



FLUORESCENT PENETRANT INSPECTION SYSTEM MODEL I2C

REL HUMAN-DRIVEN FPI LINES WERE BUILT ON OUR REPUTATION AS THE PREMIUM AUTOMATED SYSTEMS PROVIDER FOR THE NON-DESTRUCTIVE TESTING INDUSTRY.

REL human-driven fluorescent penetrant inspection (FPI) non-destructive testing equipment lines are field-tested modular systems built to rigorous specifications for the American Warfighter and can be found in some of the harshest environments on the planet. The core of these systems is an engineered focus on robustness and precision. Increasing facility throughput through ergonomic considerations, reducing physical footprints by station packaging, and ensuring reliability while maximizing operator safety are design constraints that are observed on all REL projects.

Each human-driven line features single-point electrical and fluid lockouts on each station, certifiable gauges mounted on quick disconnect fittings, and integrations for overhead cranes or corrosion-resistant manual rollers to perform all processing to ASTM E1417 requirements, or other processing specifications.

Each system also features our REL LED UV-A lamps that we custom-developed for the non-destructive testing industry. After searching the globe for the best non-destructive testing lamp, we found it in our own shop's LED Lamp Division!

Each rinse and inspection booth includes LED UV-A inspection lamps that meet both Airbus and Boeing background UV-A requirements of 300 microwatts per cm2. Background visible lighting is limited to 2 foot candles with the use of surrounds in the rinse station and inspection station.

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FPI MODEL I2C

Complex challenges. Convenient Controlled Solutions.



Scale your human-driven FPI processes with a Model I2C system from REL.

REL is already recognized as the premium standard in Automated NDT equipment. Our Fluorescent Penetrant Inspection Model I2C system has built on that reputation to redefine human-driven fluorescent penetrant inspection equipment lines. The "I to C" is now available commercially to the non-destructive-testing industry.

All I2C systems range in tank sizes from 2' x 3' to 4' x 3', with an ergonomic roller height of 36" from the floor, accommodate overhead monorail cranes with integrated lift assist to maximize operator safety, and offer built-in surrounds that collect and process effluents containing them to the stations, NOT the plant floor.

*BSK*046

Automate your manual process with LOCKTIME

LOCKTIME

PAPERLESS PROCESS MANAGEMENT AND QUALITY CONTROL FOR MANUAL CHEMICAL PROCESSING

LOCKTIME is an integrated Process Control and Quality Management System designed specifically for the Manually Operated Chemical Processing Industry. LOCKTIME can be added to any manual FPI system. The hardware and software allow for total visibility on process control, part quality, predictive maintenance, and provides for better training of operators, and concise reporting for NADCAP ISO and other audits.



1. View & track process on multiple devices; phone, tablet, laptop, or monitor
2. Use barcode scanner to load/unload part from each station
3. Run parts through process
4. Maintenance tracking with integrated barcode tags

Features and Benefits

- Customizable configurations for Method A & Method D processing
- Can be deployed anywhere in the world
- Built-in surrounds keep effluents contained in the station
- Can accommodate overhead monorail crane system with integrated lift assist to maximize operator safety
- Tank sizes ranging from 2' x 3' to 4' x 3'
- Ergonomic roller height of 36" from the floor
- Complete manual included
- Designed to work with LOCKTIME, REL's paperless Industry 4.0 Processing database



Certifications & Compliances

- TESTED & COMPLIES WITH ASTM E1417 STANDARD
- MEETS ISO 9001:2015 SPECIFICATIONS
- TESTED & COMPLIES WITH ASTM E3022 STANDARD
- TESTED & COMPLIES WITH ROLLS-ROYCE RRES 90061
- USAF: Type II, Class A Standard form meeting
- USAF: PD-AFLCMC EZPT-03-19
- Airbus AITM6-1001
- NADCAP AC7114/1
- ASME BPVC
- ASTM E165
- ASTM F601
- ISO 3452
- ISO 3059



PENETRANT TANK STATION

Large 26" x 44" x 26"
part envelope

44"

26"

26"

Ergonomic
working height

36"

