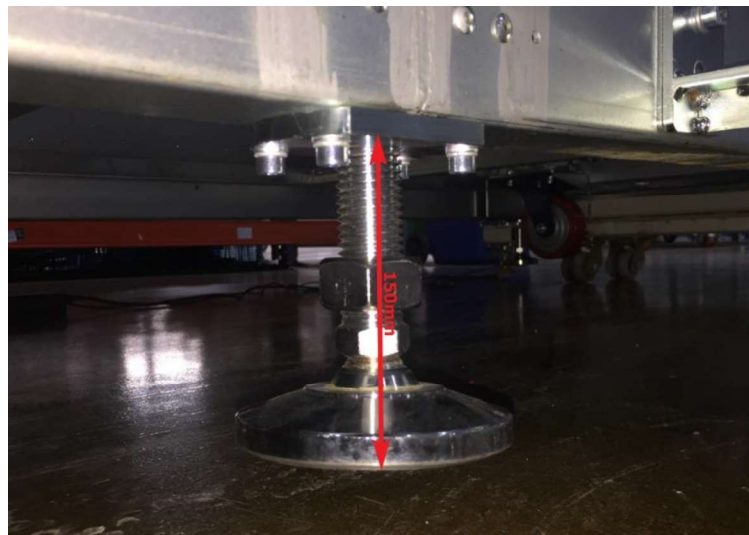
6. Use a forklift to lift the machine (about 1m high) and remove the boards under the movable wooden beams. Note that the boards will fall once disconnected and could cause injury



7. Use a 1 ½ inch socket with ratchet to remove the shipping bolts from the machine frame

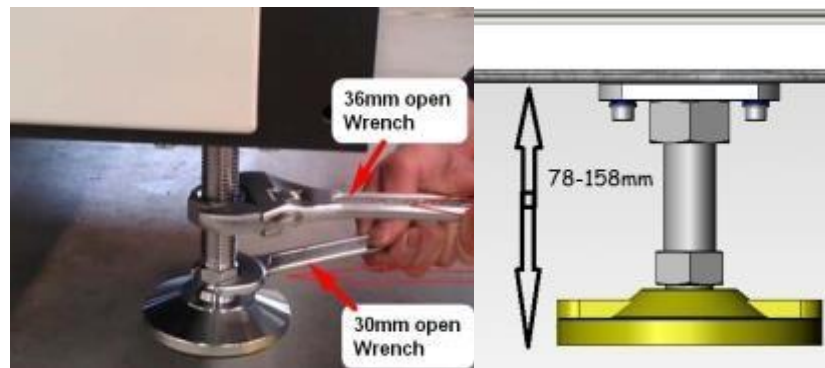


8. Install the feet (8x) by screwing them into the frame where the shipping bolts were removed. The feet should extend approximately 150 mm (6 inch) from the base of the system frame. Ensure the consistency of this distance with each foot



3. POSTION & LEVEL THE MACHINE.

After the machine is placed on its location and the cover is opened, the below steps should be followed.



Loosen the lock nut on each foot, turning clockwise or counterclockwise to raise or lower the oven

FIGURE 2.8 ADJUSTING LEVEL

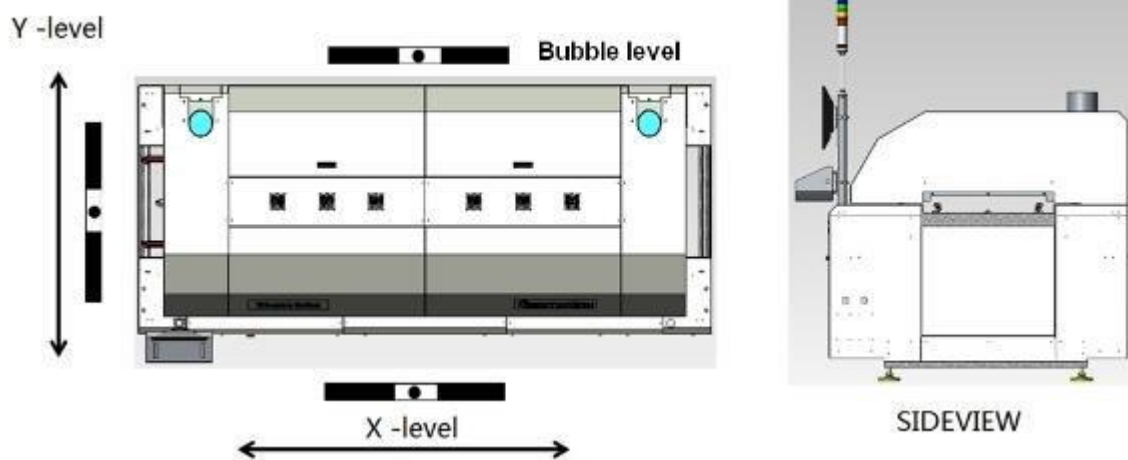


FIGURE 2.9 LEVELING

1. Level the machine by means of bubble level
 - a. Checking X Direction: Place bubble level on the frame.
 - b. Checking Y Direction: one more bubble level on the conveyor rails
2. When machine is leveled, tighten back the locknuts on the feet [Figure 2.8]
3. Re-adjust level after heating 8 hours running, refer to Step1 procedure. V1.1.100

4. NITROGEN CONNECTION

Connect the supply hose to the connector at the offload front side of the machine.

Φ12



FIGURE 2.5 NITROGEN CONNECTIONS

Nitrogen requirements minimum pressure	kPa/ PSI	483/70
Nitrogen supply, maximum rate (during N2 quick purge stage)	m3/hr/ cfm	50/29.5
Nitrogen connection type		PIPE ID 12MM/0.473IN

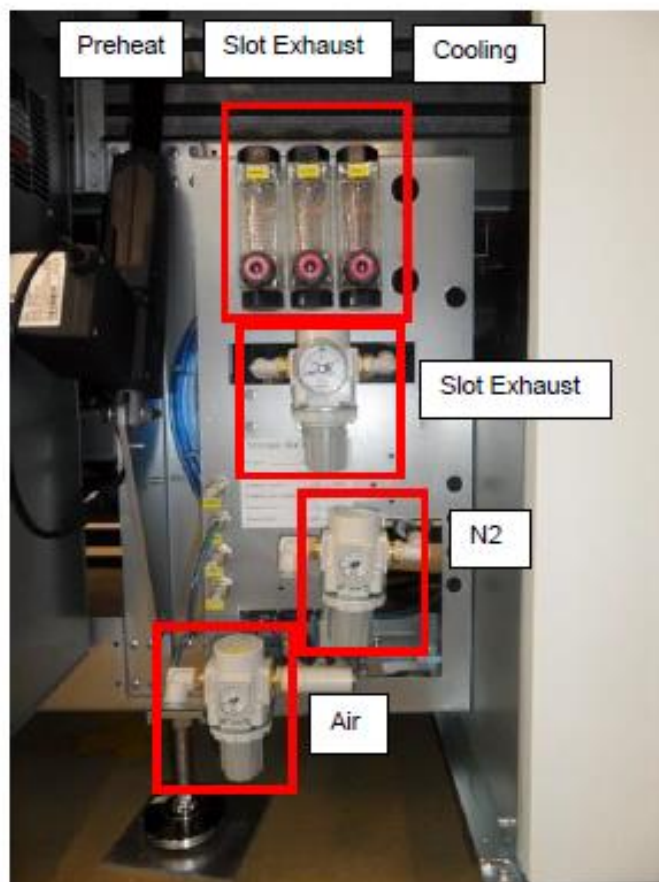
5. AIR CONNECTION

The machine requires a clean, dry compressed air (CDA) supply if any of the following options are installed on the machine:

