

Spare Parts Selection Guide - Revision F.5

Danfoss Turbocor® Twin-Turbine Centrifugal Compressors

TTS/TGS/TTH/TGH Compressors



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Table of Contents

Table of Contents	3
Chapter 1.0 Introduction	11
1.1 Organization	11
1.2 PDF Navigation	11
1.3 Nomenclature	11
Chapter 2.0 External Components	13
2.1 Compressor Controller Cable Harness	17
2.2 Cooling Adapter	18
2.3 Housing End Cap	19
2.4 Second Stage Housing	20
2.5 Interstage Pipe	21
2.6 Compressor Interface Cable	22
2.7 PCB Assembly I/O Board	23
2.8 Miscellaneous Items	24
Chapter 3.0 IGV End Assembly	27
3.1 IGV Drive Assembly	28
3.2 IGV Housing	29
3.3 IGV Throat	30
3.4 IGV Worm Gear and Motor	32
3.5 Pressure Temperature Sensor Suction	33
3.6 Hermetic Feedthrough IGV 4 Pin	34
Chapter 4.0 Top Side	35
4.1 Top Cover	37
4.2 Mains Input Cover	38
4.3 Soft Start SCR Gate Cable	39
4.4 Cable Harness Soft Start AC/DC	40
4.5 Inverter	42
4.6 Driver Board	43

4.7 Motor Bus Bar Assembly Connectors	44
4.8 Tube Connection to Inverter	45
4.9 Cover Plate Assembly	46
4.10 Hermetic Feedthrough High Power	47
4.11 DC-DC Converter	48
4.12 Mains Input Bracket and Grounding Stud	49
4.13 Terminal Block Assembly	50
4.14 Soft Start Assembly	51
4.15 Soft Start Fuses	53
4.16 Pressure Temperature Sensor Discharge	54
4.17 Diode Rectifiers	55
4.18 Bus Bar Diodes	56
4.19 Snubber Capacitors	57
4.20 SCR Heatsink Assembly	58
Chapter 5.0 Capacitor Side	61
5.1 Capacitor Cover	62
5.2 Bus Bar and Capacitor Assembly	63
Chapter 6.0 Service Side	65
6.1 Cover	66
6.2 PWM Module	67
6.3 BMCC Module	68
6.4 Serial Driver	69
6.5 Rear/ Front Bearing Sensor Cable Harness	70
6.6 Backplane Assembly	71
6.7 DC Supply Cable Harness	72
6.8 Motor Drive (Inverter to Backplane) Cable Harness	73
6.9 Service Side Beneath Backplane	74
6.10 Compressor Cooling Cable and Coil Assembly	75
6.11 6 Pin Hermetic Feedthrough	76

6.12 Cavity Temperature Sensor/ Motor Rotor	77
6.13 4-Pin Hermetic Feedthrough	78
6.14 9-Pin Hermetic Feedthrough	79
6.15 Cooling Valves Assembly	80
6.16 Cooling Valves	81
6.17 Pressure Regulating Valve	82
Appendix A Test Equipment/Training	83
A.1 DC Bus Test Harness	83
A.2 Compact Inverter Tester	83
A.3 Portable Training Simulator	84
Appendix B Accessory Kits	85
B.1 Rubber Mounts	85
B.2 End Cap Insulation	86
B.3 Line Reactors	90
B.4 Flanges	95
Appendix C Recently Obsoleted Kit Reference	103

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List of Changes

Revision	Date	Page	Description of Change
F.5	08-13-2021	63	Added 575V Capacitor option Combined TTS350 and TTS400 tables
F.5	08-13-2021	16	Updated last table

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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 (SIE/FIE) of your compressor are essential to using this document effectively.

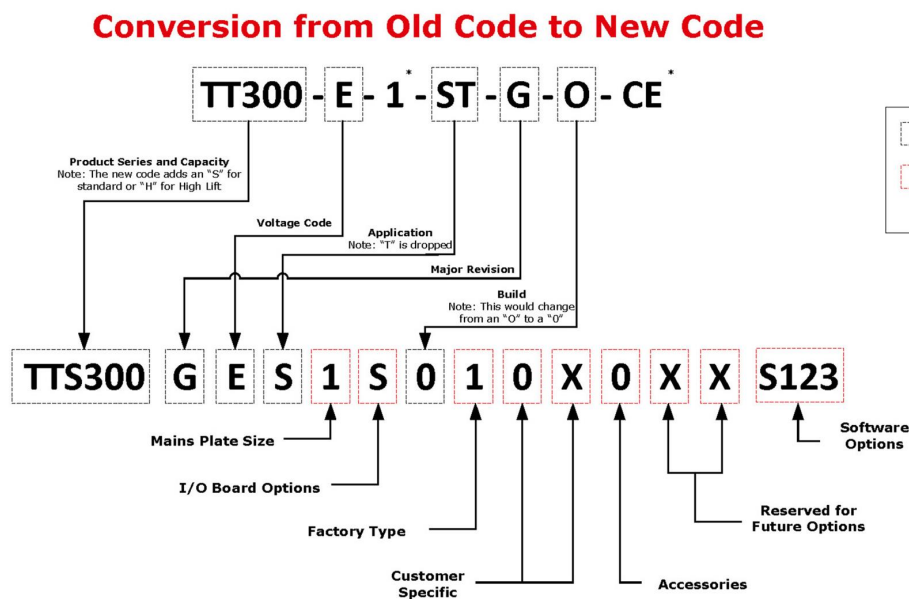
1.2 PDF Navigation

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 TT and TG Product Nomenclature After May 6, 2019



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
 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

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)

Future Option
 X: Reserved
 X: Reserved

Customer Specific Configuration
 0: Gen Covers/Plate, EN/FR/CH

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

Software
 S123: Software Revision

Accessories Configuration
 0: No accessories

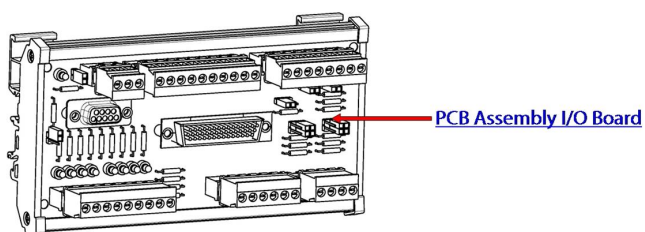
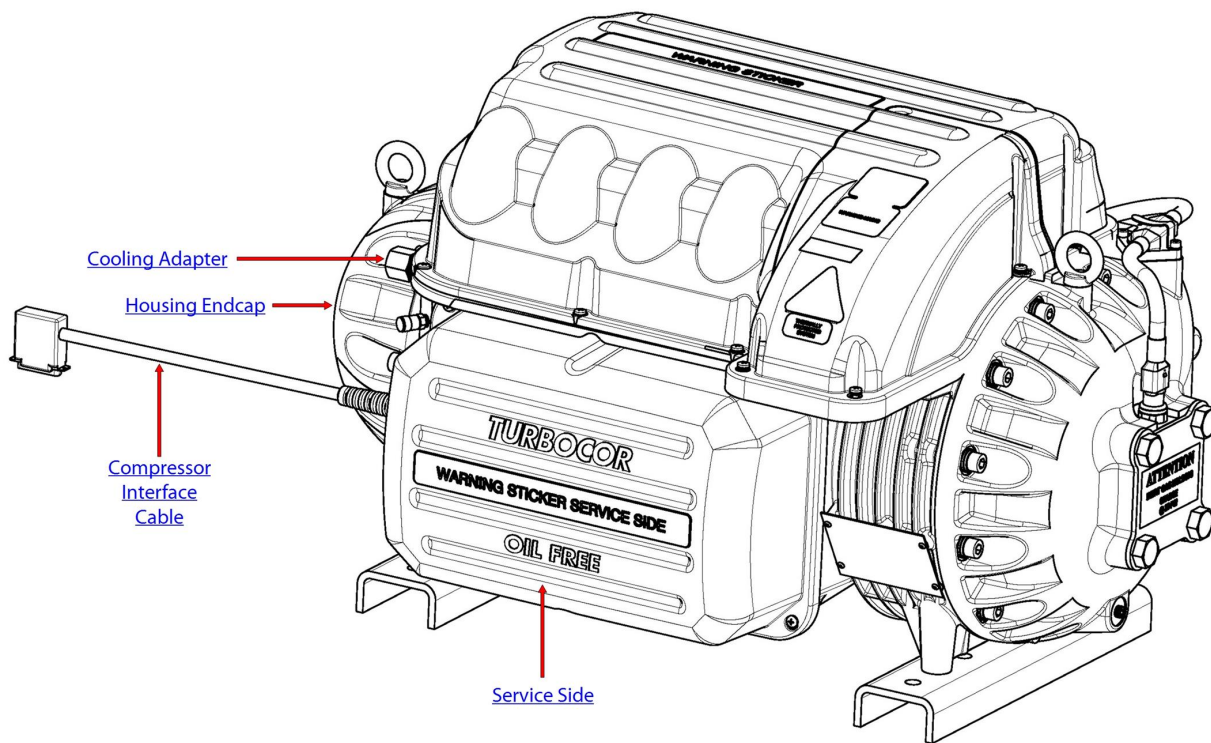
Figure 1-2 Conversion from Old Code to New Code

Turboacor TT/TG Series Type Code

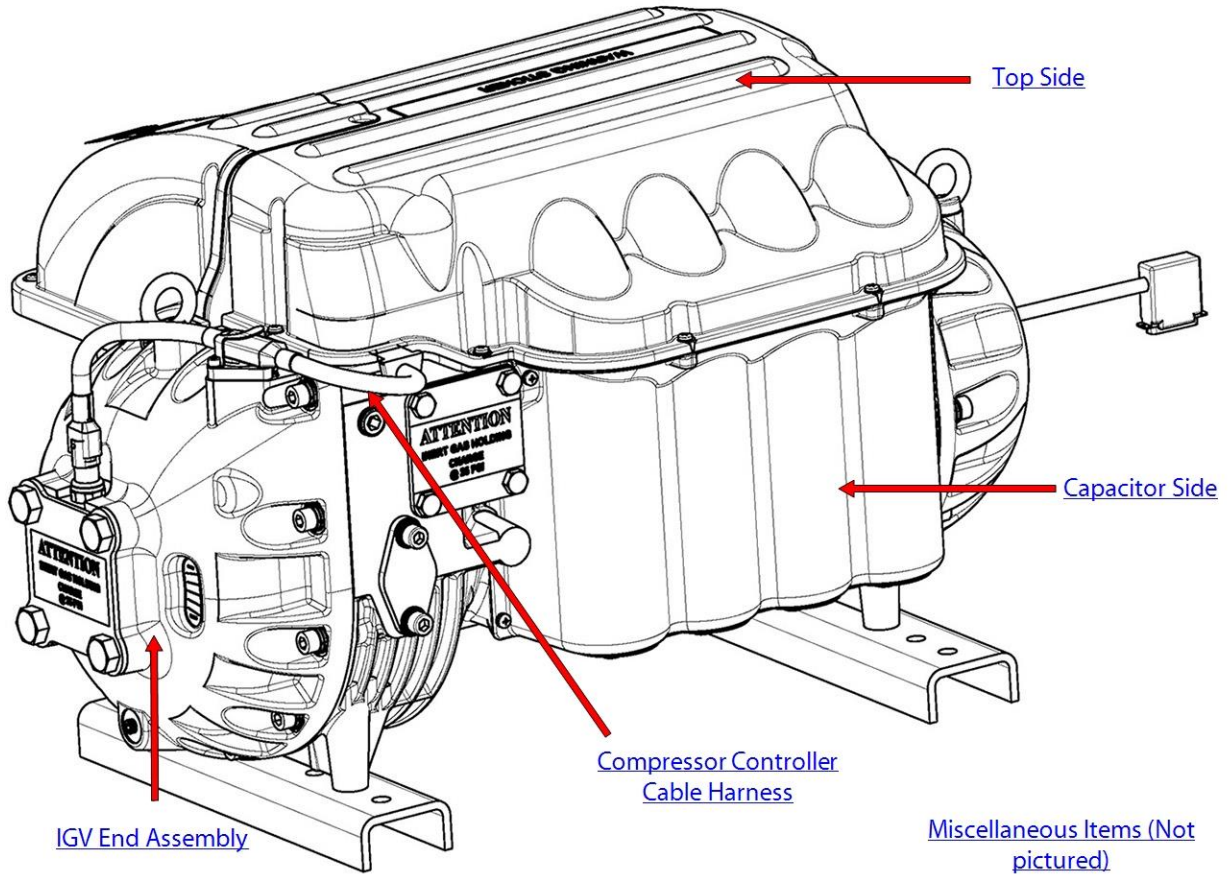
T T S 3 0 0	G	E	S	1	S	0	1	0	X	0	X	X	S	1	2	3							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
Product Series and Capacity (characters 1-6) TTS300 : TT Series 300 Aero Config TTS350 : TT Series 350 Aero Config TTS400 : TT Series 400 Aero Config TTS500 : TT Series 500 Aero Config TTS700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

Chapter 2.0 External Components

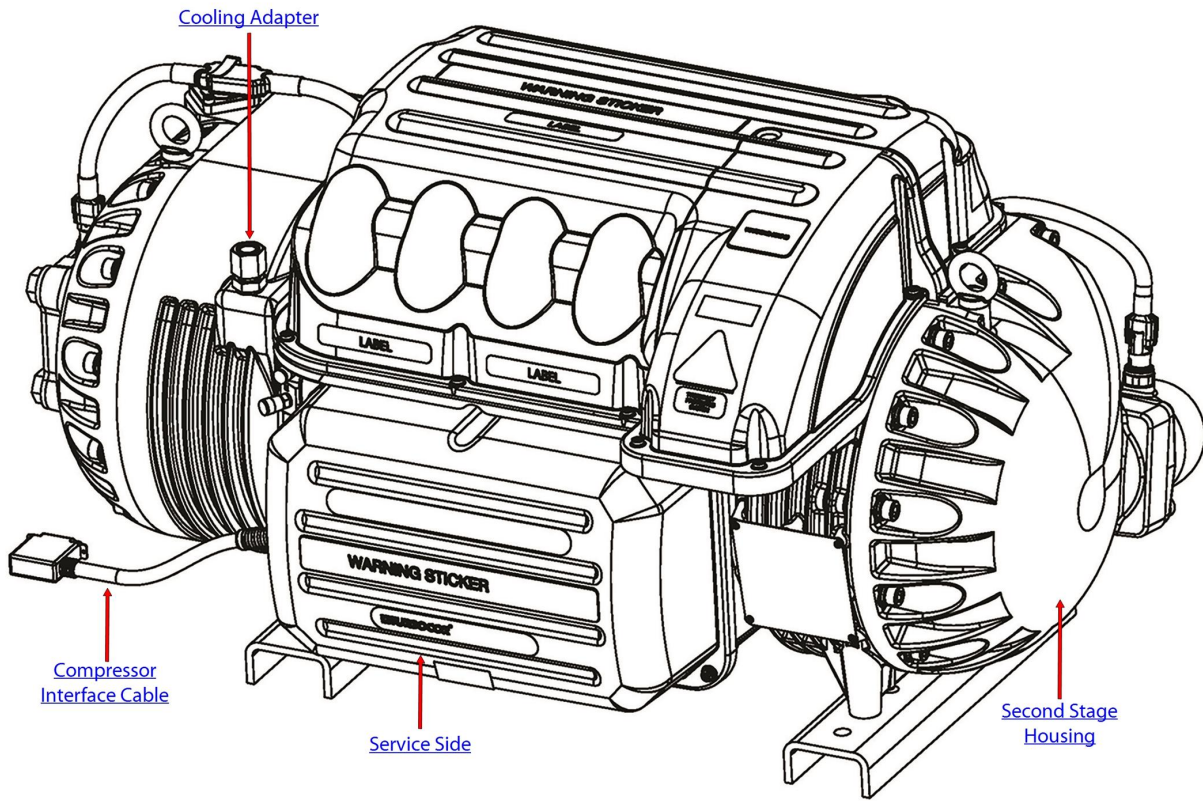
TTS/TGS Model



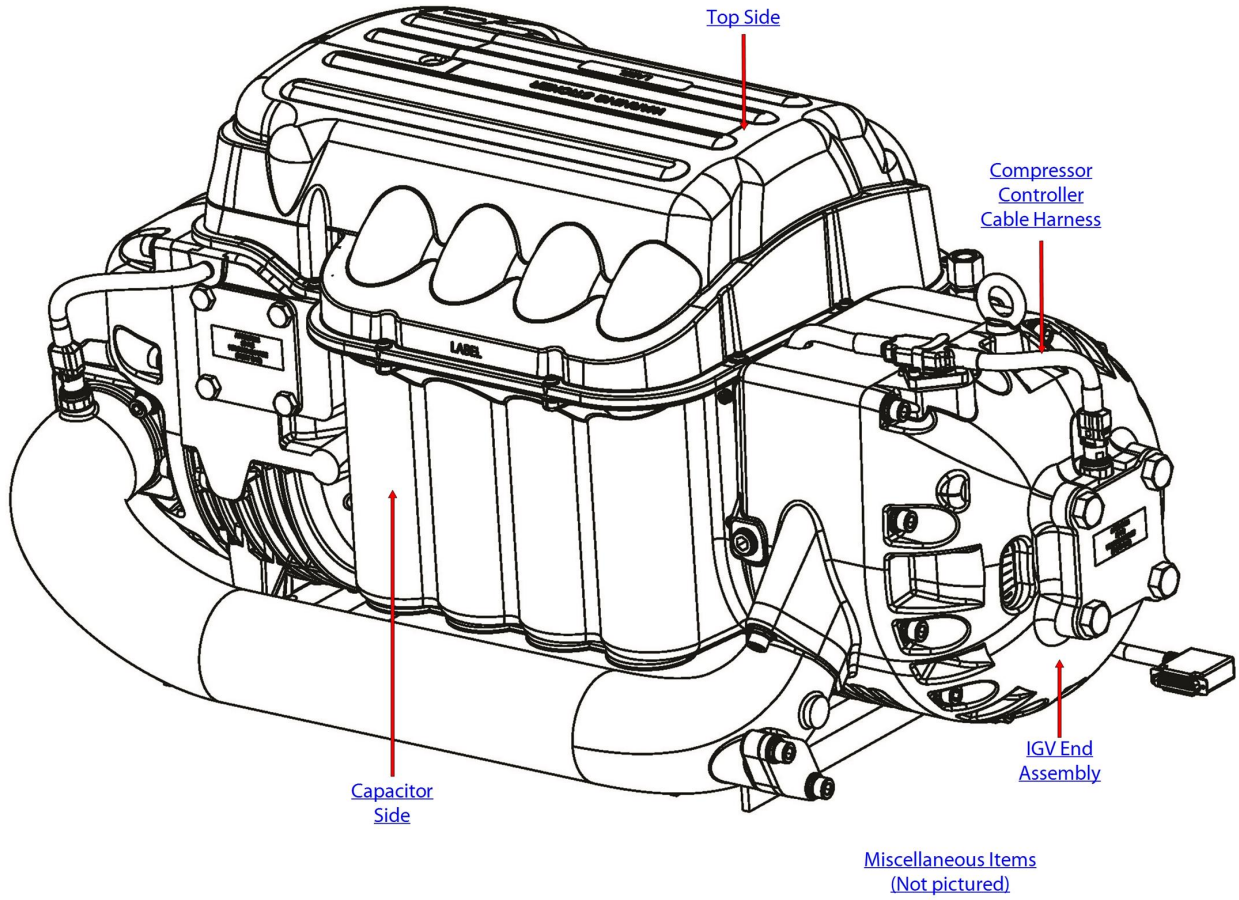
TTS/TGS Model



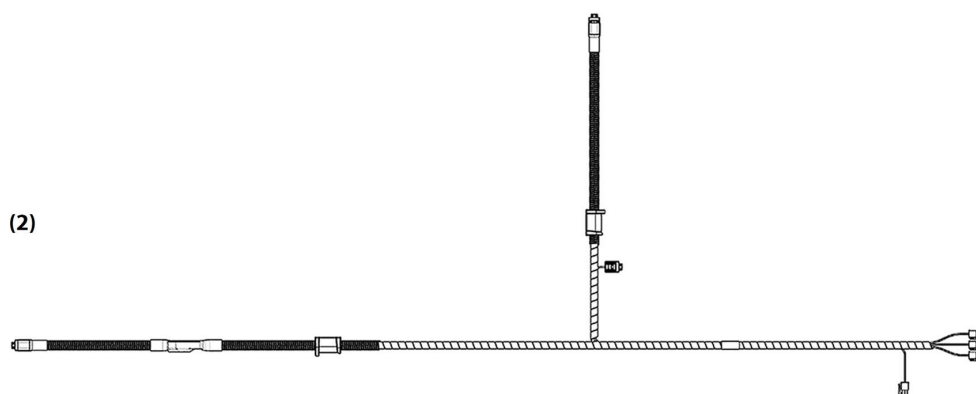
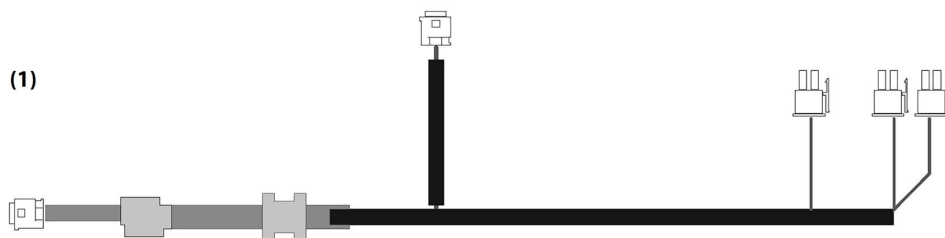
TTH/TGH Model



TTH/TGH Model



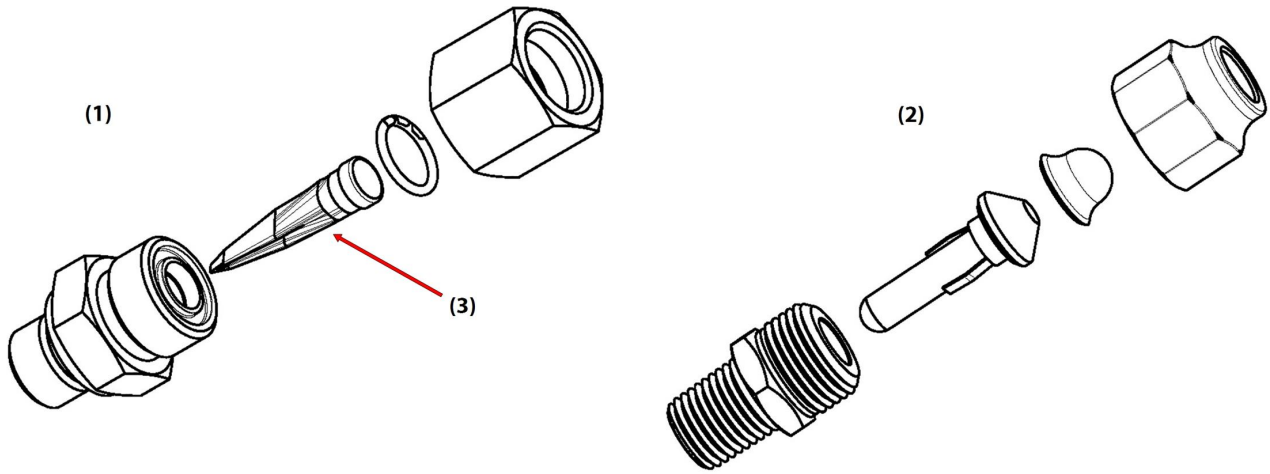
2.1 Compressor Controller Cable Harness



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - CABLE HARNESS COMPRESSOR CONTROLLER	100322-5	-N, -P, -A, -C, -D, -E, -F, -G, -H	Cable Only

APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(2) KIT - CABLE HARNESS COMPRESSOR CONTROLLER	100322-4	-F, -H	Cable Only

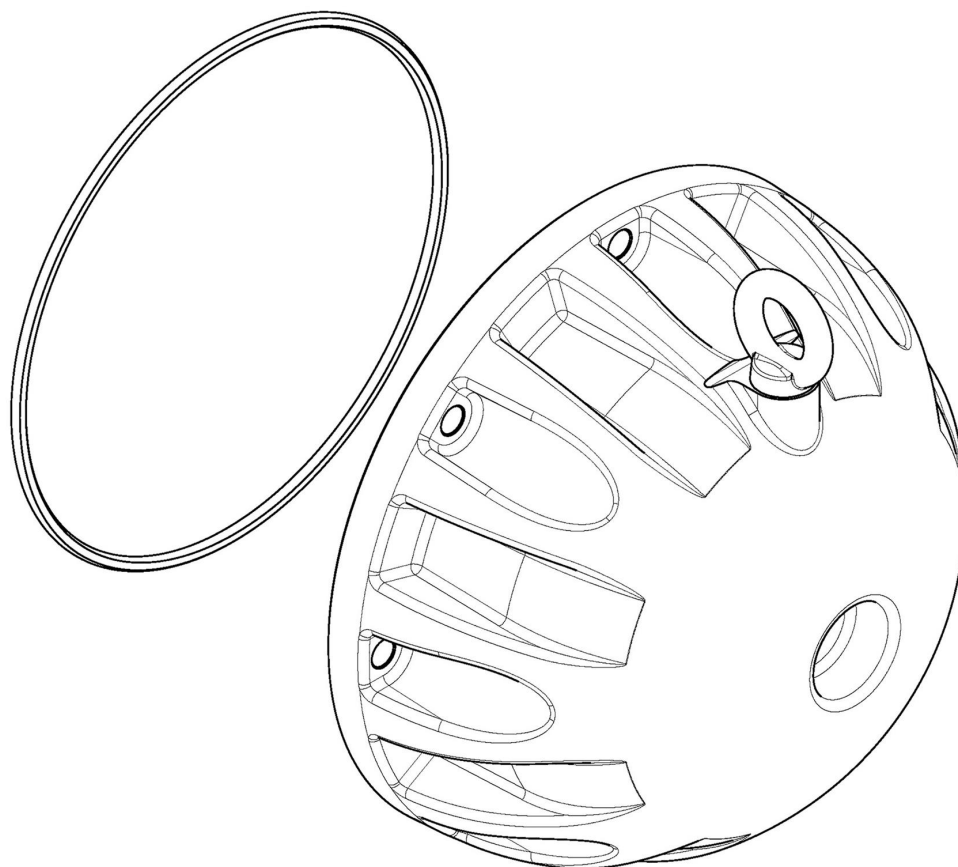
2.2 Cooling Adapter



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - COMPRESSOR COOLING ADAPTER WITH STRAINER	100169-1	-E, -F, -G, -H	Contains O-rings and strainer
(3) KIT - STRAINER	100186-1	-E, -F, -G, -H	Replaces strainer and one O-ring

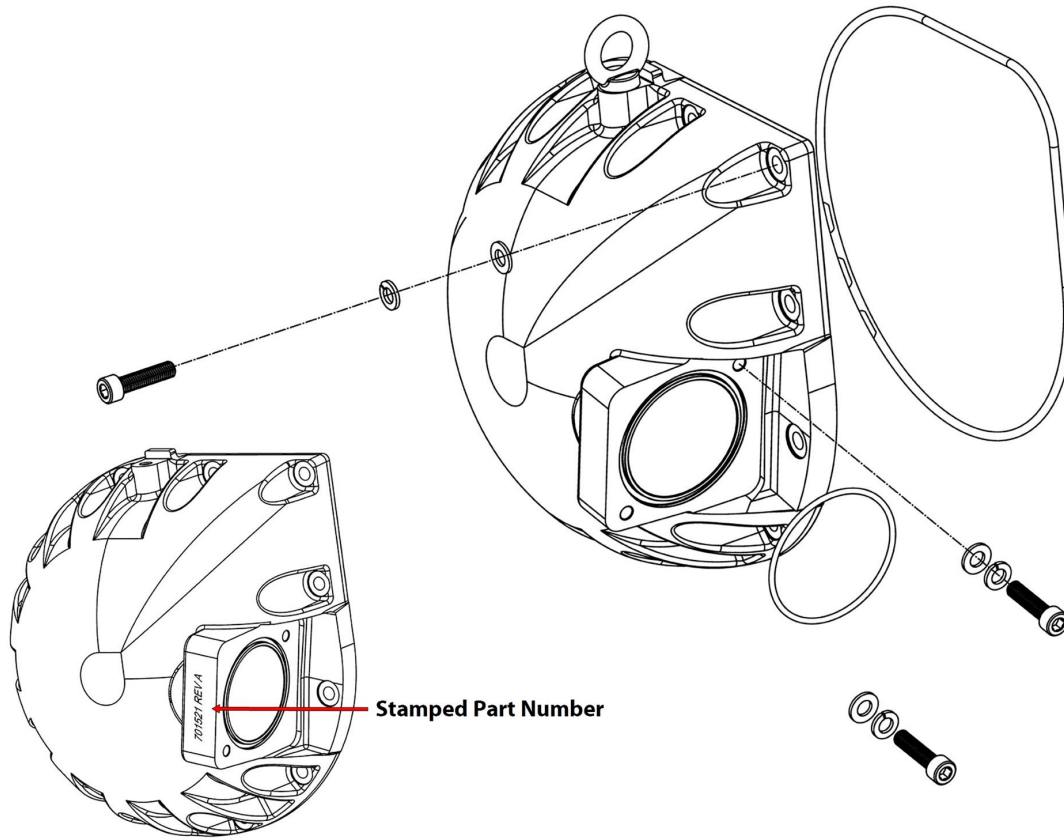
APPLIES TO: TTS300			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(2) KIT - COMPRESSOR COOLING FITTING AND STRAINER ASSEMBLY	100215	-N, -P, -C, -D	Can be used with SIE models, do not use if compressor part number ends in "-3", includes strainer and nut

2.3 Housing End Cap



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - END CAP ASSEMBLY	100324-2	ALL	Contains eyebolt and O-ring
KIT - O-RING END CAP ASSY	100352	ALL	Replaces Endcap O-ring

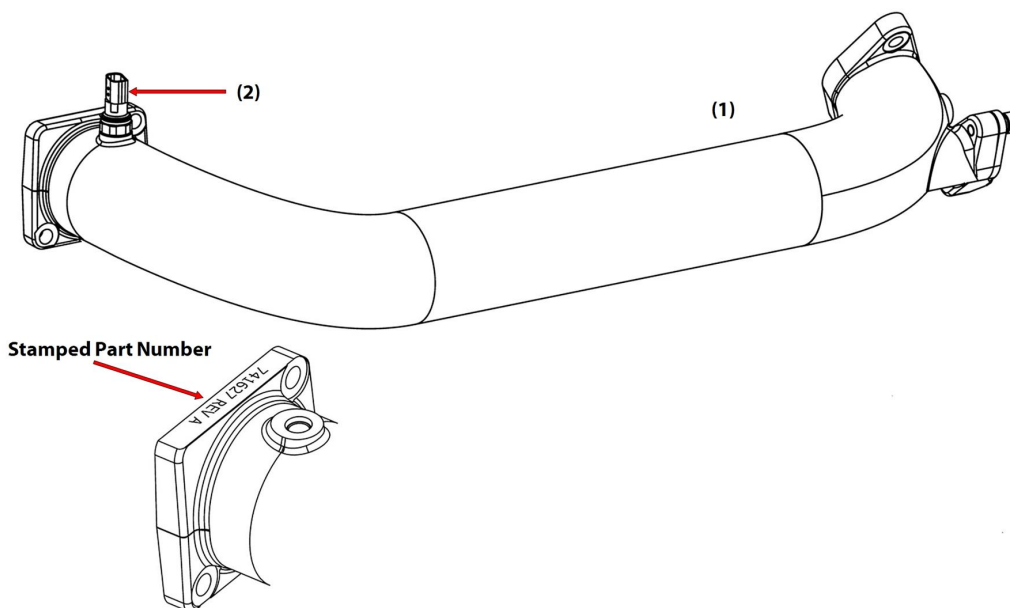
2.4 Second Stage Housing



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.

APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – SECOND STAGE HOUSING	100706-3	-F, -H	For Second Stage Housing part number 701521, also order kit 100703-3. For Second Stage Housing part number 741630, no other kit is required. Contains eyebolt, O-rings, and mounting hardware.
KIT – O-RINGS SECOND STAGE HOUSING	100706-2	-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.

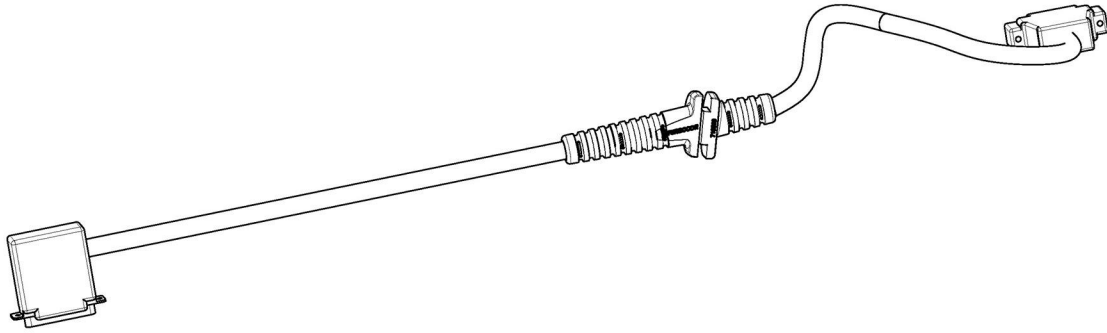
NOTE

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**.

APPLIES TO: TTH375/TGH285

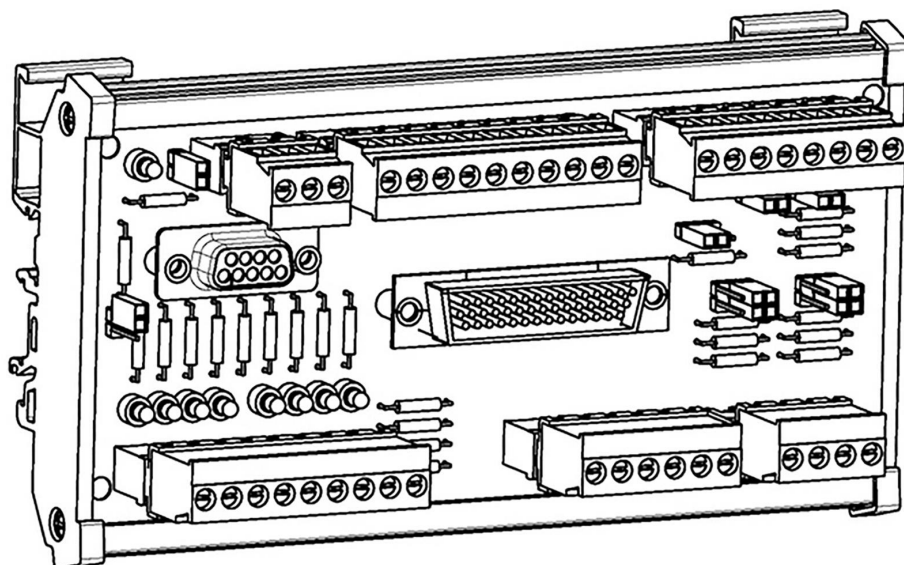
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – INTERSTAGE PIPE	100703-3	-F, -H	For Interstage Pipe part number 741627, also order kit 100706-3. For Interstage Pipe part number 741629, no other kit is required. Contains P/T Sensor, O-rings, and fasteners
(2) KIT - SENSOR PRESSURE/TEMPERATURE HIGH SIDE	100037-1	-F, -H	Marked with a red spot and a green spot, contains O-ring
KIT – INTERSTAGE PIPE O-RINGS and FASTENERS	100703-2	-F, -H	Contains Interstage Pipe and Economizer O-rings and fasteners

2.6 Compressor Interface Cable



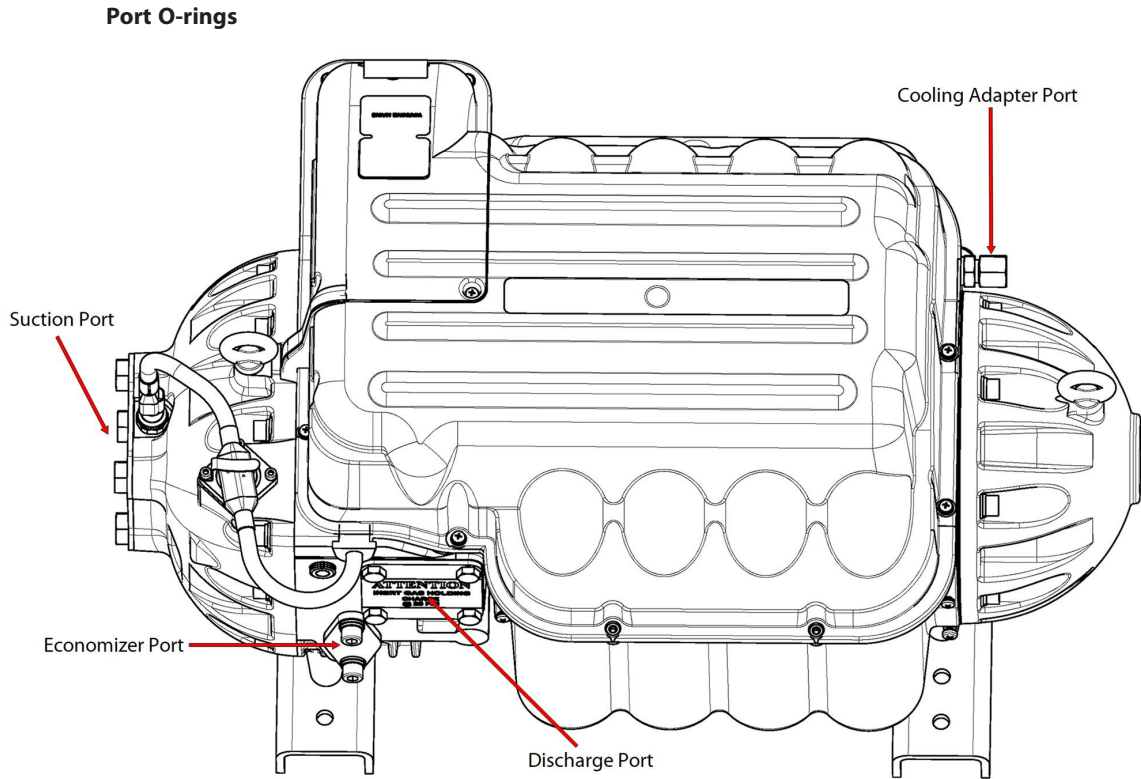
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - CABLE COMPRESSOR INTERFACE 5M	100058-1	ALL	Cable Only
KIT - CABLE COMPRESSOR INTERFACE 10M	100058-4	ALL	Cable Only

2.7 PCB Assembly I/O Board



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - PCB ASSY COMPRESSOR I/O	100076-1	ALL	PCB Only

2.8 Miscellaneous Items



PPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT- O-RING COOLING PORTS SUCTION, DISCHARGE, ECONOMIZER, MOTOR COOLING	100329	ALL	Includes O-rings for Cooling Adaptor, Suction, Discharge, and Economizer ports
KIT- O-RING SUCTION PORT	100555	ALL	Suction Port O-Ring only

Miscellaneous Items

Dielectric Grease



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

Refrigerant Stickers



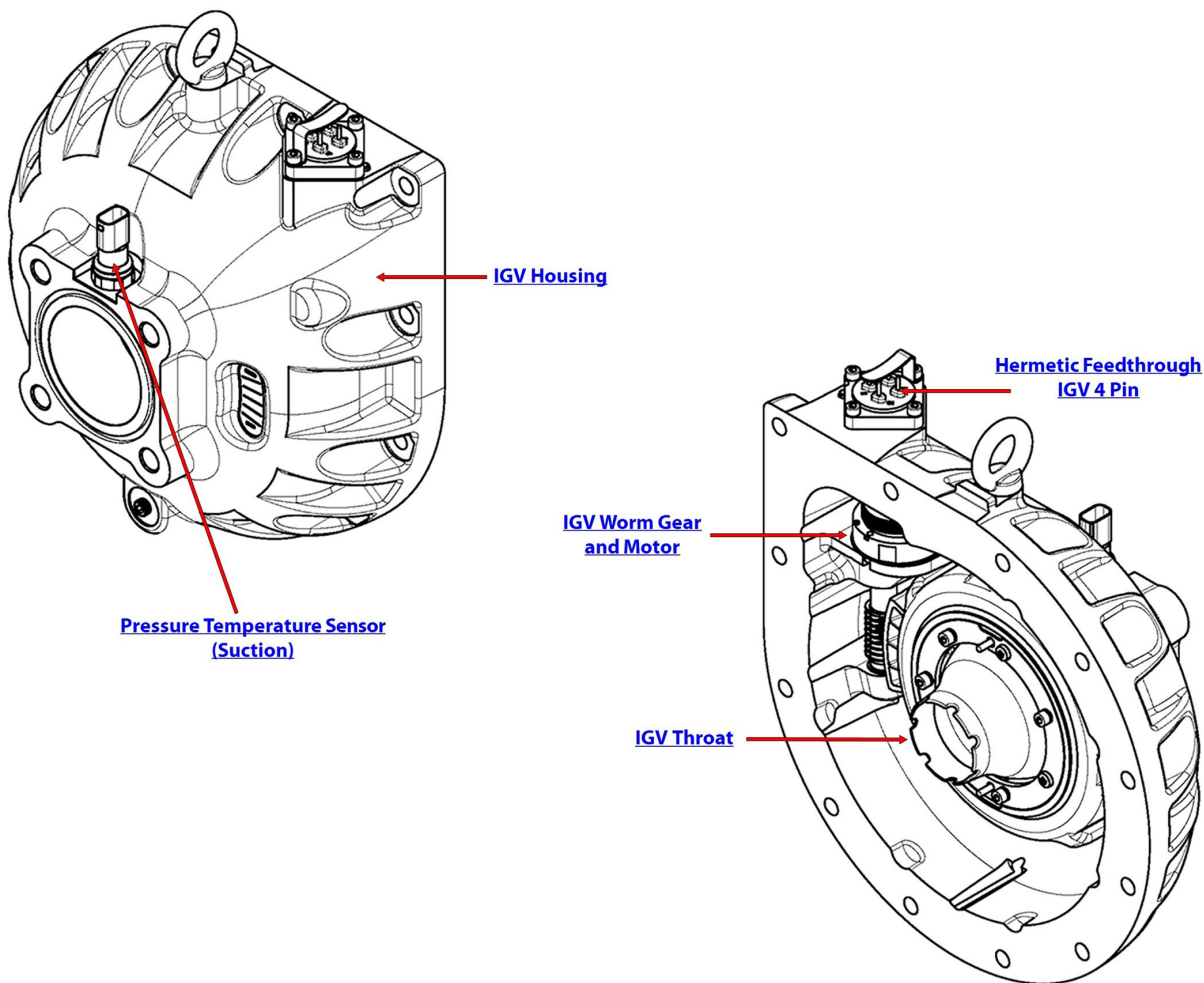
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TTH375A			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - REFRIGERANT STICKER 513A	100374	-F, -G, -H	10 stickers

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Chapter 3.0 IGV End Assembly

The spare part kits available for the 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

APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV - DRIVE ASSEMBLY AND O-RING TT300/ TG230	100050-16	-P, -C, -D, -E, -F, -G, -H	Black IGV throat with thin rim, tall, plug

APPLIES TO: TTS350/TGS310			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV - DRIVE ASSEMBLY AND O-RING TT350/ TG310	100050-15	-A, -E, -F, -H	Blue IGV throat, plug

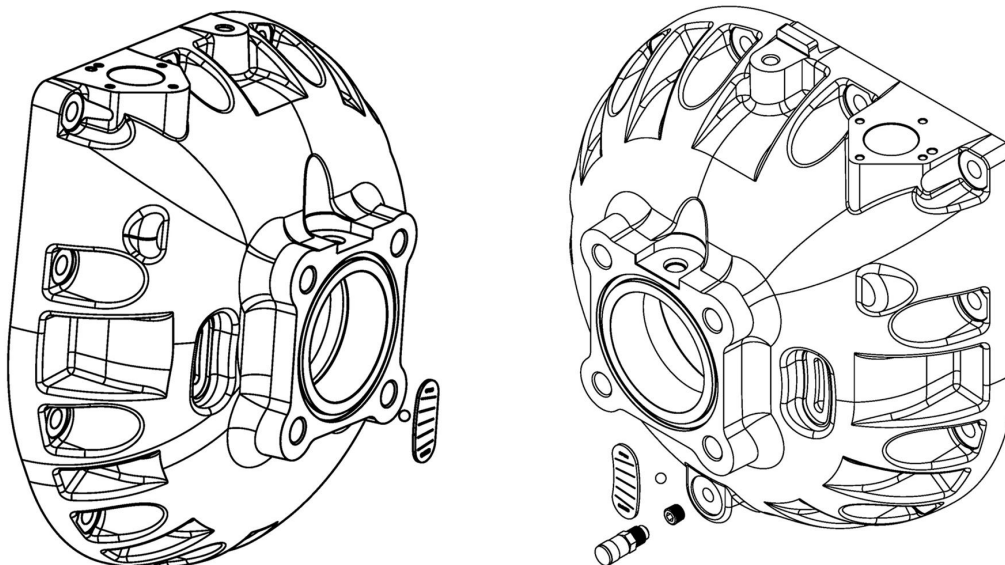
APPLIES TO: TTS400/TGS390			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV - DRIVE ASSEMBLY AND O-RING TT400/ TG390	100050-17	-C, -E, -F, -H	Gold IGV throat, plug

APPLIES TO: TGS490			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV - DRIVE ASSEMBLY AND O-RING TGS490	100050-25	-F, -H	Silver IGV throat, plug

APPLIES TO: TTS500/TTS700/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV - DRIVE ASSEMBLY AND O-RING TT700/ TG520	100050-18	-A, -E, -F, -H	Steel IGV throat, plug

APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV - DRIVE ASSEMBLY AND O-RING - TTH375/ TGH285	100050-19	-F, -H	Orange IGV throat, plug

3.2 IGV Housing



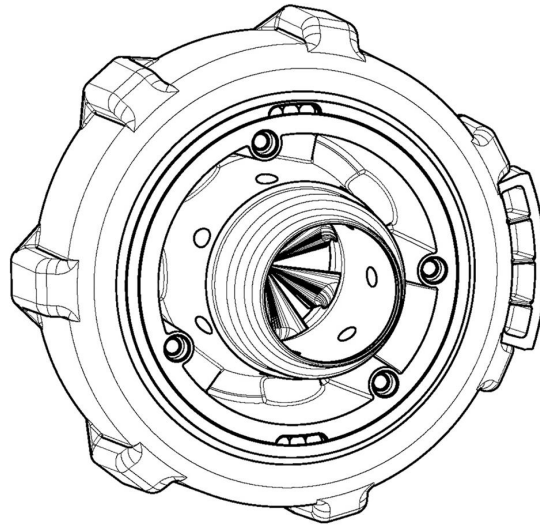
APPLIES TO: TTS300/TTS350/TTS400/TGS230/TGS310/TGS390			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV HOUSING	100223	All	Contains Housing, IGV indicator, plug

APPLIES TO: TTS500/TTS700/TGS520/TGS490			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV HOUSING TT500/TT700/TG520/TGS490	100229	All	Contains Housing, IGV indicator, plug

APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV HOUSING	100223-5	All	Contains Housing, IGV indicator, O-rings, and fasteners

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - O-RING IGV ASSEMBLY	100051-1	All	Includes O-rings

3.3 IGV Throat



APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV THROAT - TT300/TG230	100227	-P, -C, -D, -E, -F, -G, -H	Do NOT use with R22, contains IGV throat assembly-black, thin rim

APPLIES TO: TTS350/TGS310			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV THROAT - TT350/TG310	100228	-A, -E, -F, -H	Contains IGV throat assembly-blue

APPLIES TO: TTS400/TGS390			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV THROAT - TT400/TG390	100231	-C, -E, -F, -H	Contains IGV throat assembly-gold

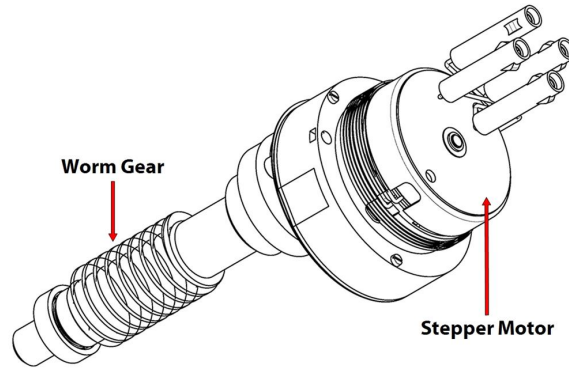
APPLIES TO: TTS500/TTS700/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV THROAT - TT500/TT700/TG520	100232	-A, -E, -F, H	Contains IGV throat assembly-steel

IGV Throat (continued)

APPLIES TO: TGS490			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV THROAT - TGS490	100261	-F, -H	Contains IGV throat assembly-silver

APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV THROAT - TTH375/TGH285	100704	-F, -H	Contains IGV throat assembly-orange, O-rings, and fasteners

3.4 IGV Worm Gear and Motor



The Worm Gear Extractor Tool is required for the removal of the IGV Worm Gear. Refer to the Tools/Accessories Table below for the part number.

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV WORM GEAR SHAFT REPAIR	100222	ALL	Contains Worm Gear, Stepper Motor, Bearings, Collars and Clips
KIT - IGV MOTOR SERVICE	100035-1	ALL	Includes Motor and O-rings
KIT - O-RING IGV ASSEMBLY	100051-1	ALL	Includes O-rings

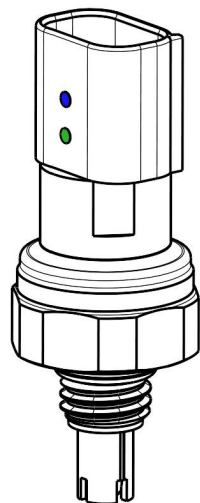
APPLIES TO: TTH375/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGV WORM GEAR SHAFT REPAIR	100705	ALL	Contains Worm Gear, Stepper Motor, Bearings, Collars, Clips, O-rings, and fasteners
KIT - IGV MOTOR SERVICE	100035-2	ALL	Includes Stepper Motor, O-rings, and fasteners
KIT - O-RING IGV ASSEMBLY	100051-1	ALL	Includes O-rings

APPLIES TO: ALL COMPRESSORS

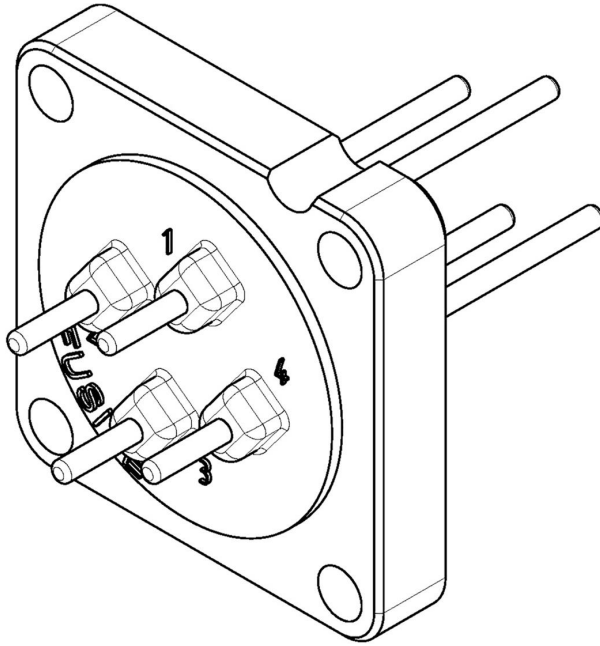
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - EXTRACTOR TOOL, WORM GEAR	100246	ALL	Worm Gear Extractor tool only

3.5 Pressure Temperature Sensor Suction



APPLIES TO: ALL COMPRESSORS			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – SENSOR PRESSURE/TEMPERATURE LOW SIDE	100036-1	ALL	Marked with a blue spot and a green spot, contains O-ring

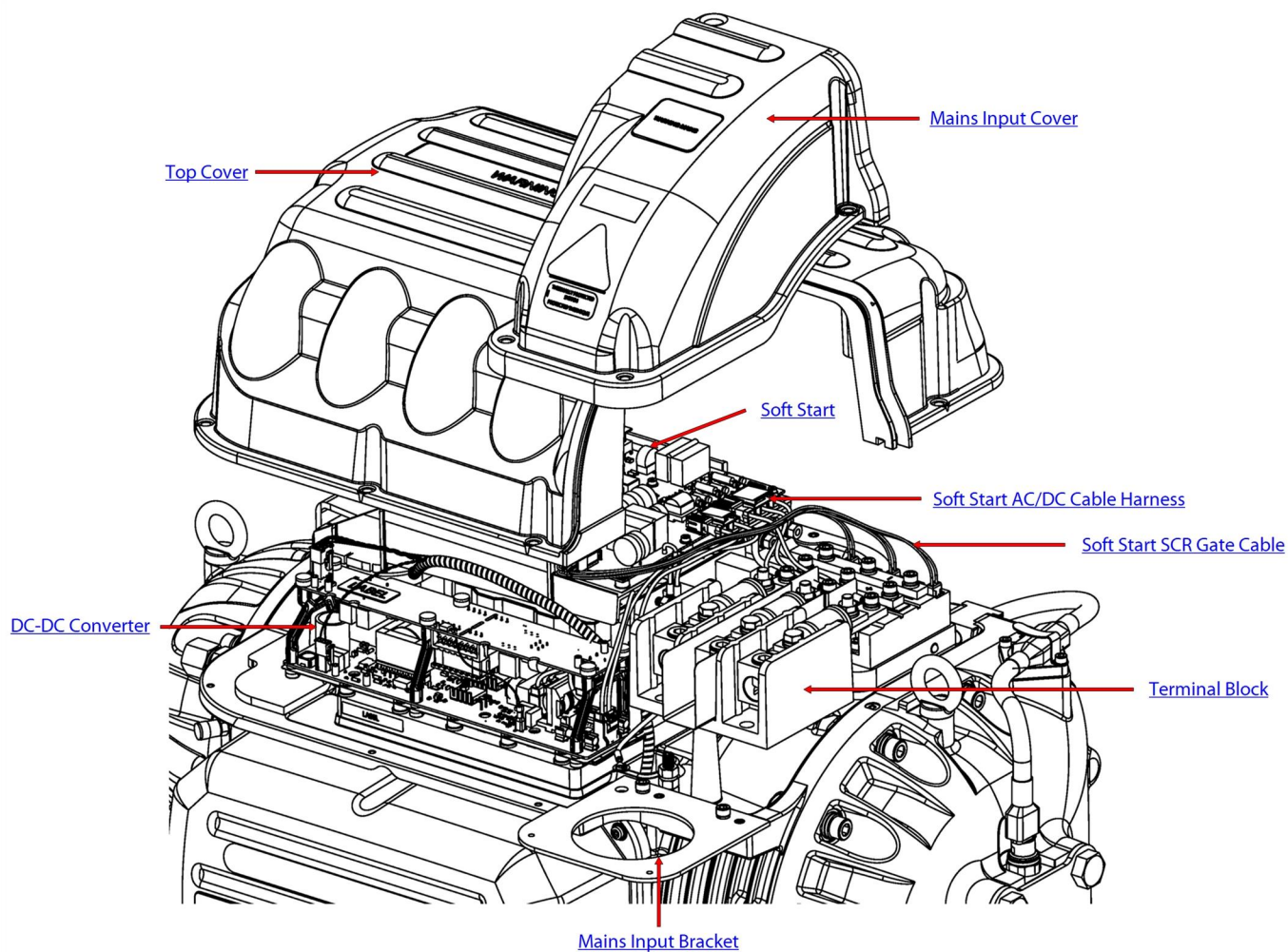
3.6 Hermetic Feedthrough IGV 4 Pin

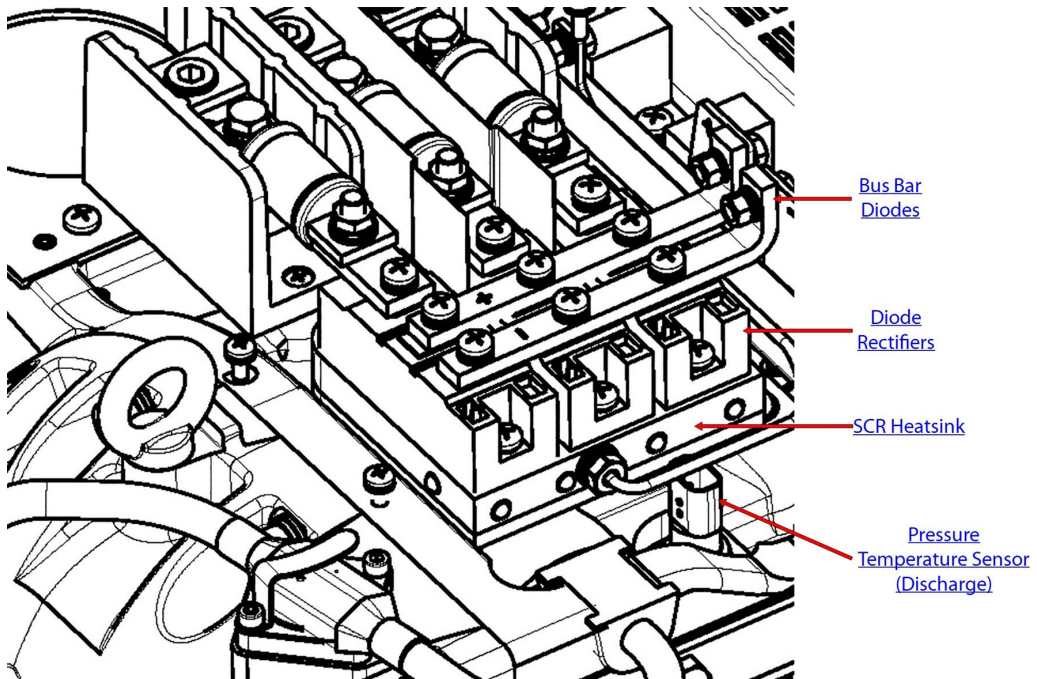
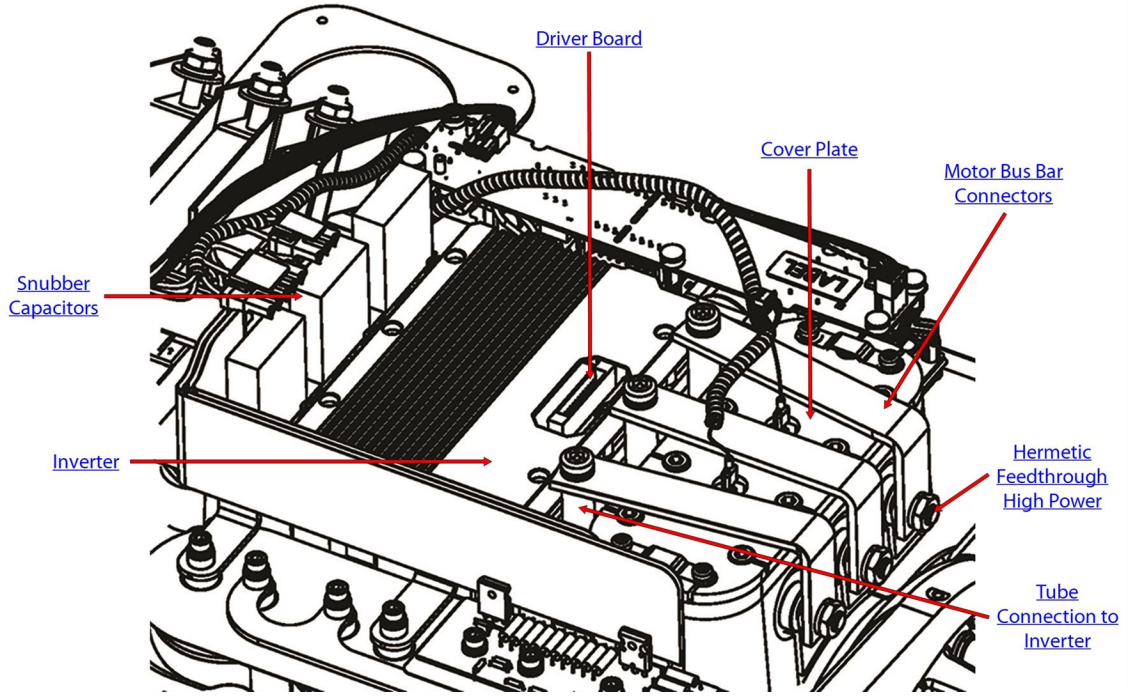


APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT- HERMETIC FEEDTHROUGH IGV 4PIN	100321-1	ALL	Includes O-ring, clamp, and fasteners

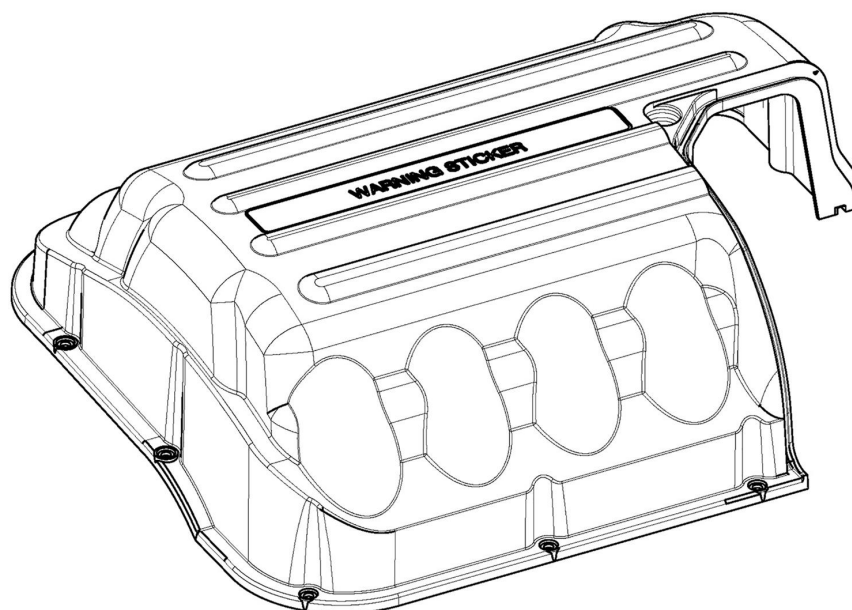
Chapter 4.0 Top Side

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





4.1 Top Cover

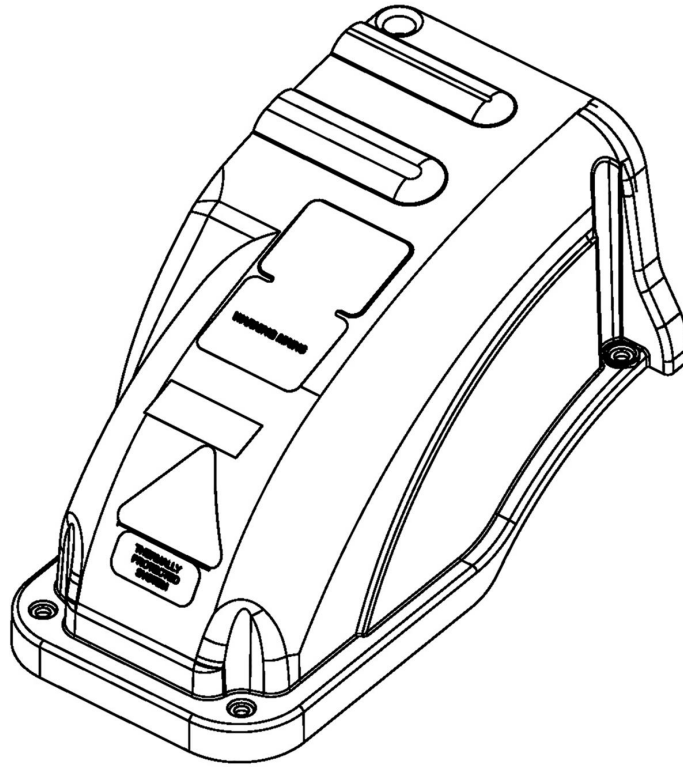


APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TTH375			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER TOP ASSY (BLACK) EN/FR LABELS	100054-3	ALL	Includes fasteners

APPLIES TO: TGS230/TGS310/TGS390/TGS490/TGS520/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER TOP ASSY (GREEN)EN/FR LABELS	100054-6	ALL	Includes fasteners

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVERS SCREW M5 (P/H STAINLESS STEEL)	100252	ALL	Replaces fasteners for all four covers (24 fasteners)

4.2 Mains Input Cover



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TTH375

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER MAINS INPUT ASSY (BLACK) EN/FR LABELS	100056-3	ALL	Includes fasteners

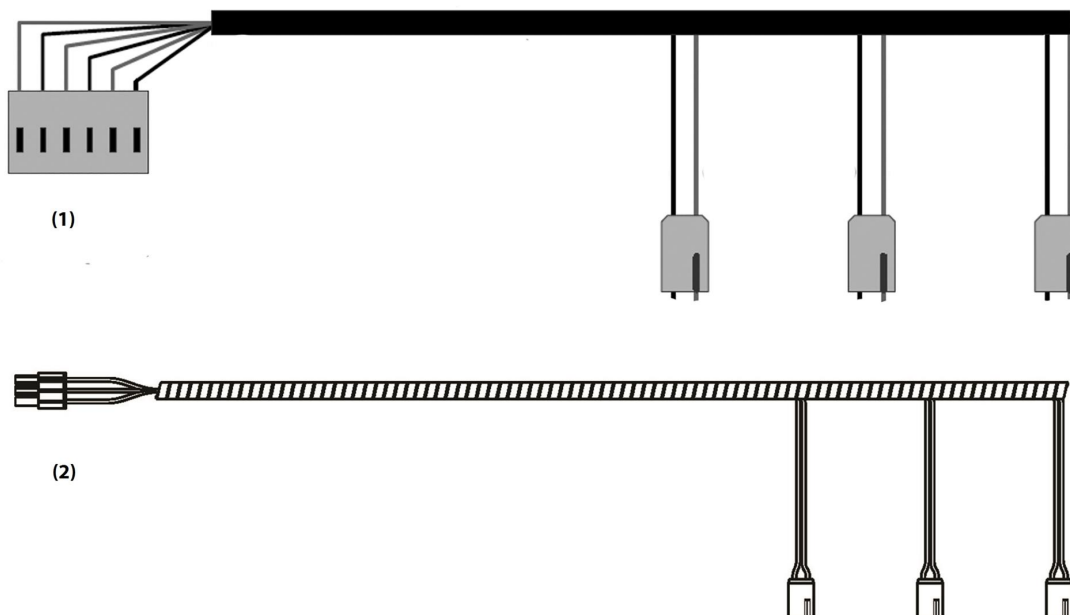
APPLIES TO: TGS230/TGS310/TGS390/TGS490/TGS520/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER MAINS INPUT ASSY (GREEN) EN/FR LABELS	100056-6	ALL	Includes fasteners

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285

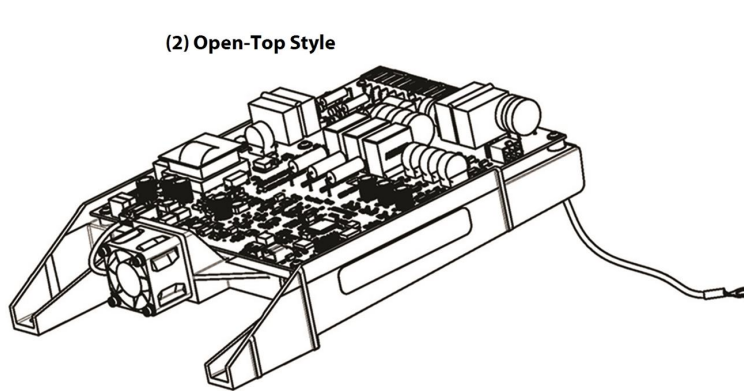
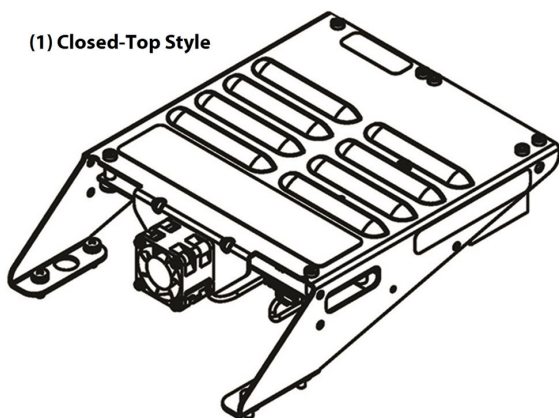
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVERS SCREW M5 (P/H STAINLESS STEEL)	100252	ALL	Replaces fasteners for all four covers (24 fasteners)

4.3 Soft Start SCR Gate Cable



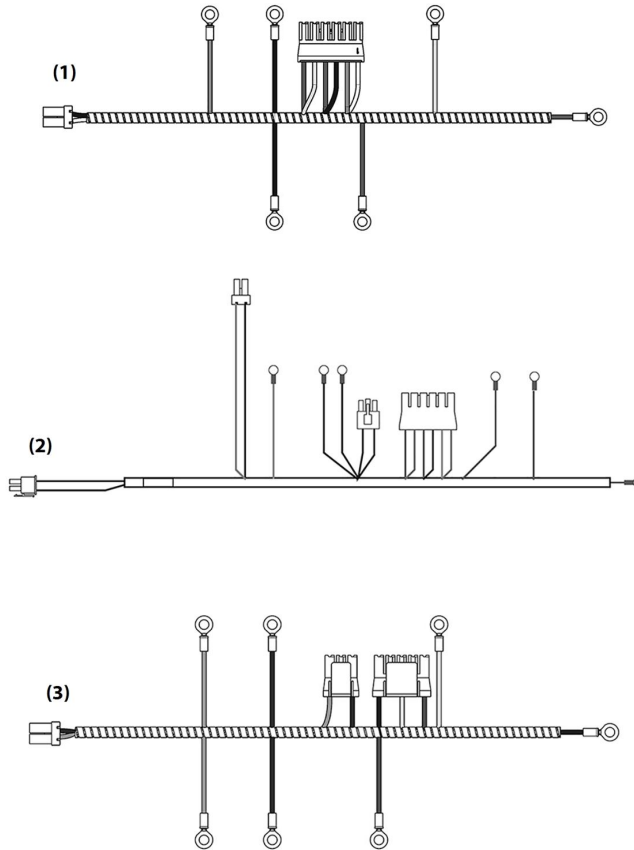
It is important to determine the Soft Start that is currently installed on the compressor. Pre Rev H compressors may contain a Soft Start that has been upgraded to the Open-Top style. The two different style Soft Starts utilize a different connector, which requires a unique Soft Start SCR Gate Cable.

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - CABLE HARNESS SOFT START SCR GATE	100059	-N, -P, -C, -D, -E, -F, -G	Closed-Top Soft Starts (1) Includes cable only
(2) KIT - CABLE HARNESS SOFT START SCR GATE	100059-1	-H	Open-Top Soft Start (2) Includes cable only



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

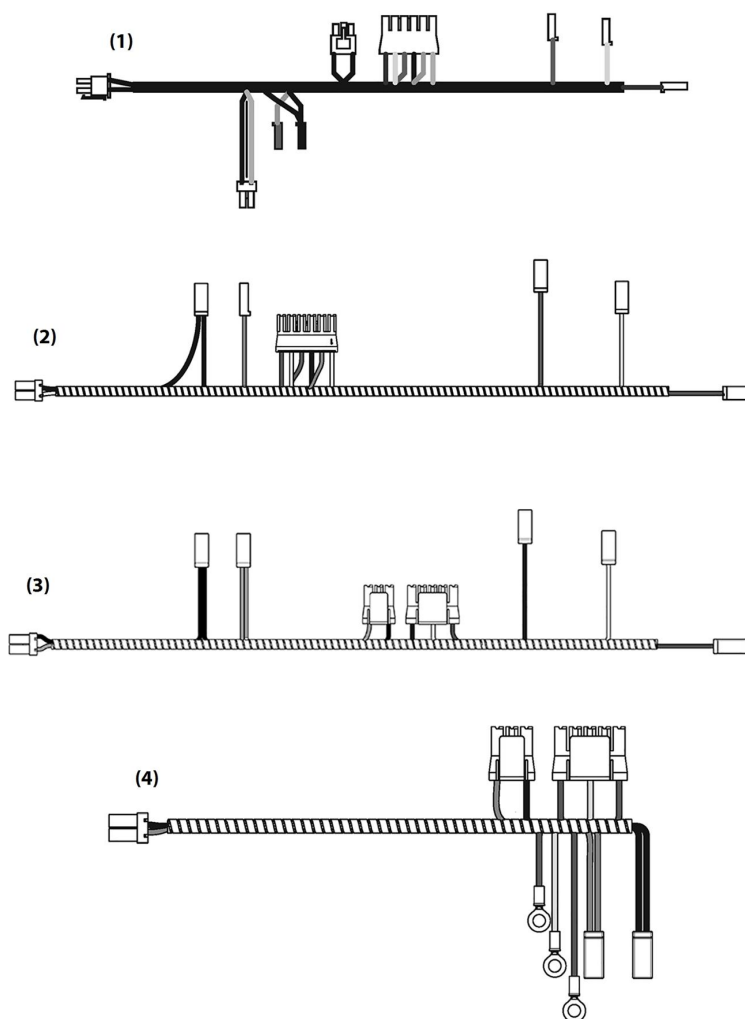
4.4 Cable Harness Soft Start AC/DC



It is important to determine the Soft Start that is currently installed on the compressor, as well as the DC-DC and Bus Bars. 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 types of Soft Starts.

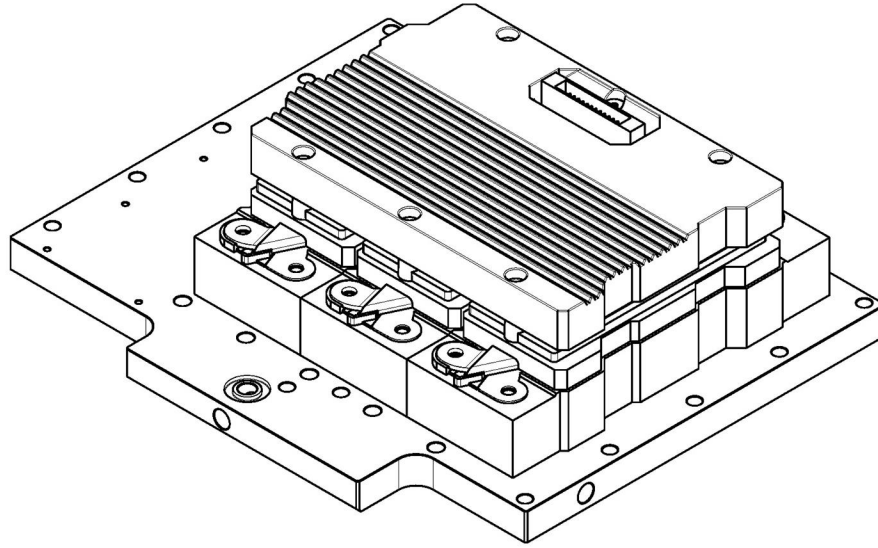
APPLIES TO: TTS300*/TGS230 DESCRIPTION			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1 & 2) KIT-CABLE HARNESS SOFT START AC/DC	100380	-N, -P*, -C, -D, -E, -F, -G	Cable Only (Kits includes two cables in order to accommodate either DC-DC style)
(3) KIT-CABLE HARNESS SOFT START AC/DC	100380-1	-H	Cable Only **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)



APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1 & 2) KIT-CABLE HARNESS SOFT START AC/DC	100381	-P*, -A, -C, -E, -F	Cable Only (Kits includes two cables in order to accommodate either DC-DC style)
(3) KIT-CABLE HARNESS SOFT START AC/DC	100381-2	-P*, -A, -C, -E, -F	Cable Only Soft Start (open-top style), Open Frame DC-DC, and Curved Bus Bars
(4) KIT-CABLE HARNESS SOFT START AC/DC	100381-1	-H	Cable Only Soft Start (open-top style), Open- Frame DC-DC, and Straight Bus Bars

4.5 Inverter

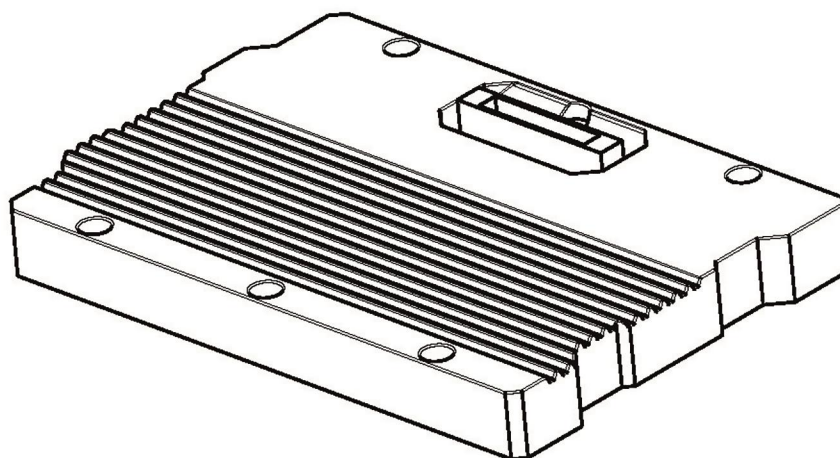


APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - INVERTER ASSY 613 KIT – INVERTER ASSY CONVERSION 342 TO 613 SERIES	100521*	-N, -P, -C, -D, -E, -F	Includes motor bus bars, manifold insulator, fasteners, washers, and O-rings
KIT – INVERTER ASSY 613	100043-13*	-G, -H	Includes fasteners, washers and O-rings
KIT- O-RING INVERTER ASSY	100310-2	ALL	Replaces Inverter O-rings and fasteners

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - INVERTER ASSY 613	100043-11	-P, -A, -C, -E, -F, -H	Includes fasteners, washers, and O-rings
KIT- O-RING INVERTER ASSY	100310-1	ALL	Replaces Inverter O-rings and fasteners

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

4.6 Driver Board

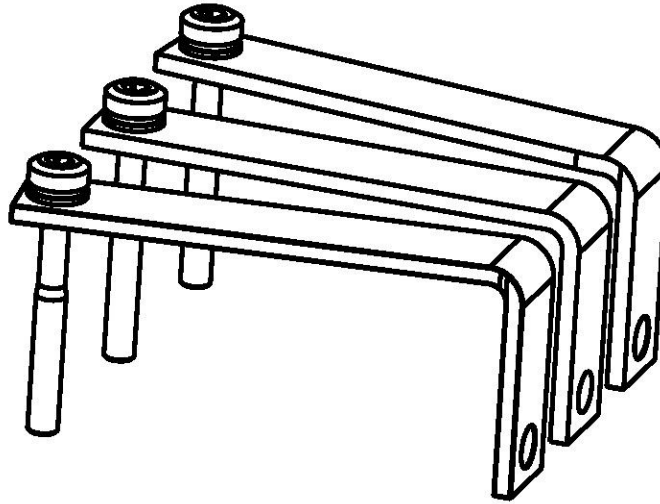


APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - INVERTER CONTROL CARD SKIIP 613 , TT300/TG230	100518-1*	-G, -H	Includes mounting fasteners and spring pins

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - IGBT 613 DRIVER BOARD	100518	-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

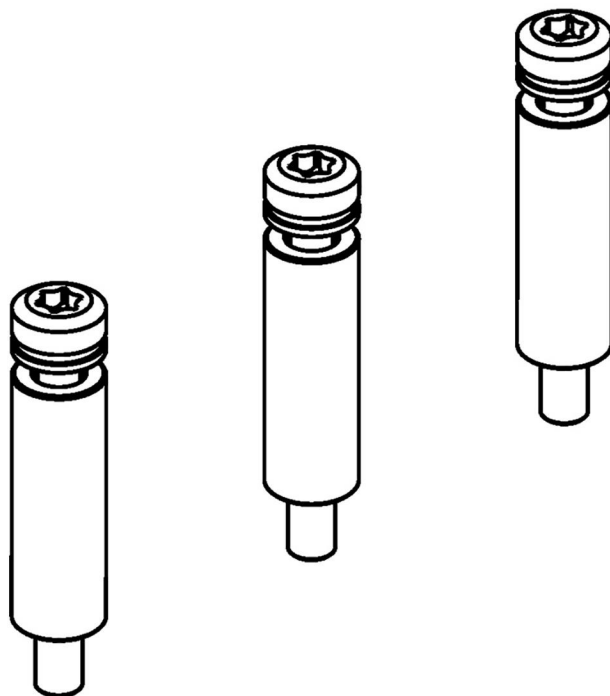


APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - BUS ASSEMBLY CONNECTION MOTOR INVERTER	100313	-N, -P, -C, -D, -E, -F	Includes three bus bars and fasteners
KIT - BUS ASSEMBLY CONNECTION MOTOR INVERTER	100313-1*	-G, -H	Includes three bus bars and fasteners

APPLIES TO: TT350/TT400/TT500/TT700/TG310/TG390/TGS490/TG520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - BUS ASSEMBLY CONNECTION MOTOR INVERTER	100313-1	-P, -A, -C, -E, -F, -H	Includes three bus bars and fasteners

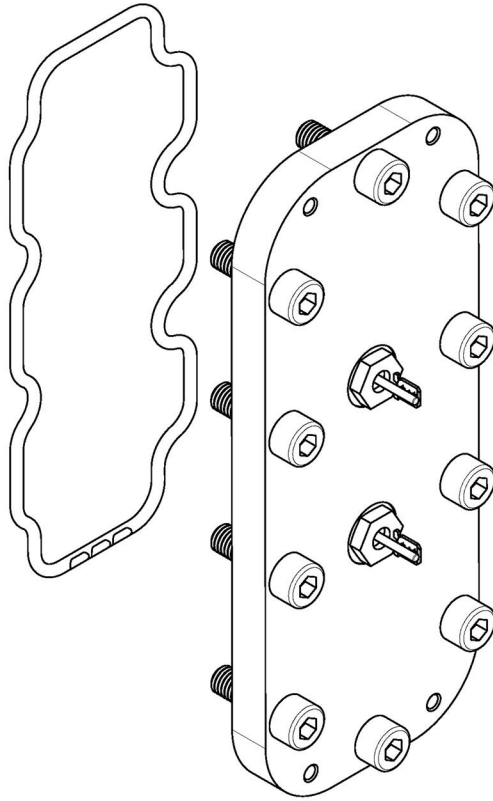
*Refer to Customer Notification (B-CN-079-EN) - This kit is for TTS300/TGS230 Rev. G and later compressors or when Conversion Kit (100521) has already been applied

4.8 Tube Connection to Inverter



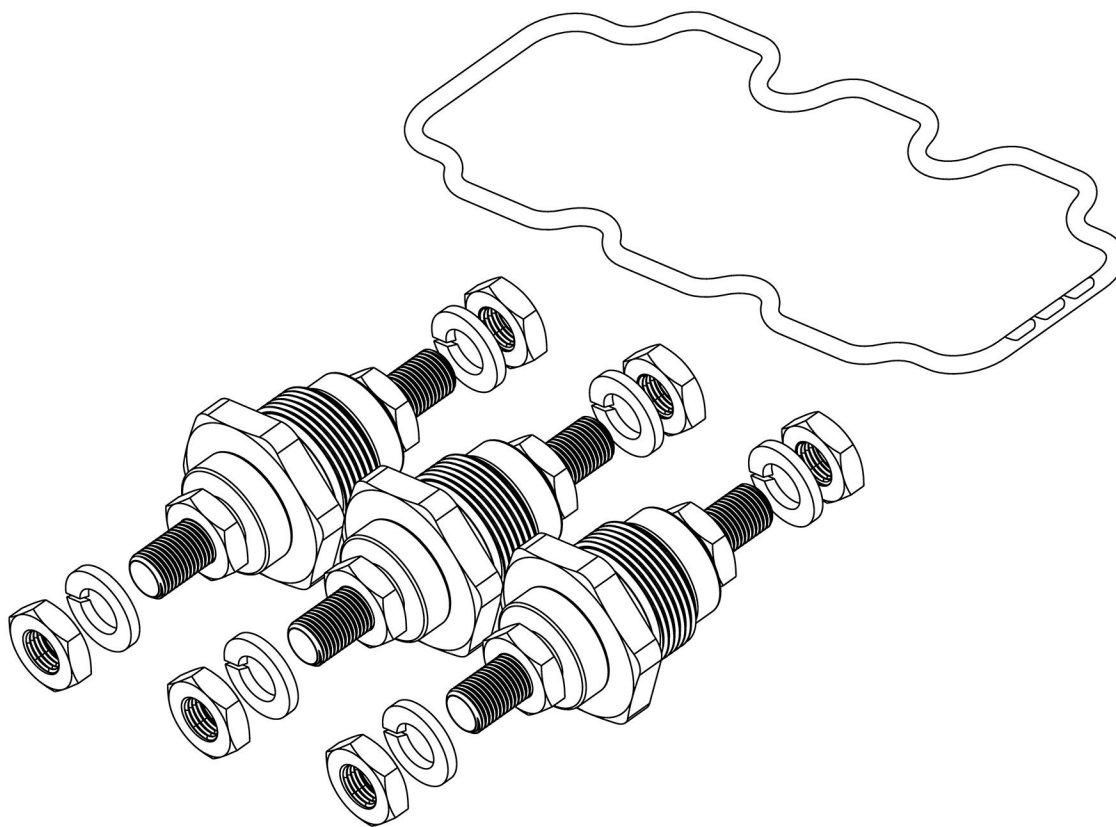
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - TUBE CONNECTION TO INVERTER	100311	ALL	Includes three tubes and fasteners

