

## Basic Information

### EXPANSION VALVES (TXV)

The **expansion valve** (also referred to as TXV) is located at the evaporator inlet; controlling the flow of refrigerant entering the evaporator based on the cooling load or the evaporators temperature. A metering valve inside the expansion valve moves up and down in the refrigerants flow path, opening and closing the pathway inside. The pathway internally, is smaller than the refrigerant line, causing the pressure to drop, changing it from a high pressure liquid to low pressure liquid mist. Sensing temperature changes, the metering valve constantly opens or closes as it precisely meters the amount of of refrigerant needed. The expansion valve is considered one of the dividing lines bewteen the high and low pressure sections of the system. There are three different types of expansion valves; Block, Externally Equalized and Internally equalized.

**Externally Equalized** has a line with a fitting and nut, which are connected from the lower side of the expansion valves diaphragm to a point on the low side hose (between the evaporator and the compressor). This line allows refrigerant pressure to be applied in the same manner as an internally equalized type.

**Internally Equalized** uses one capillary tube as a temperature sensing bulb to sense suction line temperatures.

### ORIFICE TUBES/EXPANSION TUBES

**Orifice Tubes / Expansion Tubes** consist of a filter screen to remove contaminants, and a calibrated tube to meter refrigerant flow.

Like an expansion valve they are mounted on the inlet side of the evaporator. They are found on vehicles using an accumulator instead of a receiver drier. CCOT (clutch cycling orifice tube) and FFOT (ford fixed orifice tube) systems. Both systems create the pressure drop by metering a steady flow of refrigerant while the compressor is operating. The cyling clutch switch, either a thermostatic switch or a pressure cycling switch turns the compressor on and off. The intermittent compressor operation controls the refrigerant flow and pressure.



#### **BLOCK VALVES ONLY**

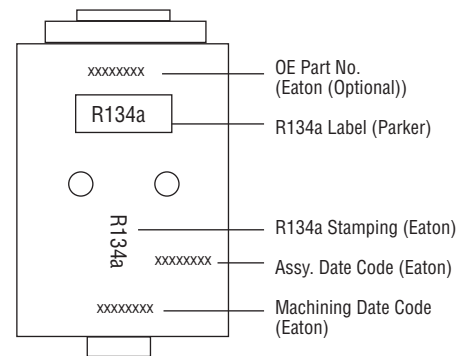
A “nicked” or “bleed” valve type expansion valve is typically used in auxiliary systems to keep the refrigerant oil from trapping in the line behind the valve when it is off and the main system is on. The use of a “nicked” expansion valve depends on the design of the system. The life of the compressor will greatly be reduced if a “no nick” or “non bleed” valve is put in place of the “nicked” or “bleed” valve type that the system was designed for.

A “nicked seat” expansion valve allows a small amount of refrigerant and oil to leak through the valve seat when it is in a shut position. The bypass is made by using a precise nick or impression to allow the refrigerant to leak by the seat and ball with the amount of bypass required.

# EXPANSION VALVES

“NON-TRUMPET” has internal friction clip inserted to prevent vibration and noise.

<b>BLOCK TYPE .....</b>	<b>376</b>
<b>EXTERNALLY EQUALIZED .....</b>	<b>380</b>
<b>INTERNALLY EQUALIZED .....</b>	<b>381</b>
<b>ORIFICE / EXPANSION TUBES.....</b>	<b>382</b>
<b>SOLENOID VALVES .....</b>	<b>564</b>



#### **RELATED ITEMS**

Block-off Plugs .....	382
Brackets, Expansion Valve .....	375
Orifice Extractor Kit.....	373
Orifice Tube Assortment Kit .....	382

