

Spare Parts Selection Guide - Revision G.1

Danfoss Turbocor® Twin-Turbine Centrifugal Compressors

TT Series Compressors



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List of Changes

| Revision | Date | Page | Description of Change |
|----------|-----------|------------|--|
| F.5 | 8-13-2021 | 63 | Added 575V Capacitor option / Combined TTS350 and TTS400 tables |
| | | 16 | Updated last table |
| F.6 | 1-19-2022 | 71 | Corrected Backplane description |
| | | 81 | Updated Cooling Valve Section, Replaced Cooling Valve assembly PNs |
| | | 89 | Obsoleted EMI filter 901666 |
| | | 91 | Obsoleted Line Reactors 901453, 901974, and 901975 |
| | | 96 | Replaced image for Suction Flange |
| F.7 | | 86 | Removed the Portable Training Simulator |
| | | Appendix C | Updated the Recently Obsoleted Kit Reference section |
| G | 1-17-2023 | All Pages | Added TGS380 and TTS450 compressor references throughout this manual as required Reformatted tables to clarify the compressor models that each kit APPLIES TO |
| G.1 | 1-20-2023 | 23 | Corrected part number for P/T Discharge sensor |

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Chapter 1.0 Introduction

1.1 Organization

The TTS, TGS, TTH, and TGH series spare parts manual is organized in a top down manner. Sections include External Components, Top Side, Discharge Side, and Service Side. Spare part kits are differentiated using compressor major revision and part number, which can be found on your compressor's name plate. Refer to the product nomenclature below to determine which major revision your compressor falls under. Knowing the major revision, part number, voltage, and electronics type of your compressor are essential to using this document effectively.

1.2 PDF Navigation

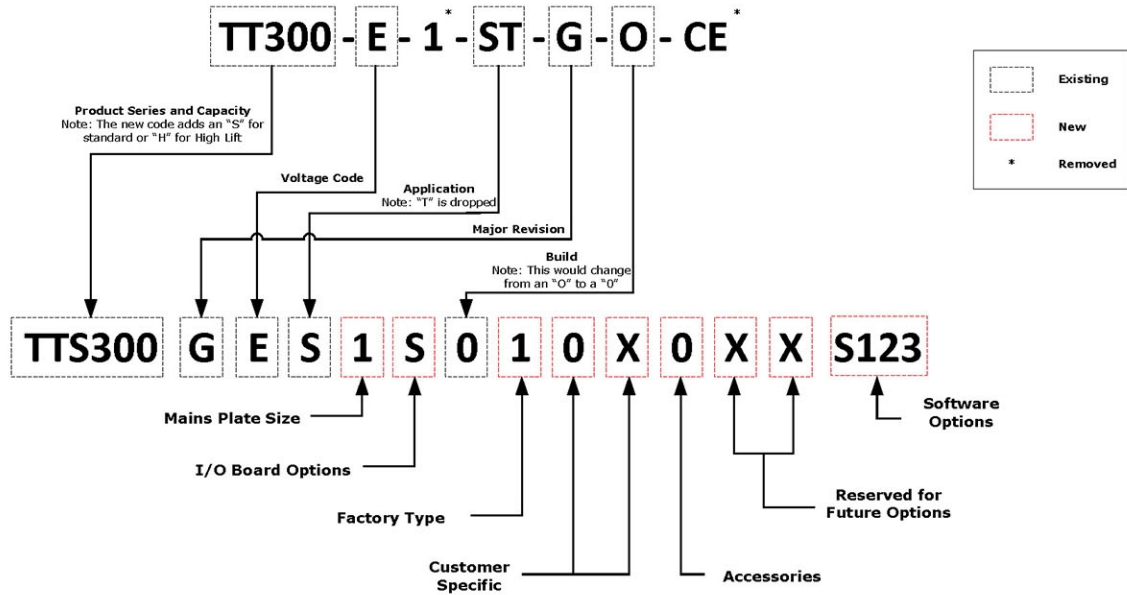
This document contains PDF hyperlinks for easy navigation. Clicking on items in the table of contents, or any blue hyperlink text will take you to the page it references.

1.3 Nomenclature

As of May 6, 2019, the product nomenclature changed. The following two illustrations provide examples of the two different formats. Additionally, the "Series" indicators have an additional character in order to differentiate the standard compressors from high-lift compressors. Unless the compressor is a high-lift design, an "S" will be added (e.g., TTS350). A high lift compressor will have an "H" in the Series designation (e.g., TTH375).

Figure 1-1 Conversion from Old Code to New Code

Conversion From Old Code to New Code



Type Code Definition

Product Series and Capacity

TTS300: TT Series 300 Aero Config
 TTS350: TT Series 350 Aero Config
 TTS400: TT Series 400 Aero Config
 TTS500: TT Series 500 Aero Config
 TTS700: TT Series 700 Aero Config
 TGS230: TG Series 230 Aero Config
 TGS310: TG Series 310 Aero Config
 TGS390: TG Series 390 Aero Config
 TGS520: TG Series 520 Aero Config
 TTH375: TT High Lift Series 375 Aero Config
 TGH285: TG High Lift Series 285 Aero Config

Major Revision

E: Major Revision E
 F: Major Revision F
 G: Major Revision G

Voltage Code

E: 380V/50Hz
 D: 380V/60Hz
 H: 400V/50Hz
 J: 400V/60Hz
 G: 460V/60Hz
 F: 575V/60Hz

Application

S: Standard Application
 M: Medium Temperature Application
 J: Standard Temp KHK Listed
 K: Medium Temp KHK Listed

Mains Plate Size

1: Mains Plate 2.00"
 2: Mains Plate 2.48"
 3: Mains Plate 3.00"
 4: Mains Plate 3.50"

I/O Board Option

S: I/O Board included with 5m cable
 M: No I/O Board, 5m cable Included

Build

0: New Compressor
 C: Rebuilt Certified Compressor

Factory Type

1: TLH Factory (CE Rated)
 2: HYN Factory (CH Rated)
 3: TLH Factory (NC Rated)

Customer Specific Configuration

0: Gen Covers/Plate, EN/FR/CH

Customer Engraved Nameplate

X: No CPN (Standard)
 Y: CPN on Nameplate

Accessories Configuration

0: No accessories

Future Option

X: Reserved
 X: Reserved

Software
 S123: Software Revision

Figure 1-2 TT and TG Product Nomenclature After May 6, 2019

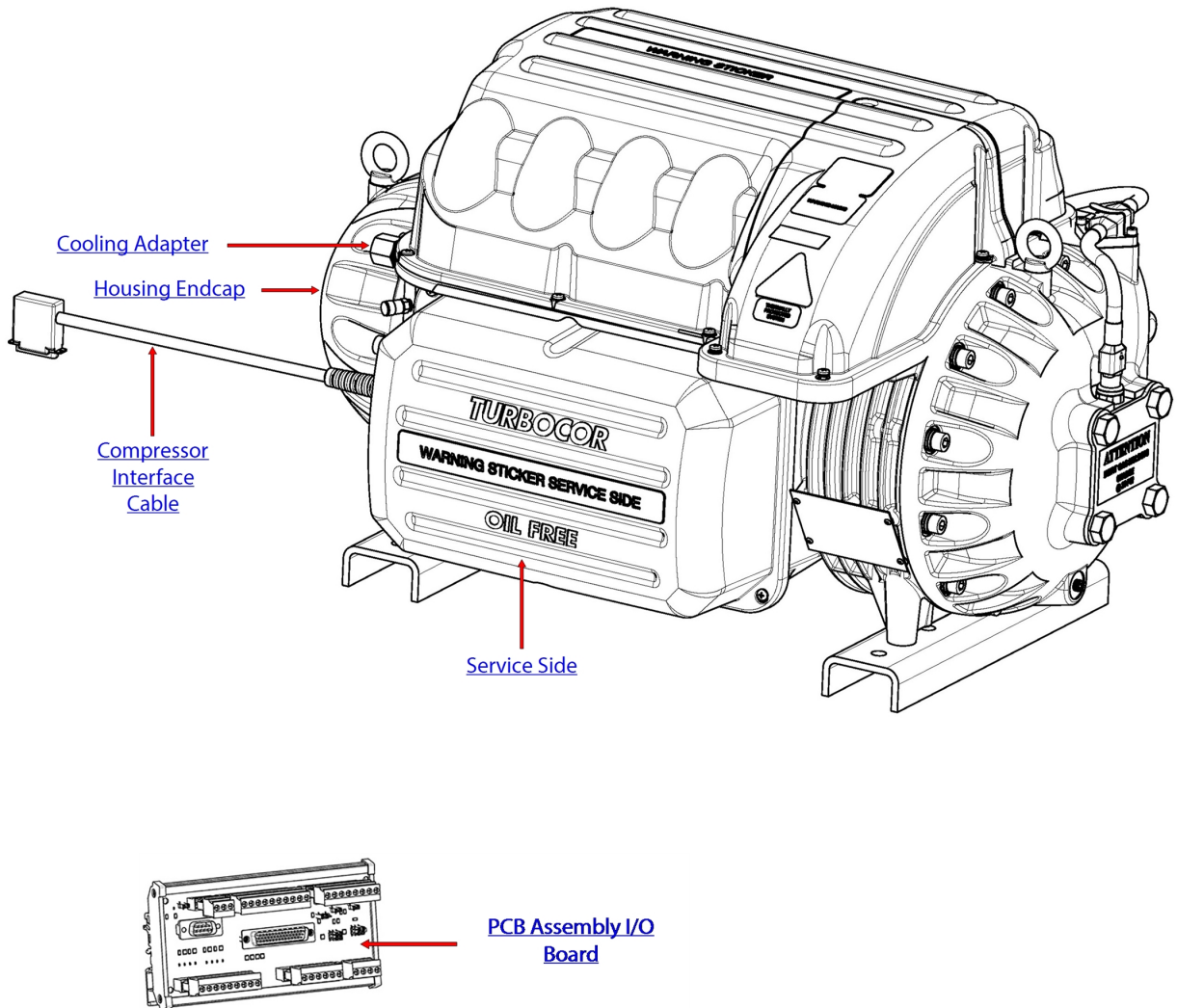
Turbocor TT/TG Series Type Code

| | T T S 3 0 0 G E S 1 S 0 1 0 X 0 X X S 1 2 3 |
|--|---|
| | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 |
| <p>Product Series and Capacity (characters 1-6)</p> <p>TTS300 : TT Series 300 Aero Config TTS350 : TT Series 350 Aero Config TTS400 : TT Series 400 Aero Config TTS450 : TT Series 450 Aero Config TTS500 : TT Series 500 Aero Config TTS700 : TT Series 700 Aero Config TGS230 : TG Series 230 Aero Config TGS310 : TG Series 310 Aero Config TGS380 : TG Series 310 Aero Config TGS390 : TG Series 390 Aero Config TGS490 : TG Series 490 Aero Config TGS520 : TG Series 520 Aero Config TTH375 : TT High Lift Series 375 Aero Config TGH285 : TG High Lift Series 285 Aero Config</p> | <p>Software (character 19-22) S123 : Software Revision</p> <p>Future Option (character 18) X : Reserved</p> <p>Future Option (character 17) X : Reserved</p> <p>Accessories Configuration (character 16) 0 : No accessories</p> <p>Customer Engraved Nameplate (character 15) X : No CPN (Standard) Y : CPN on Nameplate</p> <p>Customer Specific Configuration (character 14) 0 : Gen Covers/Plate, EN/FR/CH</p> <p>Factory Type (character 13) 1 : TLH Factory (CE Rated) 2 : HYN Factory (CH Rated) 3 : TLH Factory (ETL Rated Only)</p> <p>Build (character 12) 0 : New Compressor C : Rebuilt Certified Compressor</p> |
| <p>Major Revision (character 7)</p> <p>E : Major Revision E F : Major Revision F G : Major Revision G H : Major Revision H</p> | |
| <p>Voltage Code (character 8)</p> <p>E : 380V/50Hz D : 380V/60Hz H : 400V/50Hz J : 400V/60Hz G : 460V/60Hz F : 575V/60Hz</p> | |
| <p>Application (character 9)</p> <p>S : Standard Application M : Medium Temperature Application H : High Temperature Application J : Standard Temp KHK Listed K : Medium Temp KHK Listed</p> | |
| <p>Mains Plate Size (character 10)</p> <p>1 : Mains Plate 2.00 in 2 : Mains Plate 2.48 in 3 : Mains Plate 3.00 in 4 : Mains Plate 3.50 in</p> | |
| <p>I/O Board Option (character 11)</p> <p>S : RS232/RS485 I/O Brd - 5m Cable M : 5m Cable and No I/O Board</p> | |

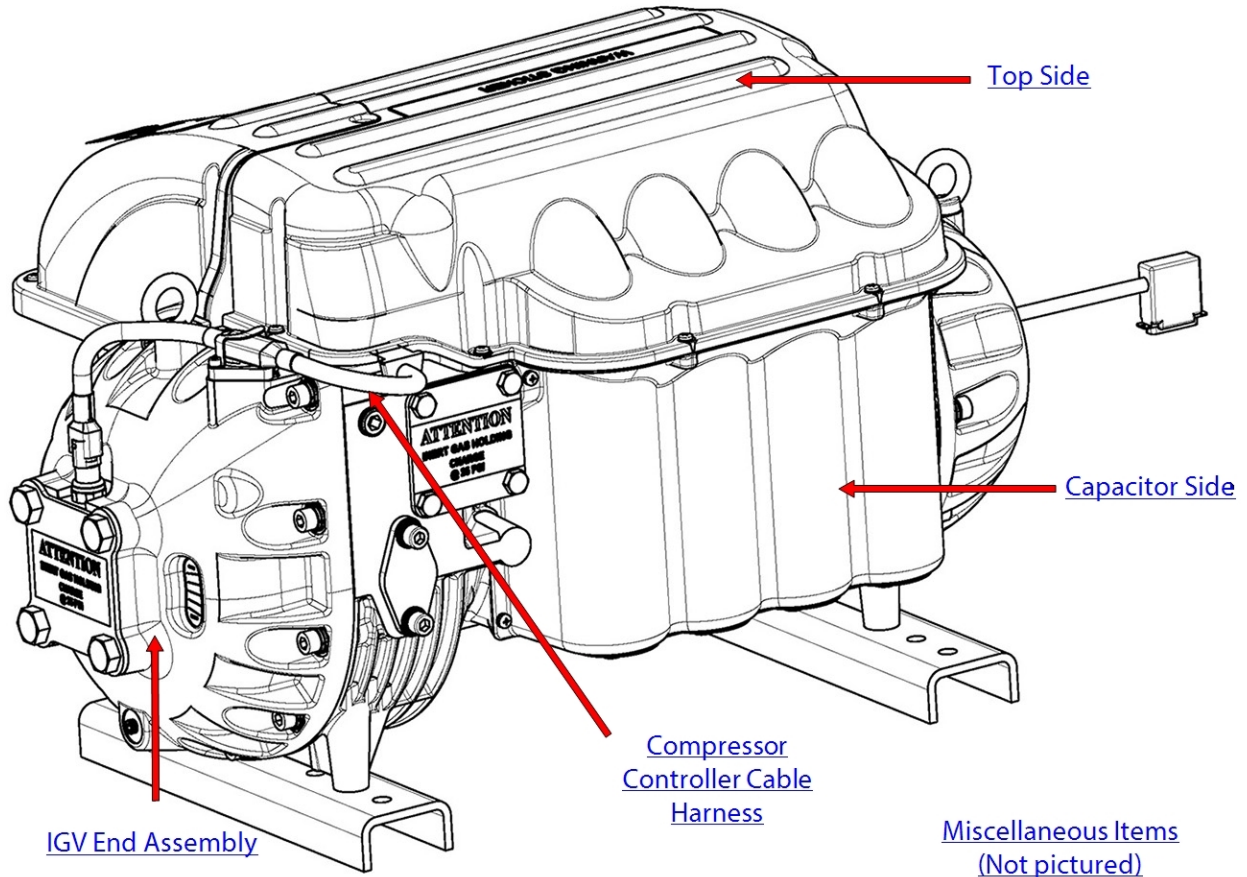
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Chapter 2.0 External Components

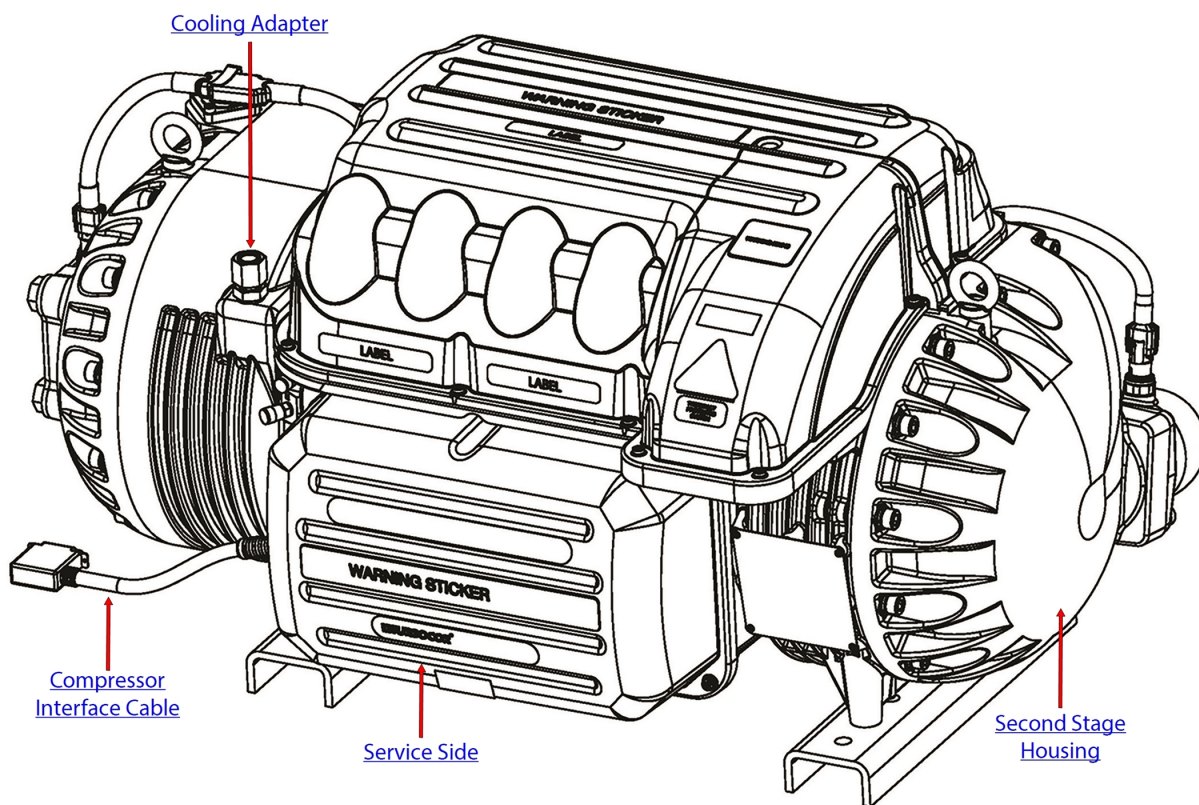
TTS/TGS Model



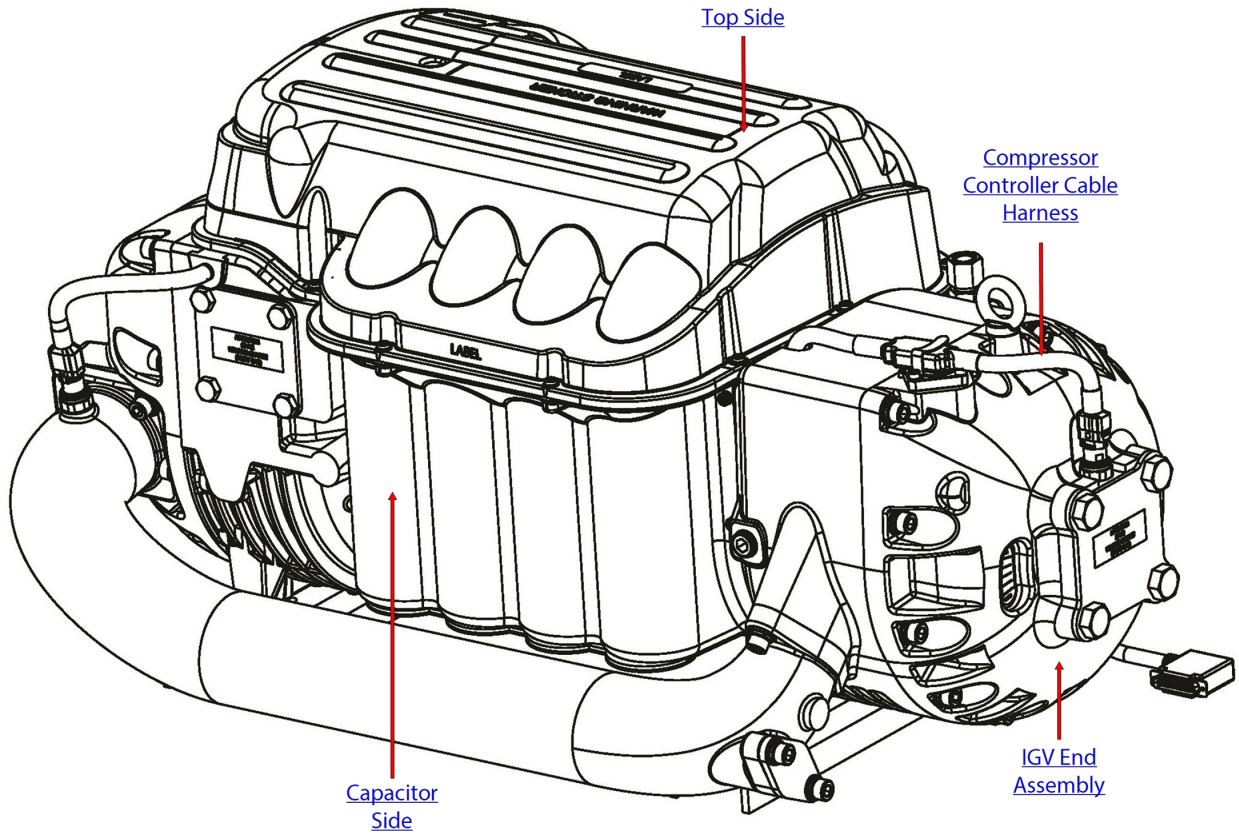
TTS/TGS Model



TTH/TGH Model

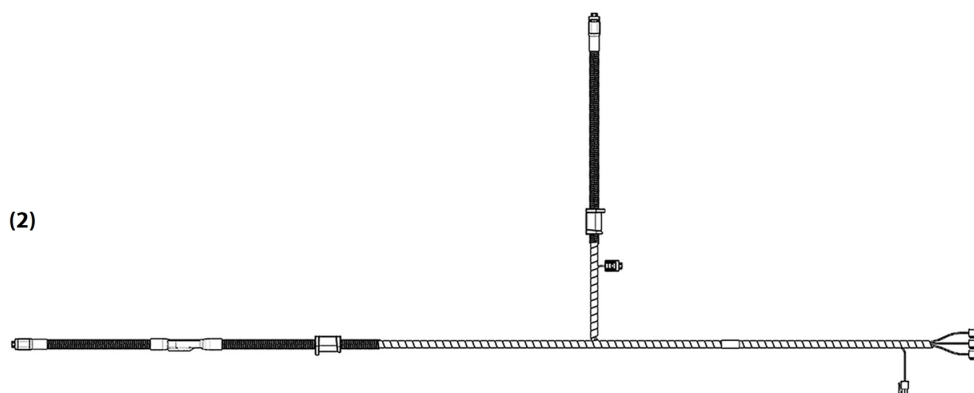
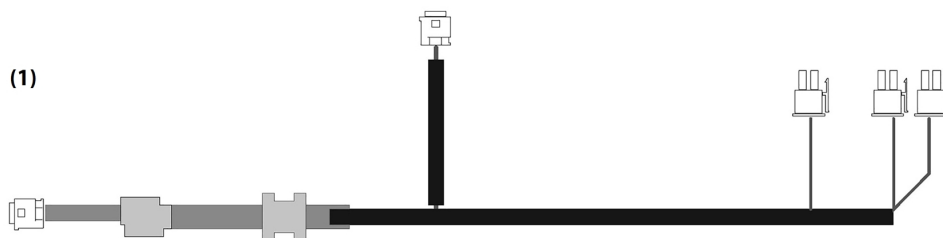


TTH/TGH Model



Miscellaneous Items (Not pictured)

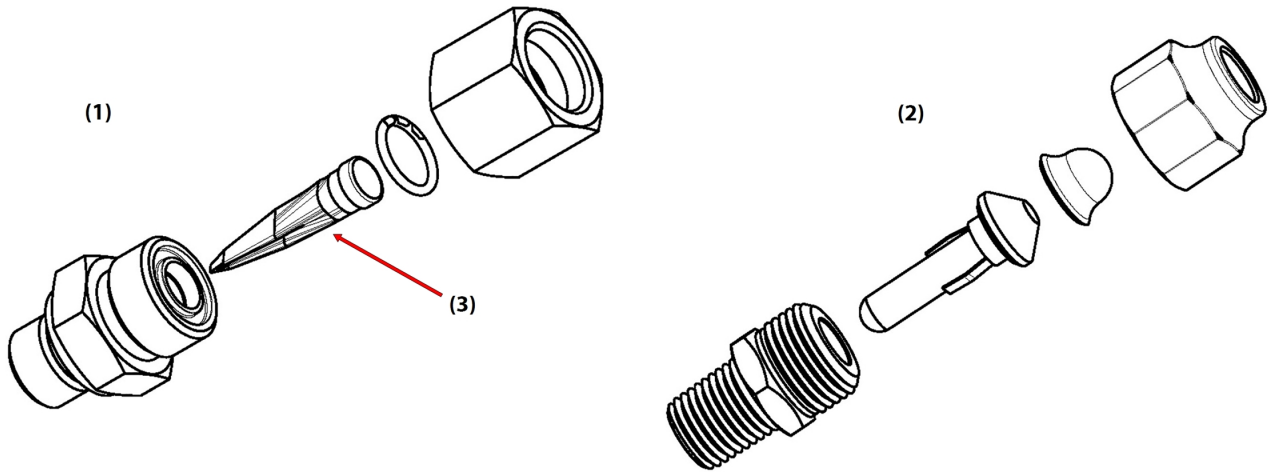
2.1 Compressor Controller Cable Harness



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---|----------|--|-----------|--|
| (1) COMPRESSOR CONTROLLER CABLE HARNESS | 100322-5 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | ALL | Cable Only SCR Temperature Sensor connection is no longer available |

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---|----------|---|-----------|------------|
| (2) COMPRESSOR CONTROLLER CABLE HARNESS | 100322-4 | <ul style="list-style-type: none"> TTH375/TGH285 | -F, -H | Cable Only |

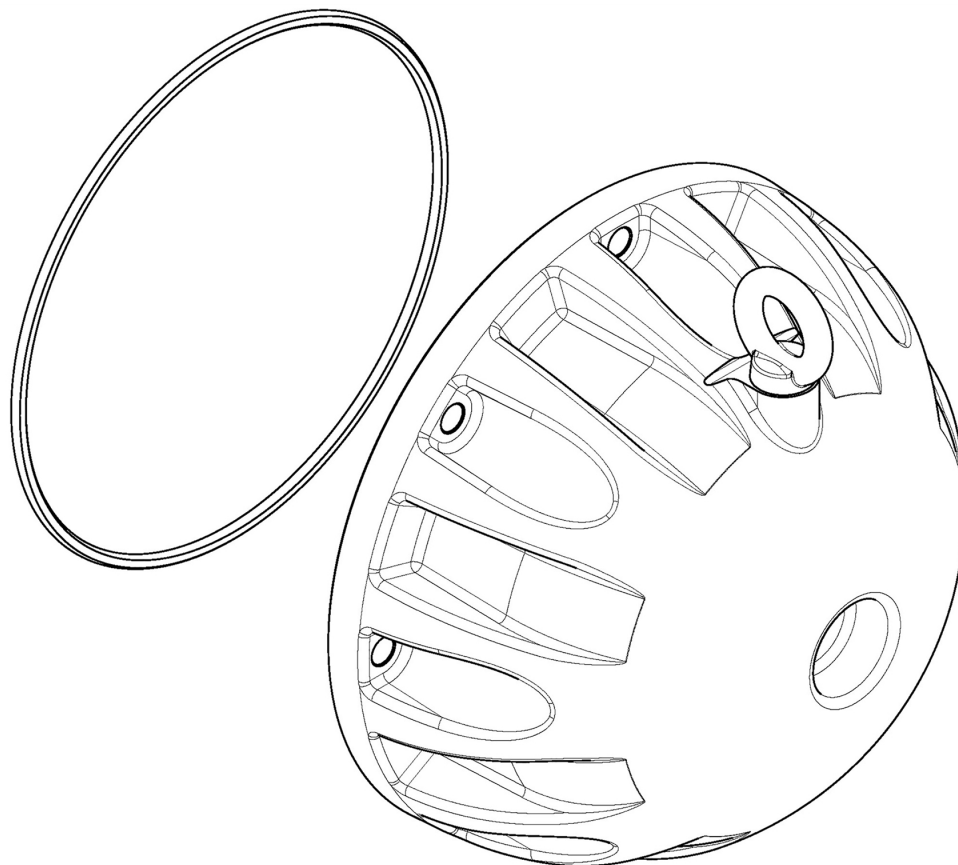
2.2 Cooling Adapter



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------------|----------|-----------------|----------------|---|
| (1) COOLING ADAPTER W/SCREEN | 100169-1 | ALL COMPRESSORS | -E, -F, -G, -H | Contains O-rings and strainer Use if compressor part number ends in "-3" |
| (3) STRAINER FOR COOLING ADAPTER | 100186-1 | ALL COMPRESSORS | -E, -F, -G, -H | Replaces strainer and one external O-ring |

