



CENTRIFUGAL LIQUID CHILLERS

RENEWAL PARTS

Supersedes : 160.78-RP1 (1117)

Form 160.78-RP1 (320)

YMC² MODEL A WITH OPTIVIEW CONTROL CENTER



R-134a

Issue Date:
March 31, 2020



IMPORTANT!

READ BEFORE PROCEEDING!

GENERAL SAFETY GUIDELINES

This equipment is a relatively complicated apparatus. During installation, operation maintenance or service, individuals may be exposed to certain components or conditions including, but not limited to: refrigerants, materials under pressure, rotating components, and both high and low voltage. Each of these items has the potential, if misused or handled improperly, to cause bodily injury or death. It is the obligation and responsibility of operating/service personnel to identify and recognize these inherent hazards, protect themselves, and proceed safely in completing their tasks. Failure to comply with any of these requirements could result in serious damage to the equipment and the property in

which it is situated, as well as severe personal injury or death to themselves and people at the site.

This document is intended for use by owner-authorized operating/service personnel. It is expected that these individuals possess independent training that will enable them to perform their assigned tasks properly and safely. It is essential that, prior to performing any task on this equipment, this individual shall have read and understood this document and any referenced materials. This individual shall also be familiar with and comply with all applicable governmental standards and regulations pertaining to the task in question.

SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to specific situations:



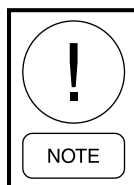
Indicates a possible hazardous situation which will result in death or serious injury if proper care is not taken.



Identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution if proper care is not taken or instructions are not followed.



Indicates a potentially hazardous situation which will result in possible injuries or damage to equipment if proper care is not taken.



Highlights additional information useful to the technician in completing the work being performed properly.



External wiring, unless specified as an optional connection in the manufacturer's product line, is not to be connected inside the control cabinet. Devices such as relays, switches, transducers and controls and any external wiring must not be installed inside the micro panel. All wiring must be in accordance with Johnson Controls' published specifications and must be performed only by a qualified electrician. Johnson Controls will NOT be responsible for damage/problems resulting from improper connections to the controls or application of improper control signals. Failure to follow this warning will void the manufacturer's warranty and cause serious damage to property or personal injury.

CHANGEABILITY OF THIS DOCUMENT

In complying with Johnson Controls' policy for continuous product improvement, the information contained in this document is subject to change without notice. Johnson Controls makes no commitment to update or provide current information automatically to the manual owner. Updated manuals, if applicable, can be obtained by contacting the nearest Johnson Controls Service office or accessing the Johnson Controls Chillers Knowledge Echnage website at <https://docs.johnsoncontrols.com/chillers/>

Operating/service personnel maintain responsibility for the applicability of these documents to the equipment. If there is any question regarding the applicability of these documents, the technician should verify whether the equipment has been modified and if current literature is available from the owner of the equipment prior to performing any work on the chiller.

REVISION NOTES

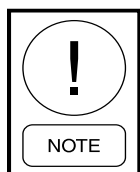
Revisions made to this document are indicated in the following table. These revisions are to technical information, and any other changes in spelling, grammar, or formatting are not included.

AFFECTED PAGES	DESCRIPTION
22	Compressor components table updated
33	Scroll components table updated
39	Scroll components table updated
44	Part number for steel valve added
45	Part number for steel valve added

HOW TO USE RENEWAL PARTS MANUALS

Johnson Controls offers an assortment of replacements parts for Johnson Controls, YORK, and DS units. Each replacement part is manufactured and fitted for a specific model. This Replacement Parts Manual is for standard Johnson Controls units. Chiller units built with special options, modifications, or conversions are not covered in this manual.

This Replacement Parts Manual provides Johnson Controls chiller replacement parts by part numbers, descriptions, quantities and drawing figures.



Provide a unit model number, unit serial number and part number when requesting a quotation or placing an order. Failure to include this information may delay processing of your request.

Model and Serial Number Locations:

- **Unit** - Namplate on side of Control Panel
- **Compressor** - Namplate on Compressor Housing
- **VSD** - Namplate on VSD Panel

Contact the following sources to order parts.

For North America, contact the following:

- YORK Chiller Parts Center Baltimore
Telephone: +1 800 932 1701
Email: chillerparts@jci.com
- YORK Chiller Parts Center Houston
Telephone: +1 833 278 7991
Email: chillerpartsHouston@jci.com
- YORK Chiller Parts Center NOLA
Telephone: +1 833 283 3738
Email: chillerpartsNOLA@jci.com
- YORK Chiller Parts Center Toronto
Telephone: +1 905 488 3642 or +1 905 488 3641
Email: chillerpartstoronto@jci.com

For parts availability and ordering YORK HVAC Parts within North America and Europe, use the following link:

[Parts Navigator \(solutionnavigator.com\)](https://solutionnavigator.com)

ASSOCIATED LITERATURE

MANUAL DESCRIPTION	FORM NUMBER
YMC2 Installation	160.78-N1
YMC2 Field Connections	160.78-PW1
YMC2 Unit Wiring and Field Controls	160.78-PW2
YMC2 Operations and Maintenance	160.78-O1
YMC2 OptiView™ Operation	160.78-O2

SYSTEM NOMENCLATURE

Y M C 2 - S 0756 A A

YORK _____ Mod Level
Magnetic Bearing _____ Refrigerant R-134a
Centrifugal Chiller _____ Capacity in KW
S = Single Stage
T = Two Stage

COMPRESSOR NOMENCLATURE

M1 B - 197 F A A

Motor _____ Gas Path Revision Level
Motor Design Level _____ Impeller Design Revision Level
Impeller Tip Diameter (mm) _____
Rotation _____
F = Forward
R = Reverse

VESSEL NOMENCLATURE

E A 25 14 271 B R 1 1 F C R

Vessel _____ Inlet from Front View
E = Evaporator R = Right
C = Condenser L = Left
Heat Exchanger Mod Level _____ Waterbox Type
Nominal Inside Diameter (Inches) _____ C = Compact
Nominal Length (Feet) _____ M = Marine
Marketing Tube Number _____ Water Connection Type
Tube Code _____ F = Flanges
B = 3/4 in. Code 1 G = Grooved Standard
C = 3/4 in. Code 2 A = Victaulic AGS
D = 3/4 in. Code 3 Vessel Refrigerant Pressure Code
E = 3/4 in. Code 4 R = Code 180
2 = 1 in. Code 1 S = Code 235
3 = 1 in. Code 2 T = Code 300
4 = 1 in. Code 3 U = Code 350
5 = 1 in. Code 4 V = Code 400
Number of Passes
Water Side Pressure Code
1 = 150 psi
3 = 300 psi

VARIABLE SPEED DRIVE NOMENCLATURE

HYP 744 X H 15 D - 40

Hyper _____ 40 = 380 V 60 Hz
Amps _____ 50 = 400 V 50 Hz
X = Factory Mount _____ 46 = 460 V 60 Hz
R = Retrofit Model _____ 68 = 415 V 50 Hz
H = YMC² Chiller _____ D = Disconnect Switch
B = Circuit Breaker
Liquid DWP
15 = 150 psi
30 = 300 psi

LIST OF TABLES

TABLE 1 - YMC ² Unit Components	8
TABLE 2 - YMC ² Motor Adapter Rigid Style (Early Units)	10
TABLE 3 - YMC ² Motor Adapter Accordion Style (Later Units).....	10
TABLE 4 - YMC ² Unit Piping M1B-197FAA and M1B-205FAA Compressors.....	12
TABLE 5 - YMC ² Unit Piping M1B-197FAB and M1B-205FAB Compressors	14
TABLE 6 - Hot Gas Bypass 2 in. with Isolation Valve.....	16
TABLE 7 - Hot Gas Bypass 2 in. without Isolation Valve.....	17
TABLE 8 - Liquid Line with Isolation Valve	18
TABLE 9 - Liquid Line without Isolation Valve	20
TABLE 10 - YMC ² M1B-197FAA and M1B-205FAA Compressor Components	22
TABLE 11 - YMC ² M1B-197FAB and M1B-205FAB Compressor Components	25
TABLE 12 - MOTOR / Magnetic Bearing Controller Components.....	28
TABLE 13 - YMC ² Scroll M1B-197FAA and M1B-205FAA Components	32
TABLE 14 - YMC ² Pre-Rotational Device M1B1-197FAA and M1B-205FAA Compressors	36
TABLE 15 - YMC ² PRV Position Sensor Kit M1B1-197FAA and M1B-205FAA Compressors	37
TABLE 16 - YMC ² Scroll M1B-197FAB and M1B-205FAB Components.....	38
TABLE 17 - YMC ² Pre-Rotational Device M1B1-197FAB and M1B-205FAB Compressors.....	42
TABLE 18 - YMC ² PRV Position Sensor Kit M1B1-197FAB and M1B-205FAB Compressors	43
TABLE 19 - YMC ² Evaporator Relief Valves.....	44
TABLE 20 - YMC ² Condenser Relief Valves.....	45
TABLE 21 - YMC ² System Wiring Components	46
TABLE 22 - YMC ² VSD Mounting.....	50
TABLE 23 - YMC ² VSD Cooling Piping (Compact Waterbox)	51
TABLE 24 - YMC ² VSD Cooling Piping (Marine Waterbox).....	53
TABLE 25 - OptiView Control Panel.....	55
TABLE 26 - 3/4 in. Evaporator Tubes.....	59
TABLE 27 - 1 in. Evaporator Tubes.....	59
TABLE 28 - 3/4 in. Condenser Tubes.....	60
TABLE 29 - 1 in. Condenser Tubes.....	61
TABLE 30 - 150# Compact Waterbox	62
TABLE 31 - 300# Compact Waterbox	62
TABLE 32 - 150# Marine Waterbox.....	63
TABLE 33 - 300# Marine Waterbox.....	63
TABLE 34 - Neoprene Isolators.....	64
TABLE 35 - Spring Isolators	64
TABLE 36 - Chilled Water Strainer	65
TABLE 37 - Common Piping Parts	65
TABLE 38 - Consumables	65
TABLE 39 - Differential Pressure Control.....	65
TABLE 40 - Flow Switch Control	65

LIST OF FIGURES

FIGURE 1 - YMC ² Unit Components	9
FIGURE 2 - YMC ² Motor Adapter	11
FIGURE 3 - YMC ² Unit Piping M1B-197FAA and M1B-205FAA Compressors.....	13
FIGURE 4 - YMC ² Unit Piping M1B-197FAB and M1B-205FAB Compressors	15
FIGURE 5 - Hot Gas Bypass with Isolation Valve	16
FIGURE 6 - Hot Gas Bypass without Isolation Valve	17
FIGURE 7 - Liquid Line with Isolation Valve	19
FIGURE 8 - Liquid Line without Isolation Valve	21
FIGURE 9 - YMC ² M1B-197FAA / M1B-205FAA Compressor Components	23
FIGURE 10 - YMC ² M1B-197FAA / M1B-205FAA Compressor Components	24
FIGURE 11 - YMC ² M1B-197FAB / M1B-205FAB Compressor Components	26
FIGURE 12 - YMC ² M1B-197FAB / M1B-205FAB Compressor Components	27
FIGURE 13 - Motor Cooling Expansion Valve	29
FIGURE 14 - YMC ² M1 Motor (464 53450 000)	30
FIGURE 15 - YMC ² M1 Motor (364 52445 000)	31
FIGURE 16 - YMC ² Scroll M1B-197FAA and M1B-205FAA Components	34
FIGURE 17 - YMC ² Scroll M1B-197FAA and M1B-205FAA Components	35
FIGURE 18 - YMC ² Pre-Rotational Device Components - M1B1-197FAA and M1B-205FAA.....	36
FIGURE 19 - YMC ² PRV Position Sensor Kit - M1B1-197FAA and M1B-205FAA	37
FIGURE 20 - YMC ² Scroll M1B-197FAB and M1B-205FAB Components.....	40
FIGURE 21 - YMC ² Scroll M1B-197FAB and M1B-205FAB Components.....	41
FIGURE 22 - YMC ² Pre-Rotational Device Components - M1B1-197FAB and M1B-205FAB	42
FIGURE 23 - YMC ² VGD Position Sensor Kit - M1B1-197FAB and M1B-205FAB	43
FIGURE 24 - YMC ² Evaporator Relief Valves.....	44
FIGURE 25 - YMC ² Condenser Relief Valves.....	45
FIGURE 26 - YMC ² System Wiring Components	48
FIGURE 27 - YMC ² System Wiring Components	49
FIGURE 28 - YMC ² VSD Mounting.....	50
FIGURE 29 - YMC ² VSD Cooling Mounting (Compact Waterbox)	51
FIGURE 30 - YMC ² VSD Cooling Mounting (Compact Waterbox)	52
FIGURE 31 - YMC ² VSD Cooling Mounting (Marine Waterbox).....	53
FIGURE 32 - YMC ² VSD Cooling Mounting (Marine Waterbox).....	54
FIGURE 33 - OptiView Control Panel.....	57
FIGURE 34 - OptiView Control Panel.....	58
FIGURE 35 - 150# Compact Waterbox	62
FIGURE 36 - 300# Compact Waterbox	62
FIGURE 37 - 150# Marine Waterbox.....	63
FIGURE 38 - 300# Marine Waterbox.....	63
FIGURE 39 - Neoprene Isolators / Spring Isolators.....	64

UNIT COMPONENTS M1-197 AND M1-205 COMPRESSORS

TABLE 1 - YMC² UNIT COMPONENTS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
3	Gasket, ANSI 10-150# (Q3/Q4)	028 15075 114	1	1
4	Hcs5 .750-10 x 3 Gr5 Zn	021 32012 024	12	1
5	Hcs5 .875-09 x 3.75 Gr5 Zn	021 32014 030	12	1
6	Nut, Hex .75-10 x Gr5 Zn	021 32012 501	8	1
7	Nut, Hex .875-09 x Gr5 Zn	021 32014 501	12	1
8	Washer, Hel Spr-Lck .750 Reg Zn	021 32012 504	2	1
9	Washer, Pln .750 Zn 1.469/.134	021 32012 503	2	1
10	Hcs5 .750-10 x 2.0 Gr5 Zn	021 32012 016	2	1
11	Valve, Butterfly Sz 5	022 10641 005	1	1
12	Gasket, ANSI 5-150#	028 15075 111	1/2	1
13	Hcs5 .750-10 x 2.0 Gr5 Zn (without Isolation)	021 32012 016	8	1
13	Hcs5 .750-10 x 4.0 Gr5 Zn (with Isolation)	021 32012 032	8	1
17	Gasket	028 15129 301	1	1
18	Stud, Conts Thd 3/4-10	021 12922 000	8	1
20	Valve, Check 5 in. ANSI Flange	375 90482 000	1	1
	Check valve disk/arm service rebuild kit for item 20 above (includes swing arm with disk and O-rings)	392 13243 000	1	*
22	Shield, Discharge Sound	375 92021 000	1	26
23	Shield, Lower Discharge Sound	375 92322 000	1	26
24	2 Sided Adhesive Tape for Shield 12 ft strip	013 03423 000	1	26
32	Hcs5 .750-10 x 2 Gr5 Zn	021 32012 016	8	1
34	O-ring, Neoprene 6.475id x .210	028 16392 000	2	1
35	Valve, Service Condenser / Evaporator	022 09573 000	2	24
36	Gasket, Service Valve	028 04836 000	3	24
37	O-ring, Neoprene 0.35id x .072	028 12961 001	2	1
38	Valve, Stop Angle Vertical	022 09577 000	2	1
39	Cap, Flare 3/4 OD Tube	023 00984 000	1	1
40	Gasket, Flare 3/4 OD Tube	028 09211 000	1	1
42	O-ring, Neoprene 1.171id x .116	028 12961 008	2	26
43	Plug, Hex Hd 1-5/16	023 18282 000	3	26
44	O-ring, Neoprene 2.09id x .118	028 12961 036	2	26
45	Plug, Sight Glass 2-1/4-12 Un-2a	023 17197 000	2	26
46	O-ring, Neoprene .924id x .116	028 12961 006	1	1
47	Valve, Ball 1-11/16-12Un-2a	022 09757 000	1	1

NOTE: Items with an * are NOT represented.

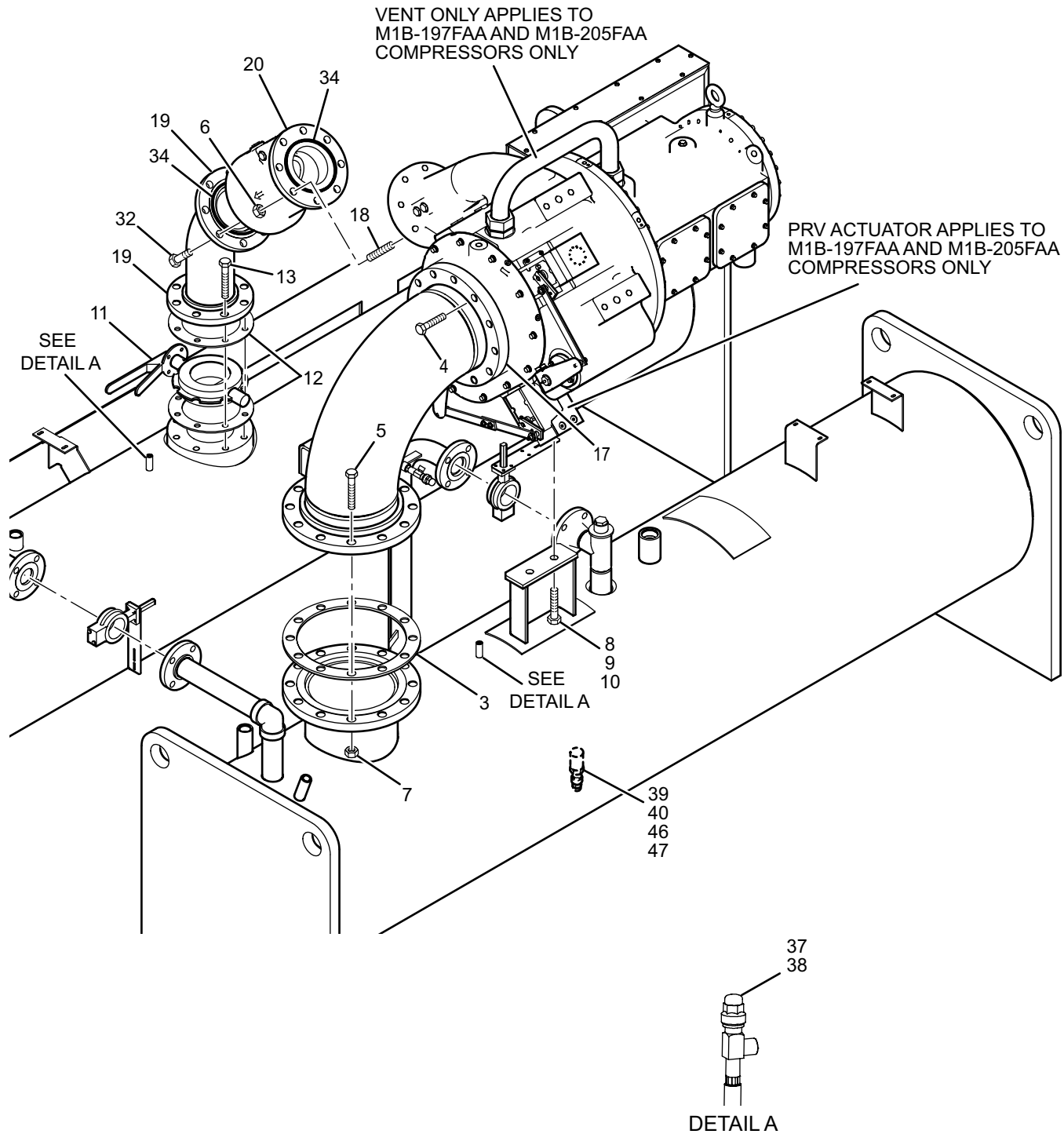
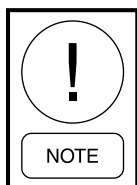


FIGURE 1 - YMC² UNIT COMPONENTS

UNIT MOTOR ADAPTER RIGID STYLE (EARLY UNITS)



If structure requires replacement, use later style units below.

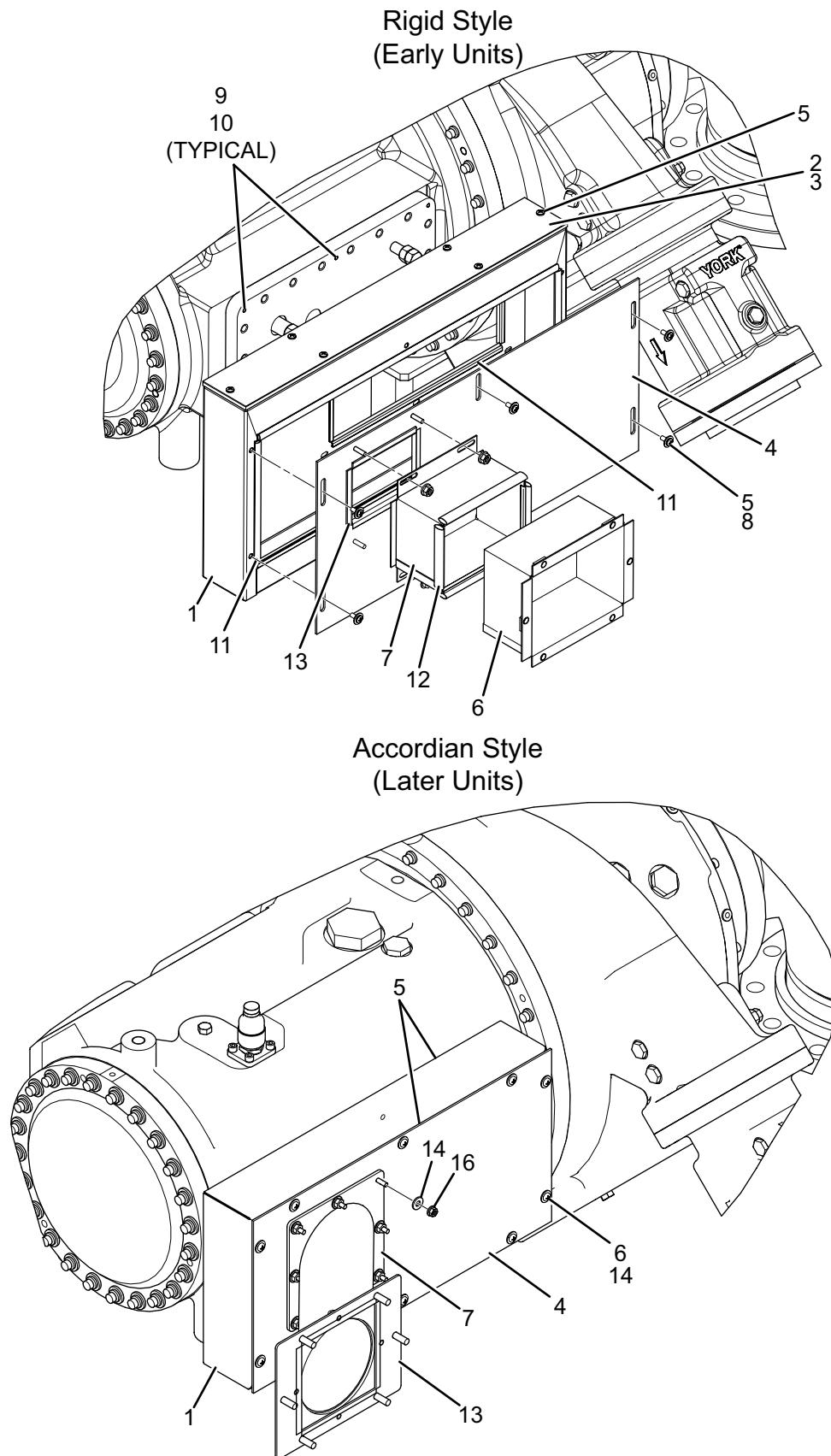
TABLE 2 - YMC² MOTOR ADAPTER RIGID STYLE (EARLY UNITS)

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
3	Gasket Mtr Adapter Cover 3.75 x 28	028 16517 000	1	2
5	Screw Mach Pan HD 1/4-20 x 0.625	021 01873 000	12	2
8	Wash 0.250 Flat 0.625/0.065 Zn	021 32004 503	10	2
9	Screw Mach Pan HD 1/4-20 x 0.750	021 03748 000	6	2
10	LKWash 0.250 Spring Reg Stl Zn	021 32004 504	6	2
11	Seal-Edge Grip 3/8 in. Dia. Bulb	028 16512 000	10.75'	2
12	Seal-Edge Grip 3/4 in. Dia Bulb	028 16516 000	1.92'	2
13	Seal-Edge Grip for .125 Plate	028 16552 000	2'	2

ACCORDIAN STYLE (LATER UNITS)

TABLE 3 - YMC² MOTOR ADAPTER ACCORDIAN STYLE (LATER UNITS)

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Box, Assembly Motor Adapter	371 06015 000	1	2
4	Cover, Motor Adapter	371 06010 000	1	2
5	Seal-Edge Grip 3/8 in. Dia Bulb	028 16512 000	9'	2
6	Screw Mach Pan HD Recd 1	021 01873 000	10	2
7	Wireway, Flexible	023 25239 000	1	2
13	Plate, Motor Adapter	371 05902 000	1	2
14	Wash PLN 0.250 ZN, 0.625/0.065	021 32004 503	18	2
16	Nut Hex 0.250-20 X GR 5 ZN	021 32004 501	12	2



