



Production Control Units, Inc.

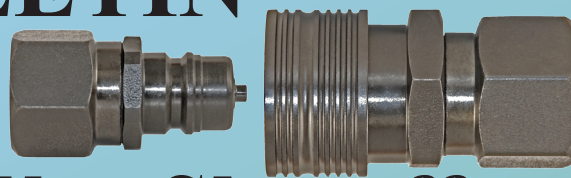
2280 West Dorothy Lane, Dayton, Ohio 45439-1892

Phone (937) 299-5594 FAX: (937) 299-4843

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SERVICE BULLETIN

for



Series 410 Two-Way Shutoff Valved Nipples and Couplers Models 66 and 67

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Production Control Units, Inc.-Coupler Products

2280 West Dorothy Lane, Dayton, Ohio 45439-1892 USA - Phone (937) 299-5594 - FAX: (937) 299-4843
PCU Web Site: www.pcuinc.com - E-mail: couplers@pcuinc.com

Coupler Application Data Inquiry

Company _____ Phone # _____

Contact _____ Fax # _____

Address _____ E-mail _____

City _____ State _____ Country _____ Zip _____

Type & brand name for current coupler _____

Customer product manufactured _____

Type of coupler required

Size and type of tube or port to be sealed _____

☐ Straight ☐ Swaged ☐ Expanded ☐ Other _____

Length of tube or port available for coupler _____

Quantity required _____

Delivery due date _____

How will the coupler be used?

Refrigerant processing

What type of refrigerant? (HFC-134a, HP62, R-22, etc.) _____

Oil processing

What type of oil (Mineral, Polyol Ester, PAG, etc.) _____ (Attach MSDS)

Leak Burst testing

Maximum pressure & type of test media? (Air, Helium, etc.) _____

Vacuum

What level of vacuum needs to be achieved? _____

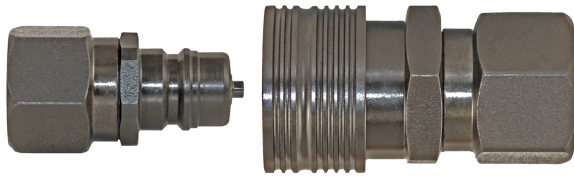
What Oil be present during vacuum pump down? _____

If "yes", what type of oil? _____

Additional process information

Along with your request for quote, please provide (1) copy of print showing area to be sealed, and (3) quality sample parts.

NOTE: The Data Inquiry form is available in pdf format on our web site at
www.PCUInc.com



GENERAL DESCRIPTION

These tough, compact, lightweight PCU couplers utilize heat-treated parts for interchangeability and long life oxide and nickel finishes resist corrosion. They provide a large, unrestricted flow rate for a variety of production uses while minimizing process material loss during coupling/uncoupling.

TWO-WAY SHUTOFF VALVED NIPPLES AND COUPLERS: 1/4" Series 250 and 7/16" Series 410.

OPERATION

8-ball detent lock provides instant positive coupling. Simply slide back grooved lock ring on the coupler and push together until the lock ring snaps back to its lock position.

COUPLER FEATURES & SPECIFICATIONS

SAFE: Positive ball-lock action prevents blow-off or premature loss of sealed connection. Tests prove it is **PRESSURE SAFE**.

STRONG: Holds pressures for 25 microns up to 1000 psig, with minimum proof pressure of 4000 psig.

MANY APPLICATIONS: Seal compounds can be easily changed for many uses with oils, refrigerants, water, air, and vacuum.

The Series 250 Couplers and Nipples mate to our Series 50, 91, 93, and 500 Tube Quick-Connect Couplers (TQC's).

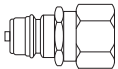
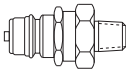
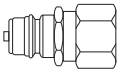
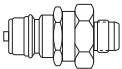
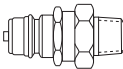
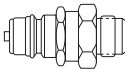
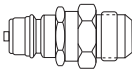
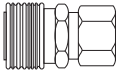
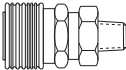
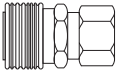
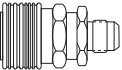
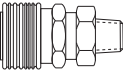
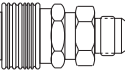
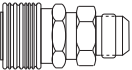
The standard PCU nipples and couplers in this bulletin are assembled with neoprene seals and O-rings. We recommend the neoprene compound for use with compressed air, R-22, R404a, R410a and Nitrile (Buna-N) for HFC-134a refrigerants.

