



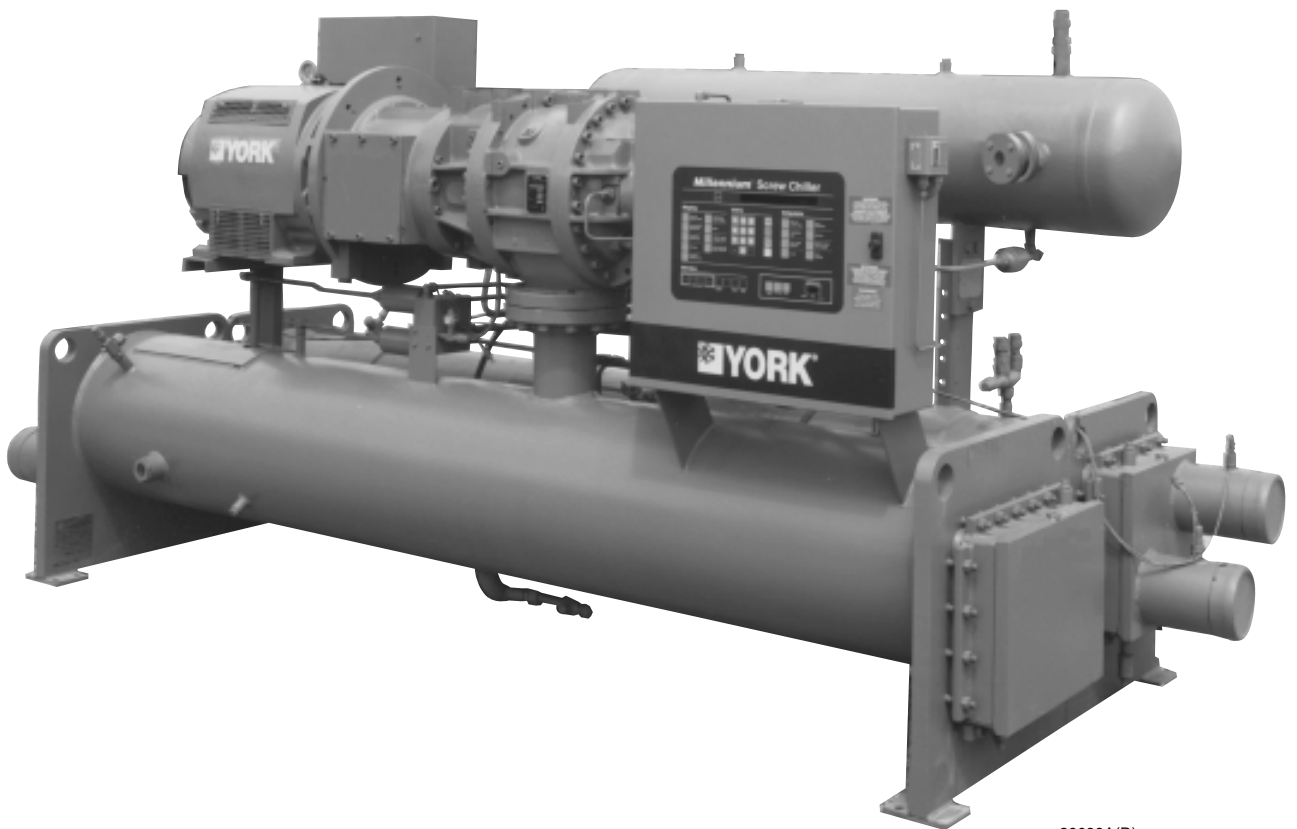
**MILLENNIUM®
ROTARY SCREW LIQUID CHILLERS**

INSTALLATION INSTRUCTIONS

Supersedes: Nothing

Form 160.47-N3.1 (599)

**FIELD RE-ASSEMBLY FOR
FORM 3 & FORM 7 SHIPMENT OF
MODEL YS BA BA S0 thru YS FC FB S5
(STYLE D)
100 thru 675 TONS**



29039A(R)