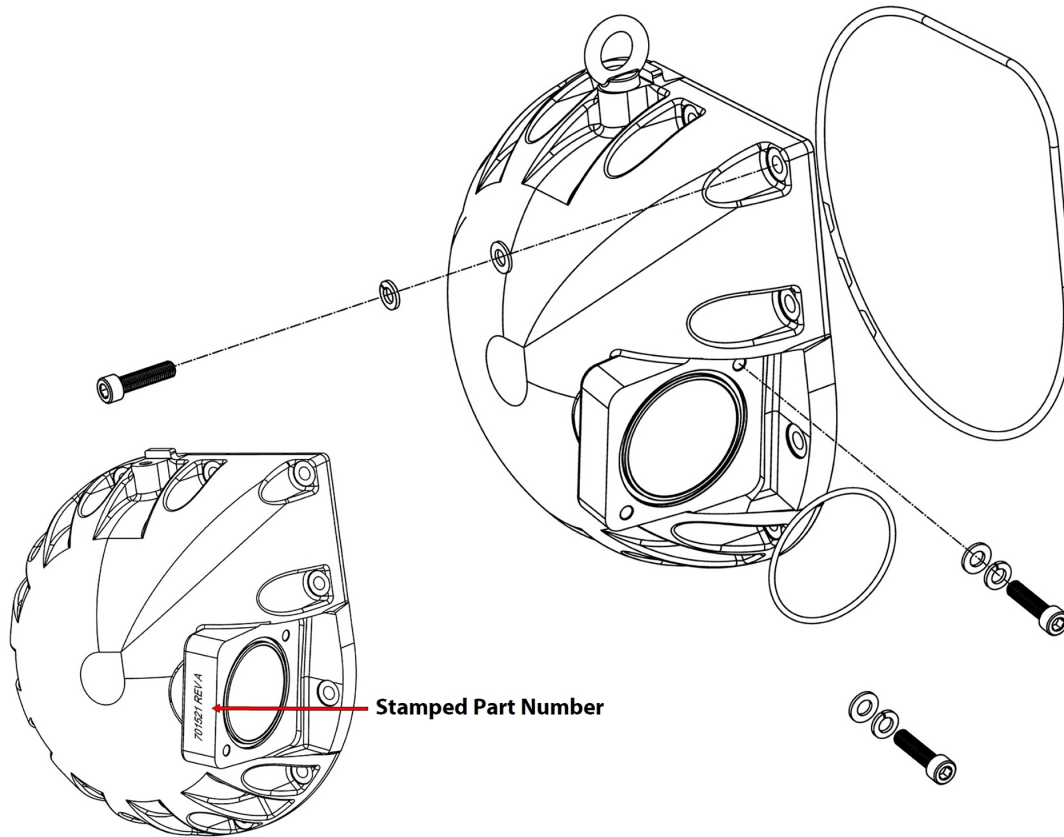
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------------|----------|--|----------------|--|
| (2) COOLING FITTING AND STRAINER | 100215 | <ul style="list-style-type: none"> TTS300 | -N, -P, -C, -D | Do not use if compressor part number ends in "-3", includes strainer and nut |

2.3 Housing End Cap



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------|----------|--|-----------|-----------------------------|
| END CAP ASSY | 100324-2 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | ALL | Contains eyebolt and O-ring |
| O-RING, END CAP | 100352 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | ALL | Replaces Endcap O-ring |

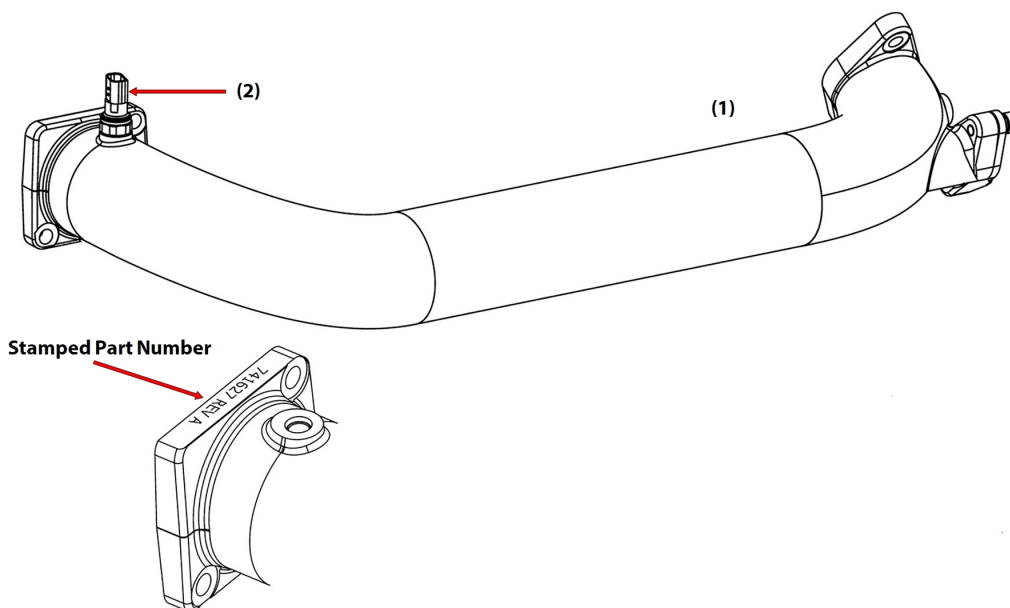
2.4 Second Stage Housing



It is important to determine the version of Second Stage Housing that is currently installed on the compressor in order to identify the correct part number. There are two variants of Second Stage Housing and Interstage pipe and they are not interchangeable. Refer to the stamped part number on the Second Stage Housing flange that mates to the Interstage Pipe. When replacing early revision Second Stage Housings, the Interstage Pipe will also need to be replaced.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------|----------|---|-----------|--|
| SECOND STAGE HOUSING | 100706-3 | <ul style="list-style-type: none"> TTS375/TGH285 | -F, -H | For Second Stage Housing stamped part number 701521, also order kit 100703-3. For Second Stage Housing stamped part number 741630, no other kit is required. Contains eyebolt, O-rings, and mounting hardware. |
| O-RINGS, SECOND STAGE HOUSING | 100706-2 | <ul style="list-style-type: none"> TTS375/TGH285 | -F, -H | Contains O-rings and fasteners for Second Stage Housing, Interstage Pipe, and Economizer |

2.5 Interstage Pipe



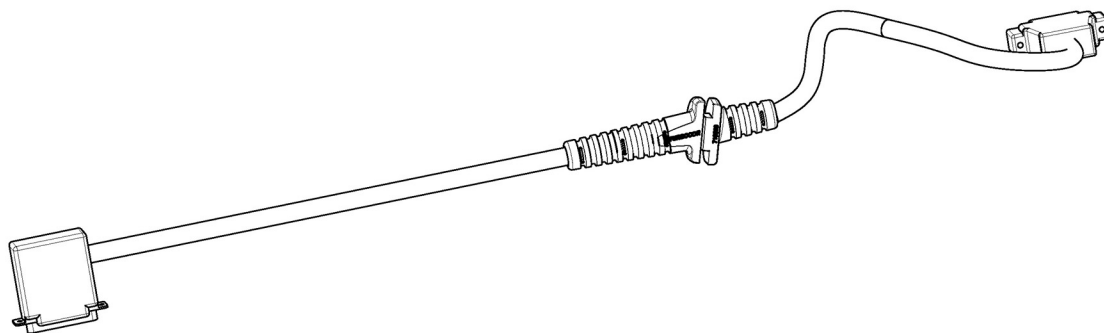
It is important to determine the version of Interstage Pipe that is currently installed on the compressor in order to identify the correct part number. There are two variants of Second Stage Housing and Interstage pipe and they are not interchangeable. Refer to the stamped part number on the Interstage Pipe flange that mates to the Second Stage Housing. When replacing early revision Interstage Pipes, the Second Stage Housing will also need to be replaced.

NOTE

If the part number on the Interstage Pipe is not visible, verify the Second Stage Housing part number. If the Second Stage Housing is part number, 701521, then kits **100703-3** and **100706-3** need to be purchased. If the Second Stage part number is 741630, then purchase kit **100703-3**.

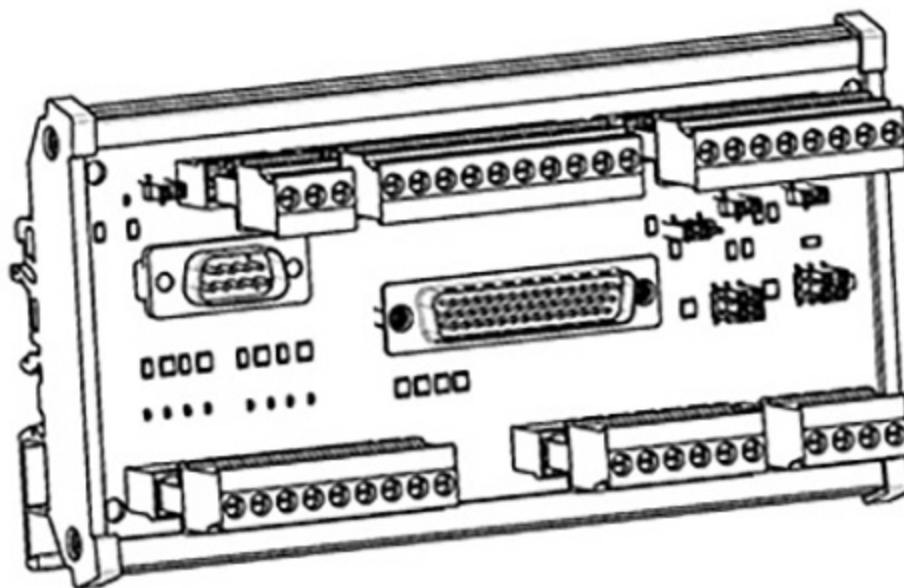
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------------|----------|---|-----------|--|
| (1) INTERSTAGE PIPE | 100703-3 | <ul style="list-style-type: none"> TTS375/TGH285 | -F, -H | For Interstage Pipe stamped part number 741627, also order kit 100706-3. For Interstage Pipe stamped part number 741629, no other kit is required. Contains P/T Sensor, O-rings, and fasteners |
| (2) PRESSURE/TEMP SENSOR, DISCHARGE | 100037-1 | <ul style="list-style-type: none"> TTS375/TGH285 | -F, -H | Marked with a red spot and a green spot, contains O-ring |
| O-RINGS, INTERSTAGE PIPE | 100703-2 | <ul style="list-style-type: none"> TTS375/TGH285 | -F, -H | Contains O-rings for the Interstage Pipe and Economizer (includes fasteners) |

2.6 Compressor Interface Cable



| DESCRIPTION | PART NO. | APPLIES | MAJOR REV | COMMENT |
|------------------------------------|----------|-----------------|-----------|------------|
| COMPRESSOR INTERFACE CABLE, 5M | 100058-1 | ALL COMPRESSORS | ALL | Cable Only |
| COMPRESSOR INTERFACE CABLE, 10M | 100058-4 | ALL COMPRESSORS | ALL | Cable Only |

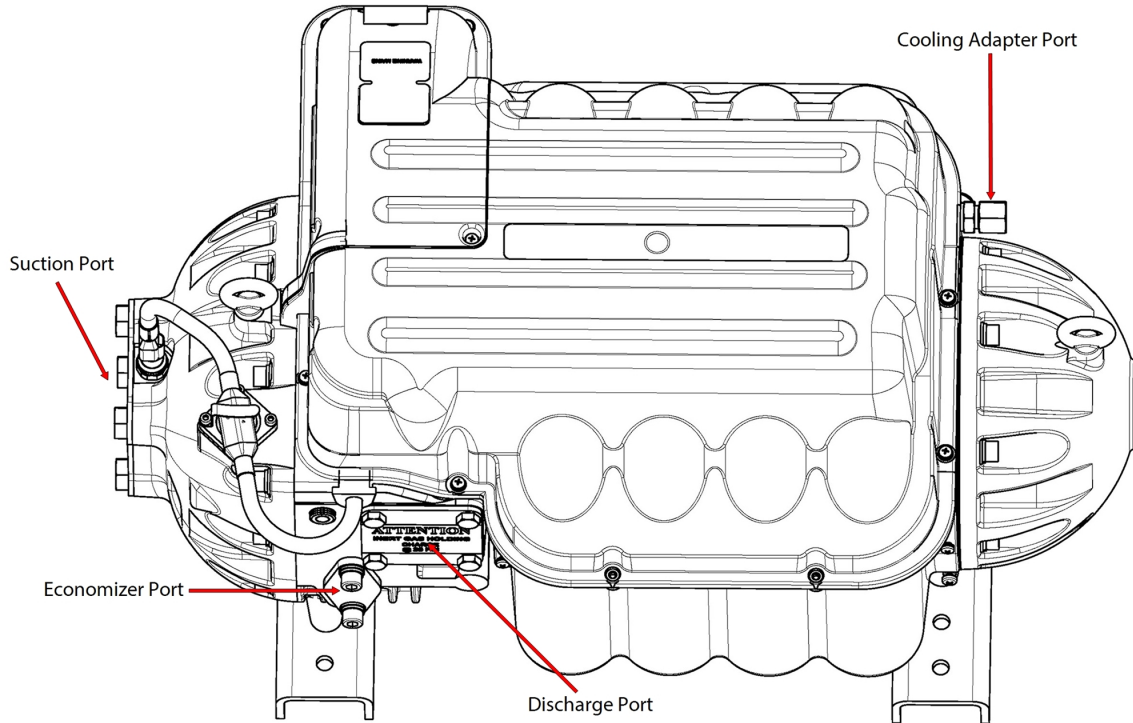
2.7 PCB Assembly I/O Board



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------|----------|-----------------|-----------|-------------------|
| I/O BOARD ASSY | 100076-1 | ALL COMPRESSORS | ALL | PCB Assembly Only |

2.8 Miscellaneous Items

Port O-rings



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---------------------------|----------|-----------------|-----------|--|
| O-RINGS, PORT CONNECTIONS | 100329 | ALL COMPRESSORS | ALL | Includes O-rings for Cooling Adapter, Suction, Discharge, and Economizer ports |
| O-RING, SUCTION PORT | 100555 | ALL COMPRESSORS | ALL | Suction Port O-Ring only |

Miscellaneous Items

Dielectric Grease



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------------|----------|-----------------|-----------|----------------------------------|
| DIELECTRIC GREASE, 1.25 FL OZ | 901982 | ALL COMPRESSORS | ALL | 1.25 fl. oz. tube of Grease Only |

Refrigerant Labels



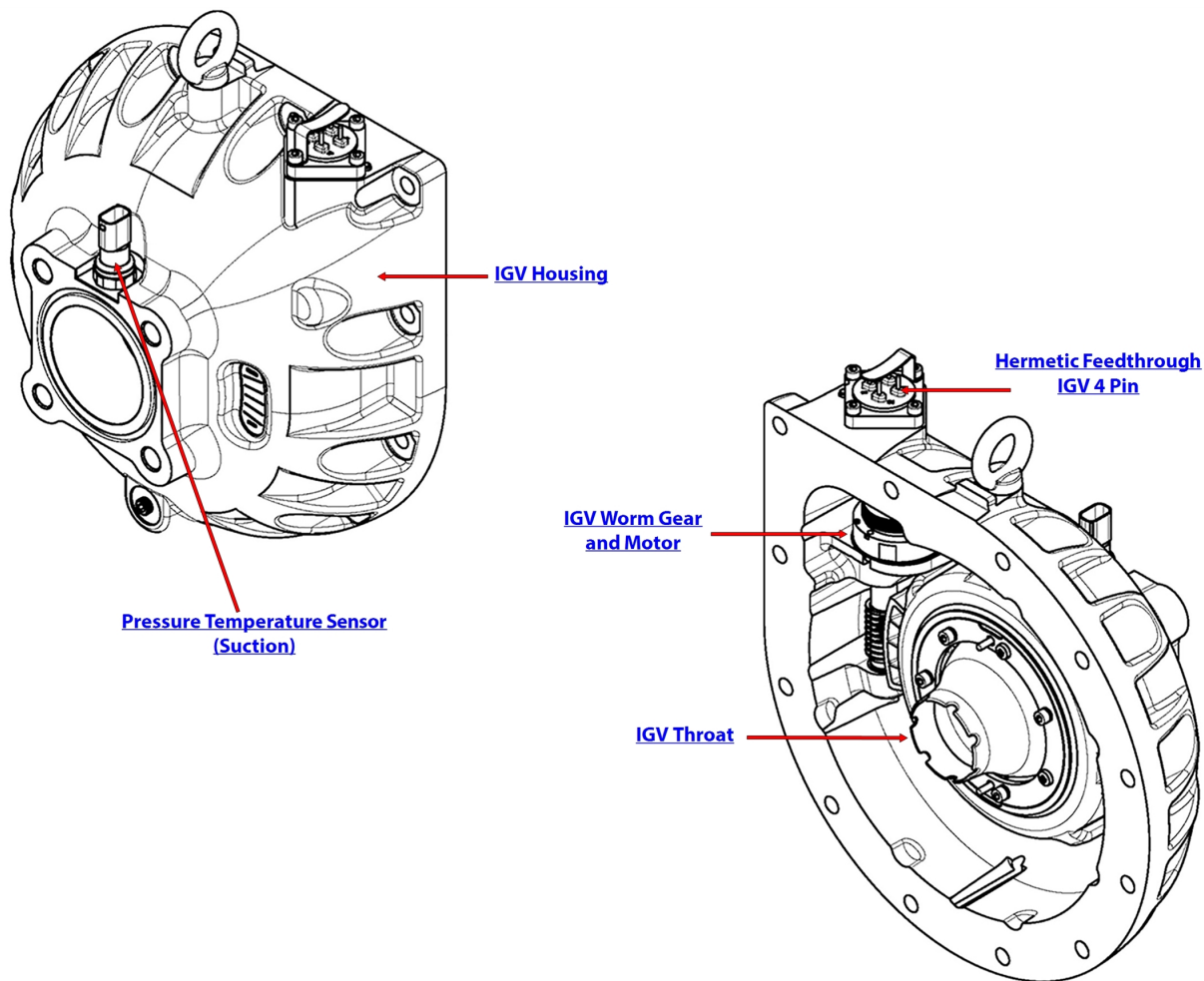
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------|----------|--|------------|--------------------|
| R513A REFRIGERANT LABEL | 100374 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS500/TTS700 TTH375 | -F, -G, -H | Includes 10 labels |

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Chapter 3.0 IGV End Assembly

The spare part kits available for the Inlet Guide Vanes (IGV) Drive assembly are detailed in this section. The IGV Drive Assembly and O-ring kits detailed on the following page replace the entire IGV assembly, including feedthrough, sensor, housing, throat, and motor.

IGV Drive Assembly



3.1 IGV Drive Assembly

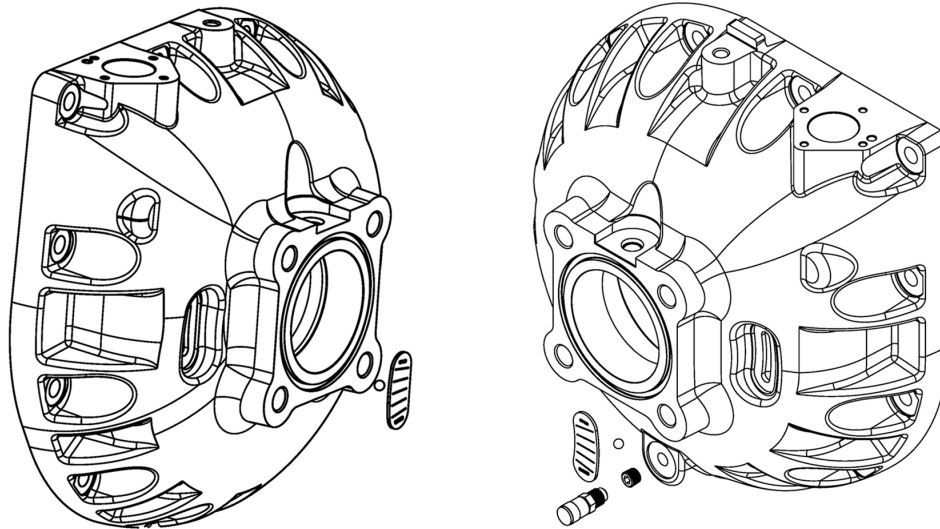
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------------|-----------|---|-------------------------------|---|
| IGV DRIVE ASSY, BLACK THROAT | 100050-16 | <ul style="list-style-type: none"> TTS300 TGS230 | -P, -C, -D, -E, -F, -G, -H | Fully assembled IGV with black IGV throat, includes O-rings and fasteners |
| IGV DRIVE ASSY, BLUE THROAT | 100050-15 | <ul style="list-style-type: none"> TTS350 TGS310 | -A, -E, -F, -H | Fully assembled IGV with blue IGV throat, includes O-rings and fasteners |
| IGV DRIVE ASSY, SILVER THROAT | 100050-26 | <ul style="list-style-type: none"> TTS450 TGS380 | -H | Fully assembled IGV with silver IGV throat, includes O-rings and fasteners |
| IGV DRIVE ASSY, GOLD THROAT | 100050-17 | <ul style="list-style-type: none"> TTS400 TGS390 | -C, -E, -F, -H | Fully assembled IGV with gold IGV throat, includes O-rings and fasteners |
| IGV DRIVE ASSY, SILVER THROAT | 100050-25 | <ul style="list-style-type: none"> TGS490 | -F, -H | Fully assembled IGV with silver IGV throat, includes O-rings and fasteners |
| IGV DRIVE ASSY, STEEL THROAT | 100050-18 | <ul style="list-style-type: none"> TTS500/TTS700 TGS520 | -A, -E, -F, -H | Fully assembled IGV with steel IGV throat, includes O-rings and fasteners |
| IGV DRIVE ASSY, ORANGE THROAT | 100050-19 | <ul style="list-style-type: none"> TTH375 TGH285 | -F, -H | Fully assembled IGV with orange IGV throat, includes O-rings and fasteners |

3.2 IGV Housing

The IGV Housing kits detailed here replace the IGV housing. The plug and indicator ball are pre-installed.

NOTE

The Worm Gear Extractor Tool 100246 is required.



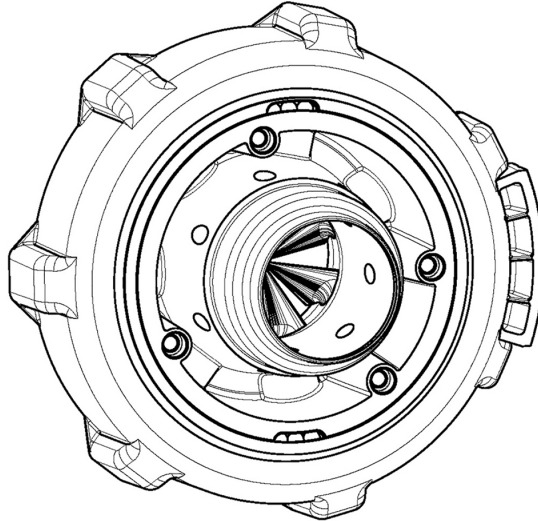
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------|----------|---|-----------|---|
| IGV HOUSING, BARE | 100223 | <ul style="list-style-type: none"> TTS300/ TTS350/TTS400/TTS450 TGS230/TGS310/TGS380/TGS390 | All | Contains Housing, IGV indicator, plug |
| IGV HOUSING, BARE | 100229 | <ul style="list-style-type: none"> TTS500/TTS700 TGS520/TGS490 | All | Contains Housing, IGV indicator, plug |
| IGV HOUSING, BARE | 100223-5 | <ul style="list-style-type: none"> TTH375/TGH285 | All | Contains Housing, plug, IGV indicator, O-rings, and fasteners |
| O-RING, IGV ASSY | 100051-1 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS500/TTS700 TGS230/TGS310/TGS390/TGS490/TGS520 TTH375/TGH285 | All | Includes O-rings for Suction, IGV Housing and IGV motor Feedthrough |

3.3 IGV Throat

The IGV Throat kits detailed here replace the IGV Throat assembly.

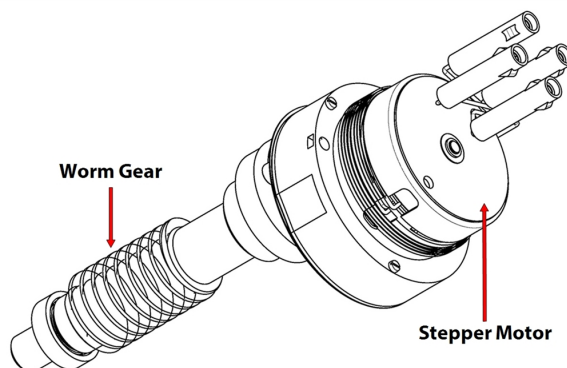
NOTE

The Worm Gear Extractor Tool 100246 is required.



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------|----------|---|----------------------------|---|
| IGV THROAT, BLACK | 100227 | <ul style="list-style-type: none"> TTS300 TGS230 | -P, -C, -D, -E, -F, -G, -H | Contains IGV throat assembly-black, thin rim, O-rings and fasteners |
| IGV THROAT, BLUE | 100228 | <ul style="list-style-type: none"> TTS350 TGS310 | -A, -E, -F, -H | Contains IGV throat assembly-blue, O-rings and fasteners |
| IGV THROAT, SILVER | 100392 | <ul style="list-style-type: none"> TTS450 TGS380 | -H | Contains IGV throat assembly-silver, O-rings and fasteners |
| IGV THROAT, GOLD | 100231 | <ul style="list-style-type: none"> TTS400 TGS390 | -C, -E, -F, -H | Contains IGV throat assembly-gold, O-rings and fasteners |
| IGV THROAT, STEEL | 100232 | <ul style="list-style-type: none"> TTS500/TTS700 TGS520 | -A, -E, -F, -H | Contains IGV throat assembly-steel, O-rings and fasteners |
| IGV THROAT, SILVER | 100261 | <ul style="list-style-type: none"> TGS490 | -F, -H | Contains IGV throat assembly-silver, O-rings and fasteners |
| IGV THROAT, ORANGE | 100704 | <ul style="list-style-type: none"> TTH375 TGH285 | -F, -H | Contains IGV throat assembly-orange, O-rings and fasteners |

3.4 IGV Worm Gear and Motor

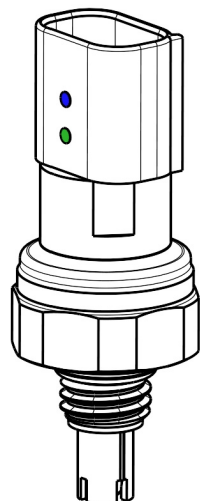


NOTE

The Worm Gear Extractor Tool 100246 is required.