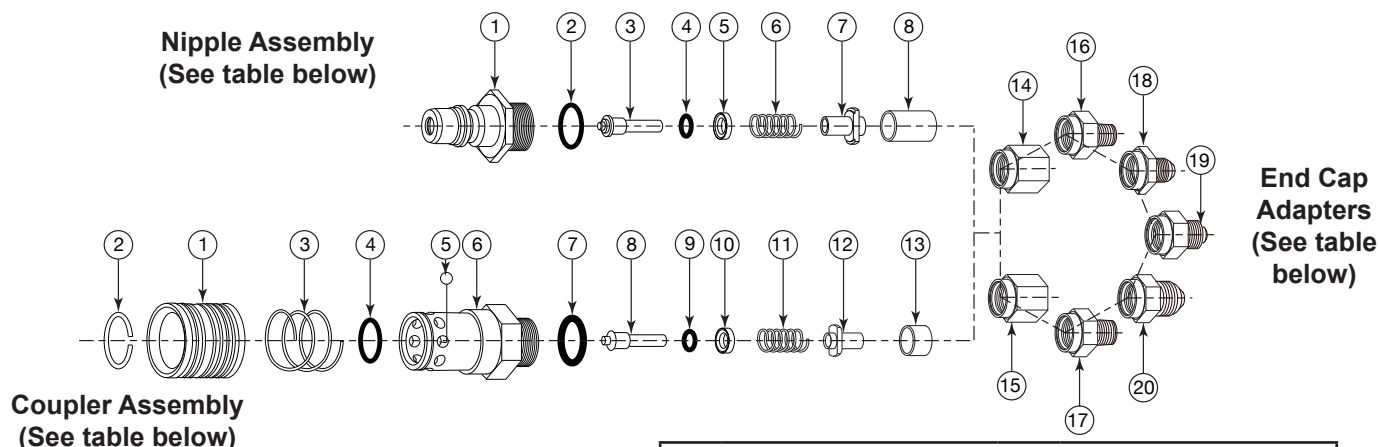
Other seal materials are available for specific process applications.

MAINTENANCE INSTRUCTIONS

Coupler life is dependent upon a regular scheduled maintenance program. The application and its risk potential should determine frequency. PCU cannot determine a maintenance schedule due to the many factors involved: temperature, proper size selection, fluid compatibility, pressure, mechanical loads, user responsibility. User must establish a maintenance program based on previous service life. There are several factors that must be included when setting up a maintenance program: visual inspection for cracked, defective parts and excessively worn components; dirt or particle buildup in seal and clamping areas; thorough cleaning and proper lubrication; replace worn out and defective seals.

NEOPRENE SEALS

NIPPLE ASSEMBLY	66311	66331	66411	66421	66431	66521	66621
							
	3/8" FPT ADAPTER	3/8" MPT ADAPTER	1/2" FPT ADAPTER	1/2" SAE FL ADAPTER	1/2" MPT ADAPTER	5/8" SAE FL ADAPTER	3/4" SAE FL ADAPTER
							
COUPLER ASSEMBLY	67311	67331	67411	67421	67431	67521	67621



End Cap Adapters			
14.	66801 - 3/8" FPT	18.	66821 - 1/2" SAE FL
15.	66809 - 1/2" FPT	19.	66822 - 5/8" SAE FL
16.	66820 - 3/8" MPT	20.	66823 - 3/4" SAE FL
17.	66819 - 1/2" MPT		

REPLACEMENT PARTS LIST

Nipple Assembly NEOPRENE SEALS		
1.	Nipple Body	66817
2.	End Cap O-Ring	66810
3.	Nipple Valve Stem	66815
4.	Valve O-Ring	66812
5.	O-Ring Retainer	66806
6.	Nipple Valve Spring	66816
7.	Perch	66803
8.	Nipple Spacer	66818

Coupler Assembly NEOPRENE SEALS		
1.	Coupler Sleeve	66807
2.	Retaining Ring	66814
3.	Coupler Sleeve Spring	66808
4.	O-Ring	66810
5.	Ball (8) Req'd	61833
6.	Coupler Body	66811
7.	End Cap O-Ring	66810
8.	Coupler Valve Stem	66802
9.	Valve O-Ring	66812
10.	O-Ring Retainer	66806
11.	Coupler Valve Spring	66805
12.	Perch	66803
13.	Coupler Spacer	66804