REFERENCE INSTRUCTIONS

- FORM 160.47-NOM3 – INSTALLATION-OPERATION-MAINTENANCE INSTRUCTION
- FORM 160.47-PW4 – SOLID STATE STARTER WIRING DIAGRAM
- FORM 160.47-PW3 – ELECTRO-MECHANICAL STARTER WIRING DIAGRAM

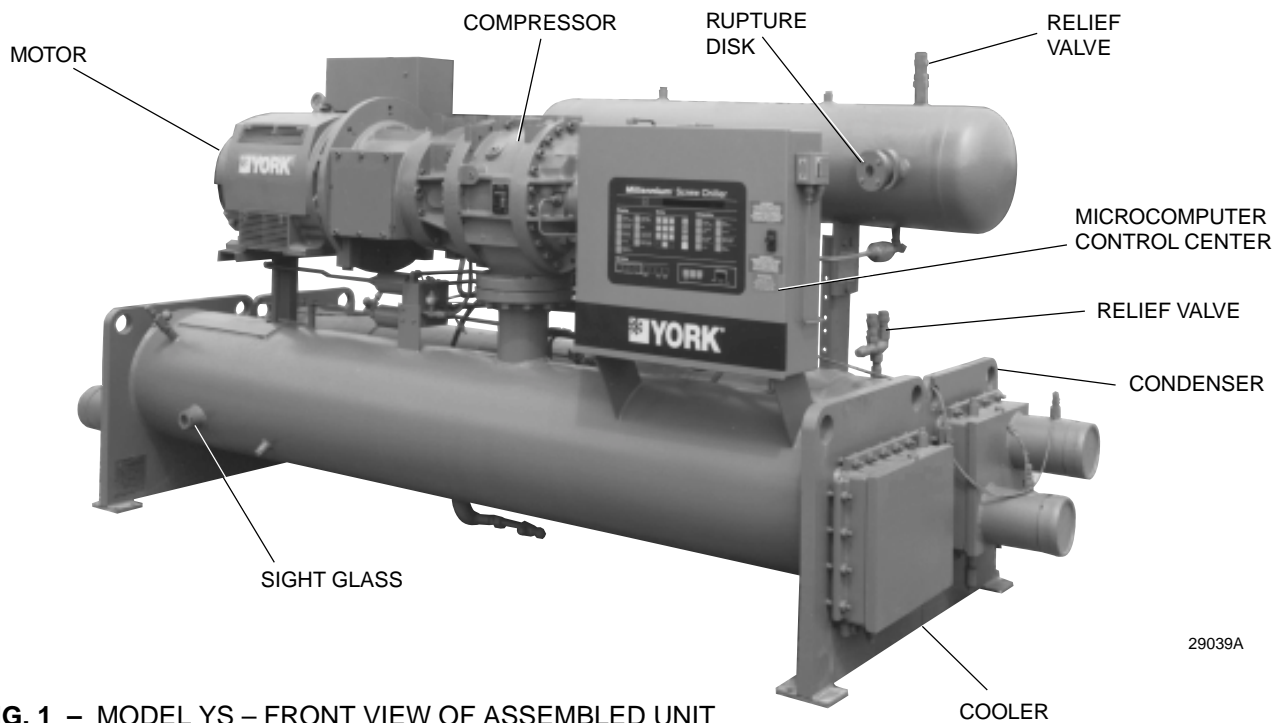


FIG. 1 – MODEL YS – FRONT VIEW OF ASSEMBLED UNIT

GENERAL

This instruction explains the procedure to be used for reassembling the Model YS Rotary Screw Chiller shipped disassembled. (Shipping Form 3 or Form 7.)

NOTE: Units MUST be field reassembled under the supervision of a YORK service representative.

For Installation Instructions other than unit re-assembly, refer to Form 160.47-N3.

FORMS OF SHIPMENT

FORM 3 – DRIVELINE SEPARATE FROM SHELLS –

Shipped as three major assemblies. The unit is first factory assembled, refrigerant piped, wired and leak tested, then dismantled for shipment. Compressor / open motor assembly is removed from shells and skidded. Evaporator / condenser assembly is not skidded. Oil separator is skidded.

