ENGINEERING TOMORROW



Spare Parts Selection Guide - Revision K.2

Danfoss Turbocor® Twin-Turbine Centrifugal Compressors

TT/TG 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
		81	Updated Cooling Valve Section, Replaced Cooling Valve assembly PNs
F.6 1-19-2022		89	Obsoleted EMI filter 901666
		91	Obsoleted Line Reactors 901453, 901974, and 901975
F.7	5-24-2022	86	Removed the Portable Training Simulator
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
Н	5-11-2023	58	Added new SCR Cooling Manifold (100309-15) description and image
		A non an disc D	Added new Compressor Interface Cable kit 100058-5
Н		Appendix B	Moved all Interface Cable kits to Appendix B
Н		Appendix B	Moved I/O Board Assembly to Appendix B
Н		48	Added new DC-DC Fuse kit 100084
Н		62	Added new Capacitor Membrane kit 100122
Н		23/54	Updated P/T sensor from P/N 100037-1 to 100037-2
J	3-11-2024	57	Corrected Snubber Capacitor table
J		29	Added IGV Ball and Glass kits (100137 and 100138)
J		25	Added refrigerant label kits (199K0002 & 199K0003)
J		23, 32, & 54	Added new P/T Sensor replacement O-ring kit 199K0015
J		91	Changed Rubber Mount torque value to 14Nm instead of 27
J		104	Changed flange kit 100450-1 description to 1-3/8. Was incorrectly labeled as 1-5/8
J		26	Added new Compressor Packaging kits 199K0000 and 199K0001
J		89	Added new dual RS485 I/O Board kit 100410
J		20	Obsoleted Cooling fitting and strainer 100215
J		71	Added new Backplane Assy kit 100021-2 and updated image
J		105	Obsoleted Backplane Assembly kit 100021-1
K	9-5-2024	59	Added SCR Cooling Manifold kit 199K0024
K		74	Added O-ring kits 199K0030 and 199K0031
K		75	Added Cooling Cable and Coil Assy kit 199K0026
K		81	Added Cooling Valve kit 199K0029
K		82	Added Solenoid Plunger Field Upgrade kit 199K0025
K		83	Added Orifice kit 199K0027



Revision	Date	Page	Description of Change
К		84	Added new kit 199K0030 in table at bottom of page
К		85 Added new Plunger Assembly kit 199K0028	
К		Appendix D	Obsoleted kits 100309-9, 100242, and 100052-2
K.1	4-15-2025	Appendix C	Added Resonator kits
K.1			Obsoleted SCR Cooling Manifold kit 100309-15
K.2	6-4-2025	13	Updated Type Code to include the new No I/O Board and no cable option
K.2	6-4-2025	105	Added TurbocorCloud® kits
K2	6-20-2025	56	Updated Snubber Kits - two new kit numbers added



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Chapter 1.0 Introduction

1.1 Organization

The TT 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 on the following page 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.

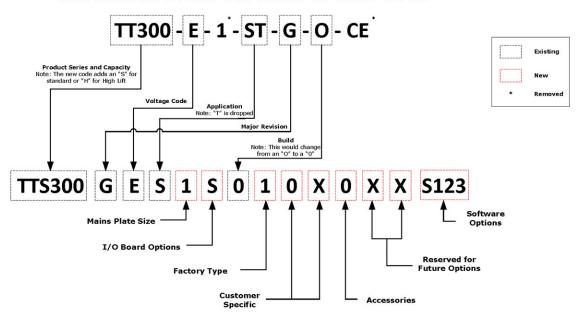
1.3 Nomenclature

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

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

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

Future Option X: Reserved

Software S123: Software

X: Reserved

Revision

Customer Engraved Nameplate
X: No CPN (Standard)

Y: CPN on Nameplate

Accessories Configuration 0: No accessories



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

Turbocor TT/TG Series Type Code

TTS300 G E S 1 S 0 1 0 X 0 X X S 1 2 3 Product Series and Capacity (characters 1-6) TTS300: TT Series 300 Aero Config Software (character 19-22) TTS350:TT Series 350 Aero Config S123 : Software Revision TTS400: TT Series 400 Aero Config TTS450: TT Series 450 Aero Config TTS500: TT Series 500 Aero Config Future Option (character 18) TTS700: TT Series 700 Aero Config X: Reserved TGS230: TG Series 230 Aero Config TGS310: TG Series 310 Aero Config TGS380: TG Series 380 Aero Config Future Option (character 17) TGS390: TG Series 390 Aero Config X:Reserved TGS490: TG Series 490 Aero Config TGS520: TG Series 520 Aero Config Accessories Configuration (character 16) TTH375: TT High Lift Series 375 Aero Config 0: No accessories TGH285: TG High Lift Series 285 Aero Config Major Revision (character 7) E: Major Revision E F: Major Revision F Customer Engraved Nameplate (character 15) G: Major Revision G H: Major Revision H X: No CPN (Standard) Y: CPN on Nameplate Voltage Code (character 8) E:380V/50Hz Customer Specific Configuration (character 14) D:380V/60Hz 0 : Gen Covers/Plate, EN/FR/CH H:400V/50Hz J:400V/60Hz Factory Type (character 13) G:460V/60Hz 1:TLH Factory (CE Rated) F: 575V/60Hz 2: HYN Factory (CH Rated) Application (character 9) 3:TLH Factory (ETL Rated Only) S: Standard Application 4: NOR Factory (TLH Core) M: Medium Temperature Application 5: NOR Factory (HYN Core) H: High Temperature Application Build (character 12) J: Standard Temp KHK Listed K: Medium Temp KHK Listed 0: New Compressor C: Rebuilt Certified Compressor 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 I/O Board Option (character 11) S: RS232/RS485 I/O Board included with 5m cable L: RS232/RS485 I/O Board included with 10m cable M: No I/O Board, 5m cable included N: No I/O Board, 10m cable included T: Dual RS485 I/O Board, 5m cable included U: Dual RS485 I/O Board, 10m cable included

Z: No I/O Board and no cable included

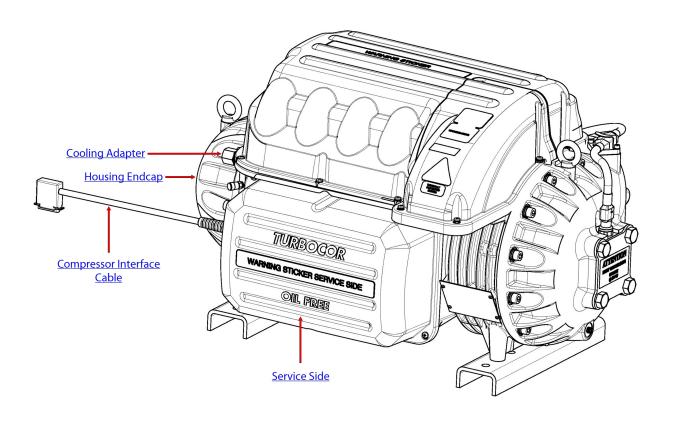


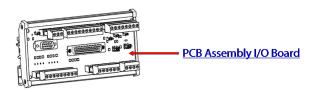
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Chapter 2.0 External Components

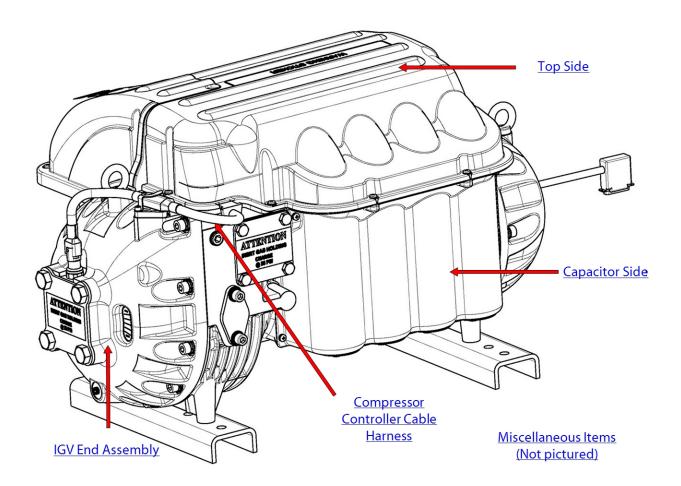
TTS/TGS Model





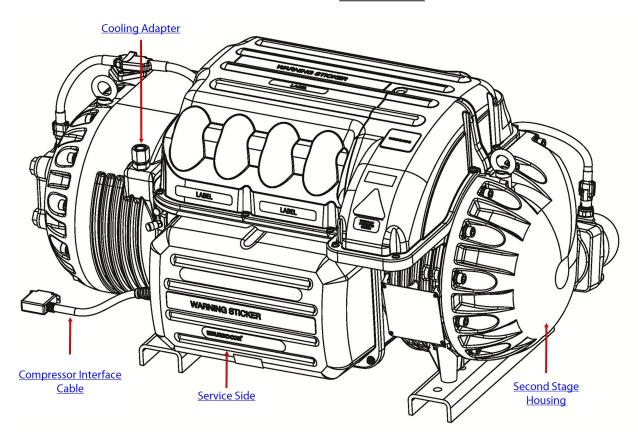


TTS/TGS Model



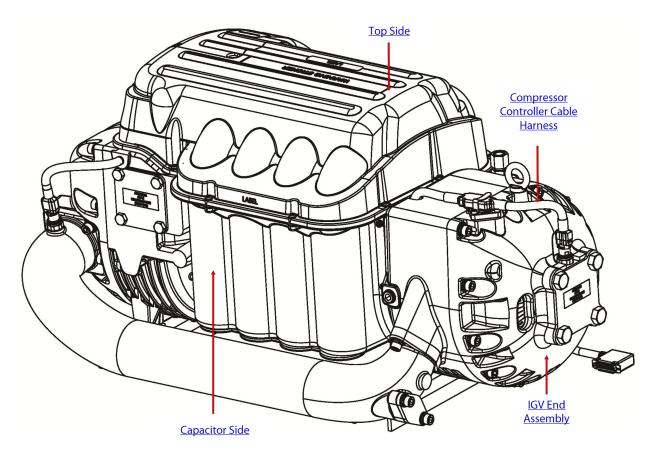


TTH/TGH Model





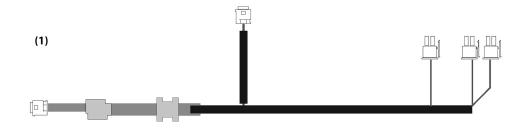
TTH/TGH Model

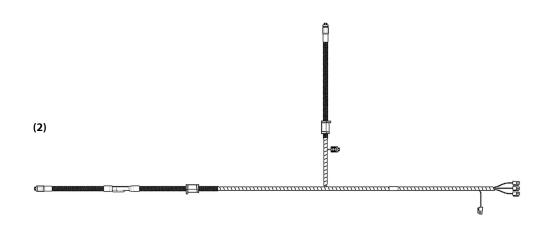


Miscellaneous Items (Not pictured)



2.1 Compressor Controller Cable Harness



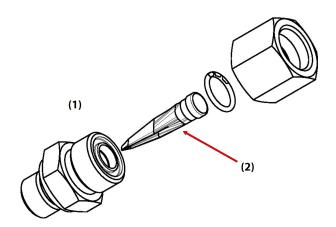


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) COMPRESSOR CONTROLLER CABLE HARNESS	100322-5	TTS300/TTS350/TTS400/TTS450/TTS500/TTS700TGS230/TGS310/TGS380/TGS390/TGS490/TGS520	ALL	Cable Only SCR Temperature Sensor connection is no longer available

DESCRIPTION P	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(2) COMPRESSOR CONTROLLER CABLE HARNESS	100322-4	• 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"
(2) STRAINER FOR COOLING ADAPTER	100186-1	ALL COMPRESSORS	-E, -F, -G, -H	Replaces strainer and one external O-ring



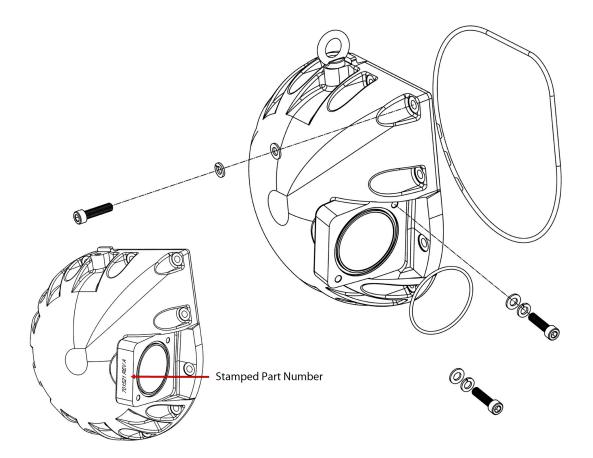
2.3 Housing End Cap



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
END CAP ASSY 100324-2		 TTS300/TTS350/TTS400/TTS450/TTS500/TTS700 	ALL	Contains eyebolt,
END CAP ASST	100324-2	• TGS230/TGS310/TGS380/TGS390/TGS490/TGS520	ALL	fasteners, and O-ring
O-RING, END	100252	• TTS300/TTS350/TTS400/TTS450/TTS500/TTS700	A 1 1	Replaces Endcap
CAP 100352		• TGS230/TGS310/TGS380/TGS390/TGS490/TGS520	ALL	fasteners and O-ring



2.4 Second Stage Housing

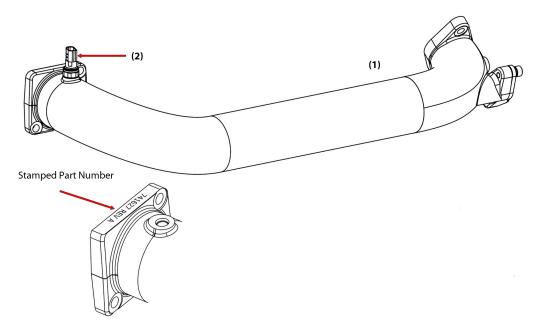


It is important to determine the version of Second Stage Housing that is currently installed on the compressor in order to identify the correct part number. There are two variants of Second Stage Housing and Interstage pipe and they are not interchangeable. Refer to the stamped part number on the Second 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	• 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	• TTH375/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

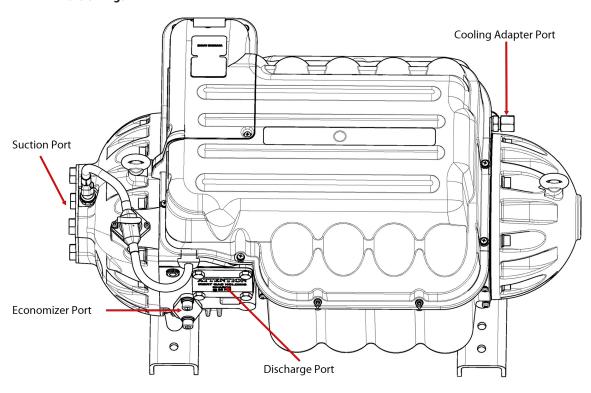
If the part number on the Interstage Pipe is not visible, verify the Second Stage Housing part number. If the Second Stage Housing is part number, 701521, then kits **100703-3** and **100706-3** need to be purchased. If the Second Stage part number is 741630, then purchase kit **100703-3**.

DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) INTERSTAGE PIPE	100703-3	• TTH375/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	100037-2	• TTH375/TGH285	-F, -H	Marked with a red spot and a green spot, contains O-ring
O-RINGS, INTERSTAGE PIPE	100703-2	• TTH375/TGH285	-F, -H	Contains O-rings for the Interstage Pipe and Economizer (includes fasteners)
O-RING, P/T SENSORS	199K0015	ALL COMPRESSORS	ALL	Includes four O-rings



2.6 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



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

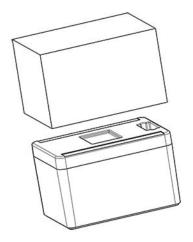




DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
R134a-R513A	199K0002	• TTS300/TTS350/TTS400/TTS450/TTS500/TTS700	-F, -G, -H	Includes one pair
LABELS		• TTH375		•
HFO-R1234ze-	199K0003	• TGS230/TGS310/TGS380/TGS390/TGS490/TGS520	-FGH	Includes one pair
R515B LABELS	19910003	• TGH285	-1, -0, -11	includes one pail



Compressor Packaging



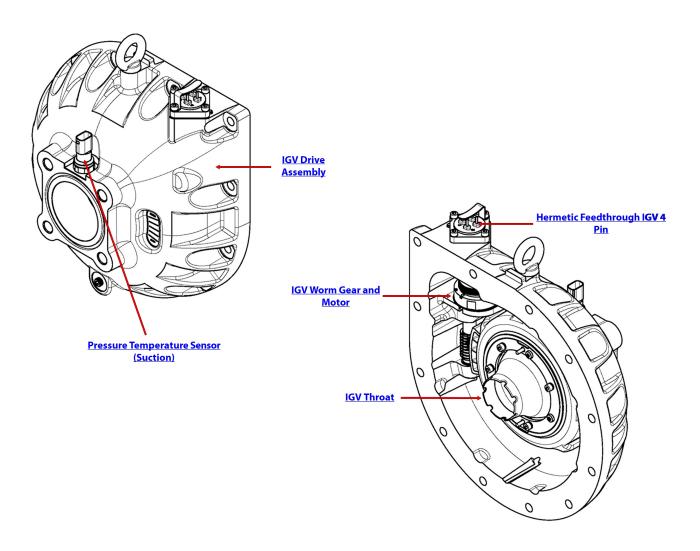


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
TT/TG COMPRESSOR PACKAGING	199K0000	ALL TT/TG COMPRESSORS	ALL	Includes box, foam, pallet, and fasteners
TTH/TGH COMPRESSOR PACKAGING	199K0001	ALL TTH/TGH COMPRESSORS	ALL	Includes box, foam, pallet, and fasteners



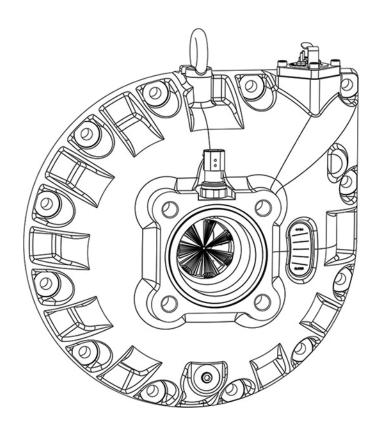
Chapter 3.0 IGV End Assembly

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.





3.1 IGV Drive Assembly



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT	
IGV DRIVE ASSY,	100050-16	• TTS300	-P, -C, -D, -E, -F,	Fully assembled IGV with black IGV throat,	
BLACK THROAT	100030 10	• TGS230	-G, -H	includes O-rings and fasteners	
IGV DRIVE ASSY,	100050-15	• TTS350	A E F U	Fully assembled IGV with blue IGV throat,	
BLUE THROAT	100030-13	• TGS310	-A, -E, -F, -H	includes O-rings and fasteners	
IGV DRIVE ASSY,	100050 26	• TTS450		Fully assembled IGV with silver IGV throat,	
SILVER THROAT	100050-26	• TGS380	-H	includes O-rings and fasteners	
IGV DRIVE ASSY,	100050 17	• TTS400	C	Fully assembled IGV with gold IGV throat,	
GOLD THROAT	100050-17	• TGS390	-C, -E, -F, -H	includes O-rings and fasteners	
IGV DRIVE ASSY,	100050-25	• TGS490	ги	Fully assembled IGV with silver IGV throat,	
SILVER THROAT	100050-25	• 103490	-F, -H	includes O-rings and fasteners	
IGV DRIVE ASSY,	100050-18	• TTS500/TTS700	A E E U	Fully assembled IGV with steel IGV throat,	
STEEL THROAT	100030-16	• TGS520	-A, -E, -F, -H	includes O-rings and fasteners	
IGV DRIVE ASSY,	100050-19	• TTH375	ги	Fully assembled IGV with orange IGV throat,	
ORANGE THROAT	100030-19	• TGH285	-F, -H	includes O-rings and fasteners	

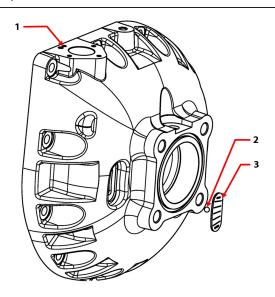


3.2 IGV Housing Components

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 for the installation of the Worm Gear.

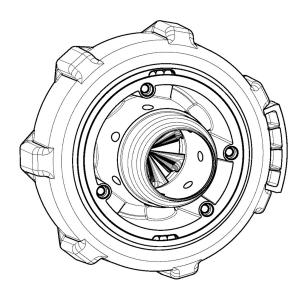


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) IGV HOUSING	100223	• TTS300/ TTS350/TTS400/TTS450	All	Contains Housing, O-rings, and fasteners
(1) 101 11005(0	100223	• TGS230/TGS310/TGS380/TGS390	7	Does not include Internal components
(1) 15 / 110 115 115	100000	• TTS500/TTS700		Contains Housing, O-rings, and fasteners
(1) IGV HOUSING	100229	• TGS520/TGS490	All	Does not include internal components
(A) ICM HOUSING	100223-5	• TTH375/TGH285	All	Contains Housing, O-rings, and fasteners
(1) IGV HOUSING				Does not include internal components
		• TTS300/TTS350/TTS400/TTS450/TTS500/ TTS700		Includes O-rings and
O-RING, IGV ASSY	100051-1	• TGS230/TGS310/TGS380/TGS390/ TGS490/TGS520	All	fasteners for Suction, IGV Housing and IGV Motor
		• TTH375/TGH285		Feedthrough
(2) & (3)	100137	• TTS300/TTS350/TTS400/TTS450/TTS500/ TTS700		
IGV BALL AND GLASS		• TGS230/TGS310/TGS380/TGS390/ TGS490/TGS520	ALL	Includes IGV Ball and Glass
(2) & (3) IGV BALL AND GLASS	100138	• TTH375/TGH285	ALL	Includes IGV Ball and Glass



3.3 IGV Throat

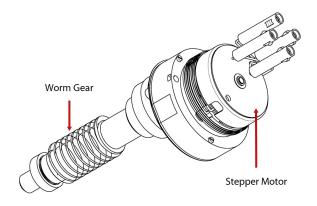
The IGV Throat kits detailed here replace the IGV Throat assembly.



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
IGV THROAT, BLACK	100227	• TTS300 • TGS230	-P, -C, -D, -E, -F, -G, -H	Contains IGV throat assembly-black, thin rim, O-rings and fasteners
IGV THROAT, BLUE	100228	• TTS350 • TGS310	-A, -E, -F, -H	Contains IGV throat assembly-blue, O-rings and fasteners
IGV THROAT, SILVER	100392	• TTS450 • TGS380	-Н	Contains IGV throat assembly-silver, O-rings and fasteners
IGV THROAT, GOLD	100231	• TTS400 • TGS390	-C, -E, -F, -H	Contains IGV throat assembly-gold, O-rings and fasteners
IGV THROAT, STEEL	100232	• TTS500/TTS700 • TGS520	-A, -E, -F, -H	Contains IGV throat assembly-steel, O-rings and fasteners
IGV THROAT, SILVER	100261	• TGS490	-F, -H	Contains IGV throat assembly-silver, O-rings and fasteners
IGV THROAT, ORANGE	100704	• TTH375 • TGH285	-F, -H	Contains IGV throat assembly-orange, O-rings and fasteners



3.4 IGV Worm Gear and Motor



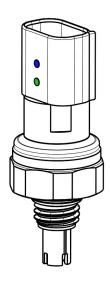
NOTE

The Worm Gear Extractor Tool (100246) is required for removal and installation of the Worm Gear.

DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
IGV WORM GEAR SHAFT REPAIR	100222	TTS300/TTS350/TTS400/TTS450/TTS500/TTS700TGS230/TGS310/TGS380/TGS390/TGS490/TGS520	ALL	Contains Worm Gear, Stepper Motor, Bearings, Collar, Clips, O-rings, and fasteners
IGV WORM GEAR SHAFT REPAIR	100705	• TTH375/TGH285	ALL	Contains Worm Gear, Stepper Motor, Bearings, Collar, Clips, O-rings, and fasteners
IGV MOTOR	100035-1	TTS300/TTS350/TTS400/TTS450/TTS500/TTS700TGS230/TGS310/TGS380/TGS390/TGS490/TGS520	ALL	Includes Stepper Motor and O-rings
IGV MOTOR	100035-2	• TTH375/TGH285	ALL	Includes Stepper Motor, O-rings, and fasteners
O-RING, IGV ASSY	100051-1	ALL COMPRESSORS	ALL	Includes O-rings and fasteners
WORM GEAR EXTRACTOR TOOL	100246	ALL COMPRESSORS	ALL	Worm Gear Extractor tool only



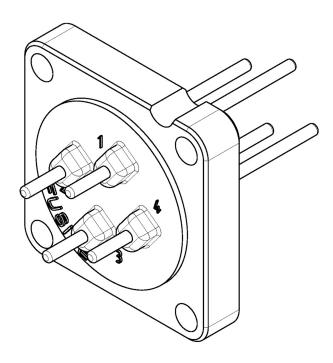
3.5 Pressure Temperature Sensor Suction



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
O-RING, P/T SENSORS	199K0015	ALL COMPRESSORS	ALL	Includes four O-rings



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

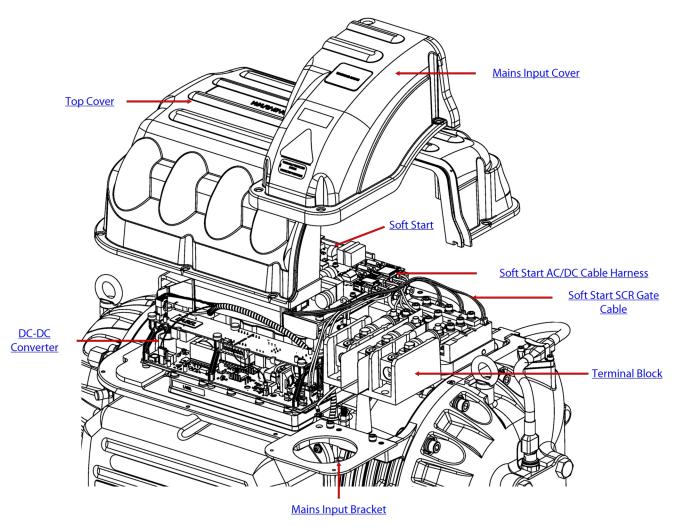


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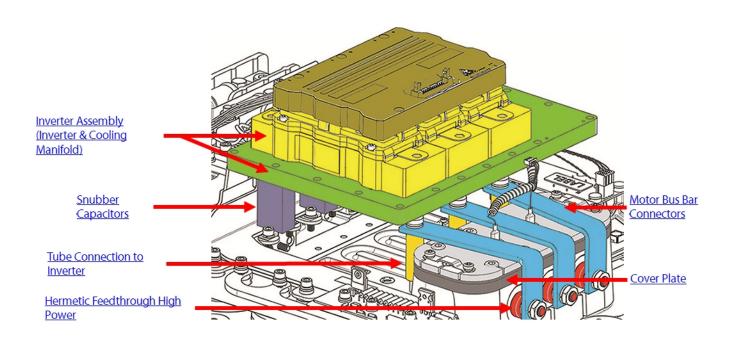


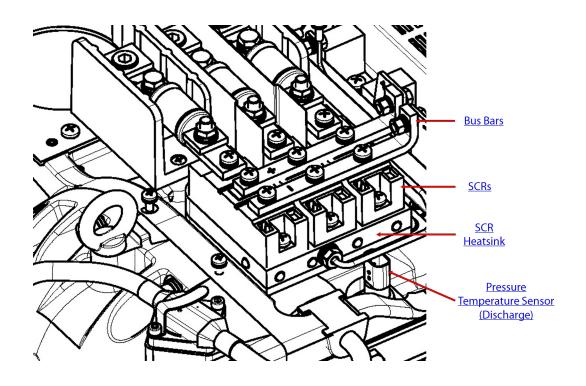
Chapter 4.0 Top Side

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



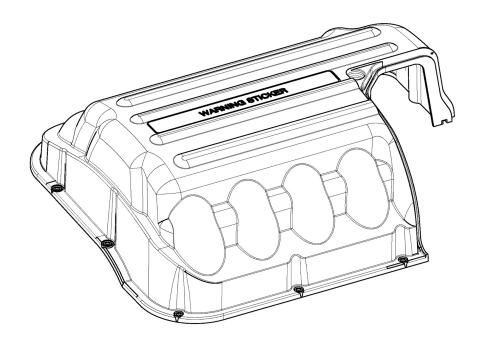








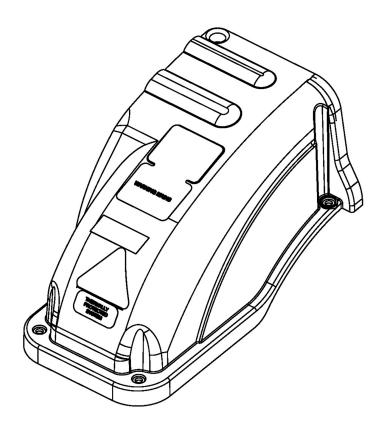
4.1 Top Cover



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
TOP COVER, BLACK, EN/FR	100054-3	TTS300/TTS350/TTS400/TTS450/TTS500/TTS700TTH375	ALL	Includes fasteners
TOP COVER, GREEN, EN/FR	100054-6	TGS230/TGS310/TGS380/TGS390/TGS490/TGS520TGH285	ALL	Includes fasteners
COVERS SCREW, M5, STAINLESS	100252	ALL COMPRESSORS	ALL	Replaces fasteners for all four covers (24 fasteners)