BUNA-N (NITRILE) SEALS

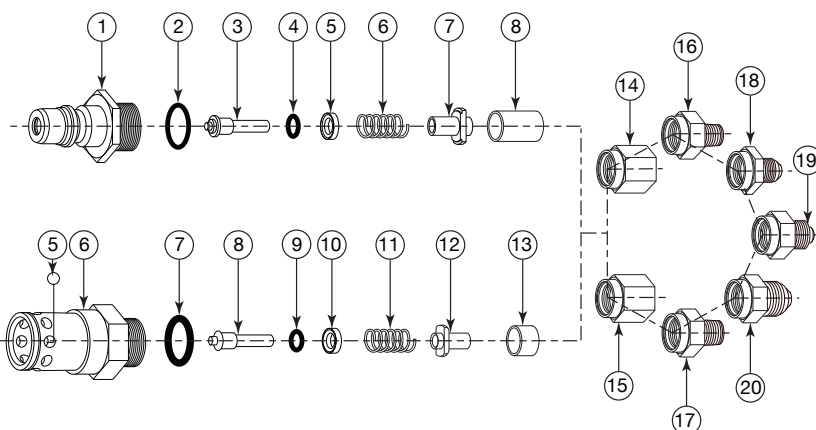
NIPPLE
ASSEMBLY

66312	66332	66412	66422	66432	66522	66622
3/8" FPT ADAPTER	3/8" MPT ADAPTER	1/2" FPT ADAPTER	1/2" SAE FL ADAPTER	1/2" MPT ADAPTER	5/8" SAE FL ADAPTER	3/4" SAE FL ADAPTER

COUPLER
ASSEMBLY

67312	67332	67412	67422	67432	67522	67622

Nipple Assembly
(See table below)



**End Cap
Adapters**
(See table below)

Coupler Assembly
(See table below)

End Cap Adapters

14. 66801 - 3/8" FPT	18. 66821 - 1/2" SAE FL
15. 66809 - 1/2" FPT	19. 66822 - 5/8" SAE FL
16. 66820 - 3/8" MPT	20. 66823 - 3/4" SAE FL
17. 66819 - 1/2" MPT	

REPLACEMENT PARTS LIST

Nipple Assembly BUNA-N (NITRILE) SEALS		
1.	Nipple Body	66817
2.	End Cap O-Ring	66829
3.	Nipple Valve Stem	66815
4.	Valve O-Ring	66813
5.	O-Ring Retainer	66806
6.	Nipple Valve Spring	66816
7.	Perch	66803
8.	Nipple Spacer	66818

Coupler Assembly BUNA-N (NITRILE) SEALS		
1.	Coupler Sleeve	66807
2.	Retaining Ring	66814
3.	Coupler Sleeve Spring	66808
4.	O-Ring	66829
5.	Ball (8) Req'd	61833
6.	Coupler Body	66811
7.	End Cap O-Ring	66829
8.	Coupler Valve Stem	66802
9.	Valve O-Ring	66813
10.	O-Ring Retainer	66806
11.	Coupler Valve Spring	66805
12.	Perch	66803
13.	Coupler Spacer	66804

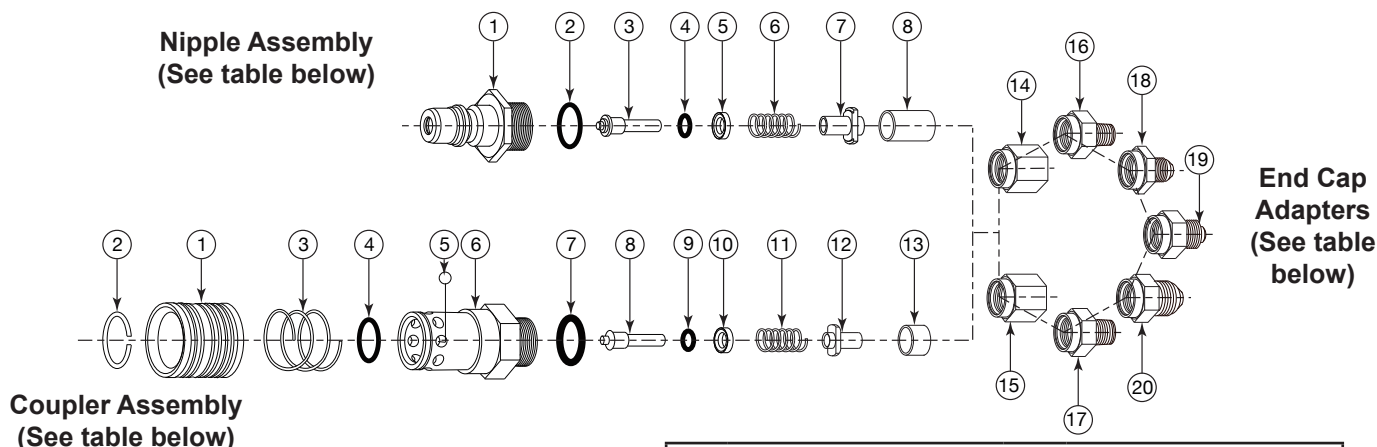
FLUOROCARBON SEALS

NIPPLE
ASSEMBLY

66313	66333	66413	66423	66433	66523	66623
3/8" FPT ADAPTER	3/8" MPT ADAPTER	1/2" FPT ADAPTER	1/2" SAE FL ADAPTER	1/2" MPT ADAPTER	5/8" SAE FL ADAPTER	3/4" SAE FL ADAPTER