All wiring integral with the compressor is shipped on the compressor, and all conduit is shipped on the heat exchanger. All openings on the compressor, oil separator, and the shell are closed and charged with dry nitrogen [5 psig (34 kPa)].

Miscellaneous chiller components, [control center, oil eductor filter, tubing, water temperature controls, wiring, oil, vibration isolators, solid state starter (option), etc.] are packaged separately and shipped with the

chiller. R-22 or R-134a charge is shipped concurrently or separately in 50 lb. and 125 lb. cylinders.

FORM 7 – SPLIT SHELLS –

The unit is shipped as four major assemblies (evaporator, condenser, motor/compressor assembly and oil separator). The unit is first factory assembled, refrigerant piped, wired and leak tested, then dismantled for shipment. Compressor / open motor assembly is removed from shells and skidded. Oil separator is skidded.

Evaporator and condenser shells are separated at tube sheets and are not skidded. Refrigerant lines between shells are flanged and capped. Tube sheets will require bolting in the field. No welding is required.

All wiring integral with compressor is shipped on it. All wiring harnesses on shells are removed.

All openings on compressor, oil separator and shells are closed and charged with dry nitrogen [5 psig (34 kPa)].

Miscellaneous packaging of control center, oil eductor filter, tubing, wiring, oil, isolators, solid state starter (option), and other miscellaneous items are shipped concurrently in a separate box. R-22 or R-134a charge is shipped concurrently or separately in 50 lb. and 125 lb. cylinders.

NOTE: When more than one unit is involved, the major parts of each unit will be marked to prevent mixing of assemblies. (Piping and Wiring Drawings to be furnished by YORK.)

INSPECTION – DAMAGE – SHORTAGE

The unit shipment should be checked on arrival to see that all major pieces, boxes and crates are received. Each unit should be checked on the trailer or rail car when received, before unloading, for any visible signs of damage. Any damage or signs of possible damage must be reported to the transportation company immediately for their inspection.

When received at the job site, all containers should be opened and contents checked against the packing list. Any material shortage should be reported to YORK immediately.

YORK WILL NOT BE RESPONSIBLE FOR ANY DAMAGE IN SHIPMENT OR AT JOB SITE OR LOSS OF PARTS. (Refer to Shipping Damage Claims, Form 50.15-NM.)

DATA PLATE

A unit data plate is mounted on the control center assembly of each unit, giving unit model number, design

working pressure, water passes, refrigerant charge, serial numbers, and motor power characteristics and connection diagrams.

RE-ASSEMBLY

Refer to Installation Instruction, YS Rotary Screw Chiller, Form 160.47-NOM3 for other instructions. The following is a step-by-step procedure to be used to assemble the units.

FORM 7 SHIPMENT (See Fig. 2)

1. Locate cooler and condenser shells in their final position.
2. Remove shipping closures from flanges on refrigerant line on bottom of cooler and condenser. (Shells are shipped with holding charge of nitrogen.) Discard gaskets. Install orifice plate using new gaskets and 3/4" x 3" long cap screws and nuts.
3. Bolt tube sheets together using cap screws, lock washers and nuts. (See Fig. 2.)

