

# QR-25<sup>®</sup> Series Model 310

Parts Manual  
Record of Change 107

This manual contains important safety information and must be carefully read in its entirety and understood prior to installation by all personnel who install, operate and/or maintain this product.

*On-line product registration, parts ordering and warranty information is available at [www.quincycompressor.com](http://www.quincycompressor.com)*

Manual No. 2022204700

July 2014 Edition



# INTRODUCTION

This manual provides information for the following QR-25 Series, Model 310 (Record of Change 107) compressor versions:

- L Control Version L**  
head assembly with 2 unloader towers & a hydraulic unloader
- LS Control Version LS**  
head assembly with 2 unloader towers, a hydraulic unloader, & a pilot valve with a check valve assembly
- LVD Control Version LVD**  
head assembly with 2 unloader towers, a hydraulic unloader, & a pilot valve with a lockout & check valve

These compressors are aircooled, two stage, two cylinder, pressure lubricated compressors, with up to 200 PSI continuous pressure capability (*201 to 500 PSI intermittent pressure capability with proper configuration; consult factory*). The Model 310 has a 3.5" low pressure piston bore and a 2.5" high pressure piston bore and a 2.5" stroke and can be run at 400-920 RPM.

- Available options included in this manual:
- high pressure rated cylinder and head
  - hooded air filter
  - hooded air filter / silencer

# CHANGES

*since previous printing (dated January 2014):*

The bearing carrier group was redesigned with a new oil pump including an oil filter.

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# MODEL & SERIAL NUMBER IDENTIFICATION

Record of Change No.

**Model & Serial Number Identification Tag**

The model & serial number tag is located on the hand-hole plate side of the crankcase. Fill in the numbers from your compressor's tag in the corresponding spaces provided here and reference this page when ordering replacement parts.

All replacement parts are to be ordered through an authorized Quincy distributor. Insist on genuine Quincy parts only! Failure to do so may void warranty.

# QUIN-CIP LUBRICANT

Refer to the chart below to order Quin-Cip-D or Quin-Cip compressor lubricant from your local authorized Quincy distributor.

<b>Quin-Cip-D Lubricant (synthetic)</b>	
<b>SAE 30 (ISO 100)</b>	
Quart	115468Q
Case (12 Qts.)	115438C
<b>Quin-Cip Lubricant</b>	
<b>SAE 10W (ISO 32)</b>	
Quart	112541Q032
Case (12 Qts.)	112541C032
<b>SAE 20 (ISO 68)</b>	
Quart	112542Q068
Case (12 Qts.)	112542C068
<b>SAE 30 (ISO 100)</b>	
Quart	112543Q100
Case (12 Qts.)	112543C100

# ORDERING REPLACEMENT PARTS

Prompt service can be rendered on repair parts orders if the following information is given:

- Item 1)** the model number, record of change number, & serial number.
- Item 2)** the exact part number needed. (Do not order by item numbers.)
- Item 3)** the exact quantity needed.
- Item 4)** the preferred type of transportation

# CRANKCASE LUBRICANT CAPACITY

<b>Model</b>	<b>Capacity</b>
310	1 qt. & 22 oz. (1.596 lit.)

**CAUTION !**  
Refer to the QR-25 Series Instruction Manual for vital lubrication information.

**CAUTION !**  
Follow all safety precautions outlined in the QR-25 Series instruction manual.

**WARNING !**  
Do not operate this compressor without a totally enclosed belt guard or any other required safety equipment.

**DANGER !**  
Air used for breathing or food processing must meet OSHA 1910.134 or FDA 21 CFR 178.3570 regulations. Failure to do so may cause severe injury or death.

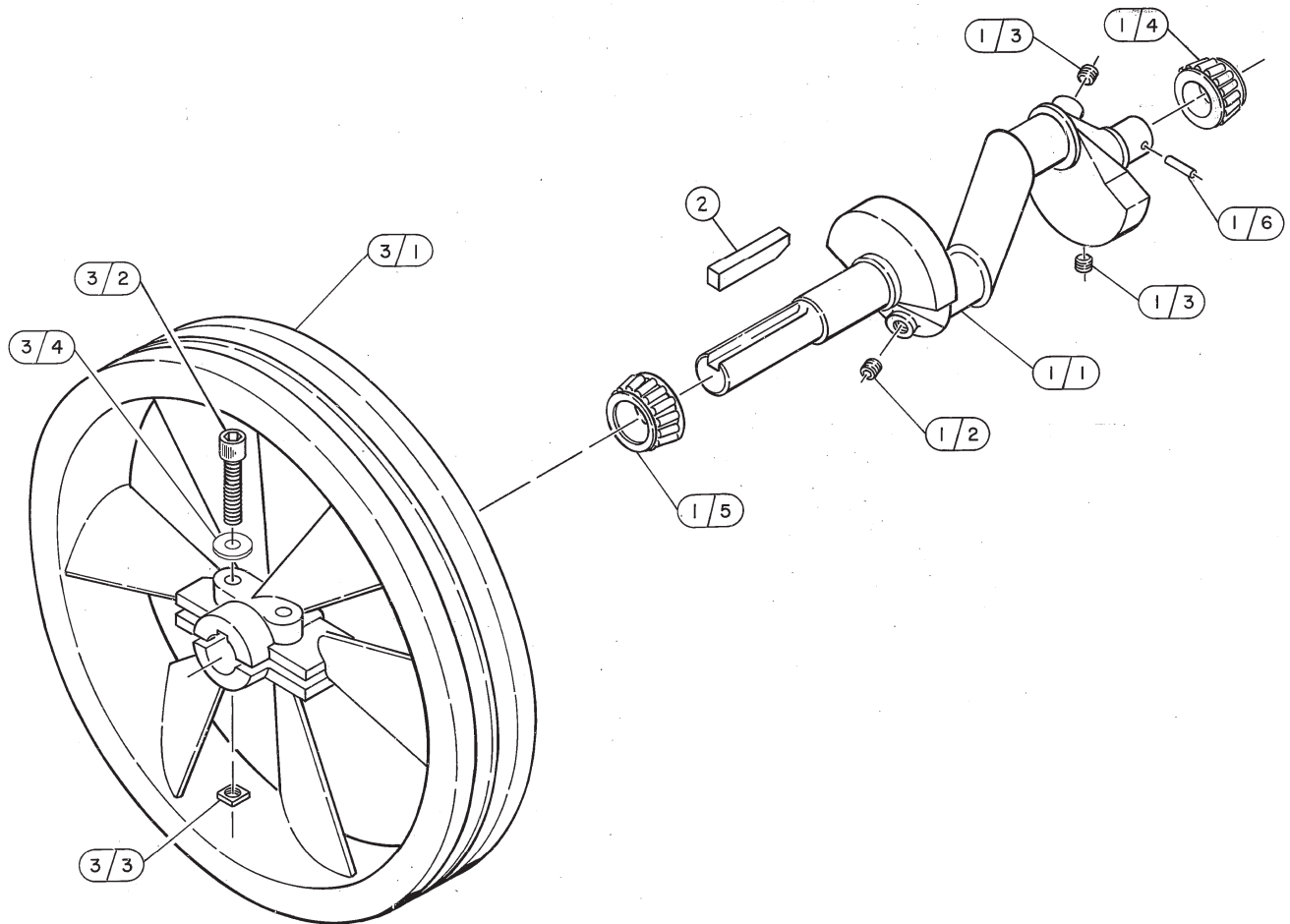
# CRANKSHAFT GROUP 110438

Item Number	Qty.	Part Number	Description
1	1	110219	crankshaft assembly
1.1	1	110218	crankshaft (N.S.S.; order 110219)
1.2	1	110234	orifice, 1/8 npt
1.3	2	2755S	pipe plug, 1/8 npt
1.4	1	4019	bearing cone
1.5	1	2585	bearing cone
1.6	1	110705-F15	pin
2	1	1761	key
3	1	2917X	sheave assembly
3.1	1	2915R	sheave, compressor, 14", 1G,B sect, ccw (N.S.S.; order 2917X)
3.2	2	124239-001	socket head screw, 3/8-16 UNC X 2.75, Grade 5 (@ 30 ft.-lbs.)
3.3	2	124372-L02	square nut, 3/8-16 unc
3.4	2	110428W038	flatwasher
For high pressure rated compressors			
3	1	2919X	sheave assembly
3.1	1	2915R	sheave, compressor, 14", 2G, B sect, ccw (N.S.S.; order 2919X)
3.2	2	124239-001	socket head screw, 3/8-16 unc X 2.75, grade 5 (@ 30 ft.-lbs.)
3.3	2	124372-L02	square nut, 3/8-16 unc
3.4	2	110428W038	flatwasher

N.S.S. = Not Sold Separate

@ Indicates torque value (dry threads)

Note: For reversal of compressor rotation refer to QR-25 instruction manual.