- Cathox System, True Air Switching system, Fast Cool Down system

Hose connection Fitting L-Shape SMC KQ2L12-03AS with 3/8 Inch R Rc thread on the Air regulator on the machine

Pressure [Basic]	Regulated to 0.6 MPa (6 Bar)
Pressure [Cathox Slot Exhaust Option]	Regulated to 0.4MPa (4 Bar)
Pressure [Cathox Slot Exhaust with switchable system Option setting venturi]	Regulated to 0.03MPa (0.3 Bar)
Volume Slot Exhaust Option	140 CFH (4 m ³ /Hr.)
Pressure [N ₂ /Air Switching /FCD option]	Regulated to 0.6MPa (6 Bar)
Volume	100 - 200 CFH (2.8 - 5.6 m ³ /Hr.)
Supply pipe size	(OD) Φ12mm – 0.473 inch



6. EXHAUST SYSTEM

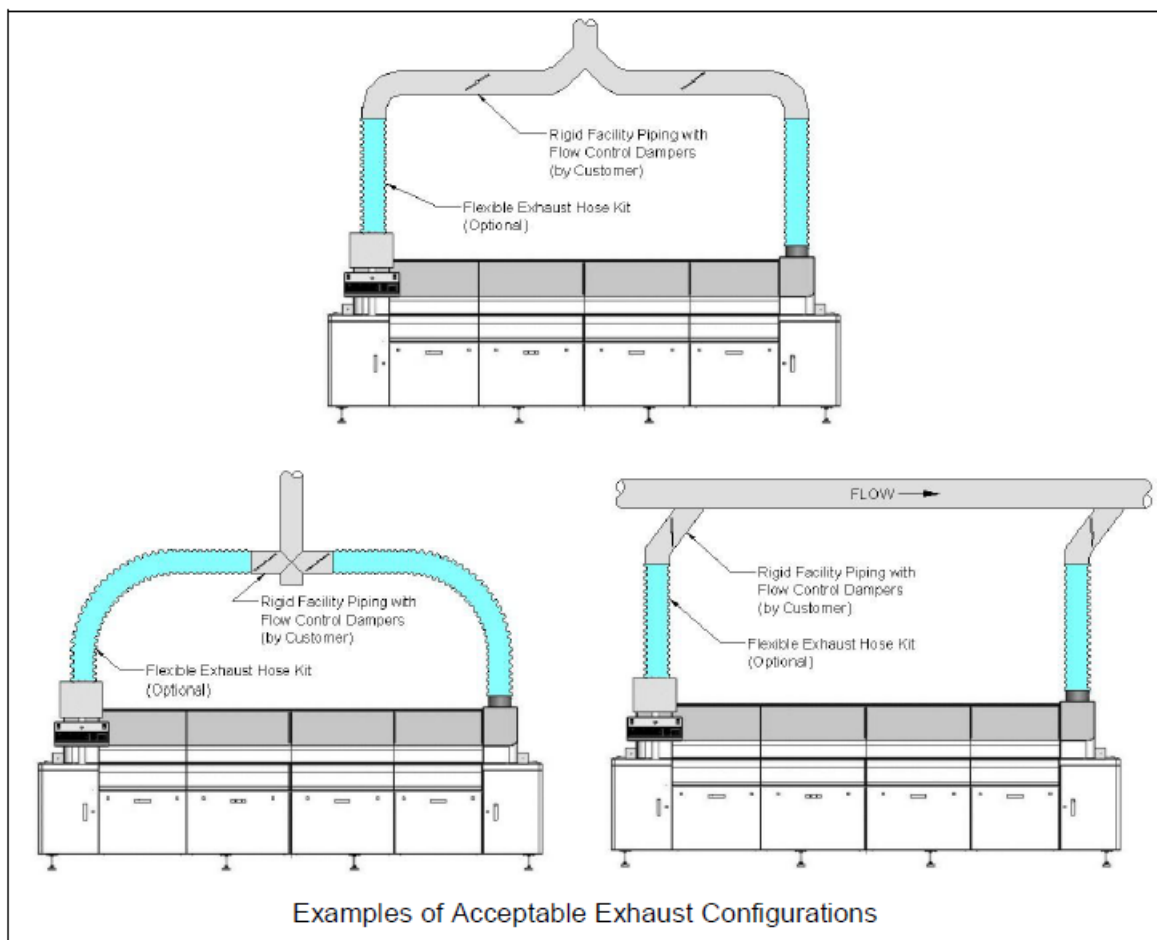
Connecting two exhaust hose adaptors (165 mm (6.5")) from oven to the customer's exhaust system (Not supplied by Vitronics Soltec).

1. Exhaust volume at each connection.

- N2 Mode with CATHOX - 200 m³/Hr@100Pa/0.401 IWC
- Air Mode / Nitrogen without CATHOX - 450 m³/Hr@300Pa/1.204 IWC



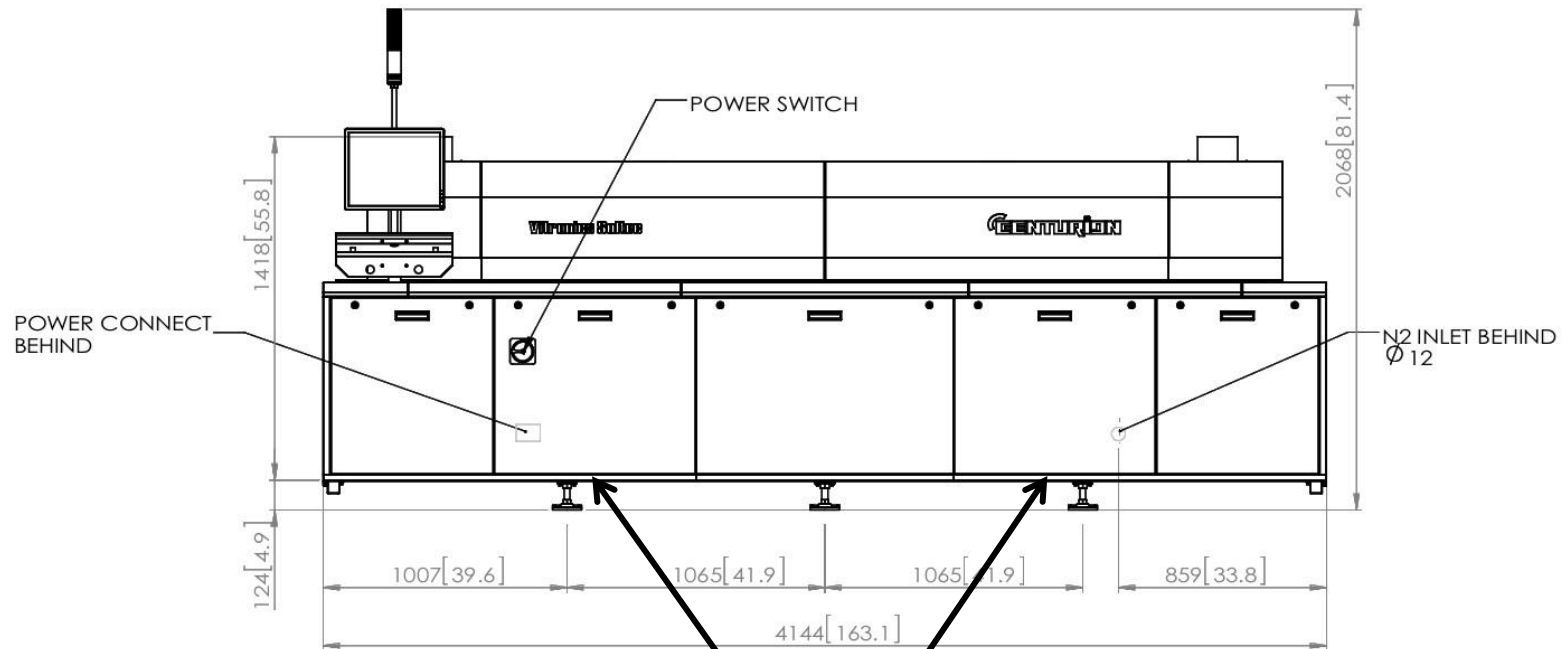
Don't run the machine without turning on the exhaust system, otherwise it will damage the machine.