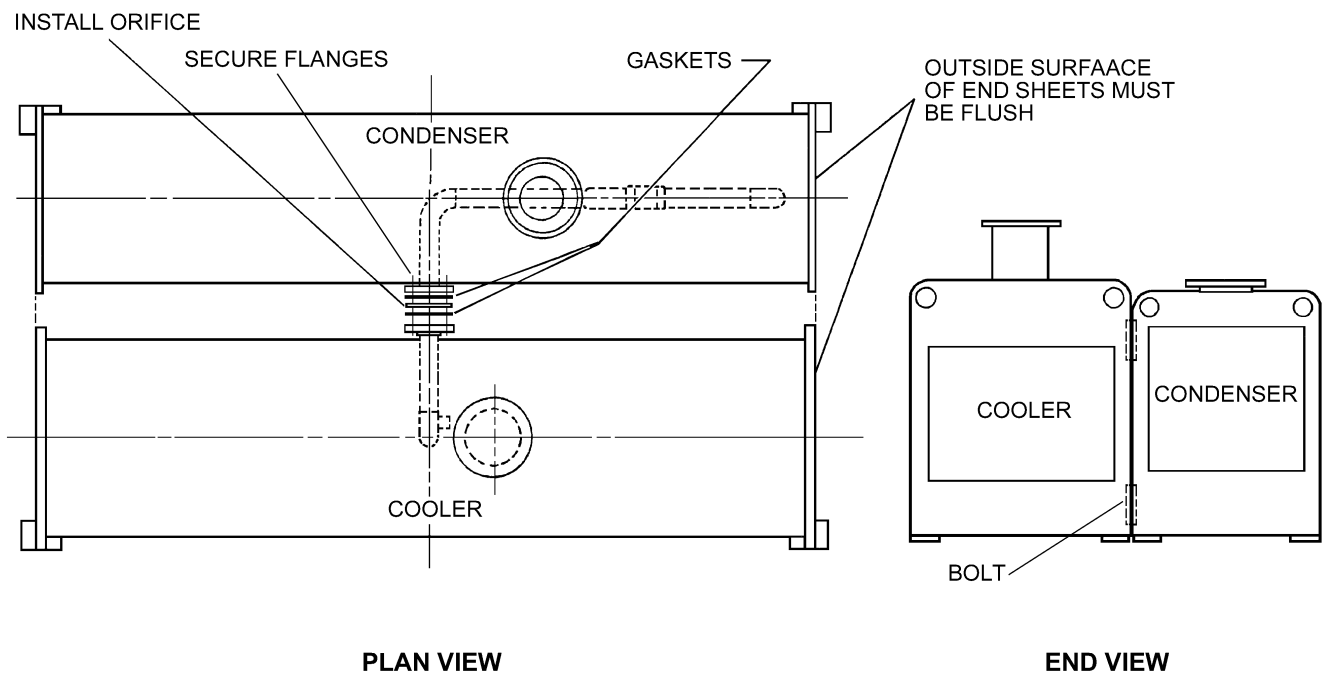


FIG. 2 – FORM 7 SHIPMENT

FORM 3 AND FORM 7 SHIPMENT

1. Assemble vibration isolators to unit. (Refer to Form 160.47-NOM3.)
2. Level shells in both directions. The longitudinal alignment of the shell should be checked by placing a level on the top of the shell, next to the discharge connection. The transverse alignment should be checked by placing a level on the tops of both end sheets. Refer to Installation Instruction, Form 160.47-NOM3 for additional instructions to level unit. After shell is leveled, wedge and shim each corner of the shell to solidly support it while assembling the other parts.
3. Lift compressor-motor assembly and remove packing materials and shipping skids. Keep the compressor unit supported by the hoist until all connections are finally made to the shell assembly. (Refer to Fig. 3 for rigging method.) Remove closure covers and be sure flanges are clean.

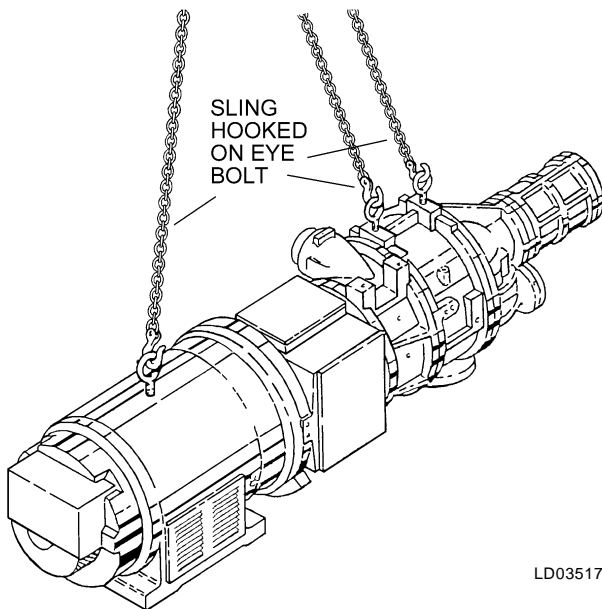


FIG. 3 – RIGGING COMPRESSOR ASSEMBLY

Cooler-Condenser Shells – Remove all refrigerant connection covers.