4.9 Cover Plate Assembly



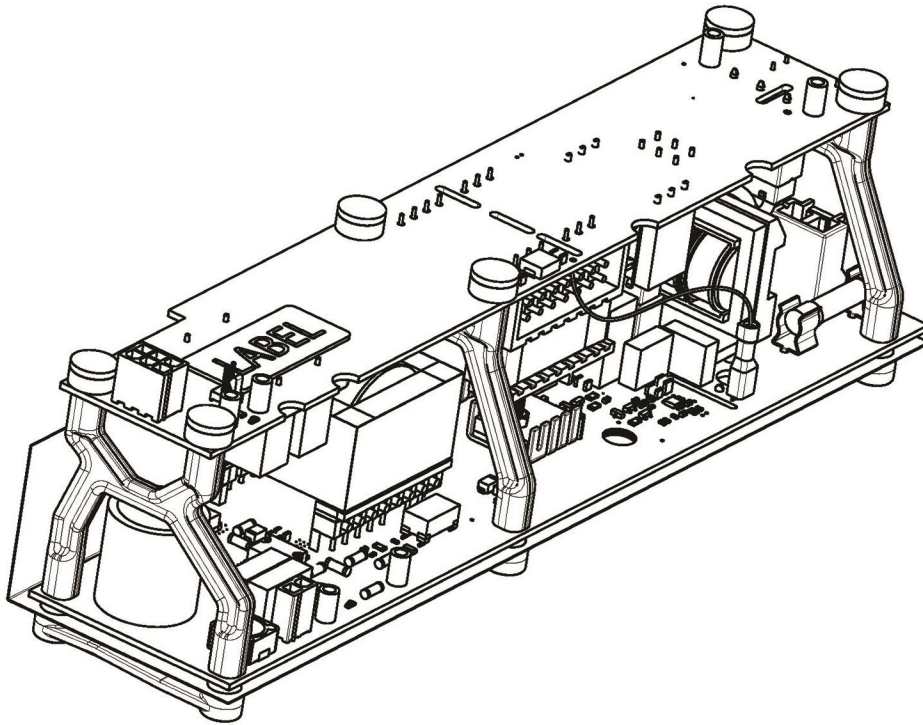
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER PLATE ASSEMBLY	100314-2	ALL	Includes O-rings and fasteners
KIT- O-RING TOP PLATE ASSY	100315-1	ALL	Molded O-ring Only (shown)

4.10 Hermetic Feedthrough High Power



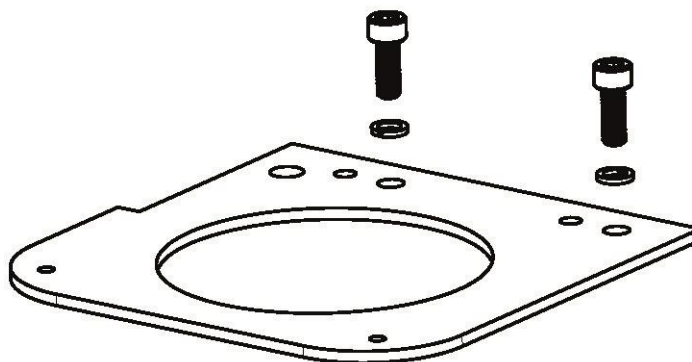
APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - HERMETIC FEEDTHROUGH HIGH POWER EPDM (Stainless Steel)	100383	ALL	Includes three high power feedthroughs, nuts, washers, O-ring, and fasteners
KIT- O-RING TOP PLATE ASSY	100315-1	ALL	Custom O-ring Only (shown)

4.11 DC-DC Converter



APPLIES TO:TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - DC-DC CONVERTER ASSEMBLY	100379	ALL	Includes fasteners

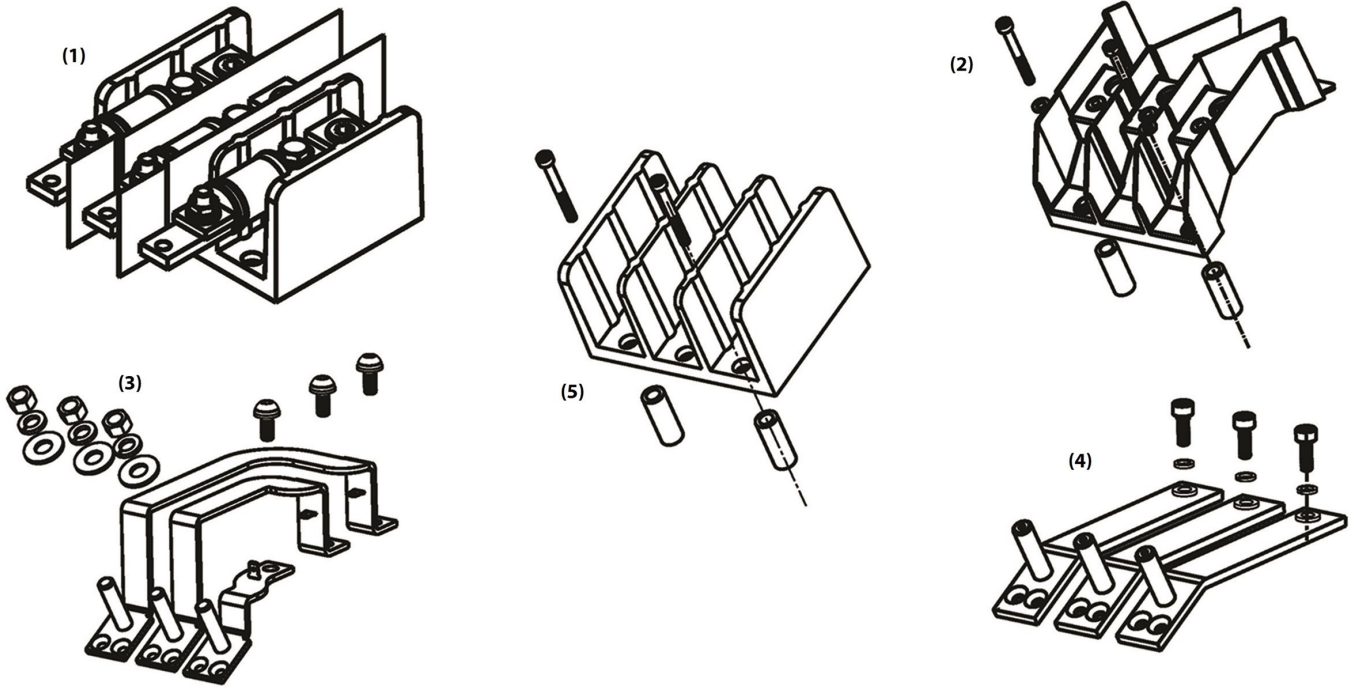
4.12 Mains Input Bracket and Grounding Stud



APPLIES TO:TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – BRACKET MAINS INPUT PLATE 2.0" DIAMETER	100216	ALL	Includes fasteners and washers
KIT – BRACKET MAINS INPUT PLATE 2.48" DIAMETER	100217	ALL	Includes fasteners and washers
KIT – BRACKET MAINS INPUT PLATE 3.0" DIAMETER	100218	ALL	Includes fasteners and washers
KIT – BRACKET MAINS INPUT PLATE 3.5" DIAMETER	100219	ALL	Includes fasteners and washers
KIT – MAIN INPUT GROUND POST	100519 *	ALL	Includes fasteners and washers

* Not pictured

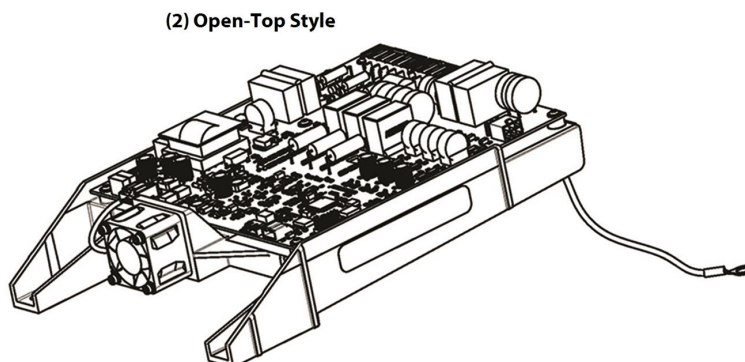
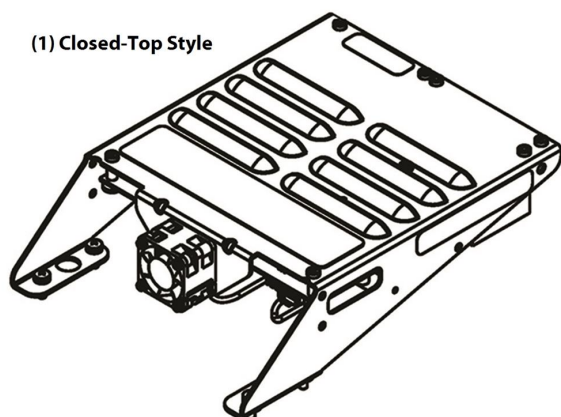
4.13 Terminal Block Assembly



APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - TERMINAL BLOCK MAINS AND FUSE ASSY	100048-2	-N, -P, -C, -D, -E, -F, -G, -H	Replaces Terminal Block assembly, includes fuses, insulator, fuse extension, fasteners, and connectors
KIT - FUSE CLASS T-FAST ACTING A6T 175	100344	-N, -P, -C, -D, -E, -F, -G, -H	Replaces the three fuses in the terminal block assembly

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(3) KIT - INPUT MAINS BUS BARS (CURVED)	100416	-A, -C, -E, -F	Includes three Bus Bars and fasteners
(4) KIT - INPUT MAINS BUS BARS (STRAIGHT)	100416-1	-H	Includes three Bus Bars and fasteners
(5) KIT - TERMINAL POWER BLOCK ASSY	100048-1	-A, -C, -E, -F	Replaces Terminal Block, fasteners, and spacers
(2) KIT - TERMINAL POWER BLOCK ASSY	100048-3	-H	Replaces Terminal Block, Bus Bars, fasteners, and spacers

4.14 Soft Start Assembly



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.

APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - MODULE SOFT START UPGRADE (Conversion to Open-Top Style)	100020-19	-N, -P, -C, -D, -E, -F	Includes Soft Start, DC-DC, Soft Start AC/DC Cable, Soft Start SCR Gate Cable, and fasteners
KIT - MODULE SOFT START (Open-Top Style)	100020-18	-G**, -H	Includes fasteners only **Rev G compressors with Potted DC-DC require Soft Start Upgrade Kit (100020-19) instead **Rev G Compressors with Open Frame DC-DC require cables 100380-1 and 100059-1 in addition to this kit

Soft Start Assembly (continued)

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - MODULE SOFT START UPGRADE (Conversion to Open-Top Style)	100020-20	-P, -A, -C, -E	Includes Soft Start, DC-DC, Soft Start AC/DC Cable, Soft Start SCR Gate Cable, and fasteners
KIT - MODULE SOFT START (Open-Top Style)	100020-18	-F**, -H	Includes fasteners **Rev F compressors with Potted DC-DC require Soft Start Upgrade Kit (100020-20) instead ** Rev F Compressors with Open Frame DC-DC requires cables 100381-2 and 100059-1 in addition to this kit

APPLIES TO: TT300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COOLING FAN AND ADAPTOR ASSEMBLY	100373-1	ALL	(three wire connector) Includes adaptor 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.

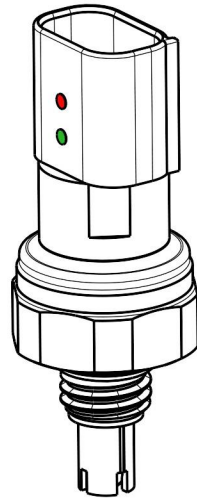
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/ TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - FUSES (FIE) SOFT START	100317-1	-N, -P, -A, -C, -D, -E, -F, -G	Fuses included: QTY 3 - 2A HVA (F1), QTY 3 - 2A SPF (F1), QTY 10 - 1A Nano (F3, F6), QTY 10 - 0.25A Nano (F2), and QTY 6 - 0.25A Midget (F4, F5)
KIT – FUSES (FIE) SOFT START	100317-2	-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)
KIT- FUSE FAST ACTING NANO SMF 0.25A 125V (FIE) (F2)	100430	-N, -P, -A, -C, -D, -E, -F, -G	Includes 10 fuses
KIT- FUSE SMF 0.25A 600V MIDGET TIME-DELAY CC (FIE)	100432	-N, -P, -A, -C, -D, -E, -F, -G	Includes six (6) fuses
KIT - FUSE NANO SMF 1A 125V (FIE) (F3, F6)	100433	-N, -P, -A, -C, -D, -E, -F, -G	Includes 10 fuses

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT-FUSE 2A 1000V HVA 3" (F1)	100421	-N, -P, -A, -C, -D, -E	For Soft Starts rev P and earlier, includes three (3) fuses
KIT – FUSE 2A FAST ACTING 1000V SPF (F1)	100422	-F, -G	For Soft Starts rev Q and later, includes three (3) fuses

APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – FUSES (FIE) SOFT START	100317-2	ALL	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)
KIT – FUSE 2A FAST ACTING 1000V SPF (F1)	100422	ALL	Includes three (3) fuses

*Open-Top Soft Starts contain resettable fuses that do not require replacement.

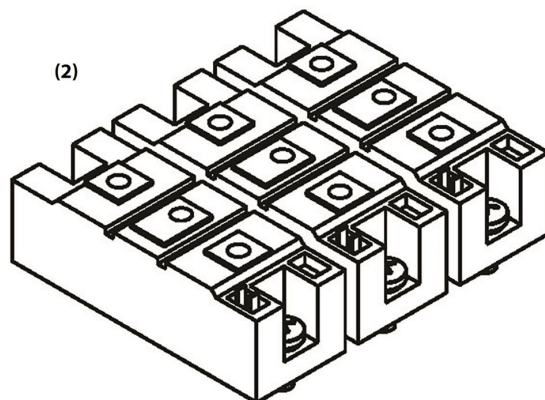
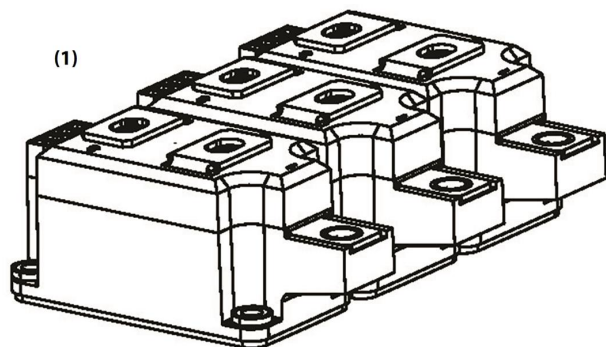
4.16 Pressure Temperature Sensor Discharge



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
*KIT – SENSOR PRESSURE/TEMPERATURE HIGH SIDE	100037-1	ALL	Marked with a red spot and a green spot, contains O-ring

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

4.17 Diode Rectifiers

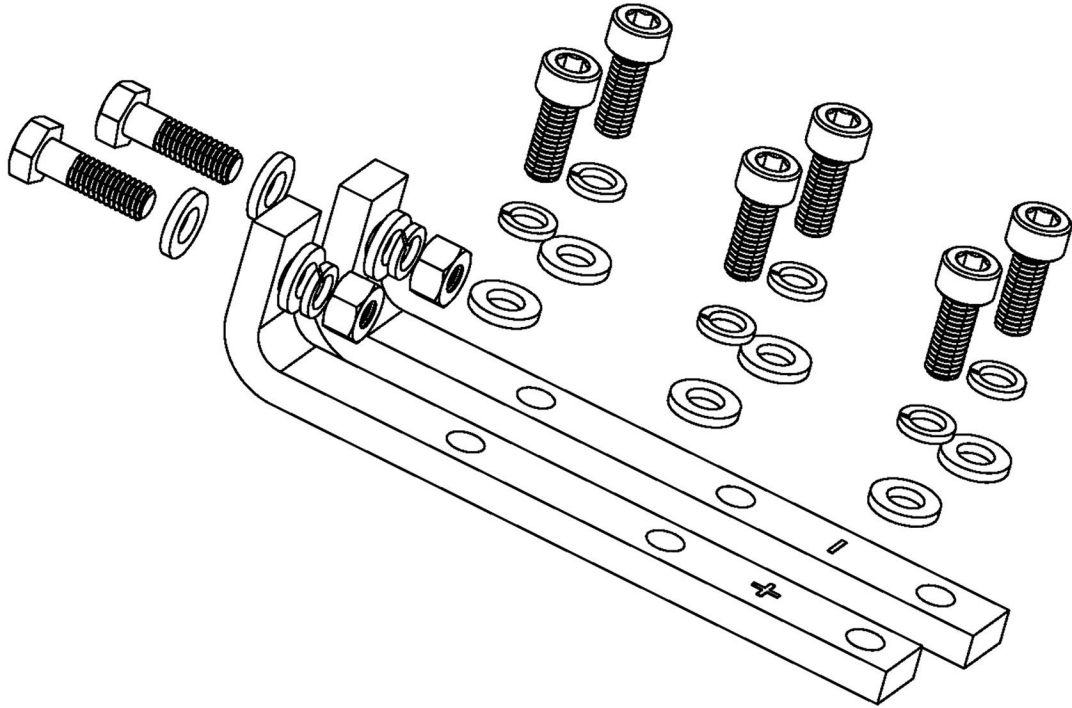


APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(2) KIT - DIODE RECTIFIERS	100047-1	-N, -P, -C, -D, -E, -F, -G, -H	Includes fasteners *Not interchangeable with Kit 100047-3

APPLIES TO: TTS350/TTS500/TTS700/TGS310/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - DIODE RECTIFIERS	100047-2	-P, -A, -C, -E, -F	Includes fasteners
(2) KIT - DIODE RECTIFIERS	100047-3	-H	Includes fasteners *Not interchangeable with Kit 100047-1

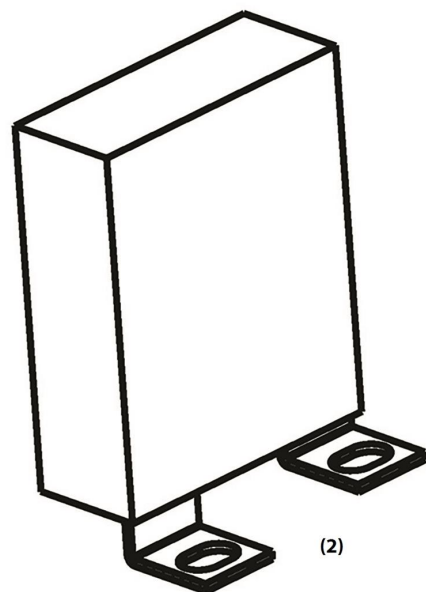
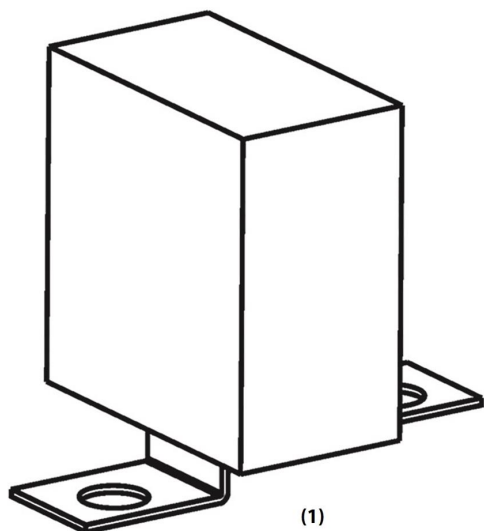
APPLIES TO: TTS400/TGS390			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - DIODE RECTIFIERS	100047-2	-P, -A, -C, -E, -F	Includes fasteners
(2) KIT - DIODE RECTIFIERS	100047-1	-H	Includes fasteners *Not interchangeable with Kit 100047-3

4.18 Bus Bar Diodes



APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - BUS BAR DIODE	100316	ALL	Includes positive and negative Bus Bars, and fasteners

4.19 Snubber Capacitors



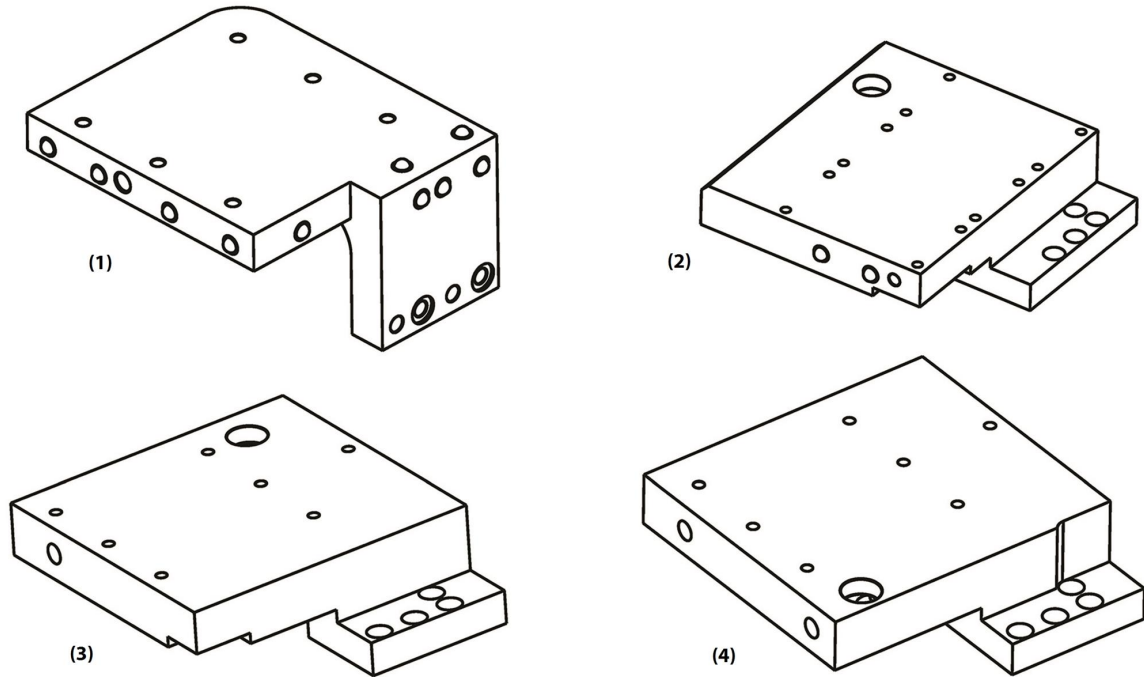
APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – CAPACITOR INVERTER SNUBBER, 0.47Y1000	100417	ALL	Includes three snubbers and fasteners

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – CAPACITOR INVERTER SNUBBER, 0.47Y1000	100417	-P, -A, -C, -E, -F	Includes three snubbers and fasteners
(2) KIT – CAPACITOR INVERTER SNUBBER, 0.47X1250	100417-1	-H	Includes three snubbers and fasteners (Not for use on High SST Models)

APPLIES TO: TTS350/TTS400/TTS700/TGS310/TGS390/TGS490/TGS520 HIGH SST MODELS			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – CAPACITOR INVERTER SNUBBER, 0.47Y1000	100417	-H	Includes three snubbers and fasteners (High SST Models)

NOTE
Snubber capacitors should always be replaced as a kit.

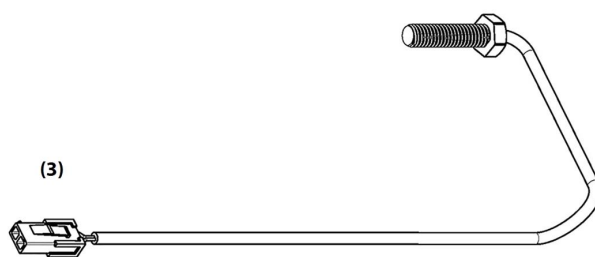
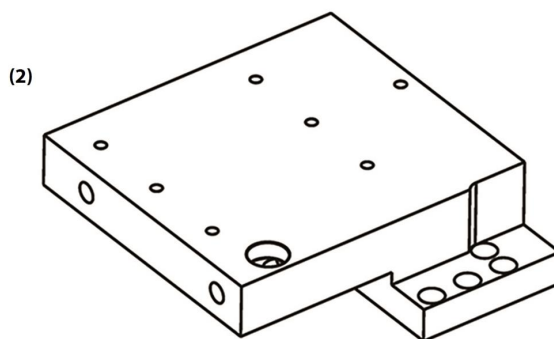
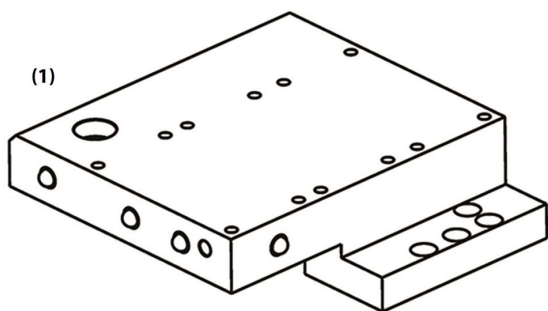
4.20 SCR Heatsink Assembly



APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	100309-11	-N, -P, -C, -D, -E, -F, -G, -H	Includes O-rings and fasteners *(sensor not applicable)
KIT- O-RING INVERTER ASSY	100310-2	ALL	Replaces Inverter and SCR Heatsink Manifold O-rings and fasteners

TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(2) KIT - HEATSINK - COOLING MANIFOLD SCR ASSY (TT350) NO SENSOR	100309-13	-P, -A, -C, -E, -F	Includes O-rings and fasteners *(sensor not applicable)
(3) KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	100309-9	-H	Includes O-rings and fasteners (sensor not applicable)
(4) KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	*100309-8	-H	High SST Option Includes O-rings and fasteners - *requires additional components*
KIT- O-RING INVERTER ASSY	100310-1	ALL	Replaces Inverter and SCR Heatsink Manifold O-rings and fasteners

SCR Heatsink Assembly (continued)



APPLIES TO: TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	100309-7	-F	Includes O-rings and fasteners *Not interchangeable with Kit 100309-8
(2) KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	100309-8	-H	Includes O-rings and fasteners *Not interchangeable with Kit 100309-7
KIT- O-RING INVERTER ASSY	100310-1	ALL	Replaces Inverter and SCR Heatsink Manifold O-rings and fasteners

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(3) KIT – TEMPERATURE SENSOR SCR	100268	-N, -P, -A, -C, -D, -E, -F, -G Includes washers	Includes washers *Will not work in Rev H compressors

