



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	IECEX SIR 07.0095	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 3	Issue 2 (2017-06-06)
Date of Issue:	2020-04-27		Issue 1 (2008-08-08)
Applicant:	Stolway Pty Ltd Warehouse 2 91-95 Montague St Wollongong, NSW 2500 Australia		Issue 0 (2008-01-08)
Equipment:	Compressor Assembly		
Optional accessory:			
Type of Protection:	Flameproof db		
Marking:	Ex db IIC T4...T3 Gb Ta = -20°C to +60°C		

Approved for issue on behalf of the IECEx  
Certification Body:

N Jones

Position:

Certification Manager

Signature:  
(for printed version)

Date:

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Certificate issued by:

SIRA Certification Service  
CSA Group  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside, CH5 3US  
United Kingdom

**sira**  
CERTIFICATION





# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095 Page 2 of 4

Date of issue: 2020-04-27 Issue No: 3

Manufacturer: Stolway Pty Ltd  
Warehouse 2  
91-95 Montague St  
Wollongong, NSW 2500  
Australia

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements  
Edition:6.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/SIR/ExTR07.0142/00](#)  
[GB/SIR/ExTR20.0086/00](#)

[GB/SIR/ExTR08.0096/00](#)

[GB/SIR/ExTR17.0112/00](#)

Quality Assessment Report:

[AU/TSA/QAR06.0022/10](#)



# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 3 of 4

Date of issue: 2020-04-27

Issue No: 3

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Compressor GUACA Assembly is designed for use as a terminal box and is welded to a refrigeration compressor housing at the point of exit of the sealed terminals associated with the compressor motor.

The apparatus comprises a cast iron base containing two M20 or M25 cable entries, this base is welded to a mild steel adapter or extension sleeve for attachment to the compressor housing. The size of the adapter varies according to the two sizes of terminal arrangement. An aluminium screw cover with o-ring gasket provides access to the terminals.

External connections are made via suitably certified and dimensioned cable entry devices.

SPECIFIC CONDITIONS OF USE: NO



# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 4 of 4

Date of issue: 2020-04-27

Issue No: 3

#### DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

This issue, Issue 3, recognises the following change; refer to the certificate annex to view a comprehensive history:

1. The Applicant's and Certificate holders address was changed from 9 Charcoal Close Unanderra 2526 Australia to Warehouse 2 91-95 Montague St Wollongong NSW 2500 Australia.

Annex:

[IECEX SIR 07.0095 Annexe Issue 3.pdf](#)

Annexe to: IECEx SIR 07.0095  
Applicant: Stolway Pty Ltd  
Apparatus: Compressor Assembly



## Conditions of Manufacture

1. Each enclosure shall be subjected to a routine overpressure test of 12.54 bar for at least 10 s as required by clause 16.1 of IEC 60079-1. There shall be no permanent deformation or damage to the enclosure.
2. To validate the interface between the enclosure and the compressor housing, each enclosure shall be subjected to a routine overpressure test, 1.5 times the maximum compressor pressure for at least 10 s, applied from the compressor side of the interface. There shall be no permanent deformation or damage to the enclosure.

## Full certificate change history

**Issue 1** - this Issue introduced the following changes:

1. The temperature classification was changed from T3 to T4.
2. The compliance standards were brought into line with those stated on Test Report GB/SIR/ExTR07.0142/00.

**Issue 2** - this Issue introduced the following changes:

1. A change of the applicant's name from Stolway Holdings Pty Ltd to Stolway Pty Ltd. Was recognised.
2. The Gas Group marking was changed from IIB+H2 to IIC.
3. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 Ed 4 and IEC 60079-1:2003 Ed 5 were replaced by IEC 60079-0:2011 Ed 6 and IEC 60079-1:2014 Ed 7, the markings were updated accordingly and the Condition of Manufacture was amended to recognise the new standard.