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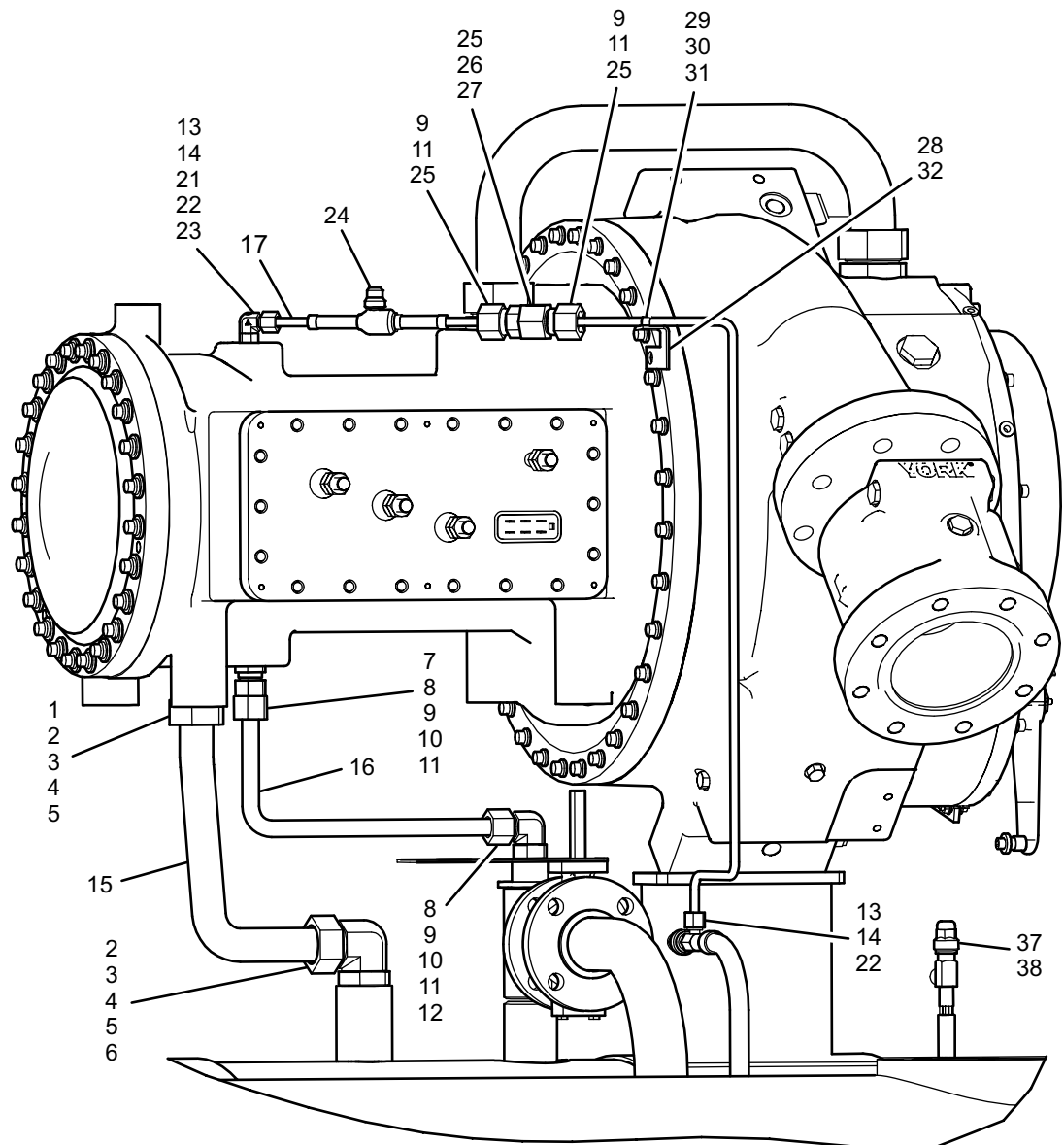
FIGURE 2 - YMC² MOTOR ADAPTER

UNIT PIPING M1B-197FAA AND M1B-205FAA COMPRESSORS

TABLE 4 - YMC² UNIT PIPING M1B-197FAA AND M1B-205FAA COMPRESSORS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Connr, 1-1/2 in. O.D. Tube Male	023 24363 000	1	3
2	O-Ring, Neo1 01.720id .118thk M	028 12961 020	2	3
3	O-Ring, Neo1 01.489id .070thk M	028 12961 019	2	3
4	Sleeve, 1-1/2 in. O.D. Tube	023 25122 000	2	3
5	Nut, 1-1/2 O.D. Tube	023 19073 000	2	3
6	Elbow, 1-1/2 in. O.D. Tube 90 Deg Male	023 21906 000	1	3
7	Connr, 3/4 O.D. Tube Male	023 18290 000	1	3
8	O-Ring, Neo1 00.924id 0.116thk M	028 12961 006	3	3
9	O-Ring, Neo1 00.739id 0.070thk M	028 12961 015	6	3
10	Sleeve, 3/4 O.D. Tube	023 18914 000	2	3
11	Nut, 3/4 O.D. Tube	023 18286 000	5	3
12	Elbow, 3/4 O.D. Tube 90 Deg Male	023 18291 000	2	3
13	Sleeve, 3/8 O.D. Tube	023 20760 000	2	3
14	Nut, 3/8 O.D. Tube	023 18977 000	2	3
15	Tube, Sst 1.5 O.D. X 0.065 wall (NOT Pre-bent)	003 03573 000	2'	3
15A	Replacement Kit Contains Nuts, O-Rings, Bent Tube, Braze Flanges	392 16877 000	1	*
16	Tube, Sst 3/4 O.D. X .065 wall (NOT Pre-bent)	003 03570 000	2'	3
17	Tube, Steel 3/8 O.D. X .035 wall (NOT Pre-bent)	003 00969 000	5'	3
21	O-Ring, Neo1 00.468id .078thk M	028 12961 003	1	3
22	O-Ring, Neo1 00.364id .070thk M	028 12961 012	2	3
23	Elbow with Orifice, 3/8 O.D. Tube	375 90492 034	1	3
24	Valve, Ball 3/8 Ods	022 08745 000	1	3
25	Sleeve, Reducing 3/4 To 3/8 O.D.	023 20880 008	3	3
26	Filter, In-Line Orfs	023 20878 001	1	3
27	Union, 3/4 in.	023 20731 000	1	3
28	Bracket, Pipe Support	075 93477 000	1	3
29	Clamp, Tube 3/8 O.D.	023 05284 000	1	3
30	Screw, Mach Pan Hd Recd 1	021 01797 000	1	3
31	Nut, Hex Mach Scr #10 - 24	021 08282 000	1	3
32	Screw, Cap 12 Pt Hd 1/2	021 11926 000	1	3
37	Valve Transducer	022 09577 000	1	3
38	O-Ring, Neo1 0.351id 0.072thk	028 12961 001	1	3

NOTE: Items with an * are NOT represented.



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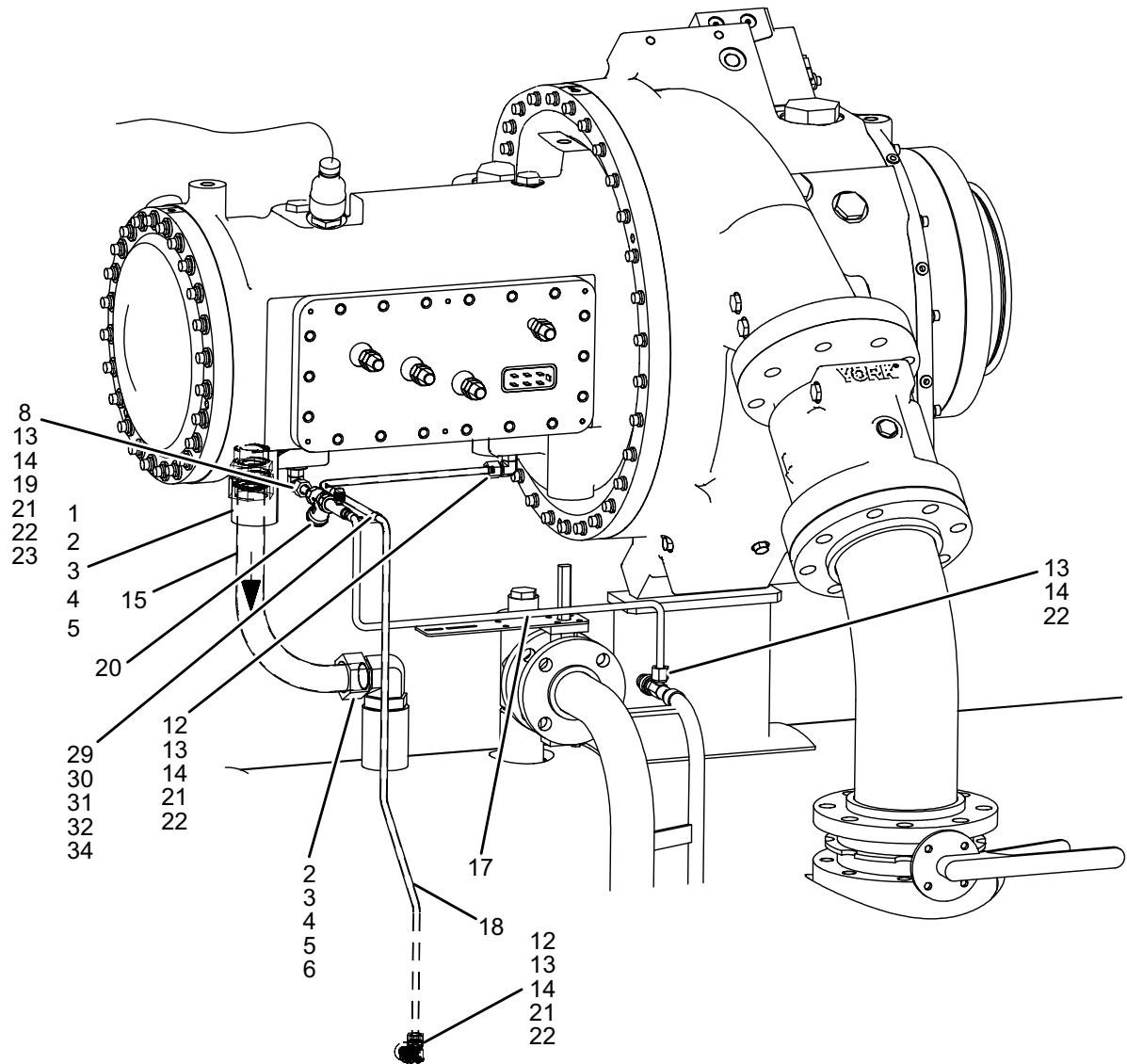
FIGURE 3 - YMC² UNIT PIPING M1B-197FAA AND M1B-205FAA COMPRESSORS

UNIT PIPING M1B-197FAB AND M1B-205FAB COMPRESSORS

TABLE 5 - YMC² UNIT PIPING M1B-197FAB AND M1B-205FAB COMPRESSORS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Connr 1-1/2 in. O.D. Tube Male	023 24363 000	1	4
2	O-Ring Neo1 01.720id .118thk M	028 12961 020	2	4
3	O-Ring Neo1 01.489id .070thk M	028 12961 019	2	4
4	Sleeve 1-1/2 O.D. Tube	023 25122 000	2	4
5	Nut 1-1/2 O.D. Tube	023 19073 000	2	4
6	Elbow 1-1/2 in. Od Tube 90deg Male	023 21906 000	1	4
8	O-Ring Neo1 00.924id .116thk M	028 12961 006	2	4
12	Elbow 3/8 O.D. Tube 90 Deg Male	023 18980 000	2	4
13	Sleeve 3/8 O.D. Tube	023 20760 000	4	4
14	Nut 3/8 O.D. Tube	023 18977 000	4	4
15	Tube Steel 1-1/2 Od X .065 X	003 02231 000	2	4
15A	Replacement Kit Contains Nuts, O-Rings, Bent Tube, Braze Flanges	392 16877 000	1	*
17	Tube Steel 3/8 Od X .035 X	003 00969 000	4	4
18	Tube Sst 3/8 Od X .035 X 20	003 02407 000	4.5	4
19	Reducer, Straight Thread	023 23731 000	1	4
20	Strainer, YMC ²	022 12186 000	1	4
21	O-Ring Neo1 00.468id .078thk M	028 12961 003	3	4
22	O-Ring Neo1 00.364id .070thk M	028 12961 012	3	4
23	Elbow with Orifice Fitting 3/8 O.D. Tube	375 90492 034	1	4
29	Clamp Tube 3/8 Od With	023 06552 000	4	4
30	Red Weld Butt Conc 3 X	023 02459 000	3	4
31	Nut Hex Mach Scr #10 - 24	021 08282 000	3	4
32	Washer Plain Type B .203 Id X	021 19175 000	3	4
34	Clamp Tube 3/8 Od J-Clip	021 33232 000	3	4
39	Valve Transducer	022 09577 000	1	4
40	O-Ring, Neo1 0.351id 0.072thk	028 12961 001	1	4

NOTE: Items with an * are NOT represented.



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**HOT GAS BYPASS
2 IN. WITH ISOLATION VALVE**

TABLE 6 - HOT GAS BYPASS 2 IN. WITH ISOLATION VALVE

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Valve, Butterfly Size 2	022 10643 002	1	5
5	Valve, Stop Compr 2-5/8 Od	022 10048 000	1	5
7	Hcs5 0.625-11 X 4.500 Gr 5 Zn	021 32010 036	8	5
8	Hcs5 0.625-11 X 2.500 Gr 5 Zn	021 32010 020	4	5
9	Nut, Hex 0.625-11 X Gr 5 Zn	021 32010 501	4	5
10	Gasket, Flange	028 14463 000	1	5
11	Gasket, 2 in. Valve	064 47078 000	1	5
14	Kit, HGBP Wiring	371 05532 000	1	*

NOTE: Items with an * are NOT represented.

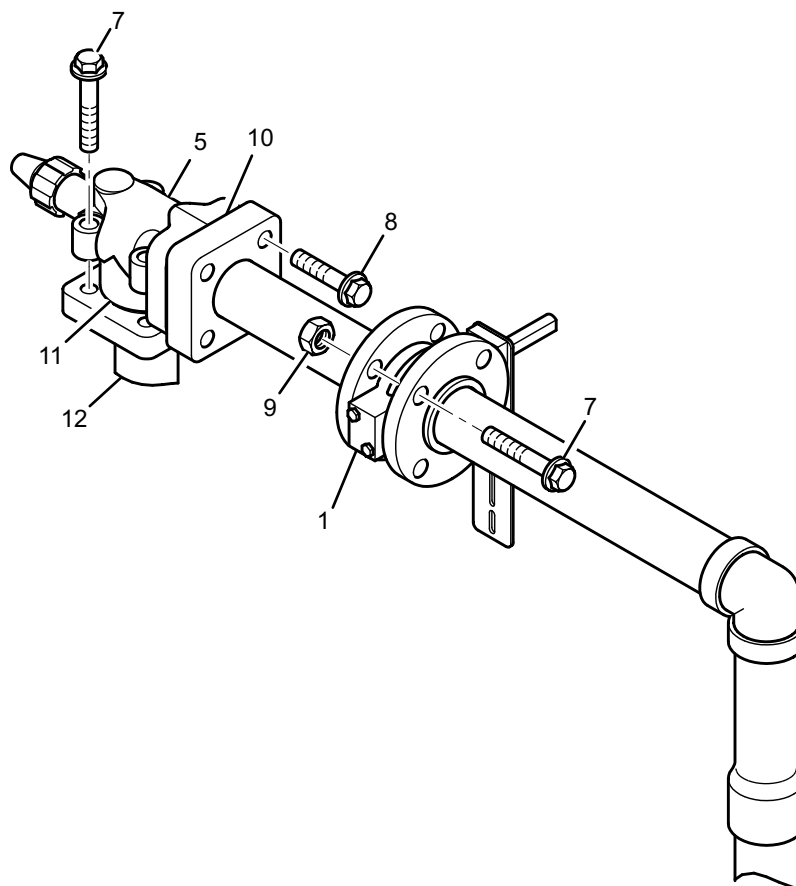


FIGURE 5 - HOT GAS BYPASS WITH ISOLATION VALVE

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HOT GAS BYPASS 2 IN. WITHOUT ISOLATION VALVE

TABLE 7 - HOT GAS BYPASS 2 IN. WITHOUT ISOLATION VALVE

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Valve, Butterfly Size 2	022 10643 002	1	6
7	Hcs5 0.625-11 X 4.500 Gr 5 Zn	021 32010 036	4	6
9	Nut, Hex 0.625-11 X Gr 5 Zn	021 32010 501	4	6
14	Kit, HGBP Wiring	371 05532 000	1	*

NOTE: Items with an * are NOT represented.

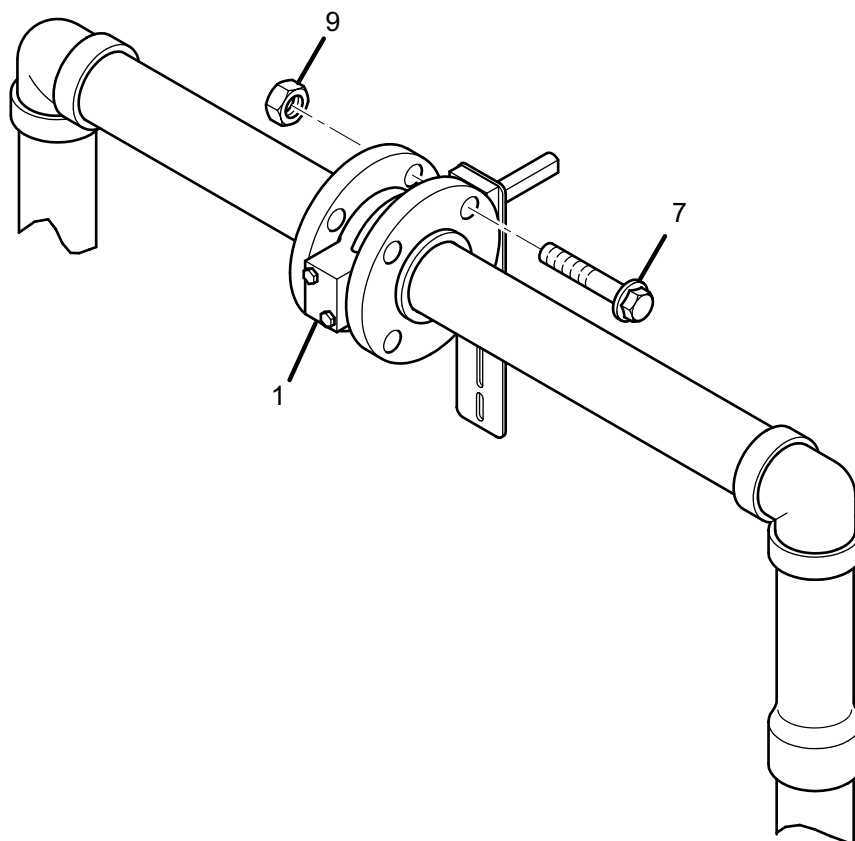


FIGURE 6 - HOT GAS BYPASS WITHOUT ISOLATION VALVE

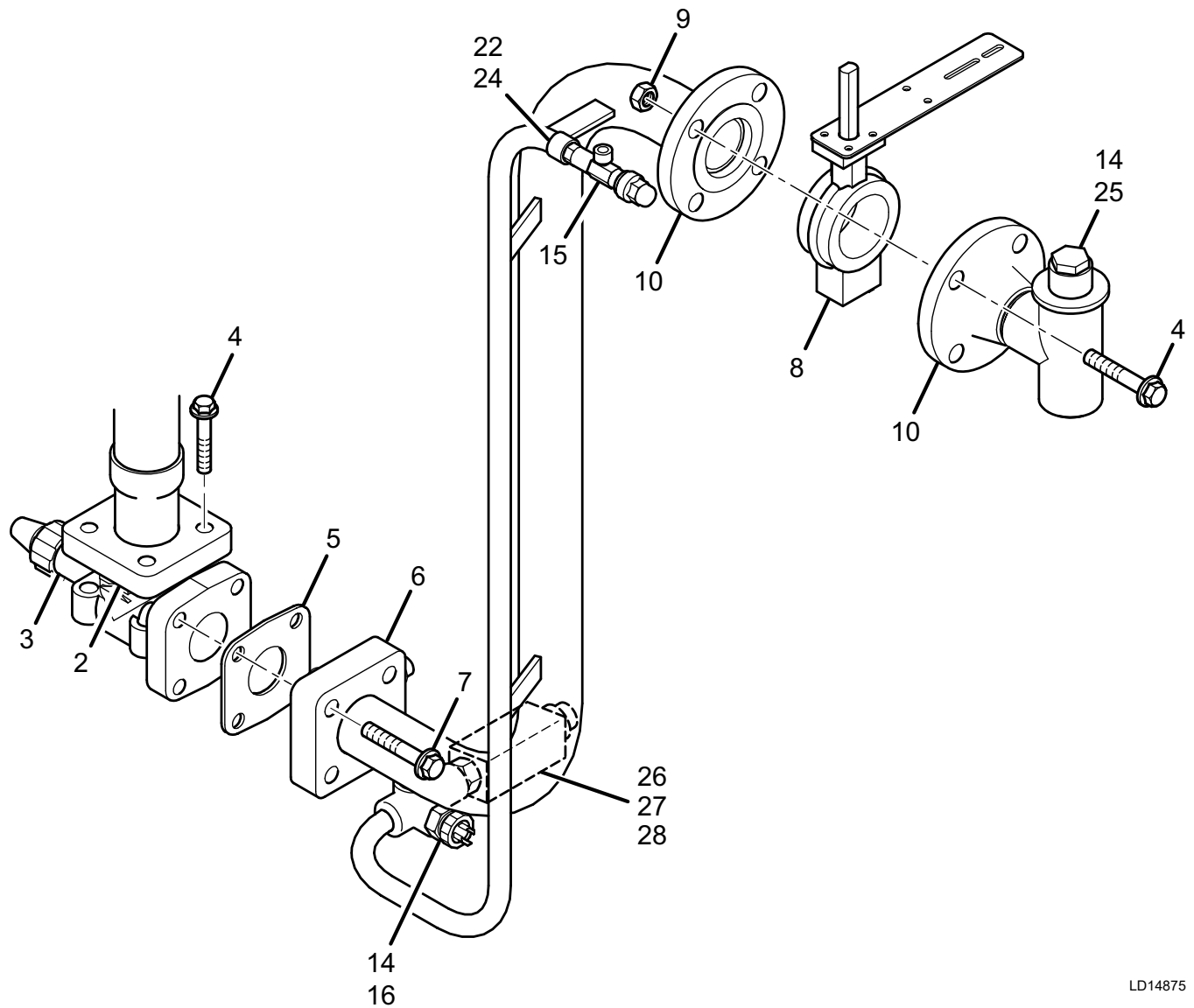
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LIQUID LINE WITH ISOLATION VALVE

TABLE 8 - LIQUID LINE WITH ISOLATION VALVE

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
2	Gasket, 2 Inch Valve	064 47078 000	1	7
3	Valve, Stop Compr 2-5/8 Od	022 10048 000	1	7
4	Hcs5, 0.625-11 X 4.500 Gr 5 Zn	021 32010 036	8	7
5	Gasket, Flange	028 14463 000	1	7
6	Flange, Liquid Line	075 38499 000	1	7
7	Hcs5, 0.625-11 X 2.500 Gr 5 Zn	021 32010 020	4	7
8	Valve, Butterfly Size 2	022 10642 002	1	7
9	Nut, Hex 0.625-11 X Gr 5 Zn	021 32010 501	4	7
10	Flange, Rd Rf 150# S/O 2.00 in.	023 02632 000	1	7
14	O-Ring, Neo1 00.924id .116thk M	028 12961 006	2	7
15	Valve, Stop Ang Vertical	022 10054 000	1	7
16	Sensor Temperature 3000 Ohms	025 39517 000	1	7
22	Coupling. Straight 0.562-18 0.297i1.000od	023 18269 105	1	7
24	O-Ring, Neo1 00.468id .078thk M	028 12961 003	1	7
25	Plug, Hex Hd 1-1/16	023 18295 000	1	7
26	Valve, Ball 1-1/16 - 12 Un-2a	022 09757 000	1	7
27	Cap, Flare 3/4 Od Tube	023 00984 000	1	7
28	Gasket, Fla 3/4 Od Tube	028 09211 000	1	7

NOTE: Items with an * are NOT represented.