TOP VIEW CT720A/CT820A



FRONT VIEW CT720A/CT820A



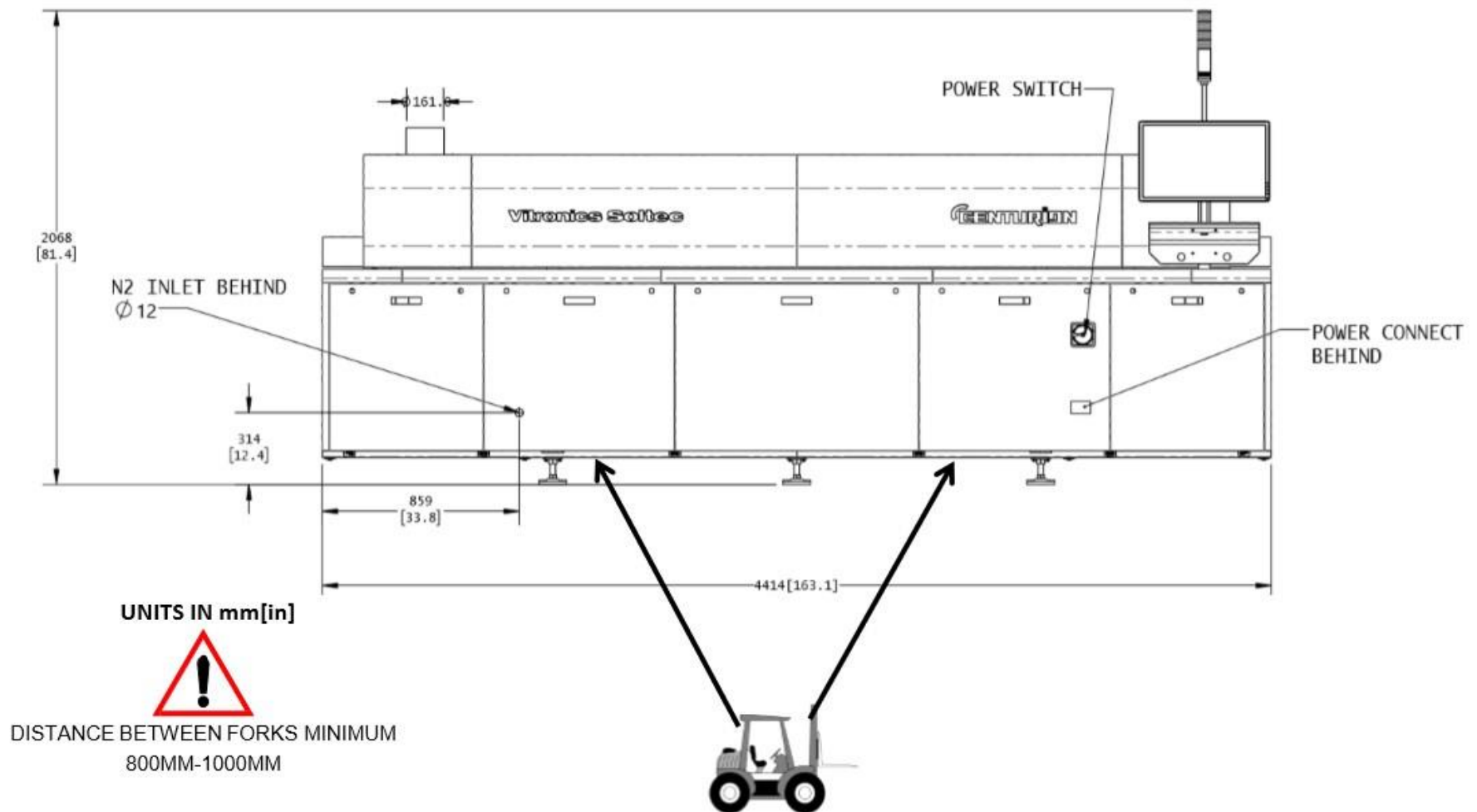
UNITS IN mm[in]



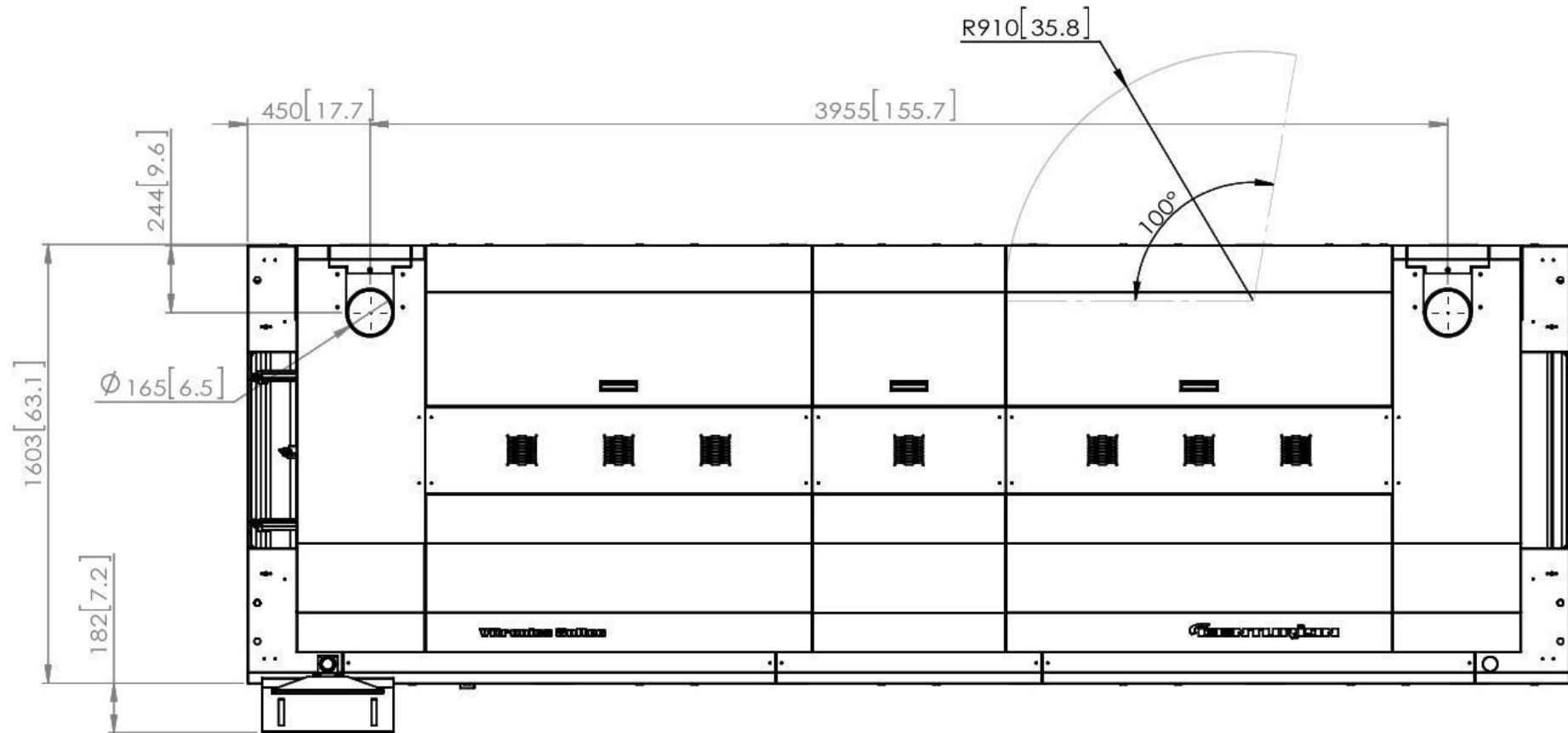
DISTANCE BETWEEN FORKS MINIMUM
800MM-1000MM