COUPLER
ASSEMBLY

67313	67333	67413	67423	67433	67523	67623



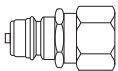
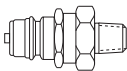
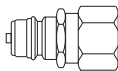
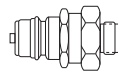
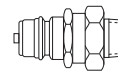
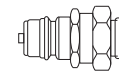
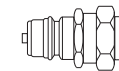



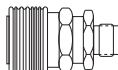
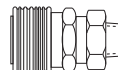


End Cap Adapters			
14.	66801 - 3/8" FPT	18.	66821 - 1/2" SAE FL
15.	66809 - 1/2" FPT	19.	66822 - 5/8" SAE FL
16.	66820 - 3/8" MPT	20.	66823 - 3/4" SAE FL
17.	66819 - 1/2" MPT		

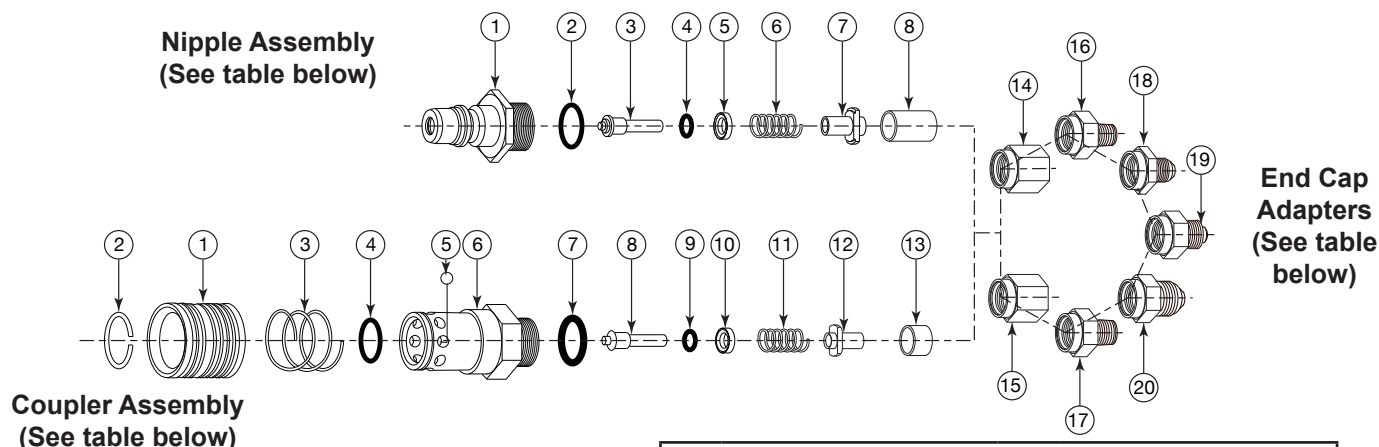
REPLACEMENT PARTS LIST

Nipple Assembly FLUOROCARBON SEALS		
1.	Nipple Body	66817
2.	End Cap O-Ring	66824
3.	Nipple Valve Stem	66815
4.	Valve O-Ring	66830
5.	O-Ring Retainer	66806
6.	Nipple Valve Spring	66816
7.	Perch	66803
8.	Nipple Spacer	66818

Coupler Assembly FLUOROCARBON SEALS		
1.	Coupler Sleeve	66807
2.	Retaining Ring	66814
3.	Coupler Sleeve Spring	66808
4.	O-Ring	66824
5.	Ball (8) Req'd	61833
6.	Coupler Body	66811
7.	End Cap O-Ring	66824
8.	Coupler Valve Stem	66802
9.	Valve O-Ring	66830
10.	O-Ring Retainer	66806
11.	Coupler Valve Spring	66805
12.	Perch	66803
13.	Coupler Spacer	66804