LD14875

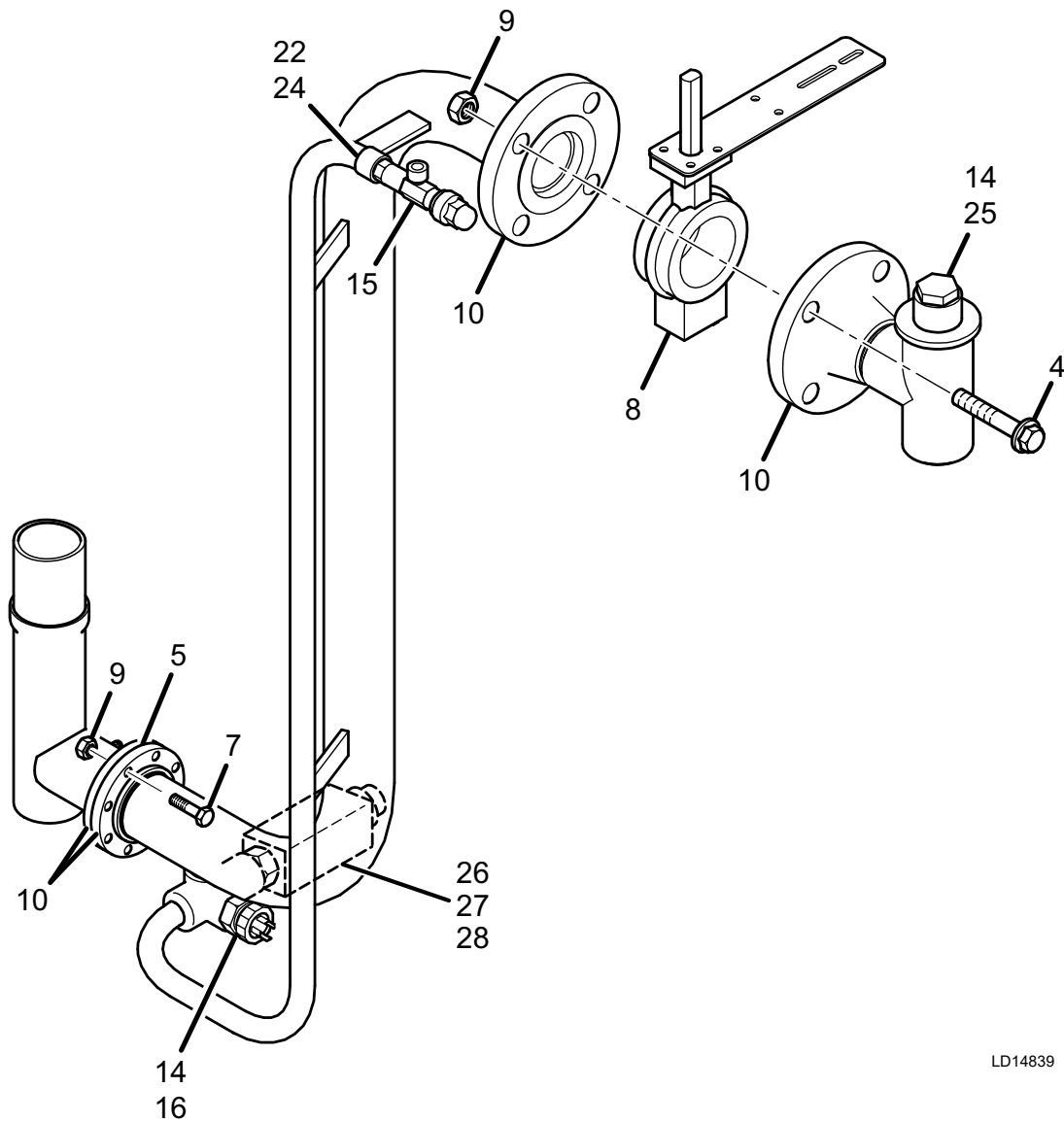
FIGURE 7 - LIQUID LINE WITH ISOLATION VALVE

LIQUID LINE WITHOUT ISOLATION VALVE

TABLE 9 - LIQUID LINE WITHOUT ISOLATION VALVE

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
4	Hcs5, 0.625-11 X 4.500 Gr 5 Zn	021 32010 036	4	8
5	Gasket, Ansi 2-150#	028 15075 206	1	8
6	Flange, Liquid Line	075 38499 000	1	*
7	Hcs5, 0.625-11 X 2.500 Gr 5 Zn	021 32010 020	4	8
8	Valve, Butterfly Size 2	022 10642 002	1	8
9	Nut, Hex 0.625-11 X Gr 5 Zn	021 32010 501	8	8
10	Flange, Rd Rf 150# S/O 2.00 in.	023 02632 000	3	8
14	O-Ring, Neo1 00.924id .116thk M	028 12961 006	2	8
15	Valve, Stop Ang Vertical	022 10054 000	1	8
16	Sensor, Temperature 3000 Ohms	025 39517 000	1	8
22	Coupling, Straight 0.562-18 0.297i1.000 od	023 18269 105	1	8
24	O-Ring, Neo1 00.468id .078thk M	028 12961 003	1	8
25	Plug, Hex Hd 1-1/16	023 18295 000	1	8
26	Valve, Ball 1-1/16 - 12 Un-2a	022 09757 000	1	8
27	Cap, Flare 3/4 Od Tube	023 00984 000	1	8
28	Gasket, Fla 3/4 Od Tube	028 09211 000	1	8

NOTE: Items with an * are NOT represented.



LD14839

FIGURE 8 - LIQUID LINE WITHOUT ISOLATION VALVE

COMPRESSOR COMPONENTS

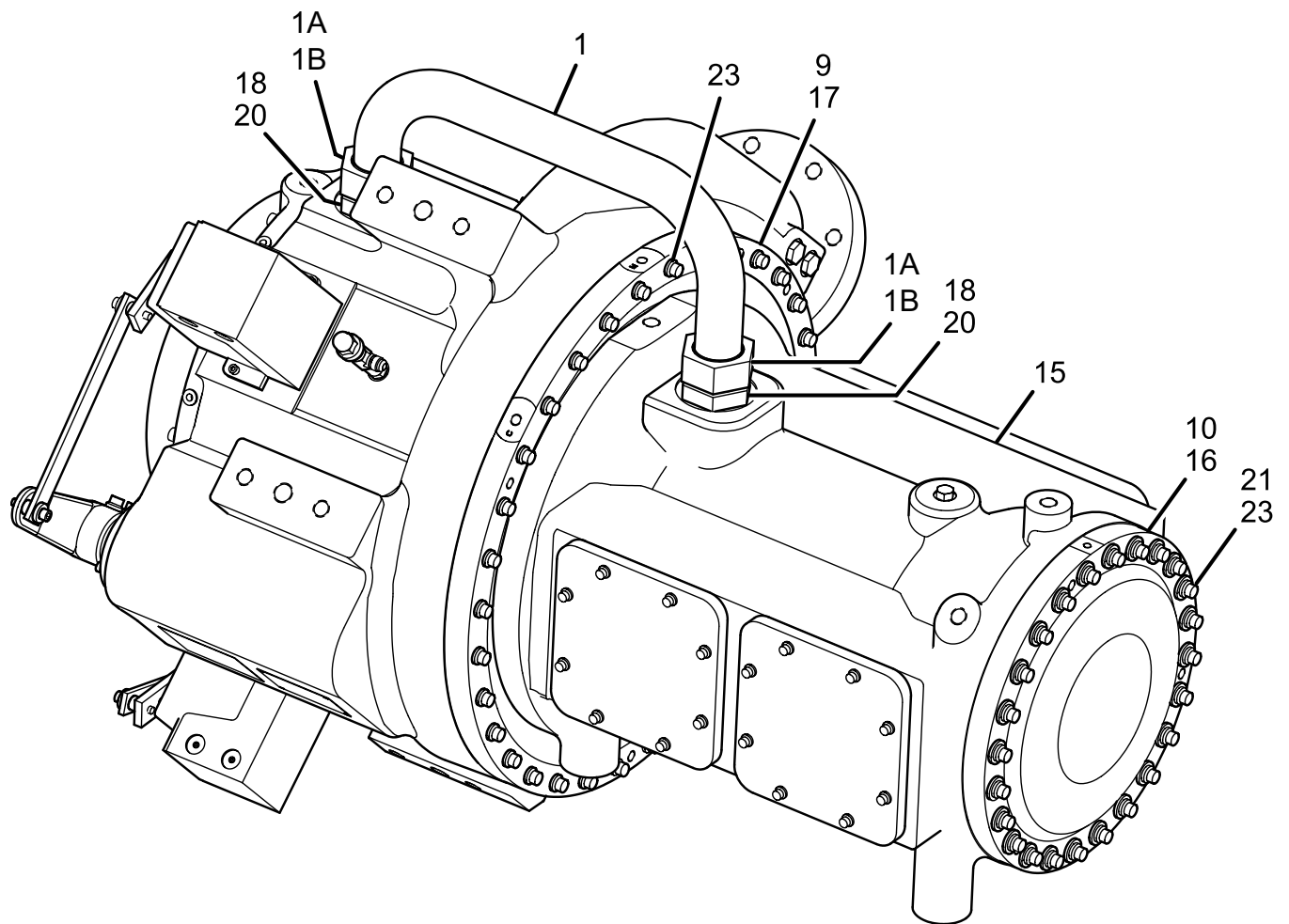
TABLE 10 - YMC² M1B-197FAA AND M1B-205FAA COMPRESSOR COMPONENTS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Tube, Vent M1	364 52582 000	1	9/10
1A	Sleeve, 2 in. OD	023 24996 000	2	
1B	Nut, 2 in. OD	023 24995 000	2	
4	Impeller, Assembly 4.16 Eye Hard Coat (197F-A) See NOTE 1 Includes the following: Impeller, 4.16 Eye Hard Coat (197F-A), Piston, Balance (197F-A), Screw, Cap Hex Soc Hd #10 .190	364 52984 001	1	10
	Impeller, Assembly 4.32 Eye Hard Coat (205F-A) See NOTE 1 Includes the following: Impeller, 4.32 Eye Hard Coat (205F-A), Piston, Balance (205F-A), Screw, Cap Hex Soc Hd #10 .190	364 52986 001	1	10
5	Impeller, Shaft Key	029 25816 000	1	10
6	Ring, Balance Piston Seal (197F-A) See NOTE 1	064 52985 000	1	10
	Ring, Balance Piston Seal (205F-A) See NOTE 1	064 52989 000		
7	Nut, Impeller M1	064 52453 000	1	10
8	Stud, Impeller M1	064 52452 000	1	10
9	Plate, Diffuser (197F-A)	064 52449 000	1	9/10
	Plate, Diffuser (205F-A)	064 52473 000		
10	Cover, Motor Housing M1	064 52448 000	1	9/10
11	Washer, Spring Eye Seal	064 51591 000	1	10
12	Retainer, Eye Seal	064 51563 000	1	10
13	Grease, Poe	044 03199 000	-	*
15	O-Ring, Neo1 17.955id .275thk M	028 16351 000	1	9/10
16	O-Ring, Neop 11.975id .275thk M	028 15281 000	1	9/10
17	O-Ring, Neo1 21.955id .275thk M	028 14406 000	1	9/10
18	O-Ring, Neo1 02.337id .118thk M	028 12961 010	2	9/10
19	O-Ring, Neo1 01.799id .103thk M	028 08294 000	2	10
20	Connr, 2 in. O.D. Tube Male	023 24994 000	2	9/10
21	Washer, Plain Hardened	021 32438 000	24	9/10
22	Screw, Shoulder Soc Hd	021 17557 000	3	10
23	Screw, Cap 12 Pt Hd 1/2	021 11926 000	80	9/10
25	Sealer, Removable Thread	013 03375 000	-	10
26	Primer, Locquic Grade N,Loctite	013 01753 000	-	10

NOTES:

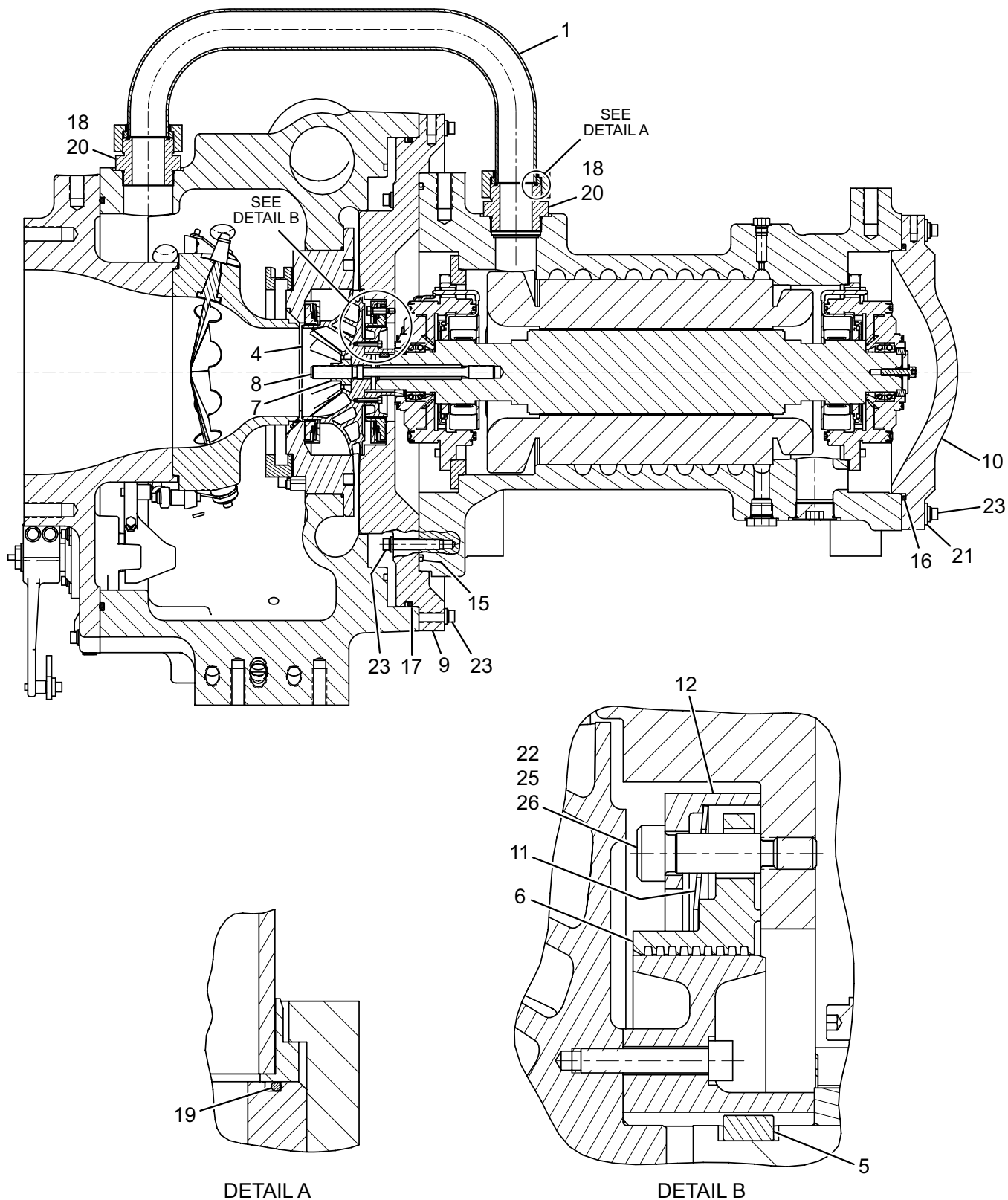
- Items with an * are NOT represented.
- The balance piston diameters were changed after several units were shipped. Replacement of Impeller Assembly or Balance Piston Seal on one of these early chillers requires replacing both parts. The early chiller assemblies are identified as follows:

Compressor	Early / New Balance Piston Diameter	Early / New Balance Piston Seal Diameter
197F-A	4.233 / 4.460	4.246 / 4.473
205F-A	4.403 / 4.620	4.416 / 4.633



LD14834

FIGURE 9 - YMC² M1B-197FAA / M1B-205FAA COMPRESSOR COMPONENTS



LD14834

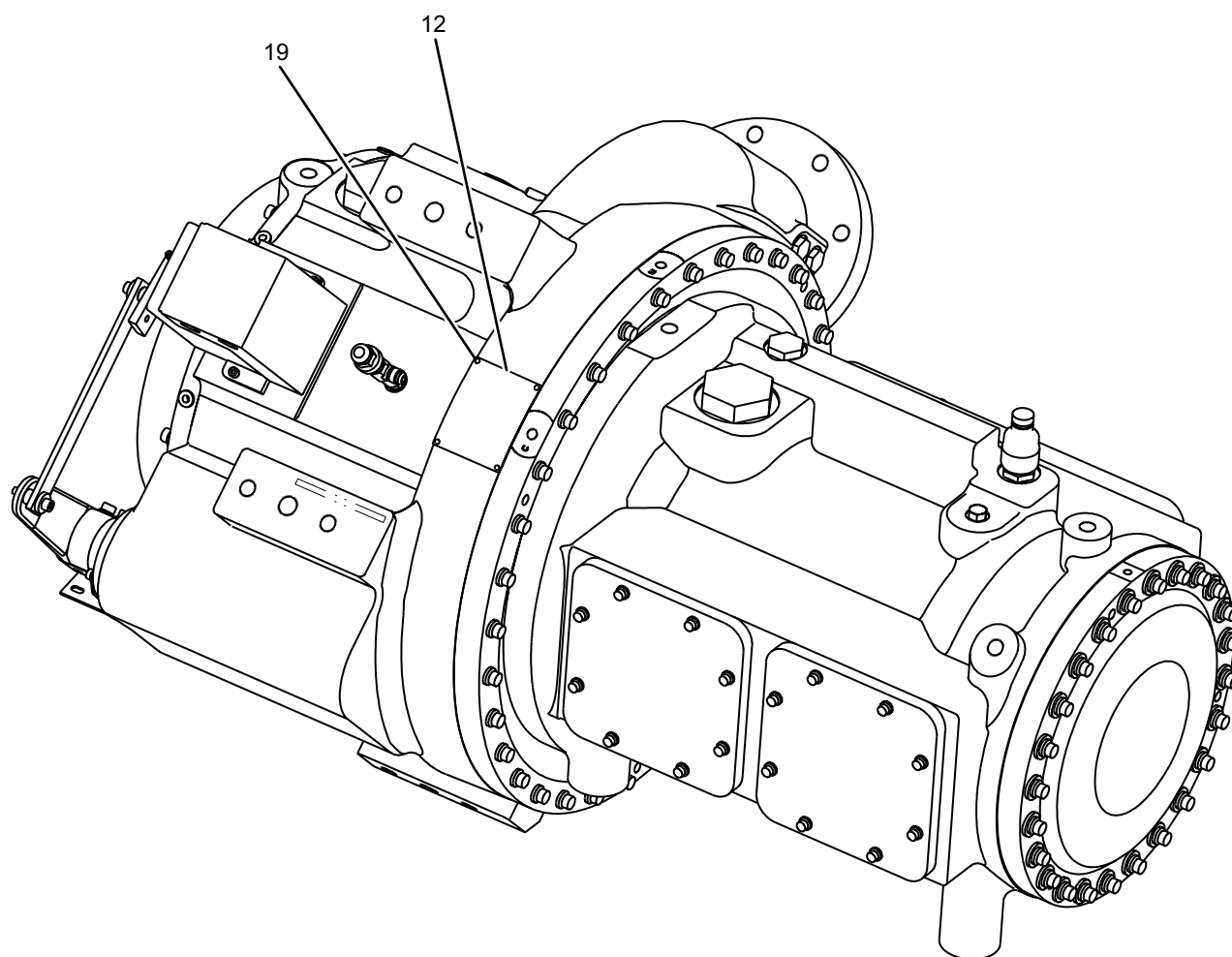
FIGURE 10 - YMC² M1B-197FAA / M1B-205FAA COMPRESSOR COMPONENTS

COMPRESSOR COMPONENTS

TABLE 11 - YMC² M1B-197FAB AND M1B-205FAB COMPRESSOR COMPONENTS

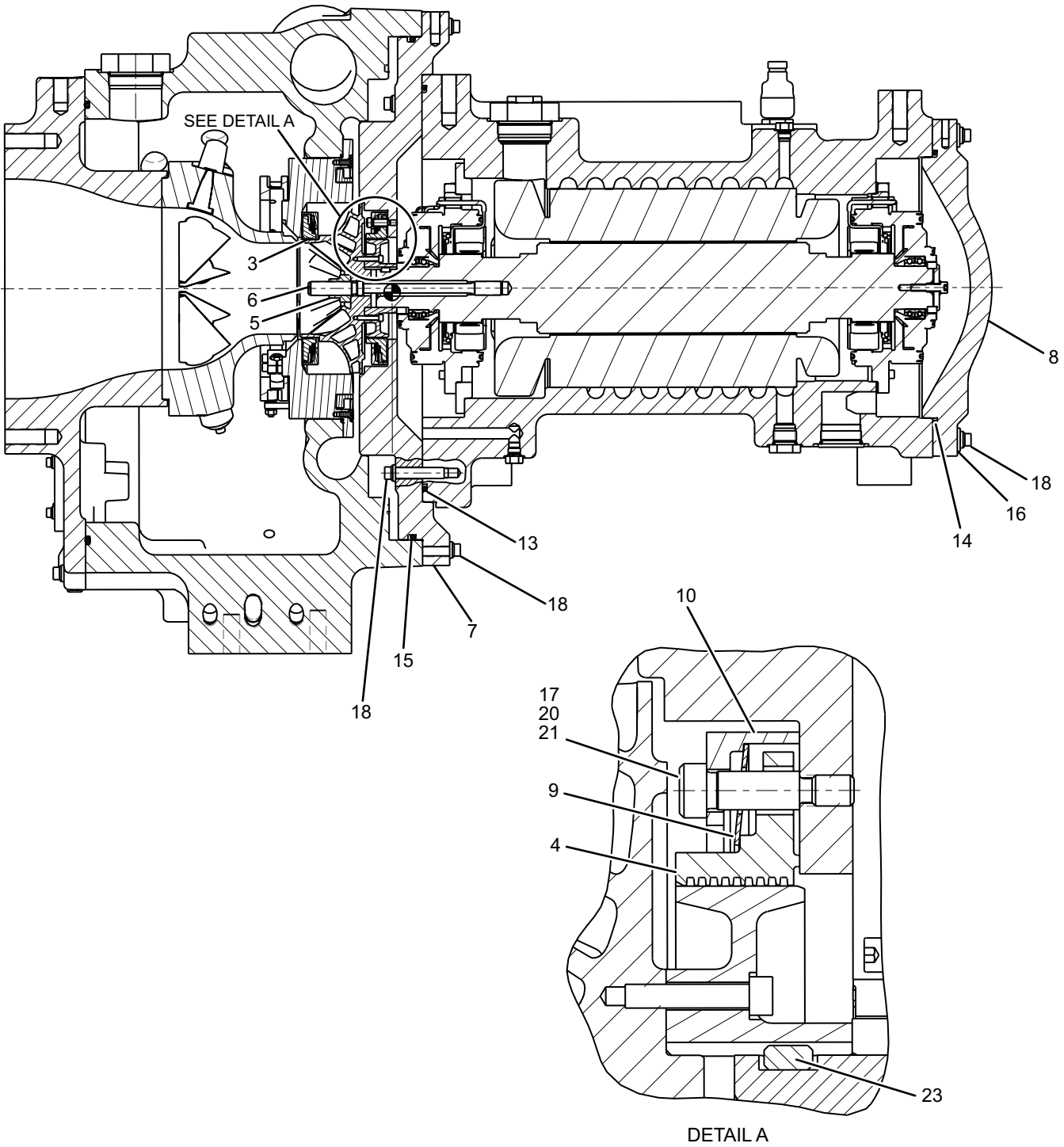
ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
3	Impeller 4.16 Eye Hard Coat 197fab	364 52984 001	1	12
	Impeller 4.32 Eye Hard Coat 205fab	364 52986 001		
4	Ring Balance Piston Seal 197-A	064 52985 000	1	12
	Ring Balance Piston Seal 205-A	064 52989 000		
5	Nut Impeller M1	064 52453 000	1	12
6	Stud Impeller M1	064 52452 000	1	12
7	Plate Diffuser M1-197fab	064 52449 000	1	12
	Plate Diffuser 205fab	064 53025 000		
8	Cover Motor Housing M1	064 52448 000	1	12
9	Washer Spring Eye Seal	064 51591 000	1	12
10	Retainer Eye Seal Q3 and Q4	064 51563 000	1	12
12	Nameplate Data Compressor	029 25761 000	1	11
13	O-Ring Neo1 17.955id .275thk M	028 16351 000	1	12
14	O-Ring Neop 11.975id .275thk M	028 15281 000	1	12
15	O-Ring Neo1 21.955id .275thk M	028 14406 000	1	12
16	Washer Plain Hardened	021 32438 000	24	12
17	Screw Shoulder Soc Hd	021 17557 000	3	12
18	Screw Cap 12 Pt Hd 1/2	021 11926 000	80	12
19	Screw Drive Ty U #4 X 1/4	021 03720 000	4	11
20	Sealer Removable Thread	013 03375 000	0.001	12
21	Primer Locquic Grade N, Loctite	013 01753 000	0.142	12
23	Impeller, Shaft Key	029 25816 000	1	12

NOTE: Items with an * are NOT represented.