FRONT VIEW-TRANSPORT RIGHT TO LEFT CT720A/CT820A

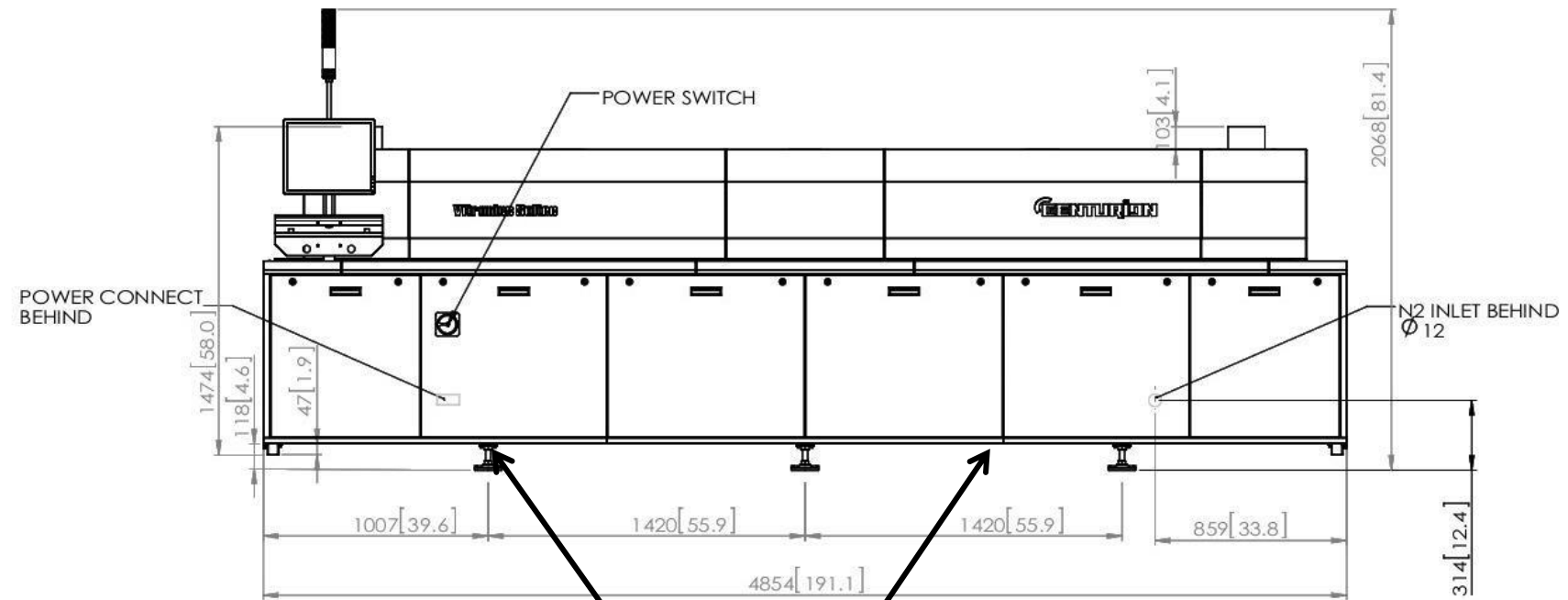


TOP VIEW CT720N/CT820N/CT930A



UNITS IN mm[in]