CAUTION: Shells are shipped with a 5 psig nitrogen charge.

Place gasket (item 16) on the cooler suction flange and lower the compressor assembly. Guide the studs through the gasket and suction flange on top of cooler. (See Fig. 4.)

4. Insert the cap screws, washers, and nuts (items 14, 13, 11) to fasten the motor to the motor support bracket. Level the compressor-motor. If necessary, adjust the screws and nuts to level compressor, and add shims (item 12) if necessary, between the motor feet and the support. (See Fig. 6, Detail A.)
5. Assemble nuts (item 15) to studs on the cooler suction flange. Tighten nuts alternately and evenly, to insure a leak tight fit.
6. Remove the hoist from the compressor-motor assembly.
7. Place gasket (item 18) on the condenser discharge connection and then place the condenser shut-off valve (item 19) on the discharge connection. Make sure the handle of the shut-off valve is perpendicular to the condenser shell. Place gasket (item 20) on the top side of the shut-off valve.
8. Remove all cover closures from the oil separator flanges and wipe all connection surfaces clean. Lower the oil separator carefully keeping it level and horizontal to the condenser shell. Line up the compressor discharge port with the oil separator connection. Push the oil separator connection until it seats itself. Use cap screws (item 22) and washers (item 24) to fasten the oil separator connection to the compressor. Complete the connection to the condenser shell using cap screws (item 21) and nuts (item 17). Keep hoist rigging attached to the oil separator.
9. Fasten the support bracket between the condenser and the end of the oil separator with the proper hardware (items 25, 26, 27).
10. Tighten all screws and nuts on the discharge flange and the support bracket.
11. Assemble the Control Center to the unit (see Fig. 4). Also see Forms 160.47-PW11 or 160.47-PW12.
12. **Solid State Starter (Optional)** – Install starter per Figs. 4 and 6 and Form 160.47-PW6. Also install piping connections.
13. Install refrigerant piping, oil lines, and oil return system filters. Refer to Typical Piping Drawing, Fig. 5.

- 14. Pressure test. *NOTE: Relief valves must be plugged (or capped).* Refer to Form 160.47-NOM3.
- 15. Evacuate and charge with refrigerant.
- 16. Charge the oil separator with the proper type and quantity of YORK oil.

17. **All Units** – Complete installation and finally level the unit per Installation Instruction, Form 160.47-NOM3.

COMPRESSOR CODE	R-22		R-134a	
	TYPE	QTY	TYPE	QTY
S0	C	10	H	10
S1	C	10	H	10
S2	C	10	H	10
S3	P	10	H	10
S4	P	20	H	20
S5	P	20	H	20

Quantity in gallons.

LEGEND TO FIG. 4

ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1	Motor	18	Gasket
2	Compressor	19	Butterfly Valve
3	Oil Separator	20	Gasket
4	MicroComputer Control Center	21	3/4" Cap Screw, Hex Hd. – 10 UNC
5	Condenser	22	5/8" Cap Screw, Hex Hd. – 11 UNC
6	Cooler	23	Gasket
7	Isolator(s)	24	Plain Washer
8	1/4" Cap Screw, Hex Hd. – 20 UNC	25	5/8" Hex Nut – 11 UNC
9	1/4" Lockwasher	26	5/8" Lockwasher
10	1/4" Nut – 20 UNC	27	5/8" Cap Screw, Hex Hd. – 11 UNC
11	3/4" Hex Nut – 10 UNC	28	1/4" Cap Screw, Hex Hd. – 20 UNC
12	Shim	29	1/4" Lockwashers
13	3/4" Plain Washer	30	1/4" Hex Nut – 20 UNC
14	3/4" Cap Screw, Hex Hd. – 10 UNC	31	Adapter
15	M20 or M22 Hex Nut	32	Solid State Starter
16	Gasket	33	Stud (M20) or (M22)
17	3/4" Hex Nut – 10 UNC		