R410a (NEOPRENE) SEALS

NIPPLE ASSEMBLY	66315	66335	66415	66425	66435	66525	66625
							
	3/8" FPT ADAPTER	3/8" MPT ADAPTER	1/2" FPT ADAPTER	1/2" SAE FL ADAPTER	1/2" MPT ADAPTER	5/8" SAE FL ADAPTER	3/4" SAE FL ADAPTER
COUPLER ASSEMBLY							
	67315	67335	67415	67425	67435	67525	67625



End Cap Adapters			
14.	66801 - 3/8" FPT	18.	66821 - 1/2" SAE FL
15.	66809 - 1/2" FPT	19.	66822 - 5/8" SAE FL
16.	66820 - 3/8" MPT	20.	66823 - 3/4" SAE FL
17.	66819 - 1/2" MPT		

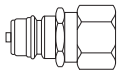
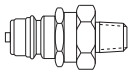
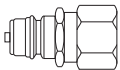
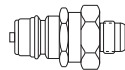
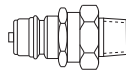
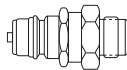
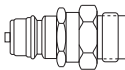
REPLACEMENT PARTS LIST

Nipple Assembly NEOPRENE SEALS		
1.	Nipple Body	66817
2.	End Cap O-Ring	OR117-C1278
3.	Nipple Valve Stem	66815
4.	Valve O-Ring	OR012-C1278
5.	O-Ring Retainer	66806
6.	Nipple Valve Spring	66816
7.	Perch	66803
8.	Nipple Spacer	66818

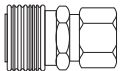
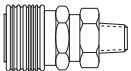
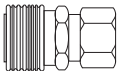
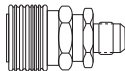
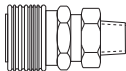
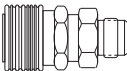
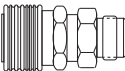
Coupler Assembly NEOPRENE SEALS		
1.	Coupler Sleeve	66807
2.	Retaining Ring	66814
3.	Coupler Sleeve Spring	66808
4.	O-Ring	OR117-C1278
5.	Ball (8) Req'd	61833
6.	Coupler Body	66811
7.	End Cap O-Ring	OR117-C1278
8.	Coupler Valve Stem	66802
9.	Valve O-Ring	66812
10.	O-Ring Retainer	66806
11.	Coupler Valve Spring	66805
12.	Perch	66803
13.	Coupler Spacer	66804

EPDM SEALS

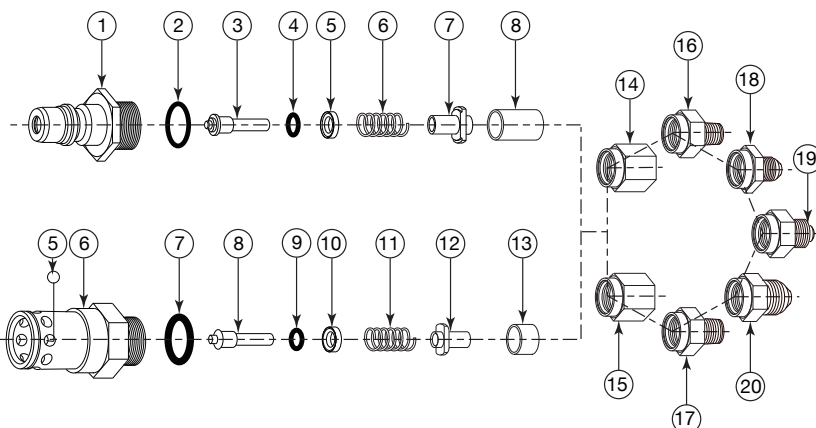
**NIPPLE
ASSEMBLY**

66316	66336	66416	66426	66436	66526	66626
						
3/8" FPT ADAPTER	3/8" MPT ADAPTER	1/2" FPT ADAPTER	1/2" SAE FL ADAPTER	1/2" MPT ADAPTER	5/8" SAE FL ADAPTER	3/4" SAE FL ADAPTER

**COUPLER
ASSEMBLY**

						
67316	67336	67416	67426	67436	67526	67626

**Nipple Assembly
(See table below)**



**End Cap
Adapters
(See table below)**

**Coupler Assembly
(See table below)**

End Cap Adapters

14. 66801 - 3/8" FPT	18. 66821 - 1/2" SAE FL
15. 66809 - 1/2" FPT	19. 66822 - 5/8" SAE FL
16. 66820 - 3/8" MPT	20. 66823 - 3/4" SAE FL
17. 66819 - 1/2" MPT	