PENETRANT TANK STATION

Variable shelf heights



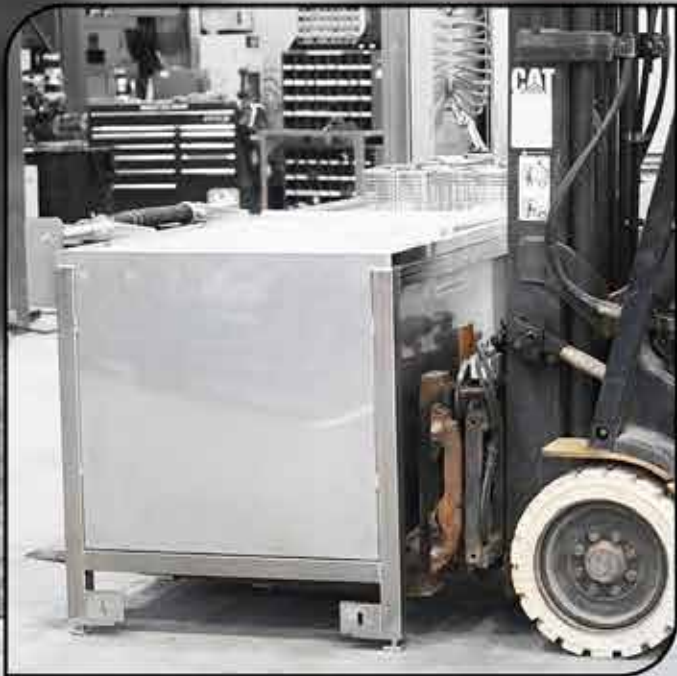
Multi-positional leveling feet

Penetrant Drain Station

PENETRANT TANK STATION

Station cover open

Fork lift friendly

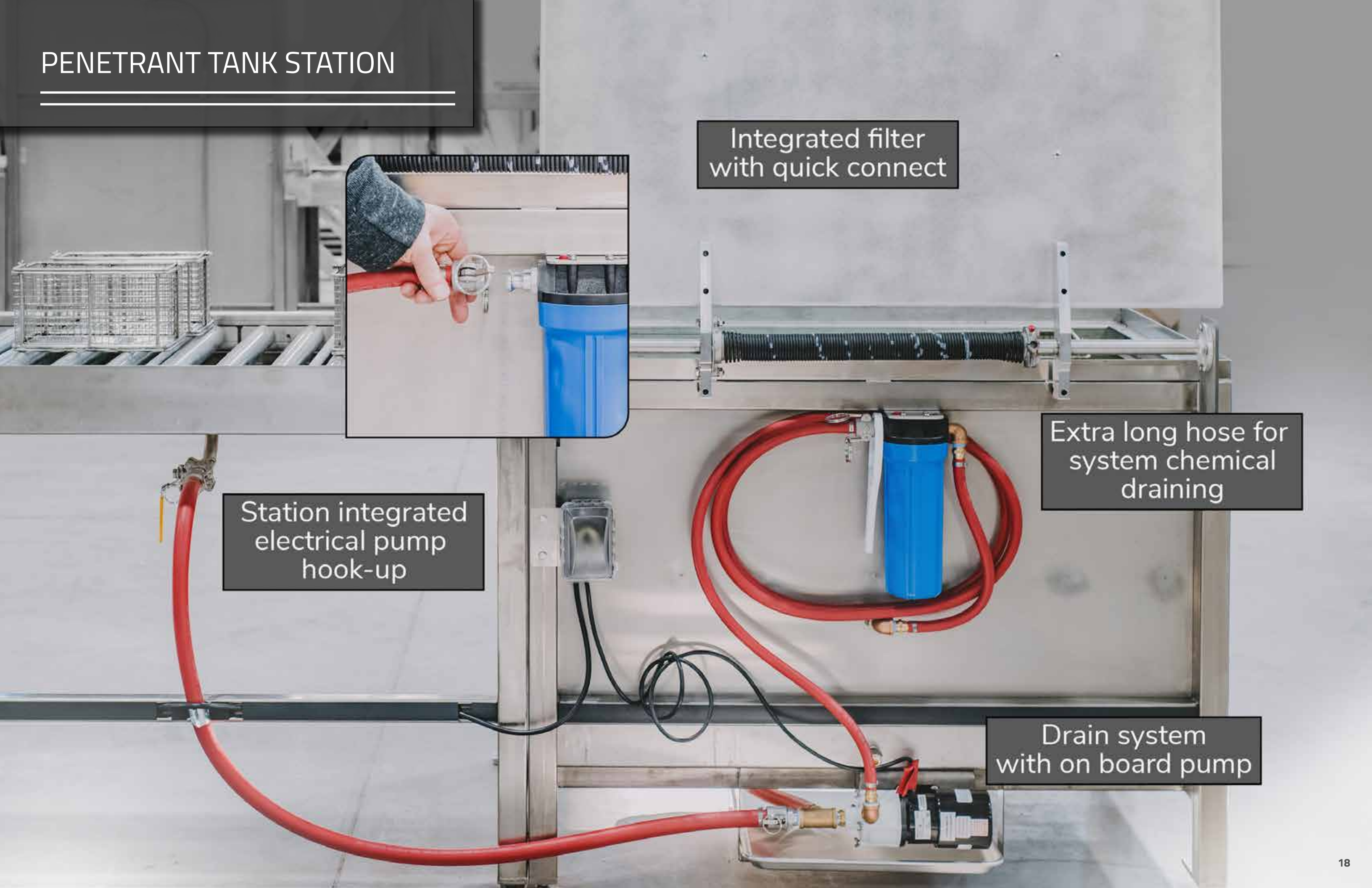


Station cover closed

Torsion spring
lift assist



PENETRANT TANK STATION



Integrated filter
with quick connect

Extra long hose for
system chemical
draining

Station integrated
electrical pump
hook-up

Drain system
with on board pump

PENETRANT TANK STATION



Integral drip edge

Easy clean
drip pan



PENETRANT TANK STATION

Integrated carrier racks



Overhead crane accessible



PENETRANT DRAIN STATION

Integral drip
edgings



Easily removable rollers
with push in end feature

Sloped low profile
14ga stainless steel
drip pan



Bolt on roller
sections with
spreader bar

Penetrant Drain Station

PENETRANT DRAIN STATION

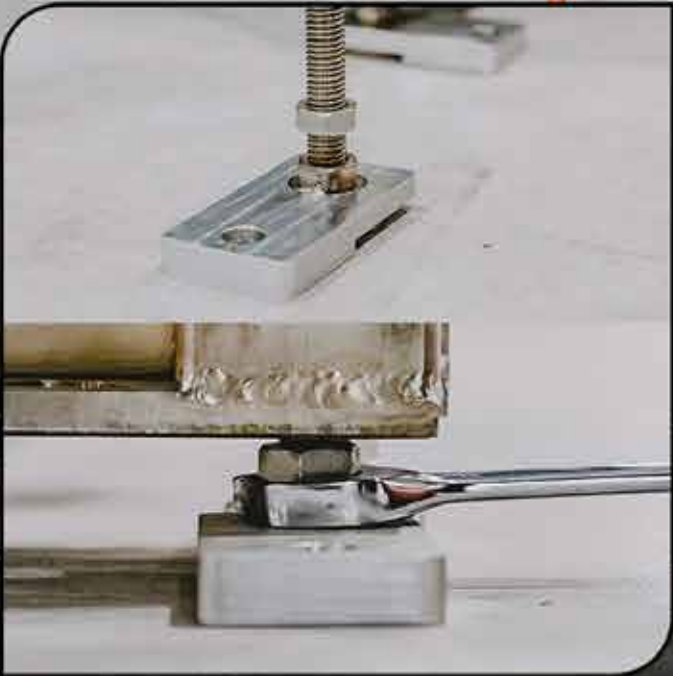
Stainless steel frame



Station to station bolting system

Ball-valve for station isolation

Electrical safety designed into cable management system



4 corner leveling assembly



Quick connect hose back to Penetrant Station

PRE-RINSE STATION

Integral drip
edgings

In/out door operation
with flip up door stops

Wash gun
assembly