LD15961

FIGURE 11 - YMC² M1B-197FAB / M1B-205FAB COMPRESSOR COMPONENTS



LD15960

FIGURE 12 - YMC² M1B-197FAB / M1B-205FAB COMPRESSOR COMPONENTS

MOTOR / MAGNETIC BEARING CONTROLLER COMPONENTS

TABLE 12 - MOTOR / MAGNETIC BEARING CONTROLLER COMPONENTS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
–	Replacement M1 Motor Assembly Includes Items 1 thru 37	464 53450 000	–	–
† 1	Shim, Bearing M1	064 53091 000	0	14
† 2	Cover, Elec (Bearing Connection)	064 52539 000	2	15
† 3	Support, Bearing M1	064 52983 000	1	14
† 4	Housing, Motor M1	064 53073 000	1	14
† 5	Grease, Poe	044 03199 000	-	*
6	Cover, Electrical M1	029 25750 000	1	15
† 7A	Stator, Motor	024 36971 000	1	14
† 7B	Rotor, Motor	024 36972 000	1	
† 7C	Bearing Cartridge (qty 2 per motor)	025 43561 000	2	
† 7D	Ball Bearing Pair with Damper Ribbons	029 25808 000	1	
†	Damper Ribbon (one per bearing pair, 18 mm wide x 220 mm length approx)	029 25809 000	1	*
†	Bearing Preload Springs and mounting hardware (4 spring clips, screws and washers per bearing pair)	029 25810 000	1	*
† 7E	Ball Bearing Thrust Ring	064 52657 000	1	14
† 7F	Rotor Axial Position Sensor (qty 2 per motor)	029 25807 000	2	
† 7G	Rear Sensor Retainer	064 52658 000	1	
† 7H	SHCS, M8 x 1.25 x 35	021 33031 000	1	
† 7I	Washer	021 33030 000	1	
8	O-Ring, Neo1 12.984id .139thk M	028 14412 000	1	15
11	O-Ring, Neop 01.424id .103thk M	028 10964 000	2	14/15
12	Feedthrough, Mag Bearing	025 43559 000	2	14/15
13	O-Ring, Neop 06.984id .139thk M	028 12550 000	2	15
15	Plug Pipe 3/8 Hex Socket	023 04298 000	1	14
18	Screw, Cap Hex Soc Hd #10	021 13975 000	2	15
21	Screw, Cap 12 Pt Hd 3/8	021 11986 000	34	15
22	Screw, Cap Hex Soc Hd 1/4	021 02578 000	18	15
23	O-Ring NEO1 00.468id .078thk M	028 12961 003	2	14
24	Plug Hex HD 9/16	023 18962 000	2	14
25	Primer, Locquic Grade N,Loctite	013 01753 000	-	14/15
26	Sealer, Removable Thread	013 03375 000	-	14/15
27	Sealer, Gasket Eliminator	013 02827 000	-	14/15
28	O-Ring NEO1 02.337id .118thk M	028 12961 010	1	14
29	Plug Hex Head	023 24993 000	1	14
30	O-Ring NEO1 01.047id .116thk M	028 12961 007	1	14
31	Plug Hex HD 1-3/16	023 18281 000	1	14
32	Valve Stem	064 53094 000	1	14
35	Ring Retaining Internal	029 26024 000	1	14

NOTES:

1. Items with an * are NOT represented.
2. The parts designated with † are not stocked replacement parts. These parts are not service items, a failure within the motor requires a motor replacement according to the motor part number at the top of this table. They are only shown here for information.

TABLE 12 - MOTOR / MAGNETIC BEARING CONTROLLER COMPONENTS (CONT'D)

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
37	O-Ring NEO1 00.612id .103thk M	028 11999 000	1	14
	Magnetic Bearing Controller (E150/4 Magnetic Bearing Controller) (Includes the following items) Not a stocked part. Individual boards below are available for servicing.	025 43521 000	1	*
ITEM	DESCRIPTION	PART NUMBER	S2M P/N	
	MBC #170 WIR DC/DC Converter 350W Board	031 03037 000	ELCART-0946[4158AF]	
	MBC #546 Amplifier Board	031 03038 000	ELCART-0996[4207AF]	
	MBC #722 Control Loop Board	031 03039 000	ELCART-1001[4184BF]	
	MBC #169 Oscillator Board	031 03040 000	ELCART-0944[4207AF]	
	MBC #3A6 User Interface Board	031 03041 000	ELCART-0970[4184AF]	
	MBC #166 DC/DC Converter Board	031 03042 000	ELCART-0011[4158BF]	
	MBC #3B2 Power Supply Interface Board	031 03043 000	ELCART-1014[4191AF]	
	Cooling Fan (Fan w/interconnection wires - 2 fans per controller)	025 43866 000	ELCABL-0629[S034A]	
38	EEV Cartridge	325-44710-000	1	13
38a	EEV Cartridge	025-49321-000	1	13
41	O-Ring HNBR 01.1121D.103thk M	028 16568 000	1	13
42	O-Ring HNBR 01.2371D.103thk M	028 16569 000	1	13
43	Screw Cap Hex Soc HD 5/16	021 01435 000	4	13

NOTE: Items with an * are NOT represented.

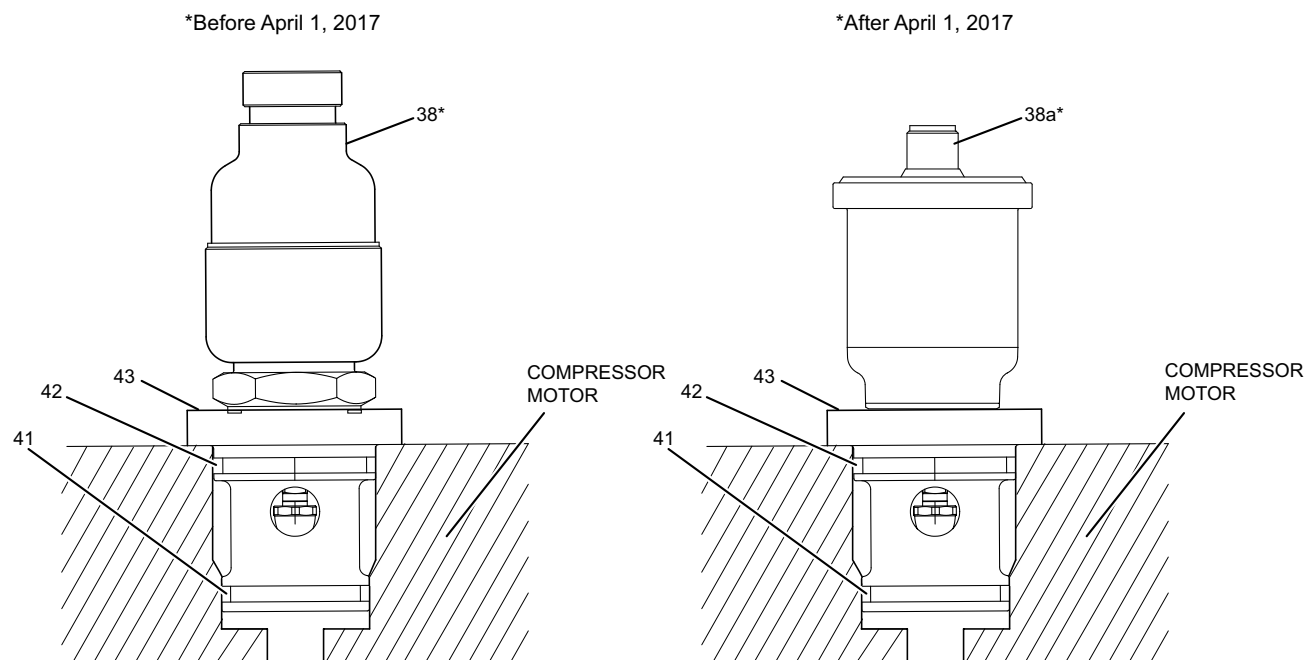


FIGURE 13 - MOTOR COOLING EXPANSION VALVE

LD15991a

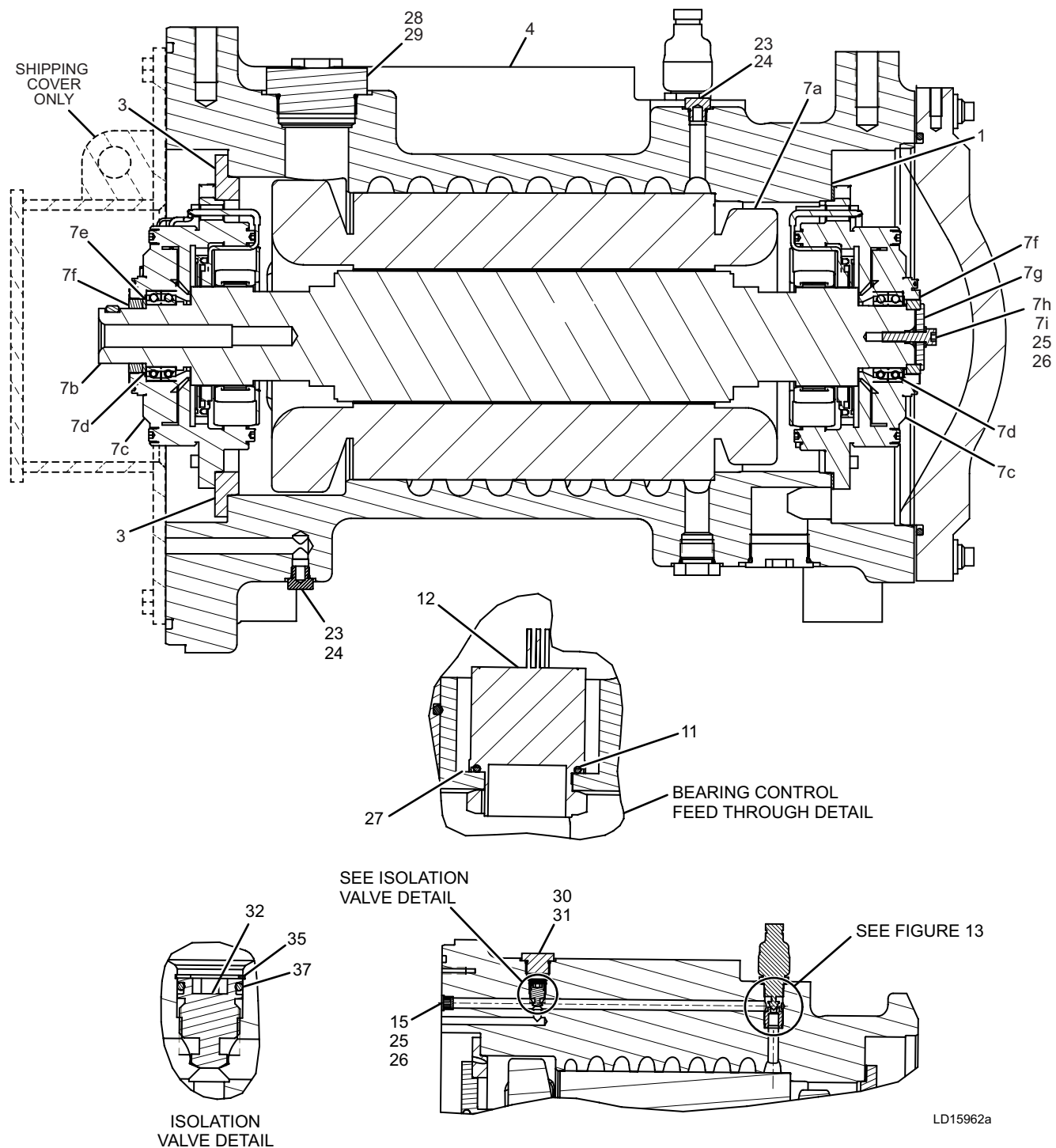
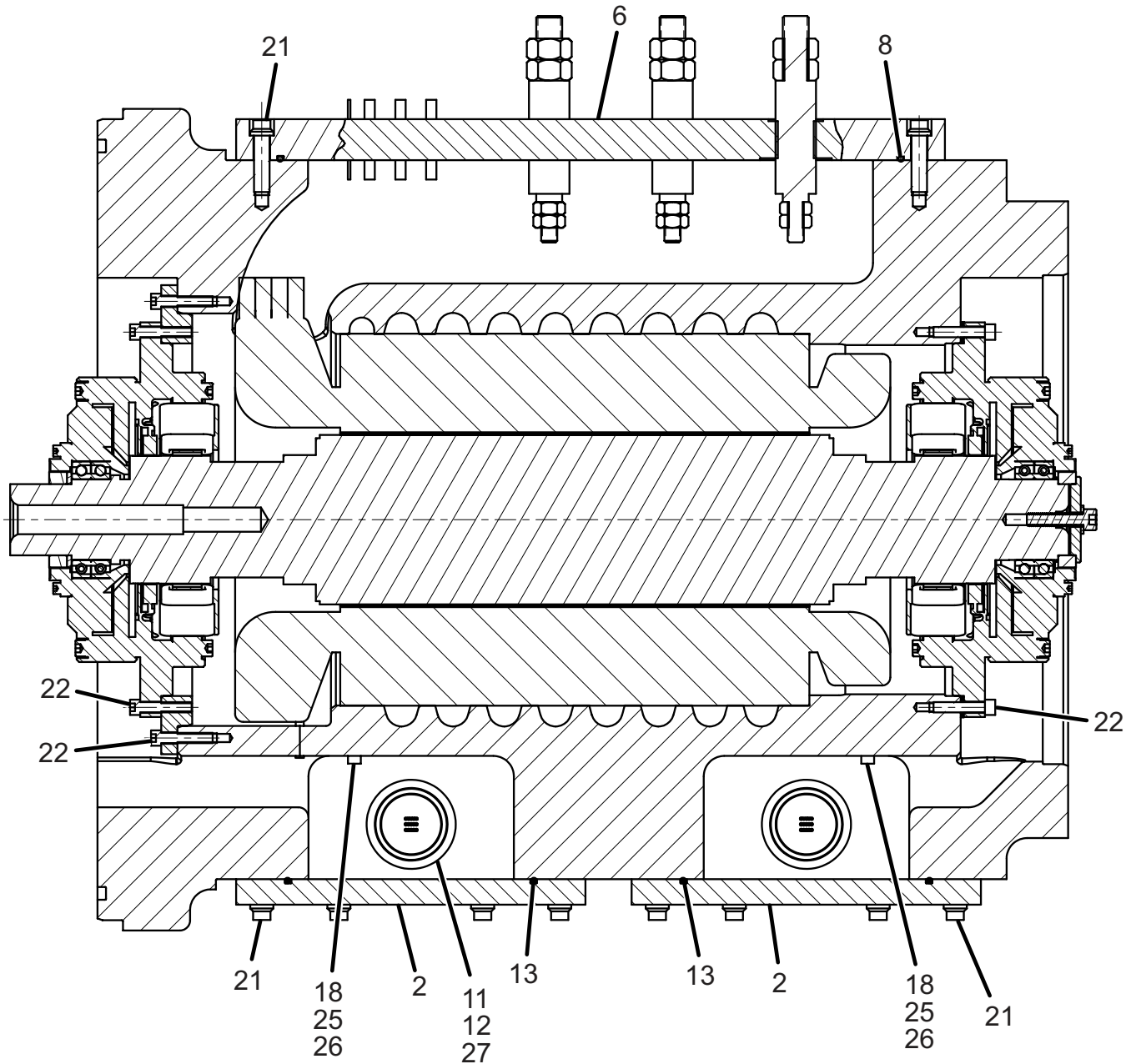


FIGURE 14 - YMC² M1 MOTOR (464 53450 000)



LD14837

FIGURE 15 - YMC² M1 MOTOR (364 52445 000)

SCROLL COMPONENTS M1B-197FAA AND M1B-205FAA COMPRESSORS

TABLE 13 - YMC² SCROLL M1B-197FAA AND M1B-205FAA COMPONENTS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Shaft, Control VGD	364 51673 000	1	17
2	Shaft, Control Prerot Device	364 51672 000	1	17
3	Device, PRV 197F-A (see TABLE 14)	364 51554 003	1	16
	Device, PRV 205F-A (see TABLE 14)	364 51554 004		
4	Device, VGD 197F-A	364 52459 003	1	16
	Device, VGD 205F-A	364 52459 004		
5	Lube, Valve Stem 2 Oz. Tin	360 00125 000	-	*
6	Ring, Eye Seal 197F-A	064 51575 000	1	16
	Ring, Eye Seal 205F-A	064 51679 000		
7	Plate, Nozzle Base 197F-A	064 52097 000	1	16
	Plate, Nozzle Base 205F-A	064 51572 000		
8	Arm, PRV Motor	064 51704 000	2	17
9	Lever, PRV External	064 51703 000	2	17
10	Cover, Shaft Control	064 51671 000	2	17
11	Link, External	064 51615 000	2	17
12	Lever, Internal	064 51594 000	1	17
13	Spacer, .38 Lg .33 Id X .63 Od	064 51593 000	2	17
14	Rod, Adjustable PRV and VGD	364 51753 458	1	17
15	Washer, Spring Eye Seal	064 51591 000	1	16
16	Link, External	064 51582 000	1	17
17	Plate, Prv Support	064 51581 000	1	16
18	Tab, Drive Ring	064 51569 000	1	17
19	Retainer, Eye Seal	064 51563 000	1	16
20	Scroll, Rotor 197F-A	064 51552 000	1	16
	Scroll, Rotor 205F-A	064 51561 000		
21	Rod, Adjustable PRV and VGD	364 51753 733	1	17
22	Lever, Internal VGD	064 51215 000	1	17
23	Plug, PRV Assembly	064 50632 000	2	17
24	Spacer, Flanged, PRV and VGD	064 50612 000	4	17
25	Spacer, .50 Lg X .33 Id X .63od	064 50611 000	2	17
26	Bracket, Support Lower PRV	064 48851 000	1	17
27	Fillpiece, Prerot Device	064 10821 000	2	17
28	Fillpiece, Prerot Device	064 09288 000	2	17
29	Grease, Poe	044 03199 000	-	*
30	Dowel, Pin Str	029 24130 000	2	17
31	Bushing, Garlock 16du12	029 24100 000	1	17
34	O-Ring, Neoprene 02.112id .103thk M	028 15432 000	2	17
35	O-Ring, Neoprene 18.955id .275thk M	028 14414 000	1	16
36	O-Ring, Neoprene 11.484id .139thk M	028 13977 000	1	16
37	O-Ring, Neoprene 01.171id .116thk M	028 12961 008	2	17

TABLE 13 - YMC² SCROLL M1B-197FAA and M1B-205FAA COMPONENTS (CONT'D)

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
38	O-Ring, Neoprene 00.755id .097thk M	028 12961 005	2	17
39	O-Ring, Neoprene 00.644id .087thk M	028 12961 004	4	17
40	O-Ring, Neoprene 00.468id .078thk M	028 12961 003	5	16/17
41	O-Ring, Neoprene 01.109id .139thk M	028 12200 000	4	17
42	Cap, Sealing Caplug 2 (Not available as service part, Note 1)			17
43	O-Ring, Neop 02.234id .139thk M	028 03803 000	2	17
44	Motor, Actuator 150 450 In	025 17175 002	2	17
45	Plug, Hex Hd 9/16	023 18962 000	4	17
46	Plug, Hex Hd 1-5/16	023 18282 000	2	17
47	Plug, Hex Hd 3/4	023 18280 000	3	17
48	Screw, Cap 12 Pt Hd 1/2	021 31600 000	1	17
49	Screw, Cap 12 Pt Hd 1/2	021 31125 000	1	17
50	Screw, Cap Hex Soc Hd 1/4	021 29576 000	8	16/17
51	Screw, Cap 12 Pt Hd 3/8	021 17618 000	4	17
52	Screw Shoulder Soc Hd	021 17557 000	3	16
53	Washer, Plain Hardened	021 17264 000	4	17
54	Screw, Cap Hex 1/4 -20unc	021 16826 000	2	16
55	Screw, Cap Hex Soc Hd #10	021 13949 000	2	17
56	Screw, Cap 12 Pt Hd 3/8	021 11972 000	3	16
57	Screw, Cap 12 Pt Hd 1/2	021 11926 000	4	17
58	Screw, Cap 12 Pt Hd 3/8	021 11742 000	2	17
59	Screw, Cap 12 Pt Hd 1/2	021 11597 000	12	16
60	Screw, Cap 12 Pt Hd 3/8	021 11141 000	4	17
61	Screw, Cap Hex Soc Hd 5/16	021 01447 000	4	17
62	Screw, Cap Hex Soc Hd 1/4	021 01377 000	6	17
63	Nut Hex 1/4 - 20 Unc-2b	021 00450 000	4	16/17
64	Sealer, Removable Thread	013 03375 000	-	16/17
65	Enamel, Caribbean Blue	013 01835 000	-	*
66	Primer, Locquic Grade N,Loctite	013 01753 000	-	16/17
67	Sealer, Grade Avv Loctite 086	013 01671 000	-	17
69	Reducer, Straight Thread 3/4	023 22870 000	1	17
70	Valve, Stop Ang Vertical	022 09578 000	1	16

NOTES:

1. Items with an * are NOT represented.
2. Caps installed in tapped support plate rigging holes, not required for operability.