**Issue 3** – this Issue introduced the following change:

1. Change of Applicant & Manufacturers address;

From	To
9 Charcoal Close PO Box 1197 Unanderra NSW 2526 Australia	Warehouse 2 91-95 Montague St Wollongong NSW 2500 Australia



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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Certificate No.:	IECEX SIR 07.0095	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 2	Issue 1 (2008-08-08) Issue 0 (2008-01-08)
Date of Issue:	2017-06-06		
Applicant:	Stolway Pty Ltd 9 Charcoal Close PO Box 1197 Unanderra NSW 2526 Australia		
Equipment:	Compressor Assembly		
Optional accessory:			
Type of Protection:	Flameproof		
Marking:	Ex db IIC T4...T3 Gb Ta = -20°C to +60°C		

Approved for issue on behalf of the IECEx  
Certification Body:

N Jones

Position:

Certification Manager

Signature:  
(for printed version)

Date:

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Certificate issued by:

SIRA Certification Service  
CSA Group  
Unit 6, Hawarden Industrial Park  
Hawarden, Deeside, CH5 3US  
United Kingdom





# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 2 of 4

Date of issue: 2017-06-06

Issue No: 2

Manufacturer: Stolway Pty Ltd  
9 Charcoal Close  
PO Box 1197  
Unanderra  
NSW 2526  
Australia

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements  
Edition:6.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/SIR/ExTR07.0142/00](#)

[GB/SIR/ExTR08.0096/00](#)

[GB/SIR/ExTR17.0112/00](#)

Quality Assessment Report:

[AU/TSA/QAR06.0022/00](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 3 of 4

Date of issue: 2017-06-06

Issue No: 2

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Compressor GUACA Assembly is designed for use as a terminal box and is welded to a refrigeration compressor housing at the point of exit of the sealed terminals associated with the compressor motor.

The apparatus comprises a cast iron base containing two M20 or M25 cable entries, this base is welded to a mild steel adapter or extension sleeve for attachment to the compressor housing. The size of the adapter varies according to the two sizes of terminal arrangement. An aluminium screw cover with o-ring gasket provides access to the terminals.

External connections are made via suitably certified and dimensioned cable entry devices.

## Conditions of Manufacture

1. Each enclosure shall be subjected to a routine overpressure test of 12.54 bar for at least 10 s as required by clause 16.1 of IEC 60079-1. There shall be no permanent deformation or damage to the enclosure.
2. To validate the interface between the enclosure and the compressor housing, each enclosure shall be subjected to a routine overpressure test, 1.5 times the maximum compressor pressure for at least 10 s, applied from the compressor side of the interface. There shall be no permanent deformation or damage to the enclosure.

SPECIFIC CONDITIONS OF USE: NO





# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 4 of 4

Date of issue: 2017-06-06

Issue No: 2

## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 - this Issue introduced the following changes:

1. The temperature classification was changed from T3 to T4.
2. The compliance standards were brought into line with those stated on Test Report GB/SIR/ExTR07.0142/00.

Issue 2 - this Issue introduced the following changes:

1. A change of the applicant's name from Stolway Holdings Pty Ltd to Stolway Pty Ltd. was recognised.
2. The Gas Group marking was changed from IIB+H2 to IIC.
3. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2004 Ed 4 and IEC 60079-1:2003 Ed 5 were replaced by IEC 60079-0:2011 Ed 6 and IEC 60079-1:2014 Ed 7, the markings were updated accordingly and the Condition of Manufacture was amended to recognise the new standard.