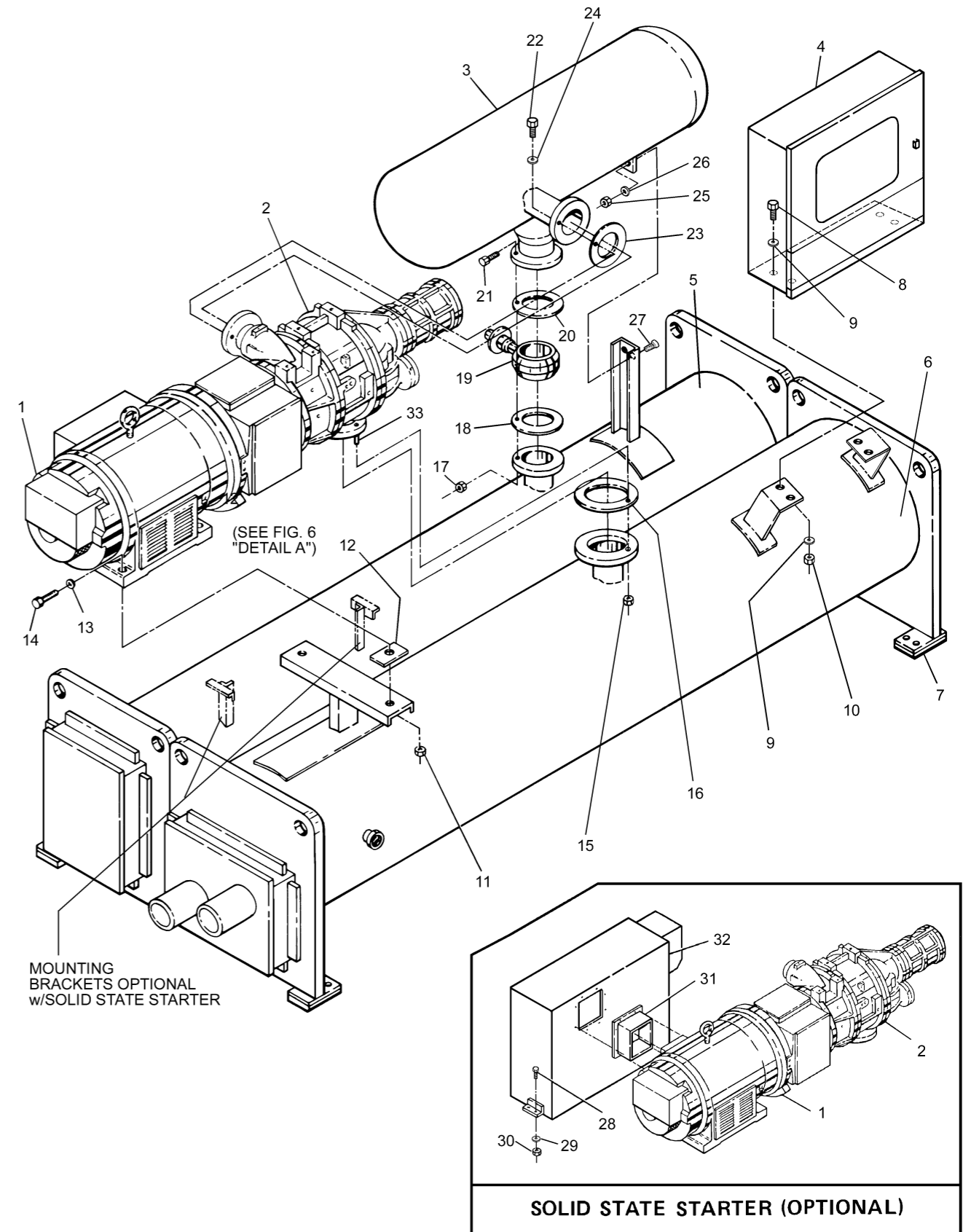


FIG. 4 – FIELD ASSEMBLY – EXPLODED VIEW – PARTS LEGEND