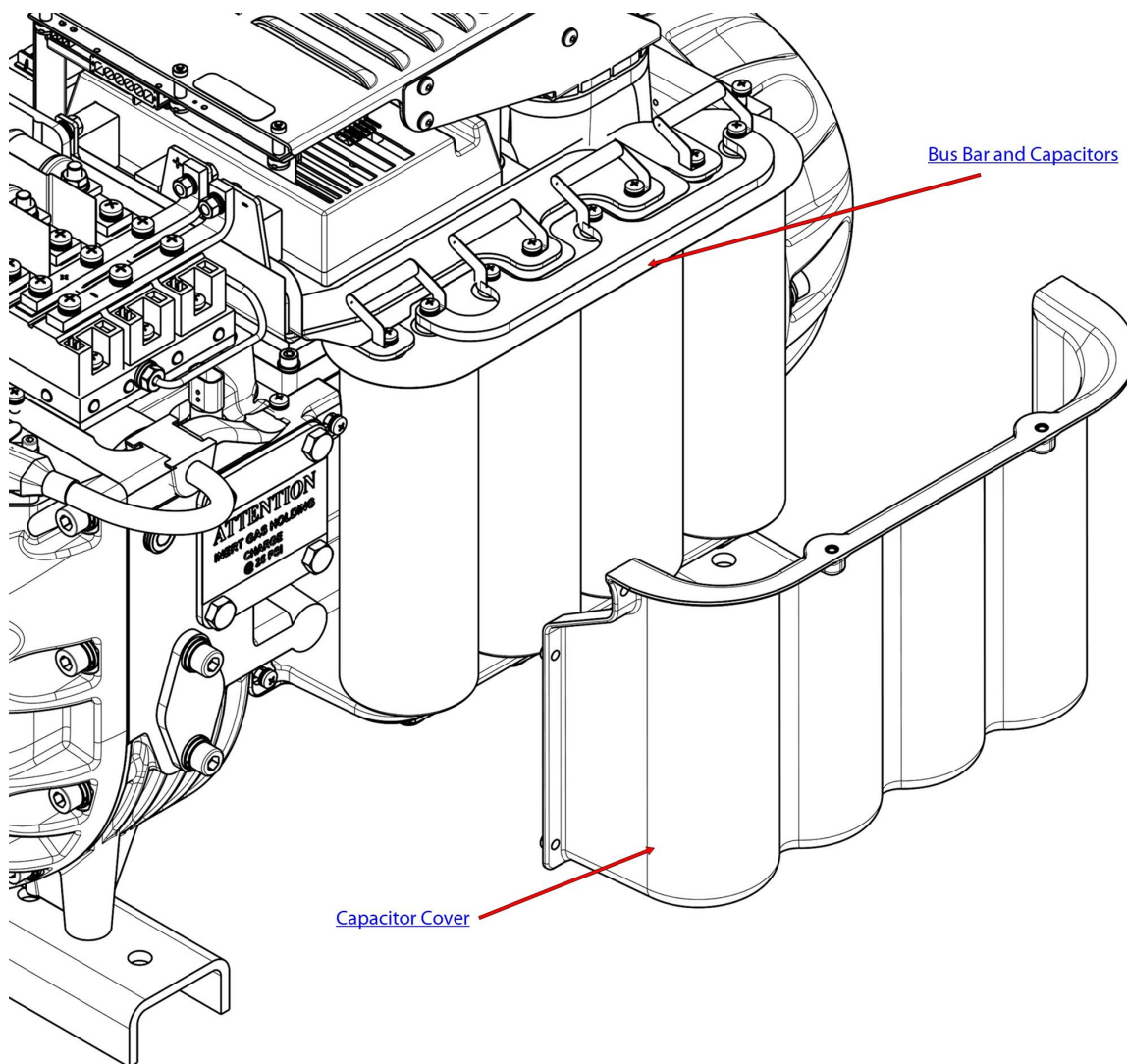
NOTE

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

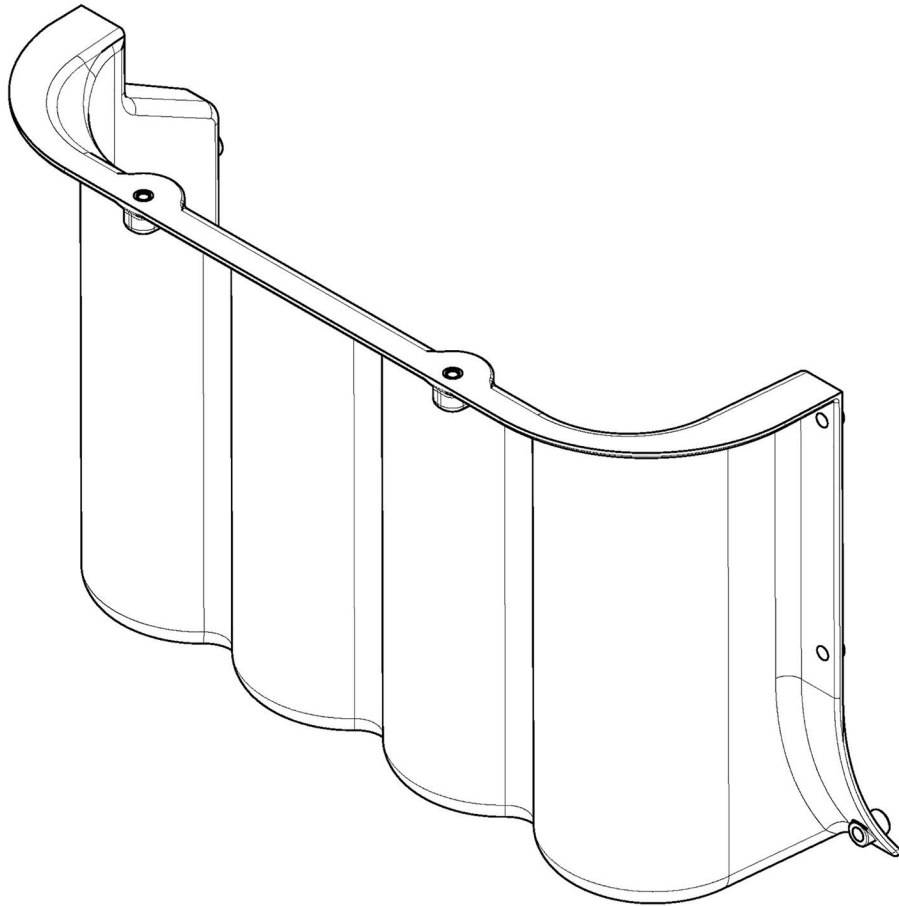
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Chapter 5.0 Capacitor Side

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



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TTH375

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER CAPACITOR ASSY (BLACK)	100053-3	ALL	Includes fasteners

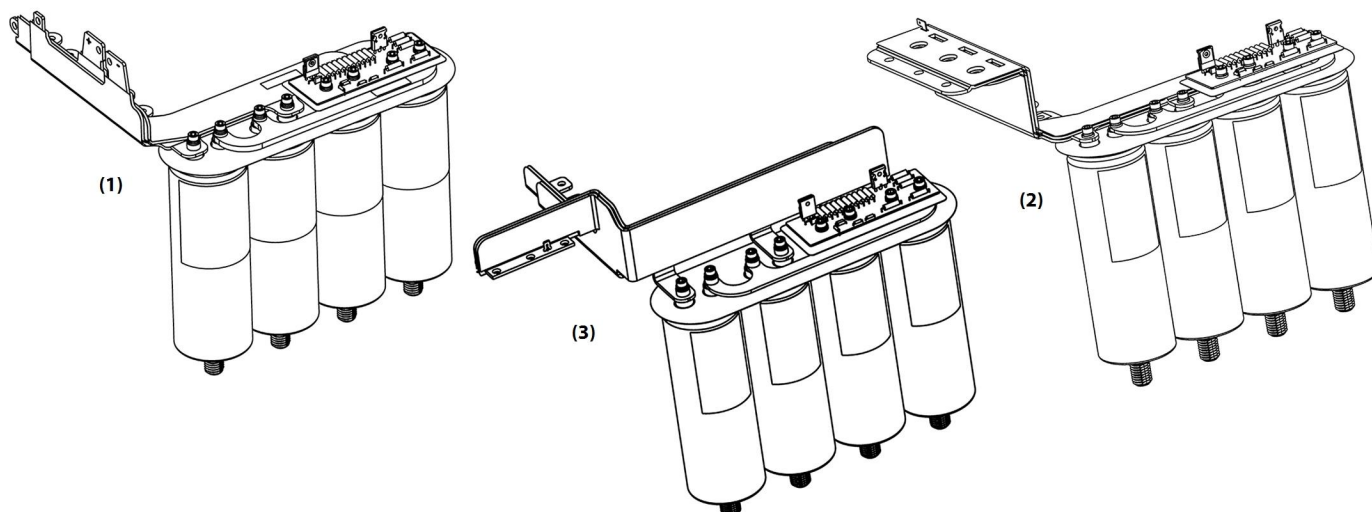
APPLIES TO: TGS230/TGS310/TGS390/TGS490/TGS520/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER CAPACITOR ASSY (GREEN)	100053-6	ALL	Includes fasteners

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVERS SCREW M5 (P/H STAINLESS STEEL)	100252	ALL	Replaces fasteners for all four covers (24 fasteners)

5.2 Bus Bar and Capacitor Assembly



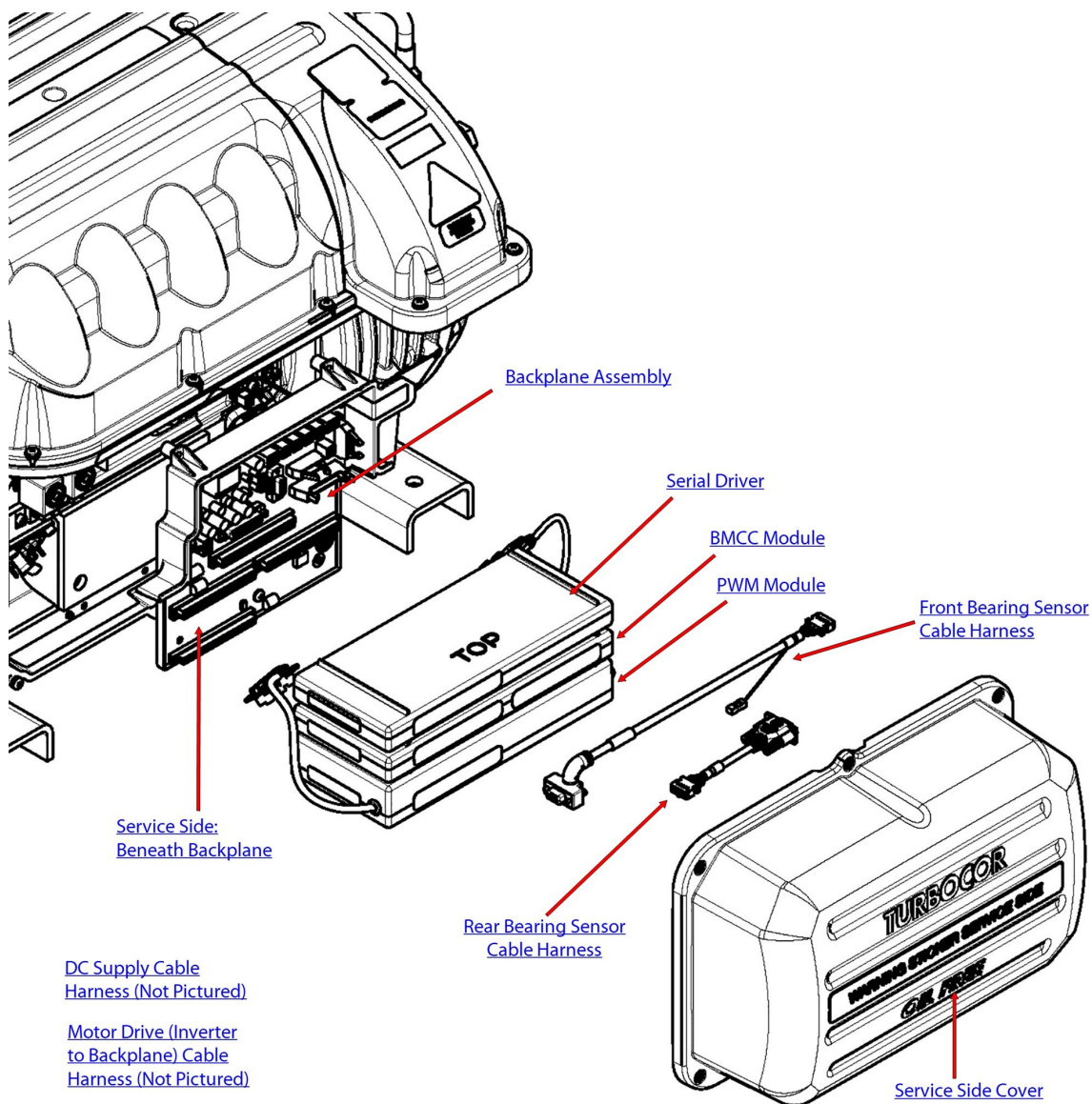
APPLIES TO: TTS300/TGS230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - BUS BAR ASSY AND CAPACITORS 6800 μ F (460V)	100044-7	-N, -P, -C, -D, -E, -F, -G, -H	For use with 460V models, includes nylon nuts
(1) KIT - BUS BAR ASSY AND CAPACITORS 4700 μ F (575V)	100044-8	-N, -P, -C, -D, -E, -F, -G, -H	For use with 575V models, includes nylon nuts
(1) KIT - BUS BAR ASSY AND CAPACITORS 9000 μ F (380/400V)	100044-6	-N, -P, -C, -D, -E, -F, -G, -H	For use with 380/400V models, includes nylon nuts

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(2) KIT - BUS BAR ASSY AND CAPACITORS 11000 μ F (380/400V)	100044-11	-P, -A, -C, -E, -F	For use with 380V and 400V models, includes nylon nuts
(3) KIT - BUS BAR ASSY AND CAPACITORS 11000 μ F (380/400V)	100044-14	-H	For use with 380V and 400V models, includes nylon nuts
(2) KIT - BUS BAR ASSY AND CAPACITORS 6800 μ F (575V)	100044-13	-C, -E, -F	For use with 575V models, includes nylon nuts
(3) KIT - BUS BAR ASSY AND CAPACITORS 6800 μ F (575V)	100044-16	-H	For use with 575V models, includes nylon nuts
(2) KIT - BUS BAR ASSY AND CAPACITORS 8500 μ F (460V)	100044-12	-P, -A, -C, -E, -F	For use with 460V models, includes nylon nuts
(3) KIT - BUS BAR ASSY AND CAPACITORS 8500 μ F (460V)	100044-15	-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



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TTH375

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER SERVICE SIDE ASSY (BLACK) EN/FR Labels	100055-3	ALL	Includes fasteners

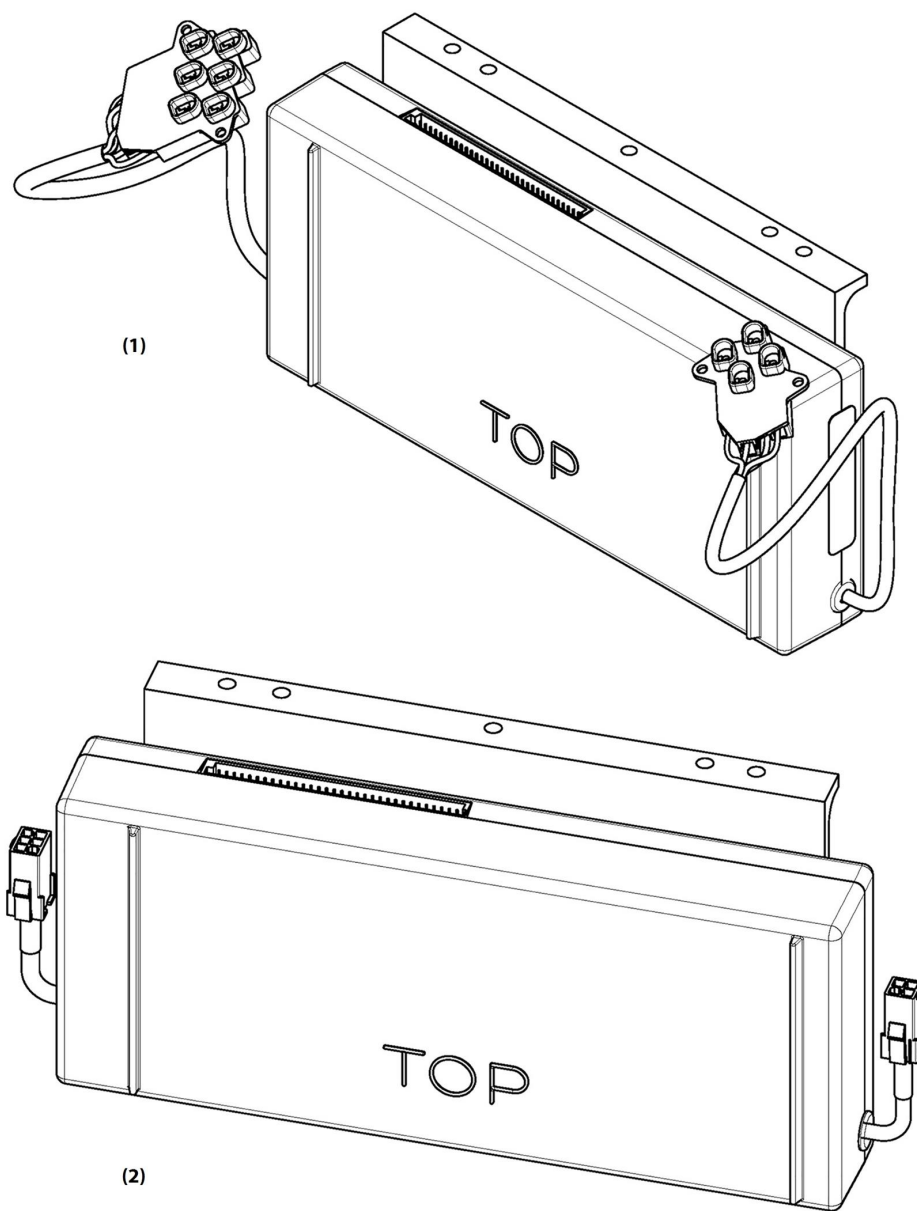
APPLIES TO: TGS230/TGS310/TGS390/TGS490/TGS520/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVER SERVICE SIDE ASSY (GREEN) EN/FR Labels	100055-6	ALL	Includes fasteners

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - COVERS SCREW M5 (P/H STAINLESS STEEL)	100252	ALL	Replaces fasteners for all four covers (24 fasteners)

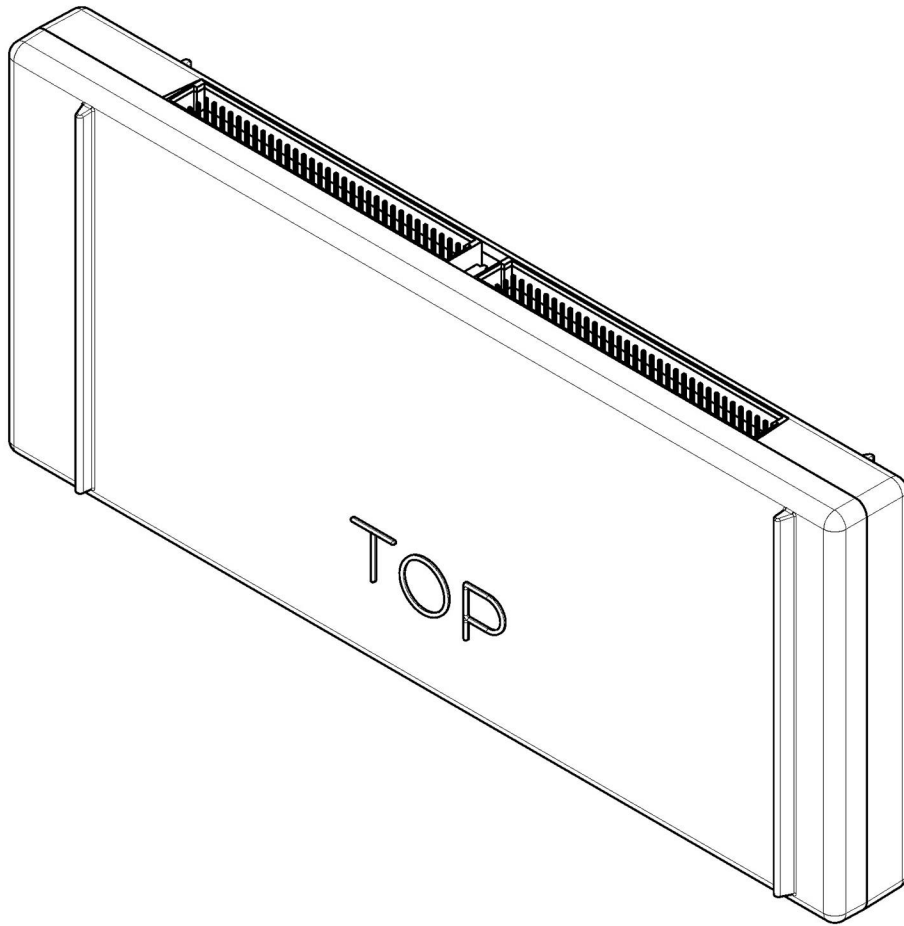
6.2 PWM Module



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/ TTH375/TGH285

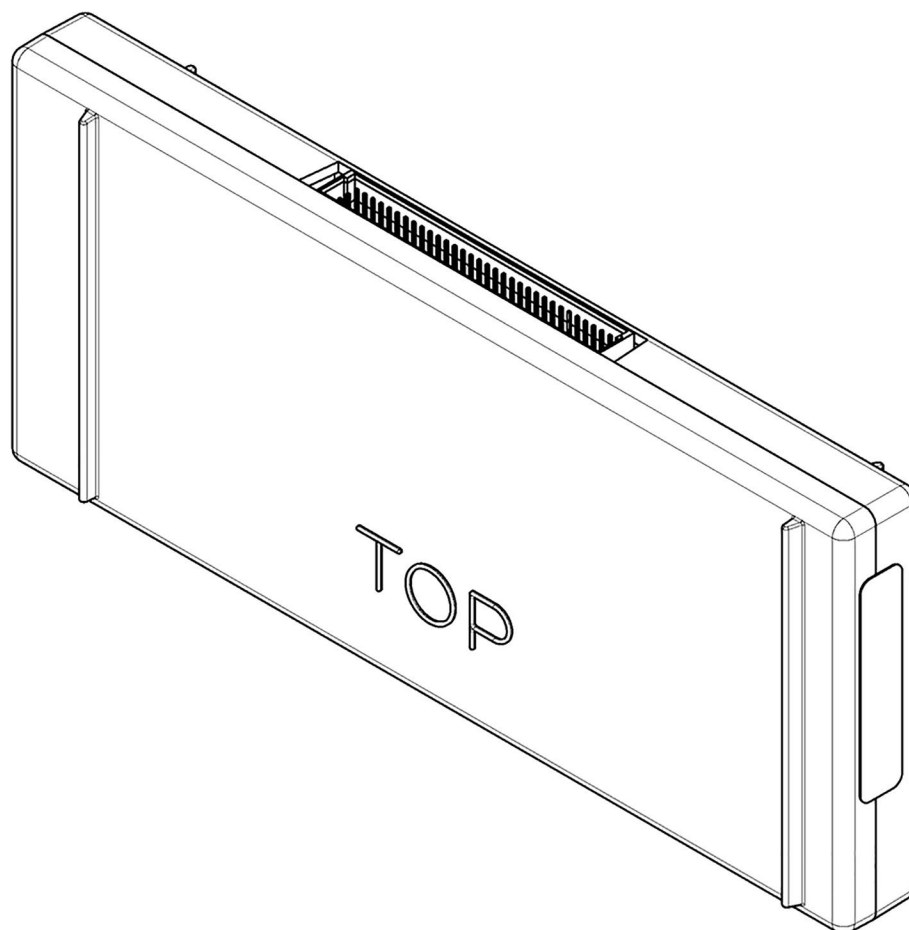
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - MODULE BEARING PWM	100022	-N, -P, -A, -C, -D, -E	Includes fasteners
(2) KIT - MODULE BEARING PWM	100372	-F, -G, -H	Includes fasteners

6.3 BMCC Module



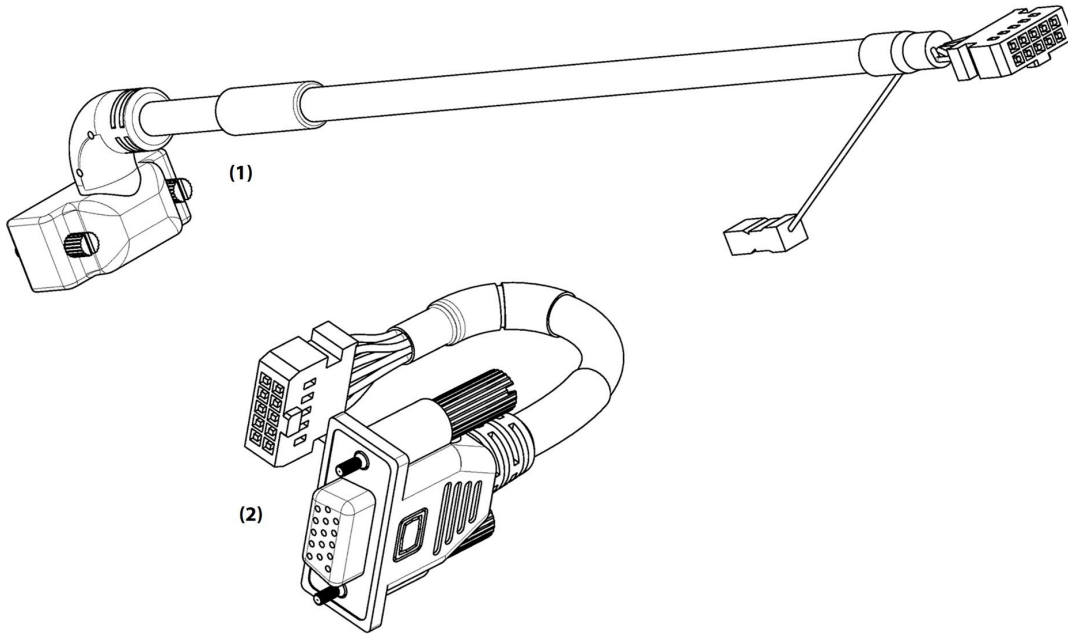
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
BEARING MOTOR COMPRESSOR CONTROL (BMCC)	201055- xxxxxxx-xxx	ALL	Specific compressor software part number used in place of - xxxxxxx-xxx , Contains BMCC with compressor specific software only

6.4 Serial Driver



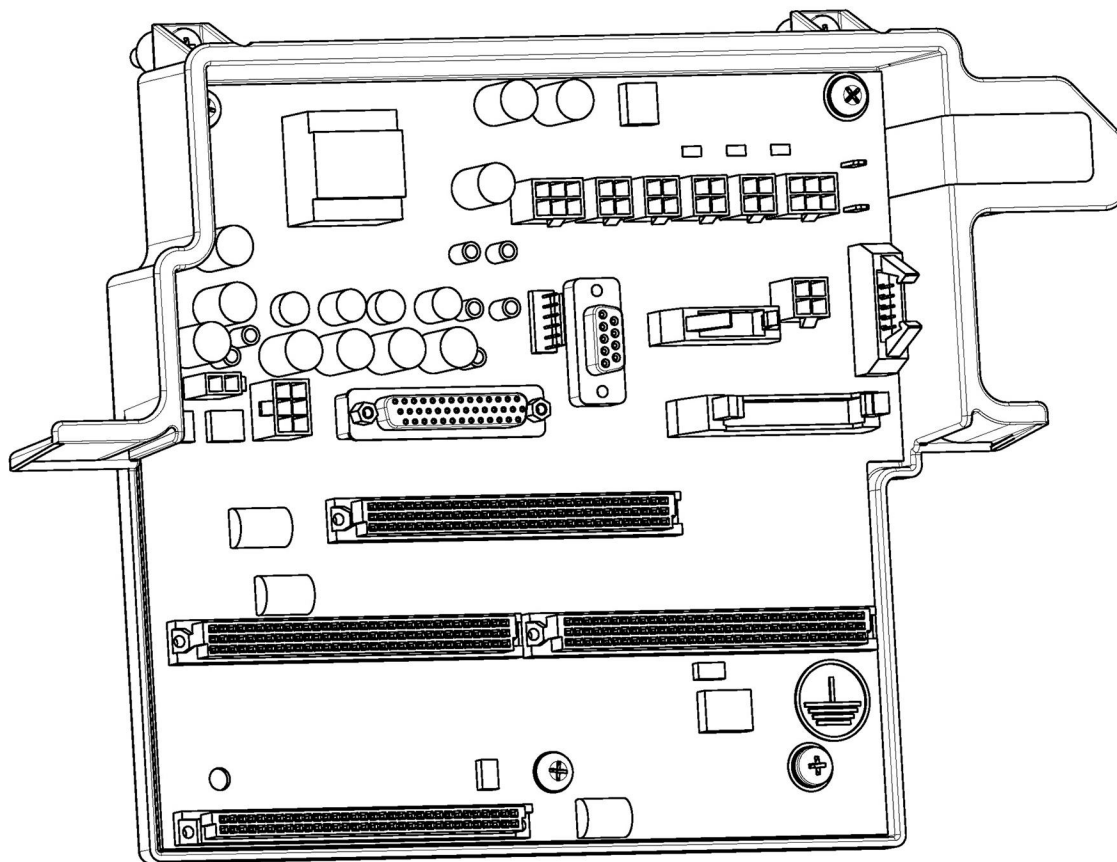
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – MODULE SERIAL DRIVER	100292	ALL	Serial Driver Only