## Block Type Expansion Valves

ILLUSTRATION	HOSE SIDE IN - OUT	EVAP. FITTING SIDE IN - OUT SUCTION	PART#	NOTE	RATING	
	#6 - #8 Female O'Ring	#8 - #10 Female O'Ring	<b>1683</b>	(2) 1/4" Mntng Holes; JDeere KV22928	1 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1600</b>	w/ Two Mounting Hole	1 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1667</b>	Peterbilt, KW 549707BSM	1 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1601</b>	40138-129, 329-498	2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1604</b>	w/ Trinary Switch Port; R12 Port	2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1644</b>	540446BSM, w/ ports M12, M10	2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1668</b>	KW 549708BSM w/bypass, M12, M10	2 ton	
	#6 - #10 Female O'Ring	#8 - #8 Female O'Ring	<b>1608</b>	w/ Two Mounting Holes	2 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1606</b>	w/ Two Mounting Hole	1 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1613</b>	Frtlnr; green stripes; Nick Type	1 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1602</b>	w/ Two Mounting Hole	2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1603</b>	4379-RD510546-0, 329-488	2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1626</b>	w/ R12 port; EXP-002-ACT	2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1627</b>	w/ 1/4" Mntg Hole; w/ ports M10, M12	2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1664</b>	JDeere 3501-79510, AL77579	2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1672</b>	85104197, BOA96398, A1722	2 ton	
	#6 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1693</b>	Komatsu/CAT 130-0263; 447500	1 1/2 ton	
	#6 - #10 Female O'Ring	#8 - #12 Female O'Ring	<b>1684</b>	85120289; BOAV5778001	-	
	#6 - #10 Female O'Ring	#10 - #10 Female O'Ring	<b>1666</b>	Case, Allis Tractors	1 1/2 ton	
	#6 - #10 Female O'Ring	#10 - #10 Female O'Ring	<b>1665</b>	WA380, 4477500-1031, 477500-3540	2 ton	
	#6 - #12 Female O'Ring	#8 - #10 Female O'Ring	<b>1622</b>	Volvo20443850	1 1/2 ton	
	#6 - #12 Female O'Ring	#8 - #10 Female O'Ring	<b>1623</b>	Sprinter 5143304AA	1 1/2 ton	
	#6 - #12 Female O'Ring	#8 - #10 Female O'Ring	<b>1678</b>	w/stud and bracket, 3543-T4935001	-	
	#6 - #12 Female O'Ring	#8 - #12 Female O'Ring	<b>1624</b>	326310	1 1/2 ton	
	#8 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1679</b>	Ford BC3Z-19849A	-	
	#8 - #10 Female O'Ring	#8 - #10 Female O'Ring	<b>1688</b>	w/M12, M10 Ports, Peterbilt 3S011516	2 ton	
	#8 - #12 Female O'Ring	#8 - #10 Female O'Ring	<b>1690</b>	International 3857948-C2	2 ton	
	#0107 - #0111 Fem O'Ring	0013M - #0111 Fem O'Ring	<b>1685</b>	KUBOTA 3A851-72170 (metric)	1 1/2 ton	
	9mm - 18mm Fem O'Ring	16mm - 18mm Fem O'Ring	<b>1689</b>	Isuzu 8-98014-383-0 (metric)	1 1/2 ton	
		#6 - #10 Flange	#8 - #8 Flange Mount	<b>1648</b>	KW, Pete, Berg (mini)	1 1/2 ton
		#6 - #10 Flange	#8 - #8 Flange Mount	<b>1609</b>	w/ 1 Front Sw. Port; Nick Type, M10	2 ton
		#6 - #10 Flange	#8 - #8 Flange Stud Mnt	<b>1611</b>	929462, 929-505; w/ M10, M12 w/bypass	2 ton
		#6 - #10 Flange	#8 - #8 Flange Stud Mnt	<b>1612</b>	w/ 2 ports M10, M12; 2501794C1	2 ton
#6 - #12 Flange		#8 - #10 Flange Mount	<b>1614</b>	Volvo; RE57575, 540056BSM	2 ton	
#6 - #12 Flange		#8 - #10 Flange Mount	<b>1673</b>	Western Star 401038-302	2 ton	
#6 - #12 Flange		#8 - #10 Flange Mount	<b>1682</b>	CAT 122-6015	2 ton	
#6 - #12 Flange		#8 - #10 Flange Mount	<b>1691</b>	w/M12, M10 Ports, PACCAR, 1000352807	2 ton	
#6 - #12 Flange		#8 - #10 Flange Mount	<b>1692</b>	PACCAR sleeper, 1000355817	1 1/2 ton	
		#6 - #10 Stat Seal	#8 - #10 Stat Seal	<b>1621</b>	Burgundy Color; Aux. Sleeper	1 ton
	#6 - #10 Stat Seal	#8 - #10 Stat Seal	<b>1615</b>	Gold Color; Main Unit	1 1/2 ton	
	#6 - #10 Stat Seal	#8 - #10 Stat Seal	<b>1618</b>	Gold Color; Aux. Sleeper	1 1/2 ton	
	#6 - #12 Stat Seal	#8 - #10 Stat Seal	<b>1619</b>	Main Unit	1 1/2 ton	
	#8 - #12 Stat Seal	#8 - #10 Stat Seal	<b>1633</b>	327308, Auxiliary	1 1/2 ton	
	#8 - #12 Stat Seal	#8 - #10 Stat Seal	<b>1632</b>	327309	1 ton	
	#8 - #12 Stat Seal	#8 - #12 Stat Seal	<b>1634</b>	T1000898P; T1000044L; 6.3 superheat	1 1/2 ton	
	#8 - #12 Stat Seal	#8 - #12 Stat Seal	<b>1642</b>	VCCT1001838L; 4.5 superheat	2 ton	