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.:	IECEX SIR 07.0095	Page 1 of 4	<u>Certificate history:</u> Issue 0 (2008-01-08)
Status:	Current	Issue No: 1	
Date of Issue:	2008-08-08		
Applicant:	Stolway Holdings Pty Ltd 9 Charcoal Close PO Box 1197 Unanderra NSW 2526 Australia		
Equipment:	Compressor Assembly		
Optional accessory:			
Type of Protection:	Flameproof		
Marking:	Ex d IIB + H2 T4 IP66 (-20 °C to +60 °C)		

Approved for issue on behalf of the IECEx  
Certification Body:

C Ellaby

Position:

Certification Officer

Signature:  
(for printed version)

Date:

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SIRA Certification Service  
Rake Lane  
Eccleston  
Chester  
CH4 9JN  
United Kingdom

**sira**  
CERTIFICATION



# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 2 of 4

Date of issue: 2008-08-08

Issue No: 1

Manufacturer: Stolway Holdings Pty Ltd  
9 Charcoal Close  
PO Box 1197  
Unanderra  
NSW 2526  
Australia

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements  
Edition:4.0

IEC 60079-1:2003 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:5

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/SIR/ExTR07.0142/00](#)

[GB/SIR/ExTR08.0096/00](#)

Quality Assessment Report:

[AU/TSA/QAR06.0022/00](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 3 of 4

Date of issue: 2008-08-08

Issue No: 1

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The company also trades as: Refrigeration Engineering Pty Ltd and RE Environmental

The Compressor GUACA Assembly is designed for use as a terminal box and is welded to a refrigeration compressor housing at the point of exit of the sealed terminals associated with the compressor motor.

The apparatus comprises a cast iron base containing two M20 or M25 cable entries, this base is welded to a mild steel adapter or extension sleeve for attachment to the compressor housing. The size of the adapter varies according to the two sizes of terminal arrangement. An aluminium screw cover with o-ring gasket provides access to the terminals.

External connections are made via suitably certified and dimensioned cable entry devices.

### Conditions of Manufacture

1 Each enclosure shall be subjected to a routine overpressure test of 8.52 bar for at least 10 s as required by clause 16.1 of IEC 60079-1. There shall be no permanent deformation or damage to the enclosure.

2 To validate the interface between the enclosure and the compressor housing, each enclosure shall be subjected to a routine overpressure test, 1.5 times the maximum compressor pressure for at least 10 s, applied from the compressor side of the interface. There shall be no permanent deformation or damage to the enclosure.

SPECIFIC CONDITIONS OF USE: NO



# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 4 of 4

Date of issue: 2008-08-08

Issue No: 1

## DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 - this Issue introduced the following changes:	
1	The temperature classification was changed from T3 to T4.
2	The compliance standards were brought into line with those stated on Test Report GB/SIR/ExTR07.0142/00



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

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Certificate No.: IECEx SIR 07.0095 Page 1 of 3 [Certificate history:](#)

Status: Current Issue No: 0

Date of Issue: 2008-01-08

Applicant: Stolway Holdings Pty Ltd  
9 Charcoal Close  
PO Box 1197  
Unanderra, NSW, 2526  
Australia

Equipment: Compressor Assembly

Optional accessory:

Type of Protection: Flameproof

Marking: Ex d IIB + H2 T3  
IP66 (-20 °C to +60 °C)

Approved for issue on behalf of the IECEx  
Certification Body:

C Ellaby

Position:

Certification Officer

Signature:  
(for printed version)

---

Date:

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Certificate issued by:

SIRA Certification Service  
Rake Lane  
Eccleston  
Chester, CH4 9JN  
United Kingdom

**sira**  
CERTIFICATION



# IECEX Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 2 of 3

Date of issue: 2008-01-08

Issue No: 0

Manufacturer: Stolway Holdings Pty Ltd  
9 Charcoal Close  
PO Box 1197  
Unanderra  
NSW.  
2526  
Australia

Additional  
manufacturing  
locations:

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#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-1:2003 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:5

IEC 60079-1:2001 Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosures 'd'  
Edition:4

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[GB/SIR/ExTR07.0142/00](#)

Quality Assessment Report:

[AU/TSA/QAR06.0022/00](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx SIR 07.0095

Page 3 of 3

Date of issue: 2008-01-08

Issue No: 0

## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The company also trades as: Refrigeration Engineering Pty Ltd and RE Environmental.