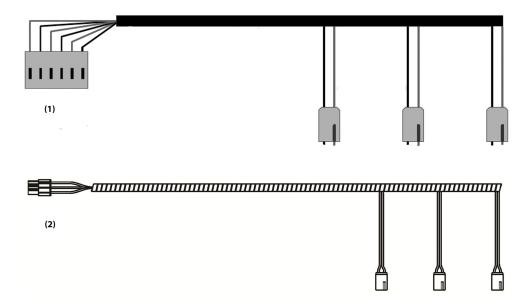
4.2 Mains Input Cover



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
MAINS INPUT COVER, BLACK	100056-3	TT\$300/TT\$350/TT\$400/TT\$450/TT\$500/TT\$700TTH375	ALL	Includes fasteners
MAINS INPUT COVER, GREEN	100056-6	TGS230/TGS310/TGS380/TGS390/TGS490/TGS520TGH285	ALL	Includes fasteners
COVERS SCREW, M5, STAINLESS	100252	ALL COMPRESSORS	ALL	Replaces fasteners for all four covers (24 fasteners)

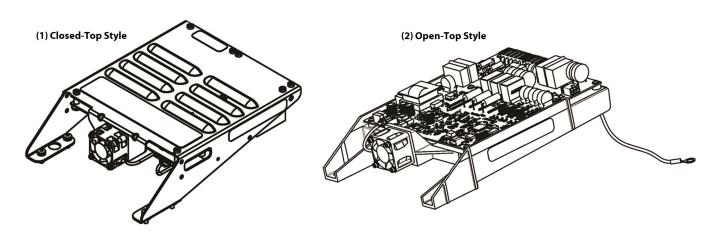


4.3 Soft Start SCR Gate Cable



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 (2) different style Soft Starts utilize a different SCR Cable connector, which requires a unique Soft Start SCR Gate Cable.

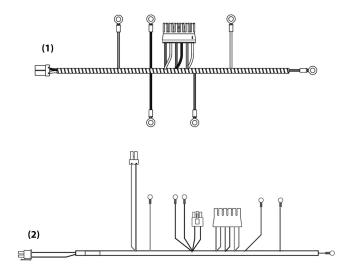
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) CABLE, SOFTSTART SCR GATE	100059	ALL COMPRESSORS	-N, -P, -C, -D, -E, -F, -G	Closed-Top Soft Starts (1) Includes cable only
(2) CABLE, SOFTSTART SCR GATE	100059-1	ALL COMPRESSORS	-H	Open-Top Soft Start (2) Includes cable only

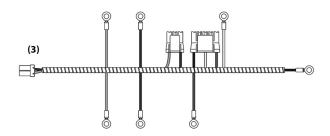


*The Open-Top style Soft Starts require a different Soft Start SCR Cable.



4.4 Cable Harness Soft Start AC/DC



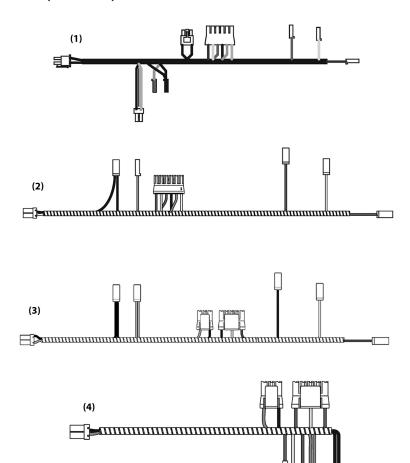


It is important to determine the Soft Start that is currently installed on the compressor, as well as the DC-DC Converter and Bus Bar assembly. Pre-rev H compressors may contain a Soft Start that has been upgraded to the Open-Top style and a DC-DC Converter that has been upgraded to the Open-Frame style. 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
				Cable Only
(1 & 2) CABLE, SOFTSTART AC/DC	100380	• TTS300 • TGS230	-N, -P, -C, -D, -E, -F, -G	Includes two cables in order to accommodate either DC-DC style
(3) CABLE, SOFTSTART AC/DC	100380-1	• 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



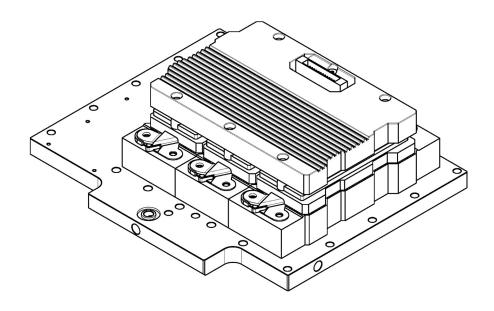
Cable Harness Soft Start AC/DC (continued)



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1 & 2) CABLE, SOFTSTART AC/DC	100381	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-P, -A, -C, -E, -F	Cable Only Includes two cables in order to accommodate either DC-DC style)
(3) CABLE, SOFTSTART AC/DC	100381-2	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/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	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/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

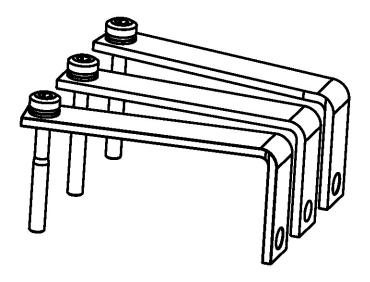


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
INVERTER ASSEMBLY CONVERSION (342 to 613)	100521*	TTS300TGS230	-N, -P, -C, -D, -E, -F	Includes motor bus bars, manifold insulator, fasteners, and O-rings
INVERTER ASSEMBLY, 613	100043-13*	TTS300TGS230	-G, -H	Includes fasteners and O- rings
INVERTER ASSEMBLY, 613	100043-11	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-P, -A, -C, -E, -F, -H	Includes fasteners and O- rings
O-RINGS, INVERTER ASSY	100310-2	• TTS300 • TGS230	ALL	Includes Inverter O-rings and fasteners
O-RING, INVERTER ASSY	100310-1	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	ALL	Replaces Inverter O-rings and fasteners

^{*}Refer to Customer Notification (B-CN-079)



4.6 Motor Bus Bar Assembly Connectors

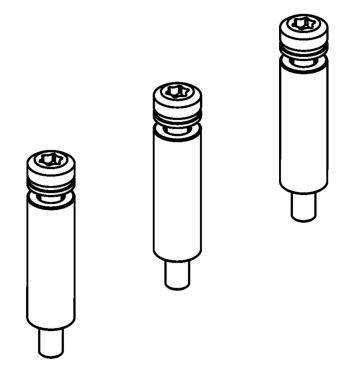


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
MOTOR BUS	100313	• TTS300	-N, -P, -C, -D,	Includes three bus bars
BAR ASSY	100313	• TGS230	-E, -F	and fasteners
		• TTS300*/TTS350/TTS400/TTS450/TTS500/		
MOTOR BUS	100212.1	TTS700	-P, -A, -C, -E,	Includes three bus bars
BAR ASSY	100313-1	• TGS230*/TGS310/TGS380/TGS390/TGS490/TGS520	-F, G, -H	and fasteners
		• TTH375/TGH285		

*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



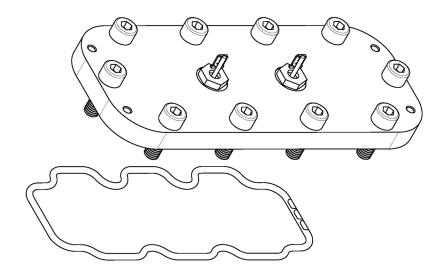
4.7 Tube Connection to Inverter



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



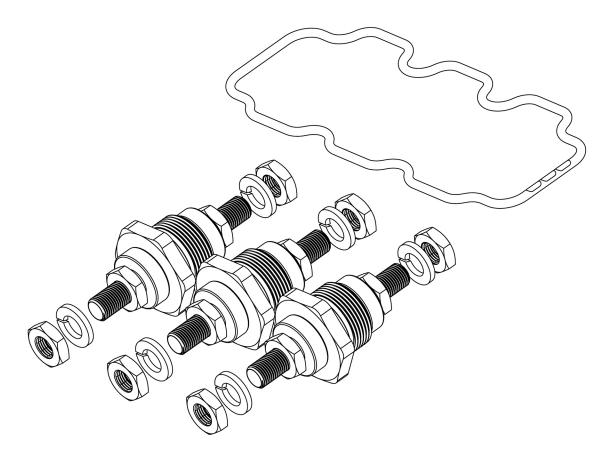
4.8 Cover Plate Assembly



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
COVER PLATE ASSY	100314-2	ALL COMPRESSORS	ALL	Includes O-ring, insulation, and fasteners
HARDWARE-COVER PLATE	100315-1	ALL COMPRESSORS	ALL	Includes O-ring, and fasteners



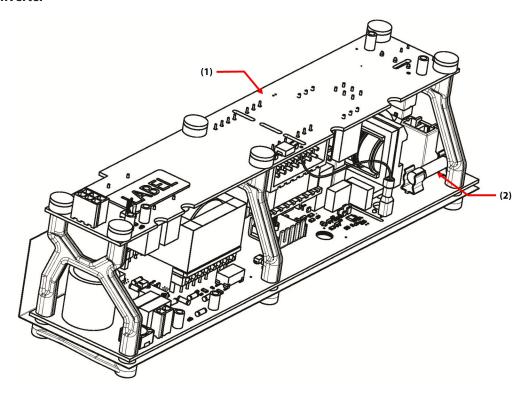
4.9 Hermetic Feedthrough High Power



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



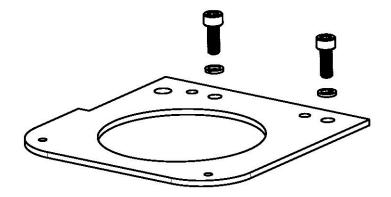
4.10 DC-DC Converter



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) DC-DC CONVERTER	100379	ALL COMPRESSORS	ALL	Includes fasteners
(2) FUSE, 2A, 1000V	100084	ALL COMPRESSORS	ALL OPEN FRAME DC-DC CONVERTERS	Includes 2 fuses



4.11 Mains Input Bracket and Grounding Stud

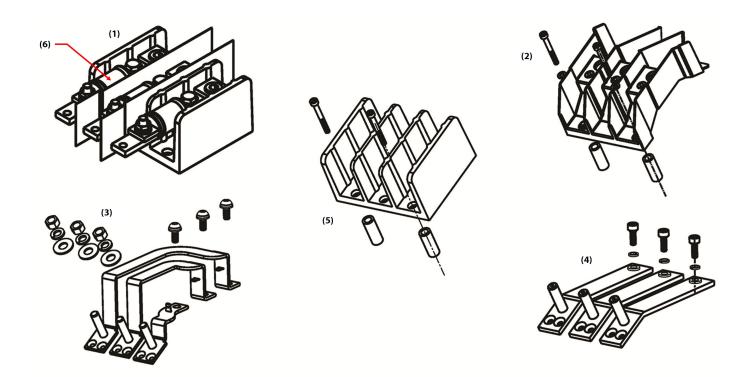


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
MAINS PLATE BRACKET- 2.0 IN DIA	100216	ALL COMPRESSORS	ALL	Includes fasteners
MAINS PLATE BRACKET- 2.5 IN DIA	100217	ALL COMPRESSORS	ALL	Includes fasteners
MAINS PLATE BRACKET- 3.0 IN DIA	100218	ALL COMPRESSORS	ALL	Includes fasteners
MAINS PLATE BRACKET-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

^{*} Not pictured



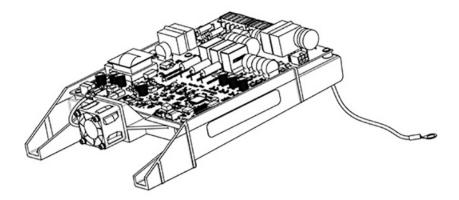
4.12 Terminal Block Assembly



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) TERMINAL BLOCK AND FUSE ASSY	100048-2	• TTS300 • TGS230	-N, -P, -C, -D, -E, -F ,-G, -H	Replaces Terminal Block assembly, includes fuses, insulator, fuse extension, fasteners, and connectors
(6) MAINS INPUT FUSE	100344	• TTS300 • TGS230	-N, -P, -C, -D, -E, -F ,-G, -H	Replaces the three fuses in the terminal block assembly
(3) INPUT MAINS BUS BARS, CURVED	100416	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520TTH375/TGH285	-A, -C, -E, -F	Includes three Bus Bars and fasteners
(4) INPUT MAINS BUS BARS, STRAIGHT	100416-1	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-H	Includes three Bus Bars and fasteners
(5) TERMINAL BLOCK ASSY	100048-1	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520TTH375/TGH285	-A, -C, -E, -F	Includes Terminal Block, fasteners, and spacers
(2) TERMINAL BLOCK ASSY	100048-3	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-H	Includes Terminal Block, Bus Bars, fasteners, and spacers



4.13 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.

DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SOFT START OPEN TOP	100020-19	• TTS300	-N, -P, -C, -D, -E, -F	Includes Soft Start, DC-DC, Soft Start AC/DC
UPGRADE	100020 19	• TGS230	14, 1, 2, 2, 2, 1	Cable, Soft Start SCR Gate Cable, and fasteners
				Includes fasteners only
SOFT START OPEN TOP	100020-18	• TTS300	-G**, -H	**Rev G compressors with Potted DC-DC require Soft Start Upgrade Kit (100020-19) instead
		• TGS230		**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

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 installed.