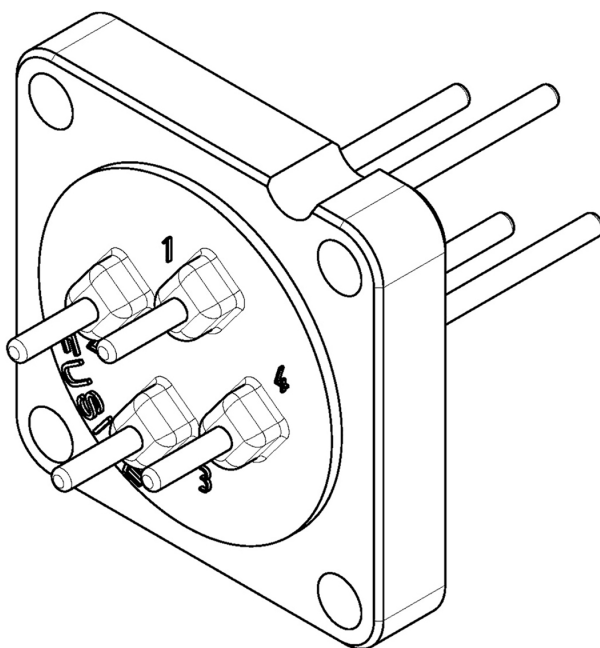
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------|----------|--|-----------|---|
| IGV WORM GEAR SHAFT REPAIR | 100222 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | ALL | Contains Worm Gear, Stepper Motor, Bearings, Collars, and Clips |
| IGV WORM GEAR SHAFT REPAIR | 100705 | <ul style="list-style-type: none"> TTH375/TGH285 | ALL | Contains Worm Gear, Stepper Motor, Bearings, Collars, Clips, O-rings, and fasteners |
| IGV MOTOR | 100035-1 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | ALL | Includes Stepper Motor and O-rings |
| IGV MOTOR | 100035-2 | <ul style="list-style-type: none"> TTH375/TGH285 | ALL | Includes Stepper Motor, O-rings, and fasteners |
| O-RING, IGV ASSY | 100051-1 | ALL COMPRESSORS | ALL | Includes O-rings |
| WORM GEAR EXTRACTOR TOOL | 100246 | ALL COMPRESSORS | ALL | Worm Gear Extractor tool only |

3.5 Pressure Temperature Sensor Suction



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------|----------|-----------------|-----------|---|
| PRESSURE/TEMP SENSOR, SUCTION | 100036-1 | ALL COMPRESSORS | ALL | Marked with a blue dot and a green dot, includes O-ring |

3.6 Hermetic Feedthrough IGV 4 Pin

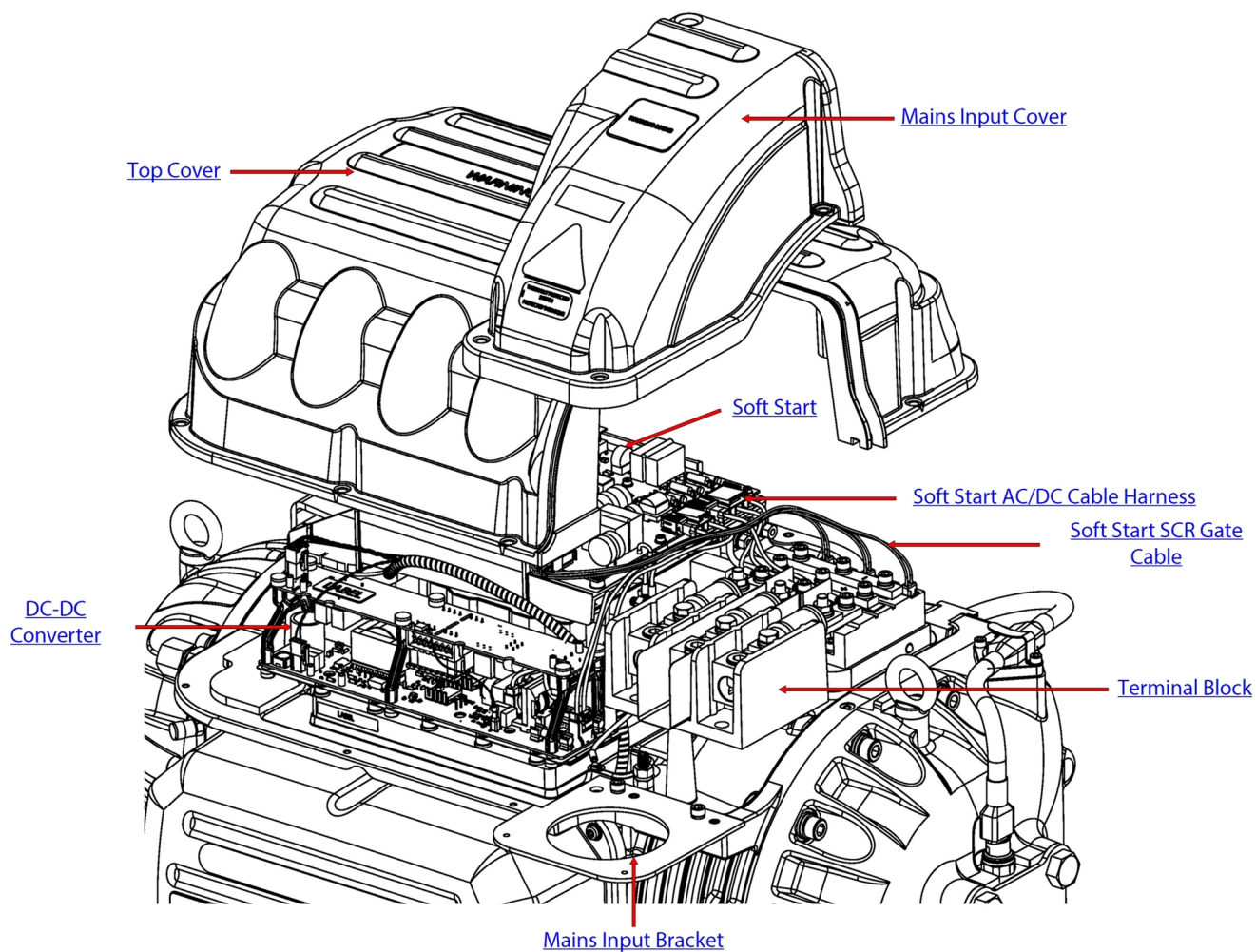


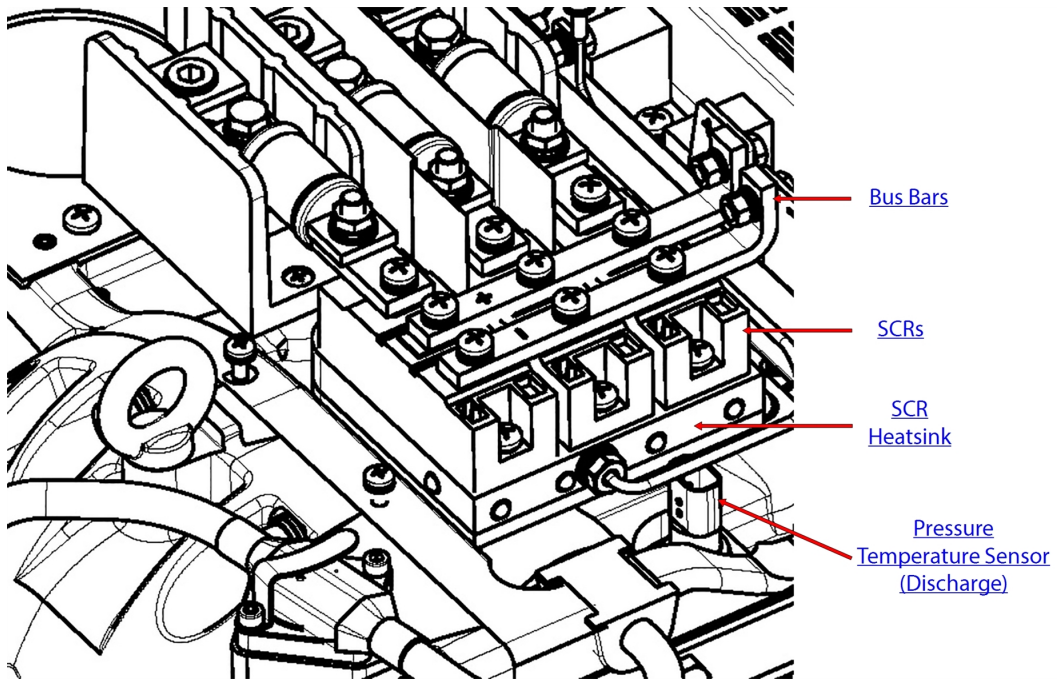
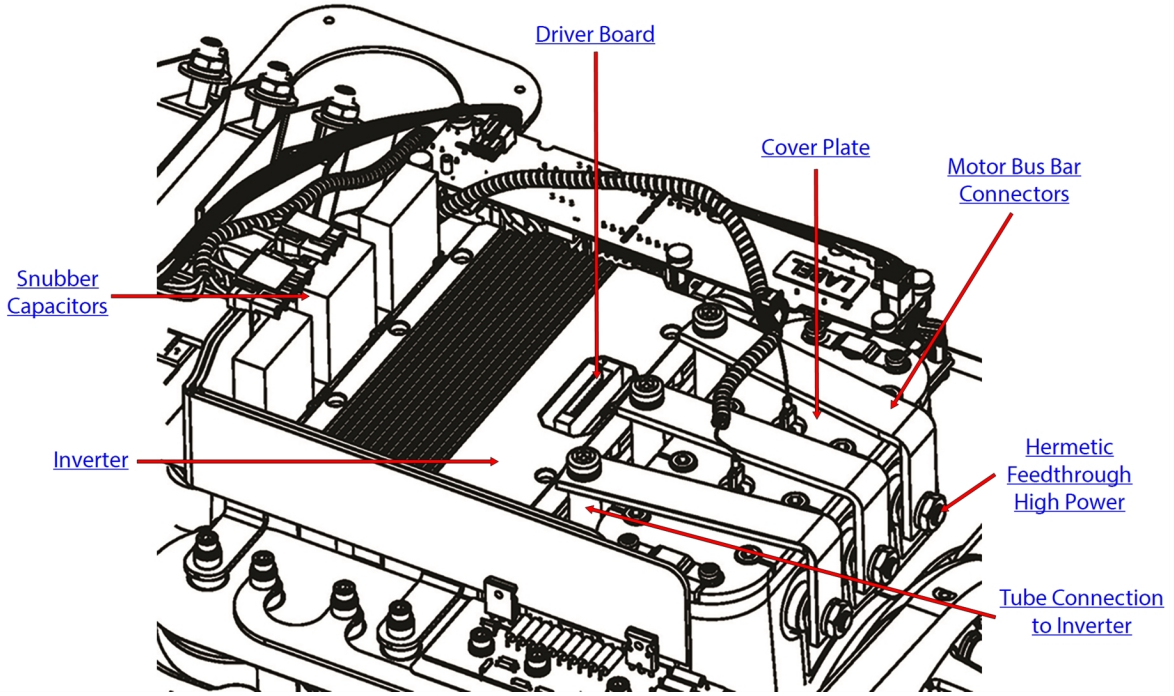
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------|----------|-----------------|-----------|---------------------------------------|
| 4 PIN IGV FEEDTHROUGH | 100321-1 | ALL COMPRESSORS | ALL | Includes O-ring, clamp, and fasteners |

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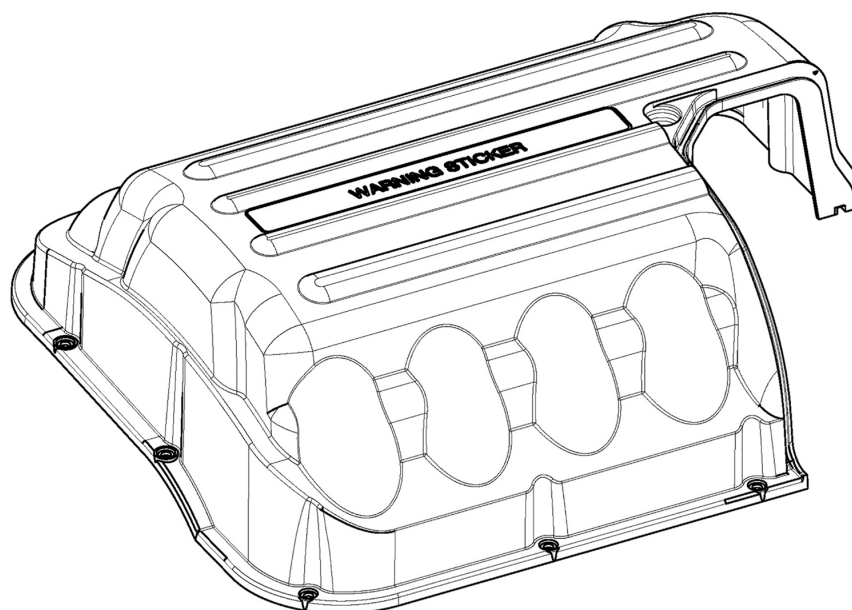
Chapter 4.0 Top Side

This section details the spare part kits available for components underneath the Top Side and Mains Input covers.



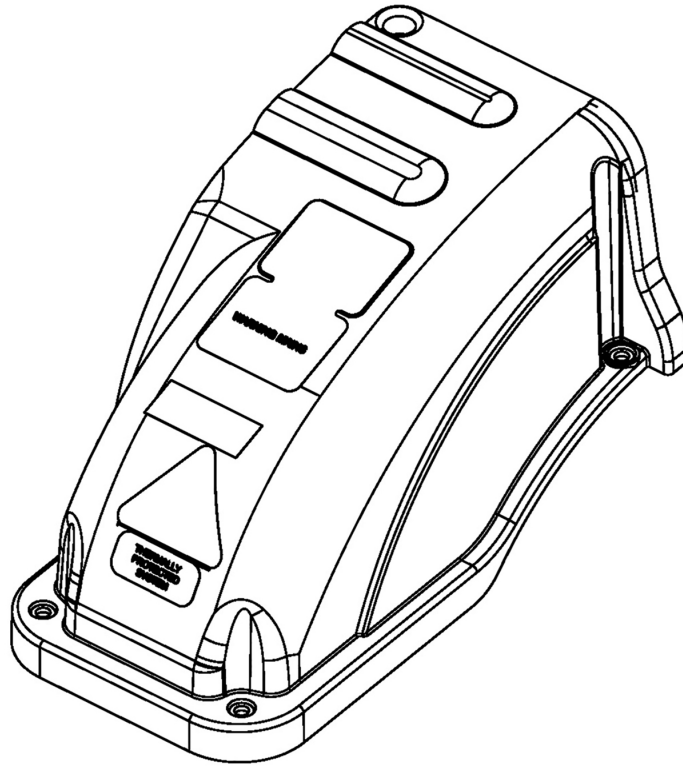


4.1 Top Cover



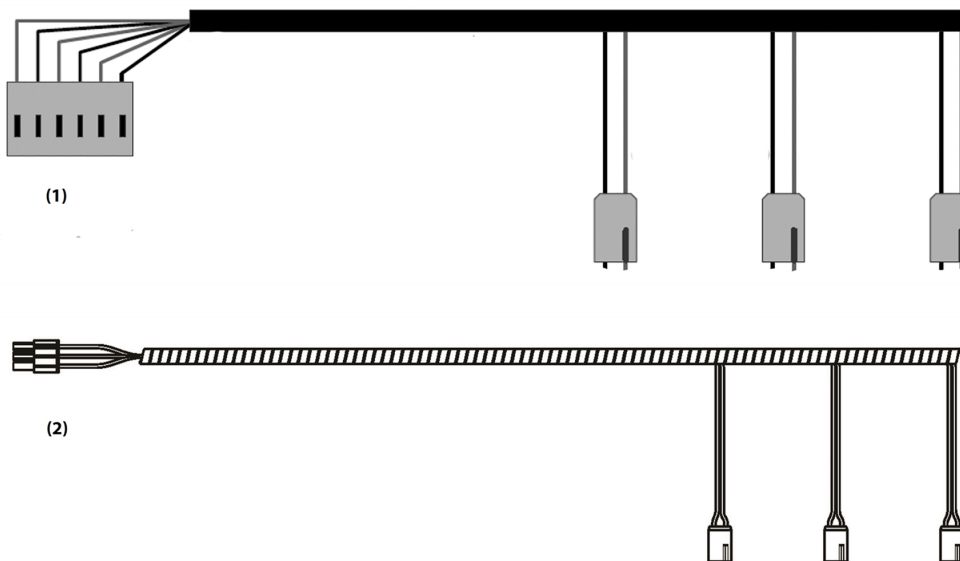
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|----------|---|-----------|---|
| TOP COVER, BLACK, EN/FR | 100054-3 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TTH375 | ALL | Includes fasteners |
| TOP COVER, GREEN, EN/FR | 100054-6 | <ul style="list-style-type: none"> TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 TGH285 | ALL | Includes fasteners |
| COVERS SCREW, M5, STAINLESS | 100252 | ALL COMPRESSORS | ALL | Replaces fasteners for all four (4) covers (24 fasteners) |

4.2 Mains Input Cover



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------|----------|---|-----------|---|
| MAINS INPUT COVER, BLACK | 100056-3 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TTH375 | ALL | Includes fasteners |
| MAINS INPUT COVER, GREEN | 100056-6 | <ul style="list-style-type: none"> TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 TGH285 | ALL | Includes fasteners |
| COVERS SCREW, M5, STAINLESS | 100252 | ALL COMPRESSORS | ALL | Replaces fasteners for all four (4) covers (24 fasteners) |

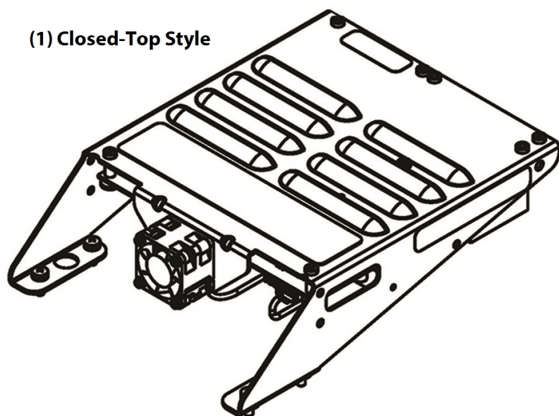
4.3 Soft Start SCR Gate Cable



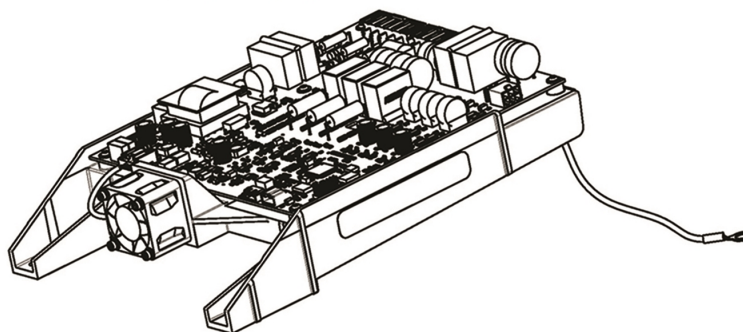
It is important to determine the Soft Start that is currently installed on the compressor. Pre Rev H compressors may contain a Soft Start that has been upgraded to the Open-Top style. The two (2) different style Soft Starts utilize a different SCR Cable connector, which requires a unique Soft Start SCR Gate Cable.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------|----------|-----------------|----------------------------|---|
| (1) CABLE, SOFTSTART SCR GATE | 100059 | ALL COMPRESSORS | -N, -P, -C, -D, -E, -F, -G | Closed-Top Soft Starts (1) Includes cable only |
| (2) CABLE, SOFTSTART SCR GATE | 100059-1 | ALL COMPRESSORS | -H | Open-Top Soft Start (2) Includes cable only |

(1) Closed-Top Style

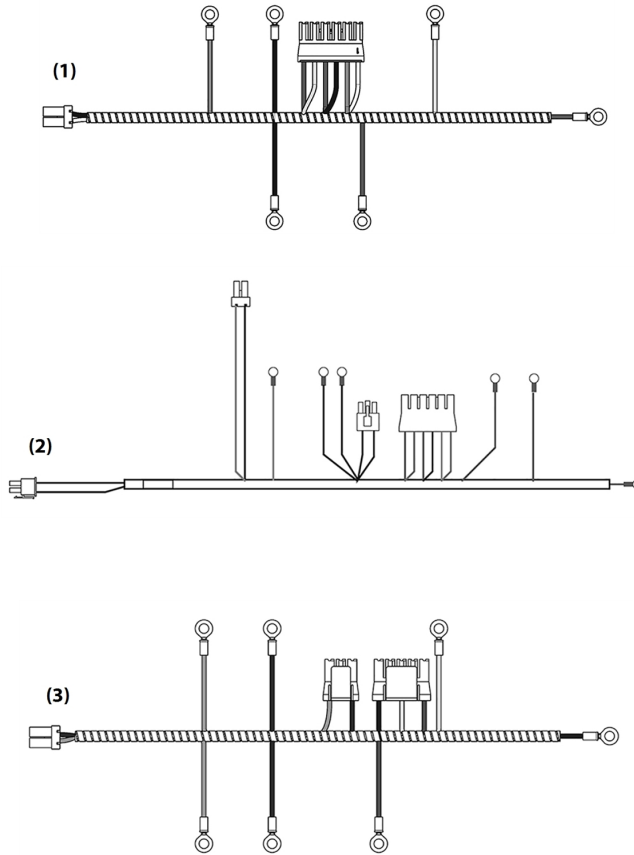


(2) Open-Top Style



*The Open-Top style Soft Starts require a different Soft Start SCR Cable.

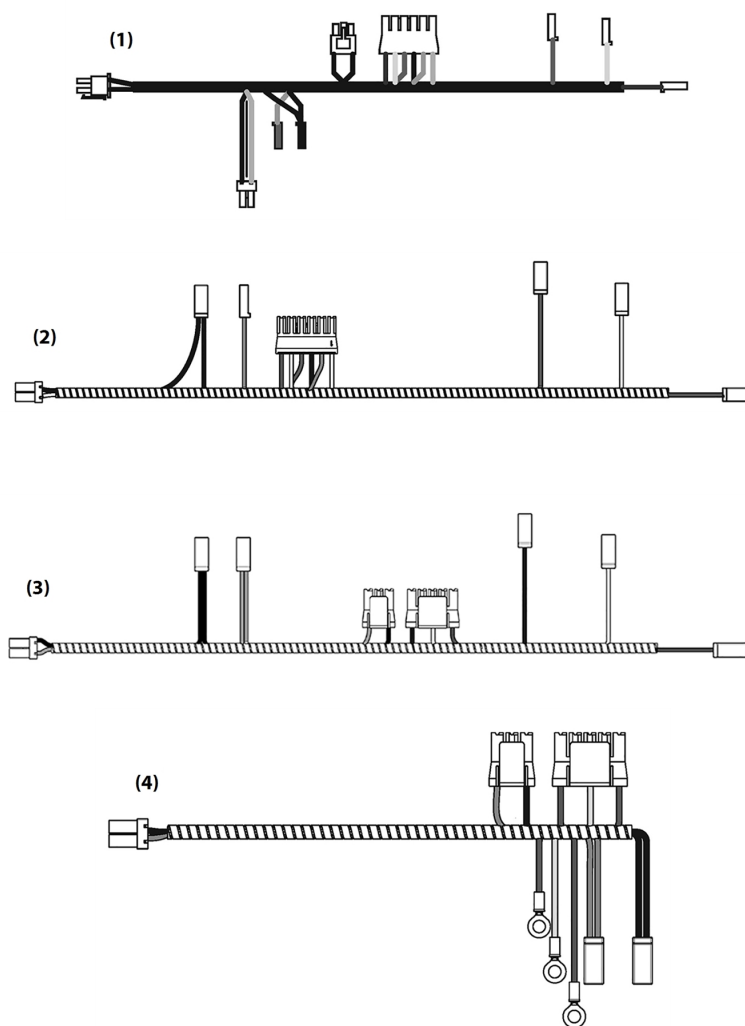
4.4 Cable Harness Soft Start AC/DC



It is important to determine the Soft Start that is currently installed on the compressor, as well as the DC-DC Converter and Bus Bar assembly. Pre-rev H compressors may contain a Soft Start that has been upgraded to the Open-Top style and a DC-DC Converter that has been upgraded to the Open-Frame style. Each of these items will impact the required kit. Refer to the Comment section in the tables below to determine the appropriate kit for the existing compressor. Also, refer to the Soft Start section in this manual if you need assistance to identify the visual difference between the two (2) types of Soft Starts.

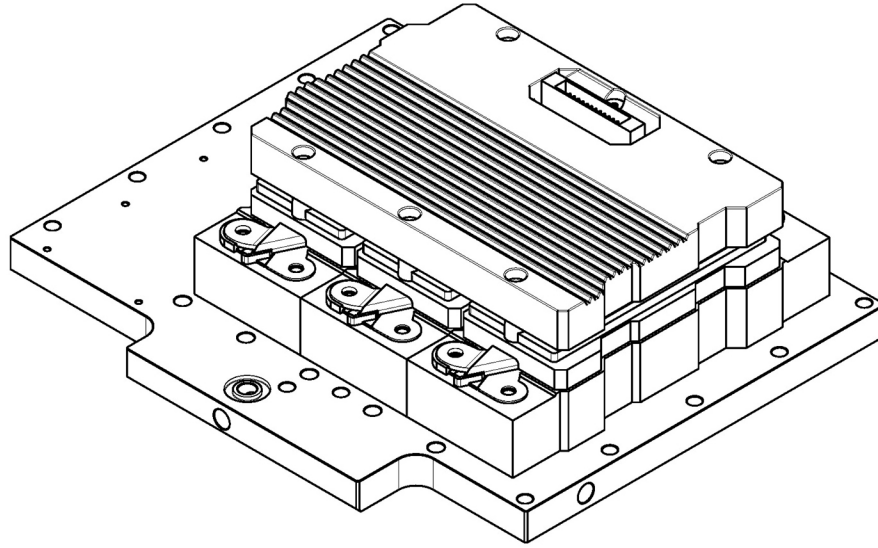
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|----------|--|----------------------------|--|
| (1 & 2) CABLE, SOFTSTART AC/DC | 100380 | <ul style="list-style-type: none"> TTS300 TGS230 | -N, -P, -C, -D, -E, -F, -G | Cable Only Includes two cables in order to accommodate either DC-DC style |
| (3) CABLE, SOFTSTART AC/DC | 100380-1 | <ul style="list-style-type: none"> TTS300 TGS230 | -H | Cable Only Rev. G compressors can use this cable if they have the Open Frame DC-DC and the Open-Top Soft Start installed |

Cable Harness Soft Start AC/DC (continued)



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------------------|----------|---|--------------------|--|
| (1 & 2) CABLE, SOFTSTART AC/DC | 100381 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F | Cable Only Includes two (2) cables in order to accommodate either DC-DC style) |
| (3) CABLE, SOFTSTART AC/DC | 100381-2 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F | Cable Only For use with Soft Start (open-top style), Open Frame DC-DC, and Curved Bus Bars |
| (4) CABLE, SOFTSTART AC/DC | 100381-1 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | Cable Only For use with Soft Start (open-top style), Open- Frame DC-DC, small SCRs, and Straight Bus Bars |

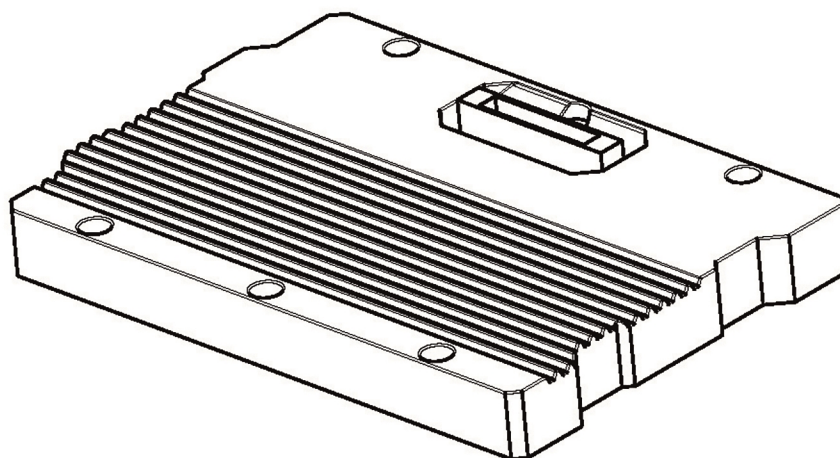
4.5 Inverter



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---|------------|---|------------------------|--|
| INVERTER ASSEMBLY CONVERSION (342 to 613) | 100521* | <ul style="list-style-type: none"> TTS300 TGS230 | -N, -P, -C, -D, -E, -F | Includes motor bus bars, manifold insulator, fasteners, washers, and O-rings |
| INVERTER ASSEMBLY, 613 | 100043-13* | <ul style="list-style-type: none"> TTS300 TGS230 | -G, -H | Includes fasteners, washers, and O-rings |
| INVERTER ASSEMBLY, 613 | 100043-11 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F, -H | Includes fasteners, washers, and O-rings |
| O-RINGS, INVERTER ASSY | 100310-2 | <ul style="list-style-type: none"> TTS300 TGS230 | ALL | Includes Inverter O-rings and fasteners |
| O-RING, INVERTER ASSY | 100310-1 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | ALL | Replaces Inverter O-rings and fasteners |

*Refer to Customer Notification (B-CN-079-EN)

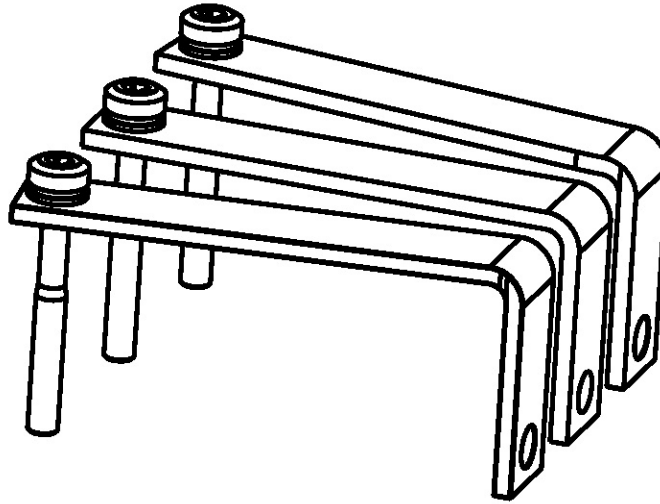
4.6 Driver Board



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------|-----------|---|------------------------|---|
| INVERTER DRIVER BOARD, 613 | 100518-1* | <ul style="list-style-type: none"> TTS300 TGS230 | -G, -H | Includes mounting fasteners and spring pins |
| INVERTER DRIVER BOARD, 613 | 100518 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F, -H | Includes mounting fasteners and spring pins |

*Refer to Customer Notification (B-CN-079-EN) - This kit is for TTS300/TGS230 Rev. G and later compressors or when Conversion Kit (100521) has already been applied

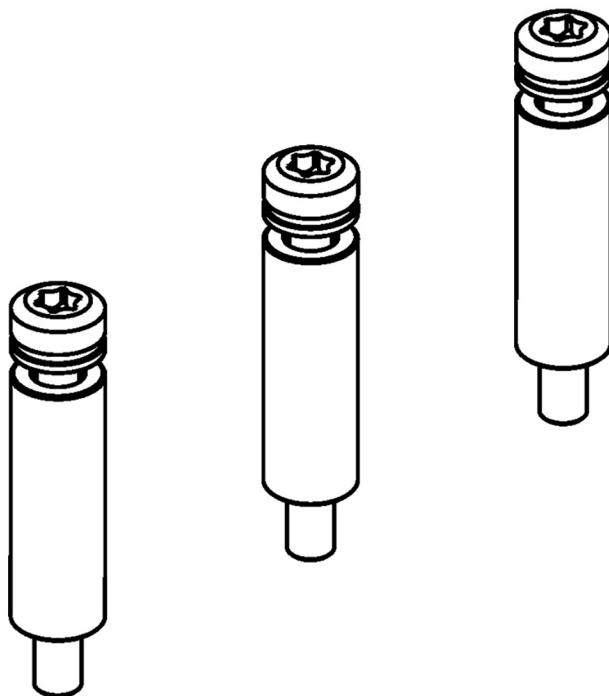
4.7 Motor Bus Bar Assembly Connectors



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------|----------|--|---------------------------|---|
| MOTOR BUS BAR ASSY | 100313 | <ul style="list-style-type: none"> TTS300 TGS230 | -N, -P, -C, -D, -E, -F | Includes three (3) bus bars and fasteners |
| MOTOR BUS BAR ASSY | 100313-1 | <ul style="list-style-type: none"> TTS300*/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230*/TGS310/TGS380/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F, G, -H | Includes three (3) bus bars and fasteners |