The Compressor GUACA Assembly is designed for use as a terminal box and is welded to a refrigeration compressor housing at the point of exit of the sealed terminals associated with the compressor motor.

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2. To validate the interface between the enclosure and the compressor housing, each enclosure shall be subjected to a routine overpressure test, 1.5 times the maximum compressor pressure for at least 10 s, applied from the compressor side of the interface. There shall be no permanent deformation or damage to the enclosure.

SPECIFIC CONDITIONS OF USE: NO





Ex d Compressor Assembly:  
Instructions for Safe Installation Use and  
Maintenance

60104-CIO-001-R01

Date of Issue: 20<sup>th</sup> April 2020

# Exd Compressor Assembly: Instructions for Safe Installation Use and Maintenance

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# Exd Compressor Assembly: Instructions for Safe Installation Use and Maintenance

## 1. INTRODUCTION

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These safety instructions refer to the installation, operation and maintenance of Zone 1 explosion proof hermetic compressors.

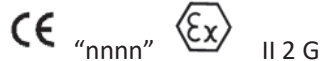
The compressors are certified to IEC Ex and ATEX schemes and carry the following markings:

**Manufacturer:** Stolway Pty Limited

**Year:** 2017 onwards

**Certificate Numbers:** IECEX SIR 07.0095 and Sira 07ATEX1286

**Marking:** Ex db IIC T4...T3 Gb  
(Ta = -20°C to +60°C)  
IP66



**Warning:** "WARNING – DO NOT OPEN WHEN AN EXPLOSIVE GAS ATMOSPHERE MAY BE PRESENT"

Note: "nnnn" refers to notified body providing quality.

### IMPORTANT NOTE TO CUSTOMERS:

**THESE INSTRUCTIONS MUST BE ISSUED OR DISTRIBUTED TO EACH INSTALLER OR END USER OF EACH Exd COMPRESSOR ASSEMBLY**

## 2. INSTALLATION

---

Compressors are typically pre-installed by Stolway Pty Limited as part of the original equipment manufacture. In event of a compressor replacement however, these installation procedures must be followed.

If the original compressor has failed in service and it is suspected that the refrigerant and/or oil has become contaminated or degraded, it is recommended in order to protect the replacement compressor that a suction line burn-out filter/drier is installed before the replacement compressor is put into service. Follow the procedure outlined in Section 7 before continuing with these instructions.

For T4 applications there is an over-temperature fail-safe thermostat fitted into the refrigeration pipework immediately after the discharge port of the compressor, which is the hottest part of the system. The thermostat is pre-set to 125°C and the power to the compressor will be shut off should this temperature be reached.

Check that the site power supply is suitable to the rated voltage of the compressor as stated on the compressor label.

A power supply cable of suitable material selection, mechanical protection and sizing, complete with the appropriate Exd cable glanding must be used. The termination and protection of this cable must be installed as per the appropriate national or international hazardous area standards for the area classification into which it is being installed.

Apart from standard electrician & refrigeration mechanic toolkits including a square socket ratchet spanner & refrigerant pressure gauges, no other special tools are required for installing the compressor.

**WARNING**

**THE ELECTRICAL INSTALLATION OF THE EQUIPMENT AND ANY FAULT FINDING MUST BE PERFORMED BY COMPETENT PERSONNEL FAMILIAR WITH INSTALLATION AND THE TECHNIQUES ASSOCIATED WITH EXPLOSION PROTECTED EQUIPMENT.**

**ISOLATE POWER PRIOR TO OPENING THE EXD JUNCTION BOX ON THE COMPRESSOR.**

Unscrew the threaded cast aluminium cover on the electrical junction box in order to gain access to terminate the power & earth cables (see *Earthing Connection* and *Power and Earth Cable Installation* below).

Inspect the 3mm diameter Nitrile rubber O-ring on the screwed cap for any damage such as cuts or tears and replace if necessary.