Soft Start Assembly (continued)

DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SOFT START OPEN TOP UPGRADE	100020-20	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520	-P, -A, -C, -E	Includes Soft Start, DC-DC, Soft Start AC/DC Cable, Soft Start SCR Gate Cable, and fasteners
				Includes fasteners
SOFT START OPEN TOP	100020-18	 TTS350/TTS400/TTS450/TTS500/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 		**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

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



4.14 Soft Start Fuses

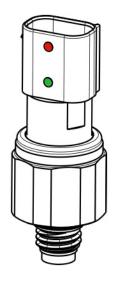
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
FUSES, SOFT START	100317-1	ALL COMPRESSORS	-N, -P, -A, -C, -D, -E, -F ,-G	
FUSES, SOFT START	100317-2	ALL COMPRESSORS	-F ,-G	For Soft Starts Rev Q and later, Fuses included: QTY 3 - 2A SPF (F1), QTY 10 - 1A Nano (F3, F6), QTY 10 - Nano 0.25A (F2), and 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 fuses
FUSE, NANO, 1A 125V	100433	ALL COMPRESSORS	-N, -P, -A, -C, -D, -E, -F ,-G	Includes 10 fuses
FUSE, 2A, 1000V, 3IN	100421	 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 fuses
FUSE, 2A, 1000V	100422	TTS300/TTS350/TTS400/TTS450/TTS500/TTS700TGS230/TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-F , -G	For Soft Starts rev Q and later, includes three fuses

NOTE

There are no fuses required if the compressor has been upgraded with the Open-Top Soft Start.



4.15 Pressure Temperature Sensor Discharge

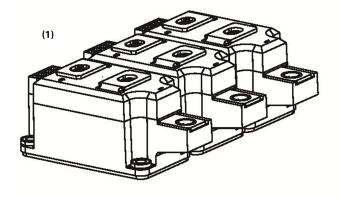


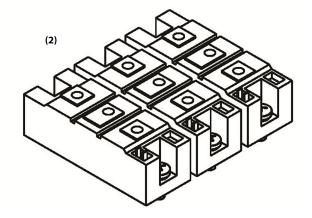
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
*PRESSURE/TEMP SENSOR, DISCHARGE	100037-2	ALL COMPRESSORS	ALL	Marked with a red dot and a green dot, contains O-ring
O-RING, P/T SENSORS	199K0015	ALL COMPRESSORS	ALL	Includes four O-rings

 $^{^{\}ast}$ Also replaces the TTH/TGH compressor Interstage Pressure/Temperature Sensor.



4.16 Silicone-Controlled Rectifiers (SCRs)



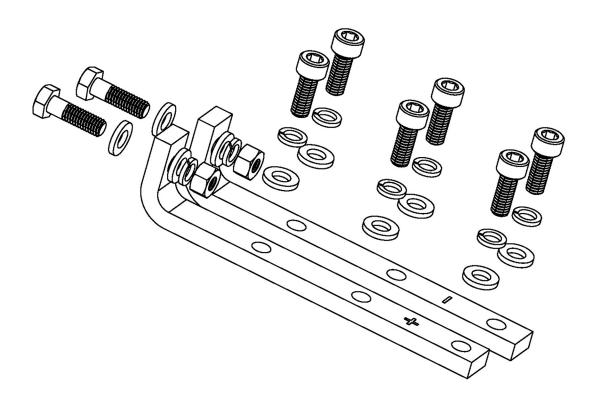


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(2) SILICONE CONTROLLED RECTIFIERS	100047-1	• TTS300 • TGS230	-N, -P, -C, -D, -E, -F , -G, -H	Includes fasteners Not interchangeable with Kit 100047-3
(2) SILICONE CONTROLLED RECTIFIERS	100047-1	• TTS400 • TGS390	-H	Includes fasteners Not interchangeable with Kit 100047-3
(1) SILICONE CONTROLLED RECTIFIERS	100047-2	TTS350/TTS500/TTS700TGS310/TGS490/TGS520TTH375/TGH285	-A, -C, -E, -F	Includes fasteners
(1) SILICONE CONTROLLED RECTIFIERS	100047-2	• TTS400 • TGS390	-P, -A, -C, -E, -F	Includes fasteners
(2) SILICONE CONTROLLED RECTIFIERS	100047-3	TTS350/TTS450/TTS500/TTS700TGS310/TGS380/TGS490/TGS520TTH375/TGH285	-H	Includes fasteners Not interchangeable with Kit 100047-1

	NOTE	
SCRs should always be replaced as a kit.		



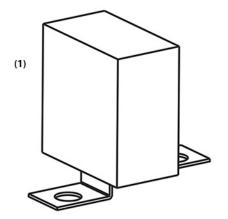
4.17 Bus Bar

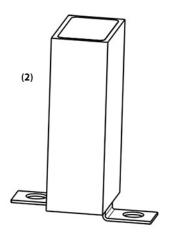


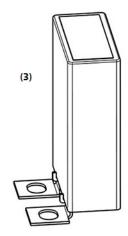
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SCR BUS BAR	100316	• TTS300 • TGS230	ALL	Includes positive and negative Bus Bars and fasteners



4.18 Snubber Capacitors





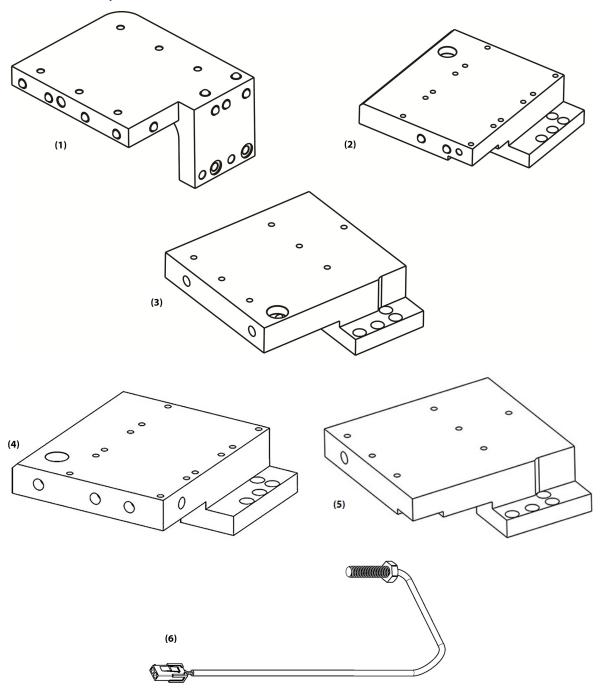


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) SNUBBER CAPACITOR, 0.47μF, 1000VDC	199K0045	• TTS300 • TGS230	-N, -P, -C, -D, -E, -F, -G	Includes three snubbers and fasteners
(2) SNUBBER CAPACITOR, 0.47μF, 1000VDC	100417-2	• TTS300 • TGS230	-H	Includes three snubbers and fasteners
(3) INVERTER SNUBBER CAPACITOR, 0.56µF, 1000VDC	199K0044	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520TTH375/TGH285	-P, -A, -C, -E, -F, -H	Includes three snubbers and fasteners

Snubber capacitors should always be replaced as a kit.



4.19 SCR Heatsink Assembly



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) SCR COOLING MANIFOLD	100309-11	• TTS300 • TGS230	ALL	Includes O-rings and fasteners (sensor not applicable)



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(2) SCR COOLING MANIFOLD	100309-13	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520	-P, -A, -C, -E, -F	Includes O-rings and fasteners (sensor not applicable) Standard Temp Models only
(5) SCR COOLING MANIFOLD	199K0024	TTS350/TTS400/TTS450/TTS700TGS310/TGS380/TGS390/TGS490/TGS520	-H (Standard SST)	Includes O-rings, SCR Manifold Return Fitting, and fasteners (sensor not applicable) Standard Temp Models only
(3) SCR COOLING MANIFOLD	100309-8	 TTS350/TTS400/TTS450/TTS700 TGS310/TGS380/TGS390/TGS490/TGS520 TTH375/TGH285 (all models) 	-H (High SST)	High SST Option Includes O-rings, SCR Manifold Return Fitting, and fasteners (sensor not applicable) Refer to Note 2 when converting to High SST Not interchangeable with Kit 100309-7
(4) SCR COOLING MANIFOLD	100309-7	• TTH375/TGH285	-F, G	Includes O-rings and fasteners Not interchangeable with Kit 100309-8 Both standard and high temp
O-RINGS, SCR COOLING MANIFOLD	100310-2	• TTS300 • TGS230	ALL	Replaces Inverter and SCR Heatsink Manifold O-rings and fasteners
O-RINGS, SCR COOLING MANIFOLD	100310-1	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/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		-N, -P, -A, -C, -D, -E, -F , -G	Includes washers Will not work in Rev H compressors



NOTE 1

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

NOTE 2

A TTS/TGS model series standard temperature compressor can be converted to a high temperature compressor. To do so, the following items are required:

- 100309-8 Heatsink, Cooling Manifold SCR Assembly
- 201055-xxxxxxxx-xxx 4.3.0 BMCC*
- 100417-2 CAPACITOR INVERTER SNUBBER, 0.47Y1000

*BMCC PNs are not unique between application option ST (Standard Temperature) and HT (High Temperature); however, HT applications require software version 4.3.0 and later to operate.

The SCR Manifold Return Brass Fitting may be required to be replaced if the compressor was manufactured after May 31, 2024. The brass fitting is included in kit 100309-8. Refer to the SCR Cooling Manifold Instructions for more information.

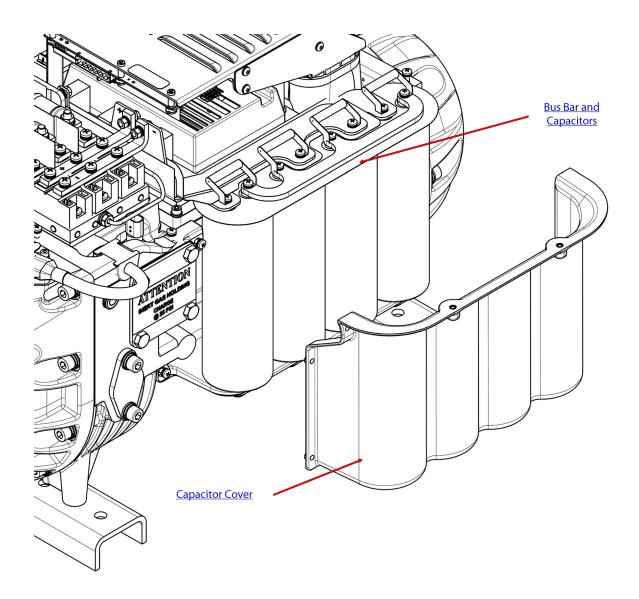


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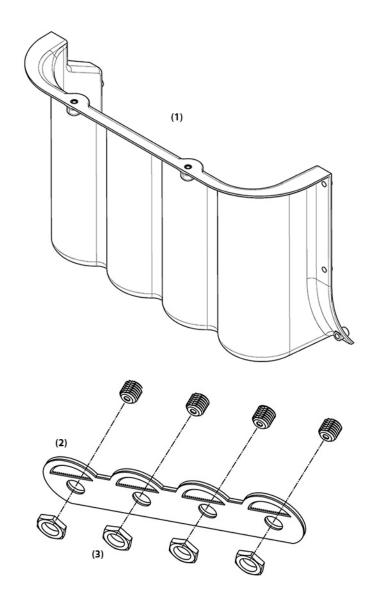
Chapter 5.0 Capacitor Side

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





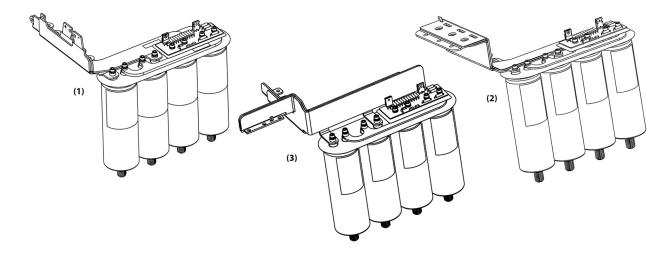
5.1 Capacitor Cover



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) CAPACITOR COVER, BLACK	1 100053-3 1	TT300/TTS350/TS3TS400/TTS450/TTS500/TTS700TTH375	ALL	Includes fasteners
(1) CAPACITOR COVER, GREEN	1 100053-6 1	TGS230/TGS310/TGS380/TGS390/TGS490/TGS520TGH285	ALL	Includes fasteners
(2) & (3) CAP MEMBRANE	100122	ALL COMPRESSORS	ALL	Includes nylon hex nuts
COVERS SCREW, M5, STAINLESS	100252	ALL COMPRESSORS	ALL	Replaces fasteners for all four covers (24 fasteners)



5.2 Bus Bar and Capacitor Assembly



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) DC CAPACITOR ASSY, 6800μF (460V)	100044-7	• TTS300/TGS230	-N, -P, -C, -D, -E, -F, -G, -H	For use with 460V models; includes relief membrane and nylon nuts
(1) DC CAPACITOR ASSY, 4700μF (575V)	100044-8	• TTS300/TGS230	-N, -P, -C, -D, -E, -F, -G, -H	For use with 575V models; includes relief membrane and nylon nuts
(1) DC CAPACITOR ASSY, 9000μF (380/400V)	100044-6	• TTS300/TGS230	-N, -P, -C, -D, -E, -F, -G, -H	For use with 380/400V models; includes relief membrane and nylon nuts
(2) DC CAPACITOR ASSY, 11000μF (380/400V)	100044-11	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520TTH375/TGH285	-P, -A, -C, -E, -F	For use with 380V and 400V models; includes relief membrane and nylon nuts
(3) DC CAPACITOR ASSY, 11000μF (380/400V)	100044-14	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-H	For use with 380V and 400V models, includes nylon nuts
(2) DC CAPACITOR ASSY, 6800μF (575V)	100044-13	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520TTH375/TGH285	-C, -E, -F	For use with 575V models; includes relief membrane and nylon nuts
(3) DC CAPACITOR ASSY, 6800μF (575V)	100044-16	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-H	For use with 575V models; includes relief membrane and nylon nuts

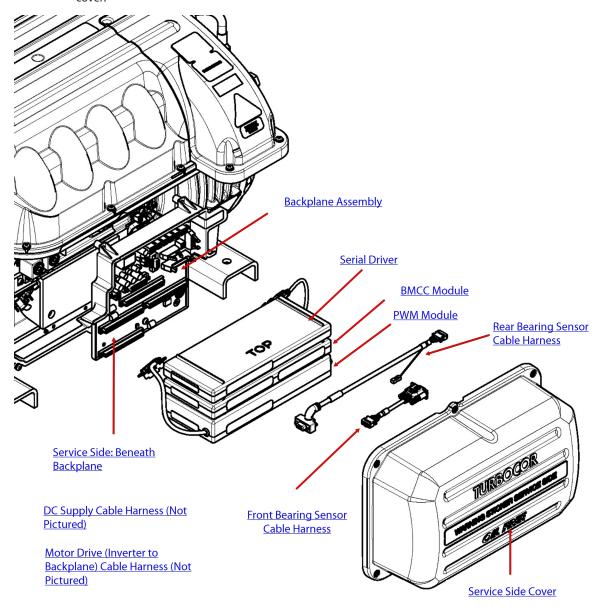


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(2) DC CAPACITOR ASSY, 8500μF (460V)	100044-12	TTS350/TTS400/TTS500/TTS700TGS310/TGS390/TGS490/TGS520TTH375/TGH285	-P, -A, -C, -E, -F	For use with 460V models; includes relief membrane and nylon nuts
(3) DC CAPACITOR ASSY, 8500μF (460V)	100044-15	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520TTH375/TGH285	-H	For use with 460V models; includes relief membrane and nylon nuts



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.