EXPANSION VALVES

 <p><b>0134</b> Bracket for #1609 (1 pc.) OE# 2502132C1</p>	 <p><b>0134B</b> Bracket Screws for #0134 OE# 1696859C1 (10 pcs.)</p>	 <p><b>0188</b> Expansion (TXV) Plate OE# 3839318-C1</p>	 <p><b>1612K</b> Expansion Valve Kit Kit contains: #1612 and #0134B (2)</p>
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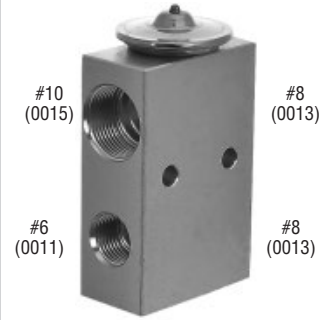
# EXPANSION VALVES

EXPANSION VALVES

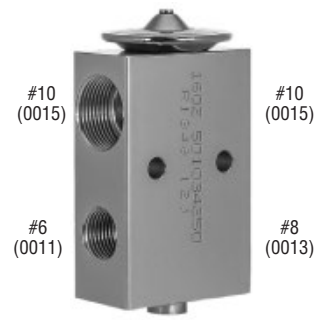
## Block Type Expansion Valves



**1600** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....1 1/2 ton



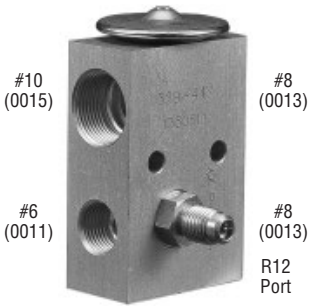
**1601** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....2 ton  
 OE# 040138-129, 329-498



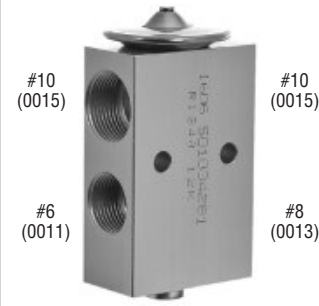
**1602** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....2 ton



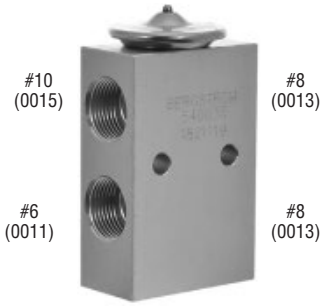
**1603** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....2 ton  
 Mack Anti-Trumpet Type  
 OE# 4379-RD510546-0, 329-488



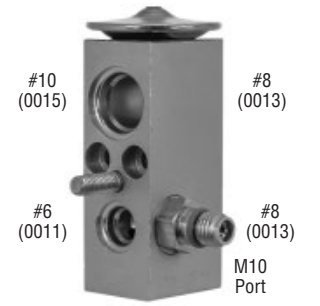
**1604** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....2 ton w/ R12 Port,  
 with Trinary Switch Port



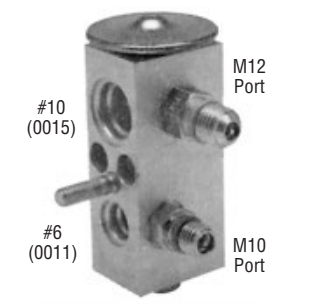
**1606** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....1 1/2 ton



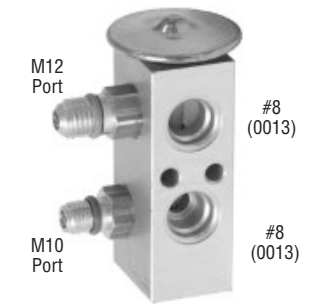
**1608** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....2 1/2 ton  
 with Two Mounting Holes



**1609** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Flange Mount  
 Out.....#10 Flange Mount  
 Evaporator Suction Side:  
 In.....#8 Flange Mount  
 Out.....#8 Flange Mount  
 Rating:.....2 ton w/ M10 Port,  
 with 1 Switch Port; Nick Type  
 Navistar #1696846C3