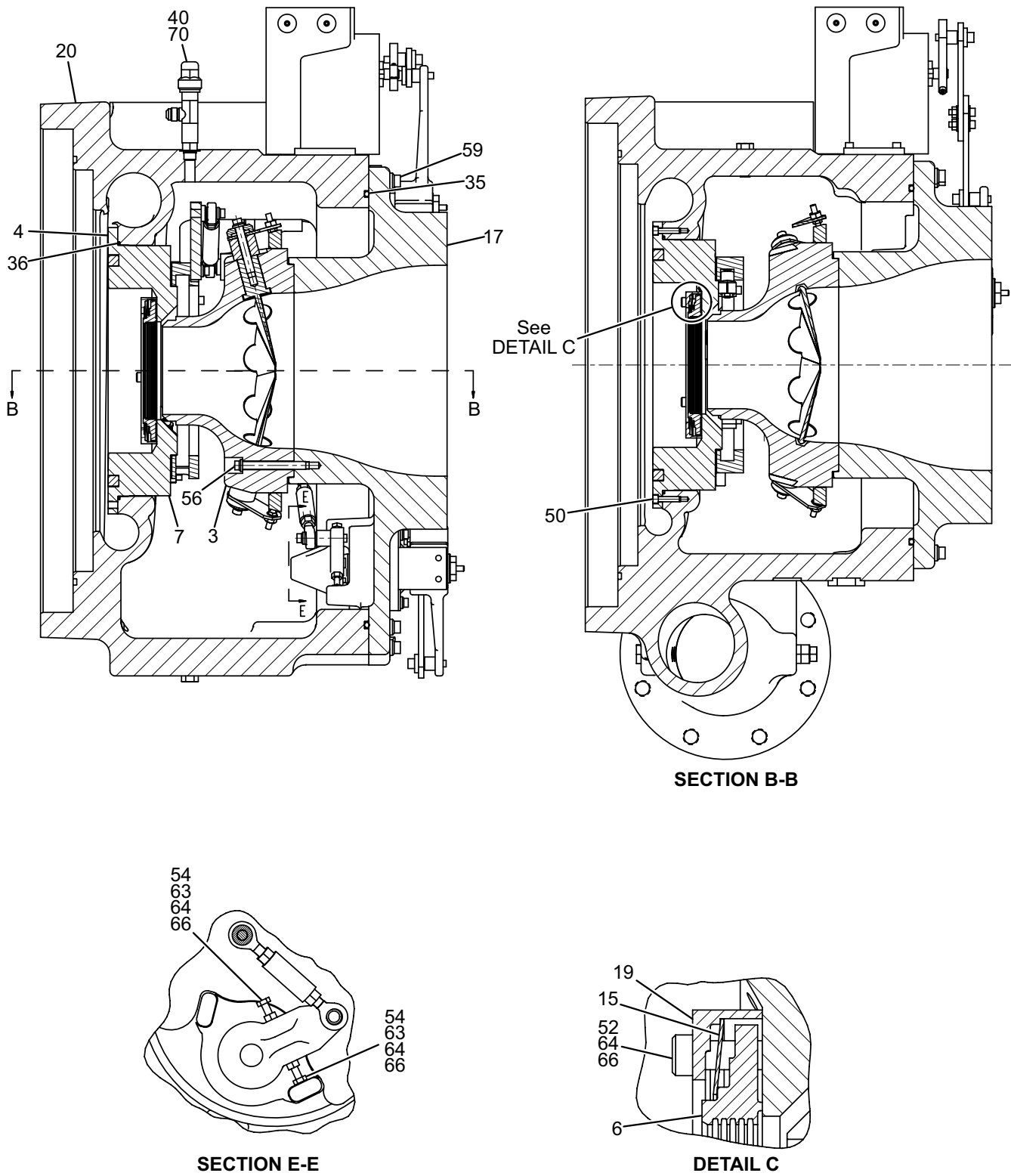


FIGURE 16 - YMC² SCROLL M1B-197FAA AND M1B-205FAA COMPONENTS

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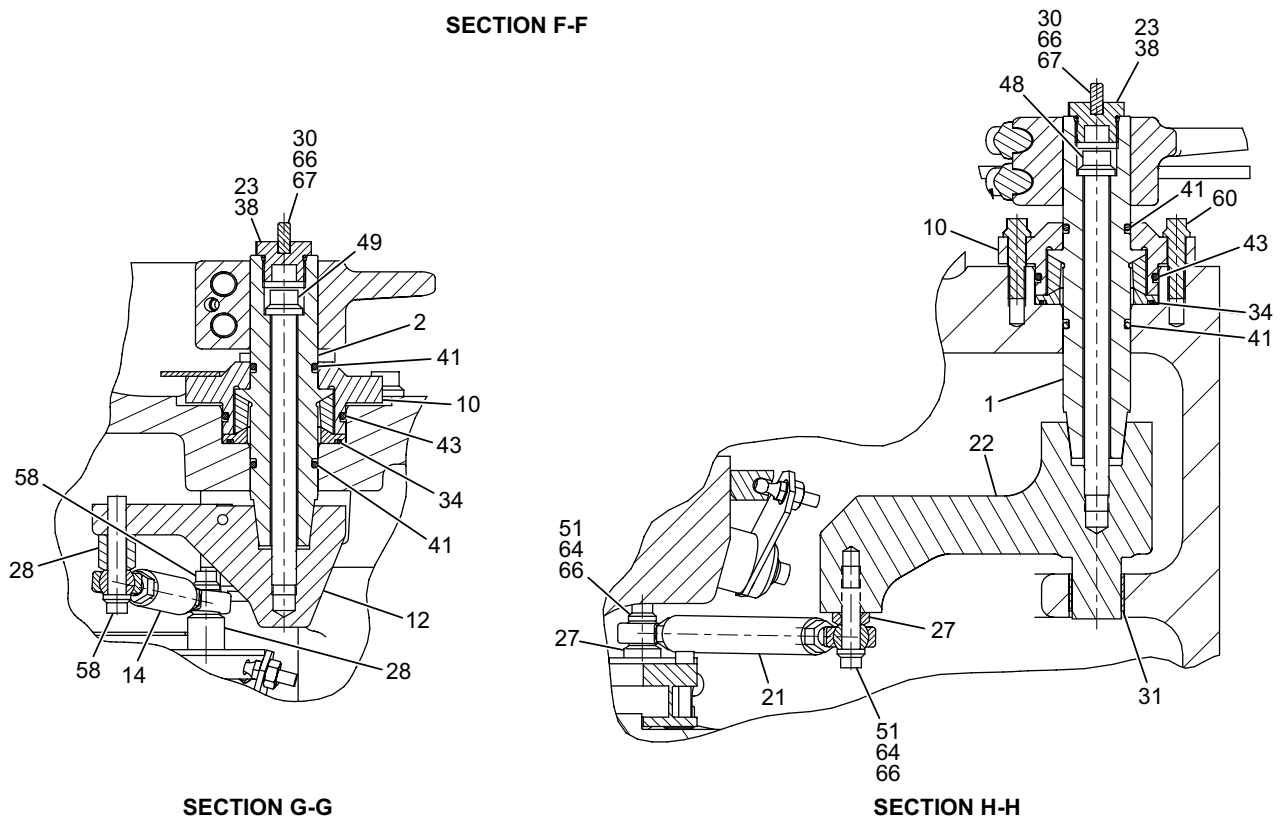
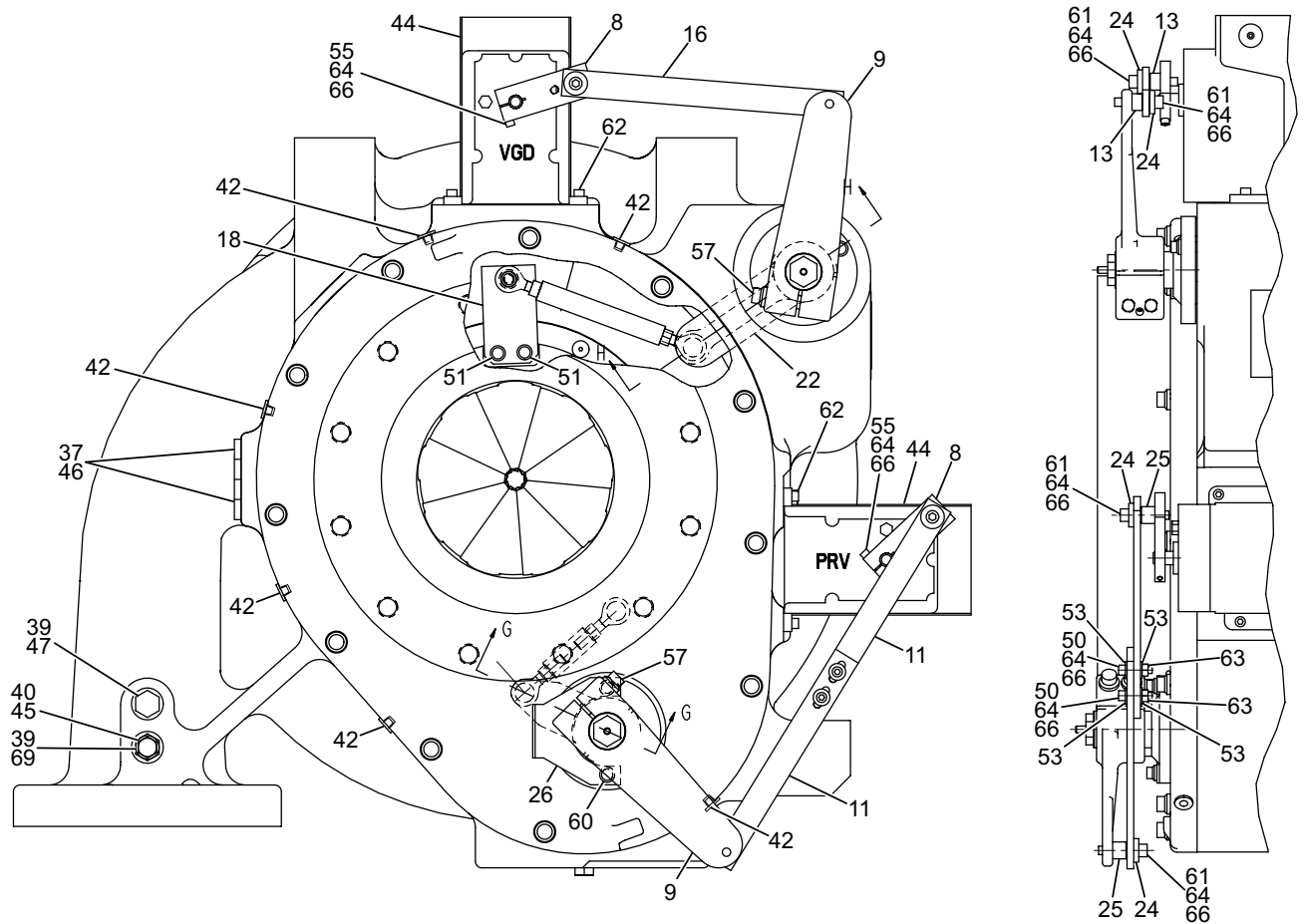


FIGURE 17 - YMC² SCROLL M1B-197FAA AND M1B-205FAA COMPONENTS

LD14841

PRE-ROTATIONAL DEVICE M1B1-197FAA AND M1B-205FAA COMPRESSORS

TABLE 14 - YMC² PRE-ROTATIONAL DEVICE M1B1-197FAA AND M1B-205FAA COMPRESSORS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Ring, Vane Driving	064 51590 000	1	18
2	Washer, Plain Lt 17/64 Id 1/2	021 11973 000	10	18
3	Stud, Ball 1/4 -28 Unf W/	029 15924 000	9	18
4	Arm, Vane PRV	064 47952 000	9	18
5	Nut, Self Lock 1/4 - 28unf	021 12943 000	9	18
6	Washer, Spl 25/64 Id X	064 09289 000	9	18
7	Lube, Valve Stem 2 Oz. Tin	360 00125 000	-	*
8	Vane, Pre-Rotation Hd 46-50	029 22449 000	9	18
9	Spacer, Arm PRV Hd 46/50	064 49205 000	9	18
10	Screw, Cap 12 Pt Hd 3/8	021 11956 000	9	18
11	Housing, PRV (197F-A)	064 51570 000	1	18
	Housing, PRV (205F-A)	064 51574 000		

NOTE: Items with an * are NOT represented.

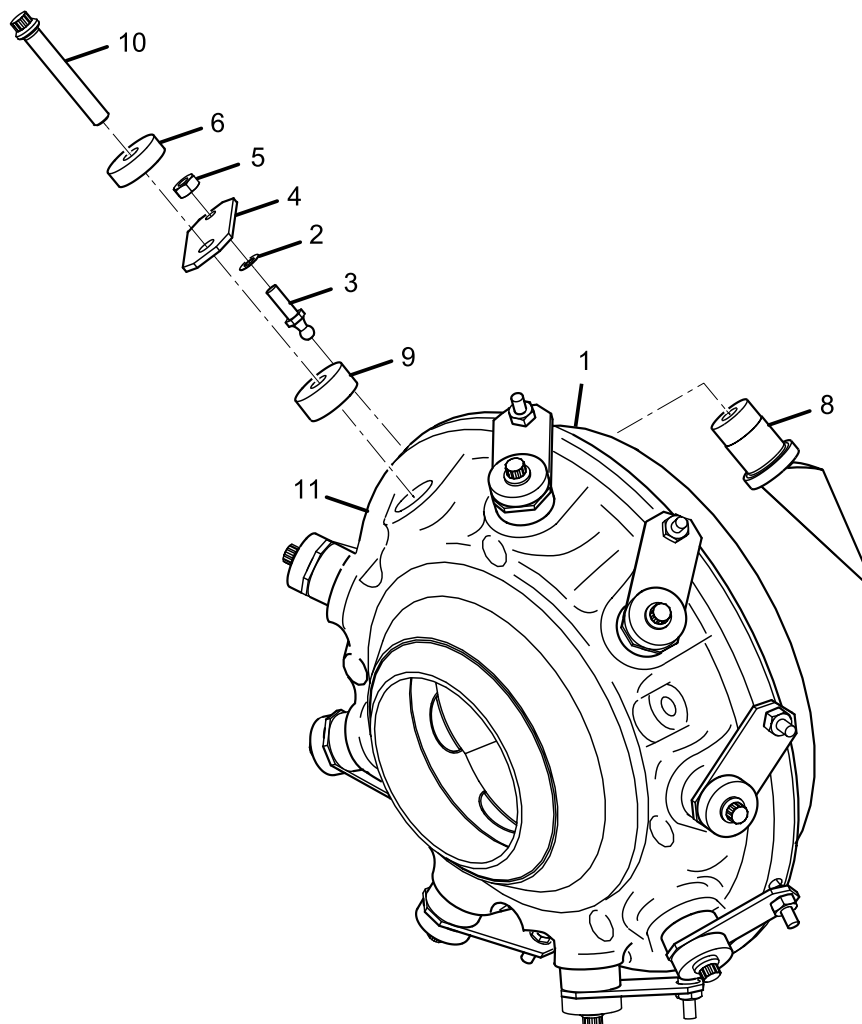


FIGURE 18 - YMC² PRE-ROTATIONAL DEVICE COMPONENTS - M1B1-197FAA AND M1B-205FAA

LD12363

PRV POSITION SENSOR KIT (371 05520 001) M1B1-197FAA AND M1B-205FAA COMPRESSORS

TABLE 15 - YMC² PRV POSITION SENSOR KIT M1B1-197FAA AND M1B-205FAA COMPRESSORS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Cover, PRV Position Sensor VSD	071 02012 002	1	19
2	Bracket, Support Upper PRV	371 02012 209	1	19
3	Screw, Tapping Thread Forming	021 13757 000	2	19
4	Pot, 2500 Ohms 2 Watt	025 32570 000	1	19
5	Bushing, Strain Relief Straight	025 09080 000	1	19
6	Cable, PRV Sensor VSD	571 02012 005	1	19
7	Coupling, Shaft, Flexible	029 24196 000	1	19
8	Strap, Cable T and B L4-18-9-M	025 18167 000	1	19
9	Screw/Washer, Assembly (Sems)	021 18487 000	2	19

NOTE: Items with an * are NOT represented.

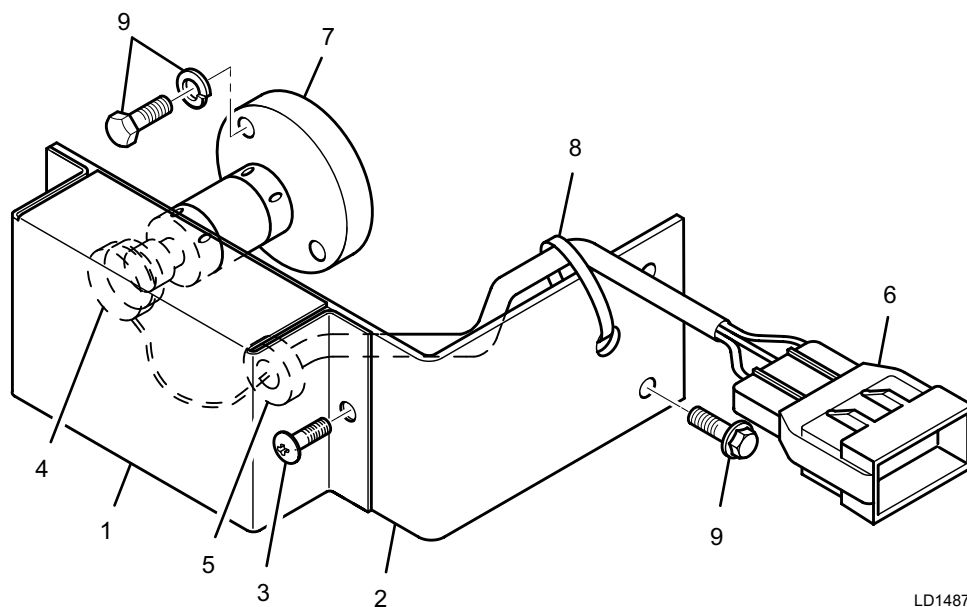


FIGURE 19 - YMC² PRV POSITION SENSOR KIT - M1B1-197FAA AND M1B-205FAA

SCROLL COMPONENTS M1B-197FAB AND M1B-205FAB COMPRESSORS

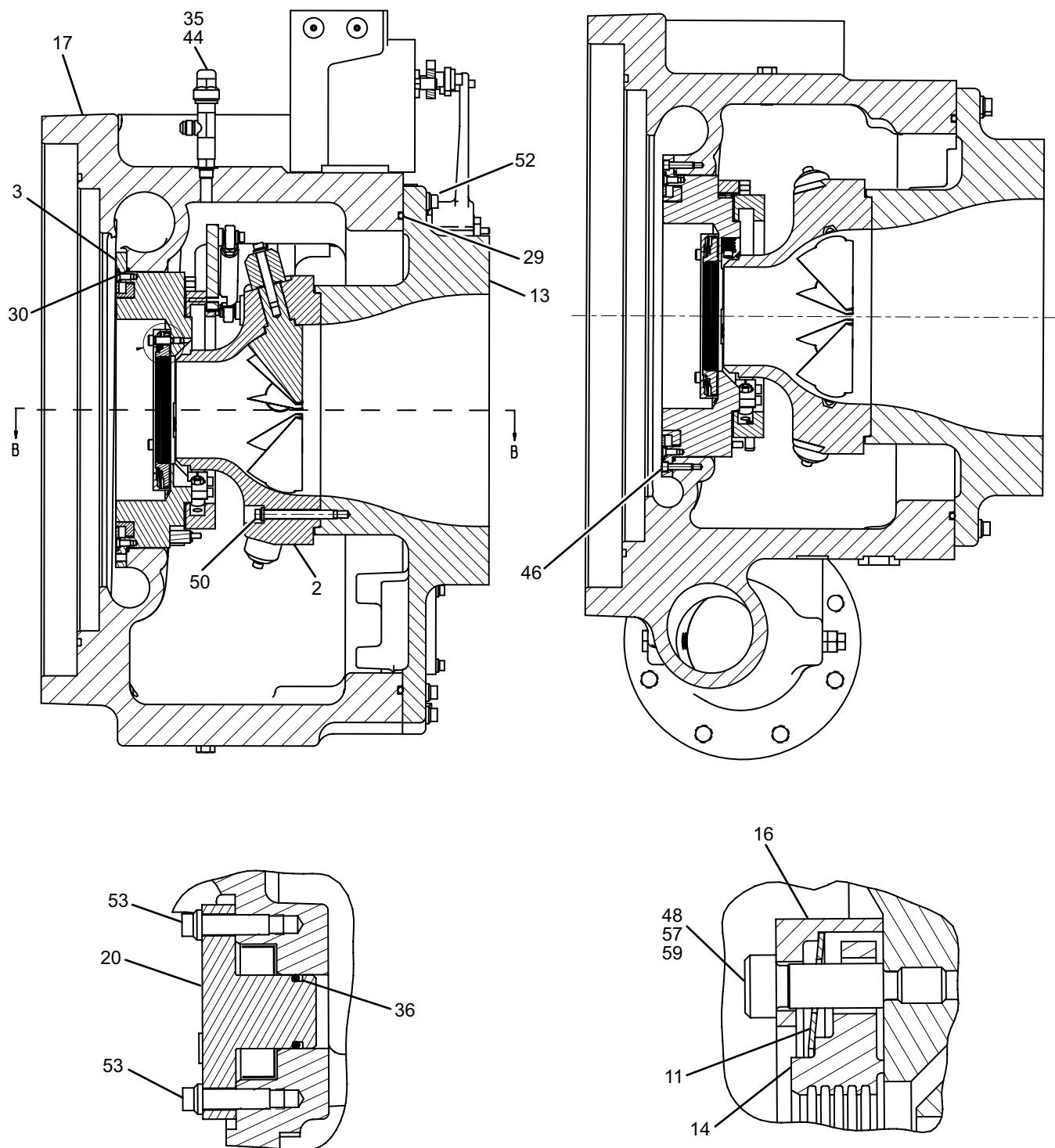
TABLE 16 - YMC² SCROLL M1B-197FAB AND M1B-205FAB COMPONENTS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Motor Actuator 150° 450 in. lb.	025 17175 002	1	21
2	Device Pre-Rotation	364 53070 000	1	20
3	Device VGD 197fab	364 53017 000	1	20
	Device VGD 205fab	364 53023 000		
4	Shaft Contl VGD	364 51673 000	1	21
5	Lub Valve Stem 2 Oz Tin	360 00125 000	0.02	*
6	Bracket Support Lower	064 48851 000	1	21
7	Arm Motor	064 51705 000	1	21
8	Lever PRV External	064 51703 000	1	21
9	Cover Shaft Control	064 51671 000	1	21
10	Spacer .38 Lg .33 Id X .63 Od	064 51593 000	2	21
11	Washer Spring Eye Seal	064 51591 000	1	20
12	Link External	064 51582 000	1	21
13	Plate PRV Support Q3 and Q4	064 51581 000	1	20
14	Ring Eye Seal Q4	064 51679 000	1	20
15	Tab Drive Ring Q3 - Q6	064 51569 000	1	21
16	Retainer Eye Seal Q3 and Q4	064 51563 000	1	20
17	Scroll Rotor Q4	064 51561 000	1	20
18	Rod Adjustable	064 51289 000	1	21
19	Lever Internal VGD	064 51215 000	1	21
20	Cover VGD Shaft	064 51197 000	1	20
21	Plug PRV Assembly	064 50632 000	1	21
22	Spacer Flanged, PRV and VGD	064 50612 000	2	21
23	Fillpiece Prerot Device	064 10821 000	2	21
24	Grease Poe	044 03199 000	0.015	*
25	Dowel Pin Str	029 24130 000	1	21
26	Bushing, Garlock 16du12	029 24100 000	1	21
27	Bearing Rod End W/Sst Isrt Chrome	029 08343 000	2	21
28	O-Ring Neo1 02.112id .103thk M	028 15432 000	1	21
29	O-Ring Neo1 18.955id .275thk M	028 14414 000	1	20
30	O-Ring Neo1 11.484id .139thk M	028 13977 000	1	20
31	O-Ring Neo1 02.337id .118thk M	028 12961 010	1	21
32	O-Ring Neo1 01.171id .116thk M	028 12961 008	2	21
33	O-Ring Neo1 00.755id .097thk M	028 12961 005	1	21
34	O-Ring Neo1 00.644id .087thk M	028 12961 004	4	21
35	O-Ring Neo1 00.468id .078thk M	028 12961 003	5	20/21
36	O-Ring Neo1 01.109id .139thk M	028 12200 000	3	20/21
37	Cap Sealing, Caplug 2,	028 05004 000	6	21
38	O-Ring Neop 02.234id .139thk M	028 03803 000	1	21
39	Plug Hex Head	023 24993 000	1	21

TABLE 16 - YMC² SCROLL M1B-197FAB AND M1B-205FAB COMPONENTS (CONT'D)

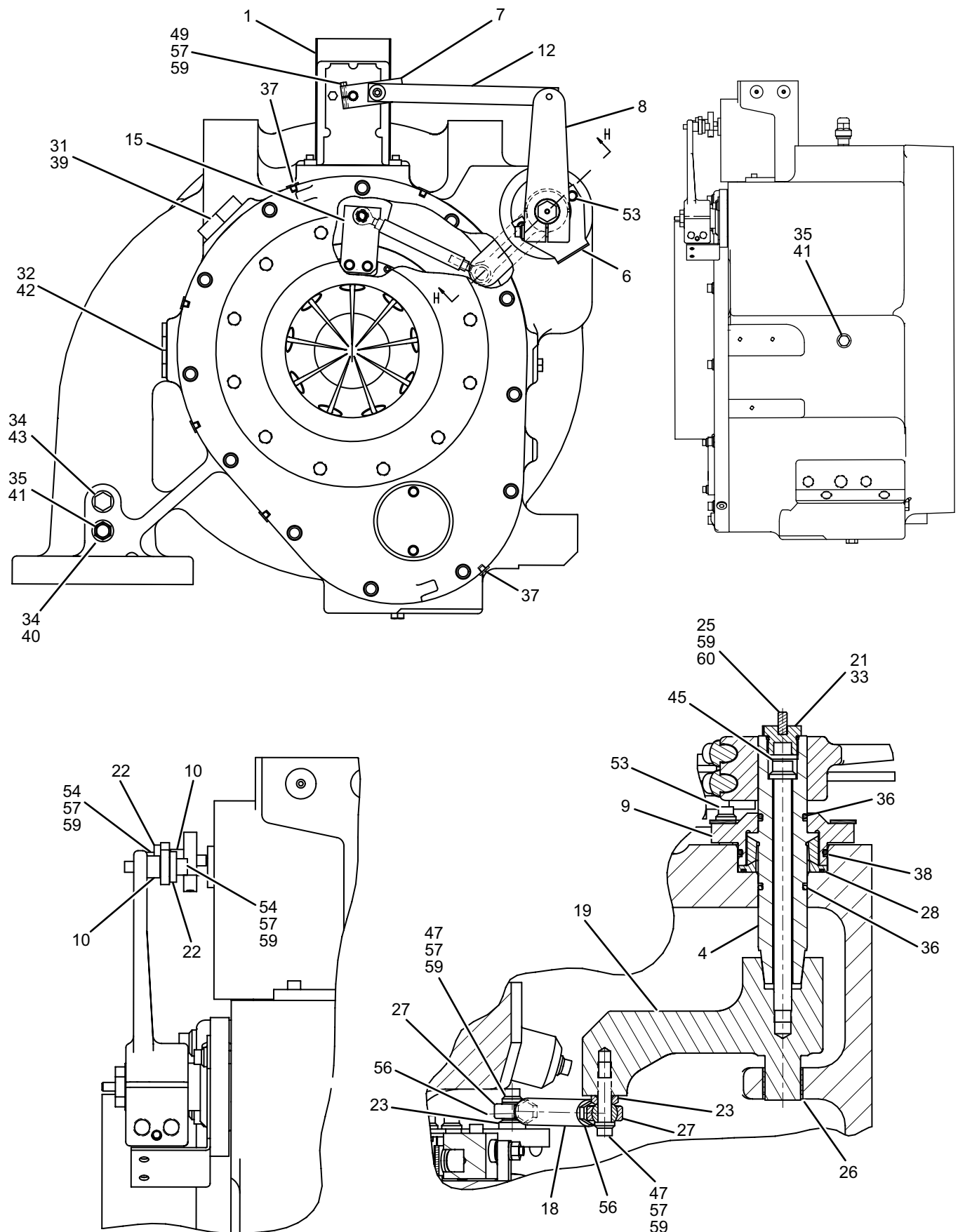
ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
40	Reducer, Straight Thread 3/4	023 22870 000	1	21
41	Plug Hex Hd 9/16	023 18962 000	4	21
42	Plug Hex Hd 1-5/16	023 18282 000	2	21
43	Plug Hex Hd 3/4	023 18280 000	3	21
44	Valve Stop Ang Vertical	022 09578 000	1	20
45	Screw Cap 12 Pt Hd 1/2	021 31600 000	1	21
46	Screw Cap Hex Soc Hd 1/4	021 29576 000	6	20
47	Screw Cap 12 Pt Hd 3/8 -	021 17618 000	4	21
48	Screw Shoulder Soc Hd	021 17557 000	3	20
49	Screw Cap Hex Soc Hd #10	021 13949 000	1	21
50	Screw Cap 12 Pt Hd 3/8	021 11972 000	3	20
51	Screw Cap 12 Pt Hd 1/2	021 11926 000	2	*
52	Screw Cap 12 Pt Hd 1/2	021 11597 000	12	20
53	Screw Cap 12 Pt Hd 3/8 -	021 11141 000	4	20/21
54	Screw Cap Hex Soc Hd 5/16	021 01447 000	2	21
55	Screw Cap Hex Soc Hd 1/4	021 01377 000	3	*
56	Nut Hex 3/8 - 24 Unf-2b	021 00474 000	2	21
57	Sealer Removable Thread	013 03375 000	0.001	20/21
58	Enamel Caribbean Blue	013 01835 000	0.05	*
59	Primer Locquic Grade N,Loctite	013 01753 000	0.142	20/21
60	Sealer Grade Avv Loctite 086	013 01671 000	0.008	21

NOTE: Items with an * are NOT represented.