6.5 Rear/ Front Bearing Sensor Cable Harness



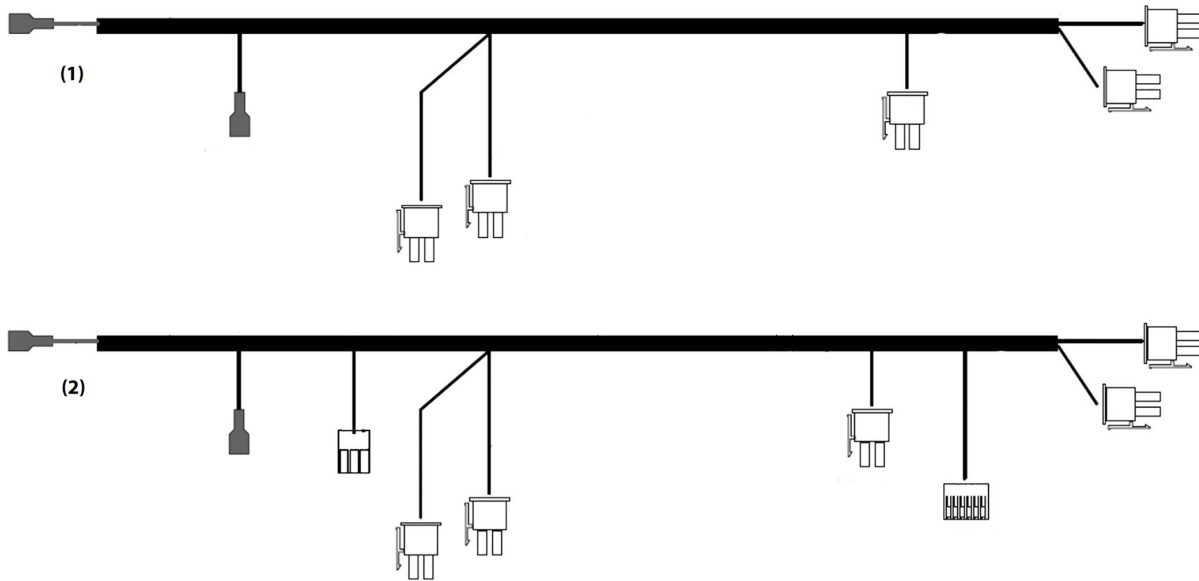
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - CABLE HARNESS REAR BEARING SENSOR	100065	ALL	Cable Only
(2) KIT - CABLE HARNESS FRONT BEARING SENSOR	100064	ALL	Cable Only

6.6 Backplane Assembly



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - CABLE HARNESS REAR BEARING SENSOR	100021-1	ALL	Includes screws and washers

6.7 DC Supply Cable Harness



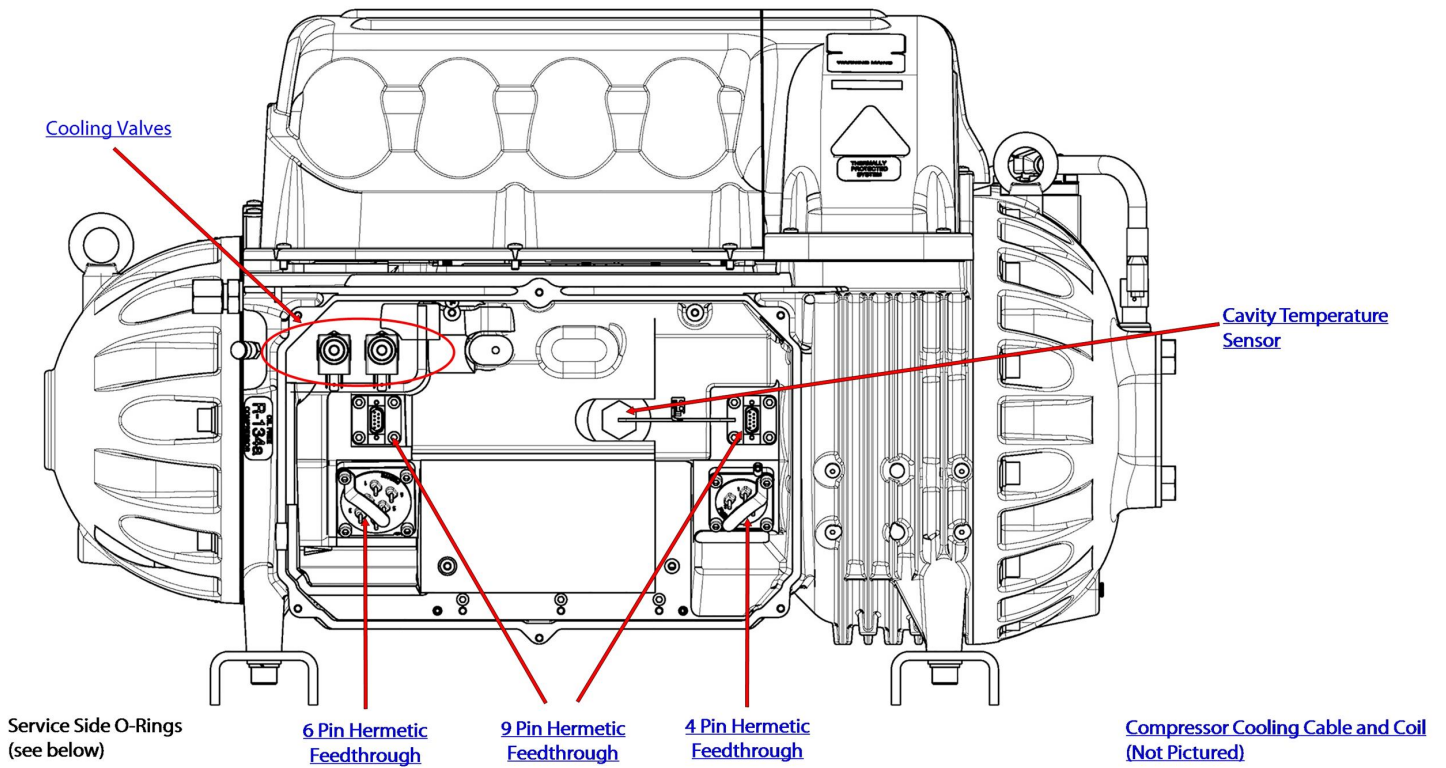
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - CABLE HARNESS DC-DC TO BACKPLANE	100323	-N, -P, -A, -C, -D, -E	Cable Only
(2) KIT - CABLE HARNESS DC-DC TO BACKPLANE SS TEMP	100323-2	-F, -G, -H	Cable Only

6.8 Motor Drive (Inverter to Backplane) Cable Harness



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - CABLE HARNESS MOTOR DRIVER (INVERTER TO BACKPLANE)	100061	ALL	Cable Only

6.9 Service Side Beneath Backplane



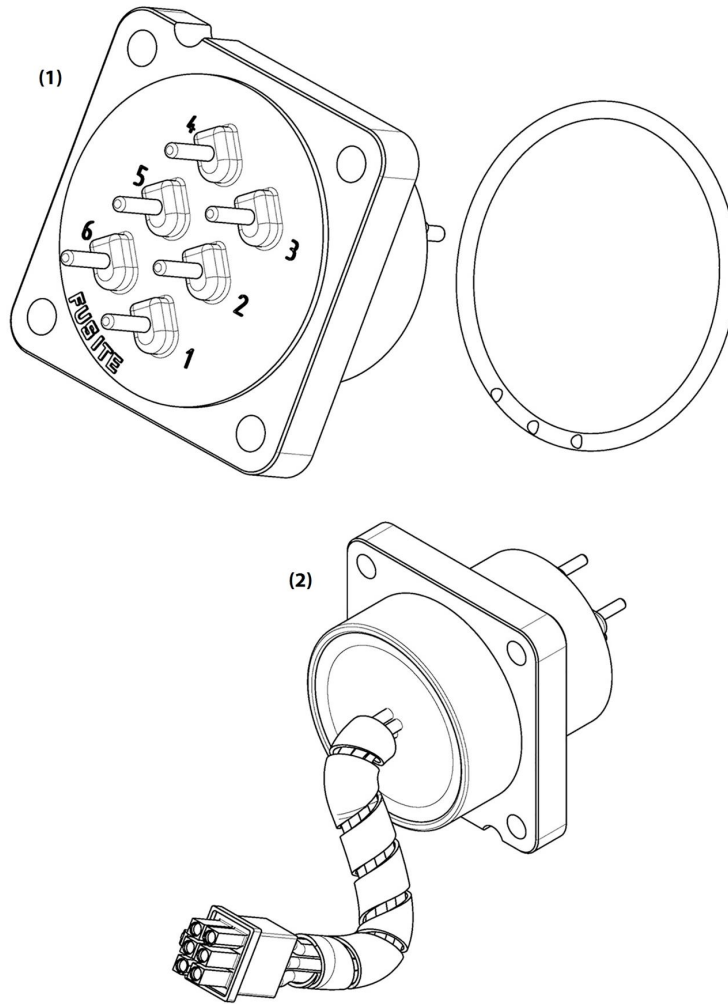
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - O-RINGS (SERVICE SIDE SMALL O-RINGS)	100052-2	ALL	Includes O-rings for cooling valves and 6 Pin, 4 Pin and 9 Pin Hermetic Feedthroughs (Excludes R22)
KIT - O-RING SOLENOID ORIFICE	100242	ALL	Only replaces cooling valve O-rings (Excludes R22)

6.10 Compressor Cooling Cable and Coil Assembly



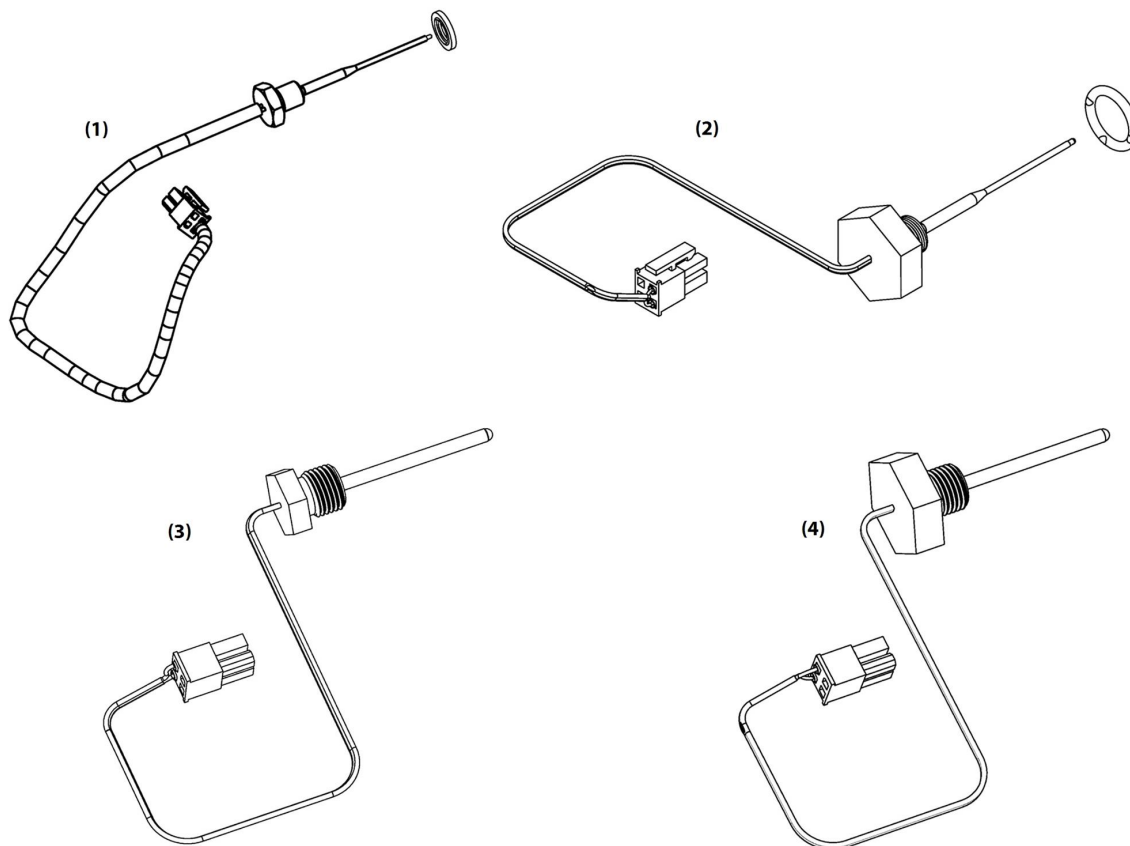
APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - CABLE HARNESS MOTOR-COOLING AND COIL ASSY	100063-1	ALL	Includes nut and washer

6.11 6 Pin Hermetic Feedthrough



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - HERMETIC FEEDTHROUGH 6 PIN	100294-1	-N, -P, -A, -C, -D, -E	Includes O-ring and fasteners (excludes R22)
(2) KIT - HERMETIC FEEDTHROUGH 6 PIN	100371	-F, -G, -H	Includes O-ring and fasteners (excludes R22)

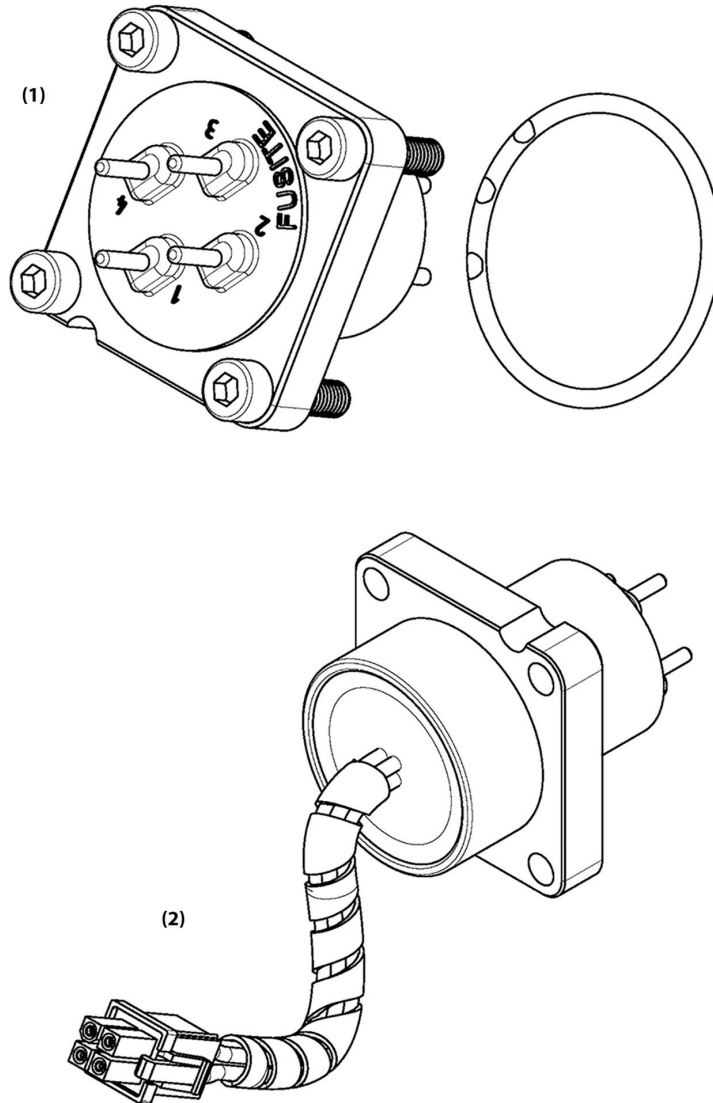
6.12 Cavity Temperature Sensor/ Motor Rotor



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – CAVITY TEMPERATURE SENSOR TT300, TT350, AND TT400	100034	-N, -P, -A, -C, -D	Do not use if compressor PN ends in “-3”, Can be used with SIE models, Sensor Only (excludes R22)
(2) KIT - SENSOR ASSY TEMPERATURE MOTOR ROTOR	100196-3	-E, -F, -G, -H	Also use if compressor part number ends in “-3”, Includes O-ring (excludes R22)

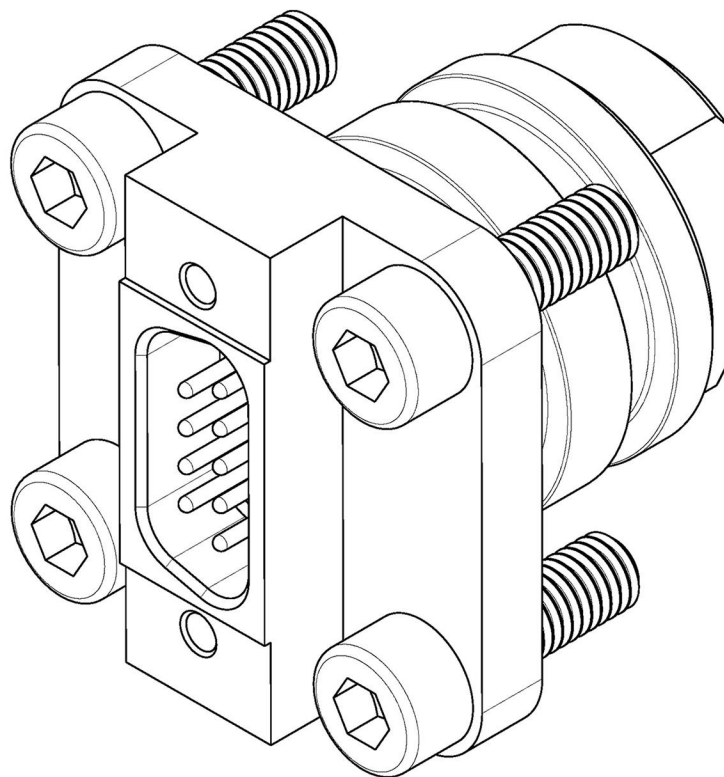
APPLIES TO: TTS500/TTS700/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – CAVITY TEMPERATURE SENSOR TT300, TT350, AND TT400	100034-1	-A	Do not use if compressor PN ends in “-3”, Includes O-ring (excludes R22)
(4) KIT - SENSOR ASSY TEMPERATURE MOTOR ROTOR	100196-4	-E, -F, -G, -H	Also use if compressor part number ends in “-3”, includes O-ring

6.13 4-Pin Hermetic Feedthrough



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT - HERMETIC FEEDTHROUGH 4 PIN	100293-1	-N, -P, -A, -C, -D, -E	Includes O-ring and fasteners (excludes R22)
(2) KIT - HERMETIC FEEDTHROUGH 4 PIN	100370	-F, -G, -H	Includes O-ring and fasteners (excludes R22)

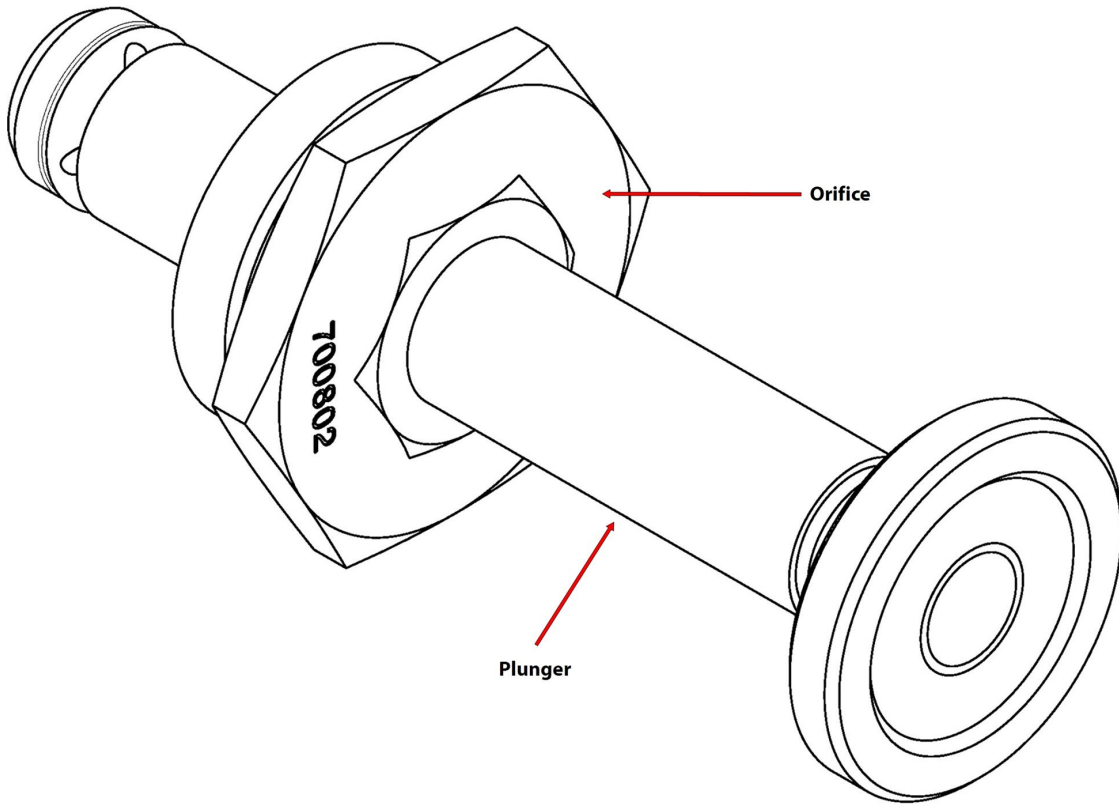
6.14 9-Pin Hermetic Feedthrough



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - HERMETIC FEEDTHROUGH 9 PIN	100295-1	ALL	Includes O-ring and fasteners (excludes R22)

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.



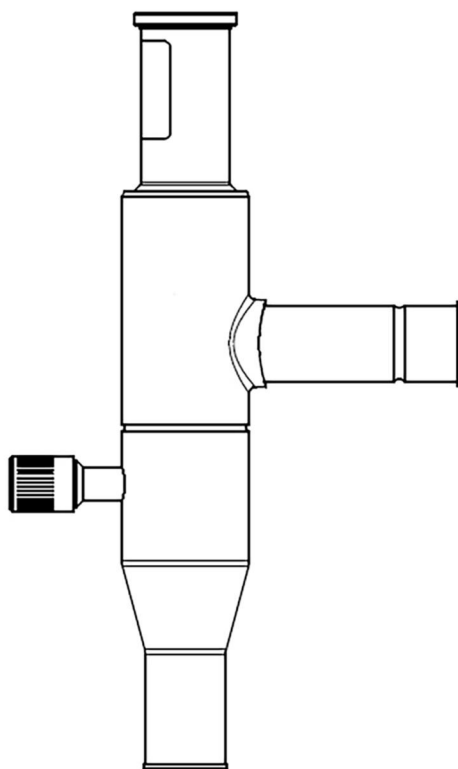
6.16 Cooling Valves

MODEL	COOLING VALVES ASSEMBLY		MOTOR CAVITY AND INVERTER ORIFICES		PLUNGER	
	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.	DESCRIPTION	PART NO.
TTS300 TGS230	KIT - COOLING VALVES ASSEMBLY TT300	100150-8	KIT - ORIFICE BODY, COOLING 1.3MM	100236 *	KIT - PLUNGER ASSY, SOLENOID	100235
TTS400 380V, 400V & 460V TGS390	KIT - COOLING VALVES ASSEMBLY TT400	100150- 10	KIT - ORIFICE BODY, COOLING 1.6MM	100240 *	KIT - PLUNGER ASSY, SOLENOID	100235

* No O-ring included - part number 100242 should be ordered with any orifice kit.

MODEL	COOLING VALVES ASSEMBLY		ORIFICES				PLUNGER	
	DESCRIPTION	PART NO.	MOTOR CAVITY INVERTER		INVERTER		DESCRIPTION	PART NO.
			DESCRIPTION	PART NO.	DESCRIPTION	PART NO.		
TTS400 575V TGS310	KIT - COOLING VALVES ASSEMBLY	100150-6	KIT - ORIFICE BODY, COOLING 2.0MM	100239 *	KIT - ORIFICE BODY, COOLING 1.6MM	100240 *	KIT - PLUNGER ASSY, SOLENOID	100235
TTS500 TTS700 TGS520	KIT - COOLING VALVES ASSEMBLY	100150- 9	KIT - ORIFICE BODY, COOLING 2.5MM	100238 *	KIT - ORIFICE BODY, COOLING 1.6MM	100240 *	KIT - PLUNGER ASSY, SOLENOID	100235
TTS350 TGS490 TTH375 TGH285	KIT - COOLING VALVES ASSEMBLY	100150- 11	KIT - ORIFICE BODY, COOLING 2.5MM	100238*	KIT - ORIFICE BODY, COOLING 2.0MM	100239*	KIT - PLUNGER ASSY, SOLENOID	100235

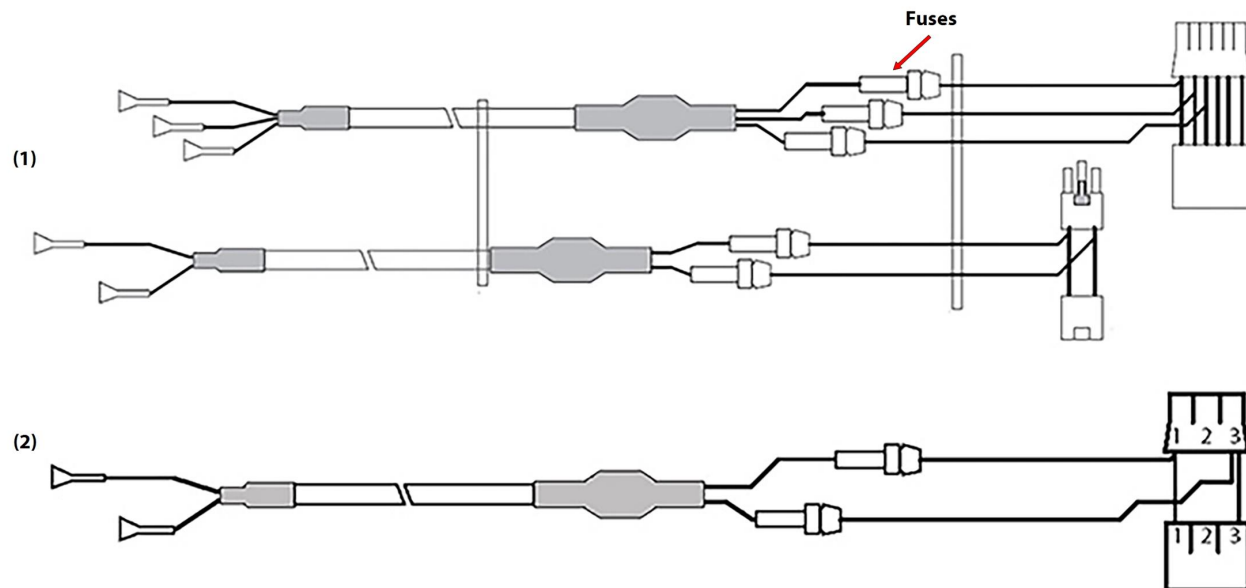
6.17 Pressure Regulating Valve



APPLIES TO: TTS300/TGS230/TGH375/TGH285 MEDIUM TEMP			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - Pressure Regulating Valve (Evaporator pressure regulator)	034L0025	ALL	KVP 22, Inlet size [mm]: 22.00, Inlet connection type: SOLDER, ODF, Outlet size [mm]: 22.00, Outlet connection type: SOLDER, ODF

Appendix A Test Equipment/Training

A.1 DC Bus Test Harness



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) KIT – CABLE HARNESS DC BUS TEST LEAD	100326	-N, -P, -A, -C, -D, -E, -F, -G	Cable Only
(2) KIT – CABLE HARNESS DC BUS TEST LEAD	100101	-H	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.