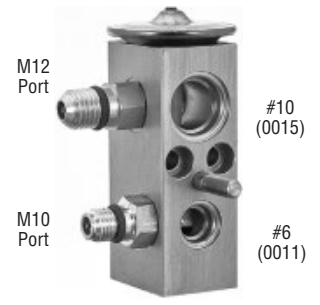


**FRONT**  
**RIGHT SIDE PORT FACING STUD**

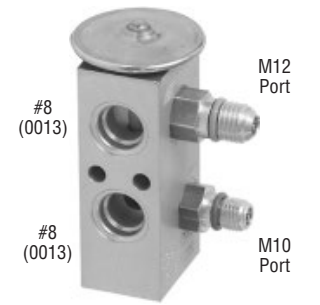


**Evaporator Suction Side:**  
 In.....#8 Flange  
 Out.....#8 Flange

**1611** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Flange  
 Out.....#10 Flange  
 Rating: 2 ton w/bypass / Stud Mount / w/Ports M10, M12  
 OE# 929462, 929-505






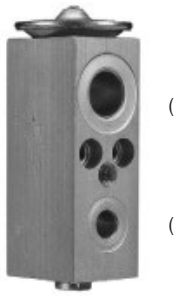








**FRONT**  
**LEFT SIDE PORT FACING STUD**



**1612** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Flange  
 Out.....#10 Flange  
 Evaporator Suction Side:  
 In.....#8 Flange  
 Out.....#8 Flange  
 Rating: 2 ton / Stud Mount / w/Ports M10, M12  
 OE# 2501794-C91; 1669955-C1

**1612K**  
 Expansion Valve Kit  
 #1612 w/#0134B (2)

## Block Type Expansion Valves (continued)

 <p>#10 (0015) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1613</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#10 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:..... 1 1/2 ton Green Stripes, Nick Type Freightliner</p>	 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1614</b> (#0199 O/R Kit) Hose Side: In.....#6 Flange Mount Out.....#12 Flange Mount Evaporator Suction Side: In.....#8 Flange Mount Out.....#10 Flange Mount Rating:.....2 ton (1/4 ton bypass) Volvo; RE57575; 540056BSM</p>	 <p>#10 (0141) #10 (0141) #6 (0130) #8 (0131)</p> <p><b>1615</b> (#0149 Kit / #0199 Kit) Hose Side: In.....#6 Stat Seal Out.....#10 Stat Seal Evaporator Suction Side: In.....#8 Stat Seal Out.....#10 Stat Seal Rating:..... 1 1/2 ton Main Unit ...Gold Color APBN83-308231</p>	 <p>#10 (0141) #10 (0141) #8 (0131) #6 (0130)</p> <p><b>1618</b> (#0149 Kit / #0199 Kit) Hose Side: In.....#6 Stat Seal Out.....#10 Stat Seal Evaporator Suction Side: In.....#8 Stat Seal Out.....#10 Stat Seal Rating:..... 1 1/2 ton 96-01 FrghtlNr Century Class Aux Sleeper...Gold Color BOA80-321-00-269</p>
 <p>#12 (0142) #10 (0141) #6 (0130) #8 (0131)</p> <p><b>1619</b> (#0149 Seal Kit) Hose Side: In.....#6 Stat Seal Out.....#12 Stat Seal Evaporator Suction Side: In.....#8 Stat Seal Out.....#10 Stat Seal Rating:..... 1 1/2 ton Main Unit Freightliner Egelhof #327302 BEHR#A4965</p>	 <p>#10 (0141) #10 (0141) #6 (0130) #8 (0131)</p> <p><b>1621</b> (#0140 Kit / #0199 Kit) Hose Side: In.....#6 Stat Seal Out.....#10 Stat Seal Evaporator Suction Side: In.....#8 Stat Seal Out.....#10 Stat Seal Rating:.....1 ton 03-Up FrghtlNr Century Class Aux Sleeper...Burgundy Color BOA93674</p>	 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1622</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#12 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:..... 1 1/2 ton VOLVO O.E. 20443850; BOAA4931, BOA73079</p>	 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1623</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#12 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:..... 1 1/2 ton Sprinter OE# 05143304AA</p>
 <p>#12 (0017) #12 (0017) #6 (0011) #8 (0113)</p> <p><b>1624</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#12 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#12 Female O'ring Rating:..... 1 1/2 ton Sprinter OE# 326310</p>	 <p>#10 (0015) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1626</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#10 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:.....2 ton w/ R12 port OE# EXP-002-ACT</p>	 <p>#10 (0015) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1627</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#10 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:.....2 ton, 1/4" mnt hole w/Ports M10, M12 OE# RD5-9935-0, 1310908</p>	 <p>#12 (0142) #10 (0141) #8 (0131) #8 (0131)</p> <p><b>1632</b> (#0149 Seal Kit) Hose Side: In.....#8 Stat Seal Out.....#12 Stat Seal Evaporator Suction Side: In.....#8 Stat Seal Out.....#10 Stat Seal Rating:..... 1 ton OE# 327309</p>