Shelf height
flexibility

Pressure &
temp reg valves

Hot/cold
mixing valve

Manifold
Assembly



PRE-RINSE STATION



Pre-rinse
drain valve

Quick station-to-station
electrical connection

4 corner leveling
and station-to-station
bolting system



REMOVER STATION



Large 26" x 44" x 26" part envelope



Air distribution system with safety lockout

Air agitation sparge



REMOVER STATION

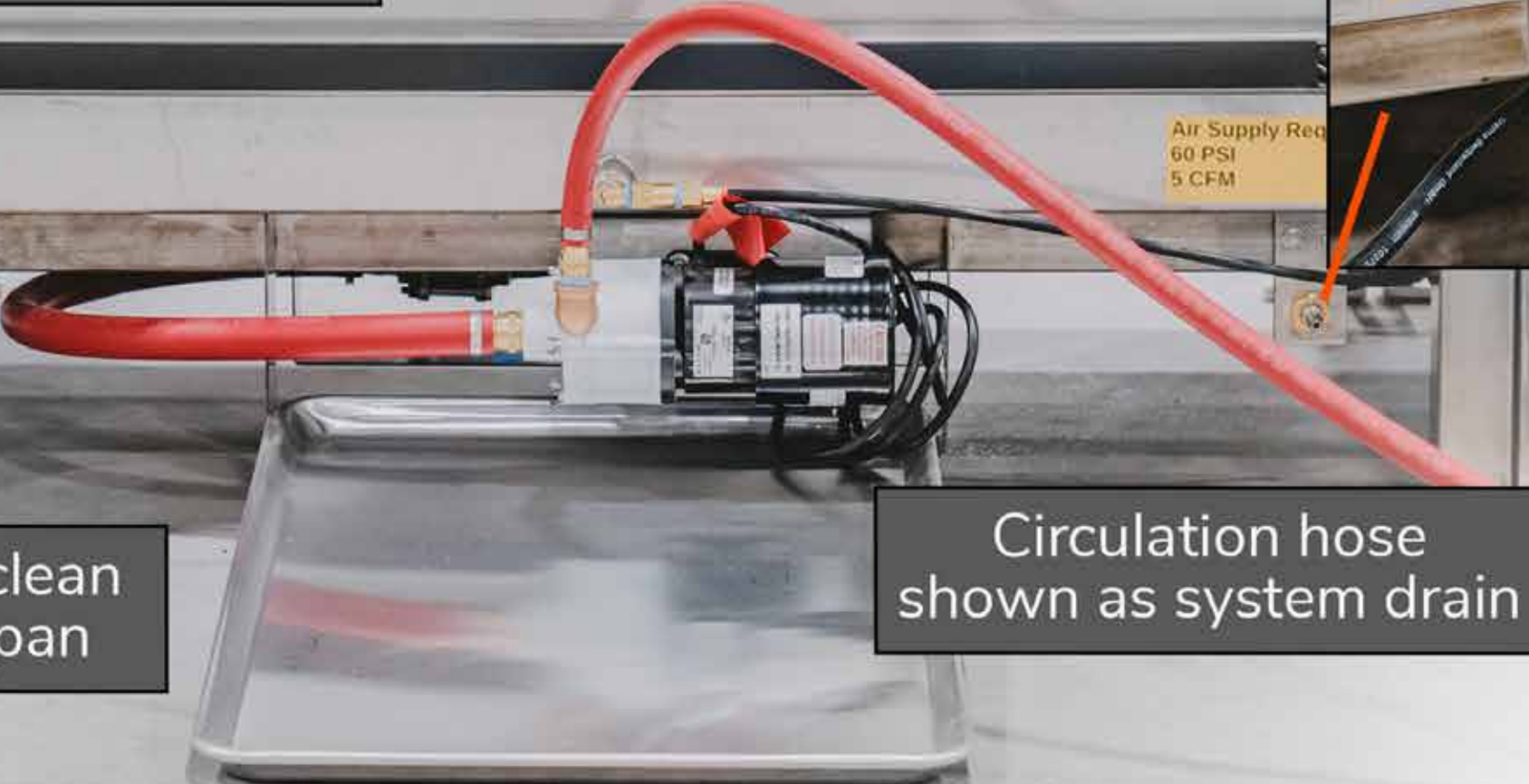
Easy filter replacement



Safe power cord management



Circulation hose shown as system drain



Easy clean drip pan

WASH STATION

Integrated Profusion™ LED UV-A Lamps

Easy swivel curtains with ergonomic pull cord

Wash containment

Middle split for front crane access



Overhead crane access (3 sides)

Hot/cold mixing valve

Timer

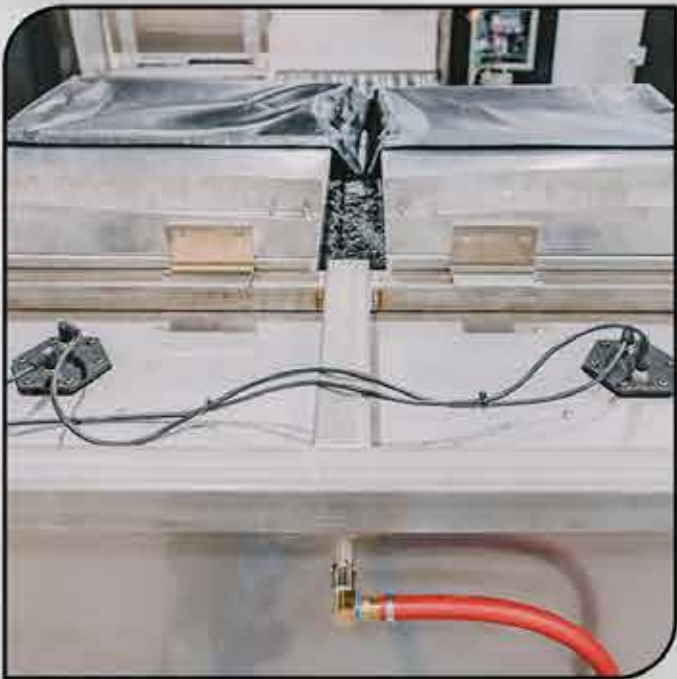
C4 Magnum™ LED UV-A Lamp
NSN:5980-01-671-7903



WASH STATION



Power supply
for Profusion™
LED UV-A Lamps



System integrated
Profusions (top)



System integral
cable management



Wash drain
valve

AQUEOUS / DRY DEVELOPER

Large 26" x 44" x 26"
part envelope



Air agitation
sparge



Air distribution
system with
safety lockout



AQUEOUS / DRY DEVELOPER

Note: filter & pump are changed to vacuum with HEPA filter for dry developer application