LD15963

FIGURE 20 - YMC² SCROLL M1B-197FAB AND M1B-205FAB COMPONENTS



LD15964

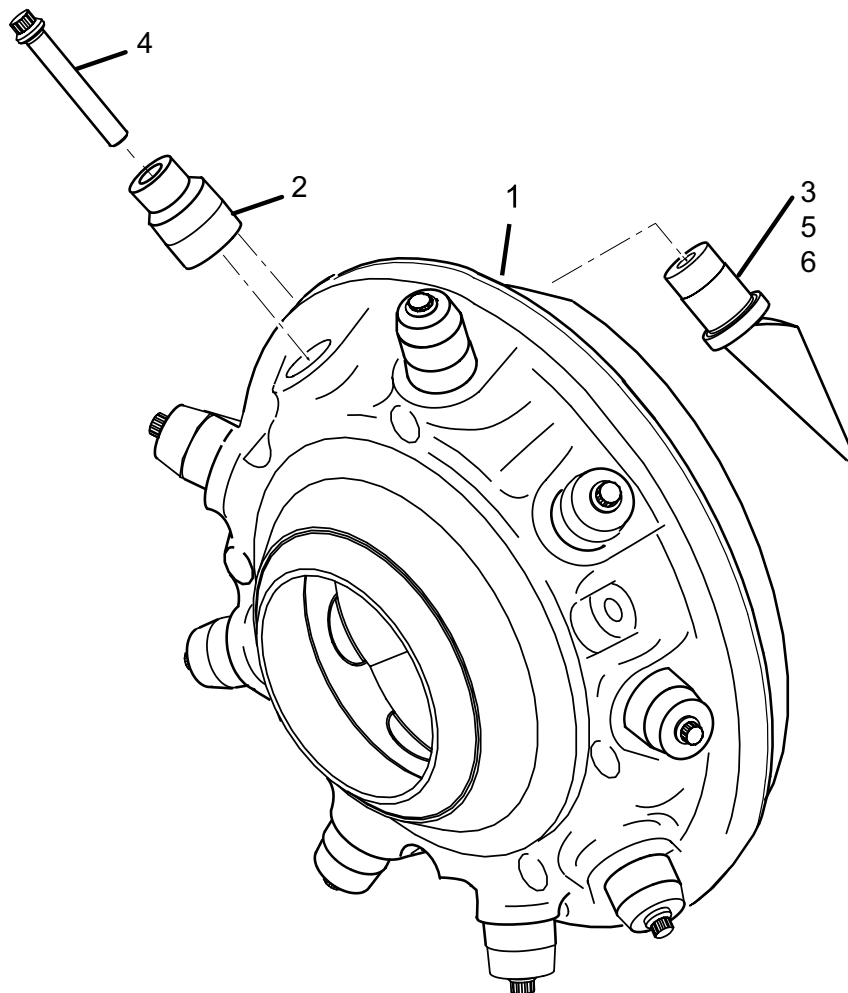
FIGURE 21 - YMC² SCROLL M1B-197FAB AND M1B-205FAB COMPONENTS

PRE-ROTATIONAL DEVICE M1B1-197FAB AND M1B-205FAB COMPRESSORS

TABLE 17 - YMC² PRE-ROTATIONAL DEVICE M1B1-197FAB AND M1B-205FAB COMPRESSORS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Housing, Pre-Rotation Vane	064 51574 000	1	22
	Housing, Pre-Rotation Vane (197F-B)	064 51570 000		
2	Spacer, PRV	064 53071 000	9	22
3	Vane, Pre-Rotation	029 22449 000	9	22
4	Screw Cap 12 PT HD, .375-24UNF-3A x 2.25	021 11956 000	9	22
5	Primer, Locquic Grade N	013 01753 000	.142	22
6	Sealer, Grade AVV Loctite 086	013 01671 000	.008	22

NOTE: Items with an * are NOT represented.



LD12363a

FIGURE 22 - YMC² PRE-ROTATIONAL DEVICE COMPONENTS - M1B1-197FAB AND M1B-205FAB

VGD POSITION SENSOR KIT (371 05914 001) M1B1-197FAB AND M1B-205FAB COMPRESSORS

TABLE 18 - YMC² PRV POSITION SENSOR KIT M1B1-197FAB AND M1B-205FAB COMPRESSORS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Cover	071 05914 002	1	23
2	Bracket, Support	371 05914 007	1	23
3	Screw, TAP THD Form. 6 x 1/4 lg	021 13757 000	2	23
4	Pot, 5000 OHMS, 50 Deg Angle	025 44598 000	1	23
5	Bushing Strain Relief	025 09080 000	1	23
6	Cable, VGD Sensor	571 05914 005	1	23
7	Coupling	029 24196 000	1	23
8	Strap, Cable	025 18167 000	1	23
9	Screw/Washer Assembly (Sems) 1/4-20 x 1/2	021 18487 000	2	23

NOTE: Items with an * are NOT represented.

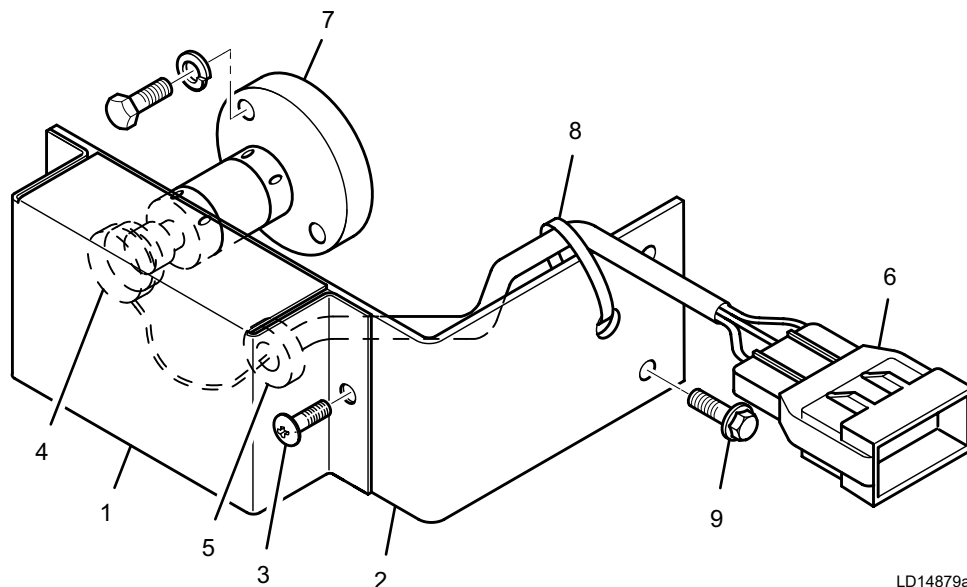


FIGURE 23 - YMC² VGD POSITION SENSOR KIT - M1B1-197FAB AND M1B-205FAB

RELIEF VALVES EVAPORATOR

TABLE 19 - YMC² EVAPORATOR RELIEF VALVES

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Kit, Relief Valve 235# 1-5/16 in. (Single)	375 64685 003	1	24
1A	Valve, Relief 1-5/16 -12un-2a	022 10078 000	1	
1B	O-ring, Neo1 1.17id .116thk M	028 12961 008	2	
2	Kit, Relief Valve 235# 1-5/16 in. (Dual)	375 64685 004	1	24
2A	Valve, Relief 1-5/16 -12un-2a	022 10078 000	2	
2B	Valve, Stop 3-way 1-5/16 in. (brass)	022 10073 000	1	
	Valve, Stop 3-way 1-5/16 in. (steel)	022 12411 000	1	
2C	O-ring, Neo1 1.17id .116thk M	028 12961 008	3	24
35	Valve, Rotalok - Service 1.25 x 12	022 09573 000	1	
36	Gasket, Rotalok	028 04836 000	1	

NOTE: Items with an * are NOT represented.

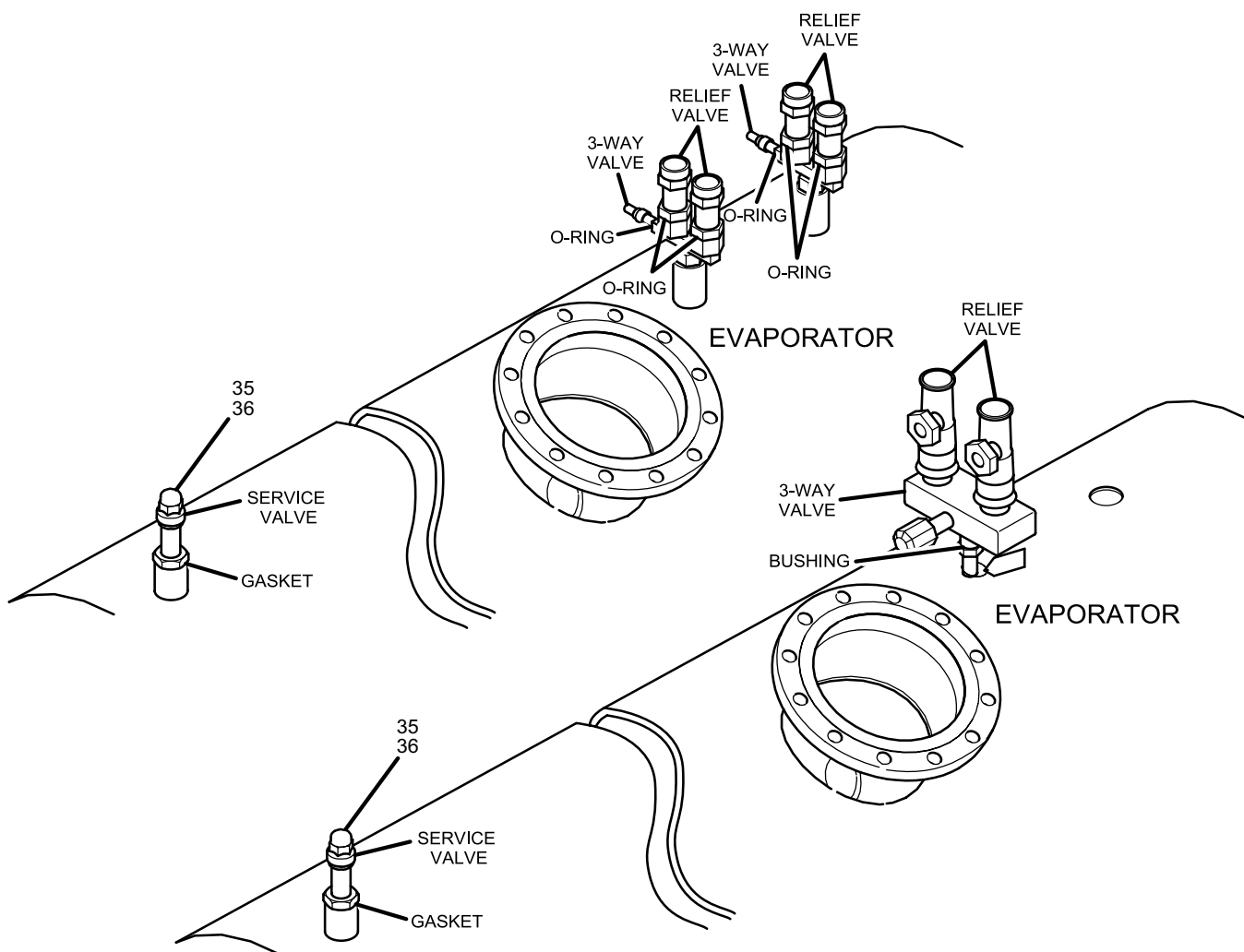


FIGURE 24 - YMC² EVAPORATOR RELIEF VALVES

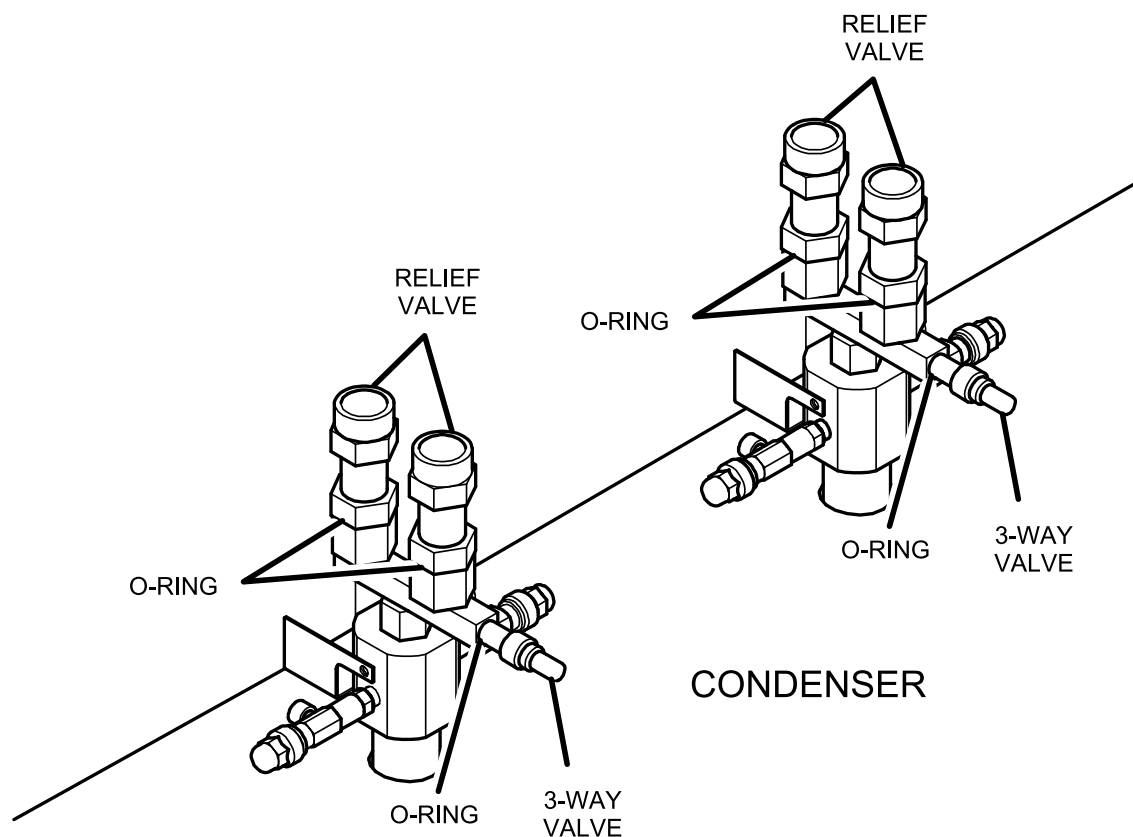
LD13049a

RELIEF VALVES CONDENSER

TABLE 20 - YMC² CONDENSER RELIEF VALVES

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Kit, Relief Valve 235# 1-5/16 in. (Dual)	375 64685 004	1	25
1A	Valve, Relief 1-5/16 -12un-2a	022 10078 000	1	
1B	Valve, Stop 3-way 1-5/16 in. (brass)	022 10073 000	1	
	Valve, Stop 3-way 1-5/16 in. (steel)	022 12411 000	1	
1C	O-ring, Neo1 1.17id .116thk M	028 12961 008	3	

NOTE: Items with an * are NOT represented.



LD13049a

FIGURE 25 - YMC² CONDENSER RELIEF VALVES

SYSTEM WIRING COMPONENTS

TABLE 21 - YMC² SYSTEM WIRING COMPONENTS

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Sensor, Temp 3000 Ohms	025 29964 000	4	27
2	Compound, Heat Conductive 4 Oz	013 00898 000	-	26/27
8	Refrigerant Temperature Sensor (Evaporator)	025 41904 000	1	27
9	Refrigerant Temperature Sensor (Condenser Liquid)	025 39517 000	1	26
36	Sensor, Level R-134a	025 46044 000	1	26
37	Gasket, Seal 1 Od X 7/8 Id X	028 04836 000	1	26
38	Replacement Electronic Head for Level Sensor	325 42383 001	1	*
52	Sensor, Flow 1/4 in. Npt Conn	025 43553 000	2	27
55	O-Ring, Neo1 00.644id .087thk M	028 12961 004	2	27
56	Sensor, Temp 50,000 Ohms Din	025 39993 000	2	27
66	Well, Thermo	026 32328 000	4	26/27
70	Connector, Plug Housing 2 Position	025 28951 000	4	26/27
71 ¹	Contact, Receptacle, 070 Series	025 28952 000	11	27
72 ¹	Collar, Rubber, Black, 070	025 28950 000	11	27
73 ¹	Connector, Plug Housing 3 Position	025 28954 000	1	27
74	Contact, Socket Mini Universal	025 28386 000	3	*
82	Connector, Micro 5 Pole	025 42799 000	2	27
85	O-Ring, Neo1 00.644id .087thk M	028 12961 004	1	27
86	Adapter, Bulkhead Conversion	023 25104 000	1	27
87	O-Ring, Neo1 00.301id .064thk M	028 12961 021	1	27
88	Switch, High Press. Cutout	025 37890 204	1	27
90	Locknut, Cnd 1/2 Ips	025 05701 000	1	27
91	Enclosure HPCO Switch	371 06582 000	1	*
114	Actuator, Electric	025 38180 000	2	26/27
115	Pin, Actuator Locator	075 52089 000	2	26/27
116	Nut, Hex 1/4 - 20 Unc	021 00451 000	2	26/27
117	Washer, Plain 9/32 Id X 5/8 Od	021 05165 000	2	26/27
118	Valve, Ball 3/4-16unf-2a	022 11715 000	1	27
119	Evaporator Transducer, Pressure	025 28678 115	1	27
120	O-Ring, Neo1 00.414id .072thk M	028 12961 002	2	27
121	Condenser Transducer, Pressure	025 28678 006	1	27
122	Transducer, Pressure R-22 and 134	025 40088 000	1	27
123	O-Ring, Neo1 00.644id .087thk M	028 12961 004	1	27
130 ¹	Wiring Harness, YMC ² OptiView to MBC	375 90490 220	1	27
130	Wiring Harness, YMC ² OptiView to MBC	392 03213 220		
131 ¹	Wiring Harness, YMC ² OptiView to VGD	375 90490 221	1	27
131	Wiring Harness, YMC ² OptiView to VGD	392 03213 221		
132 ¹	Wiring Harness, YMC ² OptiView to High Pressure Cutout Switch	375 90490 222	1	27
132	Wiring Harness, YMC ² OptiView to High Pressure Cutout Switch	392 03213 222		
133 ¹	Wiring Harness, YMC ² OptiView to PRV	375 90490 223	1	27
134 ¹	Harness Assembly, YMC ² , OV To VSD	375 90490 224	1	26/27
134	Harness Assembly, YMC ² , OV To VSD	392 03213 224		

TABLE 21 - YMC² SYSTEM WIRING COMPONENTS (CONT'D)

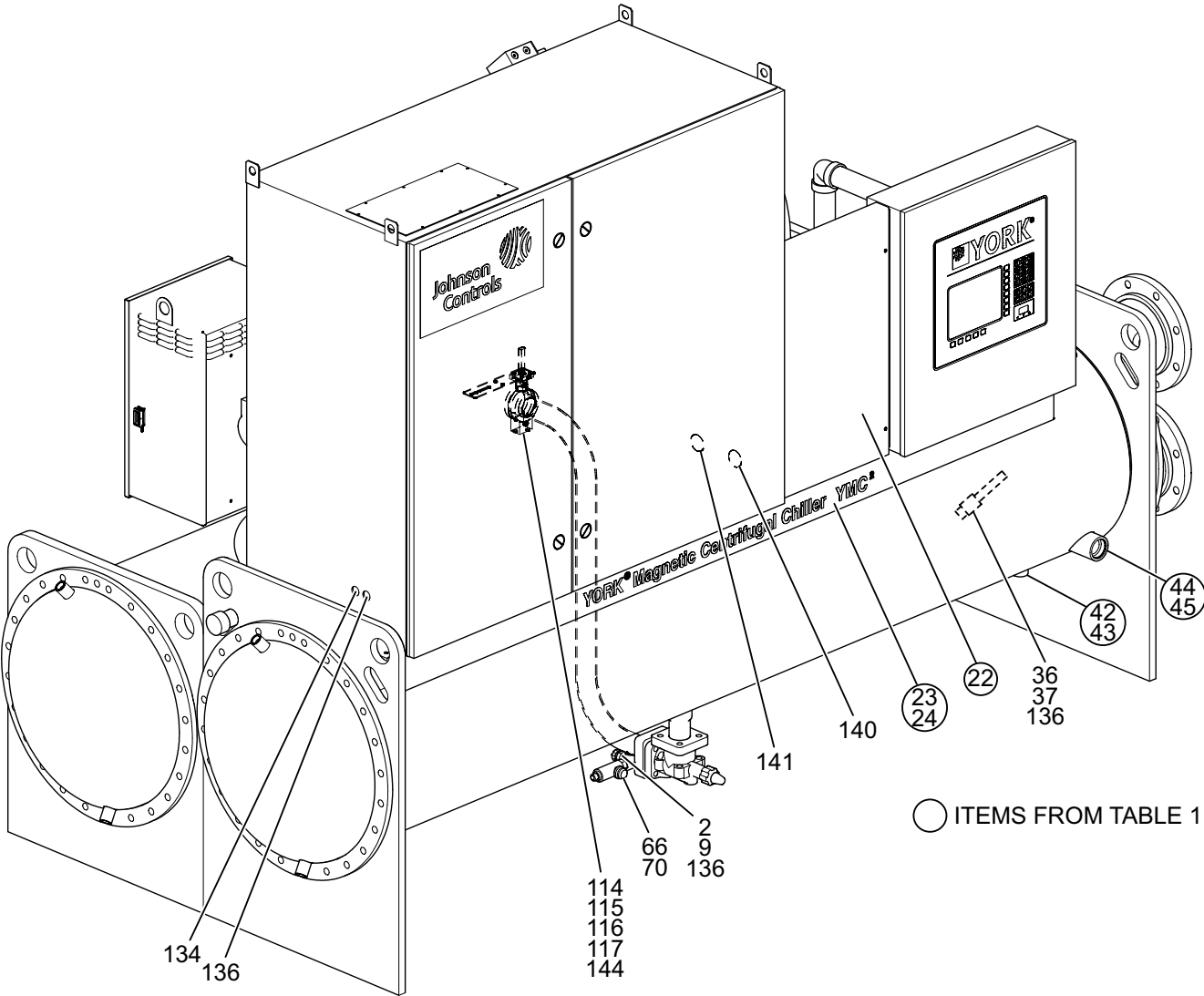
ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
134 ²	Harness Assembly, YMC ² , OV to VSD	392 09014 224	1	26/27
135 ¹	Wiring Harness, YMC ² Motor Power from VSD	375 90490 225	1	27
135	Wiring Harness, YMC ² Motor Power from VSD	392 03213 225		
136 ¹	Shielded Cable, Assembly - Chiller Sensors	375 90490 410	1	26/27
136	Shielded Cable, Assembly - Chiller Sensors	392 03213 410		
136 ²	Shielded Cable, Assembly - Chiller Sensors	392 09014 410		
137 ¹	Harness Assembly, YMC ² , MBC To VSD	375 90490 226	1	27
137	Harness Assembly, YMC ² , MBC To VSD	392 03213 226		
138	MBC Cable Assembly, -X1	375 91728 000	1	27
139	MBC Cable Assembly, -X2	375 91729 000	1	27
140 ¹	Harness Assembly YMC ² Motor Speed	375 90490 227	1	26/27
140	Harness Assembly YMC ² Motor Speed	392 03213 227		
140 ²	Harness Assembly YMC ² Motor Speed	392 09014 227		
141 ¹	Harness Assembly YMC ² Motor Temp	375 90490 228	1	26/27
141	Harness Assembly YMC ² Motor Temp	392 03213 228		
141 ²	Harness Assembly YMC ² Motor Temp	392 09014 228		
144	Connector, Actuator	025 37877 000	2	26/27
145	Cable, Optiview to Motor Cooling Valve	025 44604 000	1	27

NOTES: Items with an * are NOT represented.