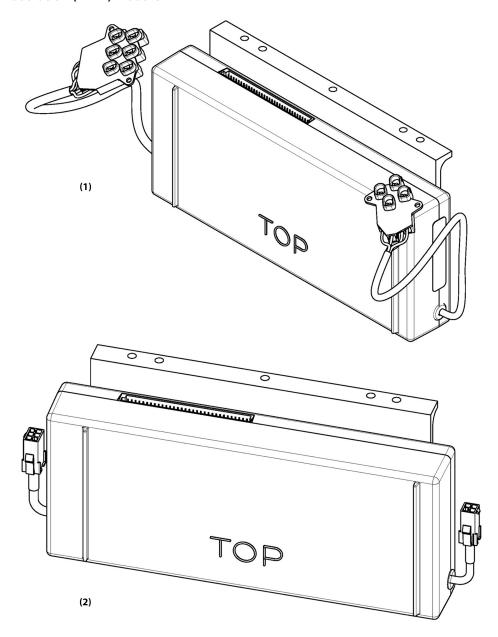
6.1 Cover



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SERVICE SIDE COVER , BLACK	100055-3	TTS300/TTS350/TTS400/TTS450/TTS500/TTS700TTH375	ALL	Includes fasteners
SERVICE SIDE COVER, GREEN	100055-6	TGS230/TGS310/TGS380/TGS390/TGS490/TGS520TGH285	ALL	Includes fasteners
COVERS SCREW, M5, STAINLESS	100252	ALL COMPRESSORS	ALL	Replaces fasteners for all four covers (24 fasteners)



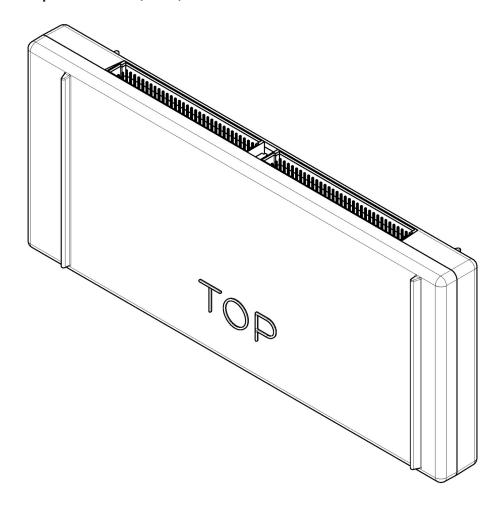
6.2 Pulse Width Modulation (PWM) Module



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

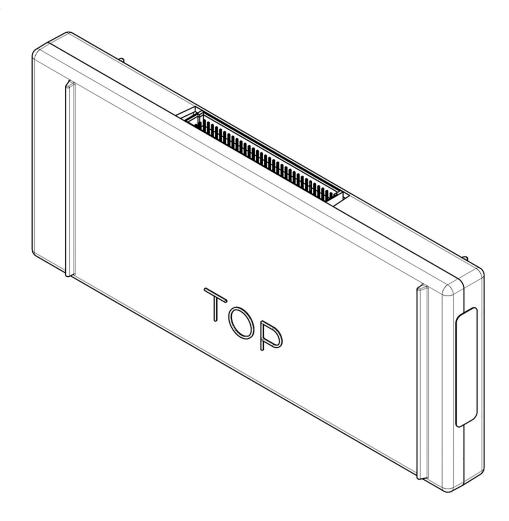


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
BEARING MOTOR COMPRESSOR CONTROL (BMCC)	201055- xxxxxxx-xxx	ALL COMPRESSORS	ALL	Specific compressor software part number used in place of -xxxxxxx-xxx, Contains BMCC with compressor specific software only

NOTE
Specific BMCC part numbers canbe found in Customer Notification B-CN-181.



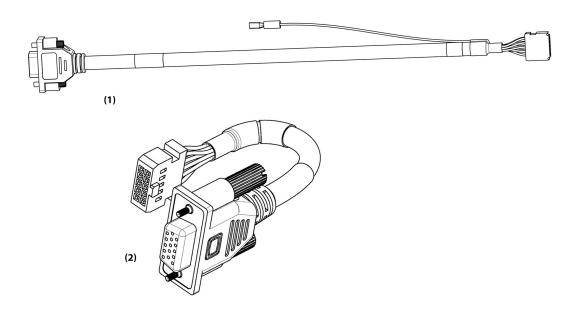
6.4 Serial Driver



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



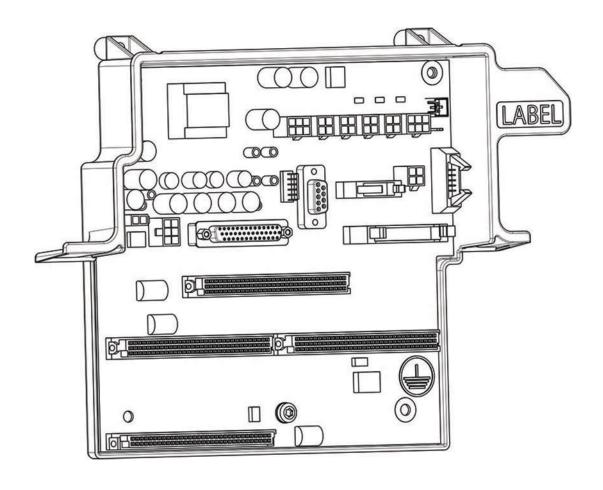
6.5 Rear/ Front Bearing Sensor Cable Harness



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



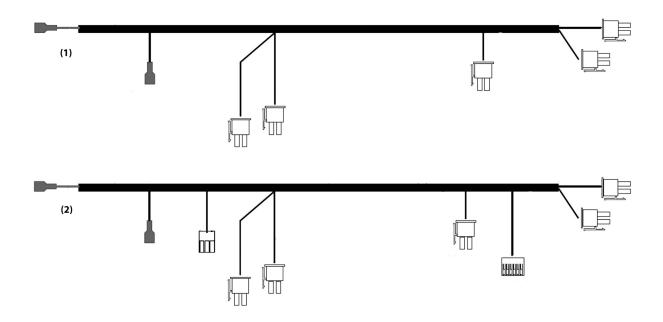
6.6 Backplane Assembly



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
BACKPLANE ASSEMBLY	100021-2	ALL COMPRESSORS	ALL	Includes fasteners



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
				Cable Only
(2) DC SUPPLY CABLE HARNESS	100323-2	ALL COMPRESSORS	-F, -G, -H	Soft Start Temperature Sensor is only required in CC Firmware Revision 4.x and later



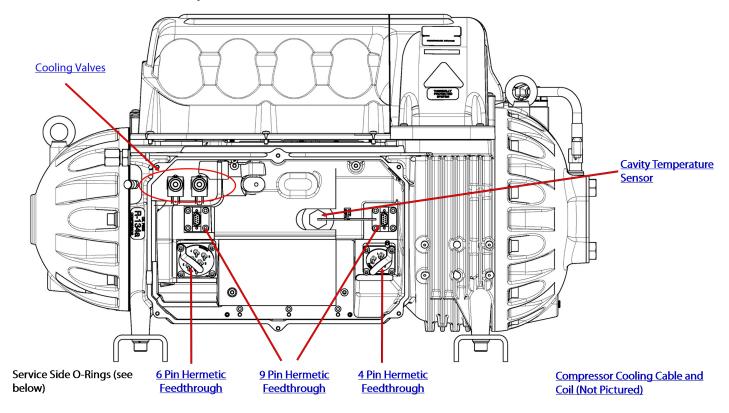
6.8 Motor Drive (Inverter to Backplane) Cable Harness



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



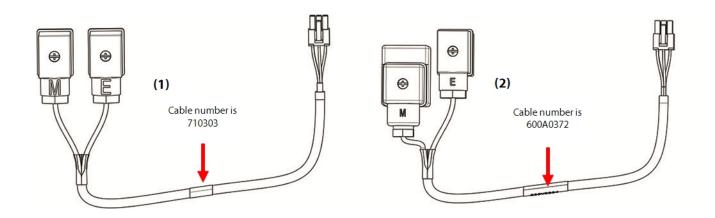
6.9 Service Side Beneath Backplane



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
O-RINGS, SERVICE SIDE, SMALL	199K0031	ALL COMPRESSORS	ALL	Includes O-rings for cooling valves, 6 Pin, 4 Pin, and 9 Pin Hermetic Feedthroughs
O-RING, SOLENOID ORIFICE	199K0030	ALL COMPRESSORS	ALL	Only replaces cooling valve O-rings



6.10 Compressor Cooling Cable and Coil Assembly



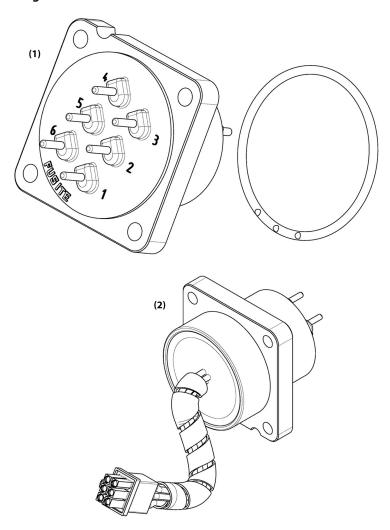
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) COMPRESSOR COOLING				Includes hardware
(1) COMPRESSOR COOLING CABLE/COIL ASSY	100063-1	ALL COMPRESSORS	ALL	Refer to Note below before purchasing!
				Includes hardware
		• TTS450 • TGS380		The introduction of this new valve has been applied starting with the following compressors:
(2) COMPRESSOR COOLING CABLE/COIL ASSY	199K0026	• TTH375/TGH285	-H	• TTH375 / TGH285 (S/N 2419950194 and later)
				• TGS380 / TTS450 (S/N 2419950222 and later)
				Refer to Note below before purchasing!

NOTE

In some cases, the Motor Cooling Solenoid for a compressor manufactured prior to the serial numbers defined may have been upgraded and therefore, verification of the correct replacement parts is necessary. Please refer to Customer Notification B-CN-370 for any additional information regarding the upgrade.



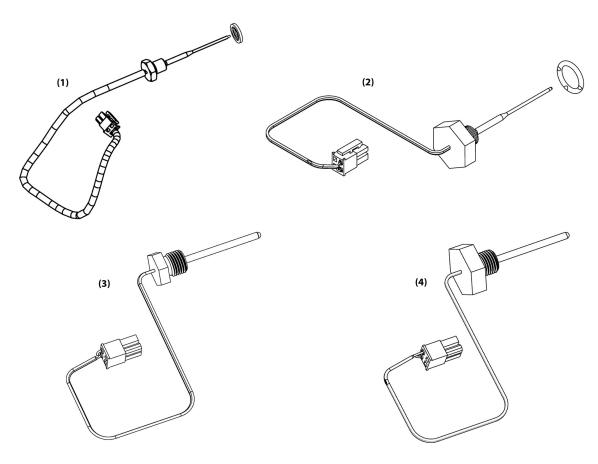
6.11 6-Pin Hermetic Feedthrough



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



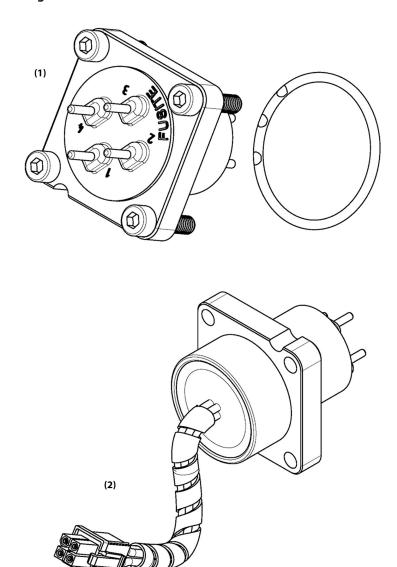
6.12 Cavity Temperature Sensor/Motor Rotor



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) CAVITY TEMP SENSOR	100034	• 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	TTS300/TTS350/TTS400/TTS450TGS230/TGS310/TGS380/TGS390/TGS490TTH375/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	• TTS500	-A	Do not use if compressor PN ends in "-3", Includes O-ring (16mm sensor head)
(4) CAVITY TEMP SENSOR	100196-4	TTS500/TTS700TGS520	-E, -F, -G, -H	Also use if compressor part number ends in "-3", includes O-ring (15/16" sensor head)



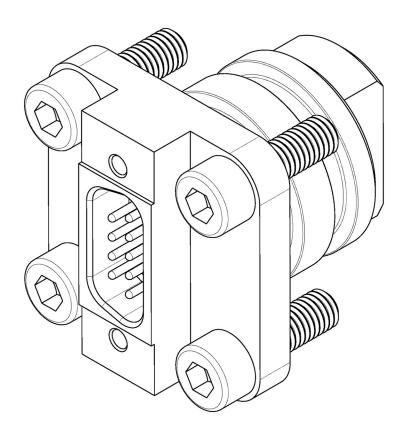
6.13 4-Pin Hermetic Feedthrough



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

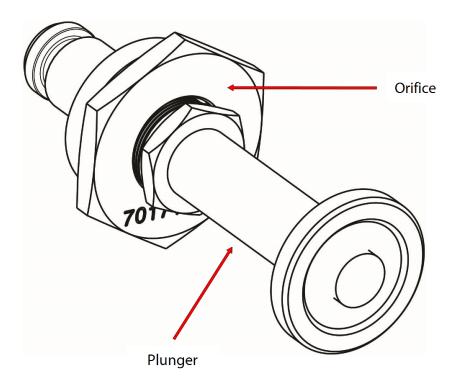


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
FEEDTHROUGH, 9 PIN	100295-1	ALL COMPRESSORS	ALL	Includes O-ring and fasteners



6.15 Cooling Valves Assembly

Each Cooling Valve Assembly spare part kit contains two (2) Plunger Assemblies, two (2) 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					
COMPRESSOR MODELS	380V	400V	460V	575V		
TGS230	100281-2	100281-2	100281-2	100281-2		
TGH285	100281-5/	100281-5/	100281-5/	100281-5/		
	199K0029*	199K0029*	199K0029*	199K0029*		
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/		
	199K0029*	199K0029*	199K0029*	199K0029*		
TGS380	100281-5/	100281-5/	100281-5/	100281-5/		
193300	199K0029*	199K0029*	199K0029*	199K0029*		
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/		
	199K0029*	199K0029*	199K0029*	199K0029*		
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		

The introduction of this new cooling valve has been applied starting with the following compressors:

- TTH375 / TGH285 (S/N 2419950194 and later)
- TGS380 / TTS450 (S/N 2419950222 and later)

Refer to Note below before purchasing!