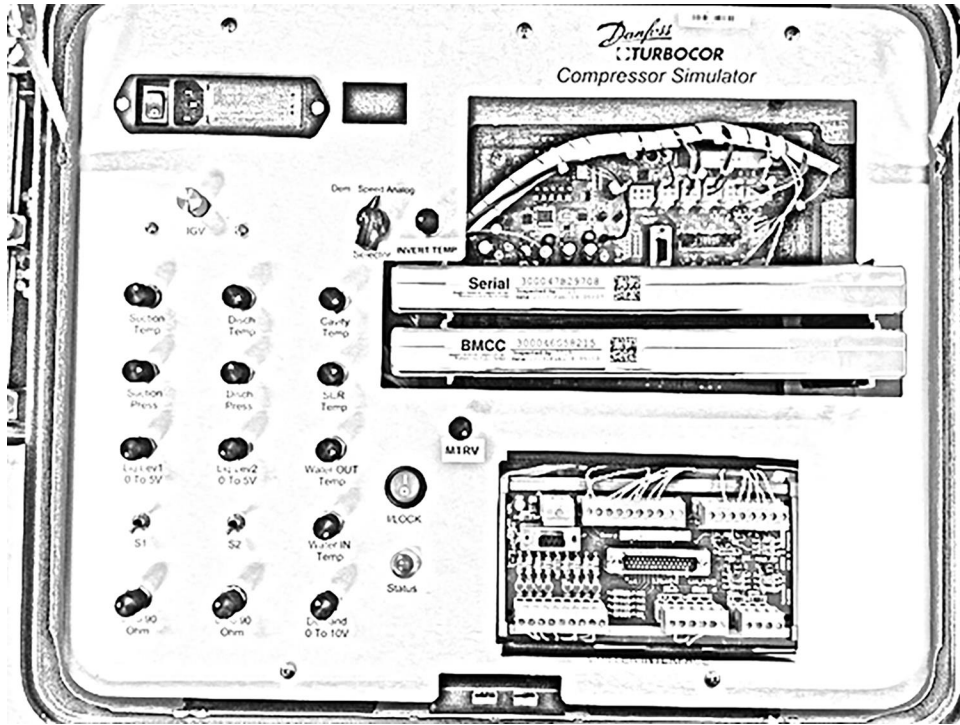
The Compact Inverter Tester provides all power necessary to interface with the inverter module during testing. This device will test the high voltage section, both top and bottom diodes of each section, and the driver board of the inverter.

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285

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

Test Equipment/Training (continued)

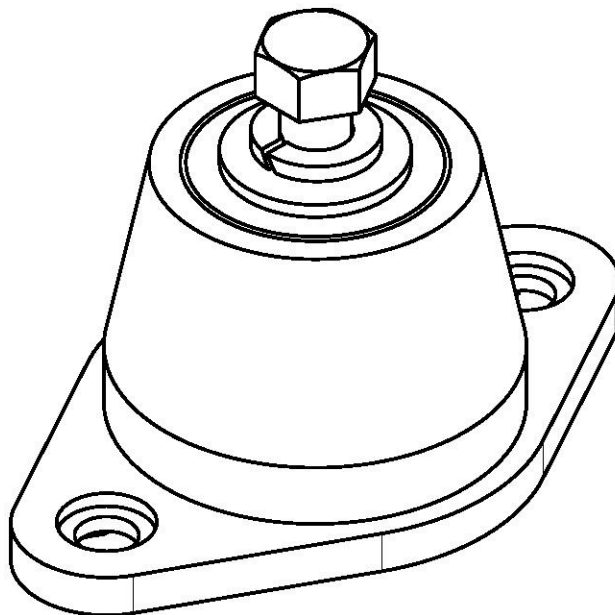
A.3 Portable Training Simulator



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
PORTABLE TRAINING SIMULATOR	100580	ALL	Includes Case, BMCC, Serial Driver, and Power Cord

Appendix B Accessory Kits

B.1 Rubber Mounts

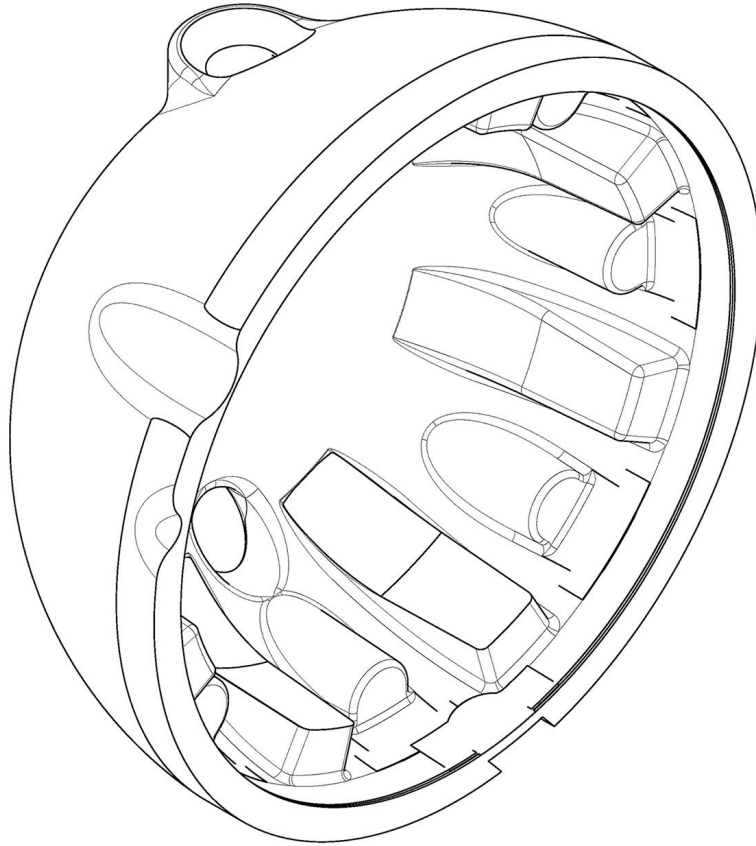


APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – MOUNTING	100066	ALL	Includes fasteners and washers for mounting compressor to the mount. Rubber mount to chiller fasteners are not included.

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



APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – END CAP INSULATION	100147	ALL	Includes endcap 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/ECI Filters

The 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.

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT – EMI FILTER (CE) 185A	901666	ALL	Filter only
KIT – EMI/EMC FILTER (CE) 322A	901866	ALL	Filter only

901666

Specifications

Approved to UL 1283
 Power dissipation @ rated current: 20W max
 Designed to comply to EN 133200. CSA 22.2 No. 8
 Insulation resistance: 1000M ohms min. @ 250VDC
 Rated voltage: up to 480VAC max., 50/60Hz
 Humidity range: 0-95% R.H.

Rated current:
 185A @ 40°C operating ambient temp.
 165A @ 50°C operating ambient temp.

Max leakage current each line to ground:
 150mA @ 250VAC 60Hz
 300mA @ 480VAC 60Hz

Weight: 20 lbs max

901866

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)

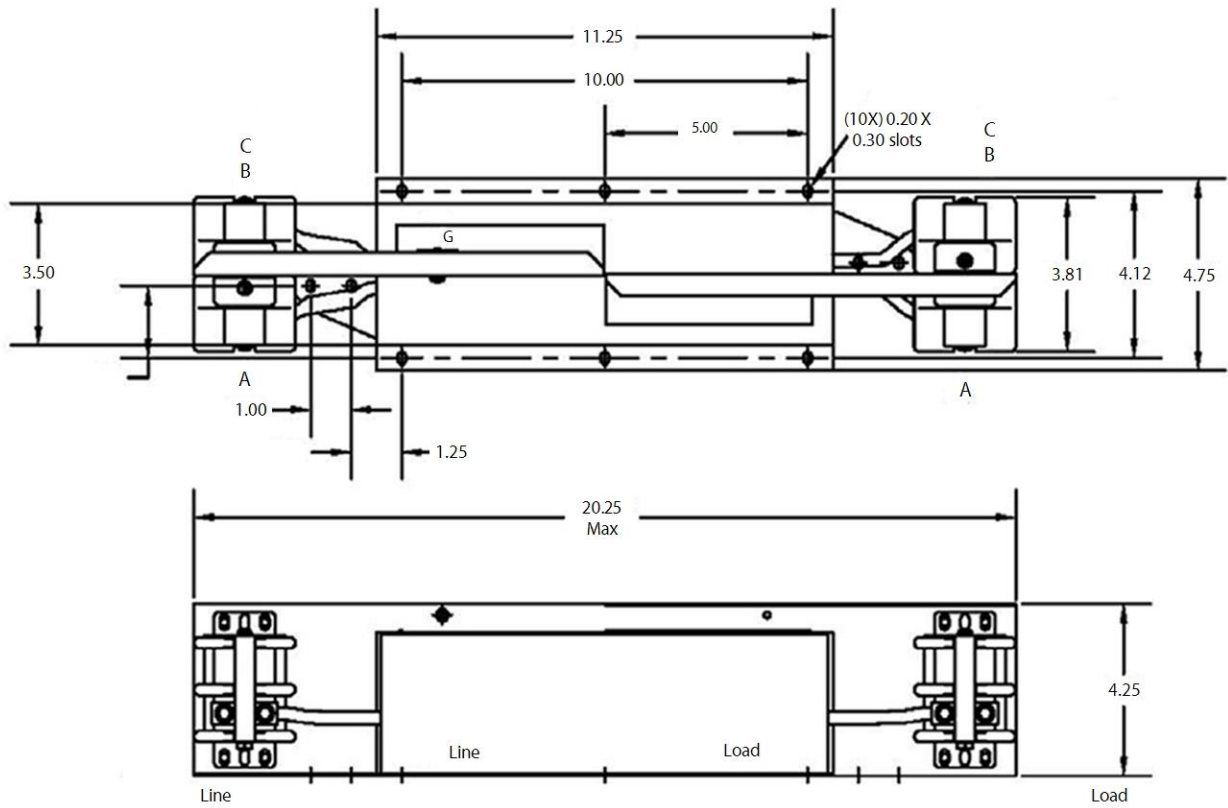
Hi Pot (1 Min)
 A-G, B-G, C-G (3 tests)
 A-B, B-C, A-C (3 tests)
 Rated current:
 322A @ 40°C operating ambient temp

Humidity range: 0-95% R.H.
 Power dissipation @ rated current: 30W max
 Weight: 35 lbs max

EMI/ECI Filters (continued)

901666

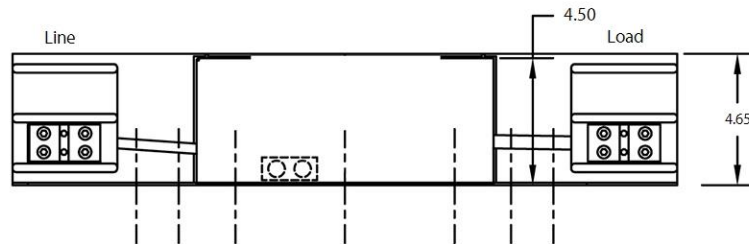
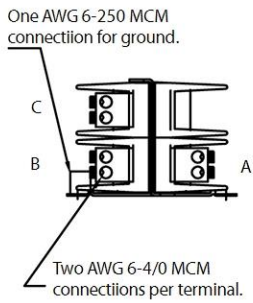
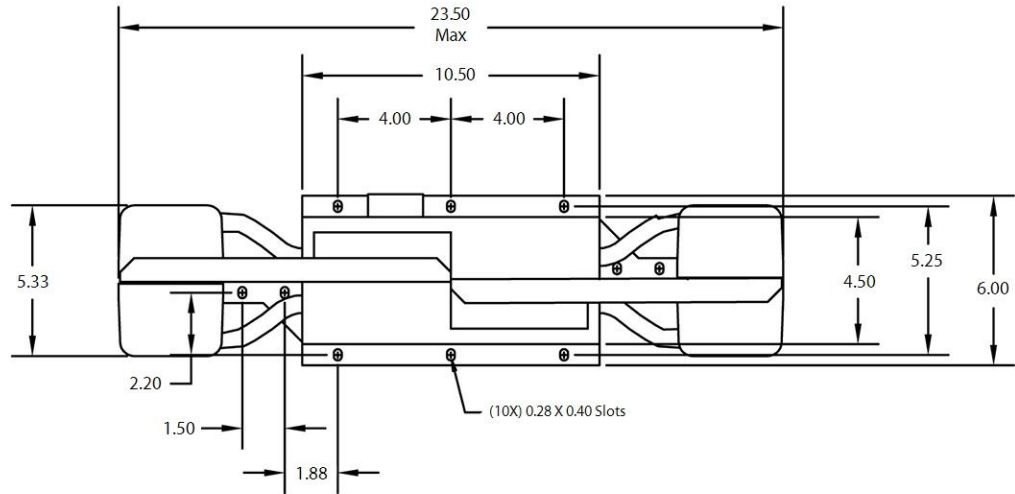
Note: Torque wire lugs to 150 LB-IN



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.

APPLIES TO: TTS300/TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - LINE REACTOR 140A - 10%	901453	ALL	Line Reactor only
KIT - LINE REACTOR 240A - 5%	901832	ALL	Line Reactor only
KIT - LINE REACTOR 140A - 5%	901974	ALL	Line Reactor only
KIT - LINE REACTOR 180A - 5%	901975	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: See table above

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

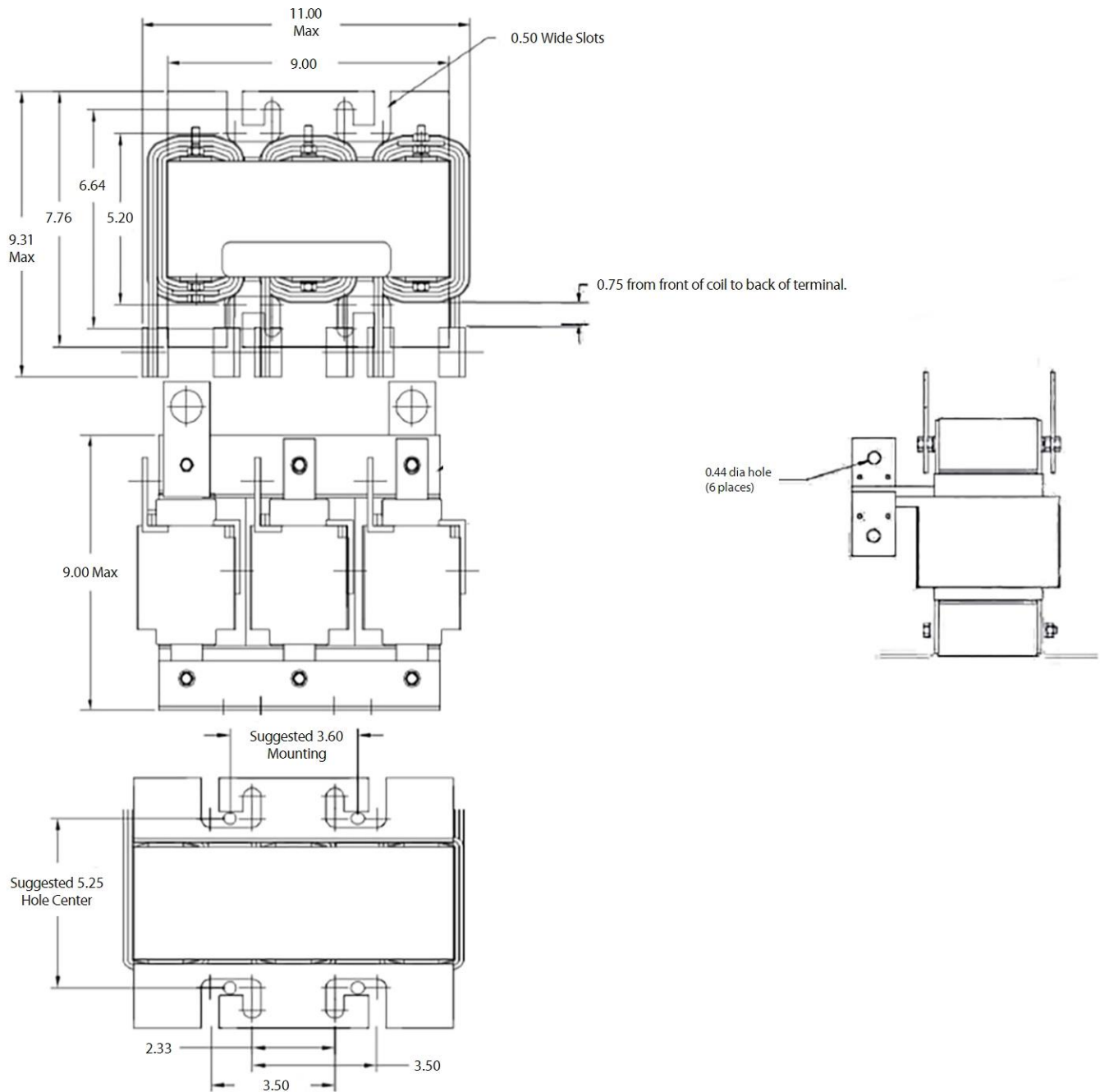
Terminals: copper bus bar, hole to suit M8 bolt

NOTE

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

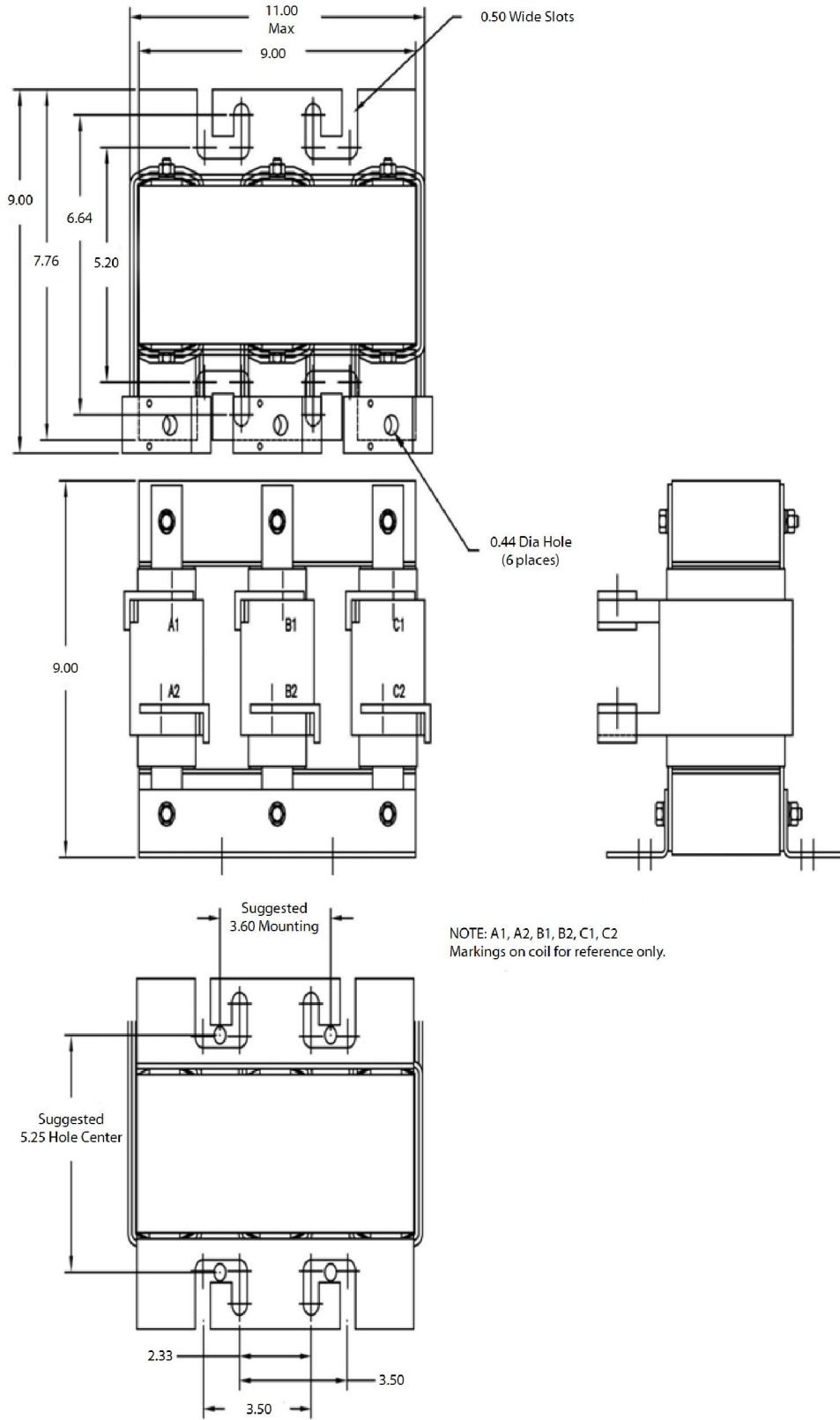
Line Reactors (continued)

901453



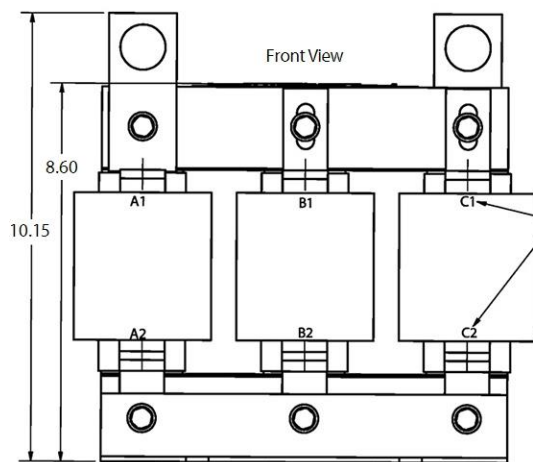
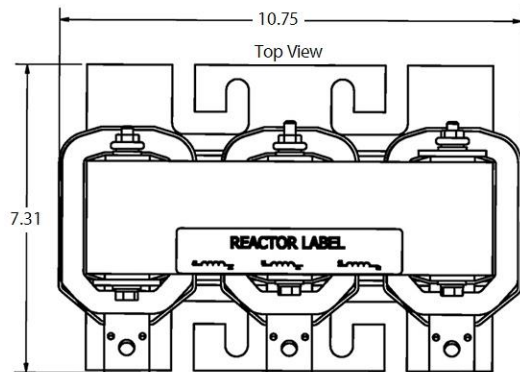
Line Reactors (continued)

901832

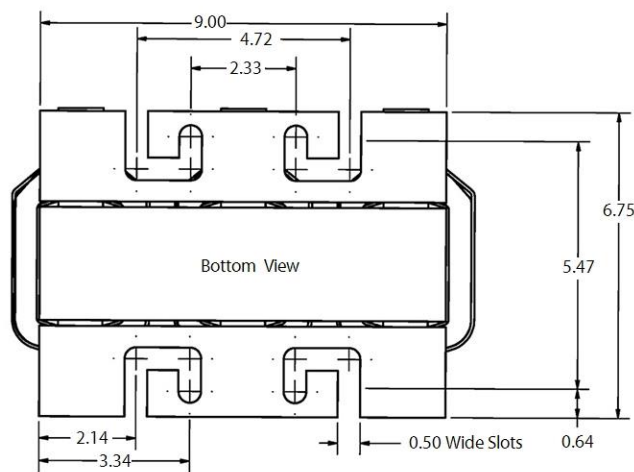
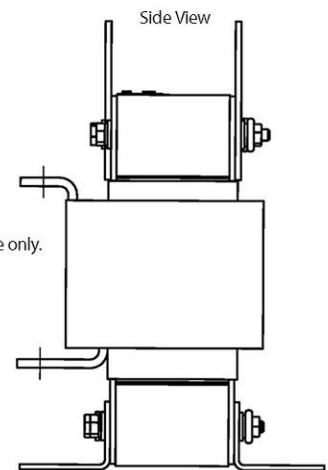


Line Reactors (continued)

901974

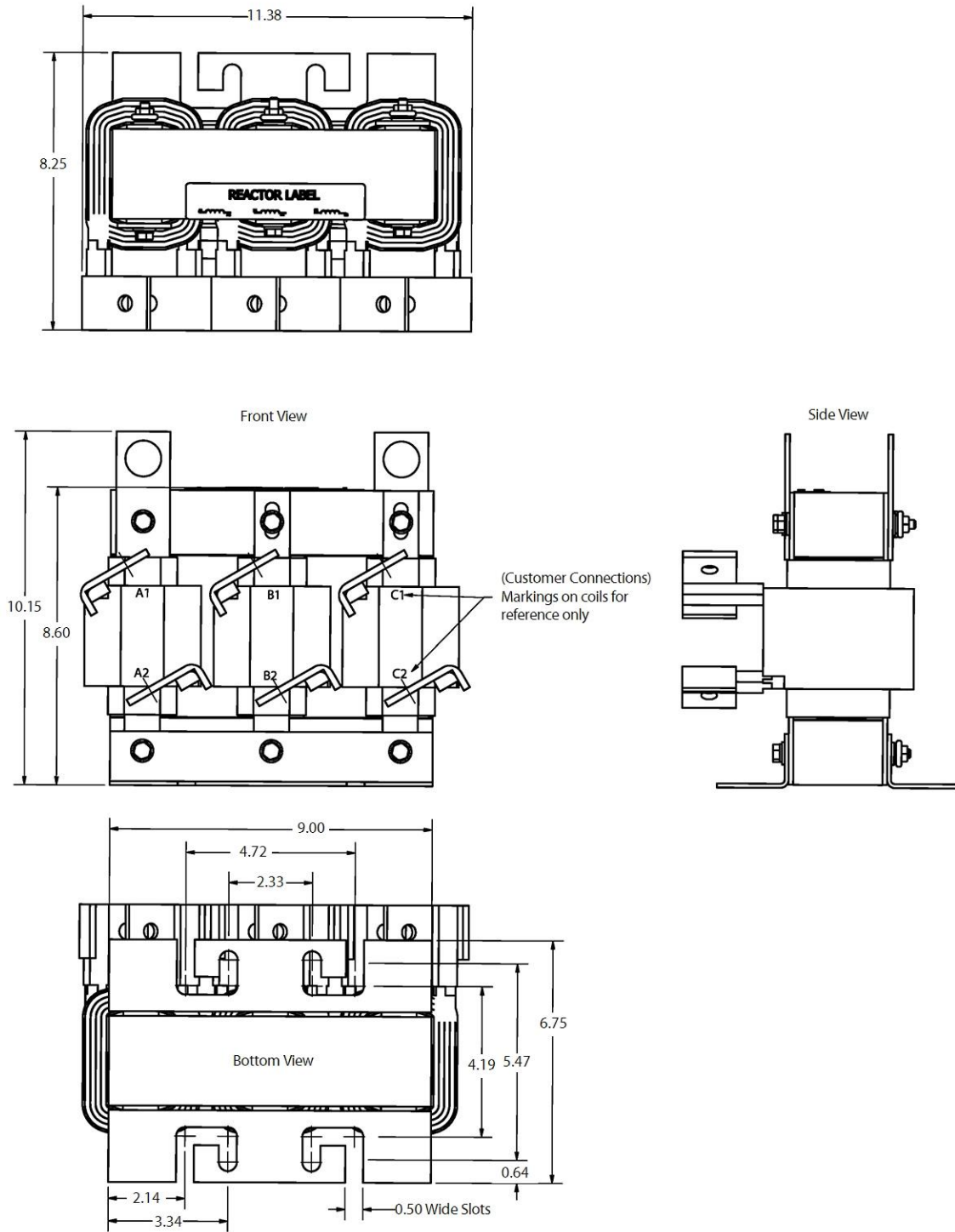


(Customer Connections)
Markings on coils for reference only.