FRONT VIEW CT720N/CT820N/CT930A



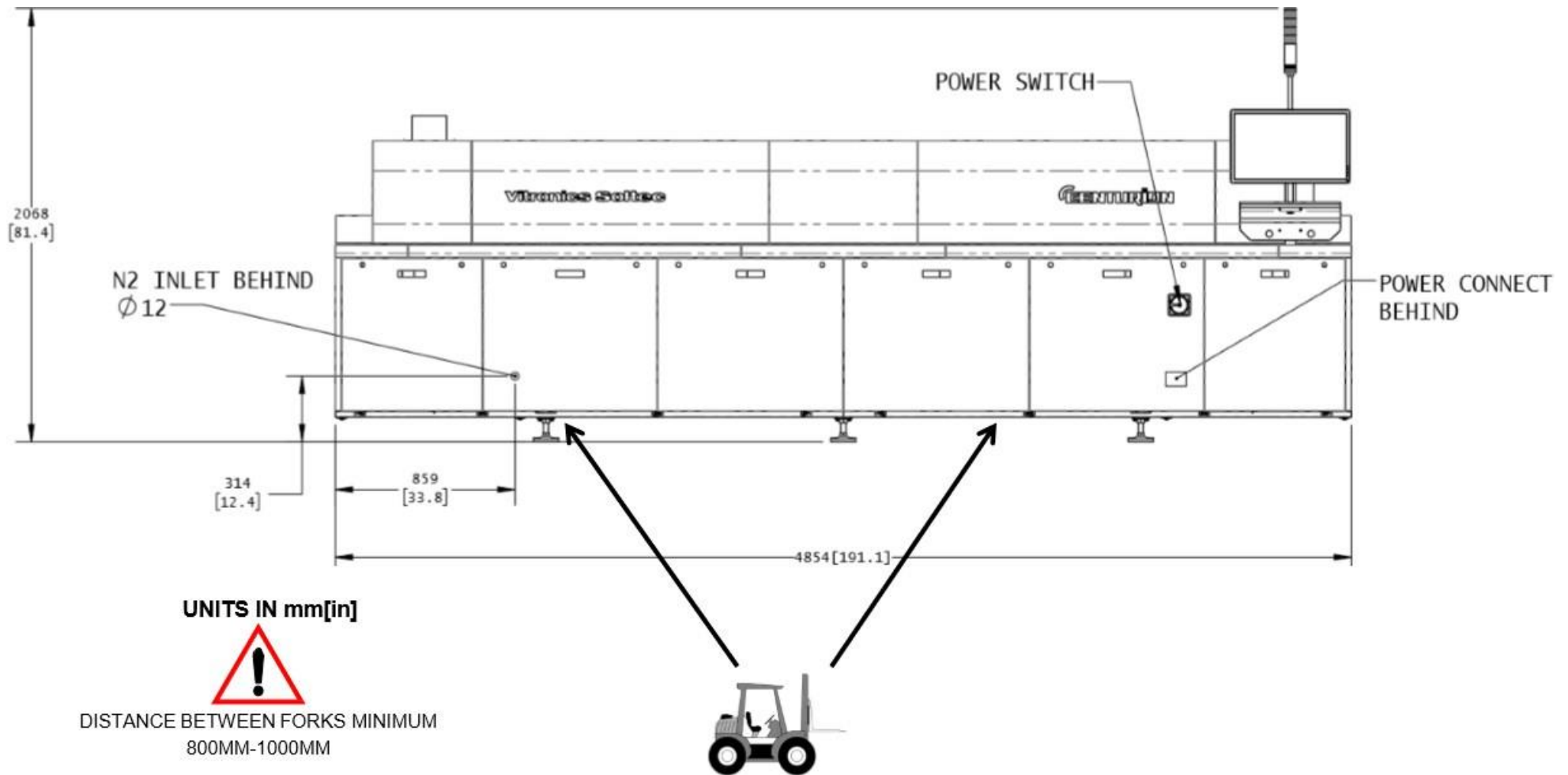
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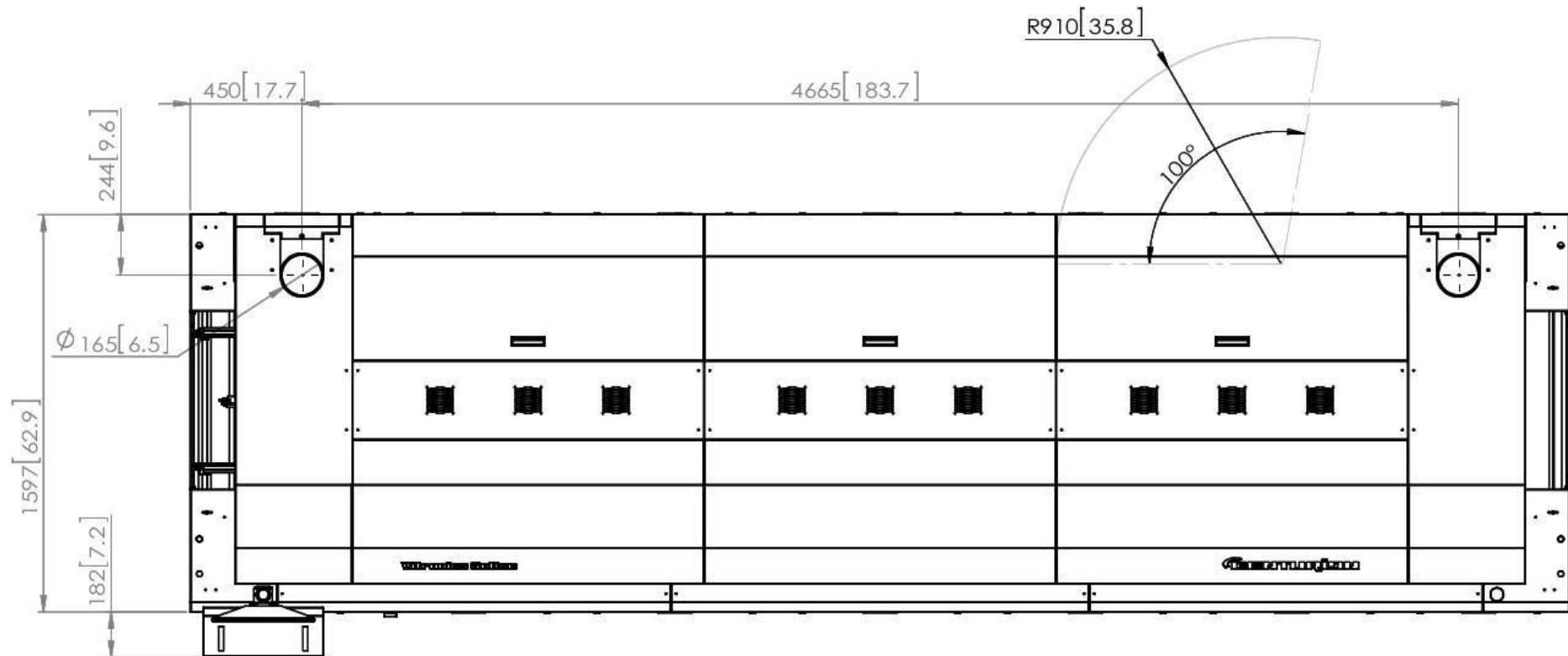
DISTANCE BETWEEN FORKS MINIMUM
800MM-1000MM