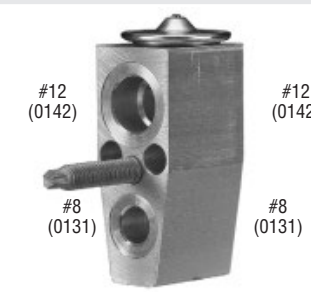
# EXPANSION VALVES

EXPANSION VALVES

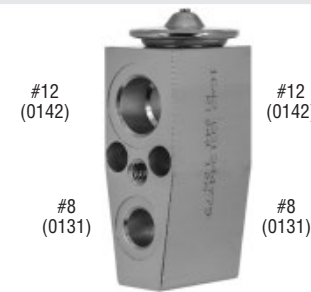
## Block Type Expansion Valves (continued)



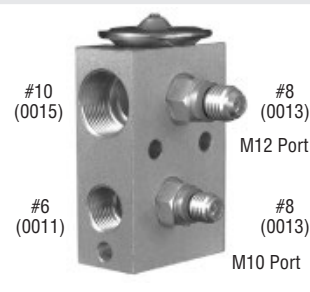
**1633** (#0149 Kit / #0199 Kit)  
 Hose Side:  
 In.....#8 Stat Seal  
 Out.....#12 Stat Seal  
 Evaporator Suction Side:  
 In.....#8 Stat Seal  
 Out.....#10 Stat Seal  
 Rating:.....1 1/2 ton  
 Auxillary OE# 327308



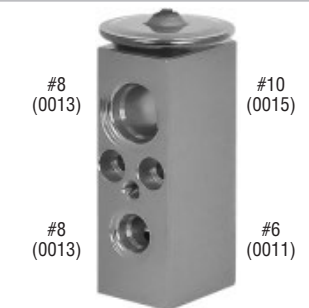
**1634** (#140 Kit / #0199 Kit)  
 Hose Side:  
 In.....#8 Stat Seal  
 Out.....#12 Stat Seal  
 Evaporator Suction Side:  
 In.....#8 Stat Seal  
 Out.....#12 Stat Seal  
 Rating:.....1 1/2 ton  
 6.3 Superheat  
 OE# T1000898P; T1000044L



**1642** (#0149 Seal Kit)  
 Hose Side:  
 In.....#8 Stat Seal  
 Out.....#12 Stat Seal  
 Evaporator Suction Side:  
 In.....#8 Stat Seal  
 Out.....#12 Stat Seal  
 Rating:.....2 ton  
 4.5 Superheat  
 OE# VCCT1001428N,  
 VCCT1001838L



**1644** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....2 ton  
 w/Ports M12, M10  
 KENWORTH OE# 540446BSM



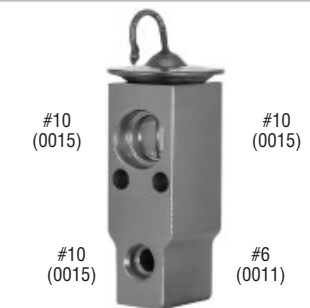
**1648** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Flange Mount  
 Out.....#10 Flange Mount  
 Evaporator Suction Side:  
 In.....#8 Flange Mount  
 Out.....#8 Flange Mount  
 Rating:.....1 1/2 ton mini  
 Kenworth/Peterbilt  
 Bergstrom 540056, 329-195



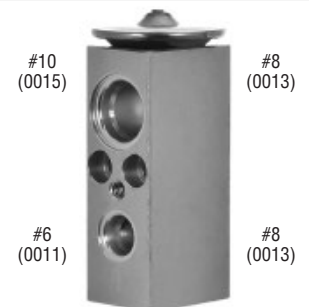
**1664** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....2 ton  
 J. DEERE .OE# 3501-79510,  
 AL77579