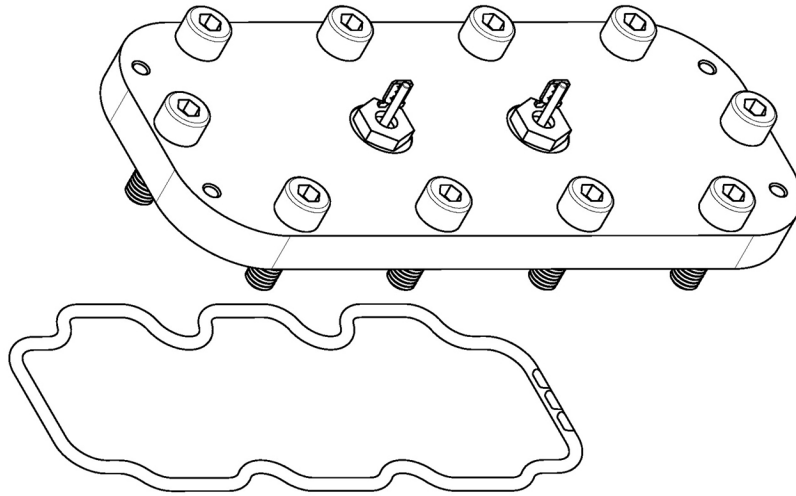
*Refer to Customer Notification (B-CN-079-EN) - This kit is for TTS300/TGS230 Rev. G and later compressors or when Conversion Kit (100521) has already been applied

4.8 Tube Connection to Inverter



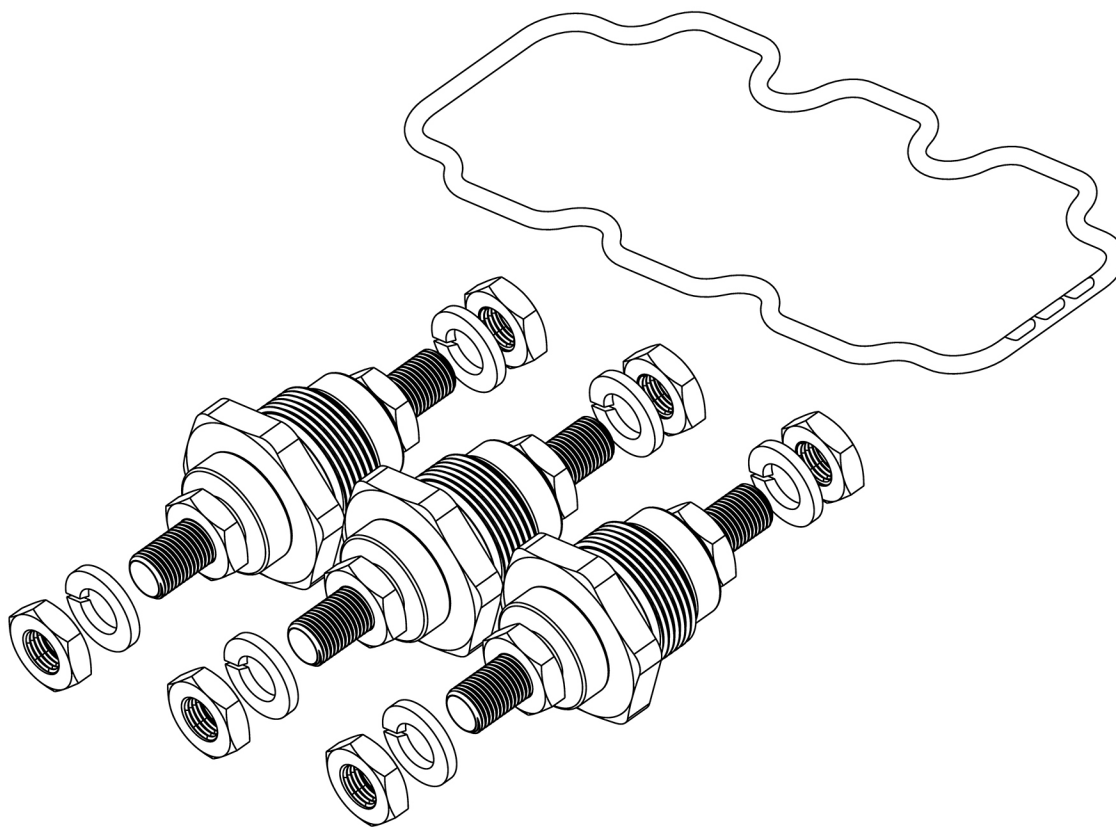
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------|----------|-----------------|-----------|--|
| TUBE CONNECTION TO INVERTER | 100311 | ALL COMPRESSORS | ALL | Includes three (3) tubes and fasteners |

4.9 Cover Plate Assembly



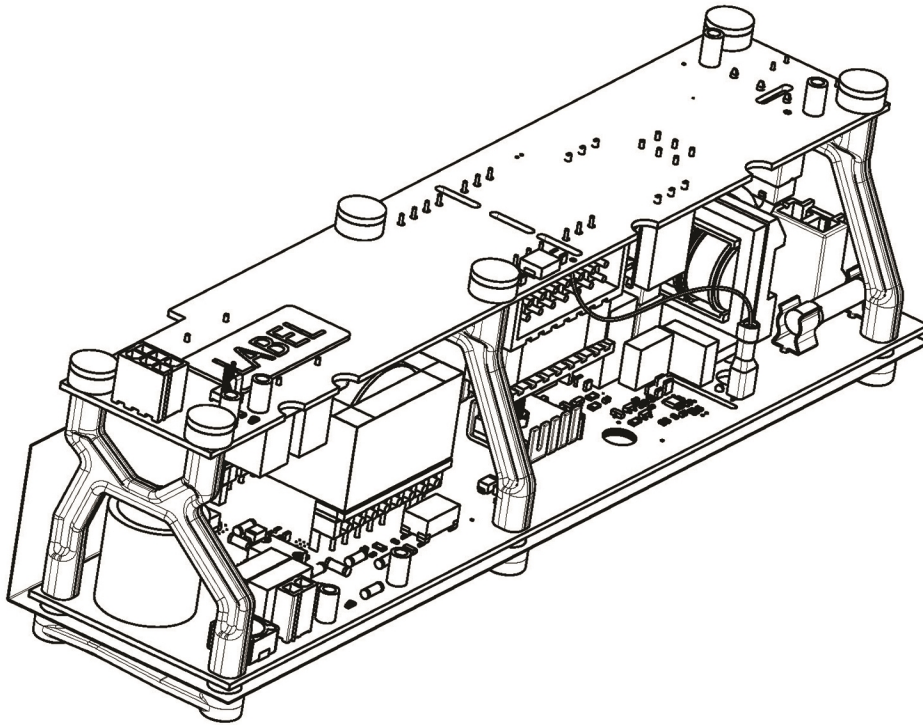
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------------|----------|-----------------|-----------|----------------------------|
| COVER PLATE ASSY | 100314-2 | ALL COMPRESSORS | ALL | Includes O-ring |
| O-RING, COVER PLATE ASSY | 100315-1 | ALL COMPRESSORS | ALL | Molded O-ring Only (shown) |

4.10 Hermetic Feedthrough High Power



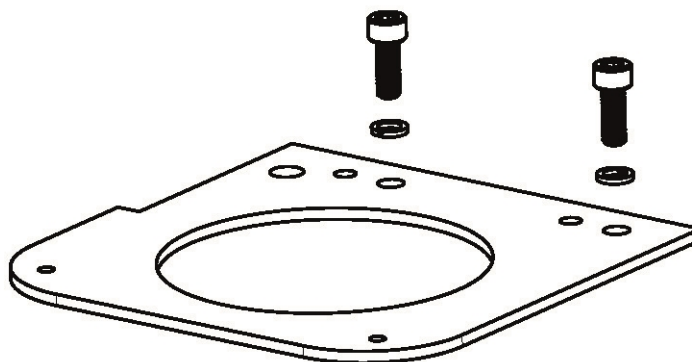
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------------|----------|-----------------|-----------|---|
| HIGH-POWER FEEDTHROUGH | 100383 | ALL COMPRESSORS | ALL | Includes three high power feedthroughs, nuts, washers, O-rings, and fasteners |
| O-RING, COVER PLATE ASSY | 100315-1 | ALL COMPRESSORS | ALL | Custom O-ring only (shown) |

4.11 DC-DC Converter



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------|----------|-----------------|-----------|--------------------|
| DC/DC CONVERTER | 100379 | ALL COMPRESSORS | ALL | Includes fasteners |

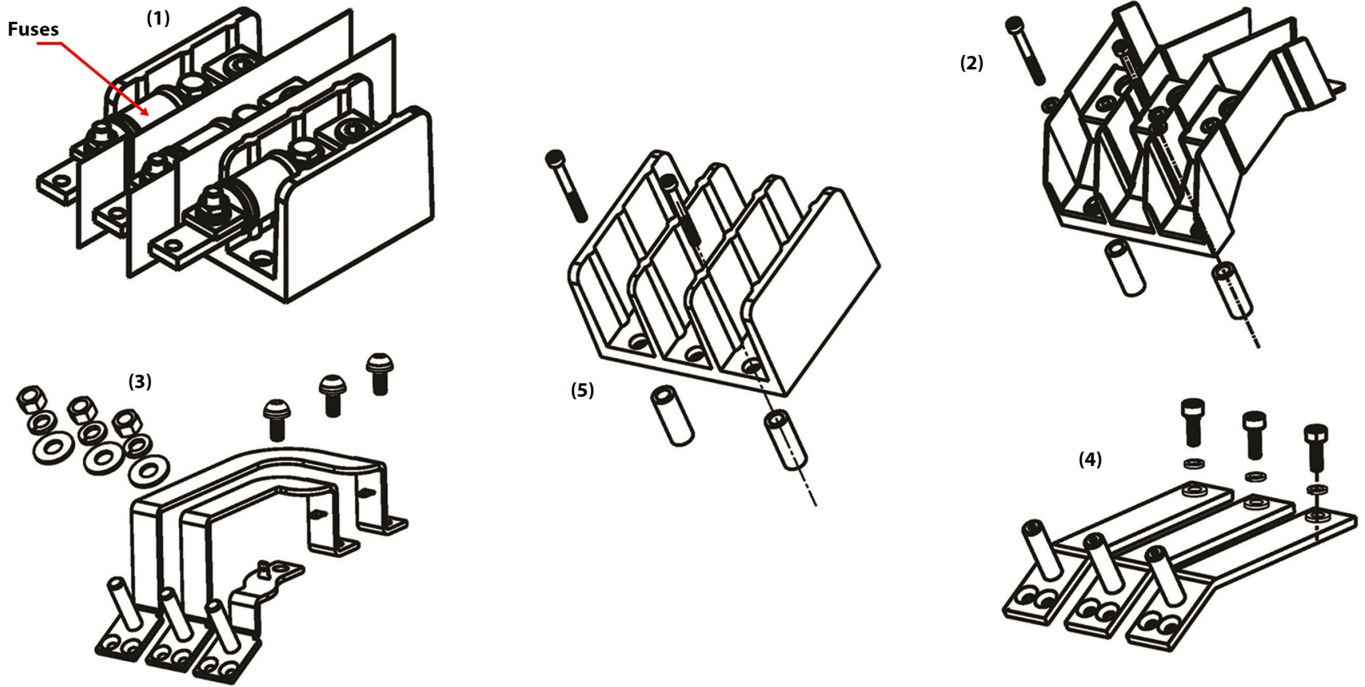
4.12 Mains Input Bracket and Grounding Stud



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------------------|----------|-----------------|-----------|--------------------------------|
| MAINS PLATE BRACKET- 2.0 IN DIA | 100216 | ALL COMPRESSORS | ALL | Includes fasteners and washers |
| MAINS PLATE BRACKET- 2.5 IN DIA | 100217 | ALL COMPRESSORS | ALL | Includes fasteners and washers |
| MAINS PLATE BRACKET- 3.0 IN DIA | 100218 | ALL COMPRESSORS | ALL | Includes fasteners and washers |
| MAINS PLATE BRACKET- 3.5 IN DIA | 100219 | ALL COMPRESSORS | ALL | Includes fasteners and washers |
| MAIN INPUT GROUND POST | 100519 * | ALL COMPRESSORS | ALL | Includes fasteners and washers |

* Not pictured

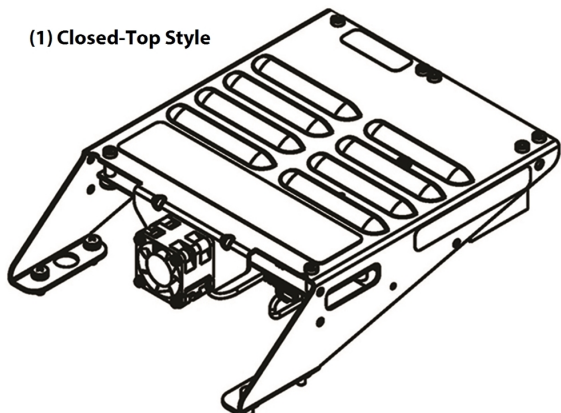
4.13 Terminal Block Assembly



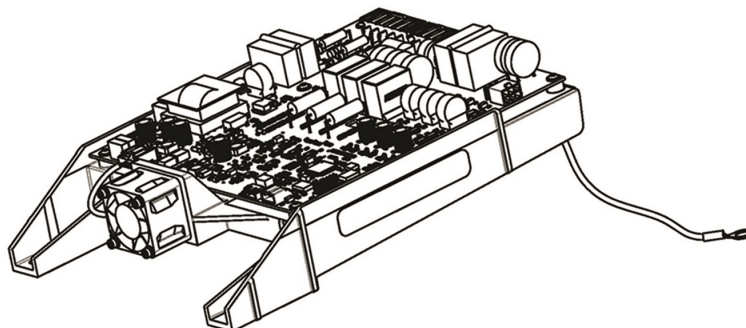
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------------------|----------|---|--------------------------------|--|
| (1) TERMINAL BLOCK AND FUSE ASSY | 100048-2 | <ul style="list-style-type: none"> TTS300 TGS230 | -N, -P, -C, -D, -E, -F, -G, -H | Replaces Terminal Block assembly, includes fuses, insulator, fuse extension, fasteners, and connectors |
| MAINS INPUT FUSE | 100344 | <ul style="list-style-type: none"> TTS300 TGS230 | -N, -P, -C, -D, -E, -F, -G, -H | Replaces the three (3) fuses (not pictured) in the terminal block assembly |
| (3) INPUT MAINS BUS BARS, CURVED | 100416 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -A, -C, -E, -F | Includes three (3) Bus Bars and fasteners |
| (4) INPUT MAINS BUS BARS, STRAIGHT | 100416-1 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | Includes three (3) Bus Bars and fasteners |
| (5) TERMINAL BLOCK ASSY | 100048-1 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -A, -C, -E, -F | Replaces Terminal Block, fasteners, and spacers |
| (2) TERMINAL BLOCK ASSY | 100048-3 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | Replaces Terminal Block, Bus Bars, fasteners, and spacers |

4.14 Soft Start Assembly

(1) Closed-Top Style



(2) Open-Top Style



- It is important to determine the DC-DC that is currently installed on the compressor prior to purchasing a new Soft Start.
- Please refer to the detail in the Comment column below to determine the appropriate kit or other required cables.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------|-----------|--|------------------------|--|
| SOFT START OPEN TOP UPGRADE | 100020-19 | <ul style="list-style-type: none"> • TTS300 • TGS230 | -N, -P, -C, -D, -E, -F | Includes Soft Start, DC-DC, Soft Start AC/DC Cable, Soft Start SCR Gate Cable, and fasteners |
| SOFT START OPEN TOP | 100020-18 | <ul style="list-style-type: none"> • TTS300 • TGS230 | -G**, -H | <p>Includes fasteners only</p> <p>**Rev G compressors with Potted DC-DC require Soft Start Upgrade Kit (100020-19) instead</p> <p>**Rev G Compressors with Open Frame DC-DC and Closed-Top Soft Start require cables 100380-1 and 100059-1 in addition to this kit</p> |

NOTE

The first compressor to receive the Open Frame DC-DC was S/N **191015180**.

Any compressor prior to S/N **191015180** will require the Soft Start Open Top Upgrade Kit if the upgrade was not previously made.

Soft Start Assembly (continued)

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|-----------|---|----------------|---|
| SOFT START OPEN TOP UPGRADE | 100020-20 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E | Includes Soft Start, DC-DC, Soft Start AC/DC Cable, Soft Start SCR Gate Cable, and fasteners |
| SOFT START OPEN TOP | 100020-18 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -F**, -H | <p>Includes fasteners</p> <p>**Rev F compressors with Potted DC-DC require Soft Start Upgrade Kit (100020-20) instead</p> <p>** Rev F Compressors with Open Frame DC-DC requires cables 100381-2 and 100059-1 in addition to this kit</p> |

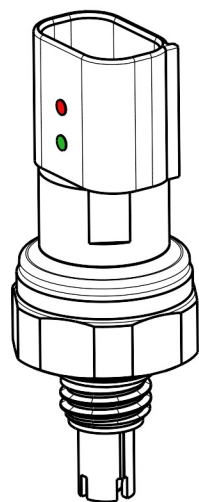
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------|----------|-----------------|-----------|--------------------------------|
| COOLING FAN AND ADAPTER | 100373-1 | ALL COMPRESSORS | ALL | Includes adapter and fasteners |

4.15 Soft Start Fuses

This section only applies to Closed-Top Soft Starts as the Open-Top Soft Starts contain non-removable resettable fuses.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------------------------|----------|---|--------------------------------|--|
| FUSES, SOFT START | 100317-1 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E, -F, -G | Fuses included: QTY 3 - 2A HVA (F1), QTY 3 - 2A SPF (F1), QTY 10 - 1A Nano (F3, F6), QTY 10 - 0.25A Nano (F2), and QTY 6 - 0.25A Midget (F4, F5) |
| FUSES, SOFT START | 100317-2 | ALL COMPRESSORS | -F, -G | For Soft Starts Rev Q and later, Fuses included: QTY 3 - 2A SPF (F1), QTY 10 - 1A Nano (F3, F6), QTY 10 - Nano 0.25A (F2), and QTY 6 - 0.25A Midget (F4, F5) |
| FUSE, NANO, SMF, 0.25A 125V | 100430 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E, -F, -G | Includes 10 fuses |
| FUSE, MIDGET, TIME DELAY, 0.2A, 600V | 100432 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E, -F, -G | Includes six (6) fuses |
| FUSE, NANO, 1A 125V | 100433 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E, -F, -G | Includes 10 fuses |
| FUSE, 2A, 1000V, 3IN | 100421 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | -N, -P, -A, -C, -D, -E | For Soft Starts rev P and earlier, includes three (3) fuses |
| FUSE, 2A, 1000V | 100422 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -F, -G | For Soft Starts rev Q and later, includes three (3) fuses |

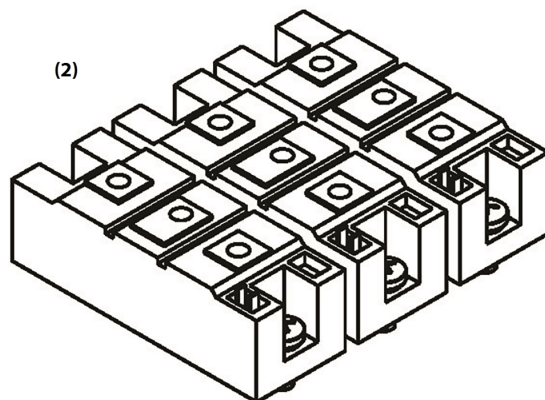
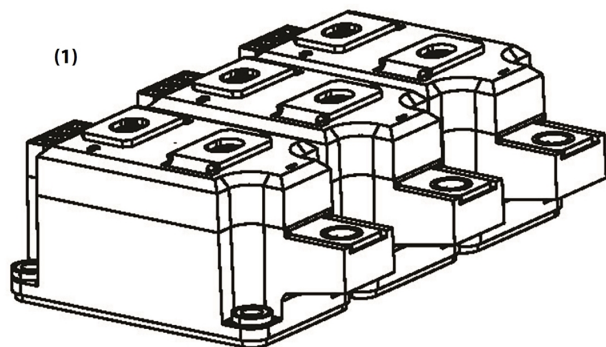
4.16 Pressure Temperature Sensor Discharge



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------------|----------|-----------------|-----------|---|
| *PRESSURE/TEMP SENSOR, DISCHARGE | 100037-1 | ALL COMPRESSORS | ALL | Marked with a red dot and a green dot, contains O-ring |

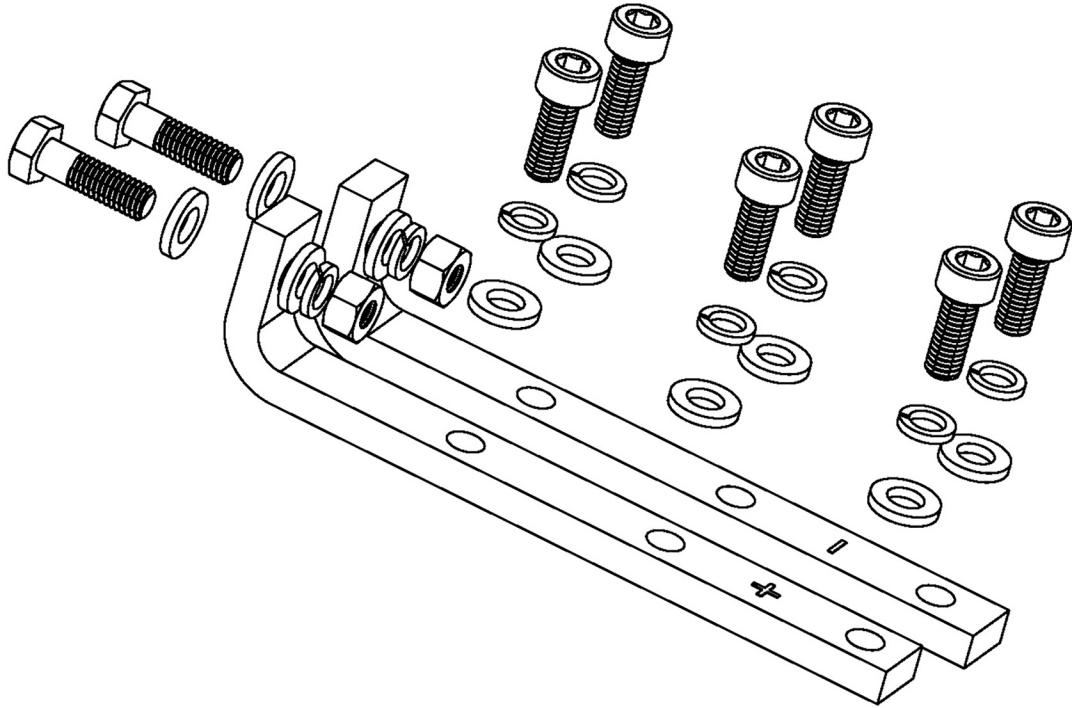
* Also replaces the TTH/TGH compressor Interstage Pressure/Temperature Sensor.

4.17 Silicone-Controlled Rectifiers (SCRs)



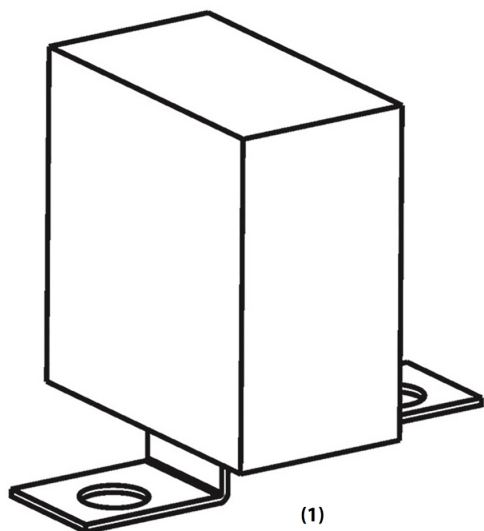
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------------------|----------|---|--------------------------------|--|
| (2) SILICONE CONTROLLED RECTIFIERS | 100047-1 | <ul style="list-style-type: none"> TTS300 TGS230 | -N, -P, -C, -D, -E, -F, -G, -H | Includes fasteners Not interchangeable with Kit 100047-3 |
| (2) SILICONE CONTROLLED RECTIFIERS | 100047-1 | <ul style="list-style-type: none"> TTS400 TGS390 | -H | Includes fasteners Not interchangeable with Kit 100047-3 |
| (1) SILICONE CONTROLLED RECTIFIERS | 100047-2 | <ul style="list-style-type: none"> TTS350/TTS450/TTS500/TTS700 TGS310/TGS380/TGS490/TGS520 TTH375/TGH285 | -A, -C, -E, -F | Includes fasteners |
| (1) SILICONE CONTROLLED RECTIFIERS | 100047-2 | <ul style="list-style-type: none"> TTS400 TGS390 | -P, -A, -C, -E, -F | Includes fasteners |
| (2) SILICONE CONTROLLED RECTIFIERS | 100047-3 | <ul style="list-style-type: none"> TTS350/TTS450/TTS500/TTS700 TGS310/TGS380/TGS490/TGS520 TTH375/TGH285 | -H | Includes fasteners Not interchangeable with Kit 100047-1 |

4.18 Bus Bar

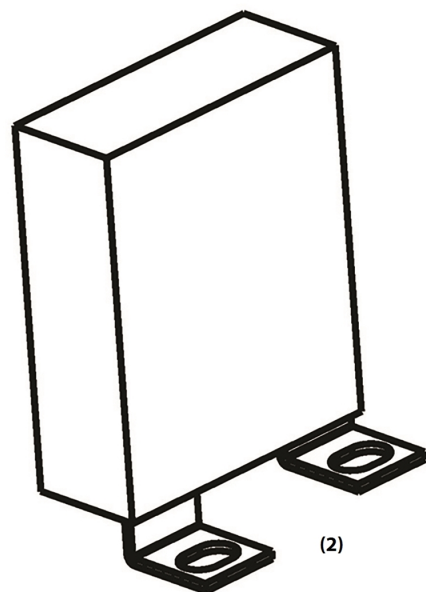


| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------|----------|--|-----------|---|
| SCR BUS BAR | 100316 | <ul style="list-style-type: none"> TTS300 TGS230 | ALL | Includes positive and negative Bus Bars and fasteners |

4.19 Snubber Capacitors



(1)



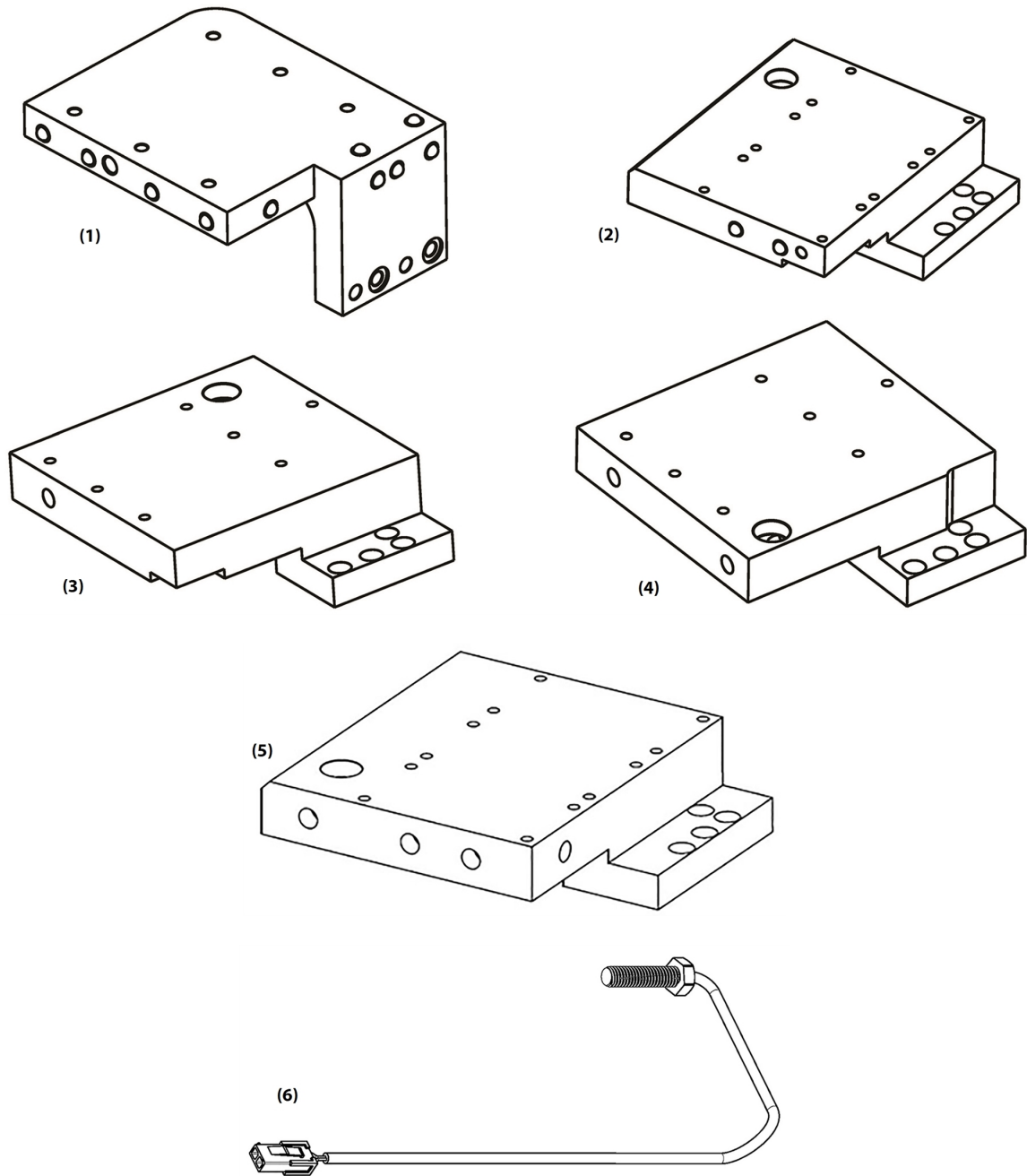
(2)

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---|----------|---|--------------------|--|
| (1) SNUBBER CAPACITOR, 0.47 μ F, 1000VDC | 100417 | <ul style="list-style-type: none"> TTS300 TGS230 | ALL | Includes three (3) snubbers and fasteners |
| (1) SNUBBER CAPACITOR, 0.47 μ F, 1000VDC | 100417 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F | Includes three (3) snubbers and fasteners |
| (2) INVERTER SNUBBER CAPACITOR, 0.47 μ F, 1250VDC | 100417-1 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | Includes three (3) snubbers and fasteners (Not for use on High SST Models) |
| (1) SNUBBER CAPACITOR, 0.47 μ F, 1000VDC | 100417 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 (High SST Models only) | -H | Includes three (3) snubbers and fasteners (High SST Models) |

NOTE

Snubber capacitors should always be replaced as a kit.