REPLACEMENT PARTS LIST

Nipple Assembly EPDM SEALS		
1.	Nipple Body	66817
2.	End Cap O-Ring	66844
3.	Nipple Valve Stem	66815
4.	Valve O-Ring	55016
5.	O-Ring Retainer	66806
6.	Nipple Valve Spring	66816
7.	Perch	66803
8.	Nipple Spacer	66818

Coupler Assembly EPDM SEALS		
1.	Coupler Sleeve	66807
2.	Retaining Ring	66814
3.	Coupler Sleeve Spring	66808
4.	O-Ring	66844
5.	Ball (8) Req'd	61833
6.	Coupler Body	66811
7.	End Cap O-Ring	66844
8.	Coupler Valve Stem	66802
9.	Valve O-Ring	55016
10.	O-Ring Retainer	66806
11.	Coupler Valve Spring	66805
12.	Perch	66803
13.	Coupler Spacer	66804

HFC-134a REFRIGERANT SEALS

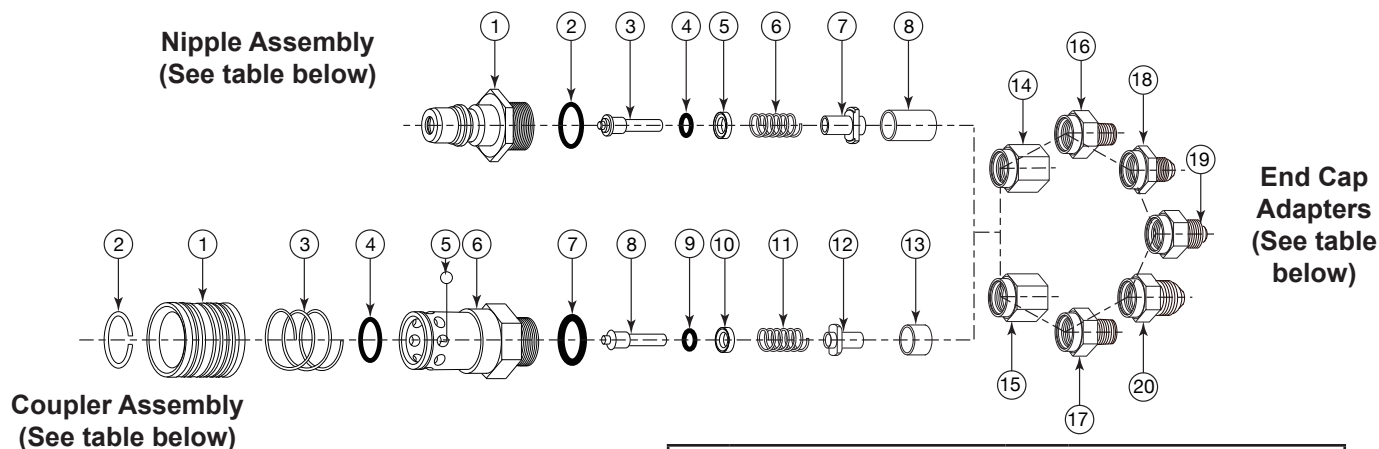
NIPPLE
ASSEMBLY

66317	66337	66417	66427	66437	66527	66627
3/8" FPT ADAPTER	3/8" MPT ADAPTER	1/2" FPT ADAPTER	1/2" SAE FL ADAPTER	1/2" MPT ADAPTER	5/8" SAE FL ADAPTER	3/4" SAE FL ADAPTER

COUPLER
ASSEMBLY

67317	67337	67417	67427	67437	67527	67627

Nipple Assembly
(See table below)



End Cap Adapters

14. 66801 - 3/8" FPT	18. 66821 - 1/2" SAE FL
15. 66809 - 1/2" FPT	19. 66822 - 5/8" SAE FL
16. 66820 - 3/8" MPT	20. 66823 - 3/4" SAE FL
17. 66819 - 1/2" MPT	

REPLACEMENT PARTS LIST

Nipple Assembly HFC-134a REFRIGERANT SEALS		
1.	Nipple Body	66817
2.	End Cap O-Ring	66827
3.	Nipple Valve Stem	66815
4.	Valve O-Ring	66828
5.	O-Ring Retainer	66806
6.	Nipple Valve Spring	66816
7.	Perch	66803
8.	Nipple Spacer	66818