Line Reactors (continued)

901975

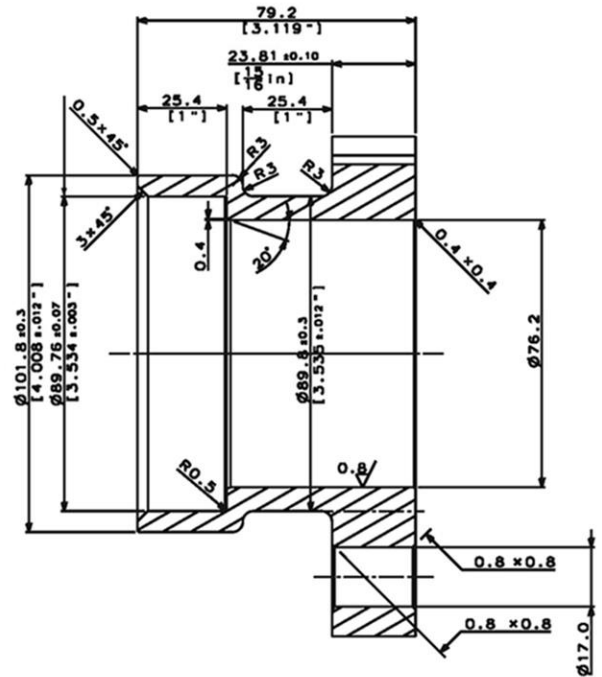
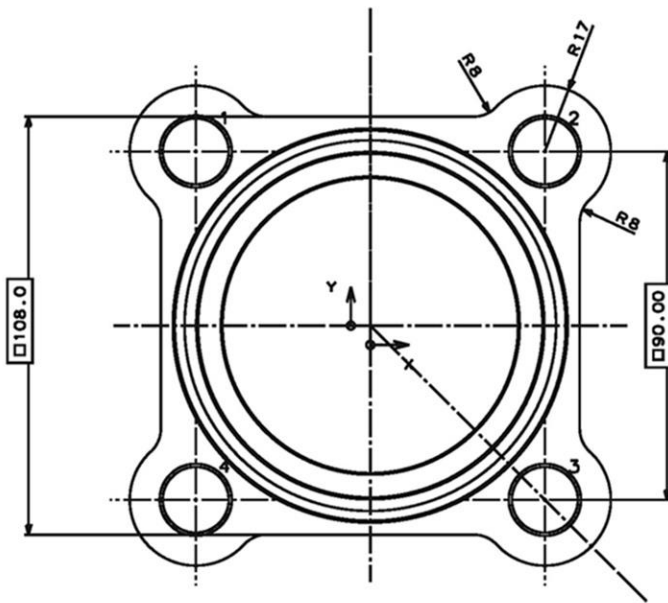


B.4 Flanges

Suction Flange

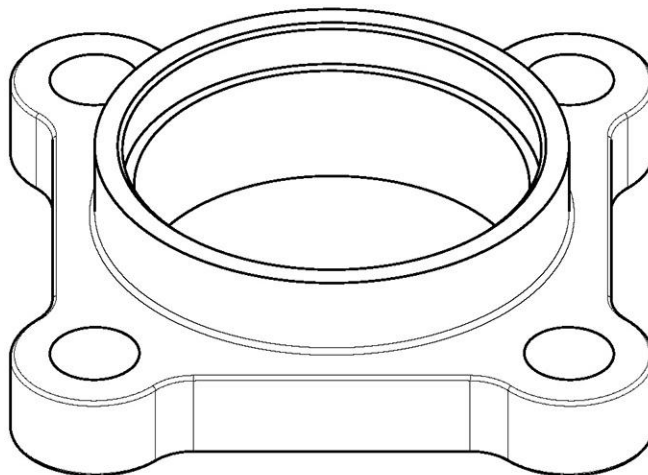
APPLIES TO: TTS300/TTS350/TTS400/TGS230/TGS310/TGS390/TGS490/TTH375/TGH285

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - SUCTION FLANGE (STEEL)	100151-1	ALL	Includes flange, fasteners, and O-ring



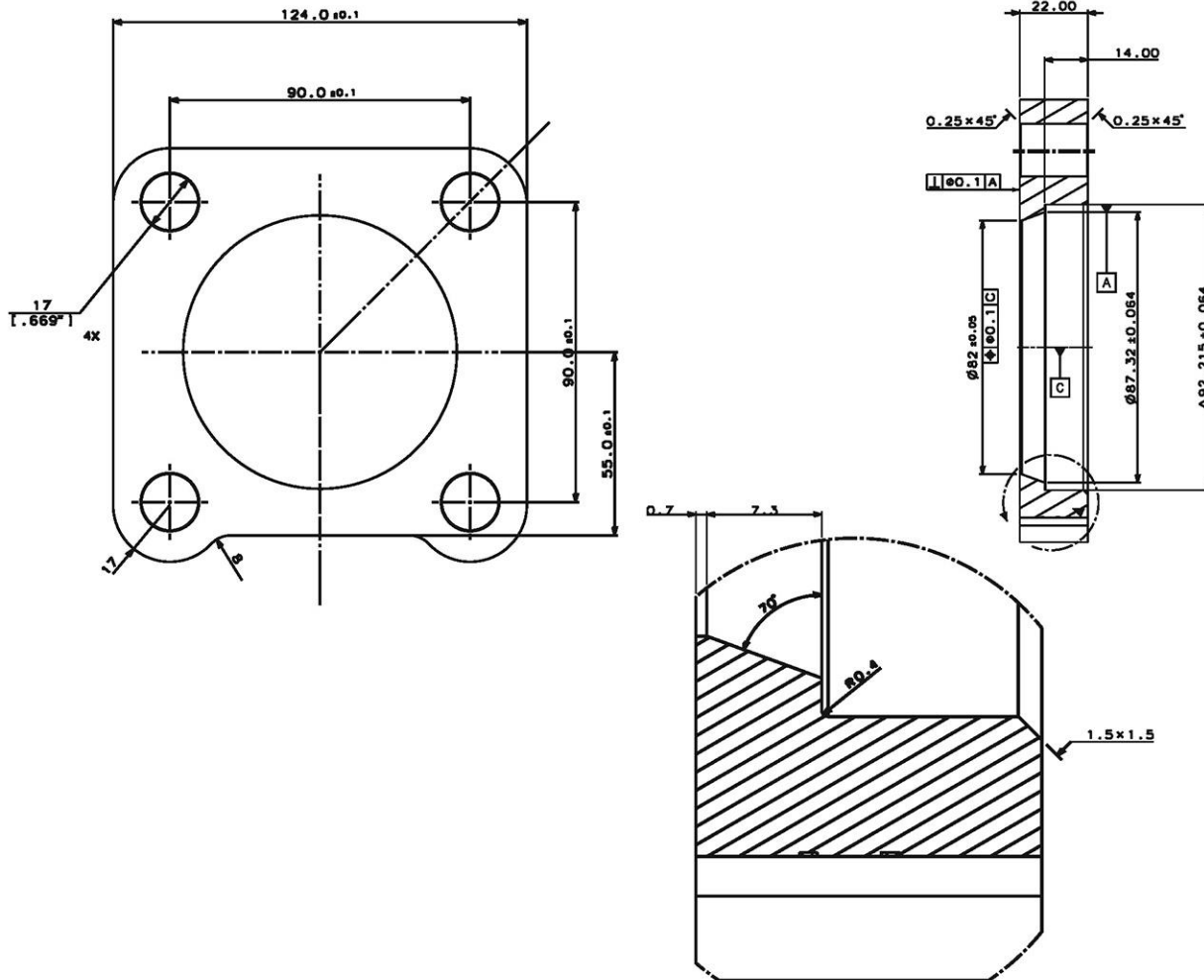
Suction Flange (contined)

APPLIES TO: TTS300/TTS350/TTS400/TGS230/TGS310/TGS390/TGS490/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - SUCTION FLANGE (BRASS)	100402-1	ALL	Includes flange, fasteners, and O-ring



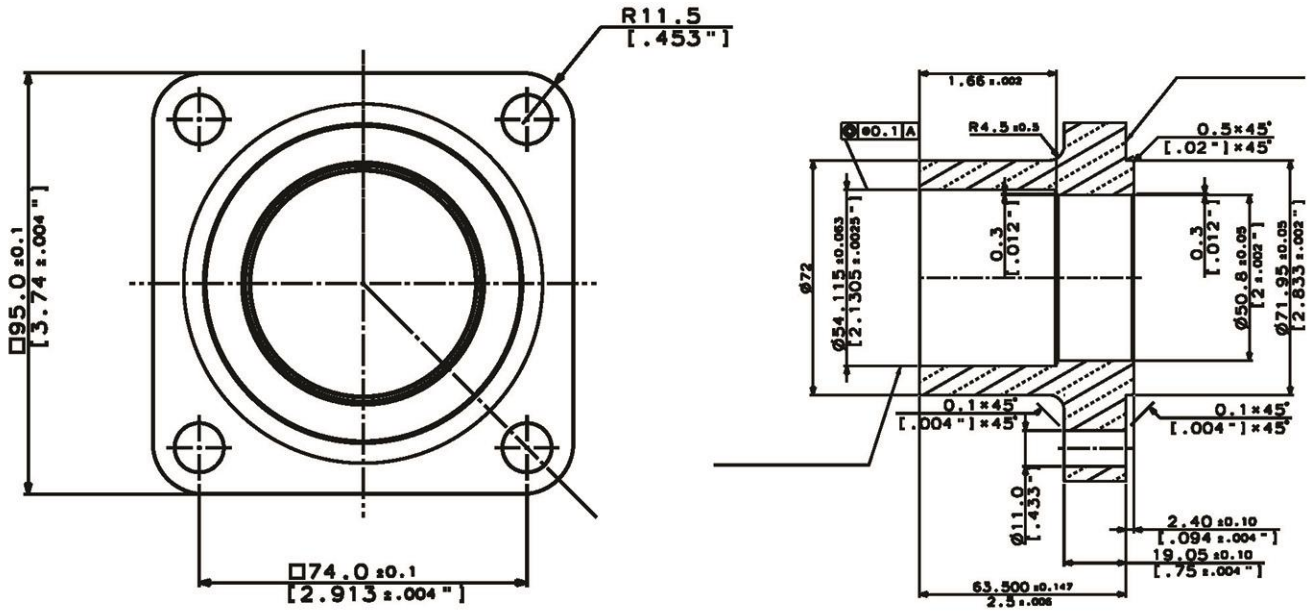
Suction Flange (contined)

APPLIES TO: TTS500/TTS700/TGS490/TGS520			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - SUCTION FLANGE 3 5/8" (BRASS)	100378	ALL	Includes flange, fasteners, and O-ring



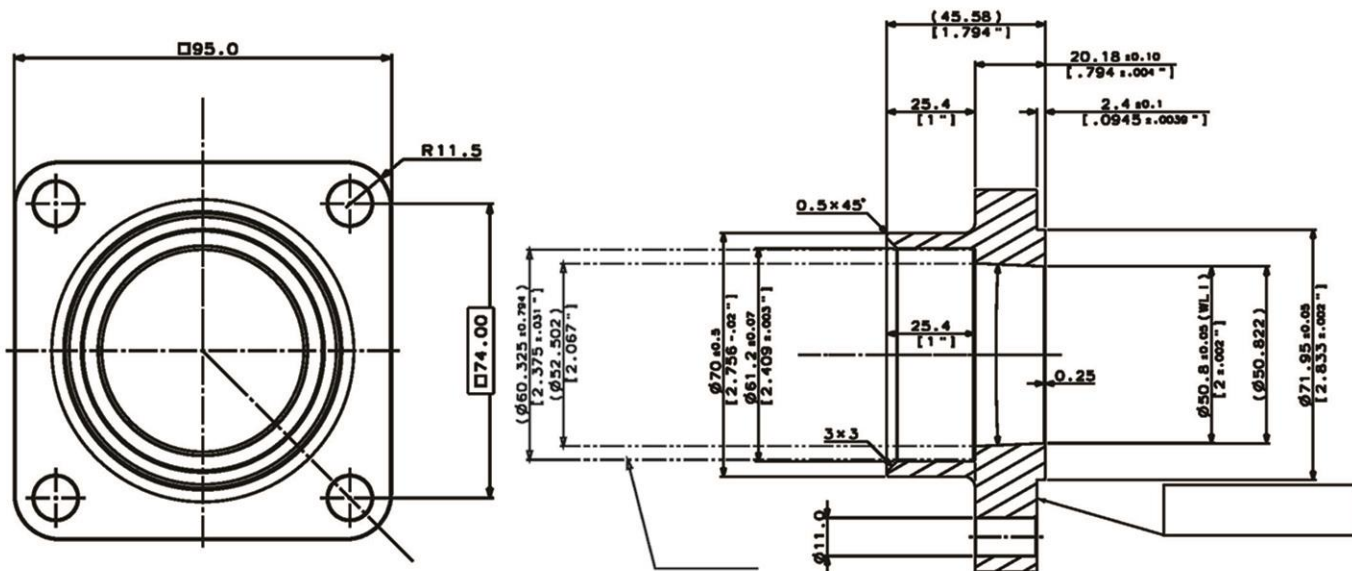
Discharge Flange

APPLIES TO: TTS300/TTS350/TTS400/TGS230/TGS310/TGS390/TGS490/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - DISCHARGE FLANGE (BRASS)	100152	ALL	Includes flange, fasteners, and O-ring



Discharge Flange (continued)

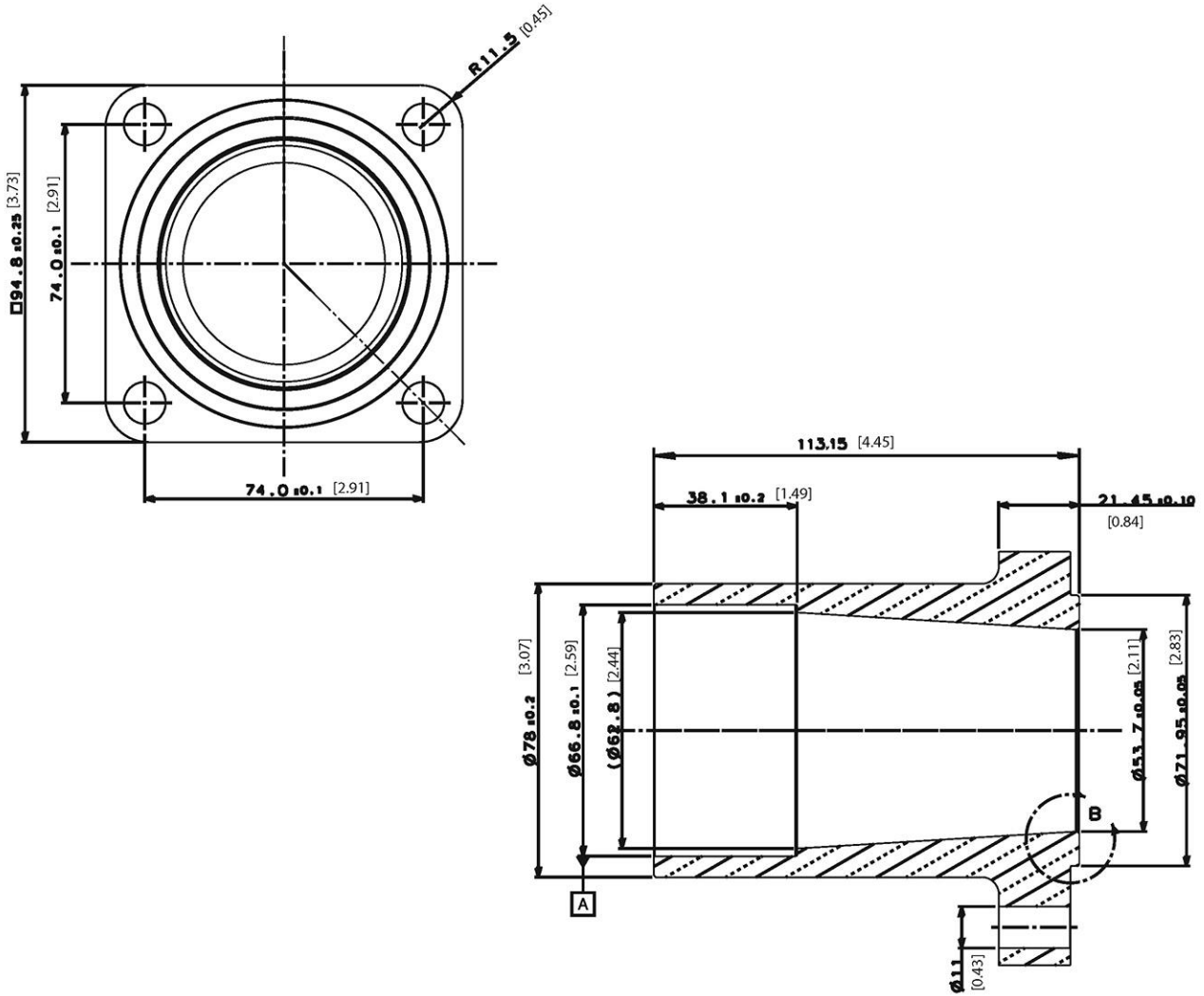
APPLIES TO: TTS300/TTS350/TTS400/TGS230/TGS310/TGS390/TGS490/TT375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - DISCHARGE FLANGE (STEEL)	100153-1	ALL	Includes flange, fasteners, and O-ring



Discharge Flange (continued)

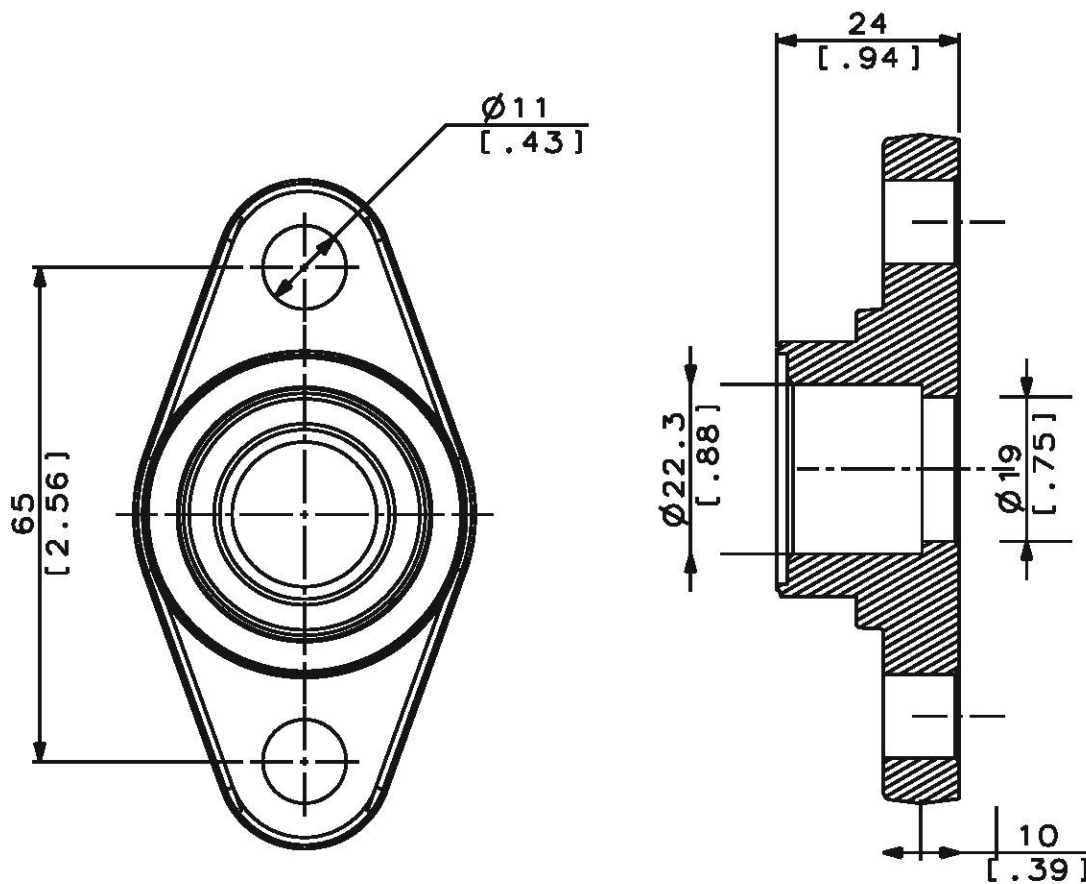
APPLIES TO: TTS500/TTS700/TGS490/TGS520

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
- DISCHARGE BRASS FLANGE FOR 2-5/8" COPPER PIPE	100254	ALL	Includes flange, fasteners, and O-ring



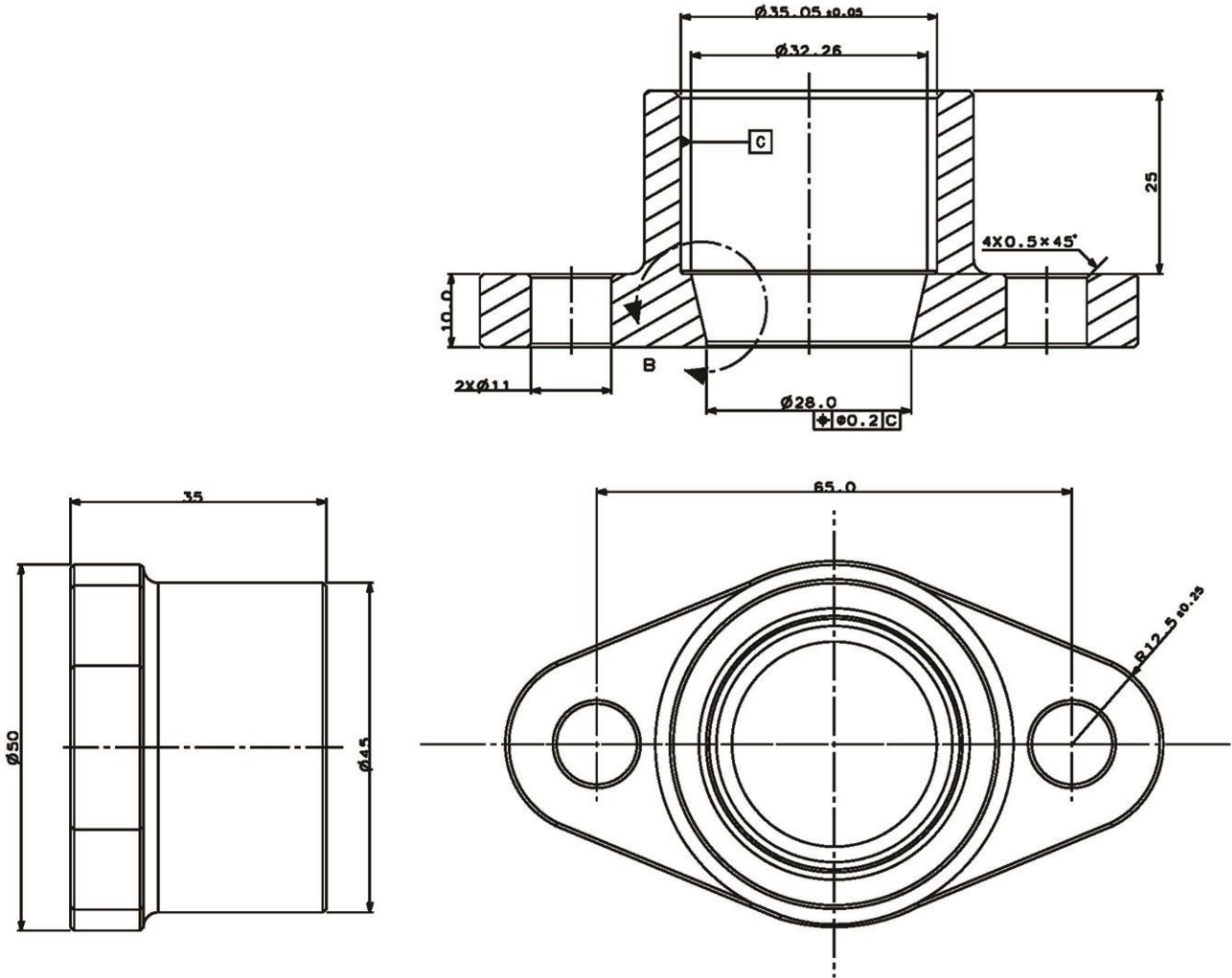
Economizer Flange

APPLIES TO: TTS300/TG230			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - ECONOMIZER FLANGE 7/8" (BRASS)	100400	ALL	Includes flange, fasteners, and O-ring



Economizer Flange (contined)

APPLIES TO: TTS350/TTS400/TTS500/TTS700/TGS230/TGS310/TGS390/TGS490/TGS520/TTH375/TGH285			
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
KIT - ECONOMIZER FLANGE 1 3/8" (BRASS)	100450-1	ALL	Includes flange, fasteners, and O-ring



Appendix C Recently Obsolete Kit Reference

OBSOLETE KIT		OBSOLETE KIT APPLICATION	REPLACEMENT KIT	
PART NO.	DESCRIPTION		PART NO.	DESCRIPTION
100020-1	KIT - MODULE SOFT START (460V)	ALL 460V MODELS	100020-19	Refer to "Soft Start Assembly" on page 49 for the proper replacement
100020-2	KIT - MODULE SOFT START (575V)	ALL 575V MODELS		
100020-3	KIT - MODULE SOFT START (400V)	ALL 400V MODELS		
100020-4	KIT - MODULE SOFT START (380V)	ALL 380V MODELS	100020-20	
100050-24	KIT - IGV - DRIVE ASSEMBLY AND O-RING TGS490	-F, -H	100050-25	KIT - IGV - DRIVE ASSEMBLY AND O-RING TGS490
100237	KIT - ORIFICE BODY, COOLING 1.5MM	Use with: TT400 Rev: -P	100240	
100250	KIT - IGV THROAT - TGS490	-F, -H	100261	KIT - IGV THROAT - TGS490
100309-5	KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	Use with: TTS350, TTS400, TTS500, TTS700, TGS310, TGS390, TGS490, TGS520 Rev: -P, -A, -C, -E, -F	100309-13	KIT – HEATSINK – COOLING MANIFOLD SCR ASSEMBLY (TT350) NO SENSOR
100309-6	KIT – HEATSINK COOLING MANIFOLD SCR ASSEMBLY	Use with: TTS300/TGS230 Rev: -N, -P, -C, -D, -E, -F, -G	100309-11	KIT – HEATSINK – COOLING MANIFOLD SCR ASSEMBLY
100322	KIT - CABLE HARNESS COMPRESSOR CONTROLLER	-N, -P, -C, -D, -E, -F, -G	100322-5	KIT - CABLE HARNESS COMPRESSOR CONTROLLER
100373	KIT - COOLING FAN AND ADAPTOR ASSEMBLY	-N, -P, -A, -C, -D, -E, -F, G	100373-1	KIT - COOLING FAN AND ADAPTOR ASSEMBLY
100375	KIT - HARMONIC RESISTOR PLUG	ALL	Kit no longer supported	
100515	KIT - CONVERSION-SIE TO THE CURRENT ELECTRONICS (400V)	ALL 400V SIE MODELS	Kit no longer supported	
100516	KIT - CONVERSION-SIE TO THE CURRENT ELECTRONICS (460V)	ALL 460V SIE MODELS	Kit no longer supported	
100703-1	KIT - INTERSTAGE PIPE	-F	Order Kit 100703-3 and 100706-3	
100706-1	KIT - SECOND STAGE HOUSING	-F	Order Kit 100703-3 and 100706-3	



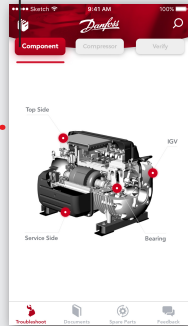
Quick access to Danfoss TurboCor® compressor troubleshooting.

The new version of the **Danfoss TurboTool® 2.0** app for all your full service Danfoss TurboCor® compressor needs.

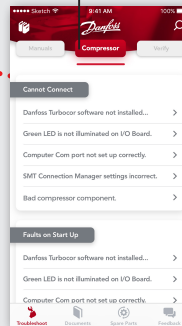
24/7

Access to Danfoss TurboCor® compressor troubleshooting on site

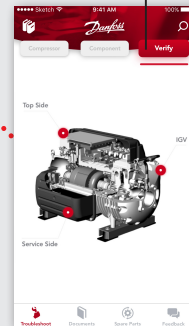
The TurboTool® app makes it easy for technicians to troubleshoot issues on Danfoss TurboCor® compressors.



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.

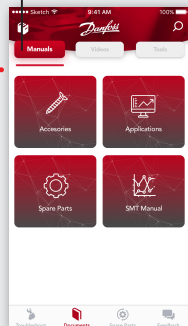


The app provides the correct operating parameters for key components; no need to keep reference documents on hand.

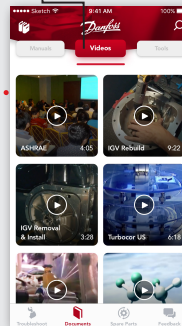


Troubleshoot

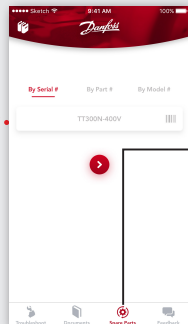
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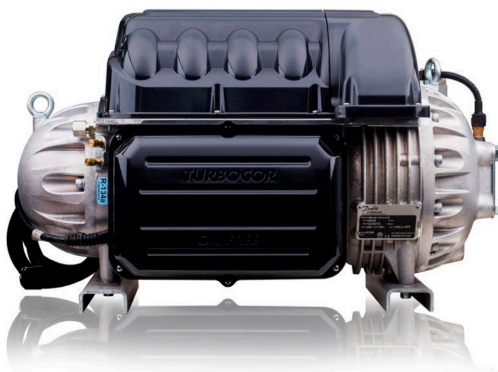


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TTS Compressors



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