Easy filter replacement



System integral cable management

Easy clean drip pan

System air blow off hose

AQUEOUS / DRY DEVELOPER
DRAIN STATION

Integral drip
edgings



Easily removable rollers
with push in end feature

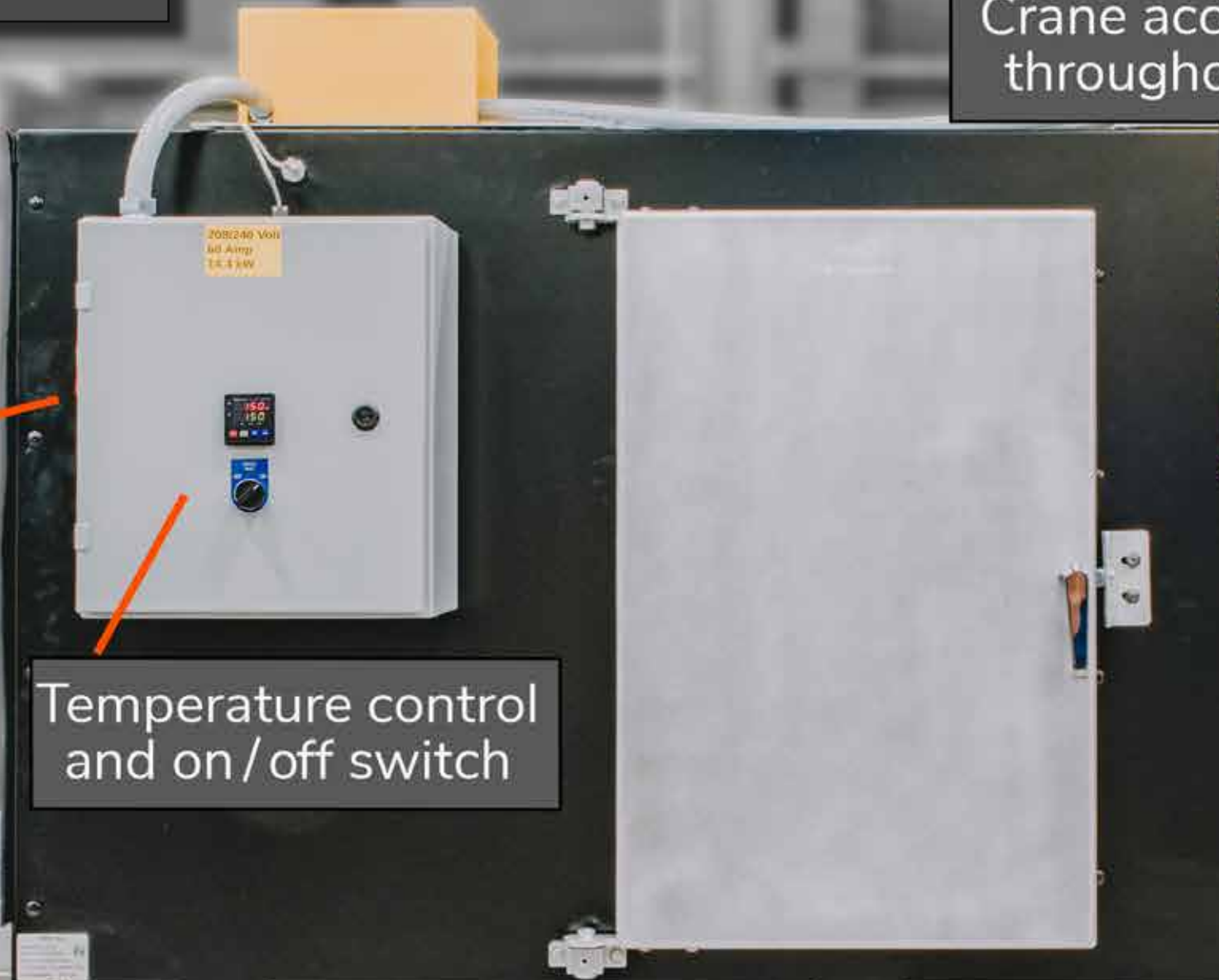
Bolt on roller
sections with
spreader bar