4.20 SCR Heatsink Assembly



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------------|-----------|--|--------------------|--|
| (1) SCR COOLING MANIFOLD | 100309-11 | <ul style="list-style-type: none"> TTS300 TGS230 | ALL | Includes O-rings and fasteners * (sensor not applicable) |
| (2) SCR COOLING MANIFOLD | 100309-13 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 | -P, -A, -C, -E, -F | Includes O-rings and fasteners * (sensor not applicable) |

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|----------|---|------------------|--|
| (3) SCR COOLING MANIFOLD | 100309-9 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 | -H | Includes O-rings and fasteners (sensor not applicable) |
| (4) SCR COOLING MANIFOLD HIGH SST | 100309-8 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 | -H (High SST) | High SST Option Includes O-rings and fasteners |
| (5) SCR COOLING MANIFOLD | 100309-7 | <ul style="list-style-type: none"> TTH375/TGH285 | -F | Includes O-rings and fasteners *Not interchangeable with Kit 100309-8 |
| (2) SCR COOLING MANIFOLD | 100309-8 | <ul style="list-style-type: none"> TTH375/TGH285 | -H | Includes O-rings and fasteners *Not interchangeable with Kit 100309-7 |
| O-RINGS, SCR COOLING MANIFOLD | 100310-2 | <ul style="list-style-type: none"> TTS300 TGS230 | ALL | Replaces Inverter and SCR Heatsink Manifold O-rings and fasteners |
| O-RINGS, SCR COOLING MANIFOLD | 100310-1 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | ALL | Replaces Inverter and SCR Heatsink Manifold O-rings and fasteners |

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------------------------|----------|--|--------------------------------|---|
| (6) SCR COOLING MANIFOLD TEMP SENSOR | 100268 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 | -N, -P, -A, -C, -D, -E, -F, -G | Includes washers Will not work in Rev H compressors |

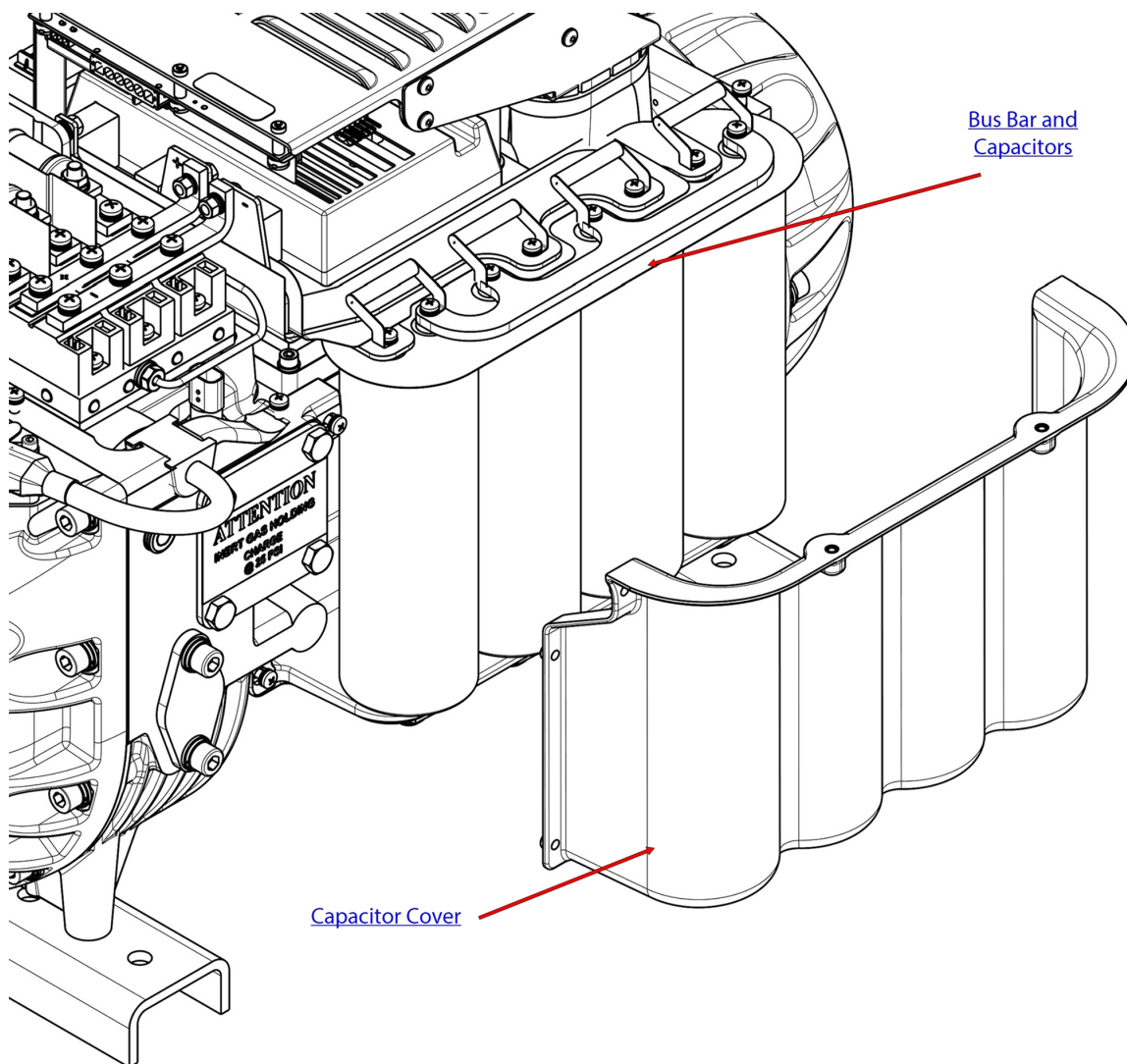
NOTE

The SCR Temperature Sensor is not required on Revision H compressors.

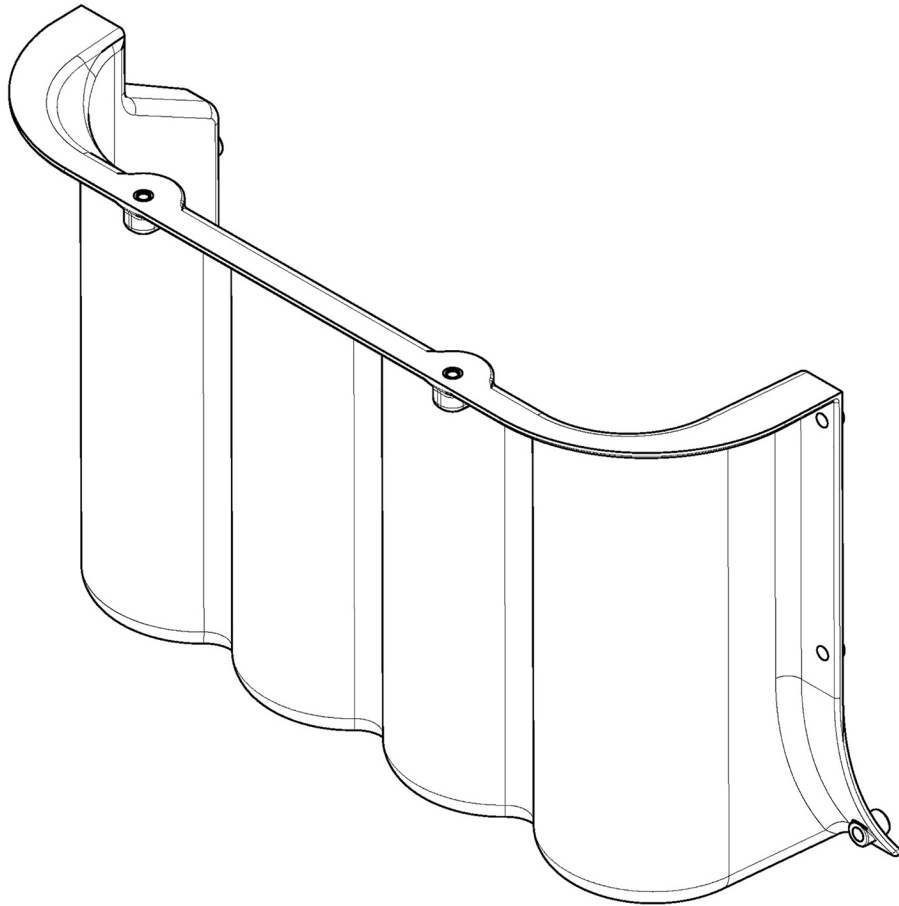
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Chapter 5.0 Capacitor Side

This section details the spare part kits that are visible from the discharge side of the compressor underneath the Capacitor and Mains Input cover.

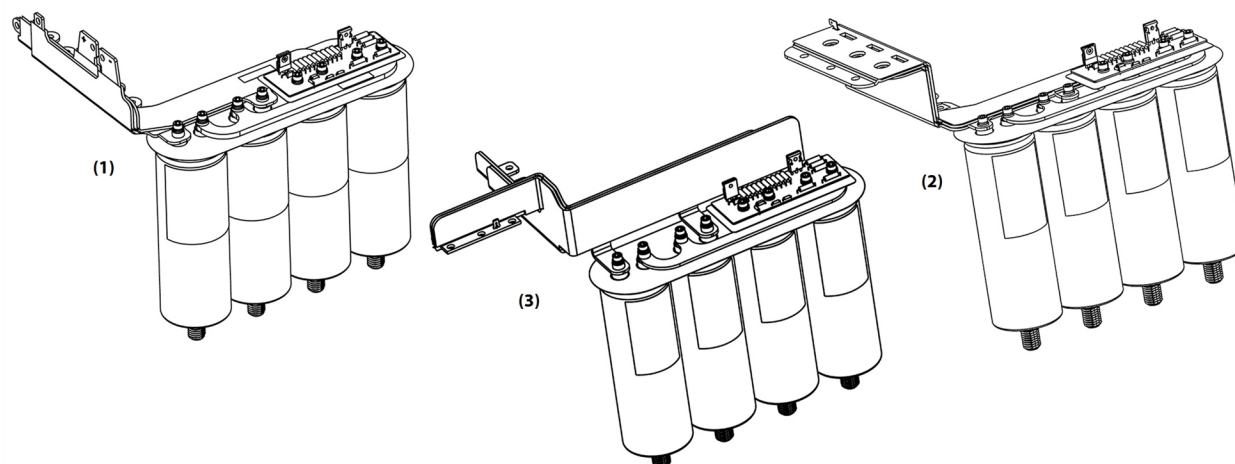


5.1 Capacitor Cover



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------|----------|---|-----------|---|
| CAPACITOR COVER, BLACK | 100053-3 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TTH375 | ALL | Includes fasteners |
| CAPACITOR COVER, GREEN | 100053-6 | <ul style="list-style-type: none"> TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 TGH285 | ALL | Includes fasteners |
| COVERS SCREW, M5, STAINLESS | 100252 | ALL COMPRESSORS | ALL | Replaces fasteners for all four (4) covers (24 fasteners) |

5.2 Bus Bar and Capacitor Assembly

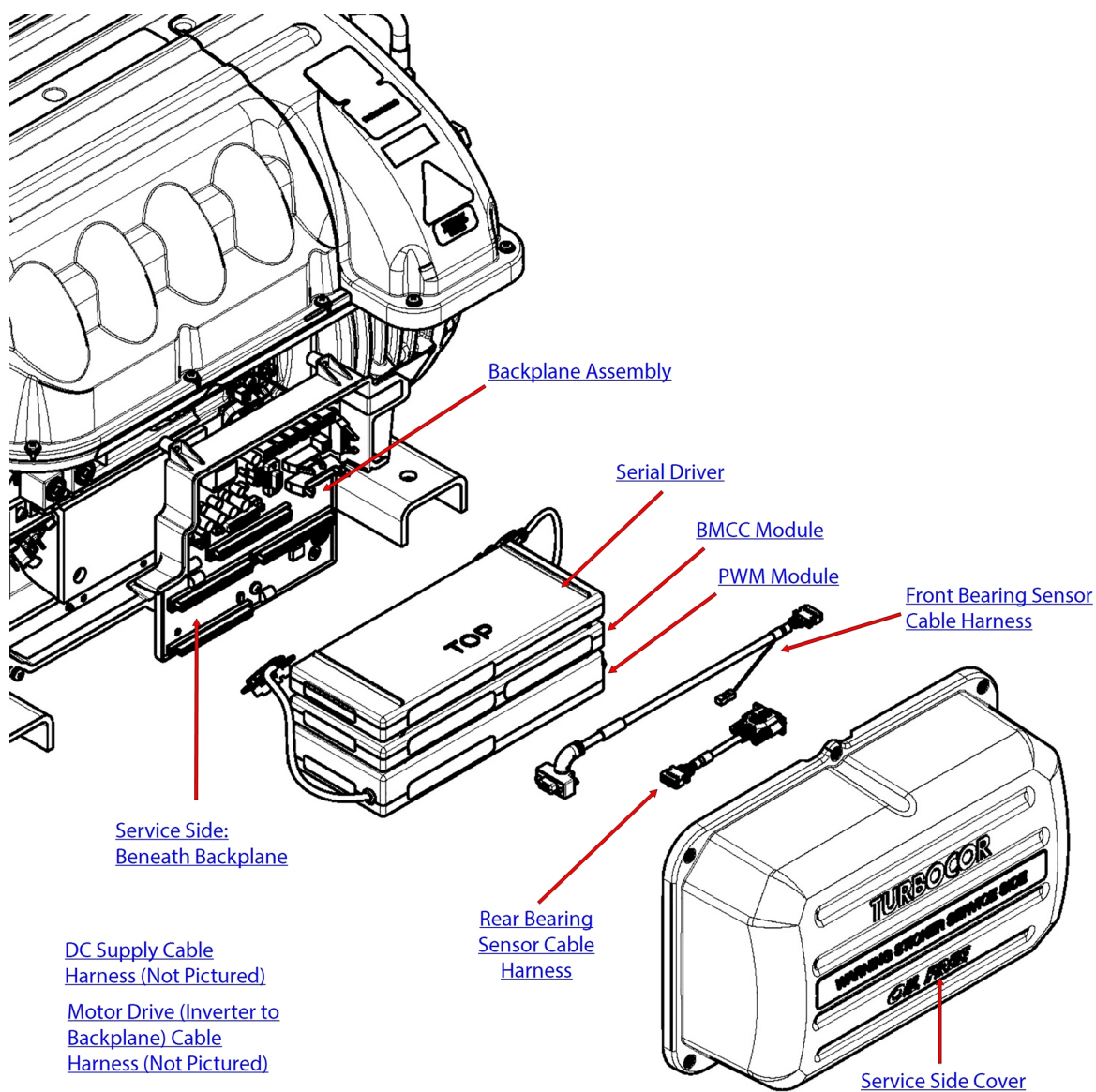


| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---|-----------|---|--------------------------------|--|
| (1) DC CAPACITOR ASSY, 6800 μ F (460V) | 100044-7 | <ul style="list-style-type: none"> TTS300/TGS230 | -N, -P, -C, -D, -E, -F, -G, -H | For use with 460V models, includes nylon nuts |
| (1) DC CAPACITOR ASSY, 4700 μ F (575V) | 100044-8 | <ul style="list-style-type: none"> TTS300/TGS230 | -N, -P, -C, -D, -E, -F, -G, -H | For use with 575V models, includes nylon nuts |
| (1) DC CAPACITOR ASSY, 9000 μ F (380/400V) | 100044-6 | <ul style="list-style-type: none"> TTS300/TGS230 | -N, -P, -C, -D, -E, -F, -G, -H | For use with 380/400V models, includes nylon nuts |
| (2) DC CAPACITOR ASSY, 11000 μ F (380/400V) | 100044-11 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F | For use with 380V and 400V models, includes nylon nuts |
| (3) DC CAPACITOR ASSY, 11000 μ F (380/400V) | 100044-14 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | For use with 380V and 400V models, includes nylon nuts |
| (2) DC CAPACITOR ASSY, 6800 μ F (575V) | 100044-13 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -C, -E, -F | For use with 575V models, includes nylon nuts |
| (3) DC CAPACITOR ASSY, 6800 μ F (575V) | 100044-16 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | For use with 575V models, includes nylon nuts |
| (2) DC CAPACITOR ASSY, 8500 μ F (460V) | 100044-12 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -P, -A, -C, -E, -F | For use with 460V models, includes nylon nuts |
| (3) DC CAPACITOR ASSY, 8500 μ F (460V) | 100044-15 | <ul style="list-style-type: none"> TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 | -H | For use with 460V models, includes nylon nuts |

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Chapter 6.0 Service Side

This section details the spare part kits available on the service side of the compressor underneath the Service Side cover.

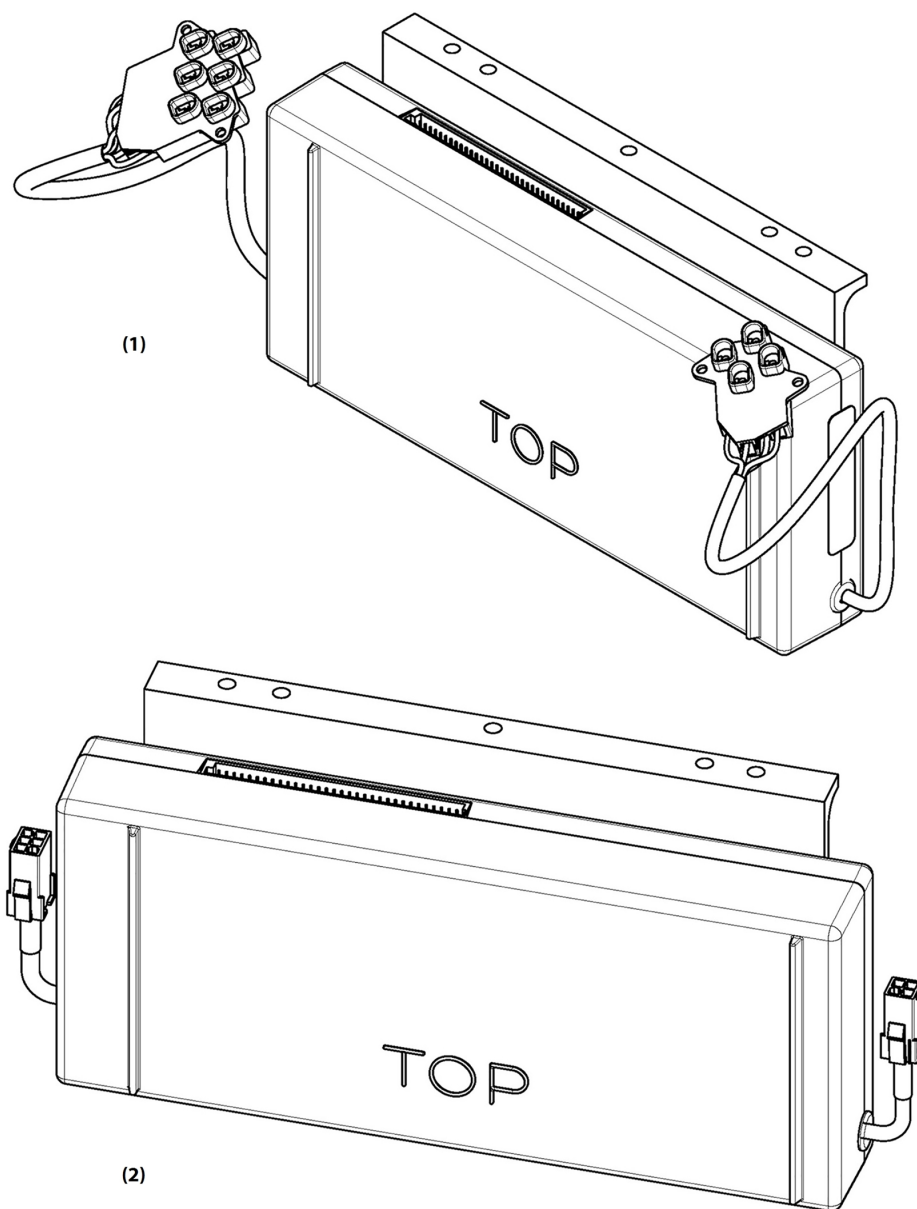


6.1 Cover



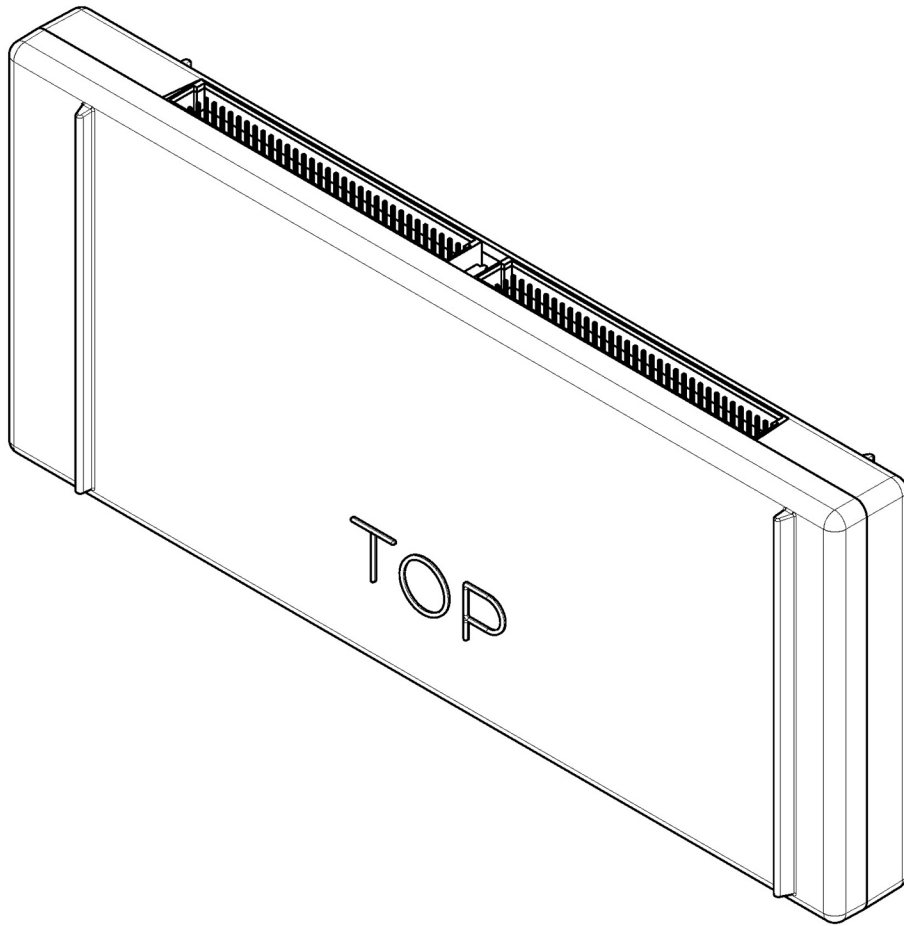
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------|----------|---|-----------|---|
| SERVICE SIDE COVER , BLACK | 100055-3 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 TTH375 | ALL | Includes fasteners |
| SERVICE SIDE COVER, GREEN | 100055-6 | <ul style="list-style-type: none"> TGS230/TGS310/TGS380/TGS390/TGS490/TGS520 TGH285 | ALL | Includes fasteners |
| COVERS SCREW, M5, STAINLESS | 100252 | ALL COMPRESSORS | ALL | Replaces fasteners for all four (4) covers (24 fasteners) |

6.2 Pulse Width Modulation (PWM) Module



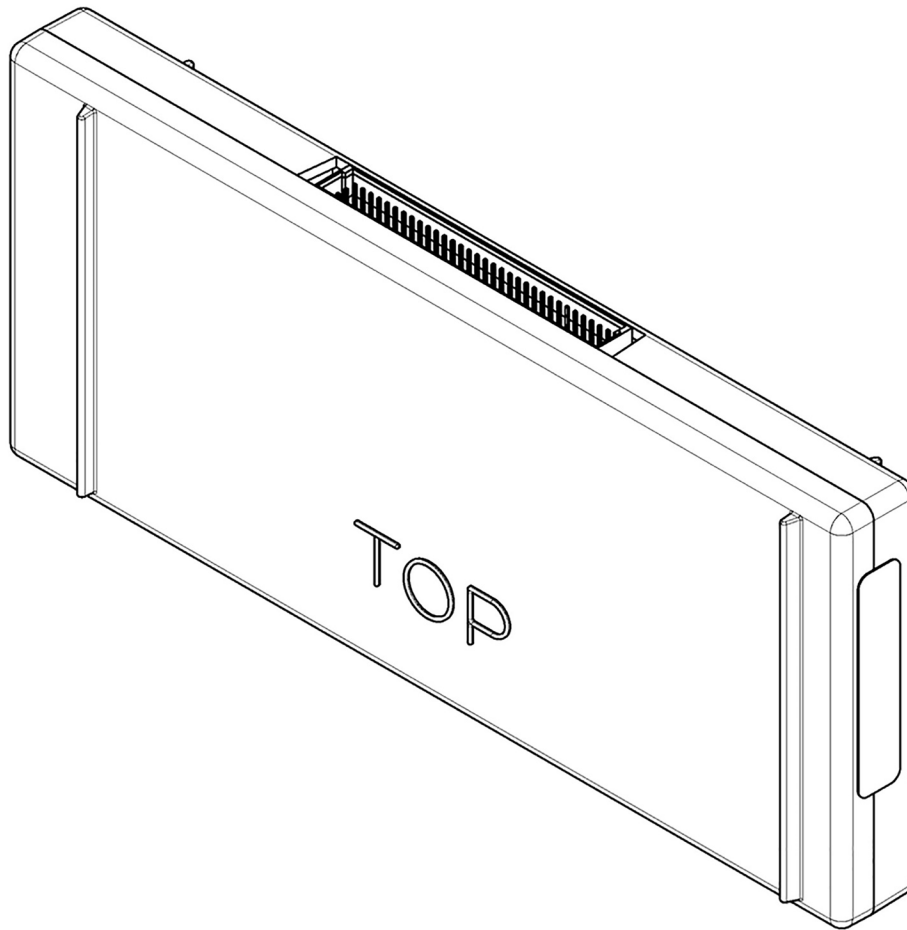
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------|----------|-----------------|------------------------|--------------------|
| (1) BEARING PWM | 100022 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E | Includes fasteners |
| (2) BEARING PWM | 100372 | ALL COMPRESSORS | -F, -G, -H | Includes fasteners |

6.3 Bearing Motor Compressor Control (BMCC) Module



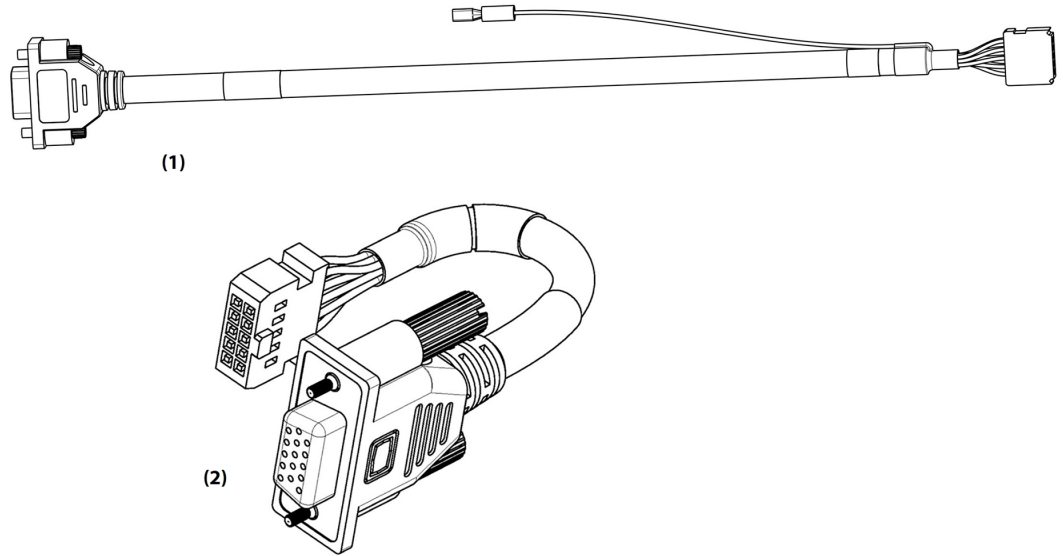
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---|------------------------|-----------------|-----------|---|
| BEARING MOTOR COMPRESSOR CONTROL (BMCC) | 201055- xxxxxxx-xxx | ALL COMPRESSORS | ALL | Specific compressor software part number used in place of -xxxxxxx-xxx, Contains BMCC with compressor specific software only |

