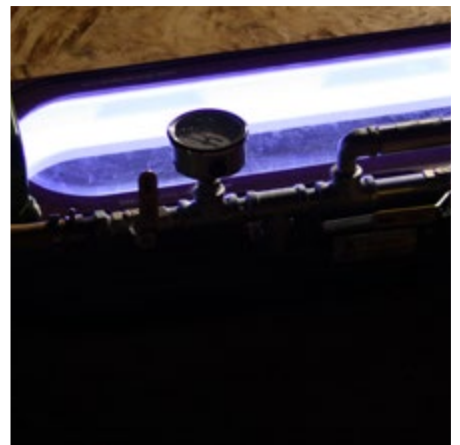
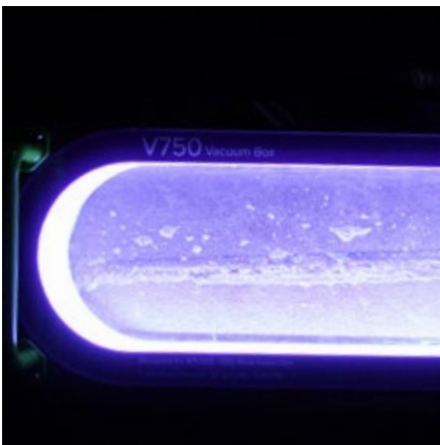


# VACUUM BOX

Bubble Leak Testing for Storage Tank Weld Seams



TANKS

PIPES

VESSELS

- > UNIQUE INTEGRATED LED LIGHTING
- > CALIBRATED VACUUM GAUGE
- > EXTREMELY RUGGED CONSTRUCTION
- > DESIGNED TO API 650 & 653 RECOMMENDATIONS

# VACUUM BOX

## BUBBLE LEAK TESTING OF TANK BOTTOM PLATE WELDS AND SHELL TO BOTTOM PLATE WELDS

Bubble leak testing, or vacuum box testing, is an integral part of a tank inspection process as recommended by API and other international standards to establish the condition of a tank bottom plate weld or shell to bottom plate weld.

The latest edition to Silverwing's vacuum box range is the V750 which has been completely redesigned with the operator and API 650 / 653 inspection standards in mind.

The design incorporates a 750 mm weld inspection length, extremely rugged body, calibrated vacuum gauge and vacuum relief valve, internal LED's to ensure correct visibility along the test weld and a new seal designed to maximise efficiency and reduce operator fatigue.

### V750 KEY FEATURES

- > Integrated LED to maintain correct light level (optional)
- > Higher productivity due to 750 mm length
- > New seal design to improve initial vacuum
- > Calibrated vacuum gauge
- > Calibrated relief valve to control vacuum
- > Increased efficiency
- > User replaceable seals

### GENERAL KEY FEATURES

- > Electric pump, compressor or combined versions
- > High & low vacuum variants
- > Tank bottom and shell to bottom weld inspection models
- > Field proven durability & reliability

### VACUUM GAUGE AND RELIEF VALVE

The V750 has an industrial vacuum gauge rated to 30 in Hg as well as a calibrated vacuum relief valve. The use of a calibrated vacuum relief valve ensures the correct vacuum is generated as recommended by international standards.

The advantage of the relief valve is once the required vacuum has been generated (20 or 10 inch Hg) the relief valve opens. This maintains the required vacuum preventing too great a vacuum being generated which can damage the vacuum box and cause injury to the operator.

### ELECTRIC PUMP OR COMPRESSOR DRIVEN

The vacuum is generated by the use of an electric vacuum pump or by use of an integrated Air Vacuum Generator (AVG) and external compressor. Inspection companies tend to use the electric pump due to its greater flexibility while construction companies tend to use the AVG based systems.

### HIGH AND LOW VACUUM MODELS

The vacuum boxes are rated to either 20 inch Hg (10psi/0,7bar) which are recommended for in-services tanks or 10 inch Hg (5psi/0.37bar) which are recommended for new build tanks.

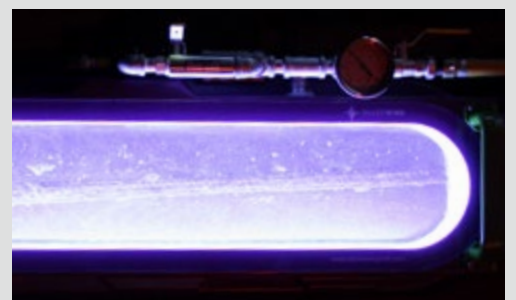


### INTEGRATED LED LIGHTS

The optional integrated powerful LED lights always maintain the required light intensity as specified by API, ASME and other standards.

Illuminating the weld from multiple light sources inside the vacuum box ensures the highest possible detection rates. Screen glare and shadows from external light sources are eliminated, and all parts of the test area are fully lit for the duration of the test. There is no requirement for the operator to move external lighting around the tank, improving the efficiency and effectiveness of the inspection.

The LED's are powered by a 14.4 V Li Ion battery allowing up to 10 hours continuous use.