FRONT VIEW-TRANSPORT RIGHT TO LEFT CT720N/CT820N/CT930A

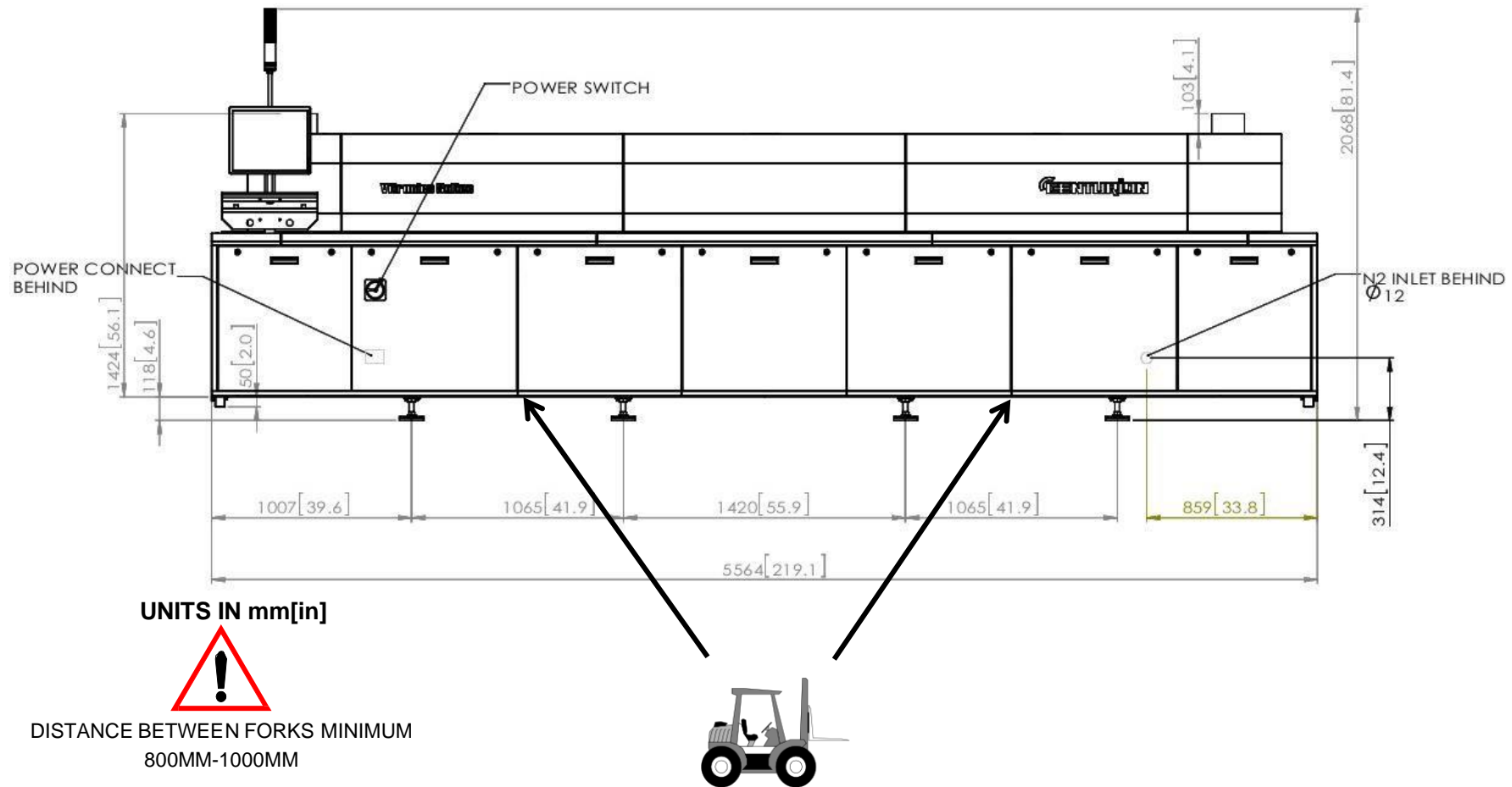


TOP VIEW CT930N/CT1040A

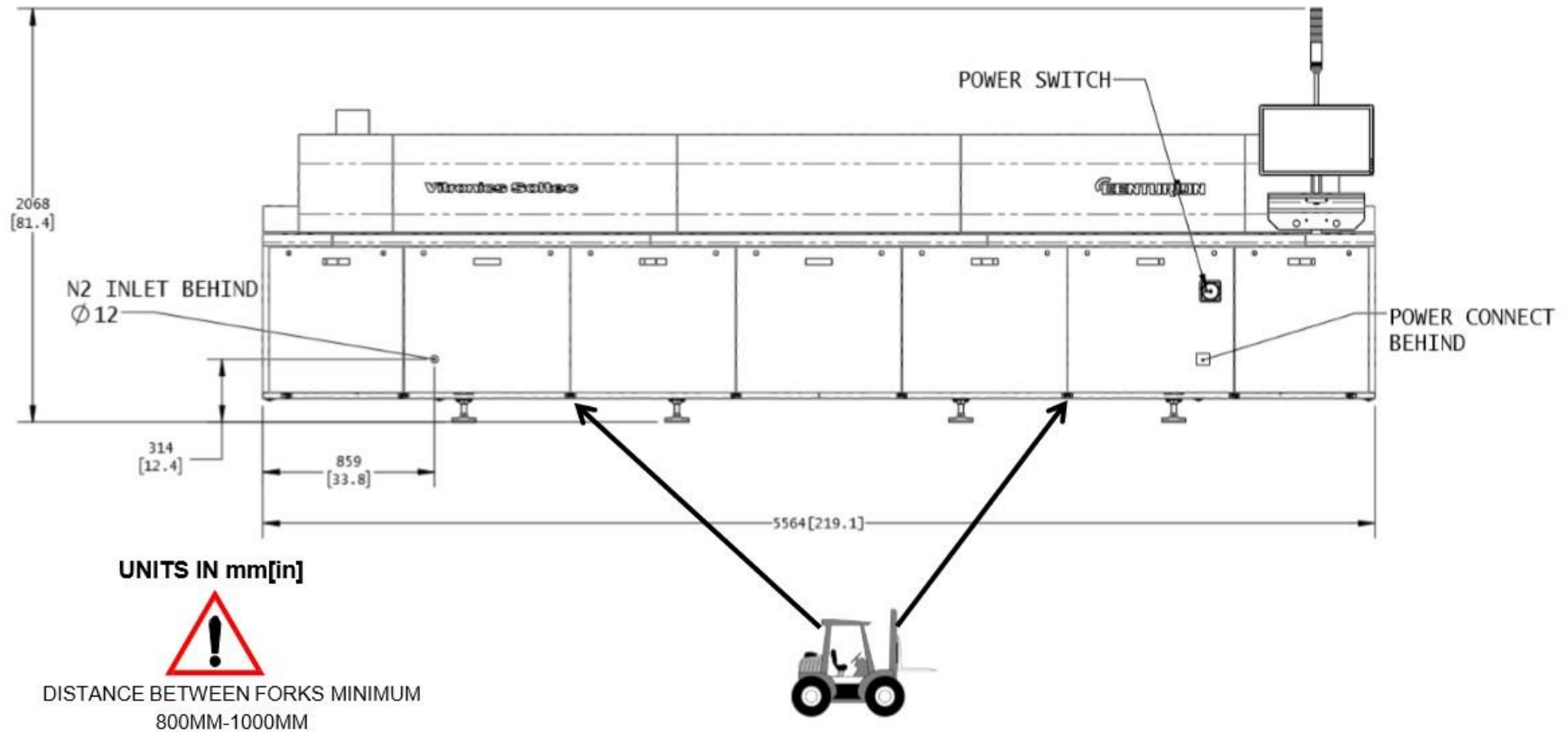


UNITS IN mm[in]