# CRANKCASE GROUP 2021022602

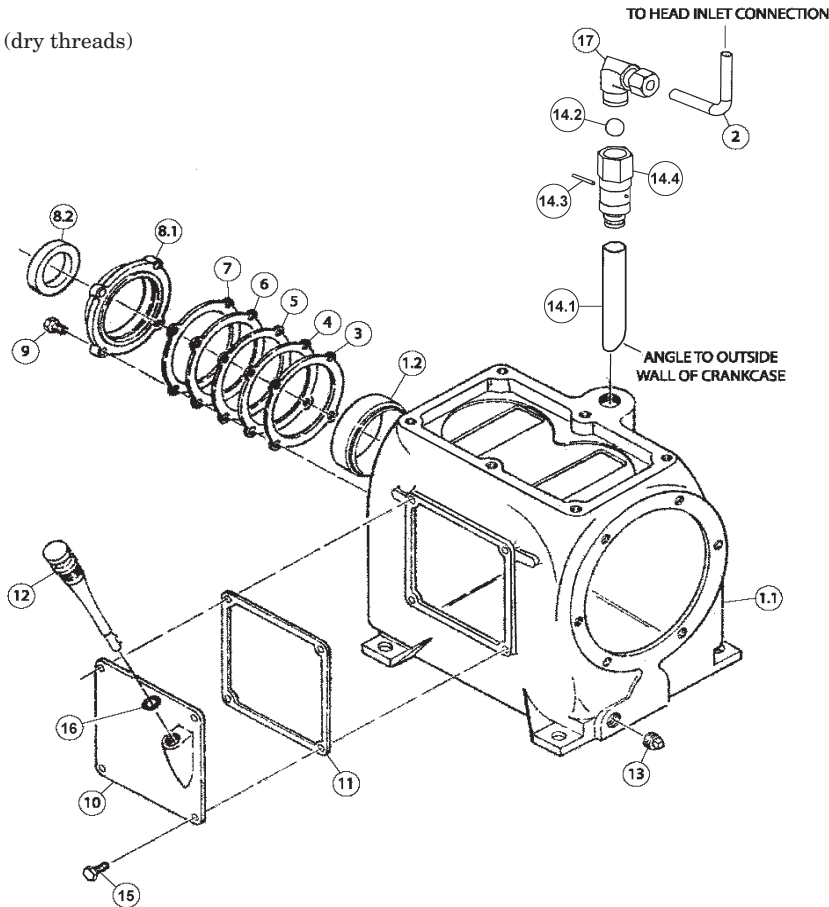
Item Number	Qty.	Part Number	Description
1	1	5513X002	crankcase assembly
1.1	1	5513-002	crankcase
1.2	1	2523	bearing cup
2	2 ft.	110515-031	copper tube, 5/16 o.d.
3	2	1832	shim, bearing adjustment, .005, steel
4	*	1832A	shim, bearing adjustment, .007, steel
5	*	1832B	shim, bearing adjustment, .020, steel
6	*	1832C	shim, bearing adjustment, .005, paper
7	*	1832D	shim, bearing adjustment, .002 steel
8	1	5516X	adjustment plate assembly
8.1	1	5516	adjustment plate (.0015/.003 crankshaft end play)
8.2	1	6315	oil seal
9	4	123478-L10	hex. screw, 3/8-16 unc x .75, grade 5 (@ 30 ft.-lbs.)
10	1	2321	inspection plate
11	1	1598	gasket, inspection plate
12	1	110070-2	oil gauge
13	1	1301	pipe plug, 3/8 npt
14	1	112031X001	breather assembly
14.1	1	112032-001	breather tube
14.2	1	5783-002	ball
14.3	1	110705-C11	roll pin, 3/32 x .81
14.4	1	112031-001	breather body
15	4	114629	hex. screw, 5/16-18 unc x 1.00, grade 5 (@ 150 in.-lbs.)
16	1	123157-112	"o"ring, 3/32 wide x .69 o.d.
17	1	110919-010	tube fitting, 5/16 tube x 3/8 npt, 90°

Parts for use with diester or phosphate ester synthetic based lubricants

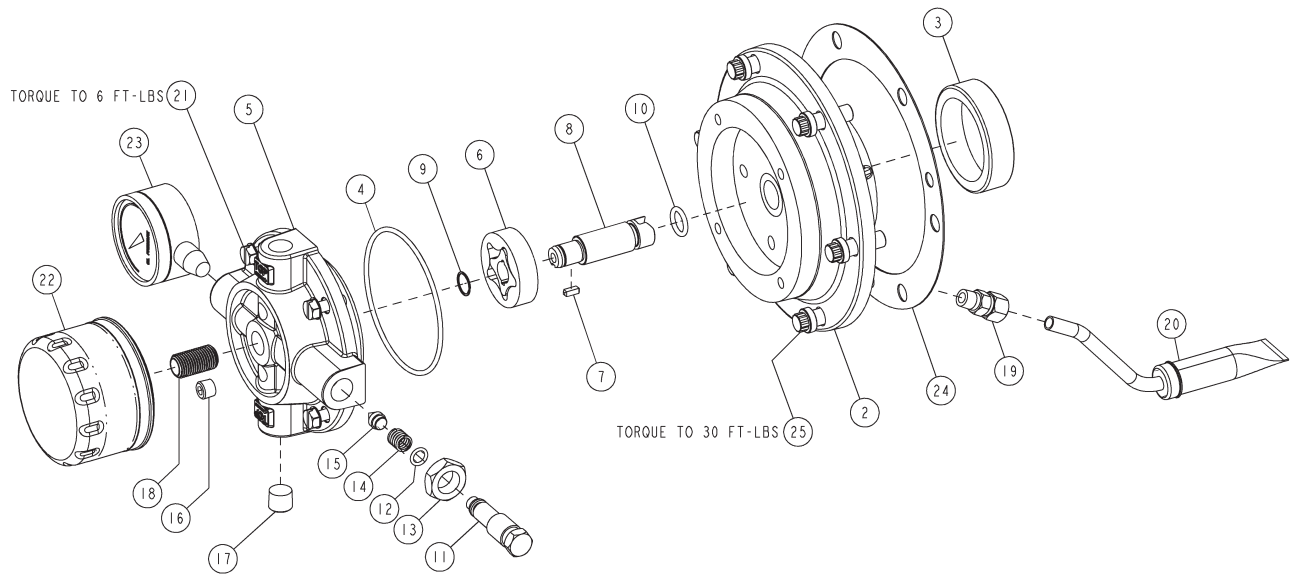
8.2	1	6315-001	oil seal
16	1	22749-112	"o"ring, 3/32 wide x .69 o.d.

\* Quantity as required

@ Indicates torque value (dry threads)