6.4 Serial Driver



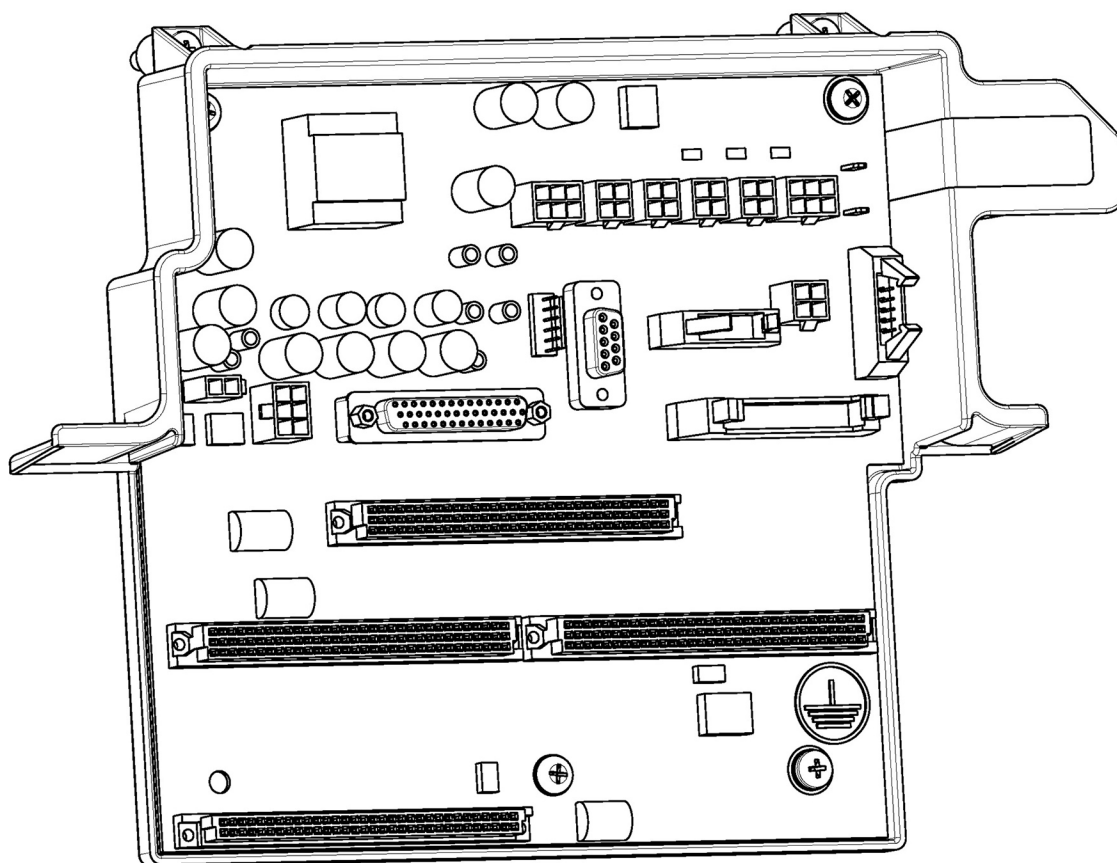
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---------------|----------|-----------------|-----------|--------------------|
| SERIAL DRIVER | 100292 | ALL COMPRESSORS | ALL | Serial Driver Only |

6.5 Rear/ Front Bearing Sensor Cable Harness



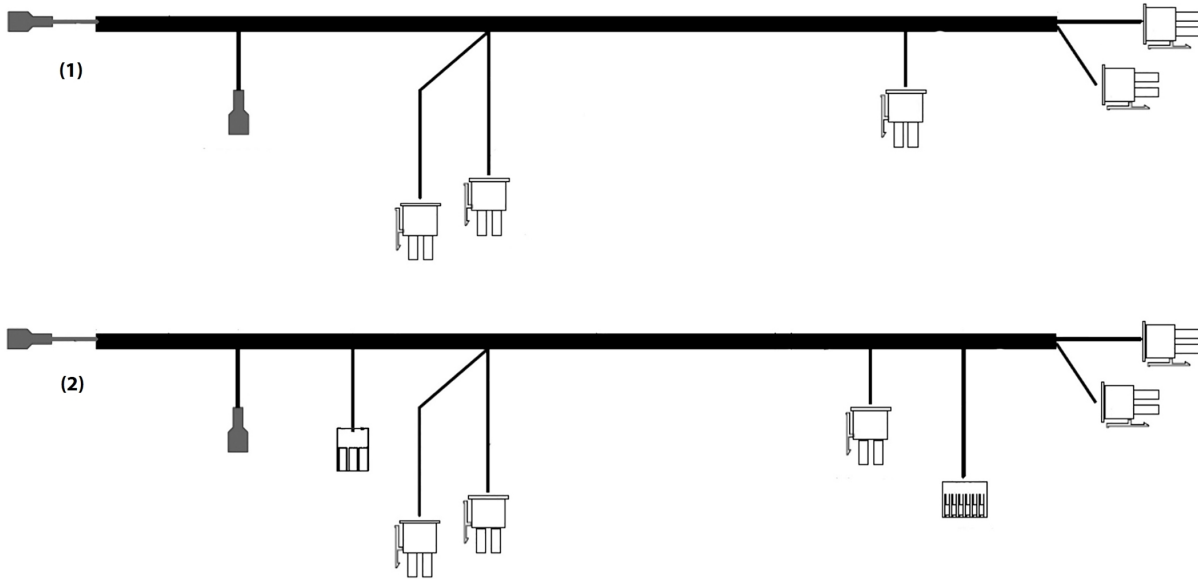
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--|----------|-----------------|-----------|------------|
| (1) REAR BEARING SENSOR CABLE HARNESS | 100065 | ALL COMPRESSORS | ALL | Cable Only |
| (2) FRONT BEARING SENSOR CABLE HARNESS | 100064 | ALL COMPRESSORS | ALL | Cable Only |

6.6 Backplane Assembly



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------|----------|-----------------|-----------|-----------------------------|
| BACKPLANE ASSEMBLY | 100021-1 | ALL COMPRESSORS | ALL | Includes screws and washers |

6.7 DC Supply Cable Harness



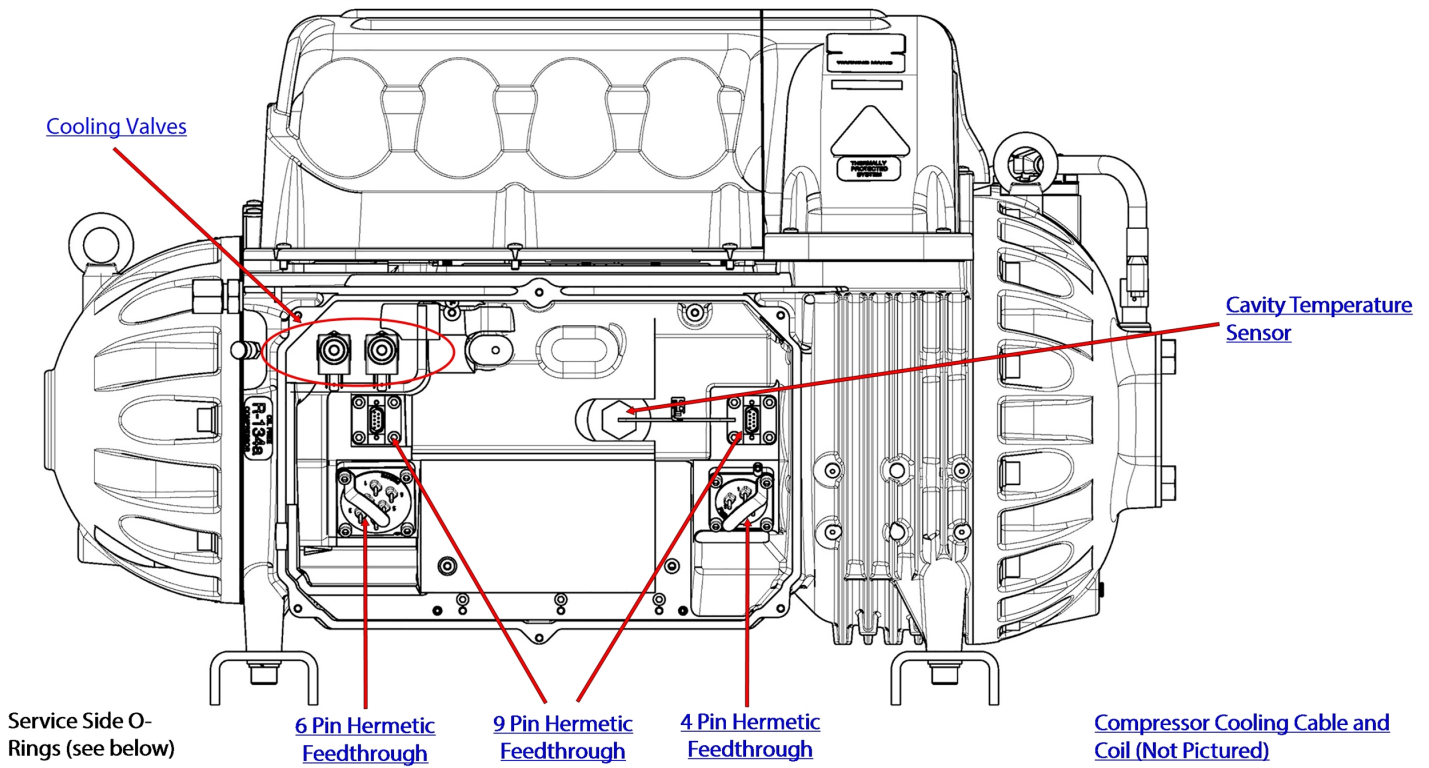
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------|----------|-----------------|------------------------|--|
| (1) DC SUPPLY CABLE HARNESS | 100323 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E | Cable Only |
| (2) DC SUPPLY CABLE HARNESS | 100323-2 | ALL COMPRESSORS | -F, -G, -H | Cable Only Soft Start Temperature Sensor is only required in CC Firmware Revision 4.x and later |

6.8 Motor Drive (Inverter to Backplane) Cable Harness



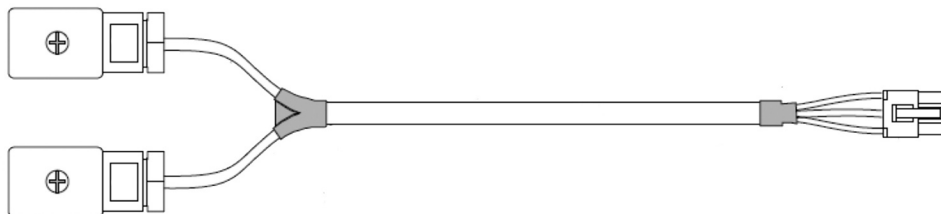
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---------------------------|----------|-----------------|-----------|------------|
| MOTOR DRIVE CABLE HARNESS | 100061 | ALL COMPRESSORS | ALL | Cable Only |

6.9 Service Side Beneath Backplane



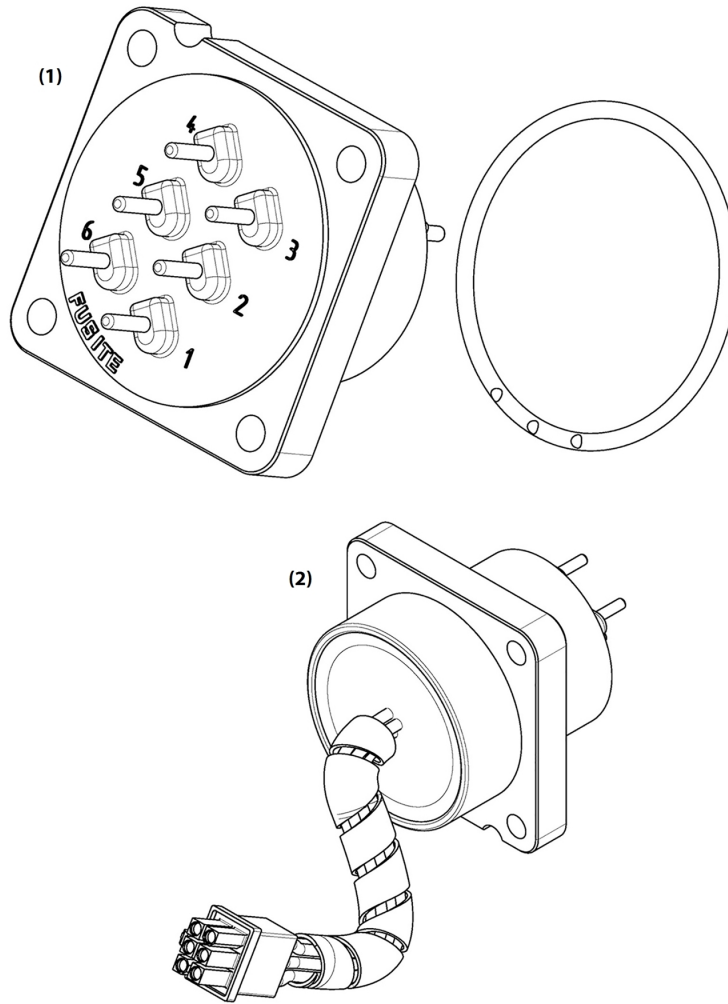
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------------|----------|-----------------|-----------|--|
| O-RINGS, SERVICE SIDE, SMALL | 100052-2 | ALL COMPRESSORS | ALL | Includes O-rings for cooling valves, 6 Pin, 4 Pin, and 9 Pin Hermetic Feedthroughs |
| O-RING, SOLENOID ORIFICE | 100242 | ALL COMPRESSORS | ALL | Only replaces cooling valve O-rings |

6.10 Compressor Cooling Cable and Coil Assembly



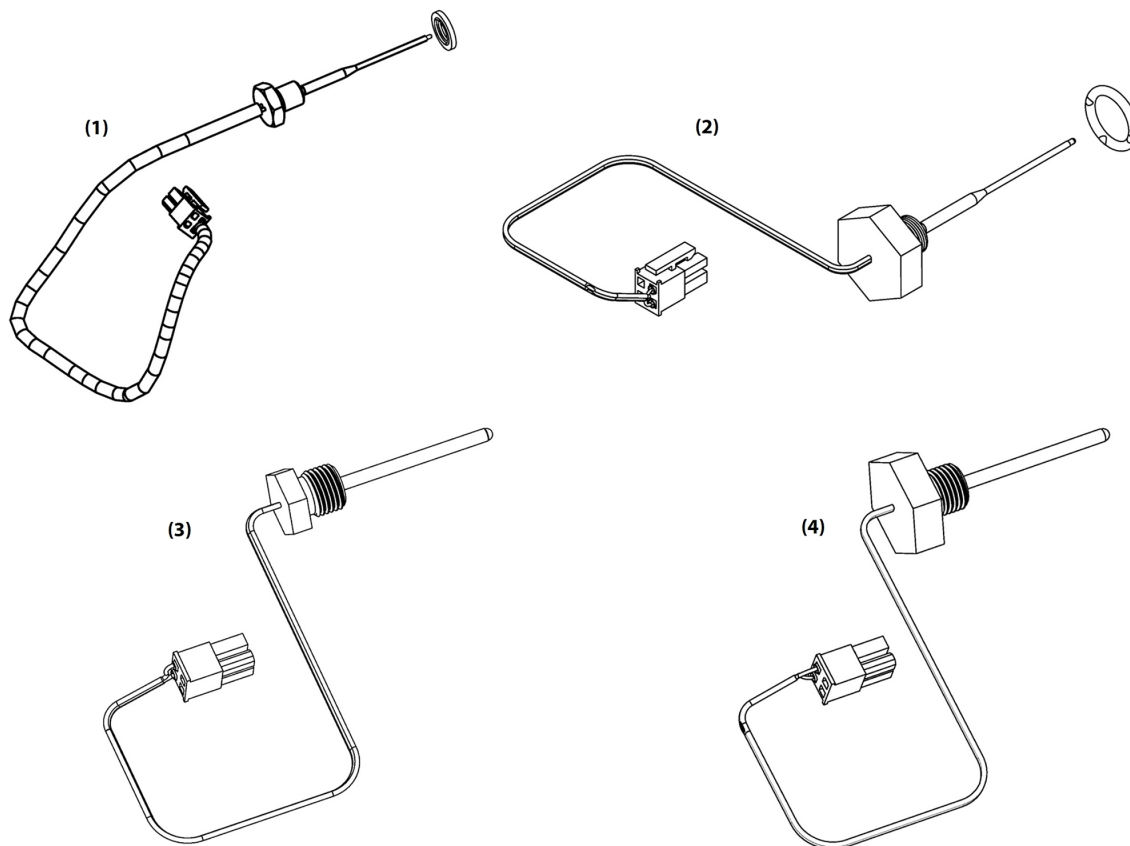
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------------------|----------|-----------------|-----------|-------------------------|
| COMPRESSOR COOLING CABLE/COIL ASSY | 100063-1 | ALL COMPRESSORS | ALL | Includes nut and washer |

6.11 6 Pin Hermetic Feedthrough



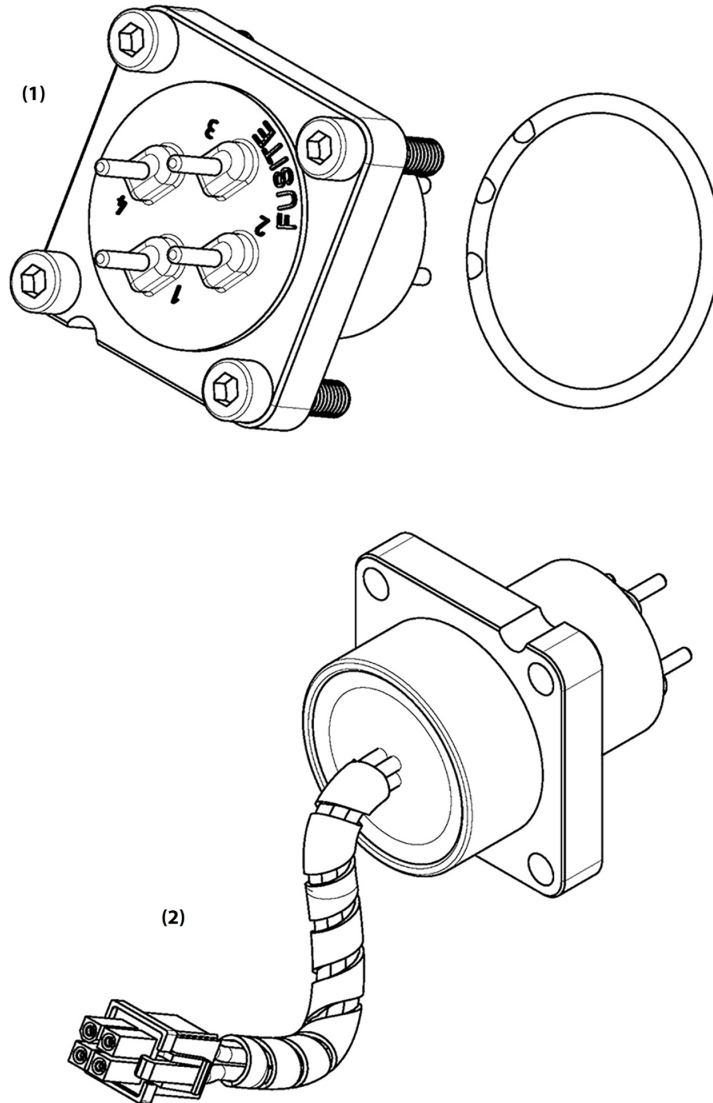
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------|----------|-----------------|------------------------|-------------------------------|
| (1) FEEDTHROUGH, 6 PIN | 100294-1 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E | Includes O-ring and fasteners |
| (2) FEEDTHROUGH, 6 PIN | 100371 | ALL COMPRESSORS | -F, -G, -H | Includes O-ring and fasteners |

6.12 Cavity Temperature Sensor/Motor Rotor



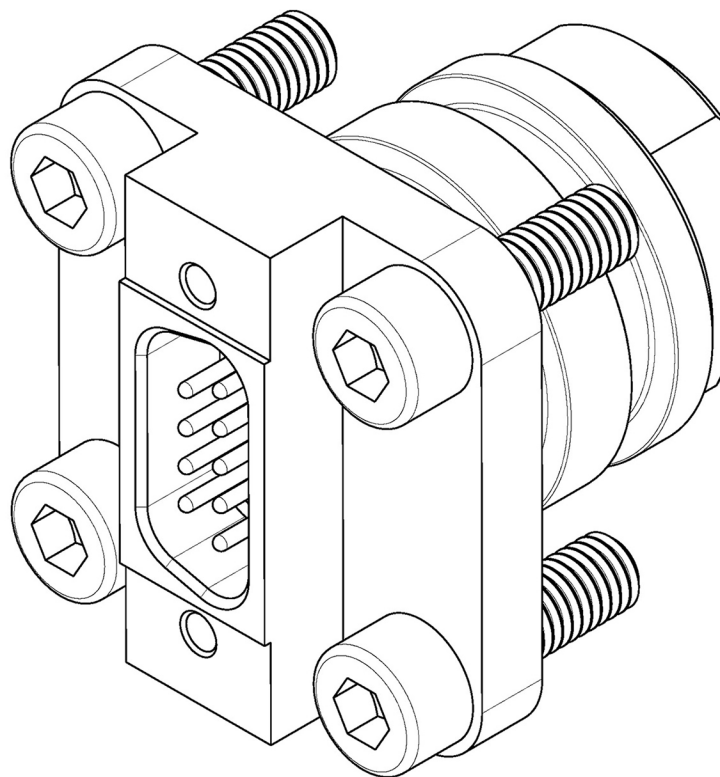
| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------|----------|--|--------------------|---|
| (1) CAVITY TEMP SENSOR | 100034 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400 | -N, -P, -A, -C, -D | Do not use if compressor PN ends in "-3" Includes Sensor and Seal (16mm sensor head) |
| (2) CAVITY TEMP SENSOR | 100196-3 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450 TGS230/TGS310/TGS380/TGS390/TGS490 TTH375/TGH285 | -E, -F, -G, -H | Also use if compressor part number ends in "-3", Includes O-ring (15/16" sensor head) |
| (3) CAVITY TEMP SENSOR | 100034-1 | <ul style="list-style-type: none"> TTS500 | -A | Do not use if compressor PN ends in "-3", Includes O-ring (16mm sensor head) |
| (4) CAVITY TEMP SENSOR | 100196-4 | <ul style="list-style-type: none"> TTS500/TTS700 TGS520 | -E, -F, -G, -H | Also use if compressor part number ends in "-3", includes O-ring (15/16" sensor head) |

6.13 4-Pin Hermetic Feedthrough



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------|----------|-----------------|------------------------|-------------------------------|
| (1) FEEDTHROUGH, 4 PIN | 100293-1 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E | Includes O-ring and fasteners |
| (2) FEEDTHROUGH, 4 PIN | 100370 | ALL COMPRESSORS | -F, -G, -H | Includes O-ring and fasteners |

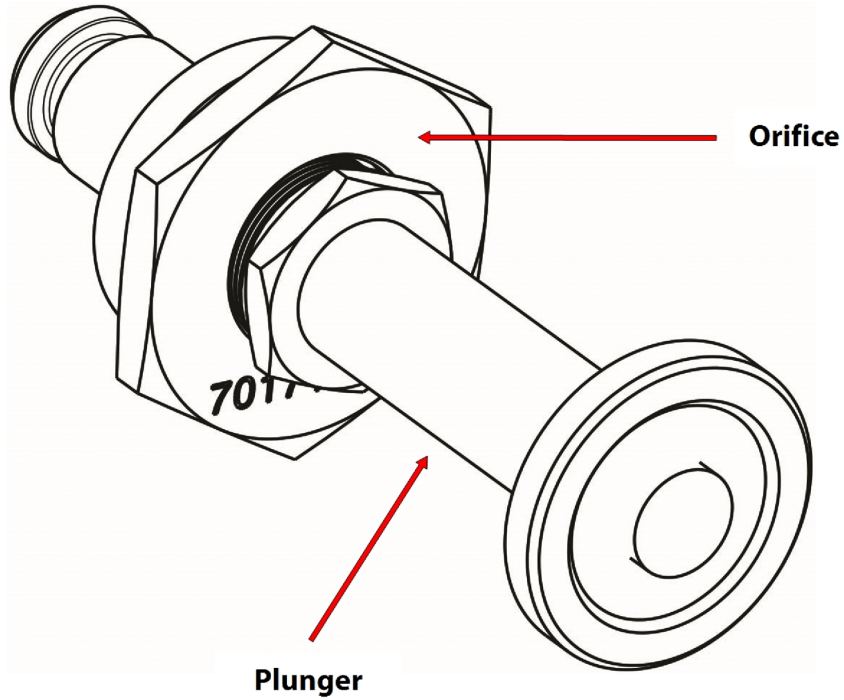
6.14 9-Pin Hermetic Feedthrough



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------|----------|-----------------|-----------|-------------------------------|
| FEEDTHROUGH, 9 PIN | 100295-1 | ALL COMPRESSORS | ALL | Includes O-ring and fasteners |

6.15 Cooling Valves Assembly

Each Cooling Valve Assembly spare part kit contains two Plunger Assemblies, two Orifices for the Inverter and Motor Cavity ports, and the O-rings required to replace them. The table on the following page is organized so that each row contains all of the related cooling valve kits. Plunger Assembly kits include O-rings, which cannot be ordered separately. Orifice kits do not include O-rings therefore they must be purchased separately.

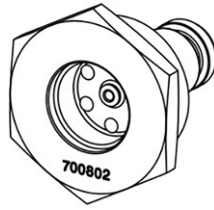


6.16 Cooling Valves

Refer to the table below to select the proper Cooling Valve Assembly. Match the model and voltage of the compressor to determine the appropriate part number.

| COOLING VALVE ASSEMBLY | | | | |
|------------------------|--------------------|----------|----------|----------|
| COMPRESSOR MODELS | COMPRESSOR VOLTAGE | | | |
| | 380V | 400V | 460V | 575V |
| TGS230 | 100281-2 | 100281-2 | 100281-2 | 100281-2 |
| TGH285 | 100281-5 | 100281-5 | 100281-5 | 100281-5 |
| TTS300 | 100281-2 | 100281-2 | 100281-2 | 100281-2 |
| TGS310 | 100281-1 | 100281-1 | 100281-1 | 100281-1 |
| TTS350 | 100281-5 | 100281-5 | 100281-5 | 100281-5 |
| TTH375 | 100281-5 | 100281-5 | 100281-5 | 100281-5 |
| TGS380 | 100281-5 | 100281-5 | 100281-5 | 100281-5 |
| TGS390 | 100281-4 | 100281-4 | 100281-4 | 100281-1 |
| TTS400 | 100281-4 | 100281-4 | 100281-4 | 100281-1 |
| TTS450 | 100281-5 | 100281-5 | 100281-5 | 100281-5 |
| TGS490 | 100281-5 | 100281-5 | 100281-5 | 100281-5 |
| TTS500 | N/A | 100281-3 | 100281-3 | 100281-3 |
| TGS520 | 100281-3 | 100281-3 | 100281-3 | 100281-3 |
| TTS700 | 100281-3 | 100281-3 | 100281-3 | 100281-3 |

6.16.1 Orifice Body



Refer to the table below to select the proper orifice. Match the model and voltage of the compressor to determine the appropriate part number. You will also need to purchase an O-ring set for each orifice kit. The part number for the O-ring set is 100242.

| ORIFICE BODY | | | | |
|---|--------------------|--------|--------|--------|
| COMPRESSOR MODELS | COMPRESSOR VOLTAGE | | | |
| | 380V | 400V | 460V | 575V |
| TGS230 (Motor & Electronics) | 100236 | 100236 | 100236 | 100236 |
| TGH285 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TGH285 (Electronics) | 100239 | 100239 | 100239 | 100239 |
| TTS300 (Motor & Electronics) | 100236 | 100236 | 100236 | 100236 |
| TGS310 (Motor) | 100239 | 100239 | 100239 | 100239 |
| TGS310 (Electronics) | 100240 | 100240 | 100240 | 100240 |
| TTS350 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TTS350 (Electronics) | 100239 | 100239 | 100239 | 100239 |
| TTH375 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TTH375 (Electronics) | 100239 | 100239 | 100239 | 100239 |
| TGS380 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TGS380 (Electronics) | 100239 | 100239 | 100239 | 100239 |
| TGS390 (Motor) | 100240 | 100240 | 100240 | 100239 |
| TGS390 (Electronics) | 100240 | 100240 | 100240 | 100240 |
| TTS400 (Motor) | 100240 | 100240 | 100240 | 100239 |
| TTS400 (Electronics) | 100240 | 100240 | 100240 | 100240 |
| TTS450 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TTS450 (Electronics) | 100239 | 100239 | 100239 | 100239 |
| TGS490 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TGS490 (Electronics) | 100239 | 100239 | 100239 | 100239 |
| TTS500 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TTS500 (Electronics) | 100240 | 100240 | 100240 | 100240 |
| TGS520 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TGS520 (Electronics) | 100240 | 100240 | 100240 | 100240 |
| TTS700 (Motor) | 100238 | 100238 | 100238 | 100238 |
| TTS700 (Inverter) | 100240 | 100240 | 100240 | 100240 |

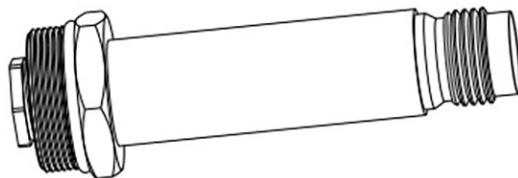
NOTE

No O-ring included in the Orifice Body kits. **Part number 100242 (O RING, SOLENOID ORIFICE) should be ordered with any orifice kit.**

The table below identifies the orifice size for each part number.