- 1= Chillers with M1B-197FAA or M1B-205FAA compressors only.
- 2= Chillers with HYP490VSD

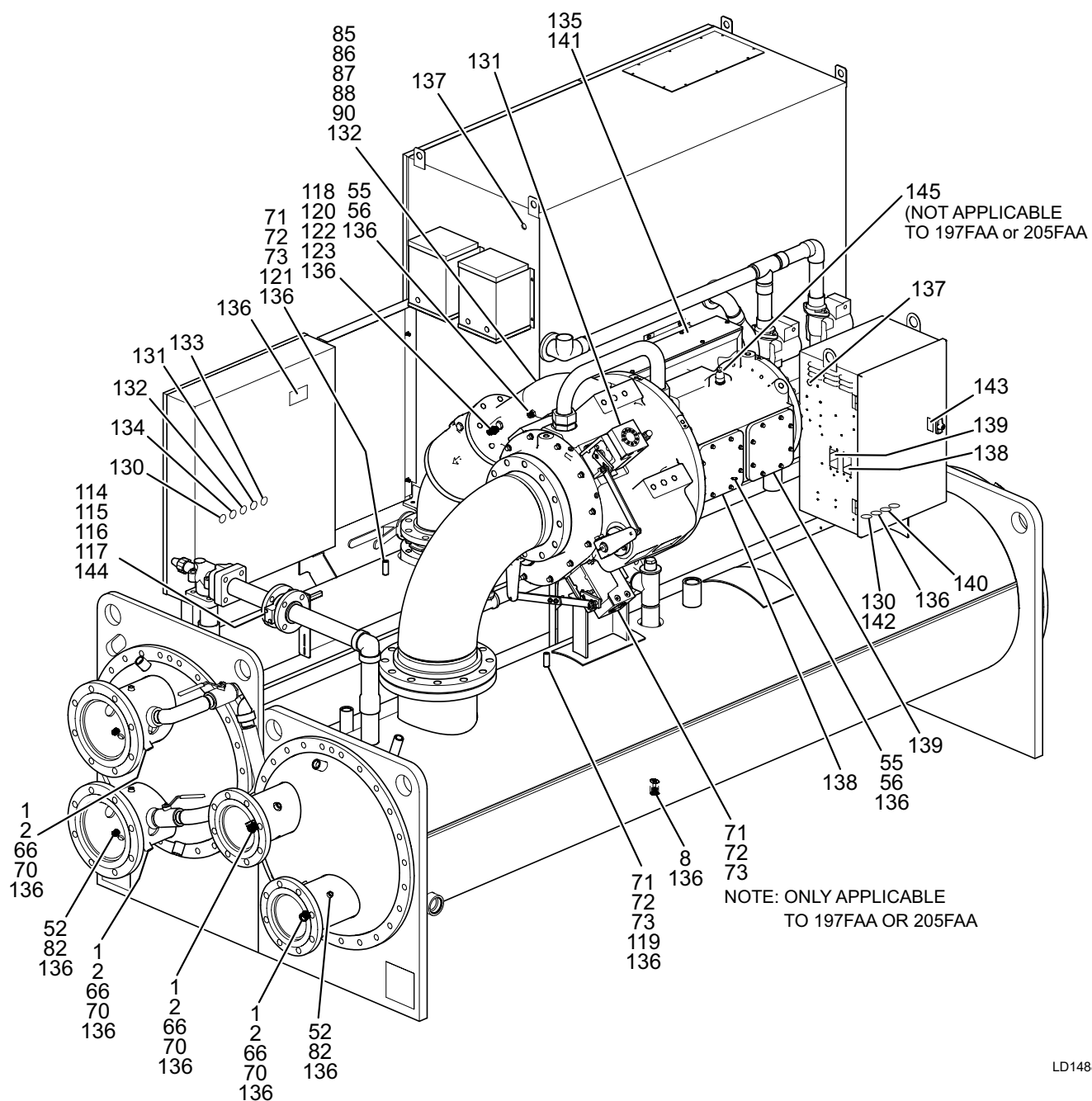
ELECTRICAL CONNECTORS

DESCRIPTION	PART NUMBER
Flow Sensor, 90° Connector (5 Pole)	025-42799-000
Connector Plug Housing, Temp. Sensor (2 Position)	025-28951-000
Connector Plug Housing, Press. Transducer (4 Position)	025-28954-000
Temp/Pressure Contact Receptacle	025-28952-000
Variable Orifice Actuator- DIN Connector	025-37877-000
Hot Gas Bypass Valve Actuator- DIN Connector	025-37877-000
Refrig. Evap/Discharge/Motor Housing Temp. Sensors	025-37805-000
Compressor Stall Sensor- DIN Connector	025-37805-000
Liquid Refrigerant Level Sensor- DIN Connector	025-37805-000
PRV Actuator Connector - Wiring Harness End	025-38172-000
VGD Actuator Connector - Wiring Harness End	025-38172-000
Connector - Wiring Harness to OptiView Bulkhead Connector 9-Pin	025-37872-000
Pins for Connector 025-37872-000	025-37874-000
90° Angle Flex Connector for Harness Connector 025-37872-000	025-37869-000
MBC Harness End Connector - Wiring Harness End	025-38172-000



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FIGURE 26 - YMC² SYSTEM WIRING COMPONENTS



LD14881

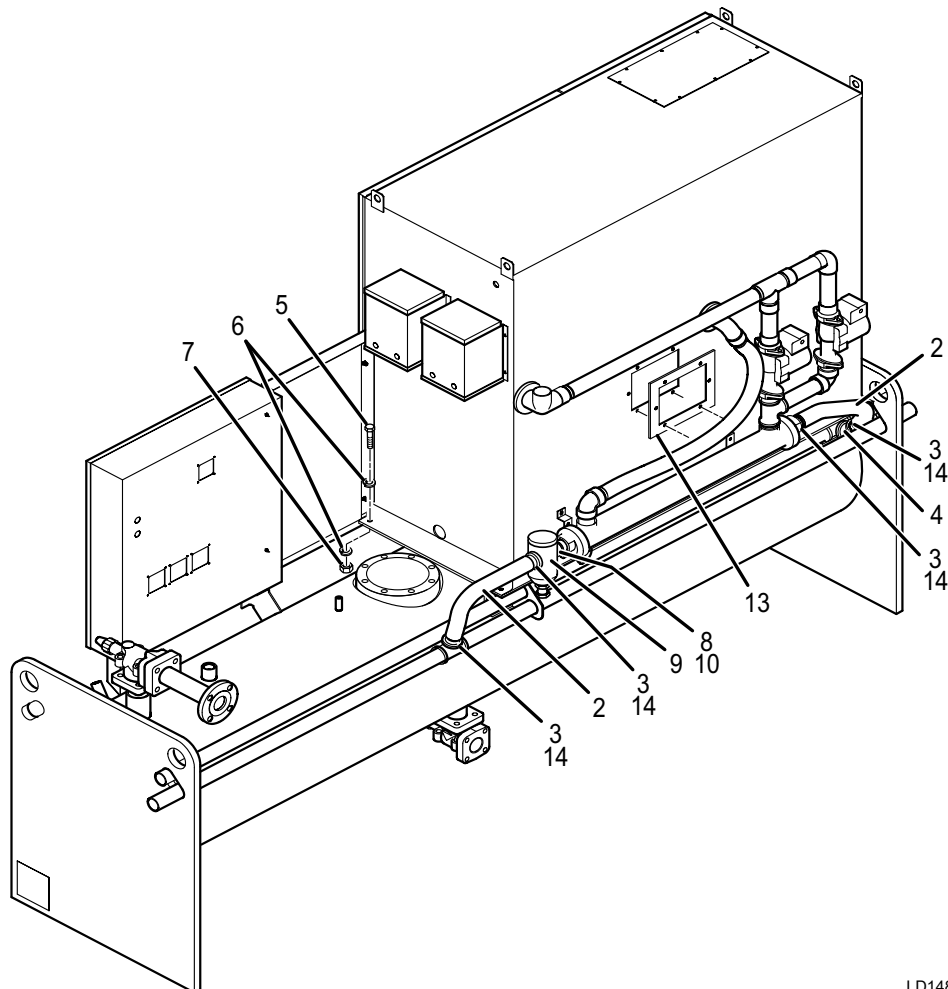
FIGURE 27 - YMC² SYSTEM WIRING COMPONENTS

VARIABLE SPEED DRIVE MOUNTING

TABLE 22 - YMC² VSD MOUNTING

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
2	Hose, Titanflex Fep 1-1/2 Id	028 16394 000	4	28
3	Adapter, Combination 1-1/2 Mpt	023 20295 000	4	28
4	Union, Elbow 1-1/2 M / F	023 25181 000	1	28
5	Hcs5, 0.438-14 X 1.250 Gr 5 Zn	021 32007 010	4	28
6	Lockwash, Th Extnl Int 7/16	021 32338 000	8	28
7	Nut, Hex 0.438-14 X Gr 5 Zn	021 32007 501	4	28
8	Union, Scr 1-1/2 Npti Grd	023 17625 000	1	28
9	Separator, W/1-1/2 Npti Conn's	022 11774 000	1	28
10	Nipple, Pipe 1-1/2 Sch 80 X 2lg	023 24321 000	2	28
11	Hcs5, 0.375-16 X 0.750 Gr 5 Zn	021 32006 006	6	*
12	Washer, Int Tht-Lck 0.375 Reg, Zn	021 32006 505	6	*
13	Acoustical, Foam Isolator	028 15031 000	1	28
14	Clamp, Hose 1-25/32 Min Dia	021 30656 000	8	28

NOTE: Items with an * are NOT represented.



LD14882

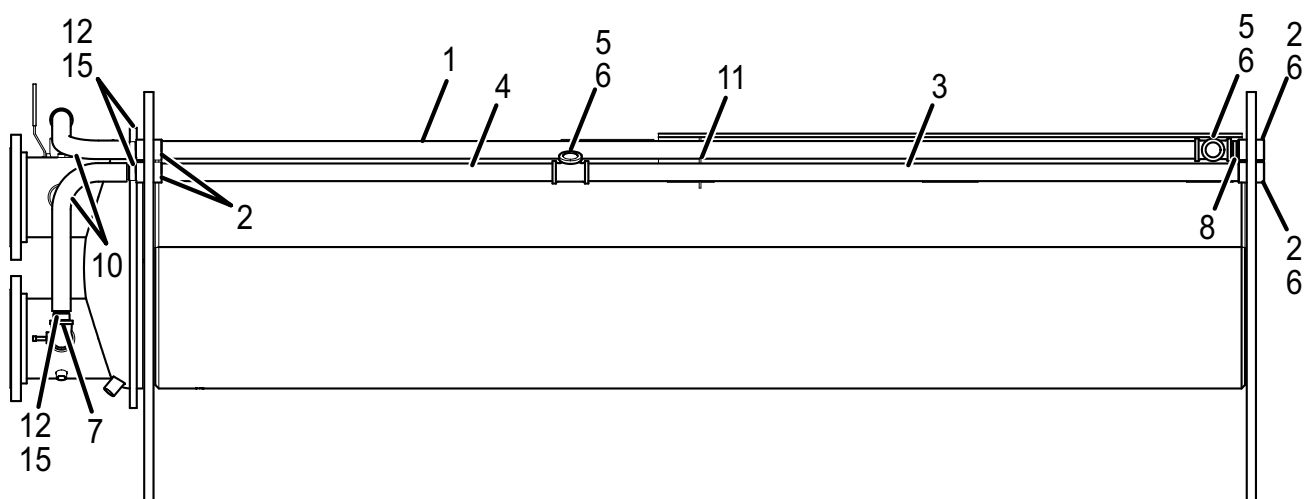
FIGURE 28 - YMC² VSD MOUNTING

VARIABLE SPEED DRIVE COOLING PIPING

TABLE 23 - YMC² VSD COOLING PIPING (COMPACT WATERBOX)

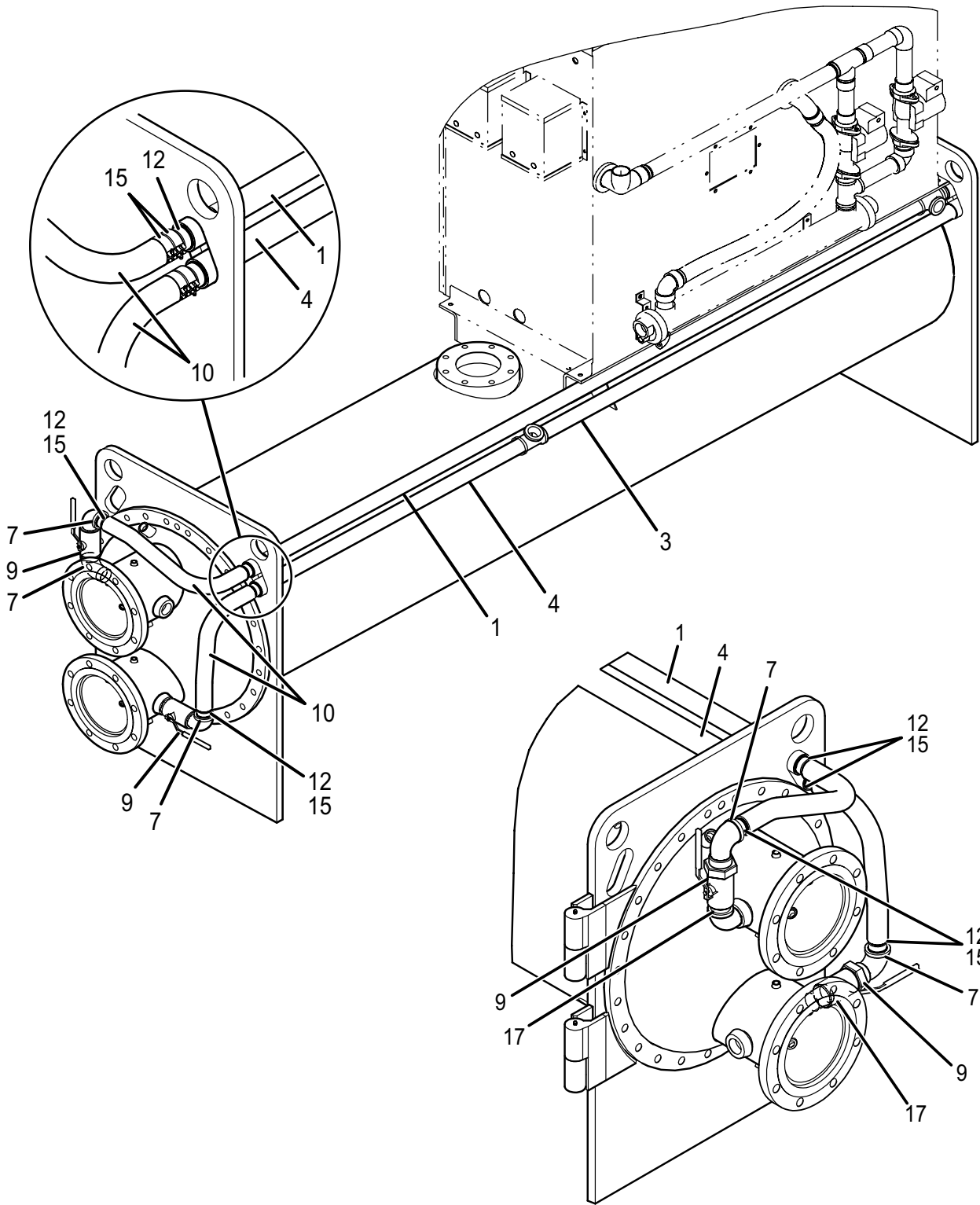
ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Nipple, Pipe 1-1/2 Sch (10 ft Shells)	092 08916 000	1	29/30
	Nipple, Pipe 1-1/2 Sch (14 ft Shells)	092 08919 000		
2	Coupling, Pipe 1-1/2	023 25216 000	4	29
3	Nipple, Pipe 1-1/2 Sch (10 ft Shells)	092 08915 000	1	29/30
	Nipple, Pipe 1-1/2 Sch (14 ft Shells)	092 08918 000		
4	Nipple, Pipe 1-1/2 Sch	092 11496 000	1	29/30
5	Tee, Screw 1-1/2 X 1-1/2 X	023 04265 000	2	29
6	Plug, Pipe 1-1/2 Square	023 03110 000	4	29
7	Elbow, Screw Street 1-1/2 Npti	023 17785 000	3	29/30
8	1-1/2, Nipple Galvanized (10 ft Shells)	023 25173 000	1	29
	1-1/2, Nipple Galvanized (14 ft Shells)	092 08920 000		
9	Valve, Single Union End Ball (10 ft Shells)	022 08873 000	2	29
	Valve, Single Union End Ball (10 ft Shells with Hinges only)	022 12050 000		
	Valve, Single Union End Ball (14 ft Shells)	022 11919 000		
10	Hose, Titanflex Fep 1-1/2 Id	028 16394 000	4	29/30
11	Plate, Support	075 93726 000	1	29
12	Adapter, Combination 1-1/2 Mpt	023 20295 000	4	29/30
15	Clamp, Hose 1-25/32 Min Dia	021 30656 000	8	29/30
17	Nipple, Pipe 1-1/2 Sch 80 X 2lg	023 24321 000	2	30

NOTE: Items with an * are NOT represented.



LD14883

FIGURE 29 - YMC² VSD COOLING MOUNTING (COMPACT WATERBOX)



COMPACT WATERBOXES WITH HINGES

LD14883

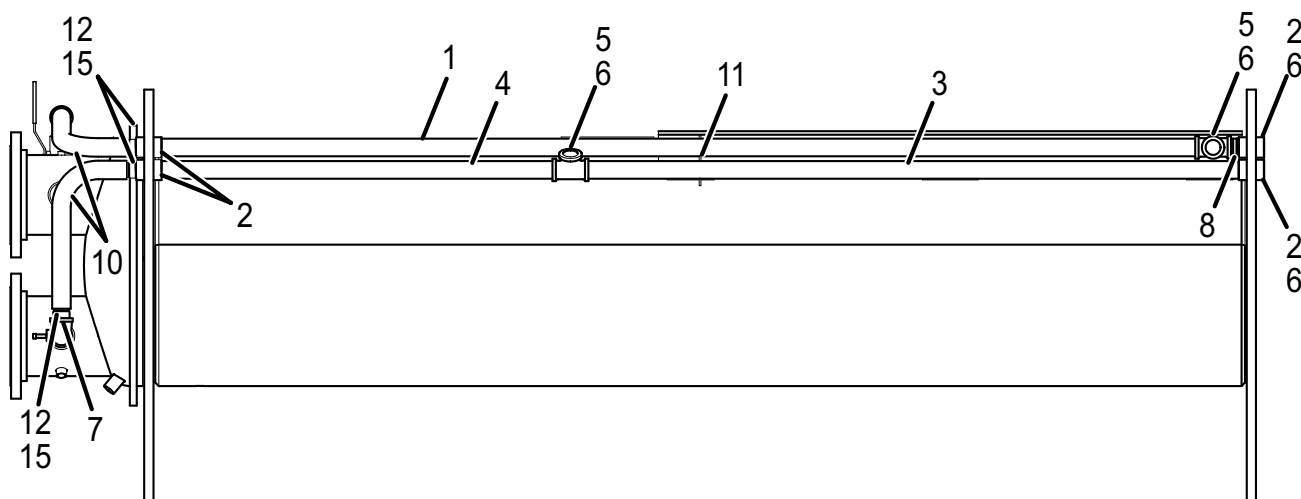
FIGURE 30 - YMC² VSD COOLING MOUNTING (COMPACT WATERBOX)

VARIABLE SPEED DRIVE COOLING PIPING

TABLE 24 - YMC² VSD COOLING PIPING (MARINE WATERBOX)

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
1	Nipple, Pipe 1-1/2 Sch (10 ft Shells)	092 08916 000	1	31/32
	Nipple, Pipe 1-1/2 Sch (14 ft Shells)	092 08919 000		
2	Coupling, Pipe 1-1/2	023 02516 000	4	31
3	Nipple, Pipe 1-1/2 Sch (10 ft Shells)	092 08915 000	1	31
	Nipple, Pipe 1-1/2 Sch (14 ft Shells)	092 08918 000		
4	Nipple, Pipe 1-1/2 Sch	092 11496 000	1	31/32
5	Tee, Screw 1-1/2 X 1-1/2 X	023 04265 000	2	31
6	Plug, Pipe 1-1/2 Square	023 03110 000	4	31
7	Elbow, Screw Street 1-1/2 Npti	023 17785 000	3	31/32
8	1-1/2, Nipple Galvanized (10 ft Shells)	023 25173 000	1	31
	1-1/2, Nipple Galvanized (14 ft Shells)	092 08920 000		
9	Valve, Single Union End Ball	022 08873 000	2	32
10	Hose, Titanflex Fep 1-1/2 Id	028 16394 000	4	31/32
11	Plate, Support	075 93726 000	1	31
12	Adapter, Combination 1-1/2 Mpt	023 20295 000	4	31/32
14	Elbow, Screw Street 1-1/2 Npti	023 25177 000	1	32
15	Clamp, Hose 1-25/32 Min Dia	021 30656 000	8	31/32

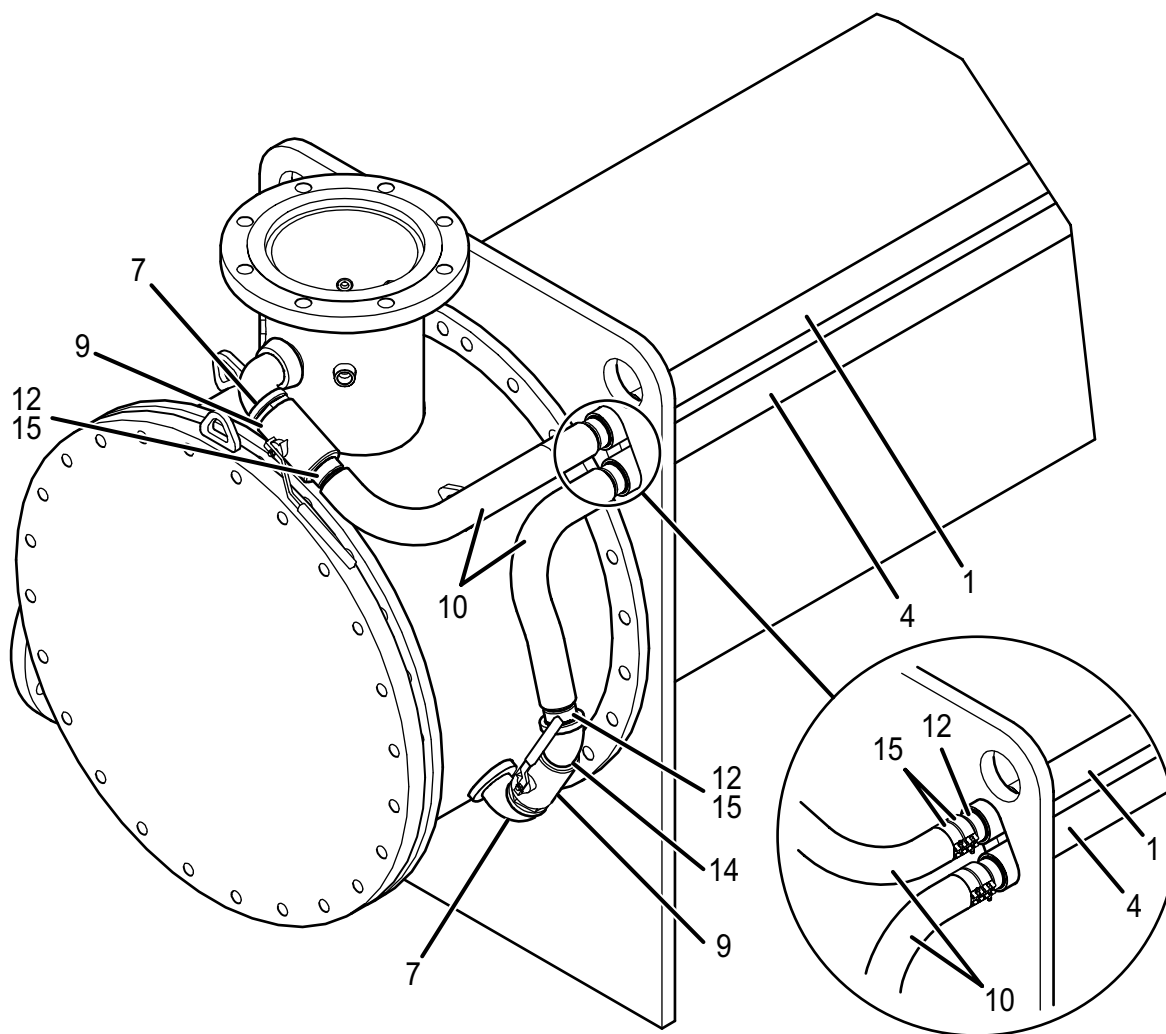
NOTE: Items with an * are NOT represented.



NOTE: Compact waterbox shown.