LED Lights



## TECHNICAL SPECIFICATION

### V750

Dimensions:	L 935 x W 265 x H 190 mm
Weight:	10.5 kg
Pressure rating:	20 inch Hg
Weld test length:	750 mm



### V400

Dimensions:	L 660 x W 310 x H 380 mm
Weight:	8.95 kg
Pressure rating:	20 inch Hg
Weld test length:	400 mm
Min tank diameter:	5 metres



### V600LP

Dimensions:	L 660 x W 220 x H 150 mm
Weight:	2.75 kg
Pressure rating:	10 inch Hg
Weld test length:	600 mm



### V400LP

Dimensions:	L 540 x W 220 x H 220 mm
Weight:	4 kg
Pressure rating:	10 inch Hg
Weld test length:	400 mm
Min tank diameter:	5 metres



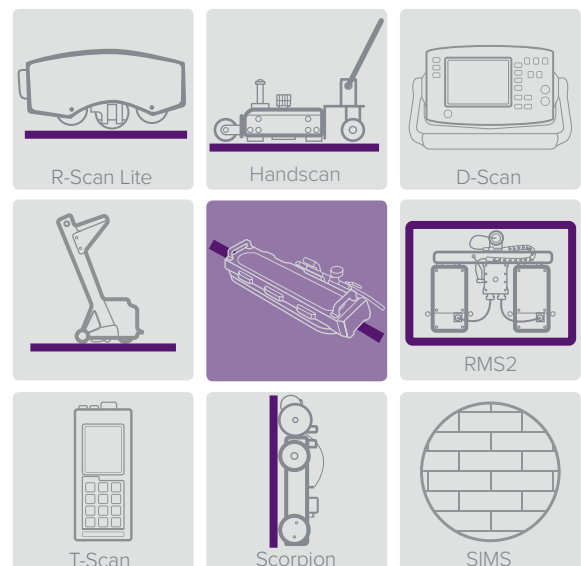
### Electric Vacuum Pump - VP110 / VP240

Dimensions:	L 500 x W 250 x H 310 mm
Weight:	27.70 kg
Power:	110 v or 240 v



## THE SILVERWING SYSTEM

Silverwing produce a full range of equipment for corrosion inspection of storage tanks, including floor plate, wall and roof structures. The product range includes MFL mapping and manual systems, ultrasonic crawlers for thickness measurement, and vacuum boxes for weld inspection. By supplying a complete range we can offer unrivalled support, and ensure the highest quality inspection in the most efficient way. All our products are field proven by our in house teams and used by the most respected global inspection companies. For a complete overview contact our technical sales team.



For more information on Silverwing Systems please visit our web site: [www.silverwingndt.com](http://www.silverwingndt.com)

## INCREASED EFFICIENCY

Vacuum box testing can be an arduous and labour intensive task, continuous research and development has resulted in the V750 being designed to increase efficiency and reducing operator fatigue. Efficiency and an improved operator experience is achieved by

- > Seal design: improved sealing performance reducing force required to create initial seal.
- > LED's: easier to identify leak indications and eliminates the need for the operator to move their standard lights.
- > 750 mm weld test length: longer inspection area resulting in increased efficiency.
- > Gauge type: reach require vacuum 20% faster than standard versions.



V750 LED-F

## ORDER CODES

ORDER CODE	VACUUM TYPE	VACUUM RATING	WELD TYPE	LED	CALIBRATED GAUGE
V750LED-F:	Vacuum pump driven	20 inch Hg	Flat Plate	Yes	Yes
V750LED-AVG:	Compressor driven	20 inch Hg	Flat Plate	Yes	Yes
V750LED-DUAL:	Vacuum pump or compressor driven	20 inch Hg	Flat Plate	Yes	Yes
V750-F:	Vacuum pump driven	20 inch Hg	Flat Plate	No	Yes
V750-AVG:	Compressor driven	20 inch Hg	Flat Plate	No	Yes
V750-Dual:	Vacuum pump or compressor driven	20 inch Hg	Flat Plate	No	Yes
V400C:	Vacuum pump driven	20 inch Hg	Shell to Floor	No	No
V400CAVG:	Compressor driven	20 inch Hg	Shell to Floor	No	No
V400D:	Vacuum pump or compressor driven	20 inch Hg	Shell to Floor	No	No
V600LP:	Vacuum pump driven	10 inch Hg	Flat Plate	No	No
V600LPAVG:	Compressor driven	10 inch Hg	Flat Plate	No	No
V400LP:	Vacuum pump driven	10 inch Hg	Shell to Floor	No	No
V400LPAVG:	Compressor driven	10 inch Hg	Shell to Floor	No	No

### ACCESSORIES

ORDER CODE	DESCRIPTION
VP110	110 V electric vacuum pump
VP240	240 V electric vacuum pump
SW001457	Vacuum pump service kit
VACH1C	10 metre hose for use with air compressor includes additional bayonet European Male Compressor Coupling (1/2" BSPT)
VACH2C	10 metre hose for use with vacuum pump for use with an Electric Vacuum Pump.
SW001365	Vacuum box seal adhesive
SW003271	Heavy duty leak detection fluid concentrate – 473 ml
SW003120	Additional Battery for V750LED

### V750 SPARES

V779	V750 replacement window
V790	Replacement seal for V750 with velcro® fixing

### V600LP SPARES

SW001390	V600LP replacement window
V619	Replacement seal for V600LP/V600LPAVG

### V400C SPARES

V403	V400C replacement window
V412	Replacement seal for V400C/V400CAVG/V400D

### V400LP SPARES

V407	V400LP replacement window
V401	Replacement seal for V400LP/V400LPAVG

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