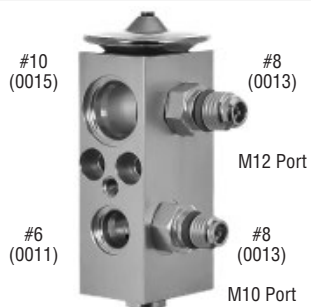
**1665** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#10 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....2 ton  
 KOMATSU WA380  
 OE# 447500-1031, 447500-3540



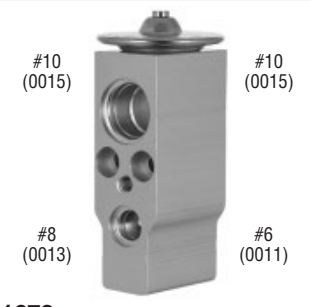
**1666** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#10 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....1 1/2 ton  
 CASE, ALLIS TRACTORS



**1667** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....1 1/2 ton  
 PETERBILT, KW 549707BSM



**1668** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#8 Female O'ring  
 Rating:.....2 ton w/bypass  
 Main Unit ...w/Ports M12, M10  
 PETERBILT, KW 549708BSM















**1672** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:.....2 ton  
 International 85104197,  
 BOA96398, 3599589-C1,  
 3613243-C91; VOLVO #A1722



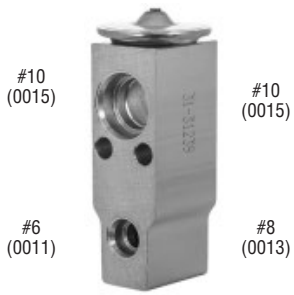
**1673** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Flange Mount  
 Out.....#12 Flange Mount  
 Evaporator Suction Side:  
 In.....#8 Flange Mount  
 Out.....#10 Flange Mount  
 Rating:.....2 ton  
 WesternStar OE# 401038-302

## Block Type Expansion Valves (continued)

 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013)</p> <p>(supplied with bracket and stud)</p> <p><b>1678</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#12 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring OE# 3543-T4935001</p>	 <p>#10 (0015) #10 (0015) #8 (0013) #8 (0013)</p> <p><b>1679</b> (#0199 O/R Kit) Hose Side: In.....#8 Female O'ring Out.....#10 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring FORD F250-550SD OE# BC3Z-19849A</p>	 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1682</b> (#0199 O/R Kit) Hose Side: In.....#6 Flange Mount Out.....#12 Flange Mount Evaporator Suction Side: In.....#8 Flange Mount Out.....#10 Flange Mount Rating:.....2 ton CAT OE# 122-6015</p>	 <p>#8 (0013) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1683</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#8 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring with (2) 1/4" Mounting Holes Rating:.....1 1/2 ton J Deere OE# KV22928</p>
 <p>#10 (16-4210) #12 (16-4212) #6 (16-4206) #8 (16-4208)</p> <p><b>1684</b> (#0199 O/R Kit) Hose Side: In.....#6 Female O'ring Out.....#10 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#12 Female O'ring 85120289; BOAV5778001</p>	 <p>0111 (12.5mm) (0.700") 0111 (12.5mm) (0.700") 0107 (6.5mm) (0.385") 0013M (8mm) (0.600")</p> <p><b>1685</b> (#0199 O/R Kit) Hose Side: In .... 6.5mm Female O'ring Out .... 12.5mm Female O'ring Evaporator Suction Side: In .... 8mm Female O'ring Out .... 12.5mm Female O'ring Rating:... 1 1/2 ton KUBOTA OE# 3A851-72170</p>	 <p>#10 (0015) #10 (0015) #8 (0013) #8 (0013) M12 Port M10 Port</p> <p><b>1688</b> (#0199 O/R Kit) Hose Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:.....2 ton w/Ports M12, M10 Peterbilt OE# 3S011516, 000206498</p>	 <p>#10 (0015) #10 (0015) #8 (0013) #8 (0013) M12 Port M10 Port</p> <p>Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring</p>
 <p>18mm 18mm 9mm 16mm</p> <p><b>1689</b> (#0199 O/R Kit) Hose Side: In.....9mm Female O'ring Out.....18mm Female O'ring Evaporator Suction Side: In.....16mm Female O'ring Out.....18mm Female O'ring Rating: .... 1 1/2 ton Isuzu OE# 8-98047-383-0</p>	 <p>#12 (16-4212) #10 (16-4210) #8 (16-4208) #8 (16-4208)</p> <p><b>1690</b> (#0199 O/R Kit) Hose Side: In.....#8 Female O'ring Out.....#12 Female O'ring Evaporator Suction Side: In.....#8 Female O'ring Out.....#10 Female O'ring Rating:.....2 ton International OE# 3857948-C2</p>	 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013) M12 Port M10 Port</p> <p><b>1691</b> (#0199 O/R Kit) Hose Side: In.....#6 Flange Mount Out.....#12 Flange Mount Evaporator Suction Side: In.....#8 Flange Mount Out.....#10 Flange Mount w/Ports M10, M12 Rating:.....2 ton PACCAR....Main Cab OE# 1000352807</p>	 <p>#12 (0017) #10 (0015) #6 (0011) #8 (0013)</p> <p><b>1692</b> (#0199 O/R Kit) Hose Side: In.....#6 Flange Mount Out.....#12 Flange Mount Evaporator Suction Side: In.....#8 Flange Mount Out.....#10 Flange Mount Rating:.....1 1/2 ton PACCAR....Sleeper OE# 1000355817</p>