LD14883

FIGURE 31 - YMC² VSD COOLING MOUNTING (MARINE WATERBOX)



LD14884

FIGURE 32 - YMC² VSD COOLING MOUNTING (MARINE WATERBOX)

OPTIVIEW CONTROL PANEL

TABLE 25 - OPTIVIEW CONTROL PANEL

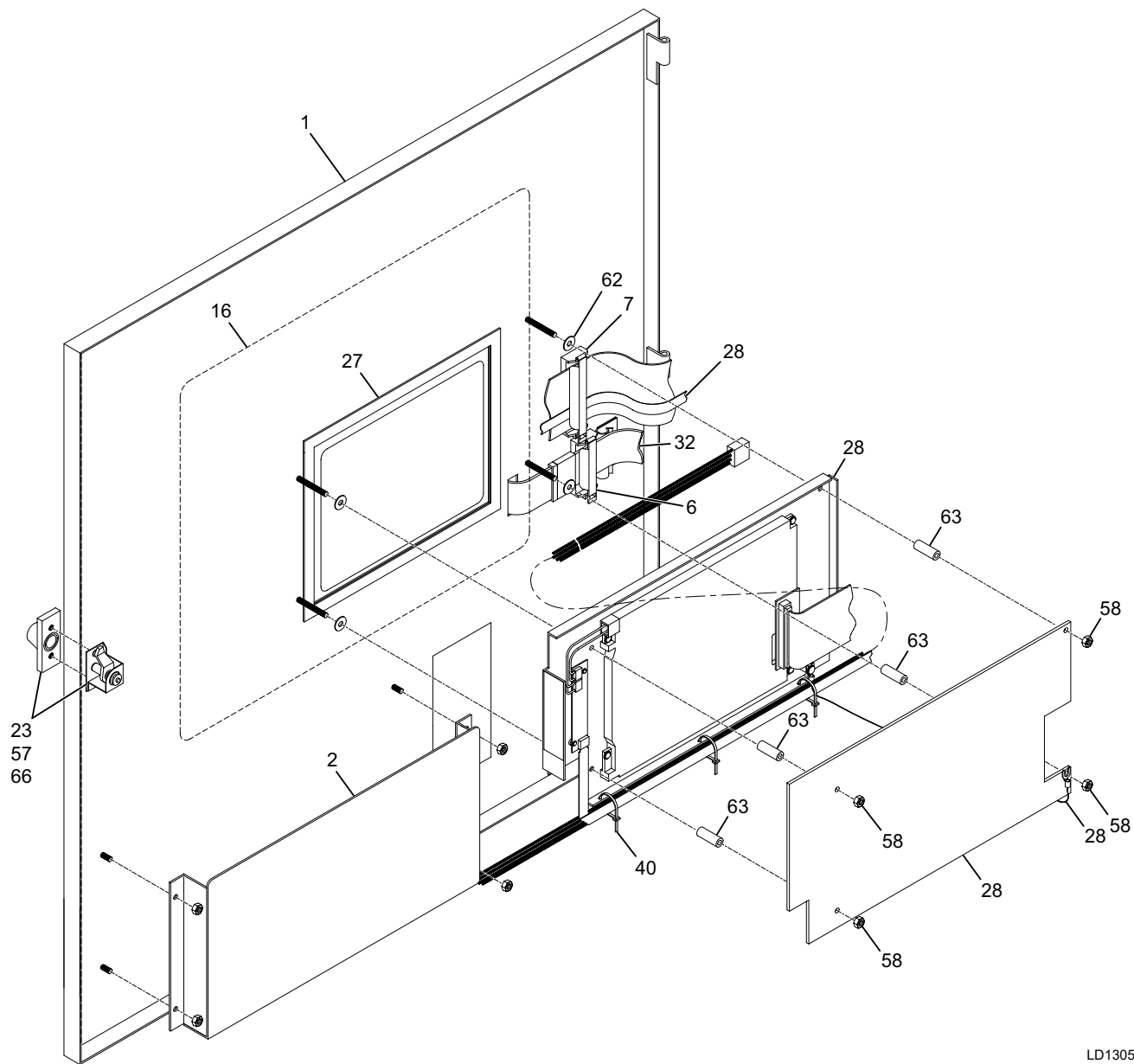
ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
3	LTC I/O Board	031 02895 000	1	34
6	Clamp, Ribbon Wire, Gray	025 25156 000	2	33/34
7	Clamp, Ribbon Wire Gray	025 29103 000	1	33
10	Control Board, Program Replacement Kit (includes 10A, programmed with latest YMC ² software, 10B, and 10C)	331 02430 610	1	34
10A	Control Board, OptiView (not available outside of kit)	031 02430 006		
10B	EPROM, BIOS (U37) for 02430	031 02429 002		
10C	BRAM (U38) for 02430	031 02565 000		
10D	Control Board, OptiView	031 03630 007	1	34
10E	Control Board 03630 SD Program Card	031 03605 001	1	*
10F	Control Board 03630 Replacement Kit (includes 10D and 10E)	331 03630 610	1	*
11	Screw/Washer Assembly (Sems)	021 29526 000	2	*
12	Nut/Washer Assembly (Keps)	021 18024 000	15	*
13	Power Supply	025 34111 000	1	34
141	Transformer, Class 2 Stepdown	025 30889 000	1	*
142	Transformer	025 30889 000	2	
15	Wiring, Power Supply, YMC ² for 02430	571 05568 251	1	*
15A	Wiring, Power Supply, YMC ² for 03630	571 06985 251	1	*
16	Switch, Keypad, YMC ² , Optiview	024 37399 000	1	33
17	Fuse, 4a, 500v, 10x38mm, lec	025 43736 000	3	34
23	Fastener, Pawl Adj 1/8	021 17252 000	1	33
24	Spacer, Round, #8-32x5/8lg	021 19668 000	28	34
25	Nut/Washer Assembly (Keps)	021 17664 000	31	34
26	Washer, Nylon	029 23452 000	28	37
27	Gasket, 1/16 X 1/2 Neoprene	071 05170 000	1	33
28	Kit, Display YMC ² Panel	331 01771 000	1	33/34
29	Switch PB, 2 N.C., Safety Stop	025 43677 000	1	34
30	Switch PB, Legend Plate Safety Stop	025 44646 000	1	34
32	Ribbon Cable, YMC ² Panel	031 01772 000	1	33/34
34	Ribbon Cable, YMC ² Panel	031 01779 000	1	34
40	Strap, Cable T and B L4-18-9-M	025 18167 000	4	33
41	Strap, Grounding	025 32505 001	1	34
45	Wire Duct, 1x3x6 lg, Gray	025 43675 000	3.3'	*
46	Wire Duct, Cover, 1x1 Gray	025 43676 000	3.3'	*
47	Nut, Cap (Acorn) #10-32	021 33033 000	6	*
50	Connector, Recp Housing, 9 Pos	025 37873 000	5	*
51	Nut/Washer Assembly (Keps)	021 18675 000	20	*
57	Screw, Mach Pan Hd Recd 1	021 03745 000	2	33
58	Nut/Washer Assembly (Keps)	021 19174 000	8	33/34
62	Washer, Plain Type B .203 Id X	021 19175 000	4	33
63	Spacer, Plastic, 3/8 Od X 1	021 19173 000	4	33
66	Lockwasher, Th Int #10	021 01137 000	2	33

TABLE 25 - OPTIVIEW CONTROL PANEL (CONT'D)

ITEM	DESCRIPTION	PART NUMBER	QUANTITY	FIGURE
68	Screw/Washer Assembly (Sems)	021 19190 000	5	34
71	Mount, Anti-Vibration	021 19191 000	4	35
74	Surge Suppressor	031 00808 000	6	*
76	Clamp, Ferrite Sleeve Snap	025 34175 000	1	*
77	Fuse, Microfuse, 5 Amp used in 02430 and 03630	025 34592 000	1	*
77A	Fuse, Microfuse, 4 Amp used in 03630	025 43368 000	1	*
85	Clamp, Flat Cable Ferrite	025 34172 000	1	34
1011	Wiring, Main Harness, YMC ²	571 05568 241	1	34
1012	Main Harness	571 05568 243		
102	Terminal Block Kit (TB6) - Includes Circuit Breaker	025 43684 000	1	34
103	Terminal Block Kit (TB7) - Includes Circuit Breaker	025 43685 000	1	34
106	I/O Board	031 01743 002	1	34
108	Control, VGD Stall Detector Board	031 02418 001	1	34
110	Program Card, OptiView YMC ²	031 03074 001	1	*
1112	IB2 Interface Board	025 44647 000	1	34
1121	Nut/Washer Assembly 4-40	021 18675 000	20	34
1122	Nut/Washer Assembly 4-40	021 18675 000		
1162	Spacer, Round	021 33239 000	4	34
118	Class 2 Stepdown Transformer	025 30889 000	1 (for 1) 2 (for 2)	34
1191	Screw/Washer Assembly 10-32 x 1-1/8	021 29526 000	2	34
1192	Screw/Washer Assembly 10-32 x 1-1/8	021 29526 000	4	
120	Cable, Stall Detector	571 04118 401	1	34
121	Housing, Connector P8, 22 position	025 34117 000	1	*
122	Housing, Connector P9, 20 position	025 34116 000	1	*
123	Contacts, Sockets for P8, P9	025 28386 000	42	*
124	Circuit Breaker 6 A, 250 V	025 44810 006	1	34

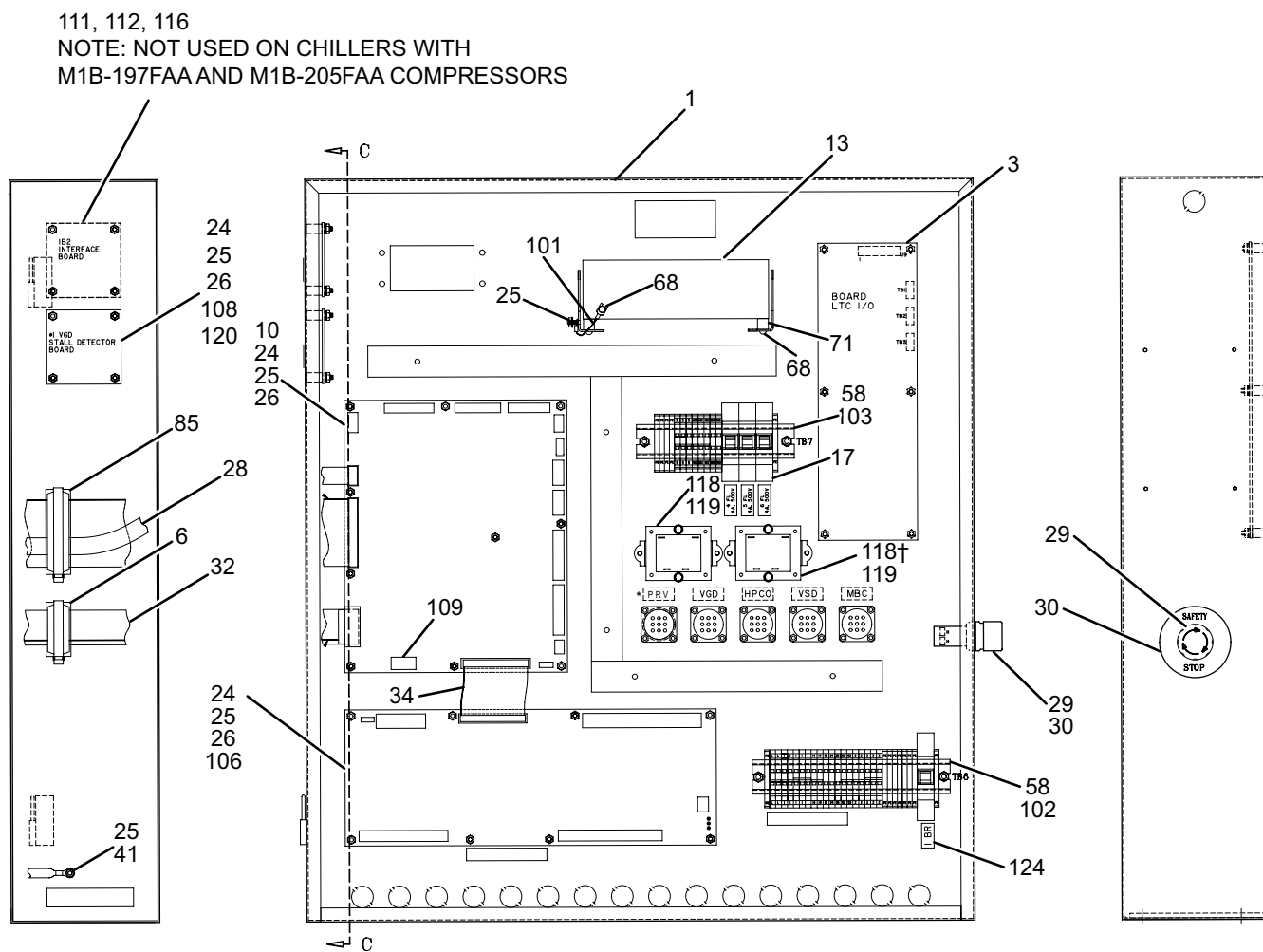
NOTES: Items with an * are NOT represented.

1. Applies to M1B-197FAA or M1B-205FAA. Panel 371-05568-101.
2. Applies to M1B-197FAB or M1B-205FAB. Panel 371-05568-102.



LD13057

FIGURE 33 - OPTIVIEW CONTROL PANEL



* PRV only applies to chillers with M1B-197FAA or M1B-205FAA compressors.

† Second transformer not used on chillers with M1B-197FAA or M1B-205FAA compressors.

LD15965

FIGURE 34 - OPTIVIEW CONTROL PANEL

3/4 IN. EVAPORATOR TUBES

TABLE 26 - 3/4 IN. EVAPORATOR TUBES

EVAP CODE	LENGTH	TUBE QTY.	COPPER			COPPER NICKEL	
			0.025 Wall	0.028 Wall	0.035	0.028	0.035
			MT #271	MT #272	MT #273	MT #177	MT #179
EA25B	10 ft	199	007 10001 000	007 10002 000	007 10003 000	007 07877 000	007 07878 000
EA25C		234					
EA25B	14 ft	199	007 10007 000	007 10008 000	007 10009 000	007 08849 000	007 08850 000
EA25C		234					

EVAP CODE	LENGTH	TUBE QTY.	COPPER					
			0.025	0.028	0.035	0.025	0.028	0.035
			MT #321	MT #322	MT #323	MT #371	MT #372	MT #373
EA25B	10 ft	199	007 10194 000	007 10195 000	007 10196 000	007 10673 000	007 10674 000	007 10675 000
EA25C		234						
EA25B	14 ft	199	007 10199 000	007 10200 000	007 10201 000	007 10647 000	007 10648 000	007 10649 000
EA25C		234						

1 IN. EVAPORATOR TUBES

TABLE 27 - 1 IN. EVAPORATOR TUBES

EVAP CODE	LENGTH	TUBE QTY.	COPPER				
			0.025	0.028	0.035	0.025	0.028
			MT #286	MT #287	MT #288	MT #326	MT #327
EA252	10 ft	79	007 10433 000	007 10434 000	007 10435 000	007 10427 000	007 10428 000
EA253		110					
EA252	14 ft	79	007 10086 000	007 10087 000	007 10088 000	007 10215 000	007 10216 000
EA253		110					

EVAP CODE	LENGTH	TUBE QTY.	COPPER			
			0.035	0.025	0.028	0.035
			MT #328	MT #376	MT #377	MT #378
EA252	10 ft	79	007 10429 000	007 10676 000	007 10677 000	007 10678 000
EA253		110				
EA252	14 ft	79	007 10217 000	007 10656 000	007 10657 000	007 10658 000
EA253		110				

3/4 IN. CONDENSER TUBES

TABLE 28 - 3/4 IN. CONDENSER TUBES

COND CODE	LENGTH	TUBE QUANTITY		COPPER		
				0.025 Wall	0.028 Wall	0.035 Wall
		Main Bundle	Sub-cooler	MT #260	MT #261	MT #262
CA21B	10 ft	136	16	007 09288 000	007 09280 000	007 09281 000
CA21C		178	16			
CA21D		200	16			
CA21E		228	16			
CA25B		223	24			
CA25C		260	24			
CA25D		331	24			
CA25E		419	24			
CA25B	14 ft	223	24	007 09262 000	007 09263 000	007 09264 000
CA25C		260	24			
CA25D		331	24			
CA25E		419	24			

COND CODE	LENGTH	TUBE QUANTITY		COPPER NICKEL		COPPER	
				0.028 Wall	0.035 Wall	0.028 Wall	0.035 Wall
		Main Bundle	Sub-cooler	MT #201	MT #203	MT #225	MT #226
CA21B	10 ft	136	16	007 07881 000	007 07876 000	007 08508 000	007 08897 000
CA21C		178	16				
CA21D		200	16				
CA21E		228	16				
CA21B		223	24				
CA21C		260	24				
CA21D		331	24				
CA21E		419	24				
CA25B	14 ft	223	24	007 09859 000	007 09860 000	007 08650 000	007 08641 000
CA25C		260	24				
CA25D		331	24				
CA25E		419	24				

1 IN. CONDENSER TUBES

TABLE 29 - 1 IN. CONDENSER TUBES

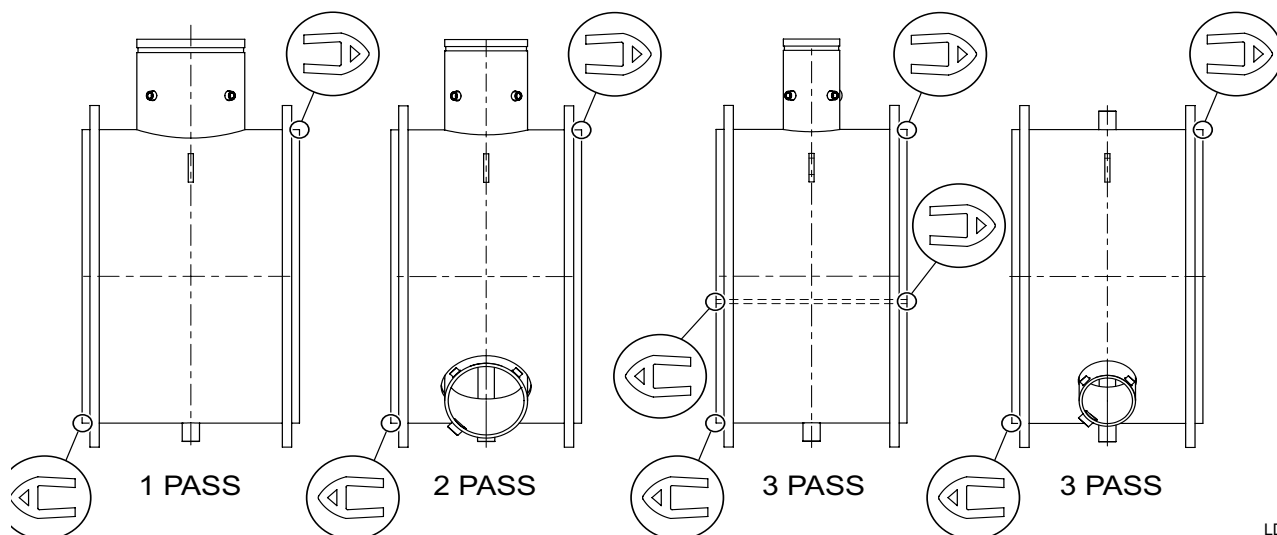
COND CODE	LENGTH	TUBE QUANTITY		COPPER			
				0.025 Wall	0.028 Wall	0.035 Wall	0.028 Wall
		Main Bundle	Sub-cooler	MT #266 / MT #260	MT #267 / MT #261	MT #268 / MT #262	MT #317 / MT #261
CA212	10 ft	89	16	007 10439 000/ 007 09288 000	007 10440 000/ 007 09280 000	007 10441 000/ 007 09281 000	007 10446 000/ 007 09280 000
CA213		127	16				
CA252		135	24				
CA253		201	24				
CA252	14 ft	135	24	007 10054 000/ 007 09262 000	007 10055 000/ 007 09263 000	007 10056 000/ 007 09264 000	007 10120 000/ 007 09263 000
CA253		201	24				

MARINE WATERBOX

TABLE 32 - 150# MARINE WATERBOX

1 PASS		2 PASS		3 PASS	
GASKET P/N	FEET REQ'D	GASKET P/N	FEET REQ'D	GASKET P/N	FEET REQ'D
028 09951 000	27 ft	028 09951 000	24.8 ft	028 09951 000	35.8 ft

NOTE: When ordering Gasket Material specify length required by replacing the -000 with either -025 for 25 ft, -050 for 50 ft, or -100 for 100 ft.



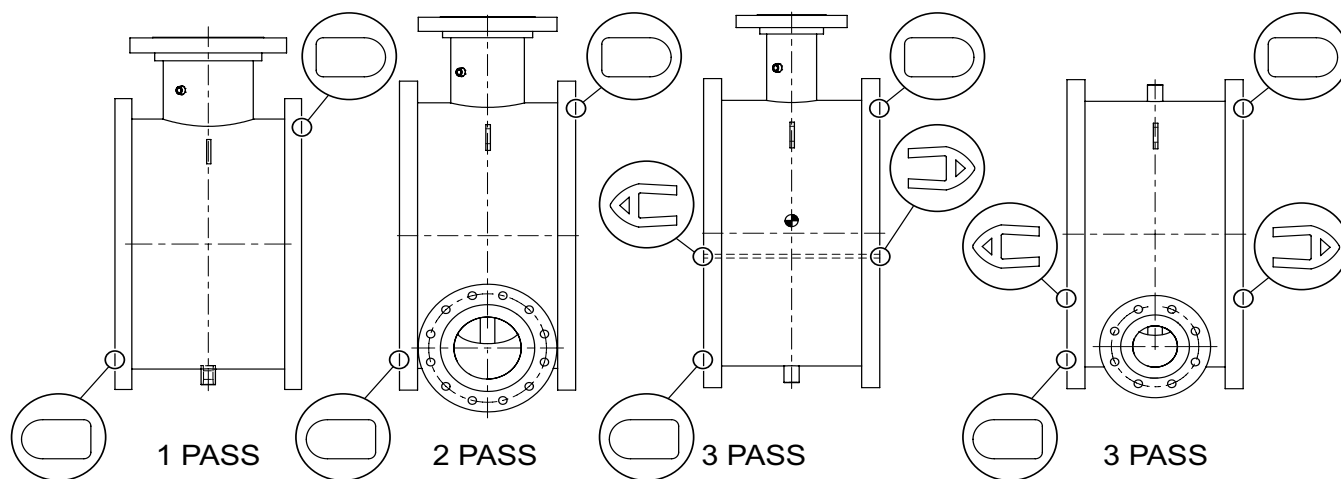
LD14891

FIGURE 37 - 150# MARINE WATERBOX

TABLE 33 - 300# MARINE WATERBOX

1 PASS		2 PASS		3 PASS	
GASKET P/N	FEET REQ'D	GASKET P/N	FEET REQ'D	GASKET P/N	FEET REQ'D
028 03242 000	29.2 ft	028 09951 001 028 03242 000	4.4 ft 24 ft	028 09951 001 028 03242 000	7.8 ft 29.2 ft

NOTE: When ordering Gasket Material specify length required by replacing the -000 with either -025 for 25 ft, -050 for 50 ft, or -100 for 100 ft.



LD14892

FIGURE 38 - 300# MARINE WATERBOX

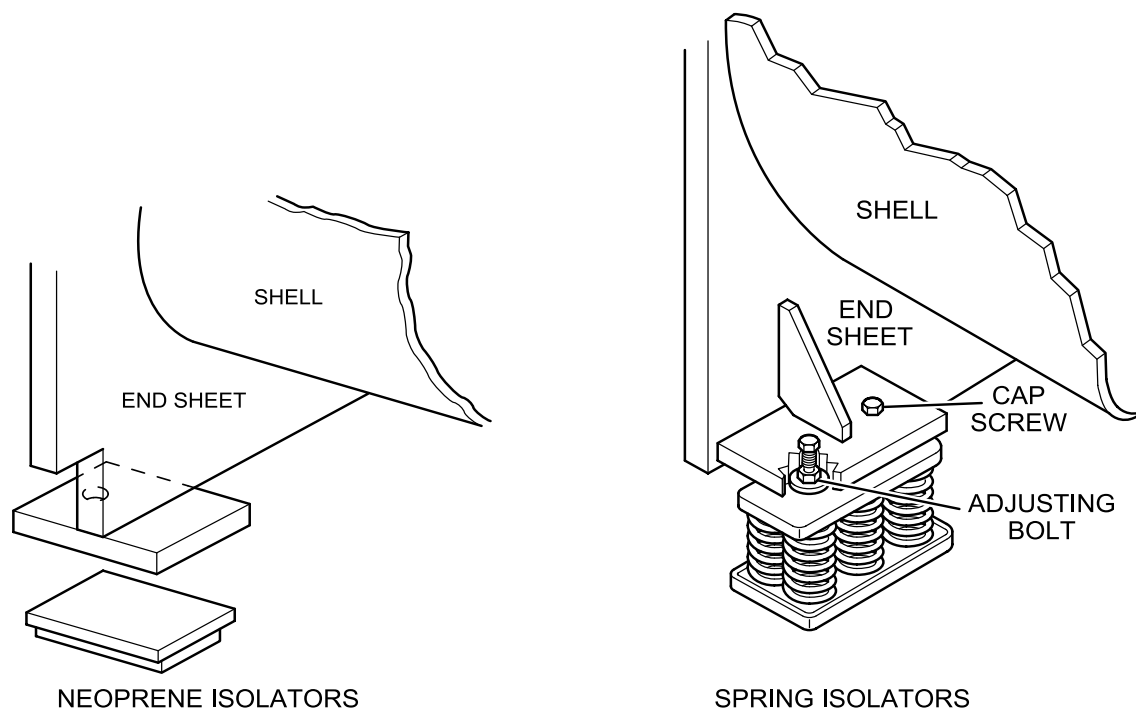
NEOPRENE VIBRATION ISOLATORS

TABLE 34 - NEOPRENE ISOLATORS

SYSTEM OPERATING WEIGHT		PART NUMBER (Includes Quantity of 4 Pads)	PAD SIZE
KILOGRAMS	POUNDS		
Up to 7423	Up to 16,365	028-14462-000	5.5 in. x 5.5 in. (14 cm x 14 cm)
7424 to 13,107	16,366 to 28,835	028-14459-000	7 in. x 5.5 in. (23 cm x 14 cm)
13,108 to 24,332	28,836 to 53,530	028-14460-000	9 in. x 7 in. (23 cm x 18 cm)
24,333 to 45,666	53,531 to 100,464	028-14461-000	11 in. x 10 in. (28 cm x 25 cm)

TABLE 35 - SPRING ISOLATORS

SYSTEM OPERATING WEIGHT		PART NUMBER (Includes Qty. 4 Spring Bolts)	QUANTITY (Number of Mounts per Package)
KILOGRAMS	POUNDS		
4536 to 8873	10,000 to 19,563	029-23716-000	4
8874 to 11,093	19,564 to 24,457	029-21793-000	4
11,094 to 13,982	24,458 to 30,826	029-21376-000	4
13,983 to 15,880	30,827 to 35,009	029-20933-000	4
15,881 to 20,974	35,010 to 46,239	029-20934-000	4
20,975 to 26,467	46,240 to 58,349	029-20935-000	4
26,468 to 35,031	58,350 to 77,729	029-20936-000	4
35,032 to 40,525	77,230 to 89,340	029-21388-000	4
40,526 to 52,163	89,341 to 115,000	029-24121-000	4
52,164 to 86,163	115,001 to 190,000	029-24384-000	4



LD13057

FIGURE 39 - NEOPRENE ISOLATORS / SPRING ISOLATORS

INLET CHILLED WATER STRAINER COMPACT HEADS AND MARINE WATERBOXES

TABLE 36 - CHILLED WATER STRAINER

NOZZLE SIZE	PART NUMBER
6	029-12948-000
8	029-12949-000
10	029-12950-000
12	029-12951-000

TABLE 37 - COMMON PIPING PARTS

DESCRIPTION	STEEL TUBING	STAINLESS STEEL TUBING	NUT	STEEL SLEEVE	STAINLESS STEEL SLEEVE
3/8 in.	003-00969-000	003-02407-000	023-18977-000	023-20760-000	023-17534-000
1/2 in.	003-00243-000	—	023-17541-000	023-19089-000	023-17542-000
3/4 in.	003-03518-000	003-02487-017	023-18286-000	023-18914-000	023-17536-000
1 in.	003-03515-000	—	023-18287-000	023-18911-000	023-17538-000

MISCELLANEOUS AND ACCESSORIES

TABLE 38 - CONSUMABLES

DESCRIPTION	PART NUMBER	QUANTITY
Compound, Heat Conductive (For Thermometer Wells)	013-00898-000	4 Oz. Can
Caribbean Blue Enamel	013-01835-000	—
Black (Control Center)	Purchase Locally	

TABLE 39 - DIFFERENTIAL PRESSURE CONTROL

DESCRIPTION	PART NUMBER
Control, Differential Pressure*	025-30919-000

* 300 PSI Maximum Working Pressure

TABLE 40 - FLOW SWITCH CONTROL

DESCRIPTION	PART NUMBER
150 DWP	024-26116-000
300 DWP	024-12144-000



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