FIG. 4 – FIELD ASSEMBLY – EXPLODED VIEW

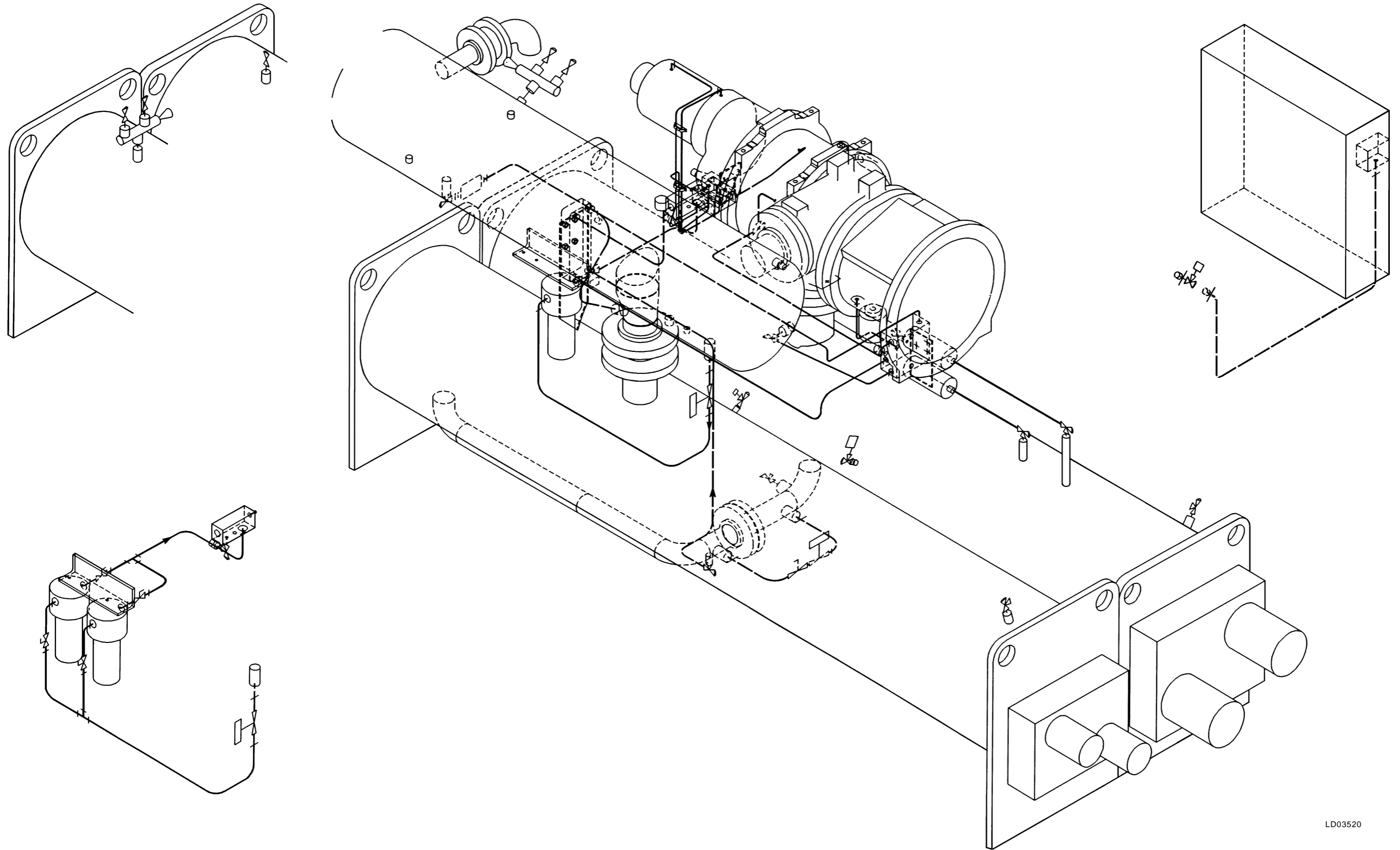


FIG. 5 – TYPICAL SYSTEM PIPING DRAWING