# EXPANSION VALVES

## Block Type Expansion Valves (continued)



**1693** (#0199 O/R Kit)  
 Hose Side:  
 In.....#6 Female O'ring  
 Out.....#10 Female O'ring  
 Evaporator Suction Side:  
 In.....#8 Female O'ring  
 Out.....#10 Female O'ring  
 Rating:1 1/2 ton  
 KOMATSU-CAT  
 OE# 130-0263; 447500-1390

## Externally Equalized

Externally Equalized has a line with a fitting and nut, which are connected from the lower side of the expansion valves diaphragm to a point on the low side hose (between the evaporator and compressor). This line allows refrigerant pressure to be applied in the same manner as an internally equalized type.



**1610**  
 Inlet .....#6 (3/8") Male Flare  
 Outlet .....#8 (1/2") Male Flare  
 Rating .....1 1/2 ton  
 Nut.....1/4" Female Flare  
 Equalizer Tube Length.....12"  
 Capillary Tube Length .....12"



**1620**  
 Inlet .....#6 (3/8") Male O'ring  
 Outlet .....#8 (1/2") Male O'ring  
 Rating .....1-1/2 ton  
 Nut.....1/4" Male O'ring  
 Equalizer Tube Length.....10"  
 Capillary Tube Length .....10"



**1625**  
 Inlet .....#6 (3/8") Male O'ring  
 Outlet .....#8 (1/2") Male O'ring  
 Rating .....1-1/2 ton  
 Nut.....1/4" Female O'ring  
 Equalizer Tube Length.....13"  
 Capillary Tube Length .....13"



**1630**  
 Inlet .....#6 (3/8") Male O'ring  
 Outlet .....#8 (1/2") Male O'ring  
 Rating .....1-1/2 ton  
 Nut.....1/4" Male O'ring  
 Equalizer Tube Length.....33"  
 Capillary Tube Length .....33"



**1631**  
 Farm & Off-Road Units - R12/R134a  
 Inlet .....#6 (3/8") Male O'ring  
 Outlet .....#8 (1/2") Male O'ring  
 Rating .....2 ton  
 Nut..... Female O'ring  
 Equalizer Tube Length.....13"  
 Capillary Tube Length .....14"



**1680**  
 Farm and Off-Road Units  
 J Deere OE# AT62543



**1687**  
 Inlet ..... 16mm O'ring  
 Outlet ..... 20mm O'ring  
 Rating .....1-1/2 ton  
 Nut..... M12 -1.25  
 Equalizer Tube Length.....13"  
 Capillary Tube Length .....13"  
 GMC/ISUZU OE# 1-83569-158-0

### Standard Size O'rings

Cap Tube	#0008
Inlet #6	#0011
Outlet #8	#0013

## Externally Equalized

Internally Equalized uses one capillary tube as a temperature sensing bulb to sense suction line temperatures.



**1635**  
 Inlet .....#6 (3/8") Male Flare  
 Outlet .....#8 (1/2") Male Flare  
 Rating: .....1-1/2 ton  
 Capillary Tube Length .....12"  
 Aftermarket



**1638**  
 Inlet .....M18 metric  
 Outlet .....M20 metric  
 Rating: .....1-1/2 ton  
 Capillary Tube Length .....16-1/2"  
 CHEV/GMC G-ser. (Rear-A/C)  
 OE# 52459599, 52472991



**1639**  
 Inlet .....M16 metric  
 Outlet .....M20 metric  
 Rating: .....1-1/2 ton  
 Capillary Tube Length .....16-1/2"  
 Peterbilt w/Inlet Screen