# BEARING CARRIER GROUP 2024400360

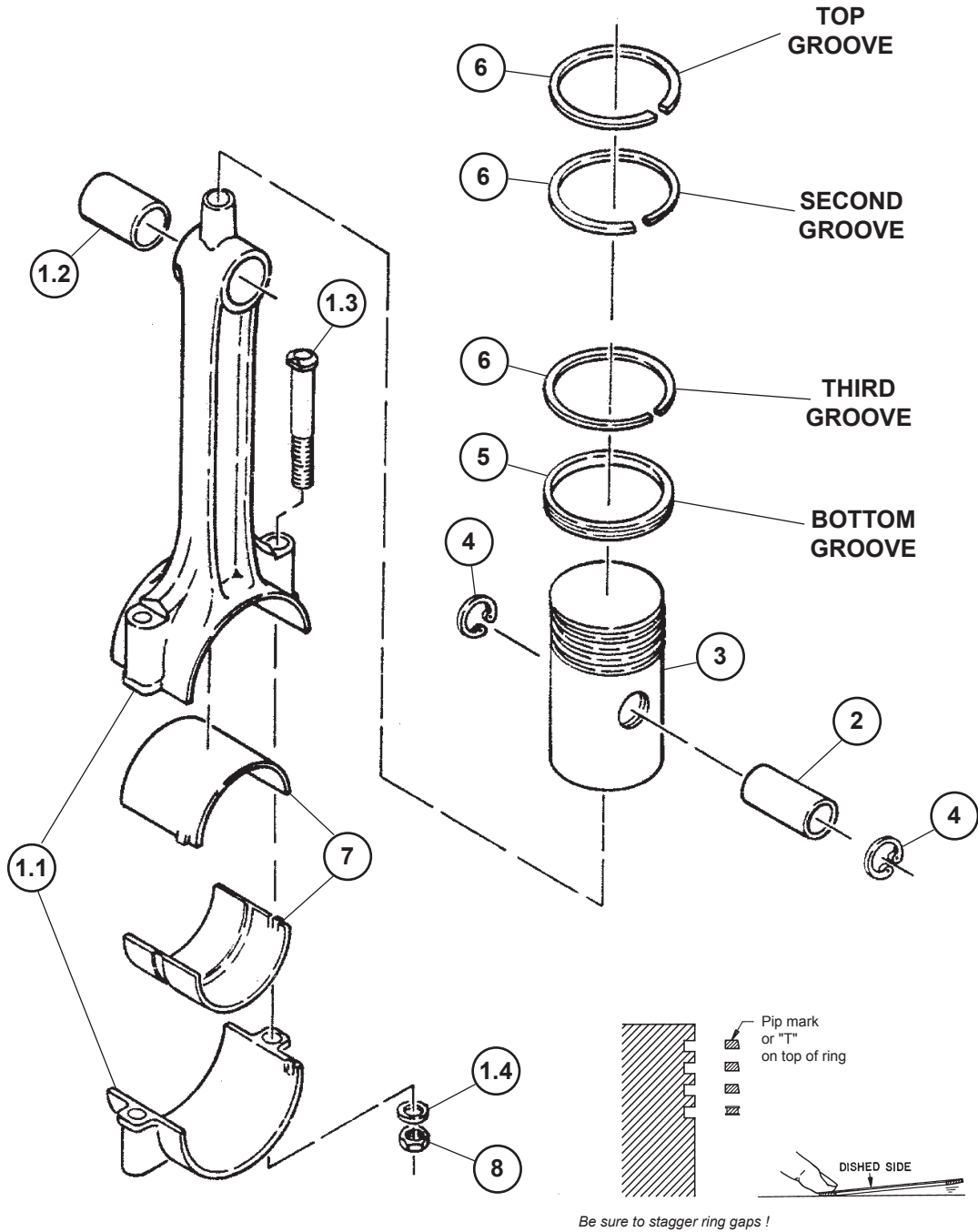


2024400360 BEARING CARRIER GROUP			
ITEM	PART NUMBER	QTY	DESCRIPTION
	2024400350	1	BEARING CARRIER ASSEMBLY (N.S.S. - ORDER KIT)
2	2024400301	1	BEARING CARRIER
3	4018	1	BEARING CUP
4	22749-152	1	O-RING, VITON
5	2024400601	1	OIL PUMP HOUSING
6	160003	1	OIL PUMP
7	160075-001	1	KEY
8	2024200202	1	OIL PUMP DRIVESHAFT
9	6285	1	RETAINING RING
10	22749-112	1	O-RING, VITON
11	5489	1	ADJUSTMENT SCREW
12	22749-011	1	O-RING, VITON
13	124369-P02	1	JAM NUT
14	1160	1	SPRING
15	112857	1	NEEDLE VALVE
16	2755S	1	PIPE PLUG, 1/8 NPT
*	17	1	PIPE PLUG, 1/4 NPT
**	18	1	FILTER STUD
***	19	1	TUBE FITTING, CONNECTOR, 5/16 TUBE X 1/8 NPT
	20	1	OIL PICKUP TUBE WITH SCREEN
	21	4	MACHINE SCREW
	22	1	OIL FILTER
*	23	1	OIL PRESSURE GAUGE
	24	1	GASKET
	25	6	12PT SCREW, 3/8-16 UNC X 1.00, GRADE 8
<b>MAINTENANCE PARTS</b>			
	2023400101	10	PACK OF OIL FILTERS
<b>REPLACEMENT KITS</b>			
	2024400380	1	BEARING CARRIER ASSEMBLY REPLACEMENT KIT INCLUDES BEARING CARRIER ASSEMBLY, FILTER, GAUGE, AND GASKET

\* INSTALL WITH PIPE SEALANT  
 \*\* INSTALL WITH RETAINING COMPOUND  
 \*\*\* INSTALL WITH PIPE SEALANT ON NPT & THREADLOCKER ON NUT  
 N.S.S. = NOT SOLD SEPARATE  
 TORQUE VALUES ARE FOR DRY THREADS. TIGHTEN MULTIPLE BOLTS, CAPSCREWS, AND HEX NUTS  
 IN A CRISS-CROSS PATTERN. BRING EACH FASTENER TO THE RECOMMENDED TORQUE  
 SPECIFICATION IN EVEN INCREMENTS.

# CONNECTING ROD & PISTON GROUP 110439

(high pressure)





# CONNECTING ROD & PISTON GROUP 110439

(high pressure)

Item Number	Qty.	Part Number	Description
1	1	110703X001	connecting rod assembly (N.S.S.; order 110703X101)
1.1	1	110703-001	connecting rod (N.S.S.; order 110703X101)
1.2	1	6440	connecting rod bushing (can not be purchased; order 6440SR)
1.3	2	3532	connecting rod bolt, 5/16-24 unf
1.4	2	111260-002	connecting rod washer
2	1	110190-011	piston pin
3	1	1910-001	piston
4	2	8648	retaining ring
5	1	1939	oil ring
6	3	1938	compression ring
7	2	2824	insert, con rod bearing (N.S.S.; order 2824PR)
8	2	124471-K08	locknut, 5/16-24 unf (@ 19 ft.-lbs.)
<b>Maintenance Parts</b>			
* 7	1	2824PR	inserts (pair), con rod bearing,(standard)
* 7	1	2824-010PR	inserts (pair), con rod bearing, (.010 oversize)
1.2	1	6440SR	bushing
3	1	1910-011	piston, (.010 oversize)
3	1	1910-021	piston, (.020 oversize)
	1	<b>8165</b>	<b>Side Sealer Ring Set, H.P. (standard)</b> includes piston rings, springs, compression ring & oil ring
		<b>4452-010</b>	<b>Piston Ring Set (.010 oversize) (light blue)</b> includes compression rings & oil ring
		<b>4452-020</b>	<b>Piston Ring Set (.020 oversize) (yellow)</b> includes compression rings & oil ring
		<b>1910X001</b>	<b>Replacement Piston Assembly, (standard)</b> includes high pressure piston, piston pin, retaining rings & side sealer ring set
		<b>1910X011</b>	<b>Replacement Piston Assembly, (.010 oversize)</b> includes high pressure piston, piston pin, retaining rings & ring set
		<b>1910X021</b>	<b>Replacement Piston Assembly, (.020 oversize)</b> includes high pressure piston, piston pin, retaining rings & ring set
		<b>110703X101</b>	<b>Replacement Connecting Rod Assembly</b> includes connecting rod assembly, bearing inserts & locknuts

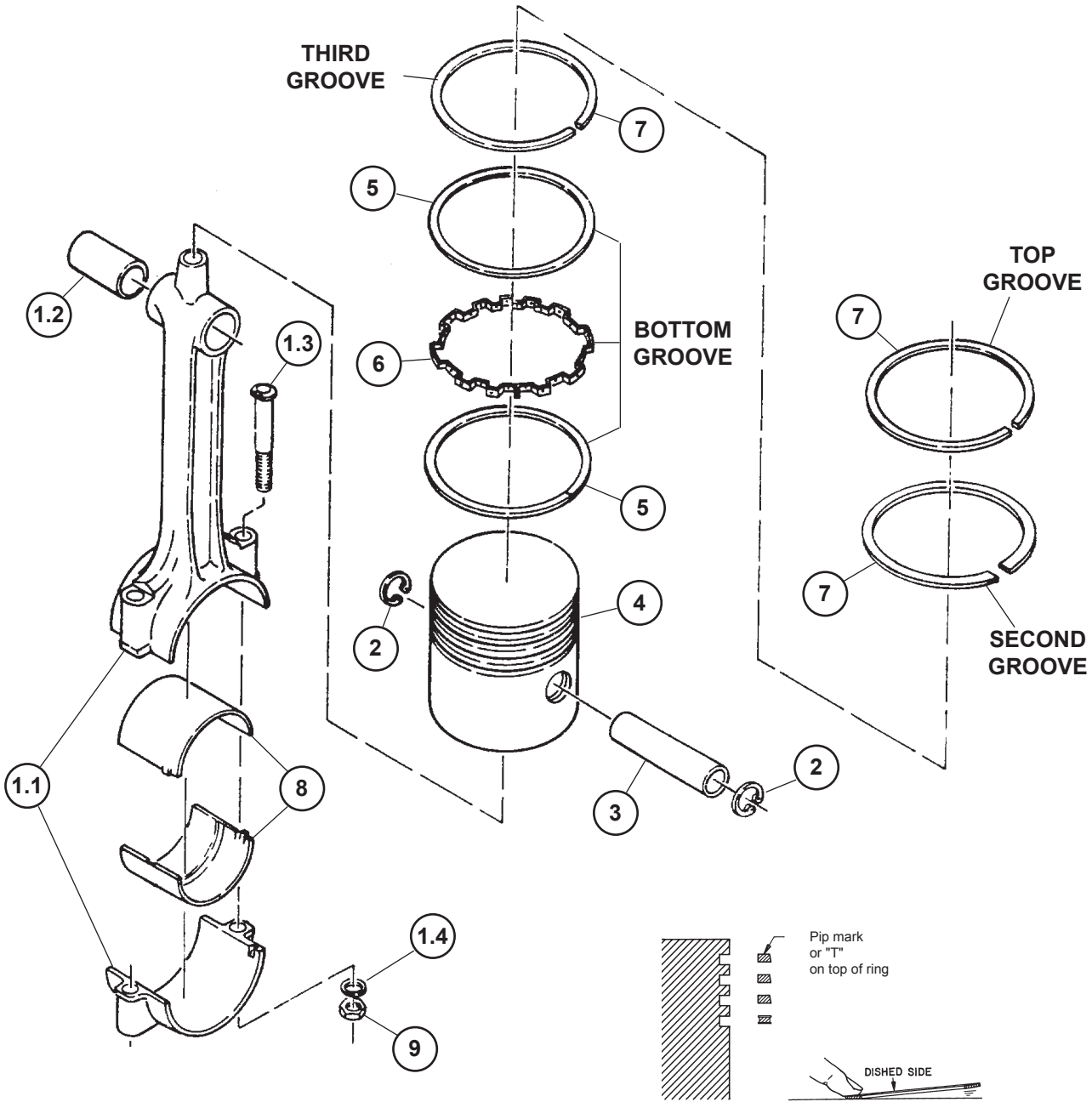
N.S.S. = Not Sold Separate

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

\* One pair required for each connecting rod assembly.

# CONNECTING ROD & PISTON GROUP 110440

(low pressure)



Be sure to stagger ring gaps !