NOTE

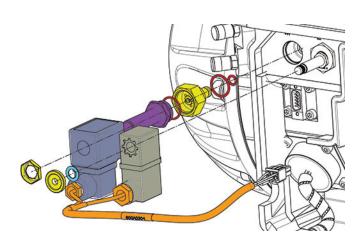
These kits only apply to the compressor models listed.

^{*} In some cases, the Motor Cooling Solenoid for a compressor manufactured prior to the serial numbers defined may have been upgraded and therefore, verification of the correct replacement parts is necessary. Please refer to Customer Notification B-CN-370 for any additional information regarding the upgrade.



6.16.1 Solenoid Plunger and Harness Field Upgrade Kit

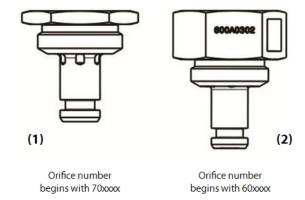
If service is to be performed on an installed compressor which has not been upgraded, Danfoss LLC recommends upgrading the entire valve with the new kit as opposed to servicing with the previously available spare part kits. This would only apply when the service is being performed on the Motor Cooling Valve for TTH375/TGH285 & TGS380/TTS450 Major Revision H models.



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SOLENOID PLUNGER- HARNESS FIELD REPLACEMENT	199K0025	TTS450TGS380TTH375/TGH285	-Н	Includes Motor Plunger, Orifice, Solenoid Coil/Harness Assy, O- rings, and hardware



6.16.2 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 199K0030.

ORIFICE BODY					
COMPRESSOR MODELS	COMPRESSOR VOLTAGE				
COMPRESSOR MODELS	380V	400V	460V	575V	
TGS230 (Motor & Electronics)	100236	100236	100236	100236	
TGH285 (Motor)	100238/	100238/	100238/	100238/	
	199K0027*	199K0027*	199K0027*	199K0027*	
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/	
TTH373 (MOCOL)	199K0027*	199K0027*	199K0027*	199K0027*	
TTH375 (Electronics)	100239	100239	100239	100239	
TGS380 (Motor)	100238/	100238/	100238/	100238/	
193380 (MOTOL)	199K0027*	199K0027*	199K0027*	199K0027*	
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/	
i i 3430 (MOLOI)	199K0027*	199K0027*	199K0027*	199K0027*	



	ORIFICE BODY				
		COM	PRESSOR VOLTAGE		
COMPRESSOR MODELS	380V	400V	460V	575V	
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 199K0030 (O-RING, SOLENOID ORIFICE) should be ordered with any orifice kit.

The introduction of this new orifice body has been applied starting with the following compressors:

- TTH375 / TGH285 (S/N 2419950194 and later)
- TGS380 / TTS450 (S/N 2419950222 and later)

Refer to Note below before purchasing!

NOTE

* In some cases, the Motor Cooling Solenoid for a compressor manufactured prior to the serial numbers defined may have been upgraded and therefore, verification of the correct replacement parts is necessary. Please refer to Customer Notification B-CN-370 for any additional information regarding the upgrade.

These kits only apply to the compressor models listed.

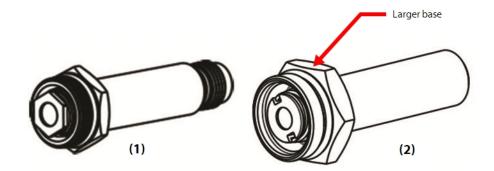
The table below identifies the orifice size for each part number.

ORIFICE SIZE	PART NO.
1.3MM	100236
1.6MM	100240
2.0MM	100239
2.5MM	100238*
2.5MM	199K0027*

DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
O-RING, SOLENOID ORIFICE	199K0030	ALL COMPRESSORS	ALL	Order with any Orifice kit



6.16.3 Plunger Assembly



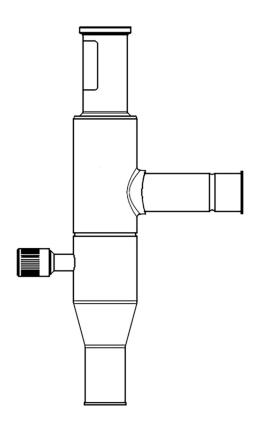
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) PLUNGER	100280	ALL COMPRESSORS	ALL	Includes one plunger with hardware and O-ring
ASSY, SOLENOID	100280	ALL COMPRESSORS	ALL	Refer to Note below before purchasing!
				Includes one plunger, nut, and O-ring
(2) PLUNGER		• TTS450		The introduction of this new plunger assembly has been applied starting with the following compressors:
ASSY, SOLENOID	199K0028	TGS380TTH375/TGH285	-H	 TTH375 / TGH285 (S/N 2419950194 and later) TGS380 / TTS450 (S/N 2419950222 and
				later) Refer to Note below before purchasing!

NOTE

In some cases, the Motor Cooling Solenoid for a compressor manufactured prior to the serial numbers defined may have been upgraded and therefore, verification of the correct replacement parts is necessary. Please refer to Customer Notification B-CN-370 for any additional information regarding the upgrade.



6.17 Pressure Regulating Valve

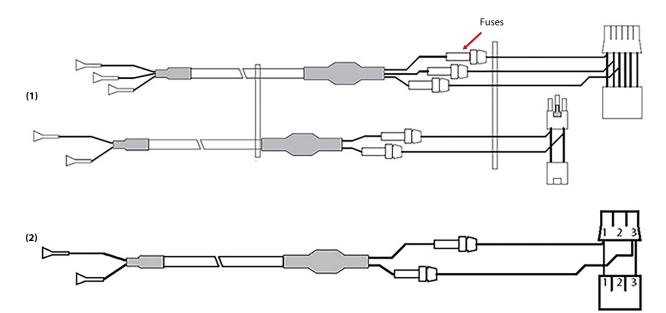


DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
KVP 22 EVAPORATOR PRES REG M/12	034L0025	TTS300/TGS230 MEDIUM TEMP TTH375/TGH285 MEDIUM TEMP	ALL	KVP 22, Inlet size [mm]: 22.00, Inlet connection type: SOLDER, ODF, Outlet size [mm]: 22.00, Outlet connection type: SOLDER, ODF



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

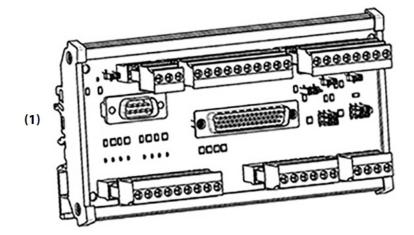


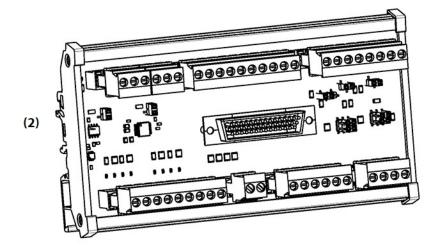
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Appendix B Accessory Kits

B.1 I/O Board Assembly

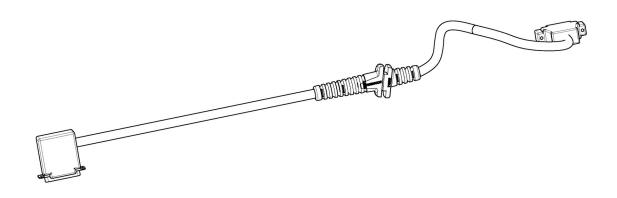




DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
(1) I/O BOARD ASSY	100076-1	ALL COMPRESSORS	ALL	PCB Assembly Only
(2) I/O BOARD ASSY RS485-X2	100410	ALL COMPRESSORS	ALL	Used for TurbocorCloud® Gateway)



B.2 Compressor Interface Cable



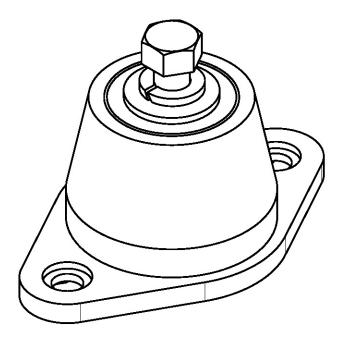
DESCRIPTION	PART NO.	APPLIES	MAJOR REV	COMMENT
COMPRESSOR INTERFACE CABLE, 5M	100058-1	ALL COMPRESSORS	ALL	Cable Only
COMPRESSOR INTERFACE CABLE, 10M	100058-4	ALL COMPRESSORS	ALL	Cable Only
COMPRESSOR	100058-5	ALL COMPRESSORS	ALL	Cable Only
INTERFACE CABLE, 20M	100056-5	ALL COMPRESSORS	ALL	(See Note below)

NOTE

Compressor Interface Cables longer than 10m (32.8 ft) of total length exceed the maximum recommended length and could lead to inconsistent and unreliable performance on communication and stepper motor interfaces. It is recommended to consult DTC Product Support to see if the 20m is appropriate for your application.



B.3 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")

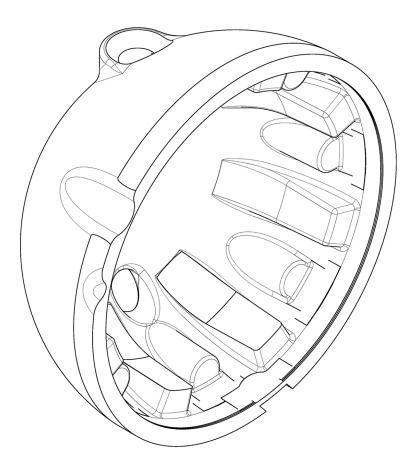
• Material: Neoprene Duro Meter 50

• Tightening Torque: $14 \pm 3 \text{ Nm} (10 \pm 4 \text{ ft.lb.})$

• Capacity Range: 50 -107 kg (110 - 236 lb) EACH



B.4 End Cap Insulation



DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
END CAP INSULATION	100147	ALL COMPRESSORS (Except TTH375/TGH285)	ALL	Includes end cap insulation and silicone adhesive. (Does not apply to TTH375/TGH285 compressors)

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



B.5 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

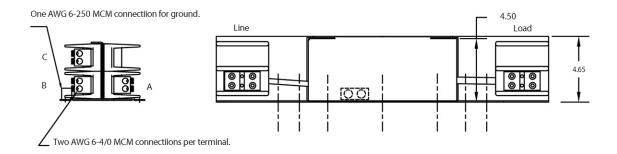
23.50 Max

10.50

4.00

4.00

(10X) 0.28 X 0.40 Slots





B.6 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

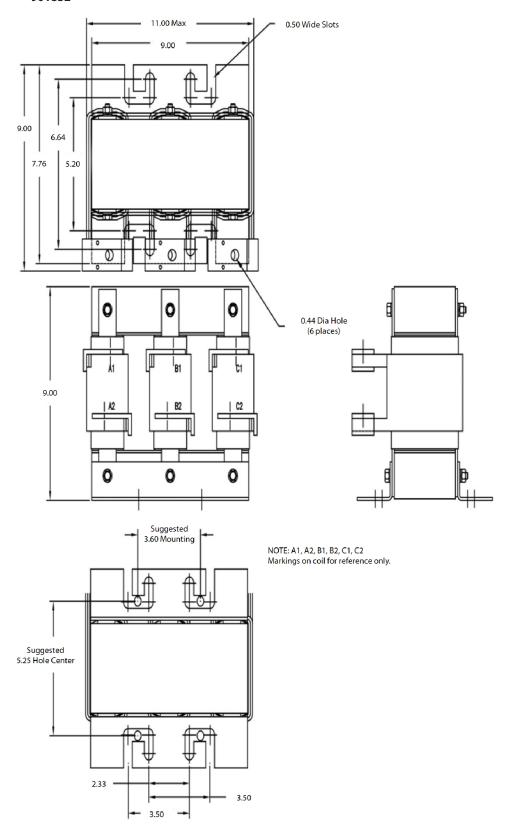
NOTE

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

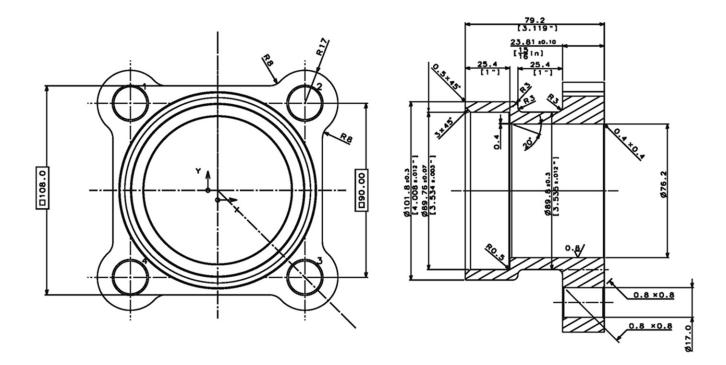




B.7 Flanges

Suction Flange

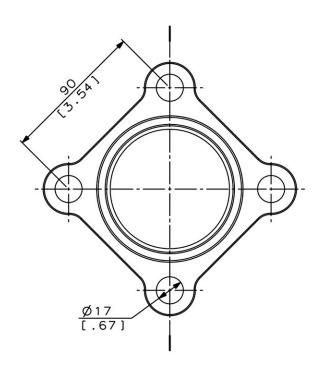
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SUCTION		• TTS300/TTS350/TTS400/TTS450		
FLANGE, STEEL, 3	100151-1	• TGS230/TGS310/TGS380/TGS390/TGS490	ALL	Includes flange,
IN		• TTH375/TGH285		fasteners, and O-ring

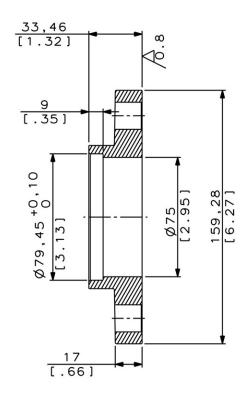




Suction Flange (continued)

DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SUCTION		• TTS300/TTS350/TTS400/TTS450		In alcodos floras of fostonous
FLANGE, BRASS,	100402-1	• TGS230/TGS310/TGS380/TGS390/TGS490	ALL	Includes flange, fasteners, and O-ring
3 IN		• TTH375/TGH285		und 9 mig

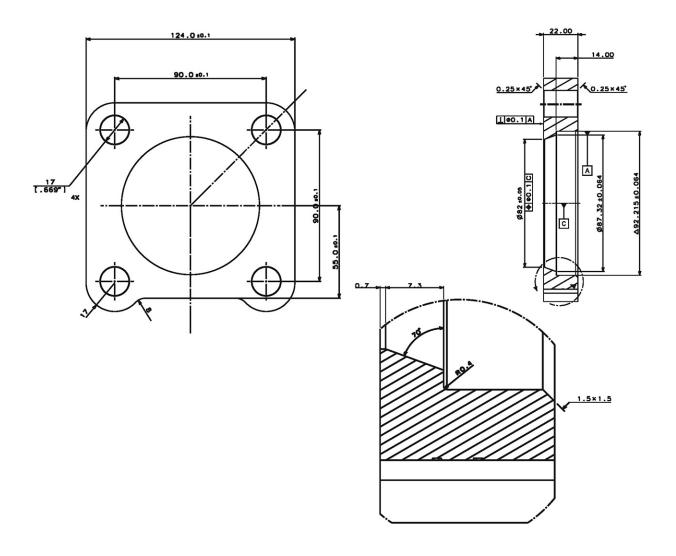






Suction Flange (continued)

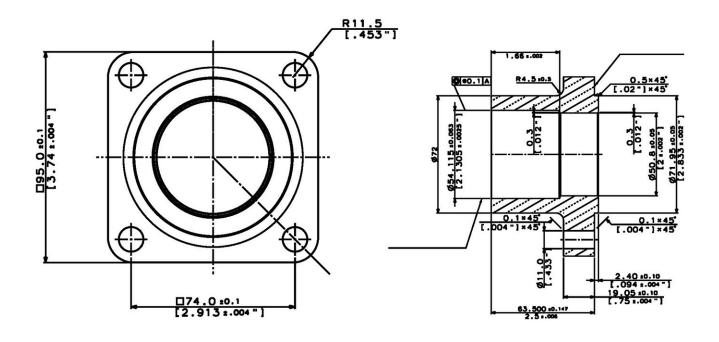
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
SUCTION FLANGE,	100270	• TTS500/TTS700	ALI	Includes flange,
BRASS, 3-5/8 IN	100378	• TGS520	ALL	fasteners, and O-ring





Discharge Flange

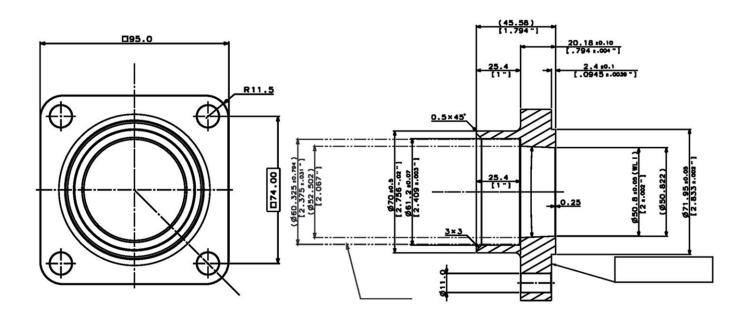
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
DISCHARGE FLANGE, BRASS, 2-	100152	TTS300/TTS350/TTS400/TTS450TGS230/TGS310/TGS380/TGS390	ALL	Includes flange, fasteners,
1/8 IN	100132	• TTH375/TGH285	ALL	and O-ring





Discharge Flange (continued)

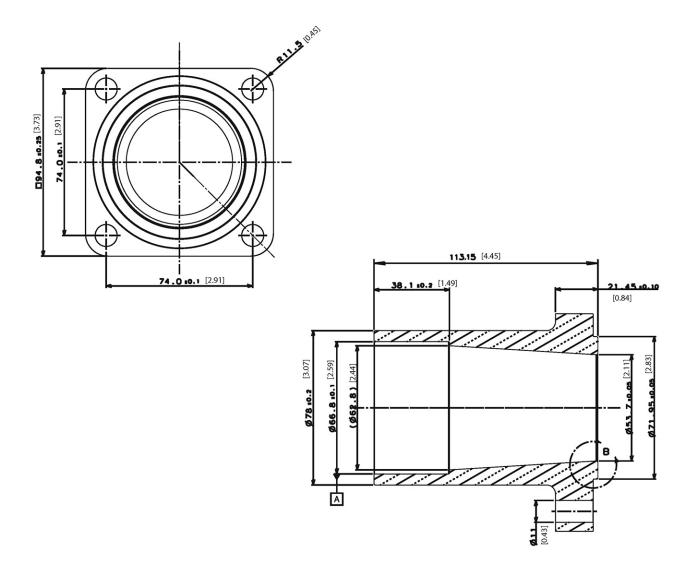
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
DISCHARGE FLANGE, STEEL, 2-	100153-1	TTS300/TTS350/TTS400/TTS450TGS230/TGS310/TGS380/TGS390	ALL	Includes flange, fasteners, and O-ring
1/8 IN		• TTH375/TGH285		59





Discharge Flange (continued)

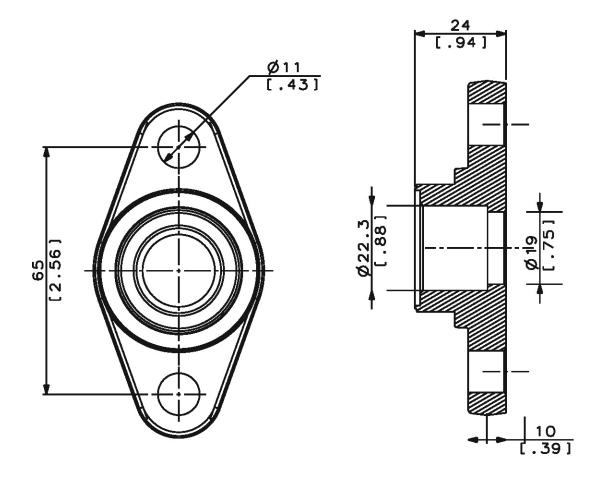
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
DISCHARGE FLANGE,	100254	• TTS500/TTS700	All	Includes flange,
BRASS, 2-5/8 IN	100254	• TGS490/TGS520	ALL	fasteners, and O-ring





Economizer Flange

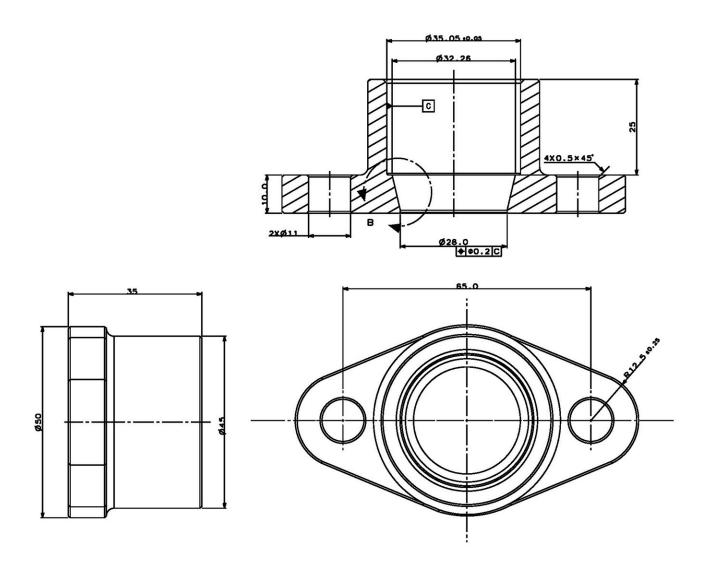
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
ECONOMIZER FLANGE, BRASS, 7/8 IN	100400	• TTS300/TG230	ALL	Includes flange, fasteners, and O-ring





Economizer Flange (continued)

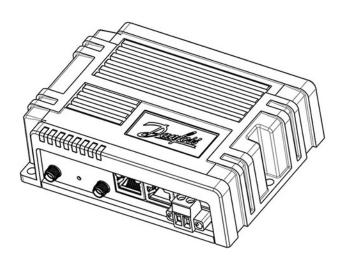
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
ECONOMIZER FLANGE, BRASS,	100450-1	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/TGS390/TGS490/TGS520	ALL	Includes flange, fasteners,
1-3/8 IN	100430-1	• TTH375/TGH285	ALL	and O-ring





Appendix C TurbocorCloud® Kits

C.1 TurbocorCloud Gateway



NOTE

Operation of the TurbocorCloud Gateway will require the following:

- SIM Card when connecting to the cellular network (must use P/N 100476)
- Antenna to connect to the cellular network
- Communication cables (locally sourced, site specific)

Refer to the TurbocorCloud Installation and Commissioning Manual for the required components for operation.

DESCRIPTION	PART NO.	MAJOR REV	COMMENT
TurbocorCloud GATEWAY	100471	ALL	Includes TurbocorCloud Gateway and mounting clip only



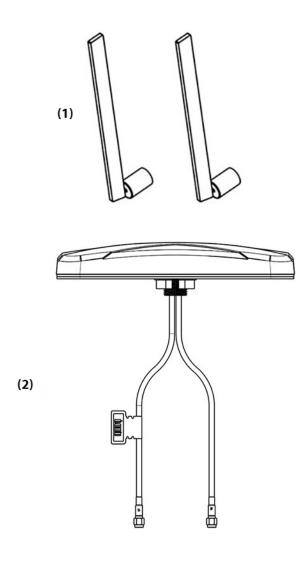
C.2 SIM Card



DESCRIPTION	PART NO.	MAJOR REV	COMMENT
TurbocorCloud SIM CARD	100476	ALL	Includes SIM Card only



C.3 Antenna



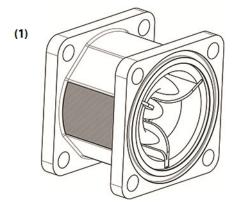
DESCRIPTION	PART NO.	MAJOR REV	COMMENT
(1) TurbocorCloud DIRECT CONNECT ANTENNA	100473	ALL	Includes two antennas
(2) TurbocorCloud EXT. ANTENNA	100467	ALL	Includes antenna only

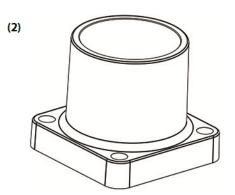


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Appendix D Resonator





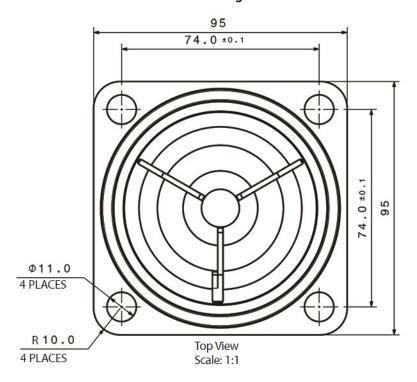
NOTE

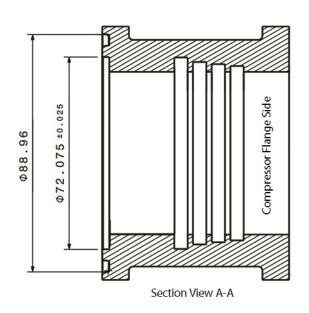
- The Resonator is designed for use with low density HFO-1234ze and R515B refrigerant only.
- Refer to the following two pages for the dimensional drawings for the Resonator and Flange.

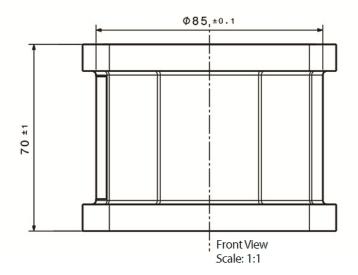
DESCRIPTION	PART NO.	APPLIES TO	MAJOR REV	COMMENT
RESONATOR+ HARDWARE	199K0004	 TGS230/TGS310/TGS380/TGS390/ TGS490/TGS520 TGH285 	ALL	Includes Resonator, O-rings, and fasteners
DISCHARGE FLANGE, BRASS (FOR RESONATOR USE)	199K0017	TGS230/TGS310/TGS380/TGS390/ TGS490/TGS520TGH285	ALL	Includes Flange, O-rings, and fasteners Used in combination with the Resonator
RESONATOR, NO HARDWARE	199K0032	 TGS230/TGS310/TGS380/TGS390/ TGS490/TGS520 TGH285 	ALL	Includes Resonator and O- rings Fasteners and hardware not included
HARDWARE (FOR RESONATOR/DISCHARGE FLANGE)	199K0016	 TGS230/TGS310/TGS380/TGS390/ TGS490/TGS520 TGH285 	ALL	Includes O-rings and fasteners

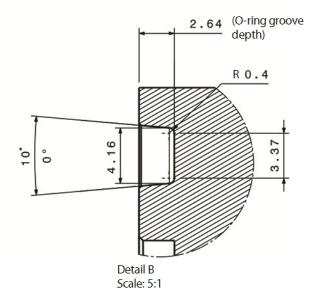


Resonator Dimensional Drawing



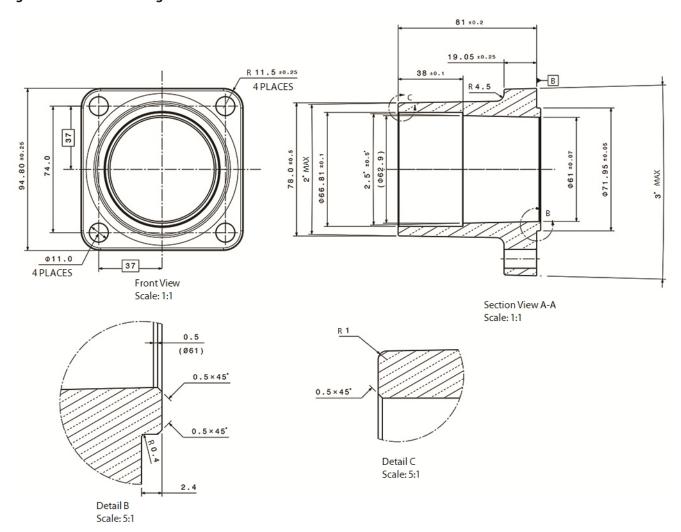








Flange Dimensional Drawing





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Appendix E Obsoleted Kit Reference