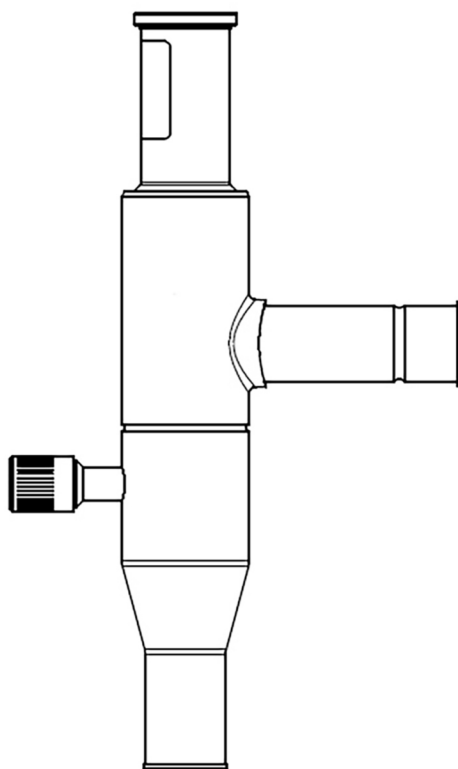
| ORIFICE SIZE | PART NO. |
|--------------|----------|
| 1.3MM | 100236 |
| 1.6MM | 100240 |
| 2.0MM | 100239 |
| 2.5MM | 100238 |

6.16.2 Plunger Assembly



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---------------------------|----------|-----------------|-----------|---|
| PLUNGER ASSY, SOLENOID | 100280 | ALL COMPRESSORS | ALL | Includes one (1) plunger with O-ring |

6.17 Pressure Regulating Valve

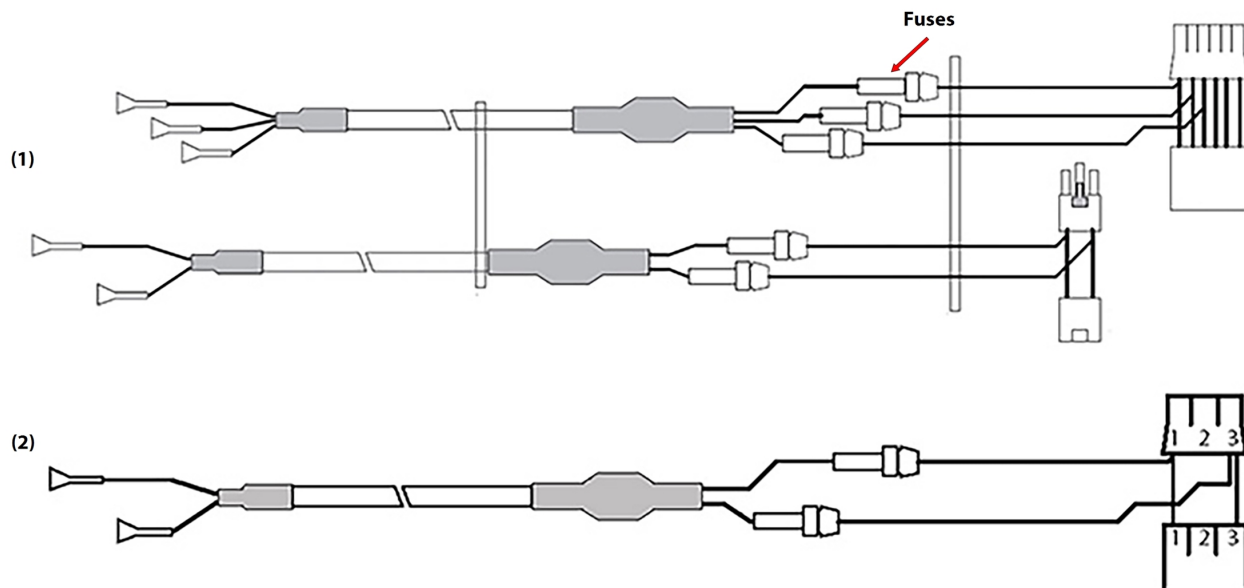


| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|---------------------------------------|----------|--|-----------|--|
| KVP 22 EVAPORATOR PRES REG M/12 | 034L0025 | <ul style="list-style-type: none"> TTS300/TGS230 MEDIUM TEMP TTH375/TGH285 MEDIUM TEMP | ALL | KVP 22, Inlet size [mm]: 22.00, Inlet connection type: SOLDER, ODF, Outlet size [mm]: 22.00, Outlet connection type: SOLDER, ODF |

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Appendix A Test Equipment

A.1 DC Bus Test Harness



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------|----------|-----------------|---|------------|
| (1) DC BUS TEST HARNESS | 100326 | ALL COMPRESSORS | -N, -P, -A, -C, -D, -E, -F, -G | Cable Only |
| (2) DC BUS TEST HARNESS | 100101 | ALL COMPRESSORS | -H (and compressors converted to the Open-Top Soft Start) | Cable Only |

A.2 Compact Inverter Tester

The Compact Inverter Tester allows users to verify the inverter is correctly functioning, and to verify the functionality of the inverter control card. Testing can be accomplished without the removal of the inverter assembly.

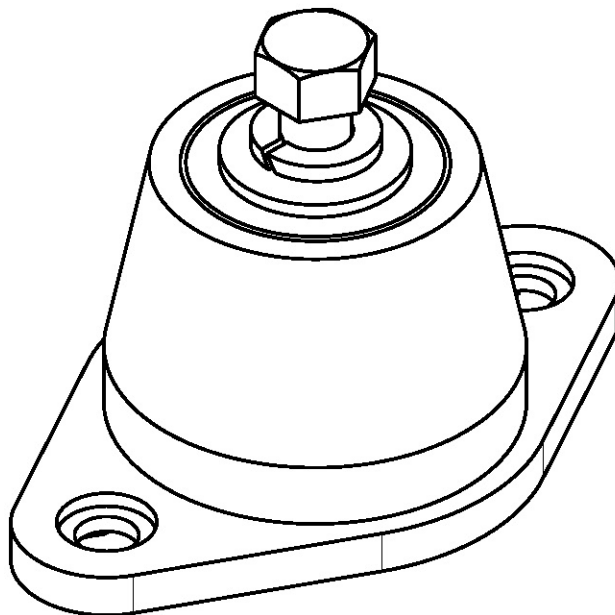
The Compact Inverter Tester provides all power necessary to interface with the inverter module during testing. This device will test the high voltage section, both top and bottom diodes of each section, and the driver board of the inverter.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------|----------|-----------------|-----------|---|
| COMPACT INVERTER TESTER | 100377 | ALL COMPRESSORS | ALL | Includes power adapter, AC plug (US and Europe), data cables, and user manual |

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Appendix B Accessory Kits

B.1 Rubber Mounts

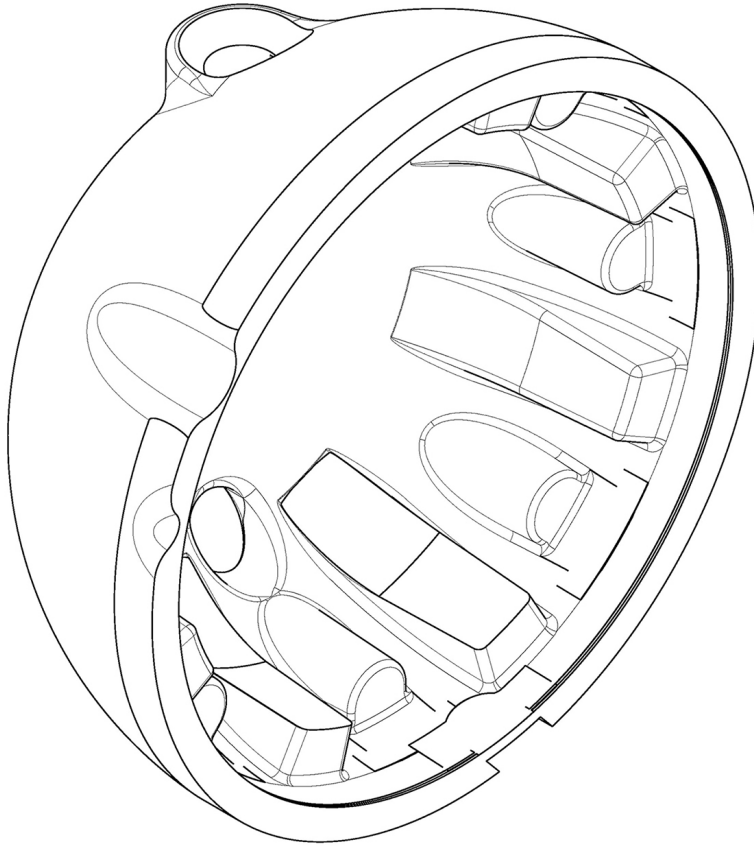


| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------|----------|-----------------|-----------|--|
| RUBBER MOUNT | 100066 | ALL COMPRESSORS | ALL | Includes fasteners and washers for mounting compressor to the mount. Rubber mount to chiller fasteners are not included. |

Neoprene mountings shall have a maximum static deflection of 0.4" (10mm). All metal surfaces shall be neoprene covered and have friction pads at the bottom. Bolt holes shall be provided on the bottom and a tapped hole and cap screw on top. Aluminum rails shall be used above the mountings under the compressor such as small vent sets to compensate for the overhang.

- Maximum Deflection: 10mm (0.4")
- Material: Neoprene Duro Meter 50
- Tightening Torque: 27± 3 Nm (20 ± 4 lb.ft)
- Capacity Range: 50 -107 kg (110 - 236 lb) EACH

B.2 End Cap Insulation



| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|--------------------|----------|-----------------|-----------|--|
| END CAP INSULATION | 100147 | ALL COMPRESSORS | ALL | Includes end cap insulation and silicone adhesive. |

The End Bell Kit insulates the compressor's end bell to prevent condensation due to the motor-cooling circuit located on this end of the compressor.

- Size: 11 1/2" diameter
- Flame Class: HF-1
- Compatible with all compressor models
- UL approved
- Material: Polystyrene Grade 54

EMI/EMC Filters

The Interference/Electromagnetic Compatibility (EMI/EMC) Filter minimizes harmonics in the higher frequency domain (typically above 1kHz). In order for the compressor to be CE-compliant, it should be located between the disconnect switch and the line reactor.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|----------------------------|----------|-----------------|-----------|-------------|
| EMI/EMC FILTER 322A, CE | 901866 | ALL COMPRESSORS | ALL | Filter only |

Specifications

Approved to UL 1283

Max leakage current each line to ground:

- 90mA @ 250VAC 60Hz
- 180mA @ 480VAC 60Hz

Designed to comply to EN 133200. CSA 22.2 No. 8

Hi Pot (1 Min)

L/G 2210VDC

L/L 2780VDC

Rated voltage: up to 480VAC max 50/60Hz (3 Phase)

Hi Pot (1 Min)

A-G, B-G, C-G (3 tests)

A-B, B-C, A-C (3 tests)

Rated current:

- 322A @ 40°C operating ambient temp

Humidity range: 0-95% R.H.

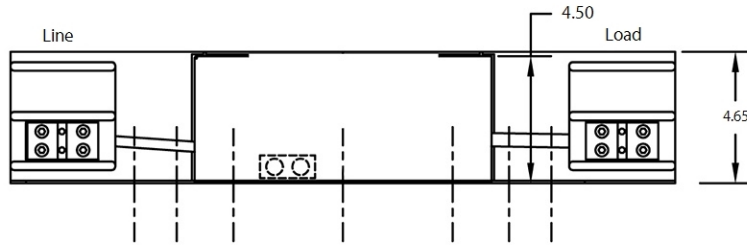
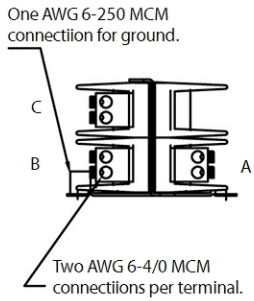
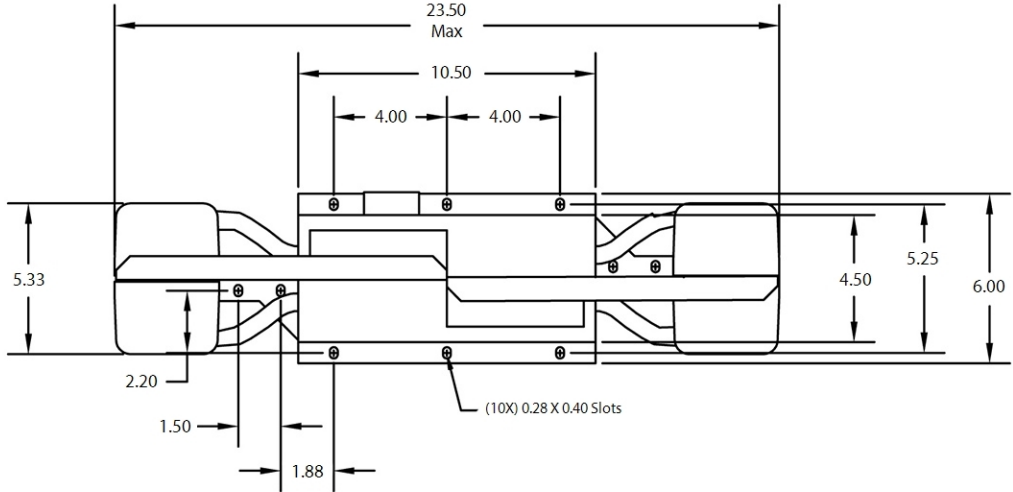
Power dissipation @ rated current: 30W max

Weight: 35 lbs max

EMI/ECI Filters (continued)

901866

NOTE: Torque wire lugs to 150 LB-IN



B.3 Line Reactors

The line reactor acts as an input buffer between the motor drive power circuits and the AC line power. Line reactors provide additional circuit impedance that improves power factor, reduces line current harmonics, and dampens the transient voltages on the power line, thereby protecting the electronic motor drive components.

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------|----------|-----------------|-----------|-------------------|
| LINE REACTOR 240A - 5% | 901832 | ALL COMPRESSORS | ALL | Line Reactor only |

Specifications

Ambient Temperature Max: 40°C (104°F)

Type: dry, air-cooled, open terminals

Flux density @ rated current: <1.6 tesla

Agency approvals:

Manufactured to UL Standard 508

UL recognized to file # E116124

CSA certified - LR86011

CE marked

Core type: high permeability silicon, non-grain-oriented (N.G.O.), laminated core

Phase/Frequency: 3-phase/ 50/60 Hz

Cooling type: air-cooled

Supply voltage: up to 480Vac (600 Max).

Q factor at rated current, 60 Hz: approx. 22

Rated current: 240A - 5%

Insulation class: Class H - 220

Inductance: 0.50mH ±10%

Dielectric strength tested @: 2.2kVac for 1 minute according to UL508

Total losses, basic current: approx. 500 W

Temp rise @ rated current: <155°C (<279°F)

Dimensions: 229H x 279W x 236D (in mm) 9H x 11W x 9.3D (in inches)

Mass: 43 kg (95 lbs)

Impregnation: dip and bake process to varnish, class H insulation standard

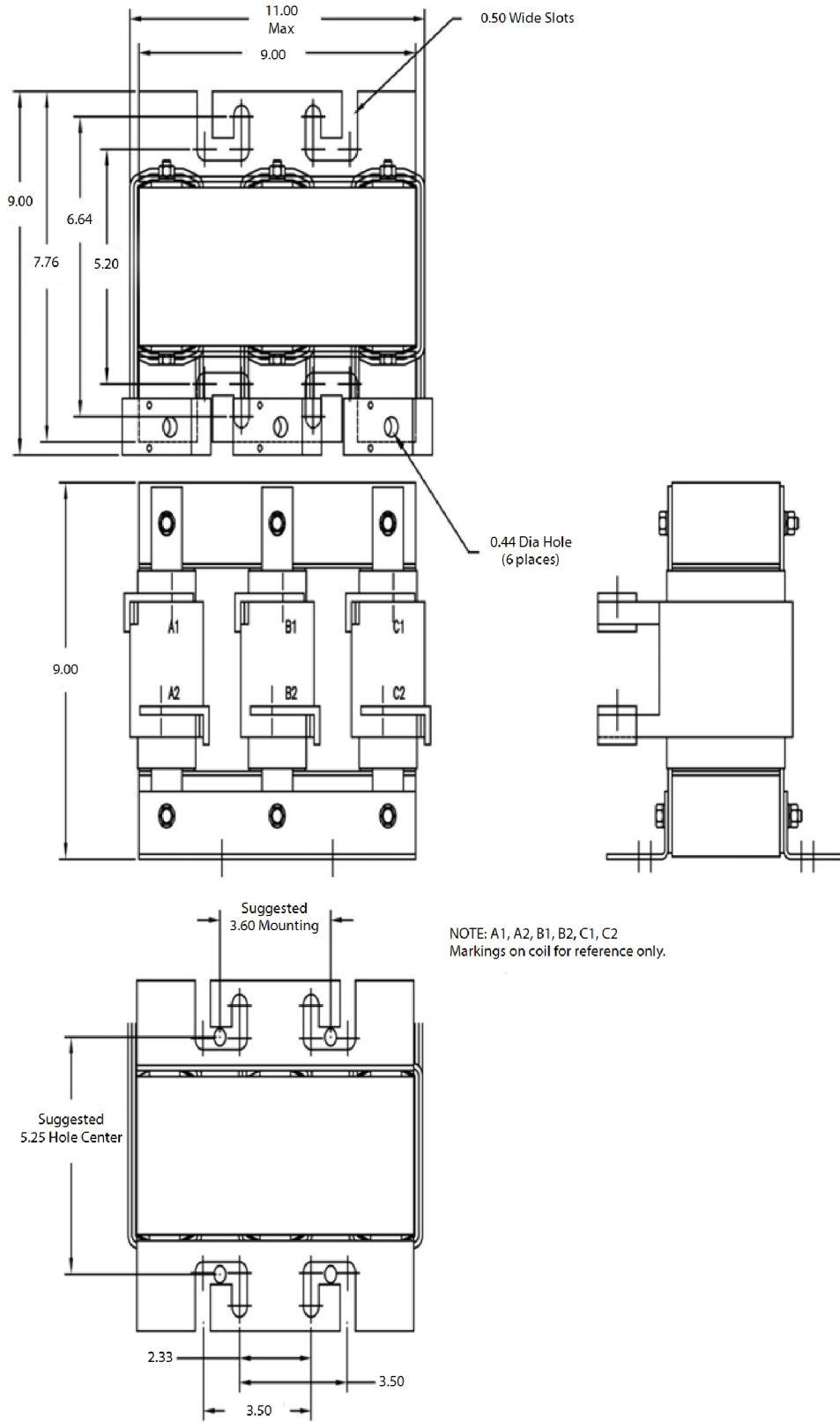
Terminals: copper bus bar, hole to suit M8 bolt

NOTE

Failure to install a line reactor will result in a higher-than-rated current draw, larger cabling requirements, and lower power factor.

Line Reactors (continued)

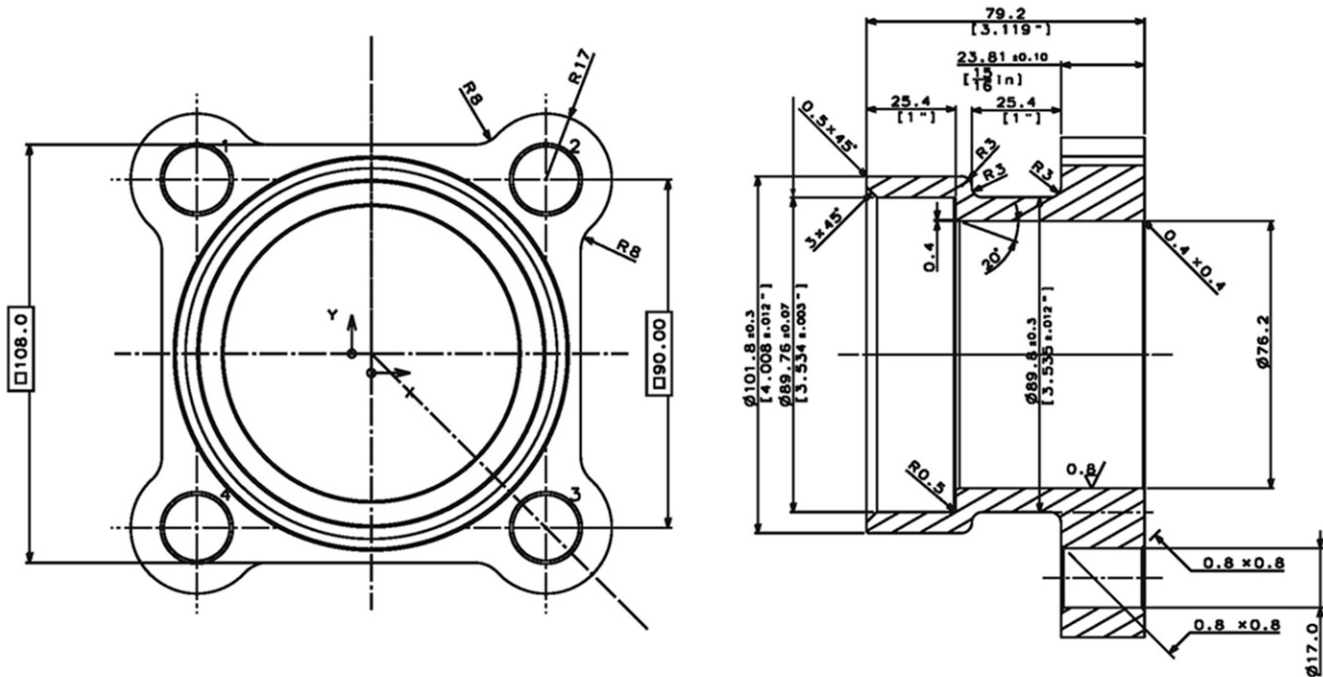
901832



B.4 Flanges

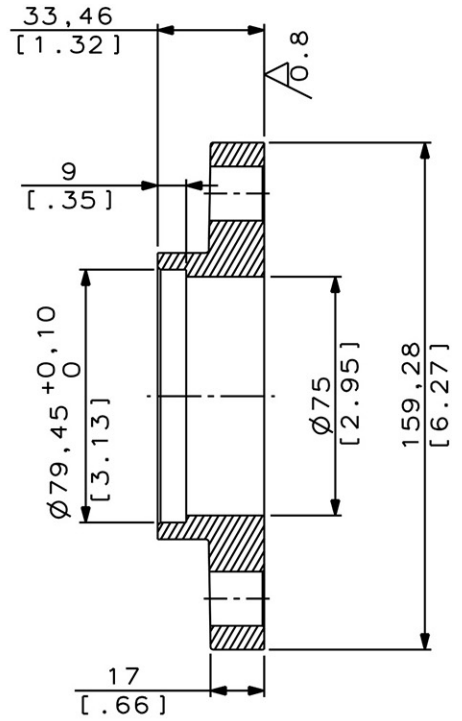
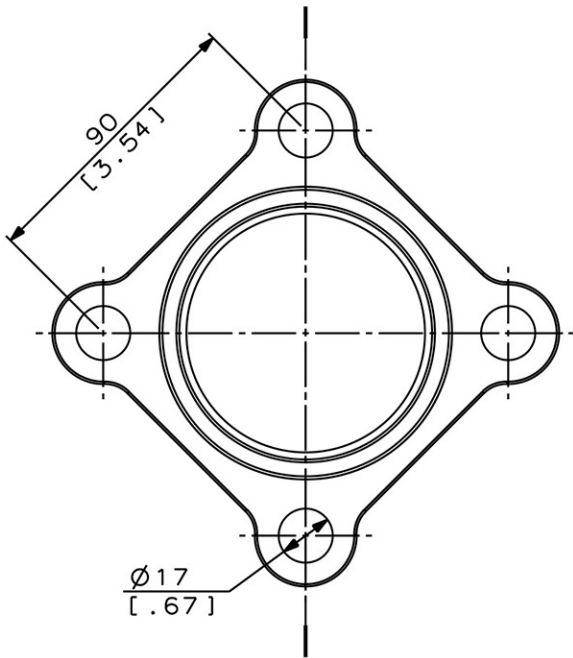
Suction Flange

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|----------|--|-----------|---|
| SUCTION FLANGE, STEEL, 3 IN | 100151-1 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450 TGS230/TGS310/TGS380/TGS390/TGS490 TTH375/TGH285 | ALL | Includes flange, fasteners, and O-ring |



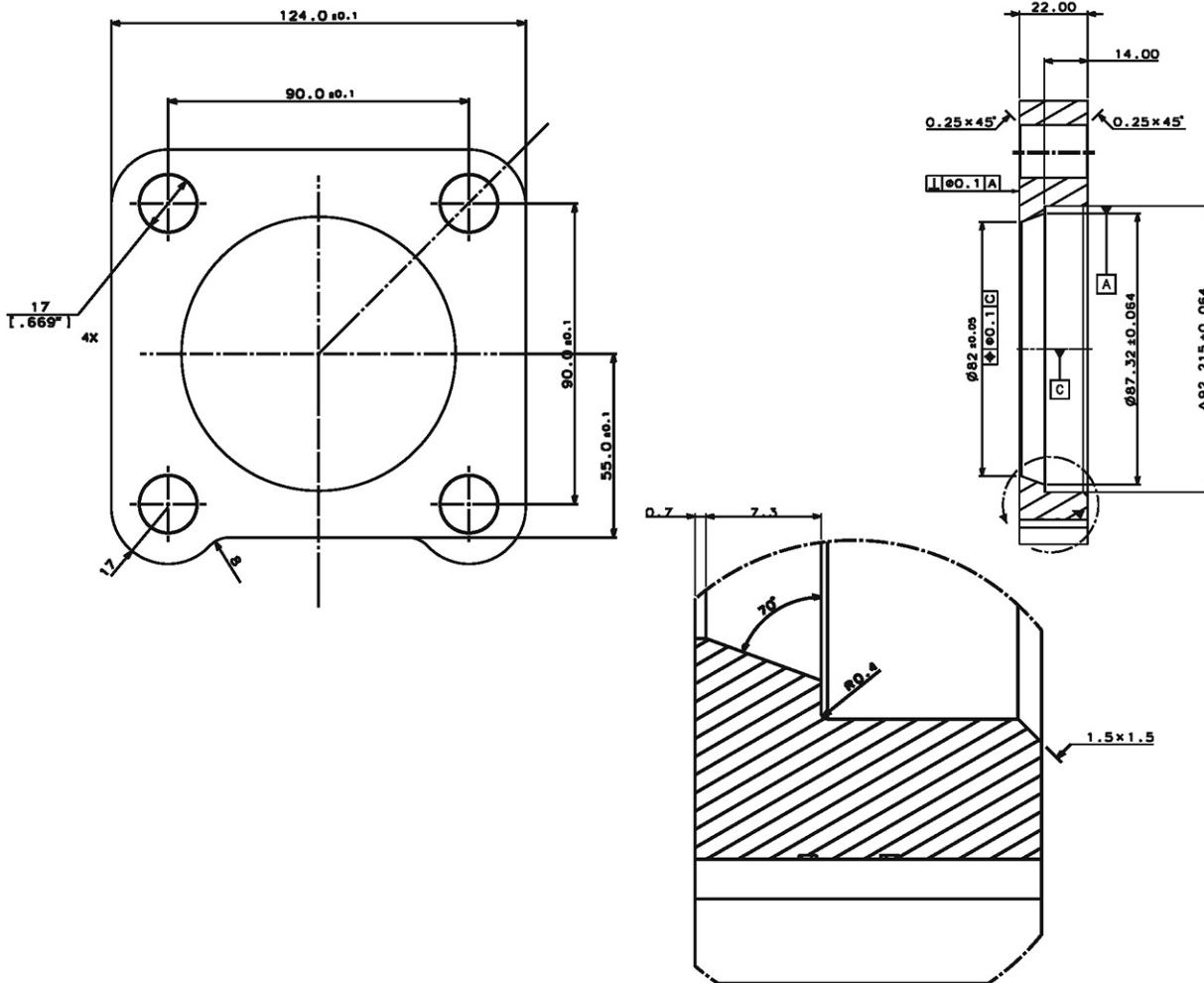
Suction Flange (continued)

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|----------|--|-----------|---|
| SUCTION FLANGE, BRASS, 3 IN | 100402-1 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450 TGS230/TGS310/TGS380/TGS390/TGS490 TTH375/TGH285 | ALL | Includes flange, fasteners, and O-ring |



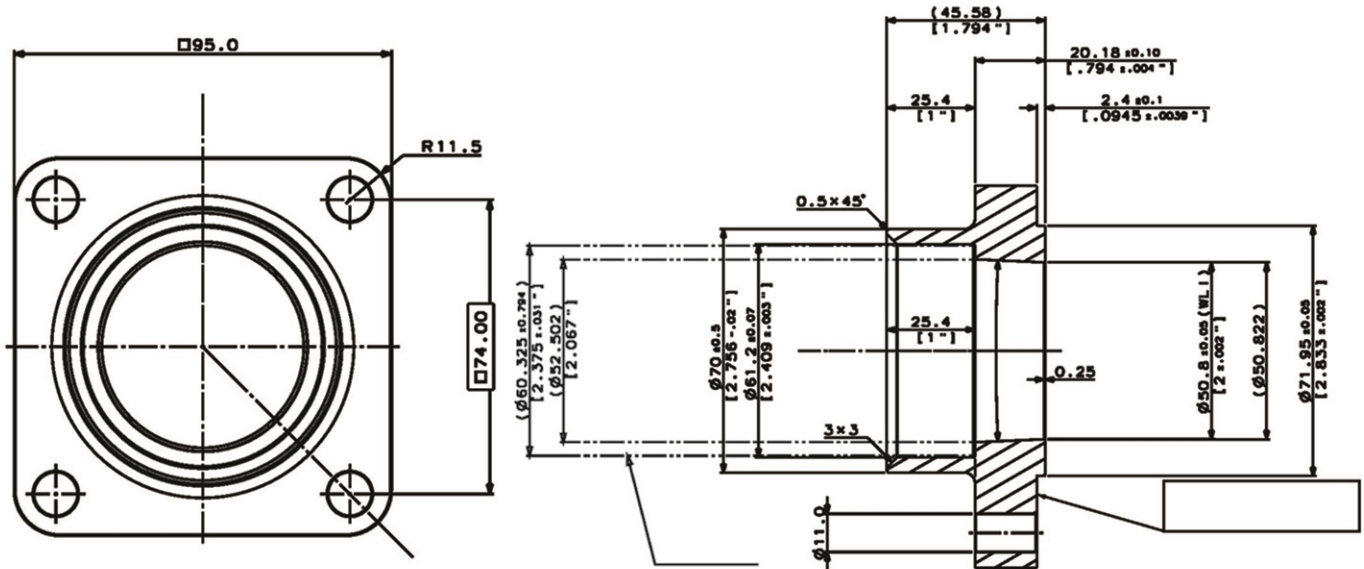
Suction Flange (continued)