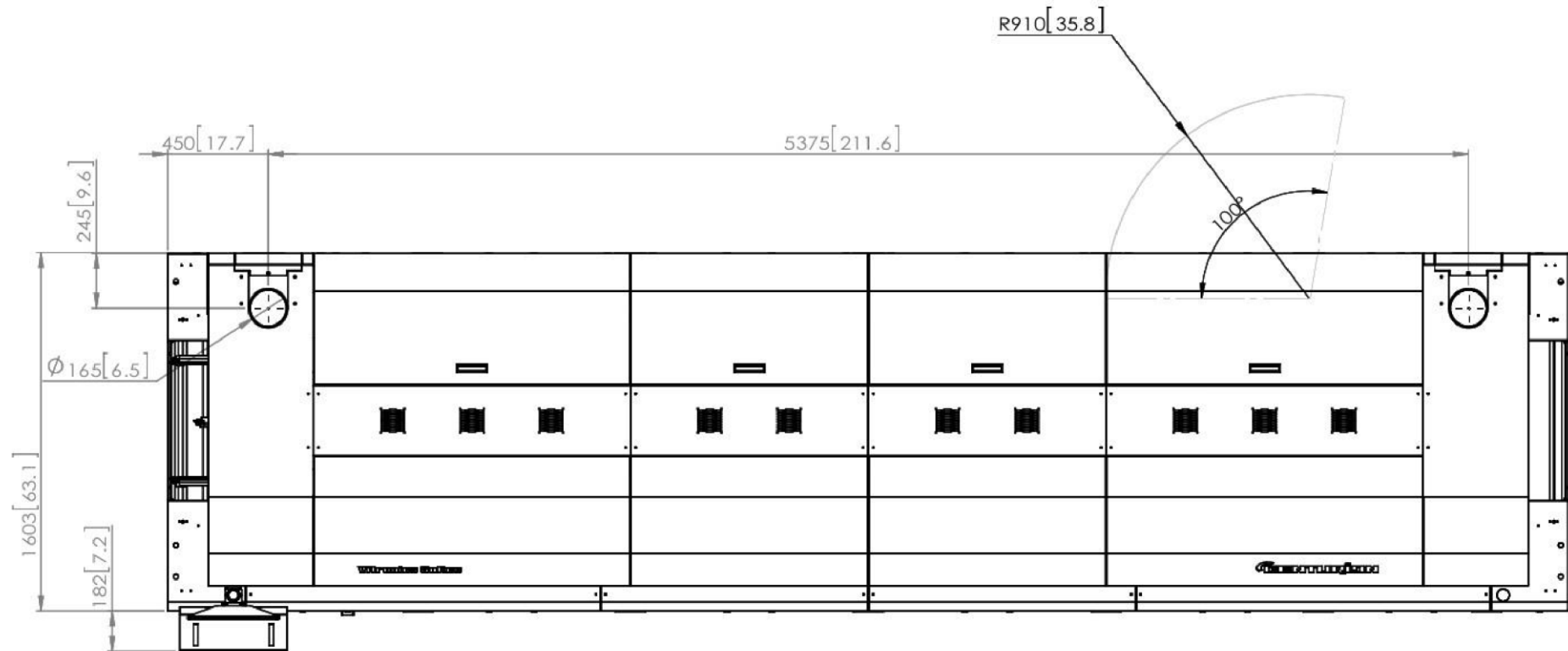
FRONT VIEW CT930N/CT1040A



FRONT VIEW-TRANSPORT RIGHT TO LEFT CT930N/CT1040A

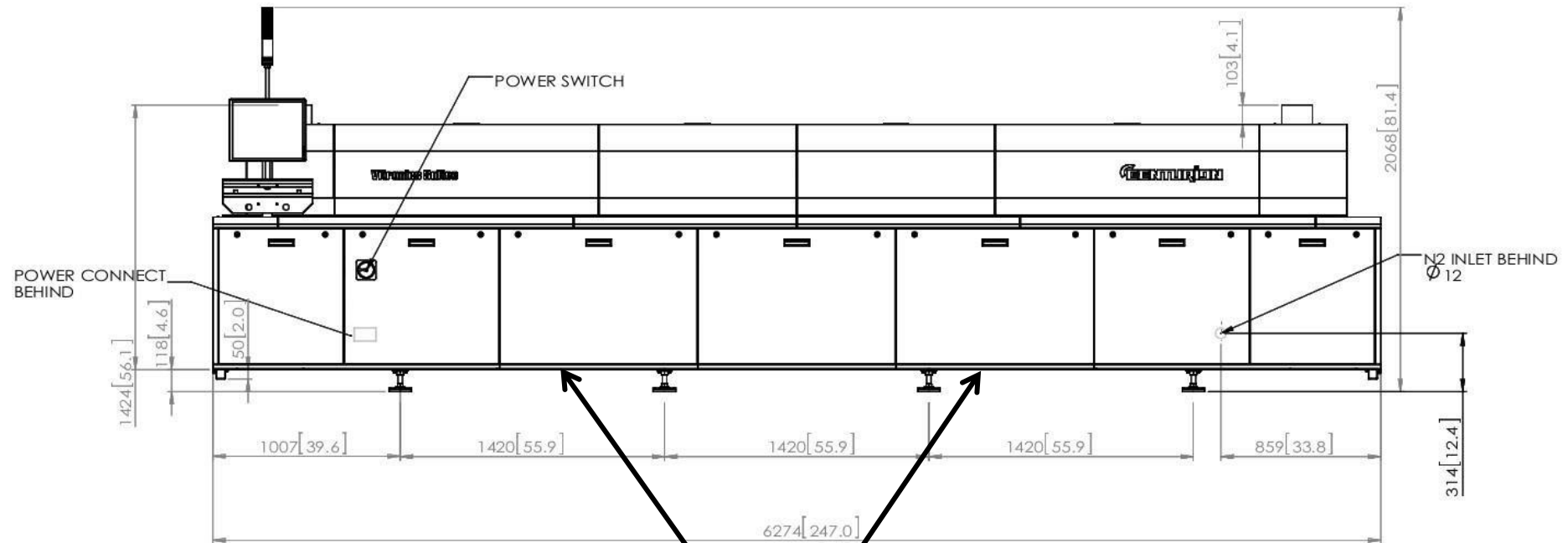


TOP VIEW CT1040N/CT1240A



UNITS IN mm[in]

FRONT VIEW CT1040N/CT1240A



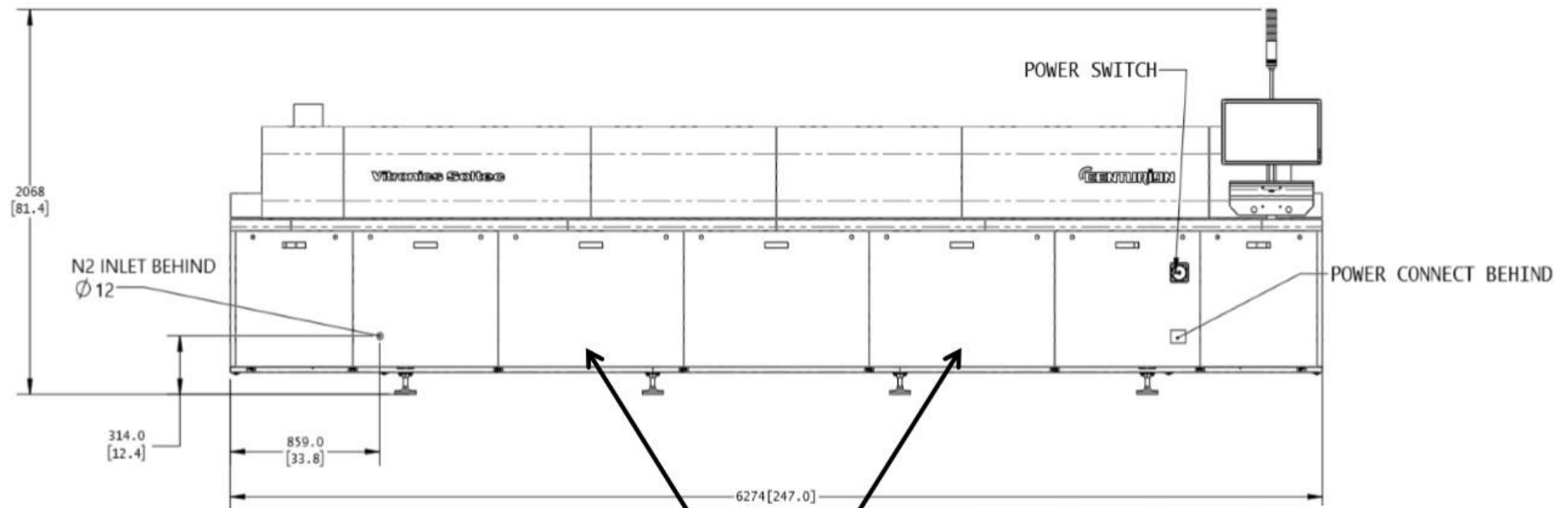
UNITS IN mm[in]



DISTANCE BETWEEN FORKS MINIMUM
800MM-1000MM



FRONT VIEW-TRANSPORT RIGHT TO LEFT CT1040N/1240A



UNITS IN mm[in]

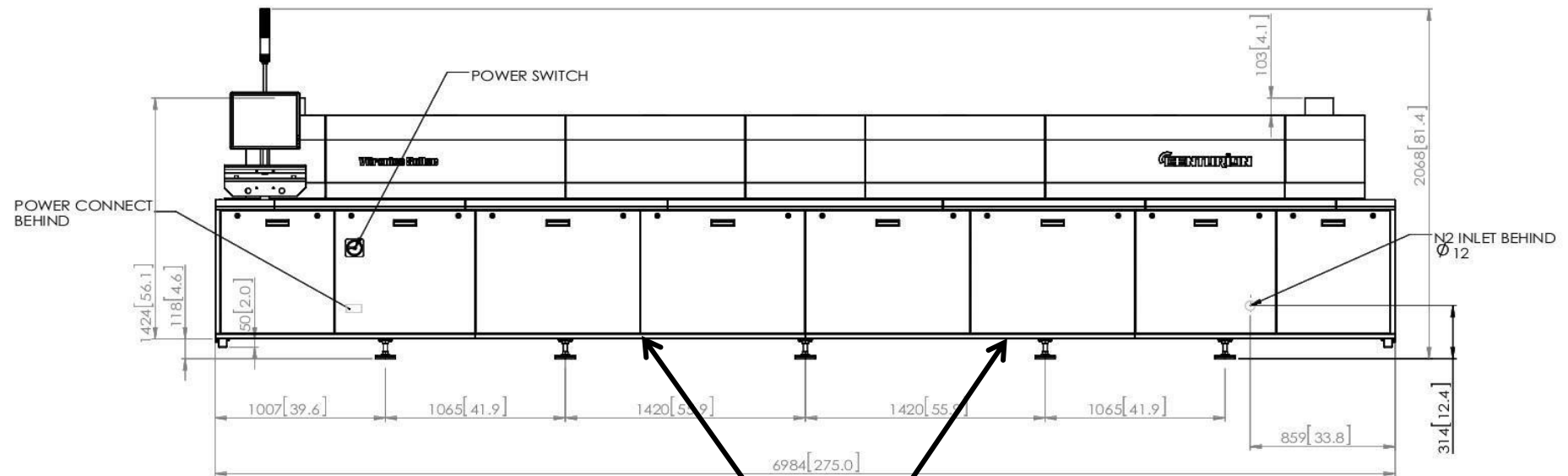


DISTANCE BETWEEN FORKS MINIMUM
800MM-1000MM



UNITS IN mm[in]