# CONNECTING ROD & PISTON GROUP 110440

(low pressure)

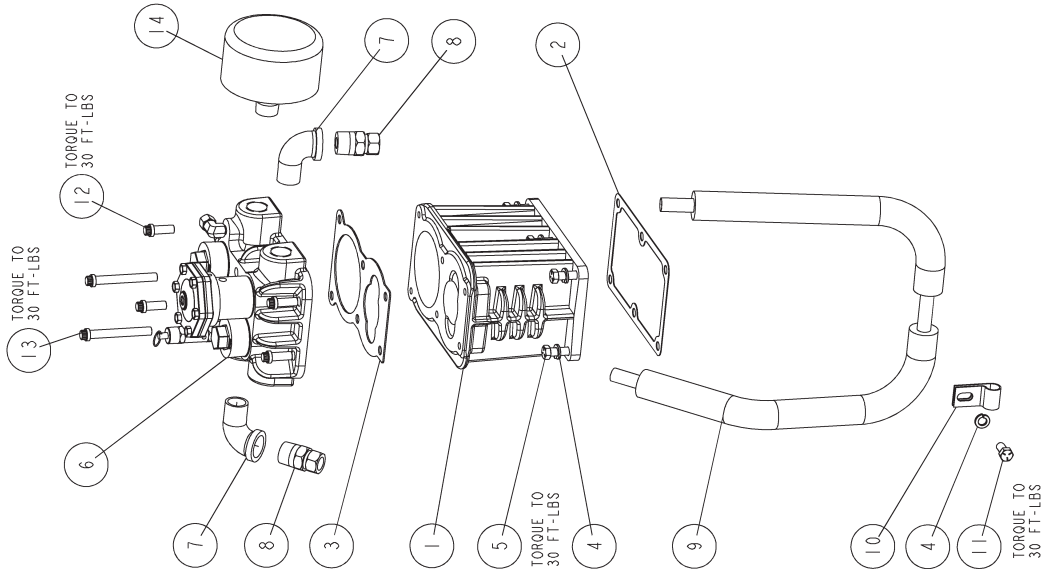
Item Number	Qty.	Part Number	Description
1	1	110703X	connecting rod assembly (N.S.S.; order 110703X1)
1.1	1	110703	connecting rod (N.S.S.; order 110703X1)
1.2	1	6440	connecting rod bushing (can not be purchased; order 6440SR)
1.3	2	3532	connecting rod bolt, 5/16-24 unf
1.4	2	111260-002	connecting rod washer
2	2	8648	retaining ring
3	1	110190-007	piston pin
4	1	1276-001	piston
5	2	6597	rail
6	1	6596	expander
7	3	1650	piston ring
8	2	2824	insert, con rod bearing (N.S.S.; order 2824PR)
9	2	124471-K08	locknut, 5/16-24 unf (@19 ft.-lbs.)
<b>Maintenance Parts</b>			
* 8	1	2824PR	inserts (pair), con rod bearing,(standard)
* 8	1	2824-010PR	inserts (pair), con rod bearing, (.010 oversize)
1.2	1	6440SR	bushing
4	1	1276-011	piston (.010 oversize)
4	1	1276-021	piston (.020 oversize)
	1	<b>6592</b>	<b>Side Sealer Ring Set, (standard)</b> includes piston rings, springs, rails & expander
		<b>4428-010</b>	<b>Piston Ring Set (.010 oversize) (light blue)</b> includes compression rings & oil ring
		<b>4428-020</b>	<b>Piston Ring Set (.020 oversize) (yellow)</b> includes compression rings & oil ring
		<b>1276X001</b>	<b>Replacement Piston Assembly, (standard)</b> includes low pressure piston, piston pin, retaining rings & side sealer ring set
		<b>1276X011</b>	<b>Replacement Piston Assembly, (.010 oversize)</b> includes low pressure piston, piston pin, retaining rings & ring set
		<b>1276X021</b>	<b>Replacement Piston Assembly, (.020 oversize)</b> includes low pressure piston, piston pin, retaining rings & ring set
		<b>110703X1</b>	<b>Replacement Connecting Rod Assembly</b> includes connecting rod assembly, bearing inserts & locknuts

@ Indicates torque value (dry threads). Tighten multiple bolts, capscrews & hex nuts in a criss-cross or alternating pattern. Bring each fastener to the recommended torque specification in even increments.

\* One pair required for each connecting rod assembly.

# CYLINDER & HEAD GROUP 110443-004

(control version L)



ITEM	PART NUMBER	QTY	DESCRIPTION
*1	1909	1	CYLINDER
2	1594	1	GASKET, CYLINDER TO CRANKCASE
3	5698	1	GASKET, CYLINDER TO HEAD
4	123115-06C	7	LOCKWASHER
5	123478-L14	6	HEX SCREW, 3/8-16 UNC X 1.25, GRADE 5
*6	115639U	1	HEAD ASSEMBLY 310L
7	3092	2	PIPE ELBOW, 3/4 NPT X 3/4 NPT, 90
8	124393-022	2	TUBE FITTING, MALE CONNECTOR, 5/8 TUBE X 3/4 NPT
9	115652	1	INTERCOOLER
10	6292-001	1	CLAMP, INTERCOOLER
11	123478-L10	1	HEX SCREW, 3/8-16 UNC X .75, GRADE 5
12	90386-L12	4	COUNTERBORE SCREW, 3/8-16 UNC X 1.00, GRADE 8
13	90386-L21	2	COUNTERBORE SCREW, 3/8-16 UNC X 3.00, GRADE 8
14	110377F075	1	AIR FILTER
14	110377S075	1	AIR FILTER, HOODED/SILENCER
MAINTENANCE PARTS			
	110377E075	1	AIR FILTER ELEMENT
	115639X23L		REPLACEMENT HEAD ASSEMBLY INCLUDES HEAD ASSEMBLY, COPPER TUBE, TUBE FITTING AND GASKET.

\* HIGH PRESSURE COMPRESSORS AND DNV CERTIFIED APPLICATIONS REQUIRE 115639HPS HEAD IN LIEU OF 115639 HEAD AND 1909HPS CYLINDER IN LIEU OF 1909 CYLINDER.

- TIGHTEN ALL BOLTS AND CAPSCREWS IN ANY BOLT PATTERN, EVENLY BRINGING EACH FASTENER TO TORQUE IN EQUAL INCREMENTS, WHILE MOVING ABOUT THE BOLT PATTERN.

High pressure models can be identified by an "HP" included in the model designation on the serial number tag or by an "HP" stamped into the head.

# CYLINDER & HEAD GROUP 110444-004

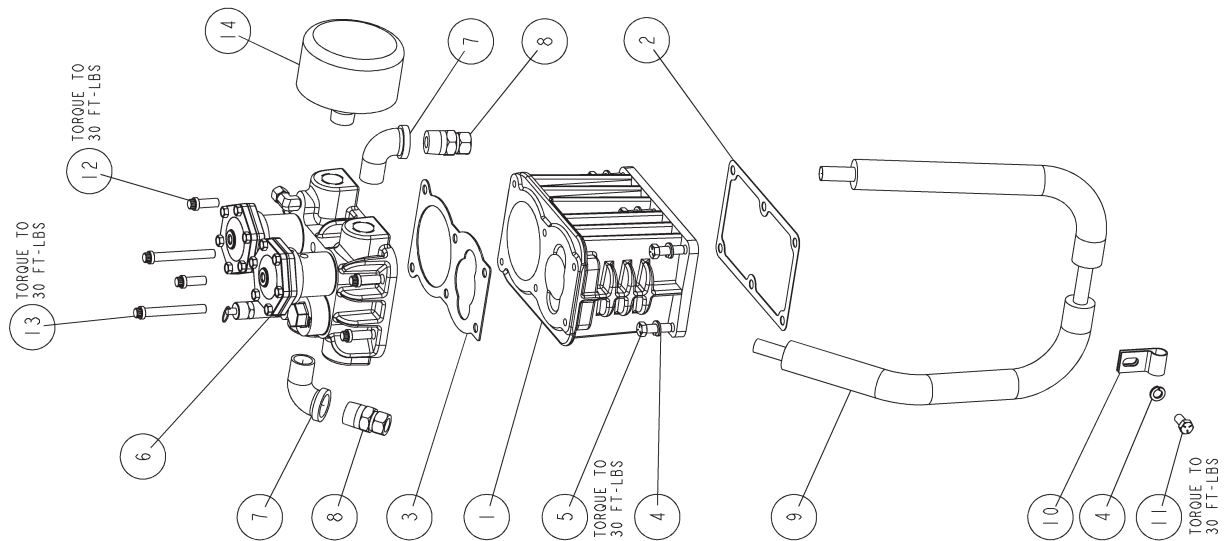
(control versions LS & LVD)

ITEM	PART NUMBER	QTY	DESCRIPTION
* 1	1909	1	CYLINDER
2	1594	1	GASKET, CYLINDER TO CRANKCASE
3	5698	1	GASKET, CYLINDER TO HEAD
4	123115-06C	7	LOCKWASHER
5	123478-L14	6	HEX SCREW, 3/8-16 UNC X 1.25, GRADE 5
* 6	115639UU	1	HEAD ASSEMBLY 310LVD
7	3092	2	PIPE ELBOW, 3/4 NPT X 3/4 NPT, 90
8	124393-022	2	TUBE FITTING, MALE CONNECTOR, 5/8 TUBE X 3/4 NPT
9	115652	1	INTERCOOLER
10	6292-001	1	CLAMP, INTERCOOLER
11	123478-L10	1	HEX SCREW, 3/8-16 UNC X .75, GRADE 5
12	90386-L12	4	COUNTERBORE SCREW, 3/8-16 UNC X 1.00, GRADE 8
13	90386-L21	2	COUNTERBORE SCREW, 3/8-16 UNC X 3.00, GRADE 8
14	110377F075	1	AIR FILTER
14	110377S075	1	AIR FILTER, HOODED/SILENCER
MAINTENANCE PARTS			
	110377E075	1	AIR FILTER ELEMENT
	115639X23S		REPLACEMENT HEAD ASSEMBLY INCLUDES HEAD ASSEMBLY, COPPER TUBE, TUBE FITTING AND GASKETS.

\* HIGH PRESSURE COMPRESSORS AND DNV CERTIFIED APPLICATIONS REQUIRE 115639HPS HEAD IN LIEU OF 115639 HEAD AND 1909HPS CYLINDER IN LIEU OF 1909 CYLINDER.