**1640**  
 Inlet .....#6 (3/8") Male O'ring  
 Outlet .....#8 (1/2") Male O'ring  
 Rating: .....1-1/2 ton  
 Capillary Tube Length .....12"  
 Volvo



**1647**  
 Farm & Off-Road Units - R12/R134a  
 Inlet .....#6 (3/8") Male O'ring  
 Outlet .....#8 (1/2") Male O'ring  
 Rating .....1-1/2 ton  
 Capillary Tube Length .....10"  
 FORD OE# F2UH19849AA



**1681**  
 Farm and Off-Road Units  
 Inlet .....M16 metric  
 Outlet .....M22 metric  
 Rating: .....1-1/2 ton  
 Capillary Tube Length .....14"  
 KUBOTA OE# T1065-72170



**1686**  
 Farm and Off-Road Units  
 O-Ring Fitting  
 Inlet .....M16 metric  
 Outlet .....M22 metric  
 Rating: .....1-1/2 ton  
 Capillary Tube Length .....9"  
 OE# 3411338

### Standard Size O'rings

Inlet #6	#0011
Outlet #8	#0013

### METRIC O'rings













M16	#0075
M18	#0076
M20	#0077
M22	#0145



# EXPANSION VALVES

EXPANSION VALVES

## Orifice / Expansion Tubes

 <b>WHITE</b> <b>1650</b> GM .072"	 <b>BLUE</b> <b>1651</b> Ford .067"	 <b>ORANGE</b> <b>1652</b> Ford .057"	 <b>WHITE / BLACK</b> (also RED) <b>1653</b> GM Condenser .072"	 <b>RED</b> <b>1654</b> Ford/Peterbilt .062"	 <b>BROWN</b> <b>1656</b> Ford .047"
 <b>YELLOW</b> <b>1657</b> GM/Volvo .062"	 <b>Smart VOV Valve Condenser</b> <b>1658</b> Condenser-Retro Fit, Variable Flow Design	 <b>Smart VOV Valve Evaporator</b> <b>1659</b> Evaporator-Retro Fit, Variable Flow Design	 <b>PURPLE</b> <b>1662</b> Navistar 3548044C1	 <b>BLACK WHITE</b> <b>1663</b> Ford E-Series .072" XC4Z-19D990AA	 <b>8930 Orifice Tube Extractor</b> Easily removes damaged orifice tubes in Ford & GM vehicles.

## Orifice Tube Assortment

### 1675 Orifice Tube Assortment

Kit Contains:

Part#	Color / Qty.
1650.....	white (10)
1651.....	blue (10)
1652.....	orange (5)
1653.....	b/w or red (10)
1654.....	red (5)
1656.....	brown (5)

Navistar, #1662 purple (2)  
Volvo, #1657 yellow (2)



## Block-Off Plugs



**4163 Block-Off Plug Kit**  
Used on Block Type Expansion Valve to close off unused, un-needed ports. Supplied with 1 pc. each:  
#6, #8, #10 plug

**BLOCK-OFF PLUGS**  
(individual, sold ea.)

**Female nut w/plug**  
(for Male Insert O'ring Ftgs.)  
#6.....**4170**  
#8.....**4171**  
#10.....**4172**  
#12.....**4173**

**Male nut w/plug**  
(for Female Insert O'ring Ftgs.)  
#6.....**4174**  
#8.....**4175**  
#10.....**4176**  
#12.....**4177**

## Orifice Repair Kits

 <b>1660 GM Evaporator Kit</b> Male Insert O-Ring • #8 x #8 Compression Ftgs. • 1/2" O.D. Tubing • 3/4"-16 Nut • Black&White Orifice Tube	 <b>1661 Ford Evaporator Kit</b> • #8 x #8 Compression Ftgs. • 1/2" O.D. Tubing • 3/4"-16 Nut • Blue Orifice Tube	 <b>1674 International Orifice Inlet Tube</b> (uses #1662 orifice tube; o'rings #0136 & #0138) OE# 3542578C2, BOA80-305-00-939 O'ring & Gasket Kit #0155 (2)	 <b>1676 Suction Tube Assy w/Thermistor</b> (o'rings #0137 & #0139) Navistar Prostar OE# 3666274-C3 O'ring & Gasket Kit #0156	 <b>1677 CCOT Suction Tube Assy</b> (o'rings #0137 & #0139) Navistar Prostar OE# 3670136-C91 O'ring & Gasket Kit #0156
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