FRONT VIEW CT1240N



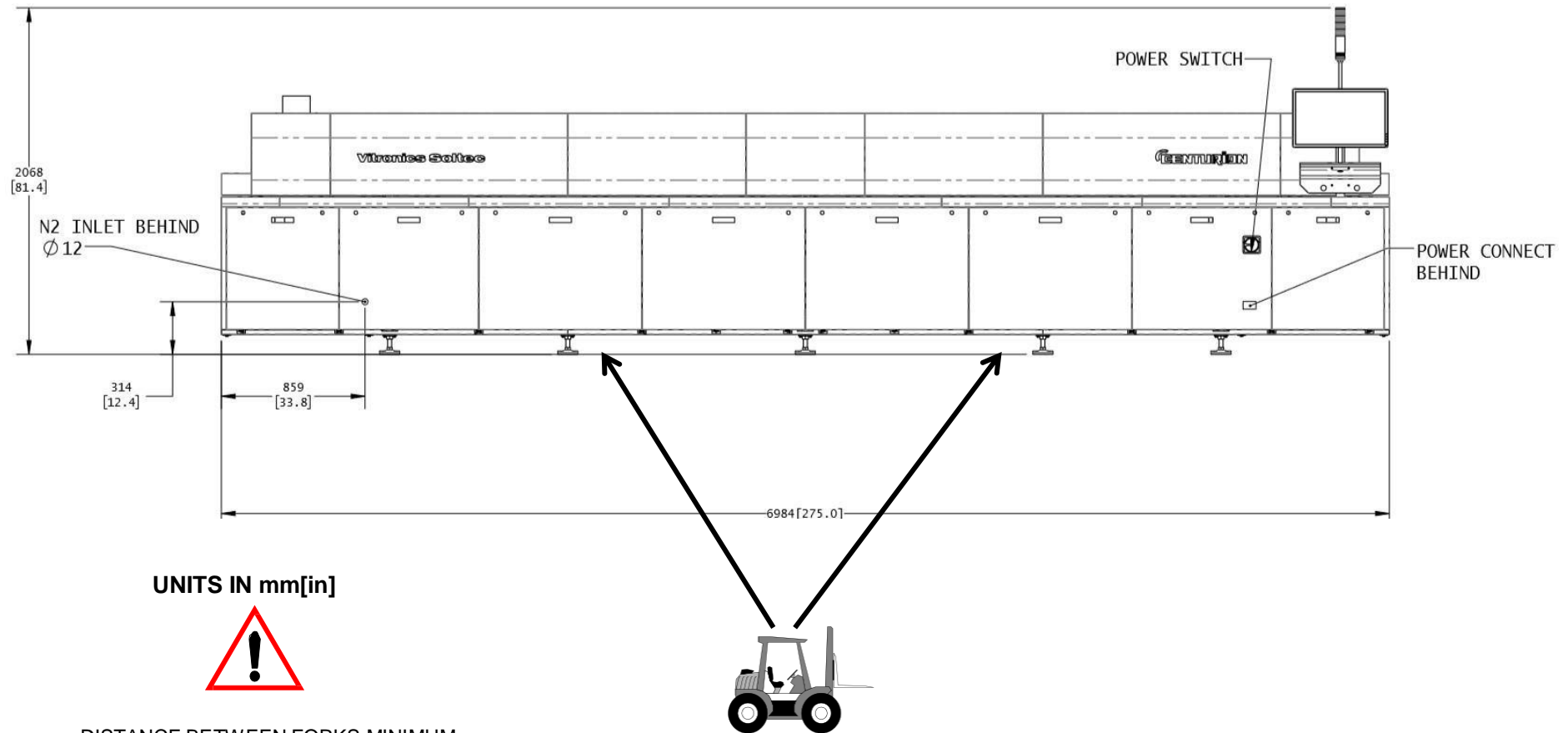
UNITS IN mm[in]



DISTANCE BETWEEN FORKS MINIMUM
800MM-1000MM



FRONT VIEW-TRANSPORT RIGHT TO LEFT CT1240N



UNITS IN mm[in]



DISTANCE BETWEEN FORKS MINIMUM
800MM-1000MM

INSTALLATION SHEET Centurion Series

DESCRIPTION	UNITS	CT720	CT820	CT930	CT1040	CT1240
Input Voltage	V	See page 4				
Frequency	Hz	50/60				
Start - Up power	kVA	See page 4				
Power required at setpoints (depending on configuration, load and setpoints)●	kVA	8	9	9	10	11
Weight machine (maximum)	kg / lb	CT720A:2100 Kg/4630 lb	CT820A:2100Kg/4630 lb	CT930A:2300 Kg/5071 lb	CT1040A:2600 Kg/5732 lb	CT1240A:2800 Kg/6173 lb
		CT720N:2300 Kg/5071 lb	CT820N:2300 Kg/5071 lb	CT930N:2600 Kg/5732 lb	CT1040N:2800 Kg/6173 lb	CT1240N:3100 Kg/6834 lb
Force per leveling foot	N	CT720A:3430N(6FT)	CT820A:3430N(6FT)	CT930A:3757N(6FT)	CT1040A:3185N(8FT)	CT1240A:3430N(8FT)
		CT720N:3757N(6FT)	CT820N:3757N(6FT)	CT930N:3185N(8FT)	CT1040N:3430N(8FT)	CT1240N:3038N(10FT)
Nitrogen requirements minimum pressure	kPa/ PSI	483/70				
Nitrogen supply, maximum rate (during N2 quick purge stage)	m3/hr / cfm	50/29.5				
Nitrogen connection type		PIPE ID 12MM/0.473IN				
Air Mode / Nitrogen no CATHOX- Exhaust volume at single connection point (maximum)	m3/hr / cfm	450/265				
Nitrogen with CATHOX- Exhaust volume at single connection point(maximum)	m3/hr / cfm	200/118				
Exhaust connection	mm / inch	165/6.50				
Clearance for operate & maintenance front, infeed and outfeed sider	cm / inch	100/39.7				

Clearance for operate & maintenance rear side	cm / inch	150/59
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TRAINING AT INSTALLATION

As part of the Installation process, ITW EAE offers a complimentary “up and running” training program. This covers the basic operation, maintenance and programming of the Centurion Reflow Oven and associated options.

Training Summary

Customer Start-Up Assistance Training

- The FSE (field service engineer) will provide maximum of 4 hours of training for up to four process engineers)
- The FSE will provide a maximum of two hours of training for up to four operators.
- The FSE will provide a maximum of two hours of training for up to four maintenance technicians.
- The FSE will then demonstrate that the system performs to specification using the customer's production materials

***NOTE:** The customer's personnel are expected to devote the entire time to the training program. Hours not devoted by the customer may not be “banked” for later use.

Additional Training

A full range of training courses are available covering operation, maintenance and process. Courses are conducted at our ITW EAE facility in Camdenton, MO.

For further information, including course descriptions and schedule please contact the Training Department or visit <http://www.itweae.com/services-and-support/americas>

NEED CONSUMABLES?

*For current pricing and availability please contact our Parts Department at parts@itweae.com

*For any questions you may also contact us at 800-737-8110.