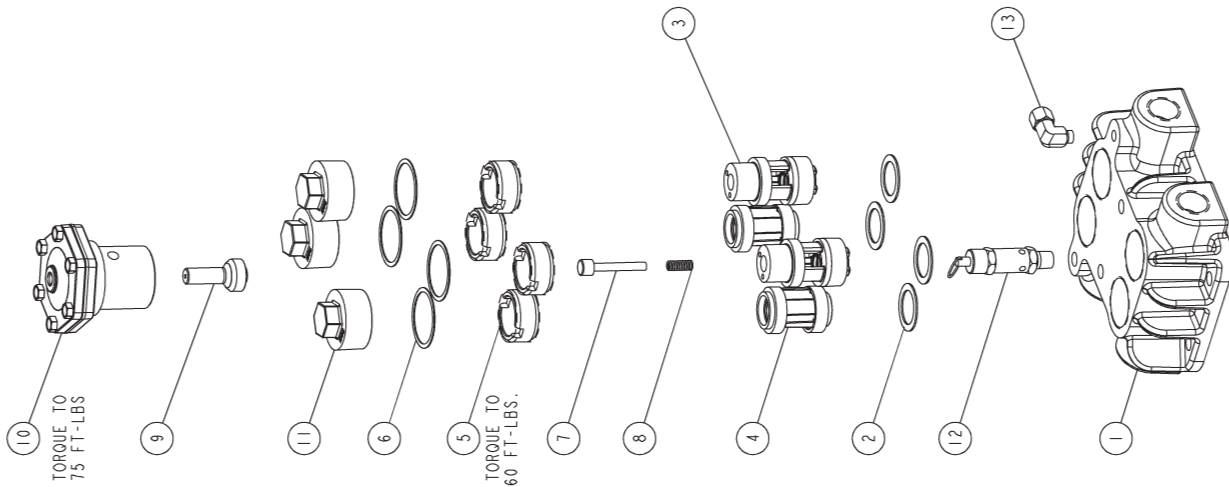
- TIGHTEN ALL BOLTS AND CAPSCREWS IN ANY BOLT PATTERN, EVENLY BRINGING EACH FASTENER TO TORQUE IN EQUAL INCREMENTS, WHILE MOVING ABOUT THE BOLT PATTERN.

High pressure models can be identified by an "HP" included in the model designation on the serial number tag or by an "HP" stamped into the head.



# HEAD ASSEMBLY 115639U

(control version L)

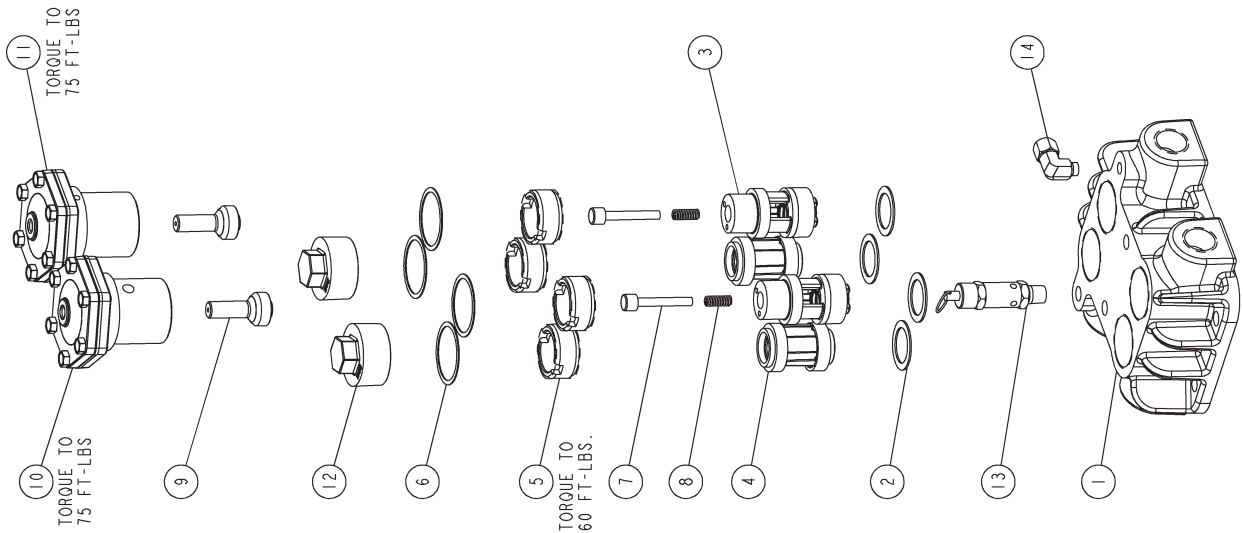


ITEM	PART NUMBER	QTY	DESCRIPTION
1	115639	1	HEAD, AIRCOOLED
2	1554	4	GASKET
3	4610X2	2	SUCTION VALVE ASSEMBLY
4	1553X10	2	DISCHARGE VALVE AY
5	3008	4	HOLD DOWN SCREW
6	1556	4	VALVE COVER CAP GASKET
7	6937	1	UNLOADER PLUNGER
8	6945	1	SPRING, UNLOAD. PIN
9	7532X	1	UNLOADER PISTON ASSEMBLY
10	40055	1	AY, UNLOADER, PNEUMATIC
11	1555	3	CAP
12	2961-100	1	PRESSURE RELIEF VALVE
13	2709	1	TUBE FITTING, 90 DEGREES MALE ELBOW
MAINTENANCE PARTS			
	4610X3	1	REPLACEMENT SUCTION VALVE ASSEMBLY INCLUDES ITEM 2 AND 3 (1 EACH)
	1553X11	1	REPLACEMENT DISCHARGE VALVE ASSEMBLY INCLUDES ITEM 2 AND 4 (1 EACH)
	7483X	1	REPLACEMENT UNLOADER ASSEMBLY, INCLUDES ITEMS 2, 9, 10, & PIPE PLUG (1 EACH)

\* HIGH PRESSURE COMPRESSORS AND DNV CERTIFIED APPLICATIONS REQUIRE 115639HPS HEAD IN LIEU OF 115639 HEAD.

# HEAD ASSEMBLY 115639UU

(control versions LS LVD)



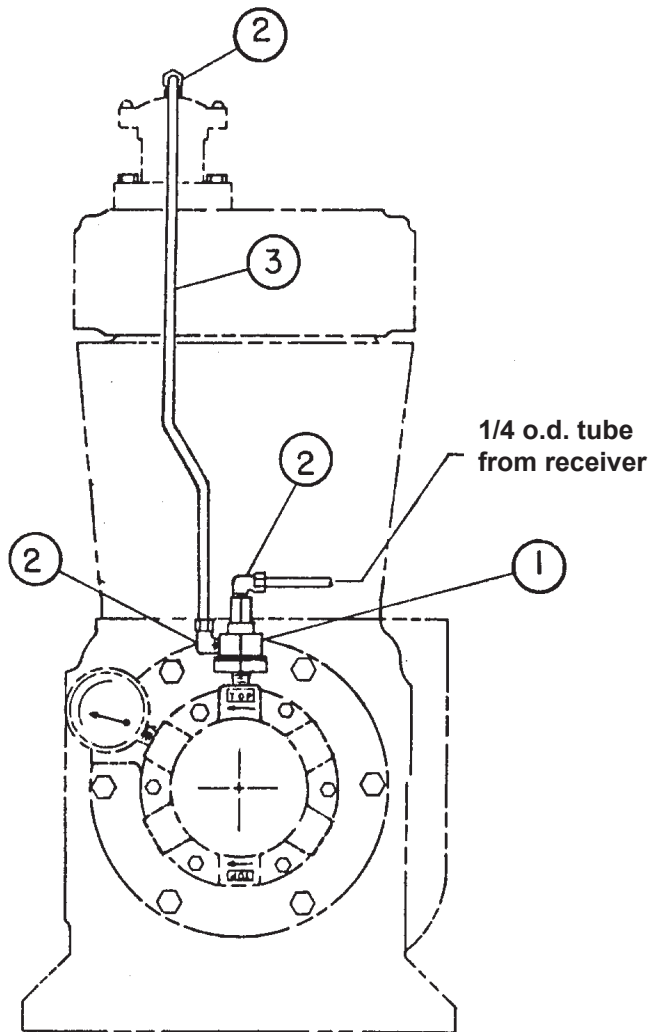
ITEM	PART NUMBER	QTY	DESCRIPTION
* 1	115639	1	HEAD, AIRCOOLED
2	1554	4	GASKET
3	4610X2	2	SUCTION VALVE ASSEMBLY
4	1553X10	2	DISCHARGE VALVE AY
5	3008	4	HOLD DOWN SCREW
6	1556	4	VALVE COVER CAP GASKET
7	6937	2	UNLOADER PLUNGER
8	6945	2	SPRING, UNLOAD. PIN
9	7532X	2	UNLOADER PISTON ASSEMBLY
10	40055	1	AY, UNLOADER, PNEUMATIC
11	40192	1	UNLOADER ASSEMBLY
12	1555	2	CAP
13	2961-100	1	PRESSURE RELIEF VALVE
14	2709	1	TUBE FITTING, 90 DEGREES MALE ELBOW
MAINTENANCE PARTS			
	4610X3	1	REPLACEMENT SUCTION VALVE ASSEMBLY INCLUDES ITEM 2 AND 3 (1 EACH)
	1553X11	1	REPLACEMENT DISCHARGE VALVE ASSEMBLY INCLUDES ITEM 2 AND 4 (1 EACH)
	7483X	1	REPLACEMENT UNLOADER ASSEMBLY, INCLUDES ITEMS 2, 9, 10, & PIPE PLUG (1 EACH)
	8272X	1	REPLACEMENT UNLOADER ASSEMBLY, INCLUDES ITEMS 2, 9, & 11 (1 EACH)

\* HIGH PRESSURE COMPRESSORS AND DNV CERTIFIED APPLICATIONS REQUIRE  
115639HPS HEAD IN LIEU OF 115639 HEAD.