	OBS	OLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
100020	SOFT START	TT300 SIE	Kit no longer supported
100020-1	SOFT START (460V)	All 460V models	
100020-2	SOFT START (575V)	All 575V models	100020-19
100020-3	SOFT START (400V)	All 400V models	
100020-4	SOFT START (380V)	All 380V models	100020-20
100020-6	SOFT START, REINFORCED UPGRADE (400V)	All reinforced 400V models	Refer to 4.13 Soft Start Assembly for the proper
100020-7	SOFT START, REINFORCED UPGRADE (460V)	All reinforced 460V models	replacement kit
100021	BACKPLANE ASSY	TT300 SIE	Kit no longer supported
100021-1	BACKPLANE ASSY	All models	100021-2
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
100037-1	PRESSURE/TEMP SENSOR, DISCHARGE	ALL COMPRESSORS	100037-2 SENSOR PRESSURE/TEMPERATURE DISCHARGE
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



	OBS	OLETE KIT	REPLACEMENT KIT	
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION	
100042.5	IGBT ASSY MANIFOLD COOLING TT400	TT350, TT400, TT500	100043-11	
100043-5	C/W DC/DC CONVERTER	Rev: -P, -A, -C, -E 460V	(DC-DC sold separately)	
100043-6	IGBT MANIFOLD COOLING -	ТТ300		
100043-0	575V TT 300	Rev: -P 575V	Kit no longer supported	
100043-7	IGBT MANIFOLD COOLING -	TT300 (R22)	Kit no longer supported	
100043-7	TT300 R22 SPLIT COOLING	11300 (R22)	kit no longer supported	
100043-8	IGBT ASSY -	TT350, TT400, TT500	100043-11	
100043-6	SEMIKRON SKiiP 613 TT400C 575V	Rev: -P, -A, -C, -E 380V, 400V, 460V, 575V	INVERTER ASSY 613	
1		TT300, TG230	100521	
100043-12	INVERTER ASSY 342	Rev: -N, -P, -C, -D, -E, -F	INVERTER ASSY CONVERSION	
			342 to 613 SERIES	
	a di li iniventen acciv	TT300 (R134a)/TG230	100521	
100043-14	24kHz INVERTER ASSY	Rev: -N, -P, -C	INVERTER ASSY CONVERSION 342 to 613 SERIES	
			100044-7	
100044	BUS BAR ASSY AND CAPACITORS	TT300, TG230 Rev: -N, -P, -C, -D, -E, -F	BUS BAR ASSY AND	
	6800μF (460V)		CAPACITORS 6800µF (460V)	
	BUS BAR ASSY AND CAPACITORS 4700µF (575V)	TT300, TG230	100044-8	
100044-1			BUS BAR ASSY AND	
	17 сода (с7 с с7	Rev: -N, -P, -C, -D, -E, -F, -G	CAPACITORS 6800µF (460V)	
	BUS BAR ASSY AND CAPACITORS	TT300, TG230	100044-6	
100044-2	9000μF (400V)	Rev: -N, -P, -C, -D, -E, -F	BUS BAR ASSY AND	
			CAPACITORS 6800µF (460V)	
100044-3	BUS BAR ASSY AND CAPACITORS	TT350, TT400, TT500, TT700, TG310, TG390, TG520	100044-12	
100044-3	8500μF (460V)	Rev: -P, -A, -C, -E, -F	BUS BAR ASSY AND CAPACITORS 8500µF (460V)	
			100044-11	
100044.4	BUS BAR ASSY AND CAPACITORS	TT400, TG390	BUS BAR ASSY AND	
100044-4	11000μF (380/400V)	Rev: -P, -C, -E, -F	CAPACITORS 11000µF	
			380/400 VAC	
	BUS BAR ASSY AND CAPACITORS	TT400, TG390	100044-13	
100044-5	6800μF (575V)	Rev: -P, -C, -E, -F	BUS BAR ASSY AND	
	DDIVE ACCV AND O DINC TTOO	TT200 SIE	CAPACITORS 6800µF (575V)	
100050-1	DRIVE ASSY AND O-RING TT300	TT300 SIE,	Kit no longer supported	
	(SIE,-N)	Rev: -N		



	OBS	OLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
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
	IGV, DRIVE ASSY AND O-RING -	TT300, TG230	TT300/TG230 100050-16
100050-3	TT300 RETROFIT	Rev: -P, -C, -D, -E	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
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



	OBS	OLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
100052-1	O-RING, SERVICE SIDE SMALL O-RINGS	TT300 R22	Kit no longer supported for R22 applications
			All others - 100052-2
100052-2	O-RINGS, SERVICE SIDE, SMALL	All models	199K0031 O-RINGS, SERVICE SIDE, SMALL
	COVED CADACITOD ACCV (DI ACV	TT300	100053-3
100053-2	COVER, CAPACITOR ASSY (BLACK PAINTED) TT300	Rev: -N, -P, -C	COVER, CAPACITOR ASSY (BLACK)
		TT300	100053-6
100053-5	CAPACITOR COVER ASSY	Rev: -N, -P, -C	COVER, CAPACITOR ASSY (GREEN)
	COVER, TOP ASSY (BLACK - PAINTED)	TT300	100054-3
100054-2	ТТ300	Rev: -N, -P, -C	COVER, TOP ASSY (BLACK)
100054.5	COVED TOD ACCVICTANDADD CDEEN	TT300	100054-6
100054-5	COVER, TOP ASSY STANDARD GREEN	Rev: -N, -P, -C	COVER, TOP ASSY GREEN
	COVED SERVICE SIDE ASSV (DI ACK	TT300	100055-3
100055-2	COVER, SERVICE SIDE ASSY (BLACK PAINTED) TT300	Rev: -N, -P, -C	COVER, SERVICE SIDE ASSY (BLACK)
	COVED CEDIMICE CIDE ACCIV	TT300	100055-6
100055-5	(STANDARD GREEN)	Rev: -N, -P, -C	COVER, SERVICE SIDE ASSY - GREEN
	COVED MANNE INDUT ACCV	TT300	100056-3
100056-2	COVER, MAINS INPUT ASSY (CONDUCTIVE PAINTED BLACK) TT300	Rev: -N, -P, -C	COVER, MAINS INPUT ASSY (BLACK)
		TT300	100056-6
100056-5	(STANDARD GREEN)	Rev: -N, -P, -C	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
	CARLE HARNESS SOFTSTART AS INC	TT350/400/700	100381
100062-3	CABLE HARNESS SOFTSTART AC/DC - TT350/400/700	Rev: -P, -A, -C, -E, -F	CABLE HARNESS SOFTSTART AC/DC
	CARLE HARNESS COFFEE ART A C /2 C	TT300/TG230	100380
100062-4	(TT300/TG230)	Rev: -N, -P, -C, -D, -E, -F, -G	CABLE HARNESS - AC/DC - TT300



	OBS	OLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
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
		TT400	100281-4
100150-1	COOLING VALVES ASSY TT400-P	Rev: -P	COOLING VALVES ASSY TT400 380/400/ 460
			TT350-100281-5
100150-3	COOLING VALVES ASSY R134a, TT350	TT350, TT500	TT500-100281-3
1001303	&TT500	Rev: -A, -E	COOLING VALVES ASSY TT350 400/460V, TT500
		TT400	100281-4
100150-4	COOLING VALVES ASSY R134a, TT400C	Rev: -C, -E, 380V, 400V, 460V	COOLING VALVES ASSY TT400 380/400/ 460
	COOLING VALVES ASS 124 THOOS	TT400	100281-1
100150-5	COOLING VALVES ASS 134a, TT400C 575C	Rev: -C, -E, 575V	COOLING VALVES ASSEMBLY TT400 (575V), TG310
		TTS400 575V TGS310	100281-1
100150-6	KIT, COOLING VALVES ASSY		COOLING VALVES ASSY
	WIT COOLING VALVES ASSV DADA	TT350	100281-5
100150-7	KIT, COOLING VALVES ASSY R134a, TT350, 380V	Rev: -A, -E, 380V	COOLING VALVES ASSY TT350 380V
			100281-2
100150-8	COOLING VALVES ASSY TT300	TTS300 TGS230	COOLING VALVES ASSY TT300
			100281-3
100150-9	COOLING VALVES ASSY	TTS500 TTS700 TGS520	COOLING VALVES ASSY
400450.40	COOLING VALVES ASSIVE 400	TTS 400 200 / 400 / 6 450 / TSS200	100281-4
100150-10	COOLING VALVES ASSY TT400	TTS400 380V, 400V & 460V TGS390	COOLING VALVES ASSY TT400
400450.44	COOLING VALVES ASSIV		100281-5
100150-11	COOLING VALVES ASSY	TTS350 TGS490 TTH375 TGH285	COOLING VALVES ASSY
	COOLING VALVES ASSV		100281-5
100150-12	100150-12 COOLING VALVES ASSY	TTH375 TGH285	COOLING VALVES ASSY
	CLICTION FLANCE (CTEFL)	TT300, TT350, TT400	100151-1
100151	SUCTION FLANGE (STEEL)	Ref: R134a	SUCTION FLANGE (STEEL)
100153	DISCHARGE ELANGE (CTSS)	T1250 T1400 T6212 T6222	100153-1
100153	DISCHARGE FLANGE (STEEL)	TT350, TT400, TG310, TG390	DISCHARGE FLANGE (STEEL)



	OBS	SOLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
100155	O-RING SUCTION PORT	TT300 R22	Kit no longer supported for R22 applications All others - 100051-1
100169	ADAPTER SCREEN FITTING ASSY STRAINER, COOLING LINE ADAPTER,	TT300, TT350, TT400, TT500 Rev: -E TT300, TT350, TT400, TT500	100169-1 COMPRESSOR COOLING ADAPTER WITH STRAINER 100186-1
100186	SCREEN FITTING CAVITY TEMP SENSOR TT300,TT350 &	Rev: -E TT300, TT350, TT400	STRAINER 100196-3
100196-1	TT400	Rev: -E	CAVITY TEMP SENSOR
100215	COOLING FITTING AND STRAINER	TTS300 Rev: -N, -P, -C, -D	Kit no longer supported Parker fitting P/N 48F-6-4 or equivalent. Refer to the specifications below: Brass 45° flare fitting Connection 1 tube o.d. (inch): 3/8 Connection 2 thread size (inch): 1/4 Style: flare to NPT
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



	OBS	OLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
			100373
100234	SOFT START COOLING FAN ASSY	All models	COOLING FAN AND ADAPTOR ASSY
100225	DI LINICED ACCV. COLENIOID	All	100280
100235	PLUNGER ASSY, SOLENOID	All models	PLUNGER ASSY, SOLENOID
		TT400	100240
100237	ORIFICE BODY, COOLING 1.5MM	Rev: -P	ORIFICE BODY, COOLING 1.6MM
100241	O-RING SOLENOID ORIFICE	TT300 R22	Kit no longer supported
100242	O-RING, SOLENOID ORIFICE	All models	199K0030 O-RING, SOLENOID ORIFICE
100350	ICVTUDOAT TCC400	TGS490	100261
100250	IGV THROAT, TGS490	Rev: -F, -H	IGV THROAT, TGS490
100272	COMPRESSOR CONTROLLER (SIE)	TT300 SIE	Kit no longer supported
100281-5	COOLING VALVE ASSY	TTS350, TTS450, TGS285, TGS380, TGS490, TTH375	199K0029 COOLING VALVE ASSY
100293	HERMETIC FEEDTHROUGH FRONT BEARING - 4 PIN	TT300 R22	Kit no longer supported for R22 applications
	DEARING - 41 IIV		All others - 100293-1
100294	HERMETIC FEEDTHROUGH REAR	TT300 R22	Kit no longer supported for R22 applications
	BEARING - 6 PIN		All others - 100294-1
100295	HERMETIC FEEDTHROUGH BEARING - 9	TT300 R22	Kit no longer supported for R22 applications
	PIN		All others - 100295-1
	HEATSINK, COOLING MANIFOLD SCR	TT300	100309-11
100309	ASSY	Rev: -N, -P, -A, -C, -D, -E, R134a	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



	OB	SOLETE KIT	REPLACEMENT KIT	
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION	
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	
100309-9	SCR COOLING MANIFOLD	TTS350, TTS400, TTS700, TGS310, TGS390, TGS490, TGS520 Rev: -H	199K0024 SCR COOLING MANIFOLD	
100309-15	SCR COOLING MANIFOLD	TGS380/TTS450	199K0024 SCR COOLING MANIFOLD	
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	
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	



	OB	REPLACEMENT KIT	
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
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, MOTOR COOLING	TT300 R22	Kit no longer supported for R22 applications
	COOLING		All others - 100329
100373	COOLING FAN AND ADAPTOR ASSY	All models	100373-1 COOLING FAN AND ADAPTOR ASSY
100374	R513A REFRIGERANT LABEL	TTS300/TTS350/TTS400/TTS500/TTS700/TTH375 Rev: -F, -G, -H	199K0002 & 199K0003 R134a-R513A LABELS/R1234ze-R515B LABELS
100375	HARMONIC RESISTOR PLUG	All models	Kit no longer supported
100381-1	HIGH-POWER FEEDTHROUGH	All models	Kit no longer supported for R22 applications
100402	SUCTION FLANGE KIT (BRASS)	TT300, TT350, TT400 R134a	All others - 100383 100402-1 SUCTION FLANGE (BRASS)
100414	ECONOMIZER VALVE KIT 7/8"	TT300 R134a	Kit no longer supported
100417-1	INVERTER SNUBBER CAPACITOR, 0.47μF, 1250VDC	TTS350/TTS400/TTS450/TTS500/TTS700TGS310/TGS380/ TGS390/TGS490/ TGS520/TTH375/TGH285	100417-2 INVERTER SNUBBER CAPACITOR, 0.47μF, 1250VDC
100419	PLUNGER ASSEMBLY, NON-RETURN VALVE	ТТ300	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)
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



	OB	SOLETE KIT	REPLACEMENT KIT
PART NO.	DESCRIPTION	APPLICATION	PART NO./ DESCRIPTION
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
100555	O-RING, SUCTION PORT	All models	100329 O-RINGS, PORT CONNECTIONS
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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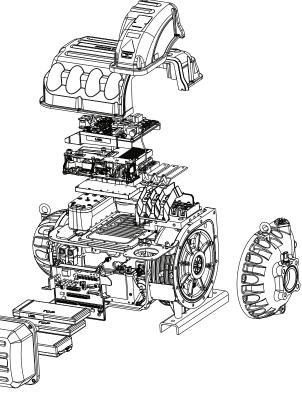
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TTS Compressors

TTH Compressors

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