Inspect the female and male threads (flamepath) on the Exd junction box and cover, for dirt, dust and any damage. Remove any dirt or dust with a soft cloth if required.

**If damage to the threaded Flamepath is found, contact the manufacturer for further information. Do not put the compressor back into service until advice has been obtained from the manufacturer.**

After connecting the power & earth cables, re-assemble the screwed cover to the junction box, ensuring that the O-ring is captive within the casting body & the cover is screwed fully closed until it seats against the junction box casting. Ensure silicon grease is applied to cover threads to lubricate and seal 'O' Ring and threads of cover. The silicon grease shall comply with MIL-S-8660 rev B or later.

Tighten fully by hand, then using a torque wrench or screw driver apply a further torque to the two lugs on the cover of approximately 25Nm.

## Earthing Connection

Ensure the earth cable which was connected to the original compressor is reconnected to the earth stud inside the Exd junction box and tested for continuity to confirm a good earth connection has been achieved.

## Power and Earth Cable Installation

The power and earth connection should comply typically to IEC/EN 60079-0, IEC/EN 60079-1 and IEC/EN 60079-14.

### 3. PUTTING INTO SERVICE

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#### TO BE CARRIED OUT ONLY BY COMPETENT REFRIGERATION MECHANICS

All valves on the refrigeration circuit **MUST** be fully opened **PRIOR** to start up.

#### TO OPEN VALVES:

- 3.1 Remove spindle cap nut ensuring sealing washer in cap is secured.
- 3.2 Open valve by turning spindle with square socket ratchet spanner in anti-clockwise direction facing spindle (cap) end.
- 3.3 Spindle must be turned until valve seats against internal back seat. ie Valve spindle will stop firmly.
- 3.4 Ensure spindle gland nut is not loose by slight tightening clockwise.
- 3.5 Replace valve cap and sealing washer.

**IT IS CRITICAL FOR SCROLL COMPRESSORS TO ENSURE THAT THE ROTATIONAL DIRECTION IS CORRECT. THE FOLLOWING STEPS MUST BE FOLLOWED:**

- 3.6 Prior to start up, attach a set of pressure gauges to the suction & discharge schrader valves at the compressor.
- 3.7 Test run the compressor for a short period (no longer than 5 seconds) to check the compressor rotational direction.
- 3.8 Correct rotational direction will result in a rise in discharge pressure and fall in suction pressure.
- 3.9 If the compressor is rotating in the wrong direction, immediately shut down, isolate power and reverse the phase wiring terminations following the same procedure as per Section 2 above.
- 3.10 Run the system, adding refrigerant as required to achieve the correct charge (refer to Stolway manual for type & quantity).

### 4. FAULT FINDING

---

The refrigeration system will typically have high and low pressure switches monitoring the refrigerant pressure, to protect the compressor from failure due to high or low pressure conditions outside of operating specifications. In the event of compressor trips, a fault elsewhere in the refrigeration system may be the cause (eg blocked filters, refrigerant leak etc).

Some hermetic compressor motors also have thermistors fitted to provide over-temperature protection. To establish if the compressor is operational, measure the running current and compare with the manufacturer's original factory test report or the compressor data plate. Also measure the phase-to-earth resistance and check for an open circuit or short circuit.

<p><b>WARNING</b> <b>DO APPLY HIGH VOLTAGE TO THERMISTORS OR THERMISTOR CIRCUITS.</b></p>
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## 5. MAINTENANCE

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The welded assembly of the Exd junction box to the compressor requires no maintenance.

No attempt should be made to repair a leak or damage to the welded areas at the Exd junction box or where the junction box is joined to the compressor shell. Contact the manufacturer for further information.