# CONTROL GROUPS 110855 & 110856

(control versions L)

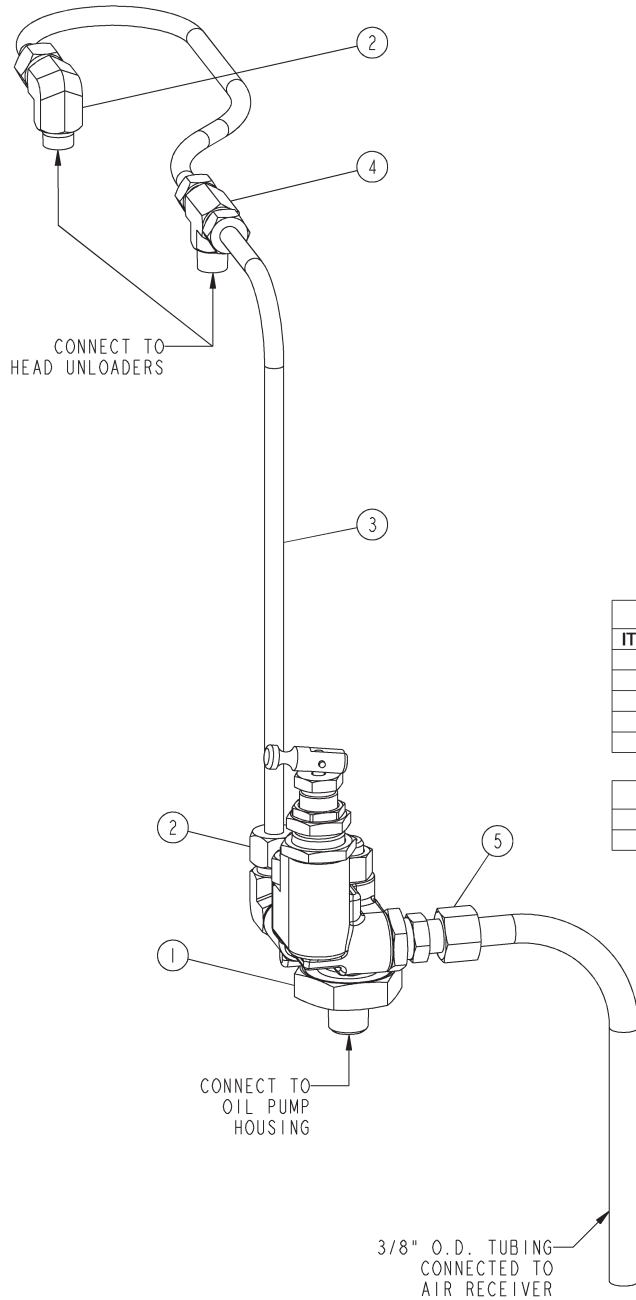
Item Number	Qty.	Part Number	Part Number	Description
		<b>0-200 PSI</b>	<b>201-500 PSI</b>	
1	1	110827-001	110827-002	hydraulic unloader assembly
2	3	1642	1642	tube fitting, 90° male elbow, 1/4 tube x 1/8 npt
3	4 ft.	110515-025	110515-025	copper tube, 1/4 o.d.





# CONTROL GROUP 2023903355

(control version LS)



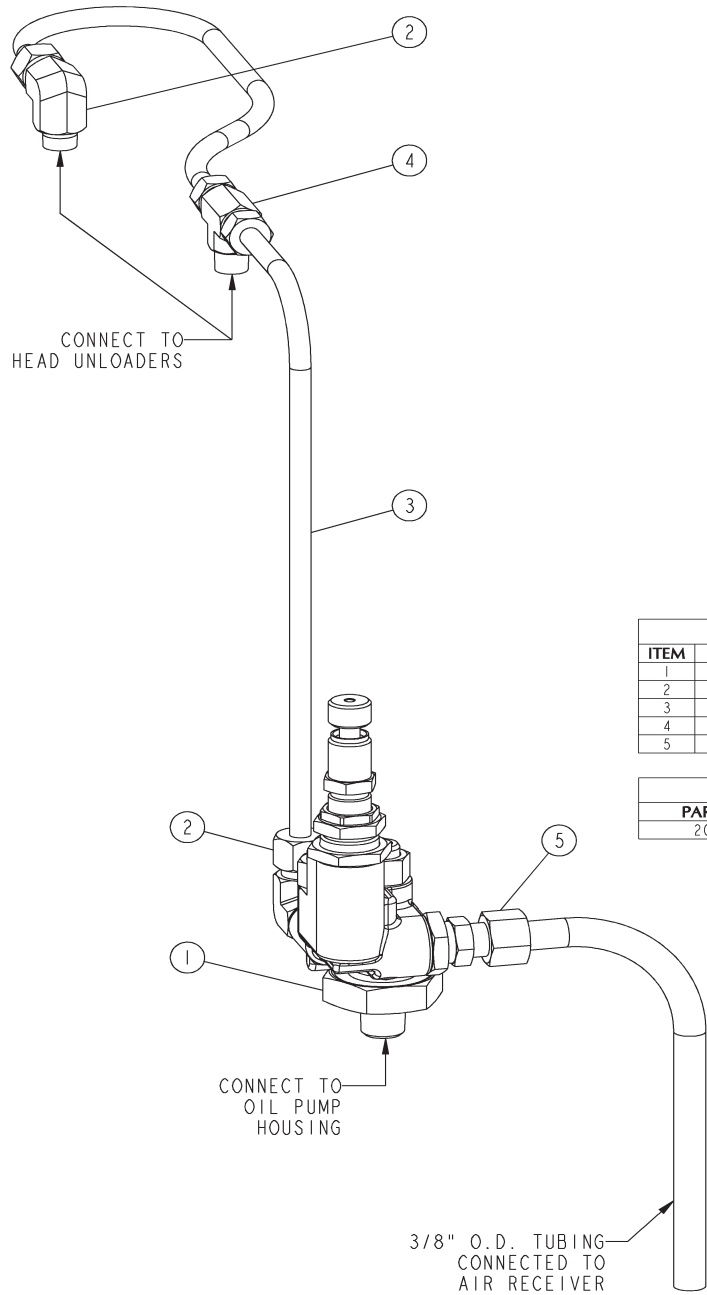
2023903355 LS CONTROL GROUP (STANDARD 165-175 PSI)			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	2023903305	1	LS CONTROL VALVE, 165-175 PRESET
2	1642	2	TUBE FITTING, 90° ELBOW, 1/4TX1/8MP
3	110515-025	1	1/4" COPPER TUBING - 5 FT.
4	1665	1	MALE BRANCH TEE 1/4T X 1/8P
5	2616	1	TUBE FITTING, STRAIGHT, 3/8 TUBE X 1/4 NPT

MAINTENANCE PARTS	
PART NUMBER	DESCRIPTION
2023903290	CONTROL VALVE INLET FILTER

\* See page 17 for optional pilot valves that must be used with respective pressure ranges.

# CONTROL GROUP 2023903255

(control version LVD)



2023903255 LVD CONTROL GROUP (STANDARD 155-165 PSI)			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	2023903205	1	LVD CONTROL VALVE, 155-165 PRESET
2	1642	2	TUBE FITTING, 90° ELBOW, 1/4T x 1/8MP
3	110515-025	1	1/4" COPPER TUBING - 5 FT.
4	1665	1	MALE BRANCH TEE 1/4T X 1/8P
5	2616	1	TUBE FITTING, STRAIGHT, 3/8 TUBE X 1/4 NPT

MAINTENANCE PARTS	
PART NUMBER	DESCRIPTION
2023903290	CONTROL VALVE INLET FILTER

\* See page 17 for optional pilot valves that must be used with respective pressure ranges.

# PILOT VALVES

COMBINATION VALVES - CONTROL VERSION "LVD"							
CONTAINS THE HYDRAULIC UNLOADER, PILOT VALVE, AND CHECK VALVE IN A SINGLE PART							
	PILOT SETTINGS	QUINCY PART #	FACTORY PRE-SET:		*CUSTOMER RE-SETTABLE:		
	SEE WARNING BELOW		LOAD PRESSURE (PSI)	UNLOAD PRESSURE (PSI)	LOAD PRESSURE RANGE (PSI)	UNLOAD PRESSURE RANGE (PSI)	
	CUSTOM PRESSURE SETTING		2023903201	100	115	**	51-120
			2023903202	130	140	**	121-250
			2023903203	450	500	**	251-500
	STANDARD 1-STAGE COMPRESSOR		2023903204	85	95	**	51-120
STANDARD 2-STAGE COMPRESSOR		2023903205	155	165	**	121-250	

COMBINATION VALVES - CONTROL VERSION "LS"							
CONTAINS THE HYDRAULIC UNLOADER, PILOT VALVE, AND CHECK VALVE IN A SINGLE PART							
	PILOT SETTINGS	QUINCY PART #	FACTORY PRE-SET:		*CUSTOMER RE-SETTABLE:		
	SEE WARNING BELOW		LOAD PRESSURE (PSI)	UNLOAD PRESSURE (PSI)	LOAD PRESSURE RANGE (PSI)	UNLOAD PRESSURE RANGE (PSI)	
	CUSTOM PRESSURE SETTING		2023903301	100	110	**	51-120
			2023903302	130	140	**	121-250
			2023903303	450	500	**	251-500
	STANDARD 1-STAGE COMPRESSOR		2023903304	90	100	**	51-120
STANDARD 2-STAGE COMPRESSOR		2023903305	165	175	**	121-250	

\* THE PILOT IS SUPPLIED PRESET FROM THE FACTORY. IF THE PILOT NEEDS TO BE RESET, REFER TO THE QR-25 SERIES INSTRUCTION MANUAL FOR INSTRUCTIONS.