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|------------------------------------|----------|---|-----------|--|
| SUCTION FLANGE, BRASS, 3-5/8 IN | 100378 | <ul style="list-style-type: none"> TTS500/TTS700 TGS520 | ALL | Includes flange, fasteners, and O-ring |



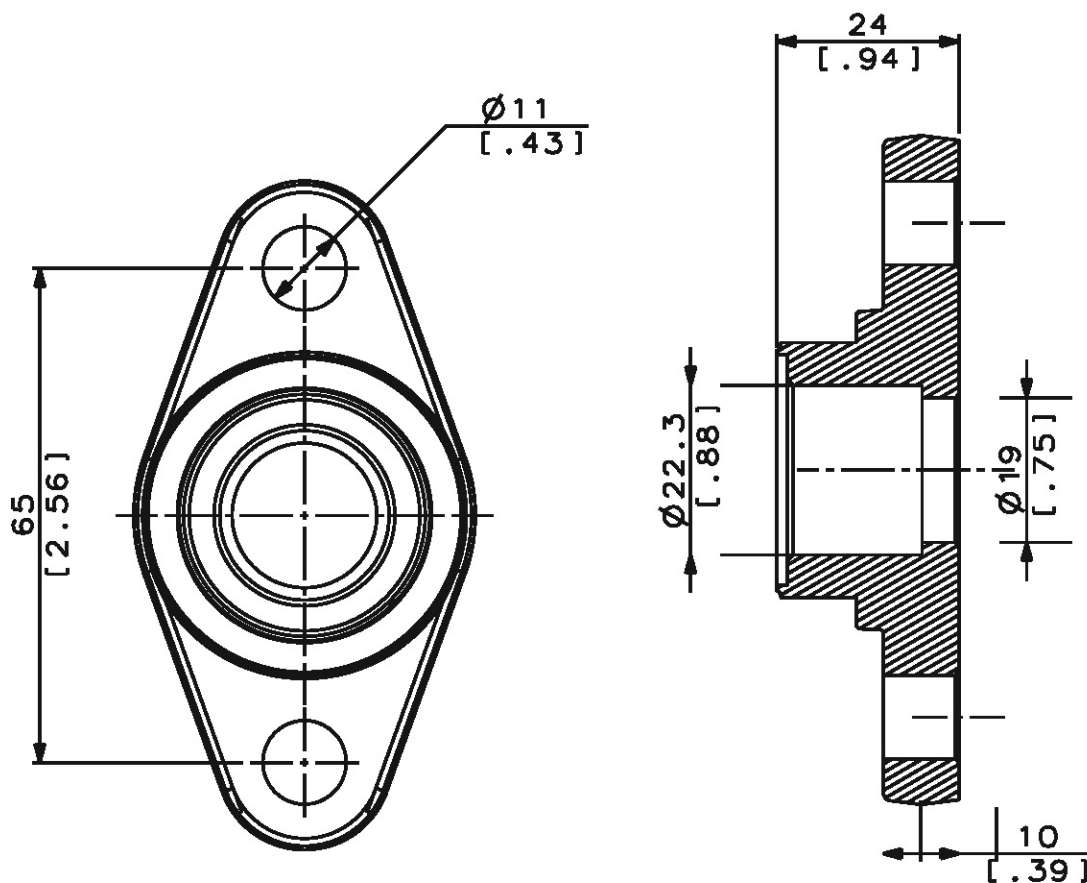
Discharge Flange (continued)

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-----------------------------------|----------|---|-----------|--|
| DISCHARGE FLANGE, STEEL, 2-1/8 IN | 100153-1 | <ul style="list-style-type: none"> TTS300/TTS350/TTS400/TTS450 TGS230/TGS310/TGS380/TGS390 TTH375/TGH285 | ALL | Includes flange, fasteners, and O-ring |



Economizer Flange

| DESCRIPTION | PART NO. | APPLIES TO | MAJOR REV | COMMENT |
|-------------------------------------|----------|--|-----------|--|
| ECONOMIZER FLANGE, BRASS, 7/8 IN | 100400 | <ul style="list-style-type: none"> TTS300/TG230 | ALL | Includes flange, fasteners, and O-ring |



Appendix C Obsolete Kit Reference

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|--|---|--|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100020 | SOFT START | TT300 SIE | Kit no longer supported | |
| 100020-1 | SOFT START (460V) | All 460V models | 100020-19 | Refer to 4.14 Soft Start Assembly for the proper replacement kit |
| 100020-2 | SOFT START (575V) | All 575V models | | |
| 100020-3 | SOFT START (400V) | All 400V models | | |
| 100020-4 | SOFT START (380V) | All 380V models | | |
| 100020-6 | SOFT START, REINFORCED UPGRADE (400V) | All reinforced 400V models | | |
| 100020-7 | SOFT START, REINFORCED UPGRADE (460V) | All reinforced 460V models | 100020-20 | |
| 100021 | BACKPLANE ASSY | TT300 SIE | Kit no longer supported | |
| 100035 | IGV MOTOR SERVICE | TT300 (R22) | Kit no longer supported for R22 applications All others - 100035-1 | |
| 100036 | SENSOR PRESSURE/TEMPERATURE SUCTION | TT300 (R22) | Kit no longer supported for R22 applications All others - 100036-1 | |
| 100037 | SENSOR PRESSURE/TEMPERATURE DISCHARGE | TT300 (R22) | Kit no longer supported for R22 applications All others - 100037-1 | |
| 100040-1 | DC/DC CONVERTER ASSY 380V | TT300 SIE | Kit no longer supported | |
| 100040-3 | DC-DC CONVERTER ASSY (575) | All 575V Models | 100379 | DC-DC |
| 100040-4 | DC/DC CONVERTER ASSY (SIE) 480 V | TT300 SIE | Kit no longer supported | |
| 100040-5 | IGBT ASSY MANIFOLD COOLING TT400 C/W DC/DC CONVERTER | All 400 & 460V models | 100379 | DC-DC |
| 100040-6 | DC-DC CONVERTER ASSY (380V) | All 380V models | 100379 | DC-DC |
| 100043-1 | IGBT 310032 PARALLEL COOLING | TT300 SIE | Kit no longer supported | |
| 100043-2 | IGBT 320032 SERIAL COOLING | TT300 SIE | Kit no longer supported | |
| 100043-3 | IGBT MANIFOLD COOLING | TT300 Rev:-N, -P, -C, -D, -E, -F | 100521 | INVERTER ASSY 613 KIT – INVERTER ASSY CONVERSION 342 TO 613 SERIES |
| 100043-5 | IGBT ASSY MANIFOLD COOLING TT400 C/W DC/DC CONVERTER | TT350, TT400, TT500 Rev: -P, -A, -C, -E 460V | 100043-11 (DC-DC sold separately) | |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|---|-------------------------|---|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100043-6 | IGBT MANIFOLD COOLING - 575V TT 300 | TT300 Rev: -P 575V | Kit no longer supported | |
| 100043-7 | IGBT MANIFOLD COOLING TT300 R22 SPLIT COOLING | TT300 (R22) | Kit no longer supported | |
| 100043-8 | IGBT ASSY - SEMIKRON SKiiP 613 TT400C 575V | TT350, TT400, TT500 Rev: -P, -A, -C, -E 380V, 400V, 460V, 575V | 100043-11 | INVERTER ASSY 613 |
| 100043-12 | INVERTER ASSY 342 | TT300, TG230 Rev: -N, -P, -C, -D, -E, -F | 100521 | INVERTER ASSY CONVERSION 342 to 613 SERIES |
| 100043-14 | 24kHz INVERTER ASSY | TT300 (R134a)/TG230: -N, -P, -C | 100521 | INVERTER ASSY CONVERSION 342 to 613 SERIES |
| 100044 | BUS BAR ASSY AND CAPACITORS 6800µF (460V) | TT300, TG230 Rev: -N, -P, -C, -D, -E, -F | 100044-7 | BUS BAR ASSY AND CAPACITORS 6800µF (460V) |
| 100044-1 | BUS BAR ASSY AND CAPACITORS 4700µF (575V) | TT300, TG230 Rev: -N, -P, -C, -D, -E, -F, -G | 100044-8 | BUS BAR ASSY AND CAPACITORS 6800µF (460V) |
| 100044-2 | BUS BAR ASSY AND CAPACITORS 9000µF (400V) | TT300, TG230 Rev: -N, -P, -C, -D, -E, -F | 100044-6 | BUS BAR ASSY AND CAPACITORS 6800µF (460V) |
| 100044-3 | BUS BAR ASSY AND CAPACITORS 8500µF (460V) | TT350, TT400, TT500, TT700, TG310, TG390, TG520 Rev: -P, -A, -C, -E, -F | 100044-12 | BUS BAR ASSY AND CAPACITORS 8500µF (460V) |
| 100044-4 | BUS BAR ASSY AND CAPACITORS 11000µF (380/400V) | TT400, TG390 Rev: -P, -C, -E, -F | 100044-11 | BUS BAR ASSY AND CAPACITORS 11000µF 380/400 VAC |
| 100044-5 | BUS BAR ASSY AND CAPACITORS 6800µF (575V) | TT400, TG390 Rev: -P, -C, -E, -F | 100044-13 | BUS BAR ASSY AND CAPACITORS 6800µF (575V) |
| 100050-1 | DRIVE ASSY AND O-RING TT300 (SIE,-N) | TT300 SIE, Rev: -N | Kit no longer supported | |
| 100050-2 | IGV, DRIVE ASSY AND O-RING, R134a EXTENDED RANGE | TT300 Rev: -P, -C, -D, -E, R134a | 100050-16 | IGV, DRIVE ASSY AND O-RING TT300/TG230 |
| 100050-3 | IGV, DRIVE ASSY AND O-RING - TT300 RETROFIT | TT300, TG230 Rev: -P, -C, -D, -E | 100050-16 | IGV, DRIVE ASSY AND O-RING - TT300/TG230 |
| 100050-5 | IGV, DRIVE ASSY AND O-RING - R22 RETROFIT | TT300 R22 Rev: -P | Kit no longer supported | |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|--------------------------|---|---|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100050-6 | IGV, DRIVE ASSY AND O-RING - TT400-P | TT400 Rev: -P | Kit no longer supported | |
| 100050-7 | IGV, HOUSING ASSY AND O-RING, TT400C | TT400 Rev: -C, -E, R134a | 100050-17 | IGV, DRIVE ASSY AND O-RING TT400/TG390 |
| 100050-8 | IGV, HOUSING ASSY AND O-RING-TT500 | TT500 Rev: -A, -E, R134a | 100050-18 | IGV, DRIVE ASSY AND O-RING TT700/TG520 |
| 100050-9 | IGV, HOUSING ASSY TT350 | TT350 Rev: -A, -E, R134a | 100050-15 | IGV, DRIVE ASSY AND O-RING TT350/TG310 |
| 100050-11 | IGV, DRIVE ASSY AND O-RING - TT350 RETROFIT | TT350 Rev: -A, -E, R134a | 100050-15 | IGV, DRIVE ASSY AND O-RING - TT350/ TG310 |
| 100050-12 | IGV, DRIVE ASSY AND O-RING - TT400 -P RETROFIT | TT400 Rev: -P | Kit no longer supported | |
| 100050-13 | IGV, DRIVE ASSY AND O-RING - TT400 RETROFIT | TT400 Rev: -C, -E | 100050-17 | IGV, DRIVE ASSY AND O-RING TT400/ TG390 |
| 100050-14 | IGV, DRIVE ASSY AND O-RING - TT500 RETROFIT | TT500 Rev: -A, -E | 100050-18 | IGV, DRIVE ASSY AND O-RING TT700/ TG520 |
| 100050-24 | IGV, DRIVE ASSY AND O-RING TGS490 | TGS490 Rev: -F, -H | 100050-25 | IGV, DRIVE ASSY AND O-RING TGS490 |
| 100052 | O-RING, END CAP ASSY | TT300 R22 | Kit no longer supported for R22 applications All others - 100352 | |
| 100052-1 | O-RING, SERVICE SIDE SMALL O-RINGS | TT300 R22 | Kit no longer supported for R22 applications All others - 100052-2 | |
| 100053-2 | COVER, CAPACITOR ASSY (BLACK PAINTED) TT300 | TT300 Rev: -N, -P, -C | 100053-3 | COVER, CAPACITOR ASSY (BLACK) |
| 100053-5 | CAPACITOR COVER ASSY | TT300 Rev: -N, -P, -C | 100053-6 | COVER, CAPACITOR ASSY (GREEN) |
| 100054-2 | COVER, TOP ASSY (BLACK - PAINTED) TT300 | TT300 Rev: -N, -P, -C | 100054-3 | COVER, TOP ASSY (BLACK) |
| 100054-5 | COVER, TOP ASSY STANDARD GREEN | TT300 Rev: -N, -P, -C | 100054-6 | COVER, TOP ASSY GREEN |
| 100055-2 | COVER, SERVICE SIDE ASSY (BLACK PAINTED) TT300 | TT300 Rev: -N, -P, -C | 100055-3 | COVER, SERVICE SIDE ASSY (BLACK) |
| 100055-5 | COVER, SERVICE SIDE ASSY - (STANDARD GREEN) | TT300 Rev: -N, -P, -C | 100055-6 | COVER, SERVICE SIDE ASSY - GREEN |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|---|----------------------------------|---|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100056-2 | COVER, MAINS INPUT ASSY (CONDUCTIVE PAINTED BLACK) TT300 | TT300 Rev: -N, -P, -C | 100056-3 | COVER, MAINS INPUT ASSY (BLACK) |
| 100056-5 | COVER, MAINS INPUT ASSY (STANDARD GREEN) | TT300 Rev: -N, -P, -C | 100056-6 | COVER, MAINS INPUT ASSY (GREEN) |
| 100058-2 | CABLE HARNESS-ASSY,COMPRESSOR- INTERFACE (SIE) | TT300 SIE | Kit no longer supported | |
| 100062 | CABLE HARNESS SOFTSTART AC/DC (SIE) TT300 | TT300 SIE | Kit no longer supported | |
| 100062-3 | CABLE HARNESS SOFTSTART AC/DC - TT350/400/700 | TT350/400/700 Rev: -P, -A, -C, -E, -F | 100381 | CABLE HARNESS SOFTSTART AC/DC |
| 100062-4 | CABLE HARNESS SOFTSTART AC/DC (TT300/TG230) | TT300/TG230 Rev: -N, -P, -C, -D, -E, -F, -G | 100380 | CABLE HARNESS - AC/DC - TT300 |
| 100076-2 | PCB ASSY COMPRESSOR INT CONNECTOR (SIE) | TT300 SIE | Kit no longer supported | |
| 100150 | COOLING VALVES ASSY TT300/R22 | TT300 R22 | Kit no longer supported | |
| 100150-1 | COOLING VALVES ASSY TT400-P | TT400 Rev: -P | 100281-4 | COOLING VALVES ASSY TT400 380/400/460 |
| 100150-3 | COOLING VALVES ASSY R134a, TT350 & TT500 | TT350, TT500 Rev: -A, -E | TT350-100281-5 TT500-100281-3 | COOLING VALVES ASSY TT350 400/460V, TT500 |
| 100150-4 | COOLING VALVES ASSY R134a, TT400C | TT400 Rev: -C, -E, 380V, 400V, 460V | 100281-4 | COOLING VALVES ASSY TT400 380/400/460 |
| 100150-5 | COOLING VALVES ASS 134a, TT400C 575C | TT400 Rev: -C, -E, 575V | 100281-1 | COOLING VALVES ASSEMBLY TT400 (575V), TG310 |
| 100150-6 | KIT, COOLING VALVES ASSY | TTS400 575V TGS310 | 100281-1 | COOLING VALVES ASSY |
| 100150-7 | KIT, COOLING VALVES ASSY R134a, TT350, 380V | TT350 Rev: -A, -E, 380V | 100281-5 | COOLING VALVES ASSY TT350 380V |
| 100150-8 | COOLING VALVES ASSY TT300 | TTS300 TGS230 | 100281-2 | COOLING VALVES ASSY TT300 |
| 100150-9 | COOLING VALVES ASSY | TTS500 TTS700 TGS520 | 100281-3 | COOLING VALVES ASSY |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|---|---|--|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100150-10 | COOLING VALVES ASSY TT400 | TTS400 380V, 400V & 460V TGS390 | 100281-4 | COOLING VALVES ASSY TT400 |
| 100150-11 | COOLING VALVES ASSY | TTS350 TGS490 TTH375 TGH285 | 100281-5 | COOLING VALVES ASSY |
| 100150-12 | COOLING VALVES ASSY | TTH375 TGH285 | 100281-5 | COOLING VALVES ASSY |
| 100151 | SUCTION FLANGE (STEEL) | TT300, TT350, TT400 Ref: R134a | 100151-1 | SUCTION FLANGE (STEEL) |
| 100153 | DISCHARGE FLANGE (STEEL) | TT350, TT400, TG310, TG390 | 100153-1 | DISCHARGE FLANGE (STEEL) |
| 100155 | O-RING SUCTION PORT | TT300 R22 | Kit no longer supported for R22 applications All others - 100051-1 | |
| 100169 | ADAPTER SCREEN FITTING ASSY | TT300, TT350, TT400, TT500 Rev: -E | 100169-1 | COMPRESSOR COOLING ADAPTER WITH STRAINER |
| 100186 | STRAINER, COOLING LINE ADAPTER, SCREEN FITTING | TT300, TT350, TT400, TT500 Rev: -E | 100186-1 | STRAINER |
| 100196-1 | CAVITY TEMP SENSOR TT300,TT350 & TT400 | TT300, TT350, TT400 Rev: -E | 100196-3 | CAVITY TEMP SENSOR |
| 100223-4 | IGV HOUSING | TT300/TT350/ TT400/TG230/TG390 Retrofit compressors | 100223 | IGV HOUSING |
| 100224 | IGV HOUSING, TT300 (SIE, -N, R22) | TT300 SIE, Rev: -N | Kit no longer supported | |
| 100224-4 | IGV HOUSING, TT300 (SIE, -N, R22) | TT300 SIE, Rev: -N | Kit no longer supported | |
| 100226 | IGV THROAT, TT300 (SIE, -N, -P-6%) | SIE, Rev: -N | Kit no longer supported | |
| 100229-4 | IGV HOUSING TT500/TT700/TG520 | TT500/TT700/TG520 Retrofit compressors | 100229 | IGV HOUSING TT500/TT700/ TG520 |
| 100230 | IGV THROAT, TT400P | TT400 Rev: -P | Kit no longer supported | |
| 100233 | PLUNGER ASSY, SOLENOID | Use with TT300 R22/ TT400 Rev: -P | Kit no longer supported for R22 applications All others - 100280 | |
| 100234 | SOFT START COOLING FAN ASSY | All models | 100373 | COOLING FAN AND ADAPTOR ASSY |
| 100235 | PLUNGER ASSY, SOLENOID | All models | 100280 | PLUNGER ASSY, SOLENOID |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|---|--|---|---|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100237 | ORIFICE BODY, COOLING 1.5MM | TT400 Rev: -P | 100240 | ORIFICE BODY, COOLING 1.6MM |
| 100241 | O-RING SOLENOID ORIFICE | TT300 R22 | Kit no longer supported | |
| 100250 | IGV THROAT, TGS490 | TGS490 Rev: -F, -H | 100261 | IGV THROAT, TGS490 |
| 100272 | COMPRESSOR CONTROLLER (SIE) | TT300 SIE | Kit no longer supported | |
| 100293 | HERMETIC FEEDTHROUGH FRONT BEARING - 4 PIN | TT300 R22 | Kit no longer supported for R22 applications All others - 100293-1 | |
| 100294 | HERMETIC FEEDTHROUGH REAR BEARING - 6 PIN | TT300 R22 | Kit no longer supported for R22 applications All others - 100294-1 | |
| 100295 | HERMETIC FEEDTHROUGH BEARING - 9 PIN | TT300 R22 | Kit no longer supported for R22 applications All others - 100295-1 | |
| 100309 | HEATSINK, COOLING MANIFOLD SCR ASSY | TT300 Rev: -N, -P, -A, -C, -D, -E, R134a | 100309-11 | HEATSINK COOLING MANIFOLD SCR ASSY |
| 100309-1 | HEATSINK, COOLING MANIFOLD SCR ASSY (TT400) | TT350, TT400, TT500 Rev: -P, -A, -C, -E | 100309-13 | HEATSINK COOLING MANIFOLD SCR ASSY |
| 100309-2 | HEATSINK, COOLING MANIFOLD SCR ASSY | TT300 R22 | Kit no longer supported | |
| 100309-3 | DIODE HEATSINK, SERIAL COOLING (SIE) | TT300 SIE | Kit no longer supported | |
| 100309-4 | DIODE HEATSINK, PARALLEL COOLING (SIE) | TT300 SIE | Kit no longer supported | |
| 100309-5 | HEATSINK COOLING MANIFOLD SCR ASSY | TTS350, TTS400, TTS500, TTS700, TGS310, TGS390, TGS490, TGS520 Rev: -P, -A, -C, -E, -F | 100309-13 | HEATSINK, COOLING MANIFOLD SCR ASSY (TT350) NO SENSOR |
| 100309-6 | HEATSINK COOLING MANIFOLD SCR ASSY | TTS300/TGS230 Rev: -N, -P, -C, -D, -E, -F, -G | 100309-11 | HEATSINK, COOLING MANIFOLD SCR ASSY |
| 100310 | O-RING, IGBT ASSY | TT300 R22 | Kit no longer supported for R22 applications All others - 100310-2 | |
| 100312 | HERMETIC FEEDTHROUGH HIGH POWER NEOPRENE | TT300 R22 | Kit no longer supported for R22 applications All others - 100383 | |
| 100312-1 | HERMETIC FEEDTHROUGH HIGH POWER EPDM | All models | Kit no longer supported for R22 applications All others - 100383 | |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|----------------------------|---|-------------------------------------|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100314 | COVER PLATE ASSY | TT300 R22 | Kit no longer supported for R22 applications All others - 100314-2 | |
| 100315 | O-RING, COVER PLATE ASSY | TT300 R22 | Kit no longer supported for R22 applications All others - 100315-1 | |
| 100321 | HERMETIC FEEDTHROUGH IGV 4 PIN | TT300 R22 | Kit no longer supported R22 All others - 100321-1 | |
| 100322 | CABLE HARNESS COMPRESSOR CONTROLLER | All models | 100322-5 | CABLE HARNESS COMPRESSOR CONTROLLER |
| 100322-2 | CABLE HARNESS COMPRESSOR CONTROLLER (SIE) | TT300 SIE | Kit no longer supported | |
| 100322-3 | CABLE HARNESS COMPRESSOR CONTROLLER (SIE) | TT300 SIE | Kit no longer supported | |
| 100323-1 | CABLE HARNESS COMPRESSOR DC SUPPLY(SIE) | TT300 SIE | Kit no longer supported | |
| 100324 | END CAP ASSY | TT300 R22 | Kit no longer supported for R22 applications All others - 100324-2 | |
| 100326-1 | CABLE HARNESS DC BUS TEST LEAD (SIE) | TT300 SIE | Kit no longer supported | |
| 100327 | O-RING COOLING PORTS, SUCTION, DISCHARGE, ECONOMIZER, MOTORCOOLING | TT300 R22 | Kit no longer supported for R22 applications All others - 100329 | |
| 100373 | COOLING FAN AND ADAPTOR ASSY | All models | 100373-1 | COOLING FAN AND ADAPTOR ASSY |
| 100375 | HARMONIC RESISTOR PLUG | All models | Kit no longer supported | |
| 100402 | SUCTION FLANGE KIT (BRASS) | TT300, TT350, TT400 R134a | 100402-1 | SUCTION FLANGE (BRASS) |
| 100414 | ECONOMIZER VALVE KIT 7/8" | TT300 R134a | Kit no longer supported | |
| 100419 | PLUNGER ASSEMBLY, NON-RETURN VALVE | TT300 | Kit no longer supported | |
| 100420 | FUSE 4 AMP (SIE) (TT300) | TT300 SIE | Kit no longer supported | |
| 100450 | ECONOMIZER FLANGE KIT 1 3/8" (BRASS) | All except TT300 and TG230 | 100450-1 | ECONOMIZER FLANGE 1 3/8" (BRASS) |

| OBSOLETE KIT | | OBSOLETE KIT APPLICATION | REPLACEMENT KIT | |
|--------------|--|---------------------------|---------------------------------|--|
| PART NO. | DESCRIPTION | | PART NO. | DESCRIPTION |
| 100455 | SUCTION FLANGE 3 5/8" (BRASS) | TT500, TT700, TG520 | 100378 | SUCTION BRASS FLANGE FOR 3-5/8" COPPER PIPE TT500 (EPDM O-ring) |
| 100472 | SUCTION STRAINER KIT | All models | Kit no longer supported | |
| 100514 | CONVERSION-SIE TO THE CURRENT ELECTRONICS (400V) | All 400V SIE models | Kit no longer supported | |
| 100515 | CONVERSION-SIE TO THE CURRENT ELECTRONICS (400V) | All 400V SIE models | Kit no longer supported | |
| 100516 | CONVERSION-SIE TO THE CURRENT ELECTRONICS (460V) | All 460V SIE models | Kit no longer supported | |
| 100517 | CONVERSION-SIE TO THE CURRENT ELECTRONICS (460V) | All 460V SIE models | Kit no longer supported | |
| 100580 | PORTABLE TRAINING SIMULATOR | All models | N/A | Contact Applications & Product Support team to request a Simulator |
| 100703-1 | INTERSTAGE PIPE | TTH375/TGH285 Rev: -F, -H | Order Kit 100703-3 and 100706-3 | |
| 100706-1 | SECOND STAGE HOUSING | TTH375/TGH285 Rev: -F, -H | Order Kit 100703-3 and 100706-3 | |
| 901453 | LINE REACTOR 140A - 10% | TTS300/TGS230 | 901832 | LINE REACTOR 240A - 5% |
| 901666 | EMI FILTER (CE) 185A | All models | 901866 | EMI/EMC FILTER (CE) 322A |
| 901974 | LINE REACTOR 140A - 5% | TTS300/TGS230 | 901832 | LINE REACTOR 240A - 5% |
| 901975 | LINE REACTOR 180A - 5% | All models | 901832 | LINE REACTOR 240A - 5% |



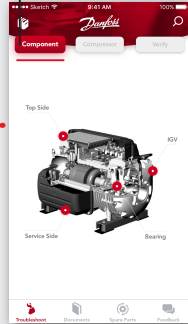
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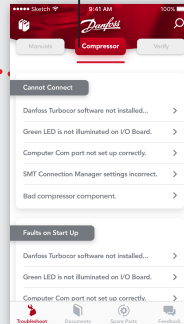
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Access to Danfoss Turbocor® compressor troubleshooting on site

Troubleshoot

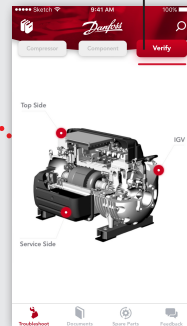
The TurboTool® app makes it easy for technicians to troubleshoot issues on Danfoss Turbocor® compressors.



The user can select from a list of symptoms in the app that match the problems exhibited by the compressor being serviced. The app will then list potential causes, solutions to the problem, and service literature for reference for further information.

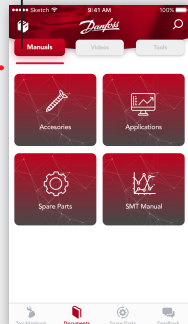


The app provides the correct operating parameters for key components; no need to keep reference documents on hand.

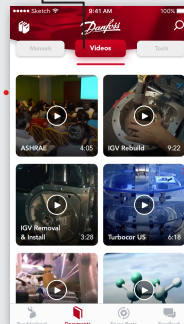


Documents & Video

You no longer need to keep hundreds of pages of parts catalogs and training manuals. With the app, all of this information is at your fingertips on your smart device.

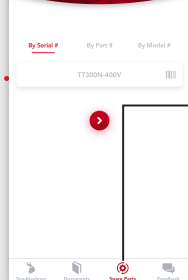


With the app, you can access videos made by Danfoss Turbocor® that demonstrate how to remove, install, and rebuild key components on Danfoss Turbocor® compressors.



Spare Parts

TurboTool® helps you to quickly identify the required spare parts. A quick scan of the compressor serial # using your smartphone camera or by entering the part # or model #, and the app will display potential spare parts kits.



Download the 2.0 app today!



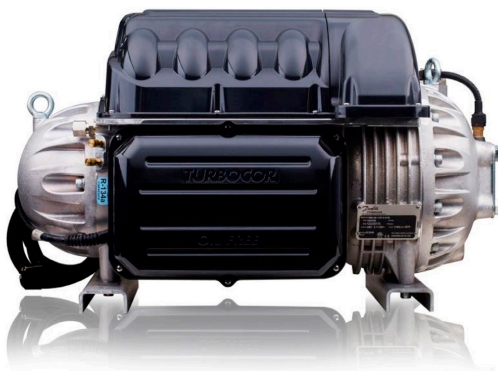
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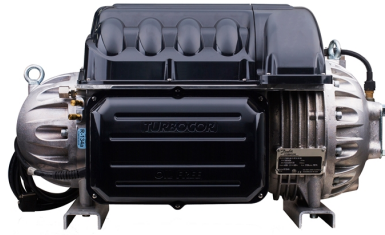
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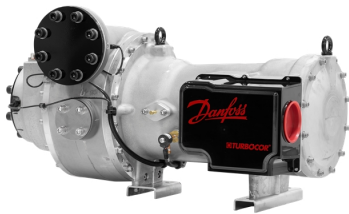
TTS Compressors



Highlift Compressors



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VTX1600 Compressors



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TGS Compressors

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