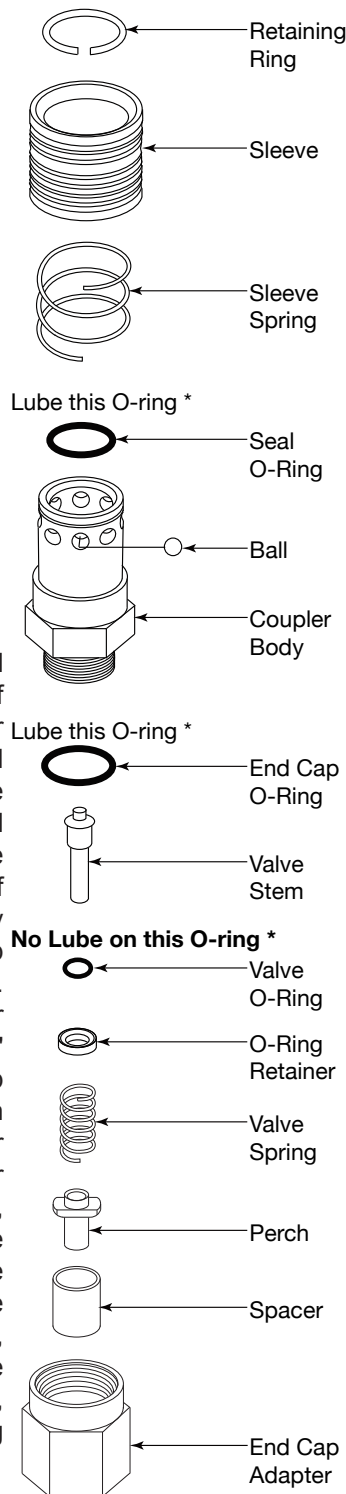
Coupler Assembly HFC-134a REFRIGERANT SEALS		
1.	Coupler Sleeve	66807
2.	Retaining Ring	66814
3.	Coupler Sleeve Spring	66808
4.	O-Ring	66827
5.	Ball (8) Req'd	61833
6.	Coupler Body	66811
7.	End Cap O-Ring	66827
8.	Coupler Valve Stem	66802
9.	Valve O-Ring	66828
10.	O-Ring Retainer	66806
11.	Coupler Valve Spring	66805
12.	Perch	66803
13.	Coupler Spacer	66804



SERIES 410 COUPLER ASSEMBLY

DISASSEMBLY - COUPLER

Holding the coupler assembly in one hand, pull the sleeve back with thumb and forefinger of same hand to expose the end of the coupler body. Using retaining ring pliers or a pointed tool, pry the retaining ring from the groove on the coupler body. Set aside. Insert Ball Assembly Tool to hold balls in place while removing coupler sleeve and sleeve spring. If you don't have a Ball Assembly Tool, carefully remove coupler sleeve and spring over a shop rag or towel to keep balls from rolling away. Remove balls and set aside. Place coupler body in a vise clamping on the hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Remove the coupler assembly from the vise. Holding the coupler body with its related parts threaded end up, remove the spacer and set aside. Tilt the coupler body down and slide out the valve assembly. (Note: Tap valve assembly loose if stuck.) Check and remove perch, spring, O-ring retainer, and valve O-ring from valve stem. Discard old O-rings. With a pointed tool, pry seal O-ring from inside coupler body, being careful not to scratch O-ring groove.