\*\* SEE DIFFERENTIAL SETTING CHART. LOAD PRESSURE = UNLOAD PRESSURE - DIFFERENTIAL.

DIFFERENTIAL SETTING CHART	
UNLOAD PRESSURE (PSI)	DIFFERENTIAL MIN-MAX (PSI)
51-175	10-15
175-250	15-25
251-500	25-50

**WARNING!**

NOT ALL PILOTS ARE FOR USE WITH ALL COMPRESSOR SYSTEMS. MAKE SURE THAT THE PILOT YOU ORDER IS SET WITHIN THE SAFE OPERATING LIMITS OF YOUR COMPRESSOR. FAILURE TO HEED THIS WARNING COULD RESULT IN AN EXPLOSION.

REFER TO THE "INTRODUCTION" SECTION OF YOUR PARTS MANUAL FOR THE SAFE OPERATING LIMITS OF YOUR COMPRESSOR.

# SUCTION VALVE UNLOADER ASSEMBLIES

## Description

The Quincy suction valve unloader assembly consists of unloading arrangements on the suction valves, having a plunger to contact the suction valve disc and an unloader pilot valve to automatically regulate the passing of receiver pressure to the unloading arrangement.

## Application

Suction valve unloader assemblies are recommended for use on Quincy compressors where the compressor is to run continuously and a constant pressure is to be maintained. The purpose is to automatically unseat the suction valve of the compressor when the air supply is greater than the demand.

## Operation

Unloading occurs when receiver pressure is sufficient to overcome pilot valve spring pressure. The check ball is then unseated, allowing receiver pressure to pass to the unloading arrangements. The compressor will run unloaded until the receiver pressure drops to a predetermined level. At this time, the action of the ball is reversed, shutting off receiver pressure to the unloader arrangement and venting the unloader to atmosphere. This allows the compressor to load. The drive, either electric motor or combustion engine, runs continuously and must be started and stopped manually.

The LS control version is equipped with a toggle lever on the pilot valve which can be flipped to provide manual unloading.

The LVD control version is designed to provide a choice between "start/stop" or "continuous run" operation. The LVD pilot valve can be set for "start/stop" operation by turning the knurled knob at the end of the pilot valve clockwise until it stops. Under these circumstances a pressure switch is required to stop the motor. Failure to use a pressure switch, with the pilot valve locked out, could result in unsafe conditions.

### **WARNING !**

**A pressure switch must be incorporated whenever an LVD pilot valve is employed as part of the control system.**

The compressor will operate in the continuous run mode if the knurled knob on the LVD pilot valve is turned counterclockwise until it stops.

## Installation

The pilot valve is to be connected to the air receiver using a minimum of 3/8" o.d. copper tube. Compressors in the field, not equipped with a suction valve unloader assembly, can be converted to constant speed. Consult your local Quincy distributor for assistance with conversion procedures.

## Service

Periodically check the filter & screens in the inlet of the pilot valve to make sure they are free of obstructions. If they become clogged, remove and clean or replace. Inspect the "o" ring located in the opposite end of the pilot valve body for wear or damage; replace if necessary.

## Adjustment

The unloading pressure is adjustable and is regulated by turning the hex nut (marked "unload adj." in cross sectional illustrations of pilot valves). Turn the hex nut clockwise to increase and counterclockwise to decrease the unloading pressure.

The differential (difference between unloading and loading pressure) is set by turning the hex nut marked "differential adjustment" in the illustrations of the pilot valves on previous pages. Increase the differential pressure by turning the hex nut clockwise - decrease by turning counterclockwise. Tighten the locknuts after adjustment.

<b>Head Kit K310G</b>			
Item #	Qty.	Part Number	Description
	4	1552-002	valve disc
	2	1202	valve spring
	2	1368	valve spring
	4	1554	valve gasket
	4	1556	gasket, valve
	2	1855	diaphragm
	1	5698	gasket, cylinder to head
	1	110377E075	air filter element

<b>Overhaul Kit K310H</b>			
Item #	Qty.	Part Number	Description
	2	2824PR	con-rod inserts (1 pair/standard)
	1	110525	ring set (standard)
	1	6592	ring set, side sealer, (standard)
	1	5512	gasket set
	2	1202	valve spring
	2	1368	valve spring
	1	110377E075	air filter element
	4	1552-002	valve disc
	1	110610	"o"ring kit

<b>Pin Kit K310C (press fit)</b>			
Item #	Qty.	Part Number	Description
	1	1937X	pin assembly
	1	1264	piston pin
	1	6445SR	bushing
	1	6440SR	bushing

<b>Pin Kit K310D (float fit)</b>			
Item #	Qty.	Part Number	Description
	1	110190-011	piston pin
	1	110190-007	piston pin
	1	6440SR	bushing
	1	6445SR	bushing
	2	8648	retaining ring

<b>Oil Pump Repair Kit 2022132203</b>			
Item #	Qty.	Part Number	Description
	1	22749-152	"o"ring
	1	22749-112	"o"ring
	1	22749-011	"o"ring
	1	160003	oil pump gerotor
	1	160075-001	key
	1	6285	retaining ring
	1	2024200202	driveshaft

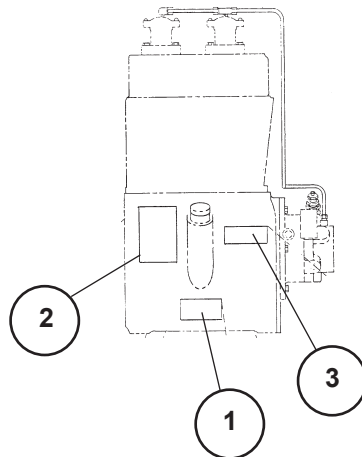
<b>Basic Compressor Repair Kit 2022118437</b>			
Item #	Qty.	Part Number	Description
	1	110190-007	pin, piston
	1	110190-011	piston pin
	1	110377E075	air filter element
	1	110773	"o"ring kit
	1	2023400100	oil filter
	2	1368	valve spring
	4	1552-002	valve disc
	1	2523	bearing cup
	1	2585	bearing cone
	2	2824PR	inserts (pair), con rod bearing
	1	4018	bearing cup
	1	4019	bearing cone
	1	5512	gasket set
	1	6440SR	bushing
	1	6445SR	bushing
	1	6592	side sealer ring set (standard)
	2	1202	valve spring
	1	110525	ring set (standard)

<b>Yearly Maintenance Kit 110516-310</b>			
Item #	Qty.	Part Number	Description
	1	110822	oil pressure gauge
	2	1553X11	replacement discharge valve assy
	2	1855	diaphragm
	2	4610X3	replacement suction valve assy
	1	5512	gasket set
	2	6283	hydraulic unloader filter

<b>Gasket Set 5512</b>			
Item #	Qty.	Part Number	Description
	4	1554	valve gasket
	4	1556	valve gasket
	1	1594	gasket
	1	1598	gasket, inspection plate
	2	1832	shim, bearing adj., .005, steel
	2	1832A	shim, bearing adj., .007, steel
	1	1832B	shim, bearing adj., .020, steel
	6	1832C	shim, bearing adj., .005, paper
	2	1832D	shim, bearing adj., .002 steel
	1	5698	gasket, cylinder to head
	1	6274	gasket, bearing carrier
	1	6275	gasket, inlet screw
	1	6313	gasket, inlet screw
	2	5697	gasket, intercooler

Recommended Spare Parts			
Item #	Qty.	Part Number	Description
	2	4610X3	replacement suction valve assy.
	2	1553X11	replacement discharge valve assy.
	1	110822	oil pressure gauge
	1	2022132203	oil pump repair kit
	1	5512	gasket set
	1	113225	hydraulic unloader repair kit
	2	2824PR	connecting rod inserts (1 pair)
	2	1855	unloader diaphragm
	1	2023903290	control valve inlet filter
	1	110377E100	air filter element

## DECALS



Decals for QR 310 Basic Compressor			
Item #	Qty.	Part Number	Description
1	1	110831	serial number & nameplate
2	1	127889-A	decal, CAUTION!/manual/ "Failure to follow..."
3	1	127889-B	decal, DANGER! / "Air used for breathing..."

\* Not sold separate; order 127889.

# TYPICAL UNIT REPAIR PARTS LIST

The parts listed here are for standard QR 310 (up to 175 PSI) units and may or may not be applicable to custom built units. Check with your local authorized Quincy distributor for parts that can be used for custom built units. Make sure the components you order are rated within the safe operating limits of your system. If you are doubtful about which components to order, contact your local Quincy distributor.