DRYER STATION



Safety lockout

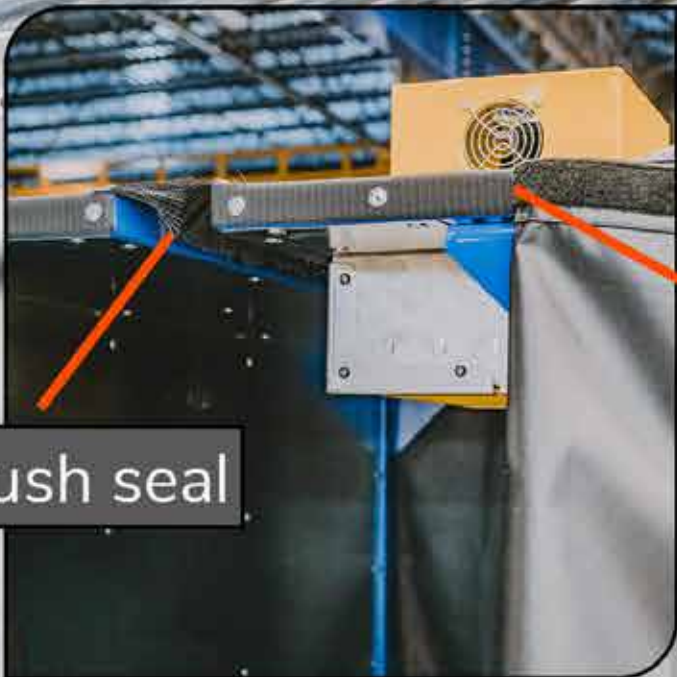


Temperature control and on / off switch



Crane access throughout

Front access



Brush seal

Easy maintenance velcro curtains

REST STATION

Easily removable rollers with push in end feature



Bolt on roller sections with spreader bar



Removable low profile aluminum drip pans



INSPECTION STATION



Overhead crane access throughout

Station exhaust

Integrated Profusion™ LED UV-A Lamps



Part inspection

2 System mounted C4 Magnum™ LED UV-A Lamps



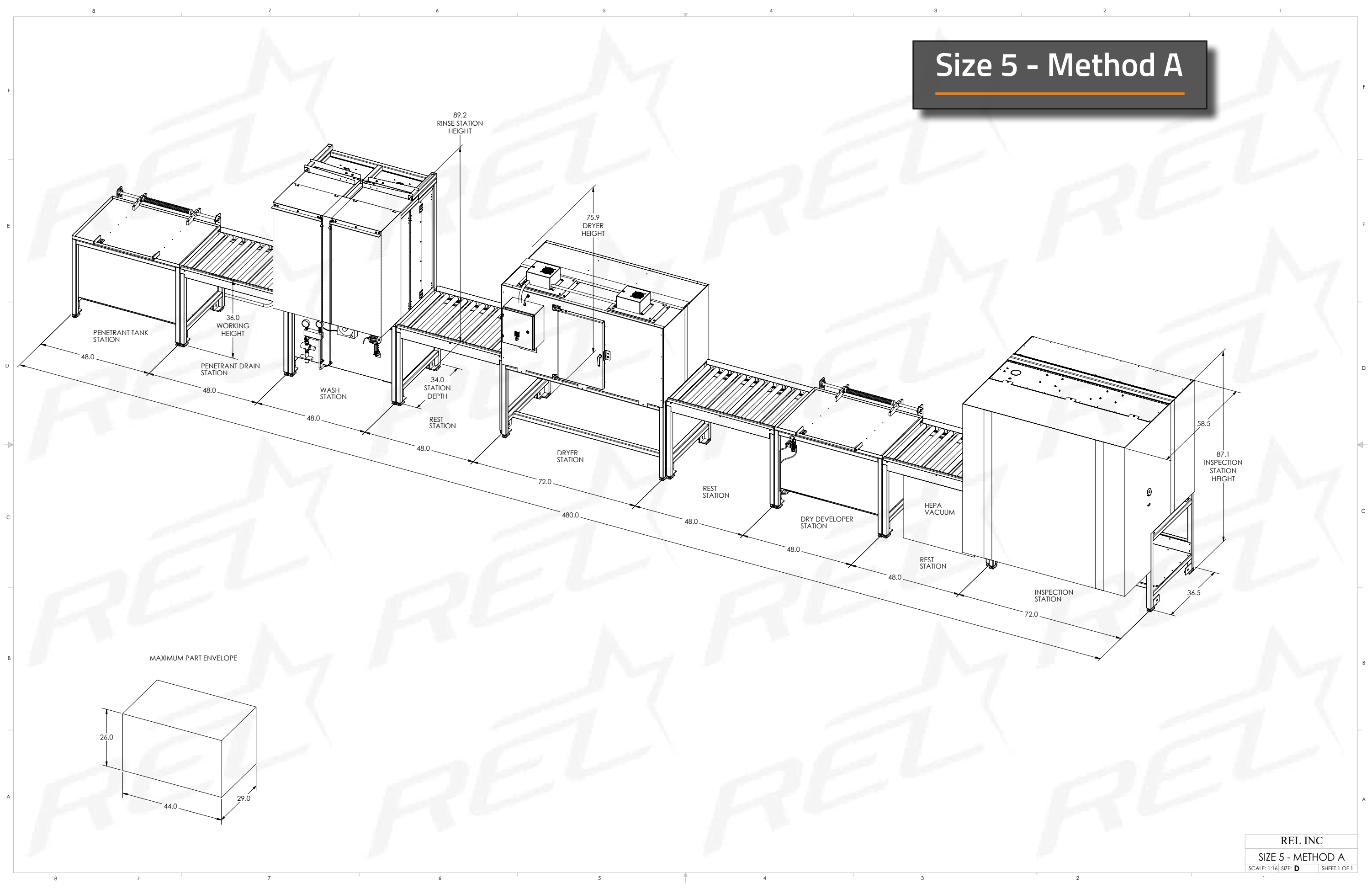
Material stop



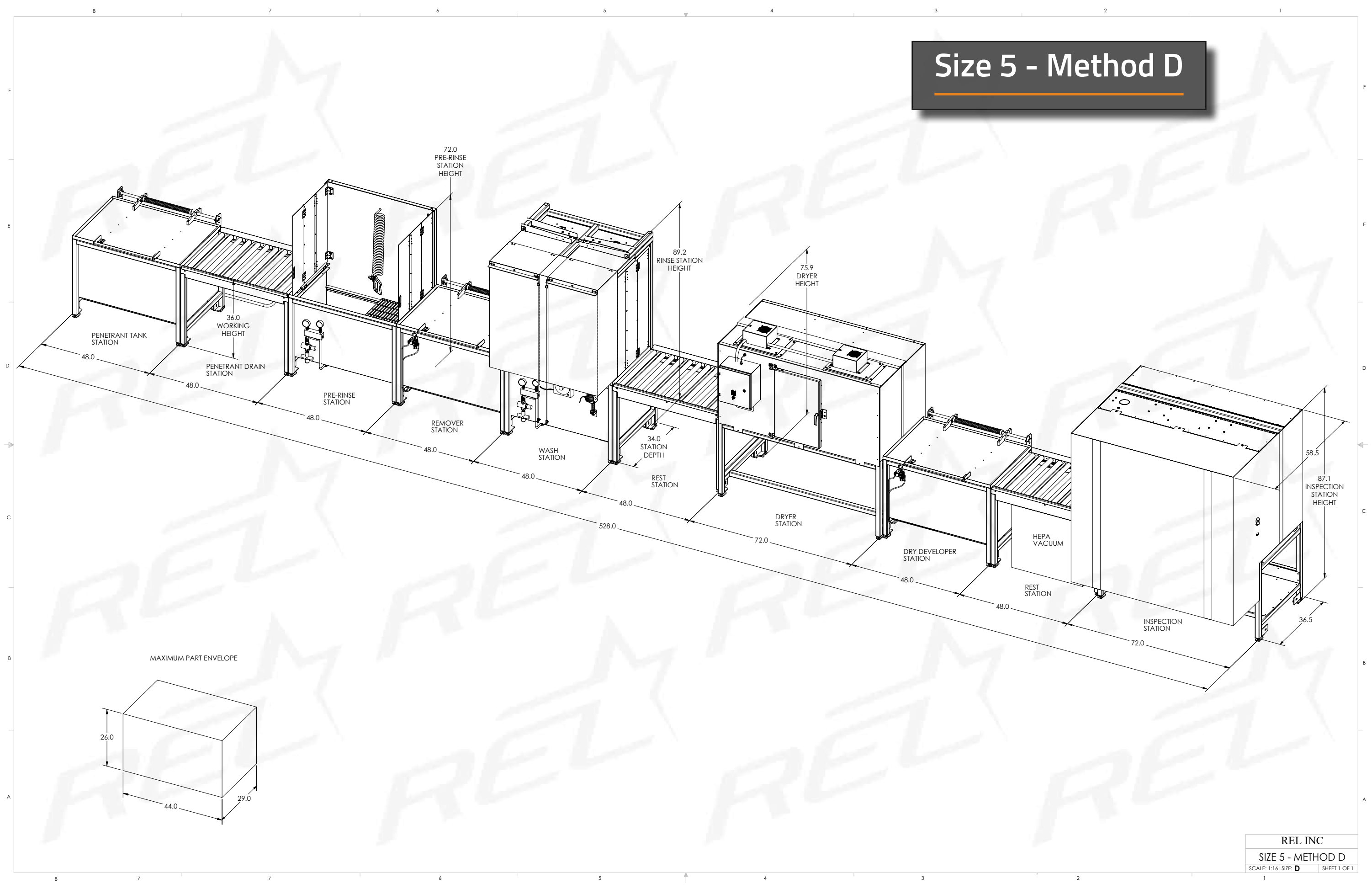
20 Amp, 2.4 kW panel for system lighting, pumps, and fans