## 6. SERVICE AND SPARE PARTS

---

Please contact Stolway for any service or spare parts requirements. Contact details are as follows:

**Stolway Pty Limited**  
Warehouse 2  
91-95 Montague St  
Wollongong  
NSW 2500  
Australia  
Telephone: +61 (0)2 4262 3000  
Facsimile: +61 (0)2 4262 3001  
E-mail: [spares@stolway.com.au](mailto:spares@stolway.com.au)  
Internet: [www.stolway.com.au](http://www.stolway.com.au)

## 7. REFRIGERANT CIRCUIT DECONTAMINATION

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### WARNINGS:

1. PRIOR TO AND DURING THE EXECUTION OF THIS WORK IT WILL BE NECESSARY TO FOLLOW SITE PROCEDURES TO ENSURE IT IS SAFE TO CARRY OUT HOT WORK AND THAT THERE IS NOT AN EXPLOSIVE GAS VAPOUR PRESENT.
2. CONTAMINATED OIL FROM BURNOUTS IS HIGHLY ACIDIC AND WILL BURN EXPOSED SKIN ON CONTACT – SUITABLE GLOVES MUST BE WORN.

#### Parts required:

Suction line burn-out drier  
Liquid line drier  
Silver solder  
Refrigerant (Refer to Stolway manual for type & quantity)  
Vacuum pump oil  
Nitrogen gas

#### Tools required:

Refrigeration gauges & manifold  
Oxy-acetylene brazing equipment  
Weigh scales for charge measurement  
Hand tools  
Thermometers  
Vapour recovery unit  
Reclaim cylinder for contaminated refrigerant  
Vacuum pump

### Procedure

#### Reclaim

1. Attach gauges to the suction and discharge schrader valves – connect to vapour recovery unit.
2. Energise liquid line solenoid to open valve (if there is one in the system).
3. Start recovery unit & reclaim refrigerant from the system to the contaminated refrigerant cylinder. Use scales to measure the amount recovered.

#### Install

4. Take a small oil sample from the new compressor and keep in an airtight bottle. This will be used for later comparison.
5. Electrician to disconnect the compressor motor cables at the terminals inside the Ex housing and remove the cable glands, following the instructions in Section 2.
6. Replace the liquid line drier.
7. Install the suction line burn-out drier in the suction line at a suitable place just before the compressor.
8. Disconnect compressor suction and discharge rotalock valves. Remove compressor mounting bolts.
9. Replace the compressor. Re-install mounting bolts and connect suction and discharge rotalock valves.
10. Electrician to reconnect the cables to the compressor, following the instructions in Section 2.

#### Recharge

11. Charge empty system with nitrogen through the gauge manifold to 2000kPa.
12. Use soapy water leak test all joints on the refrigeration system and ensure system holds pressure.
13. Vent nitrogen in system to atmosphere and connect to vacuum pump.
14. Evacuate system to 1500 microns and break with nitrogen. Repeat process.
15. Evacuate system to 500 microns.
16. Charge with correct type & quantity of refrigerant. Use scales to measure the charge.
17. If fitted, de-energise liquid line solenoid so the valve will operate as normal (open on system start-up).
18. Follow the instructions in Section 3.

## Removing Contaminants

19. Observe sight glass for discolouration of the refrigerant.
20. Allow unit to run for 4 hours and monitor unit operation and colour of the refrigerant.
21. Monitor pressure drop or temperature drop across filter driers for any indication of partially blocked filter restricting refrigerant flow.
22. It may be required to replace filter driers to fully clean the system.
23. After 48 hours, if the sight glass appears clear take an oil sample and compare it to the original sample taken. If the oil is still discoloured or has an acrid smell (indicating acidity) then change the liquid line and burn-out filters with new and continue to operate for another 48 hours.
24. When the oil samples are in a similar condition, the cleaning process is considered complete. NOTE: If available, it may be beneficial to test the oil sample with an acid test kit.
25. After cleaning is complete and the unit observed in stable operation for 2 weeks, replace the liquid line drier and replace the suction line burn-out drier with a permanent suction line filter.