* Use PCU O-ring lubricant 490-00134

REASSEMBLY - COUPLER

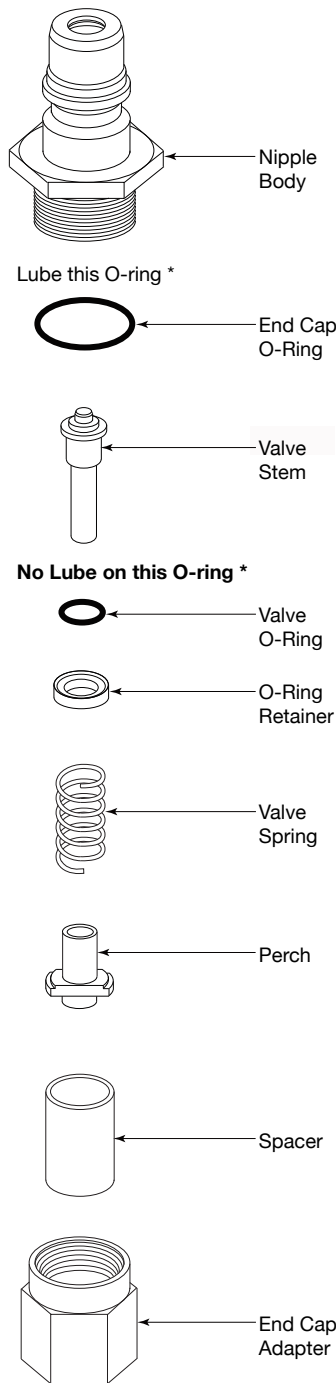
Lubricate O-ring with PCU lubricant 490-00134, before inserting seal O-ring in groove inside coupler body. Press firmly against inner diameter to ensure proper placement of seal. After parts have all been inspected, pick up valve stem and slide valve O-ring over stem and upon shouldered portion of the valve stem. Next, position the O-ring retainer behind the O ring, making certain the cupped portion of the O-ring retainer is next to the O-ring. Slide the valve spring over the valve stem until it comes in contact with the flat side of the "O" retainer. Slide the perch onto the valve stem, short end first, pushing it under the spring. Pick up the coupler body, holding it threaded end down, and slide the valve assembly up into the coupler body, valve stem first. Tilt the coupler body until the threaded end is pointing up, allowing the valve assembly to drop into place. Ensure that the valve assembly remained intact, then insert spacer into the coupler body until it comes in contact with the shoulders of the perch. Pick up the end cap adapter and screw the adapter to the coupler assembly. Set torque wrench, using approximately 35 to 40 foot lbs. torque. Turn assembly over. Using the Ball Assembly Tool, insert the balls (8) into the holes in the coupler body. If the Ball Assembly Tool is not available, use O-ring grease or petroleum jelly in ball holes to hold balls in place. Slide sleeve spring over end of coupler body; place sleeve over spring, large diameter first. Apply retaining ring into groove in coupler body using fingers or you may use the Snap Ring Pusher Tool if you are using the Ball Assembly Tool. To use the Snap Ring Pusher Tool, place the retaining ring over the small diameter of the Ball Assembly Tool and push down on the retaining ring with the Snap Ring Pusher Tool until the retaining ring snaps into the groove on the coupler body. Remove assembly tool, if used; this completes assembly.



SERIES 410 NIPPLE ASSEMBLY

DISASSEMBLY - NIPPLE

To disassemble the nipple assembly, place nipple body in a vise, clamping on the 1" hex. Use a 1" open-end wrench (or equivalent) on end cap adapter. Loosen until the end cap adapter can be removed by hand. Set end cap adapter aside. Remove nipple assembly from vise. Holding the nipple body with its related parts threaded end up, remove the spacer and set aside. Tilt nipple body down and slide out valve assembly (Note: Tap valve assembly loose if stock.) Check and remove perch, spring, O-ring retainer, and valve O-ring from valve stem. Discard old O-rings,



* Use PCU O-ring lubricant 490-00134

REASSEMBLY - NIPPLE

After parts have been inspected, pick up valve stem in one hand and slide valve O-ring (no lubrication) over stem and upon shouldered portion of the valve stem. Next, position the O-ring retainer behind the O-ring, making certain that the cupped portion of the O-ring retainer is next to the O-ring. Slide the valve spring over the valve stem until it comes in contact with the O-ring retainer. Slide the perch onto the valve stem, with its long end over the stem. Pick up the nipple body, holding it with the threaded end down, and slide the valve assembly up into the nipple body, valve stem first. As the valve assembly is slid into the nipple body, tilt the nipple body until the threaded end is pointing up to allow the valve assembly to drop into place. Holding the nipple body in that position, pick up spacer and slide it down into the nipple body until it comes in contact with the shoulders of the perch. Screw the end cap adapter to the nipple body. Set home with wrench, using approximately 35 to 40 foot lbs. torque. Reassembly of the Series 410 Nipple is now complete.

410 Coupler Service Tool Kit #460-00410

625-00810	O-Ring Insertion Tool
21597	Magnetized Ball Assembly Tool
21599	Retaining Ring Pliers



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Series 25



Series 86



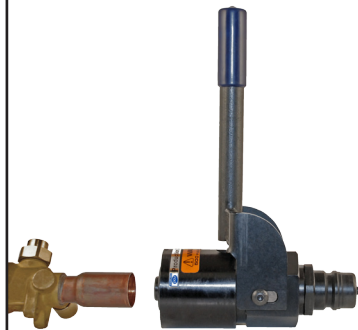
Series 87



Series 91



Series 93



Series 98



Series 100 & 101



Series 109



Series 250



Series 410



Series 500



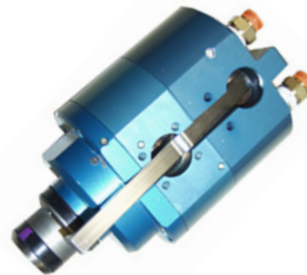
Series 250 Evac & Charge



Series 13000



Series 104



Series 106



Series 106 Adapter

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