## (QR 310 simplex - horizontal tank - electric motor)

Qty	Part Number	Part Number	Part Number	Description
	<b>60 gal.</b>		<b>80 gal.</b>	
1	113891-200	113268-200		tank (200 PSI max. working pressure)
1	n/a	n/a	*	top plate
1	2713	2713		tank drain valve
1	111136-075	111136-075		ball valve
1	110514-300	110514-300		pressure gauge
1	110512-003	110512-003	**	pressure switch (135-175 PSI)
1	110513-200	110513-200		pressure relief valve (200 PSI)
2.5 ft.	110515-050	110515-050		discharge tube (1/2" copper tube to be formed by customer)
2	110948-050	110948-050		compression fittings
	<b>2 h.p.</b>			
1	110258B057			drive belt
1	3597-78			motor pulley
	n/a			motor pulley bushing
1	110945K002			belt guard assembly
	<b>115/230v, 1Ø</b>	<b>200v, 3Ø</b>	<b>230/460v, 3Ø</b>	
1	4002	8097	124517-002	2 h.p. motor (ODP)

## (QR 310 duplex - horizontal tank - electric motor)

Qty	Part Number	Part Number	Part Number	Description
	<b>80 gal.</b>			
1	113471-200			tank (200 PSI max. working pressure)
2	n/a		*	top plate
1	2713			tank drain valve
1	111136-075			ball valve
1	110514-300			pressure gauge
2	110512-003		**	pressure switch (135-175 PSI)
1	110513-200			pressure relief valve (200 PSI)
5 ft.	110515-075		!	discharge tube (1/2" copper tube to be formed by customer)
4	110948-050			compression fittings
	<b>2 h.p.</b>			
2	110258B057			drive belt
2	3597-78			motor pulley
	n/a			motor pulley bushing
2	110945K002			belt guard assembly
	<b>115/230v, 1Ø</b>	<b>200v, 3Ø</b>	<b>230/460v, 3Ø</b>	
2	4002	8097	124517-002	2 h.p. motor (ODP)

\* 113281 top plate is used for all QR 310 base mounted electric motor driven units.

\*\* 2298-175 pressure switch is used on standard QR 310 base mounted electric motor driven units.

! Pre-formed discharge tubes are available. Contact factory with model & tank size information.

# TYPICAL UNIT REPAIR PARTS LIST

The parts listed here are for standard QR 310 (up to 175 PSI) units and may or may not be applicable to custom built units. Check with your local authorized Quincy distributor for parts that can be used for custom built units. Make sure the components you order are rated within the safe operating limits of your system. If you are doubtful about which components to order, contact your local Quincy distributor.

(QR 310 vertical tank - electric motor)

Qty	Part Number	Part Number	Part Number	Description
<b>60 gal.</b>				
1	113267P200			tank (200 PSI max. working pressure)
1	110425-025			tank drain valve
1	111136-075			ball valve
1	110514-300			pressure gauge
1	110512-003			pressure switch (135-175 PSI)
1	110513-200			pressure relief valve (200 PSI)
2.5 ft.	110515-050			! discharge tube (3/4" copper tube to be formed by customer)
2	110948-050			compression fittings
<b>2 h.p.</b>				
1	110258B057			drive belt
1	3597-78			motor pulley
	n/a			motor pulley bushing
1	110945K002			belt guard assembly
	<b>115/230v, 1Ø</b>	<b>200v, 3Ø</b>	<b>230/460v, 3Ø</b>	
1	4002	8097	124517-002	2 h.p. motor (ODP)

! Pre-formed discharge tubes are available. Contact factory with model & tank size information.



# QUINCY COMPRESSOR STANDARD TERMS AND CONDITIONS

**LEGAL EFFECT:** Except as expressly otherwise agreed to in writing by an authorized representative of Seller, the following terms and conditions shall apply to and form a part of this order and any additional and/or different terms of Buyer's purchase order or other form of acceptance are rejected in advance and shall not become a part of this order.

The rights of Buyer hereunder shall be neither assignable nor transferable except with the written consent of Seller.

This order may not be canceled or altered except with the written consent of Seller and upon terms which will indemnify Seller against all loss occasioned thereby. All additional costs incurred by Seller due to changes in design or specifications, modification of this order or revision of product must be paid for by Buyer.

In addition to the rights and remedies conferred upon Seller by this order, Seller shall have all rights and remedies conferred at law and in equity and shall not be required to proceed with the performance of this order if Buyer is in default in the performance of such order or of any other contract or order with seller.

**TERMS OF PAYMENT:** Unless otherwise specified in the order acknowledgment, the terms of payment shall be 1% 15, net forty-five (45) days after shipment. These terms shall apply to partial as well as complete shipments. If any proceeding be initiated by or against Buyer under any bankruptcy or insolvency law, or in the judgment of Seller the financial condition of Buyer, at the time the equipment is ready for shipment, does not justify the terms of payment specified, Seller reserves the right to require full payment in cash prior to making shipment. If such payment is not received within fifteen (15) days after notification of readiness for shipment, Seller may cancel the order as to any unshipped item and require payment of its reasonable cancellation charges.

If Buyer delays shipment, payments based on date of shipment shall become due as of the date when ready for shipment. If Buyer delays completion of manufacture, Seller may elect to require payment according to percentage of completion. Equipment held for Buyer shall be at Buyer's risk and storage charges may be applied at the discretion of Seller.

Accounts past due shall bear interest at the highest rate lawful to contract for but if there is no limit set by law, such interest shall be eighteen percent (18%). Buyer shall pay all cost and expenses, including reasonable attorney's fees, incurred in collecting the same, and no claim, except claims within Seller's warranty of material or workmanship, as stated below, will be recognized unless delivered in writing to Seller within thirty (30) days after date of shipment.

**TAXES:** All prices exclude present and future sales, use, occupation, license, excise, and other taxes in respect of manufacture, sales or delivery, all of which shall be paid by Buyer unless included in the purchase price at the proper rate or a proper exemption certificate is furnished.

**ACCEPTANCE:** All offers to purchase, quotations and contracts of sales are subject to final acceptance by an authorized representative at Seller's plant.

**DELIVERY:** Except as otherwise specified in this quotation, delivery will be F. O. B. point of shipment. In the absence of exact shipping instruction, Seller will use its discretion regarding best means of insured shipment. No liability will be accepted by Seller for so doing. All transportation charges are at Buyer's expense. Time of delivery is an estimate only and is based upon the receipt of all information and necessary approvals. The shipping schedule shall not be construed to limit seller in making commitments for materials or in fabricating articles under this order in accordance with Seller's normal and reasonable production schedules.

Seller shall in no event be liable for delays caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control. No provision for liquidated damages for any cause shall apply under this order. Buyer shall accept delivery within thirty (30) days after receipt of notification of readiness for shipment. Claims for shortages will be deemed to have been waived if not made in writing with ten (10) days after the receipt of the material in respect of which any such shortage is claimed. Seller is not responsible for loss or damage in transit after having received "In Good Order" receipt from the carrier. All claims for loss or damage in transit should be made to the carrier.

**TITLE & LIEN RIGHTS:** The equipment shall remain personal property, regardless of how affixed to any realty or structure. Until the price (including any notes given therefore) of the equipment has been fully paid in cash, Seller shall, in the event of Buyer's default, have the right to repossess such equipment.

**PATENT INFRINGEMENT:** If properly notified and given an opportunity to do so with friendly assistance, Seller will defend Buyer and the ultimate user of the equipment from any actual or alleged infringement of any published United States patent by the equipment or any part thereof furnished pursuant hereto (other than parts of special design, construction, or manufacture specified by and originating with Buyer), and will pay all damages and costs awarded by competent court in any suit thus defended or of which it may have had notice and opportunity to defend as aforesaid.

**STANDARD WARRANTY:** Seller warrants that products of its own manufacture will be free from defects in workmanship and materials under normal use and service for the period specified in the product instruction manual. Warranty for service parts will be Ninety (90) days from date of factory shipment. Electric Motors, gasoline and diesel engines, electrical apparatus and all other accessories, components and parts not manufactured by Seller are warranted only to the extent of the original manufacturer's warranty.

Notice of the alleged defect must be given to the Seller, in writing with all identifying details including serial number, type of equipment and date of purchase within thirty (30) days of the discovery of the same during the warranty period.

Seller's sole obligation on this warranty shall be, at its option, to repair or replace or refund the purchase price of any product or part thereof which proves to be defective. If requested by Seller, such product or part thereof must be promptly returned to seller, freight prepaid, for inspection.

Seller warrants repaired or replaced parts of its own manufacture against defects in materials and workmanship under normal use and service for ninety (90) days or for the remainder of the warranty on the product being repaired.

This warranty shall not apply and Seller shall not be responsible or liable for:

- (a) Consequential, collateral or special losses or damages;
- (b) Equipment conditions caused by fair wear and tear, abnormal conditions of use, accident, neglect or misuse of equipment, improper storage or damage resulting during shipping;
- (c) Deviation from operating instructions, specifications or other special terms of sale;
- (d) Labor charges, loss or damage resulting from improper operation, maintenance or repairs made by person(s) other than Seller or Seller's authorized service station.

In no event shall Seller be liable for any claims whether arising from breach of contract or warranty or claims of negligence or negligent manufacture in excess of the purchase price.

**THIS WARRANTY IS THE SOLE WARRANTY OF SELLERS AND ANY OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR USE ARE HEREBY SPECIFICALLY EXCLUDED.**

**LIABILITY LIMITATIONS:** Under no circumstances shall the Seller have any liability for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, whether resulting from delays in delivery or performance, breach of warranty, negligent manufacture or otherwise.

**ENVIRONMENTAL AND OSHA REQUIREMENTS:** At the time of shipment of the equipment from the factory, Quincy Compressor / Ortman Fluid Power will comply with the various Federal, State and local laws and regulations concerning occupational health and safety and pollution. However, in the installation and operation of the equipment and other matters over which the seller has no control, the Seller assumes no responsibility for compliance with those laws and regulations, whether by the way of indemnity, warranty or otherwise.

June 30, 2003



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