Removable low profile drip pans

Size 5 - Method A

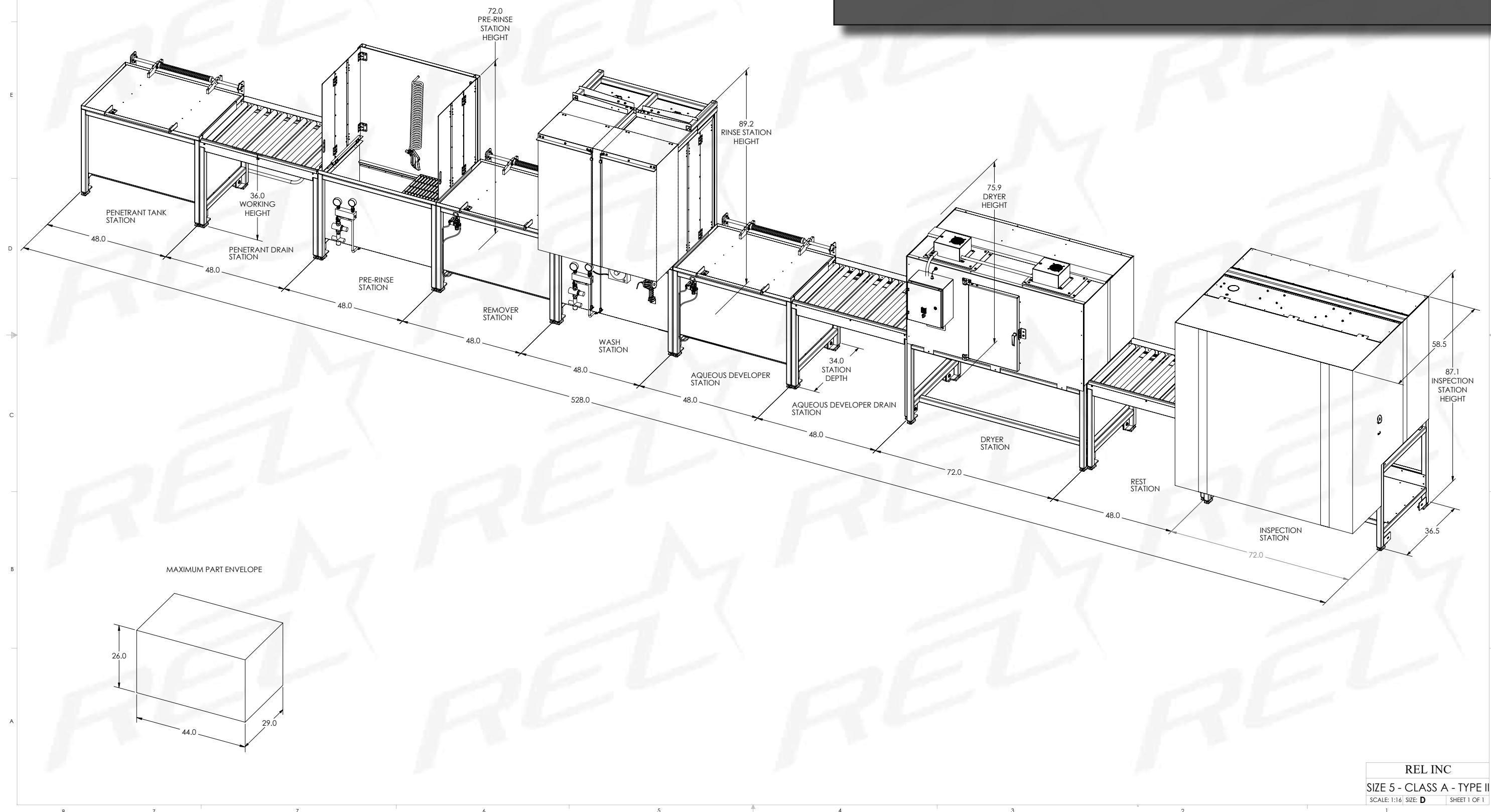


Size 5 - Method D

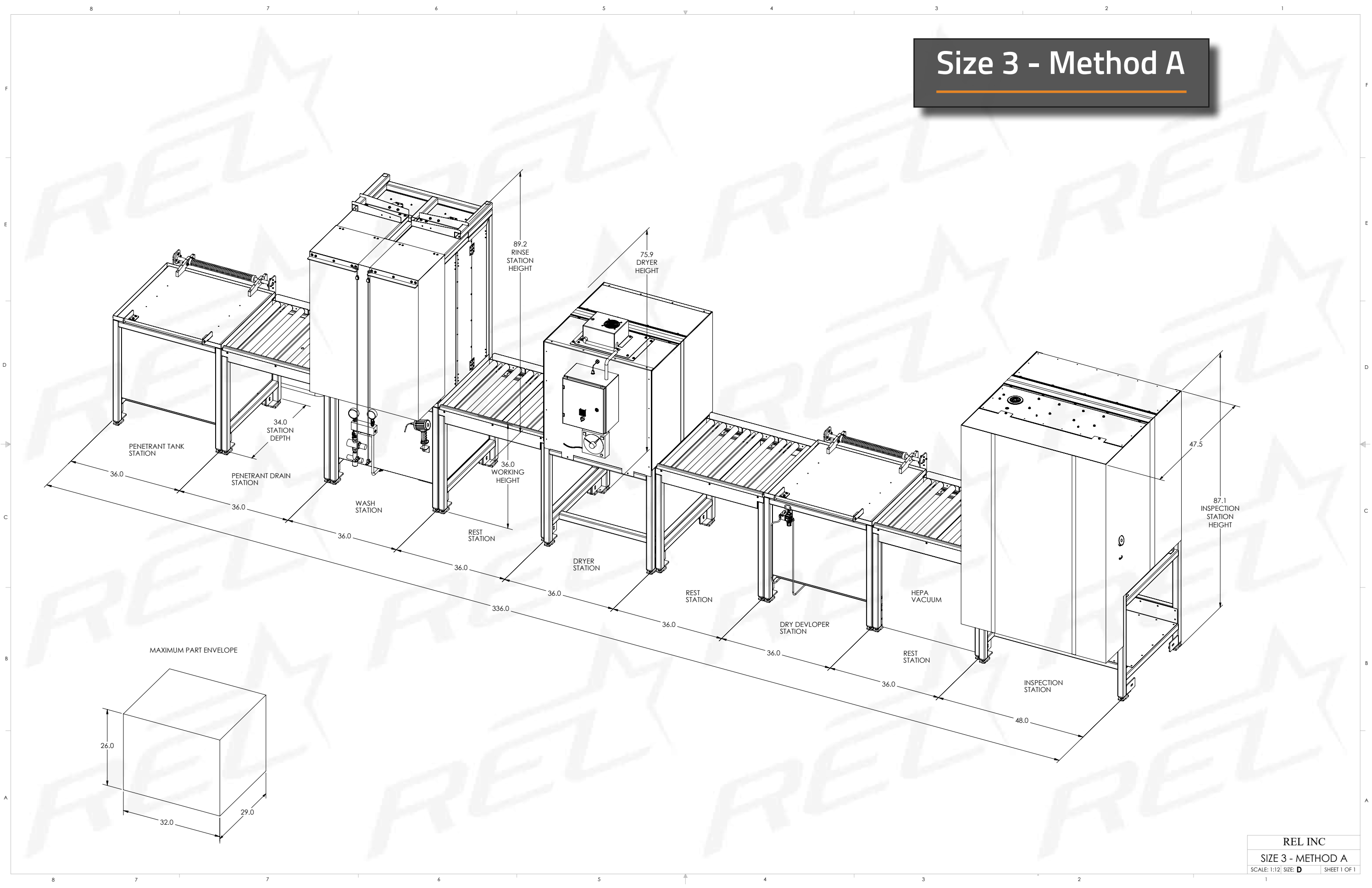


Size 5 - Method D - Aqueous Developer

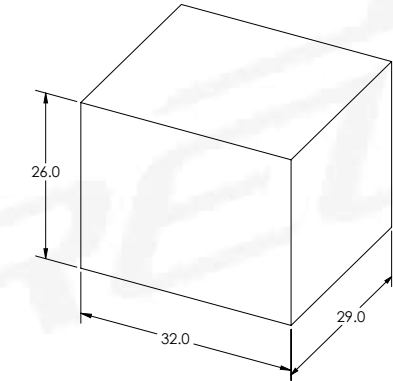
NSN # 6635-01-689-6016



Size 3 - Method A



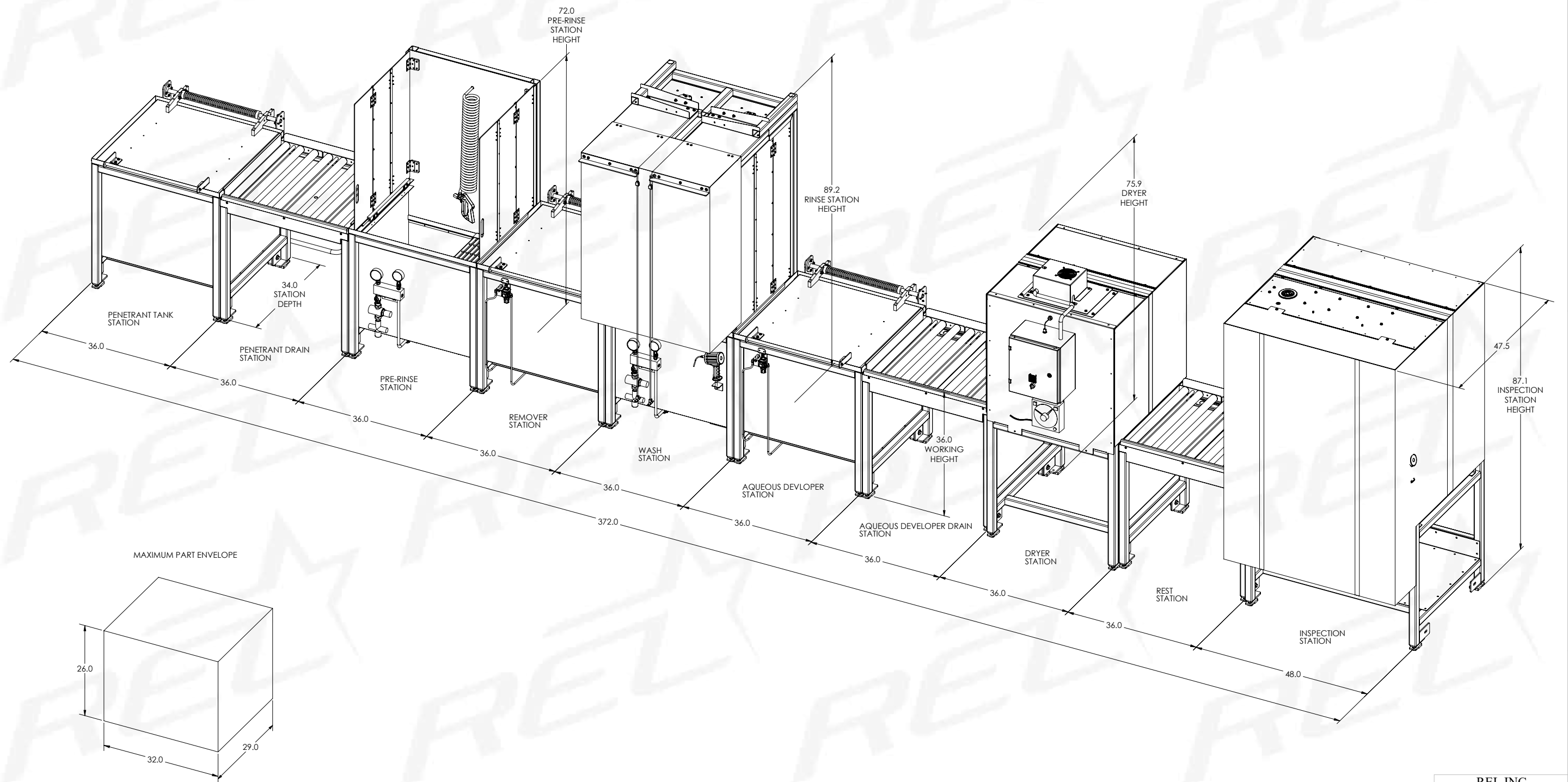
Size 3 - Method D



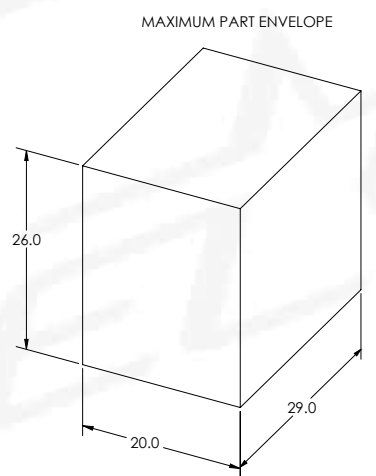
REL INC		
SIZE 3 - METHOD D		
SCALE: 1:12	SIZE: D	SHEET 1 OF 1

Size 3 - Method D - Aqueous Developer

NSN# 6635-01-689-6583

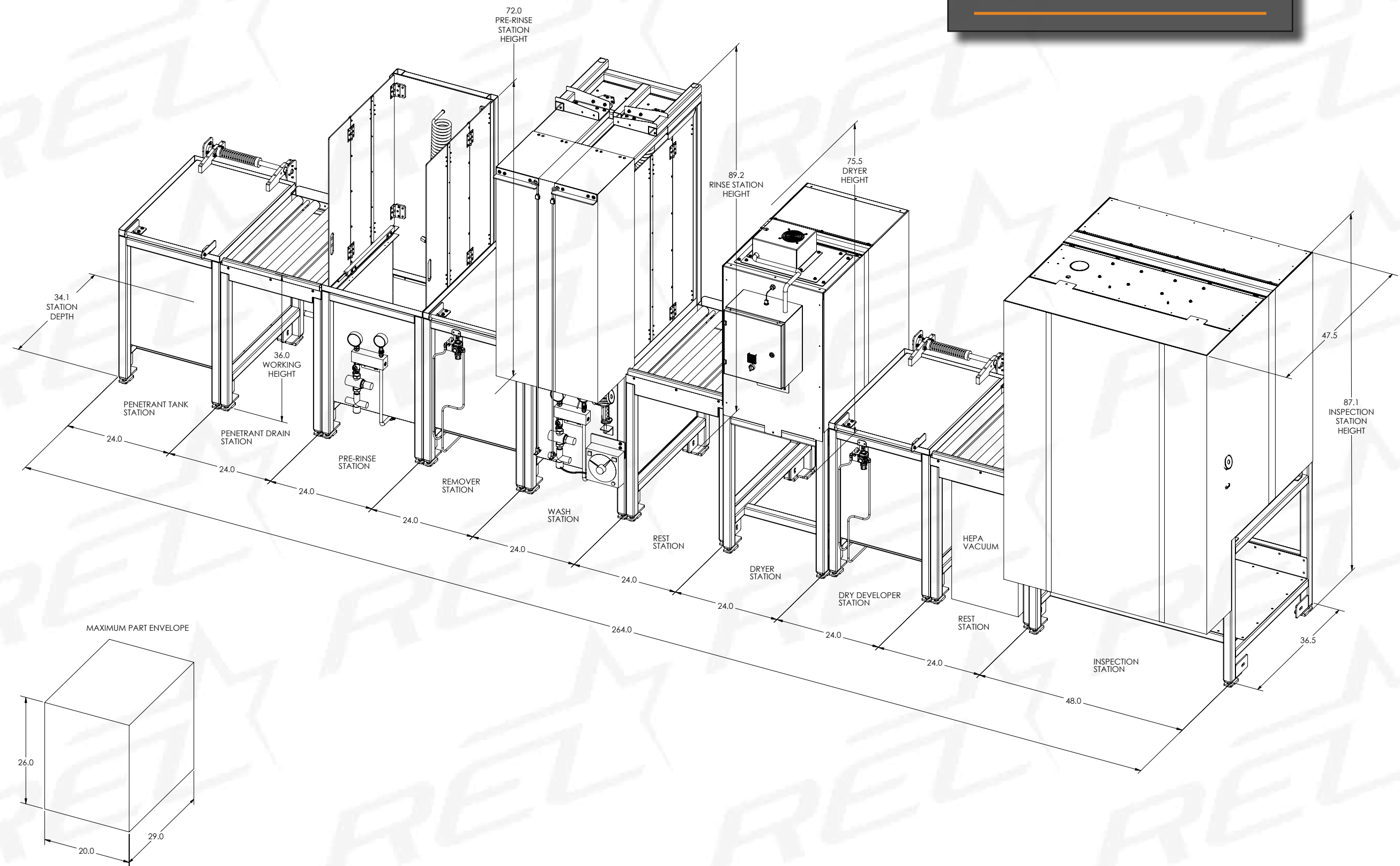


Size 2 - Method A

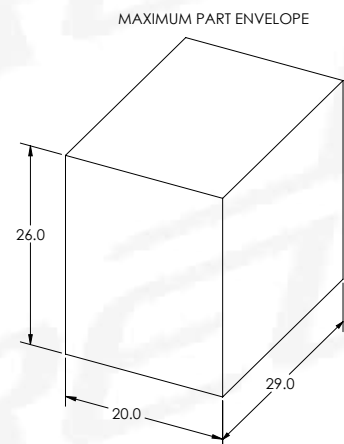


SIZE 2 - METHOD A		
SCALE: 1:10	SIZE: D	SHEET 1 OF 1

Size 2 - Method D



NSN# 6635-01-689-6585



SIZE 2 - CLASS A - TYPE II		
SCALE: 1:10	SIZE: D	SHEET 1 OF 1



**MADE IN
THE USA**

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