JB INDUSTRIES









PRODUCT







As JB enters its 58th year, our commitment to the values that define us—quality, partnership, and American craftsmanship—has only grown stronger. Our brand mantra, "Tools Built as Tough as You Are," speaks to a core belief: that every tool we design, and manufacture is built to withstand the tough, demanding work of trade technicians who rely on them every day.

This achievement wouldn't be possible without the dedication of our team in Aurora, Illinois, the efforts of our sales representatives nationwide, and the hardworking individuals in our factory. We extend our heartfelt thanks to each of them for their unwavering commitment to the highest standards of quality and durability. We encourage you to schedule a visit to our factory and witness firsthand the care and precision that goes into creating tools you can trust.

I also want to take a moment to thank our customers for their loyalty and support of JB—and for choosing to buy American. Many of our partnerships and friendships go all the way back to our earliest days, and while the industry has changed a lot over the years, those relationships have stood the test of time. We're truly grateful for your trust and support along the way.

It Takes American Guts.

In 2025, JB is reinforcing our commitment to Made in the USA, and we're inviting you to take a closer look at where your products are made and why it matters. Throughout the year, we'll showcase the key differences between our products and imports, emphasizing the craftsmanship and quality behind everything we build.

While it's not possible to eliminate imported products entirely, we're proud to say that over 80% of what we sell today is made right here in our USA factory—a number we're dedicated to growing every year. Our upcoming Infrared Leak Detector is just one of the exciting new products on the horizon that we'll proudly label *Made in America*.

To kick off this initiative, we're unveiling our new company video, which you can watch by scanning the QR code below. This video tells the JB story—our authenticity as a U.S. manufacturer, our commitment to building and buying American, and our belief that while this approach isn't always the easiest, it's the right way and what we stand for. Fueled by our rich history and powered by a hardworking team, we remain focused on supporting wholesalers and technicians in ways only a true manufacturer can.

Thank you for your continued trust and support. Your partnership fuels our drive and inspires us to keep raising the bar. Here's to a successful and productive 2025!

Jeff Cherif President

It Takes American Guts: The JB Story

Take a behind-the-scenes look at our Aurora, Illinois factory, where authentic American manufacturing comes to life every day. Our dedicated team crafts rugged, high-performance HVACR tools to meet the demands of trade professionals tackling the toughest jobs. Built with pride, our materials, processes, and people reflect our deep commitment to American-made quality, exceptional service, and the reliability that defines the JB way.



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REVOLVER® 4-Valve Ball	Seal Caps	A2L call-out
ZEPPELIN® 2-Valve Aluminum	Backseating Control Valve	throughout
ZEPPELIN® 4-Valve Aluminum	Quick Couplers	the catalog for A2L
M2 Heat Pump	Swivel Cylinder Valve	_
CO2	Core Depressor	compatible products and
Metric	Liquid Charging Adapters	product categories.
	5 milyo, adonoto, 1001	



WELCOME TO A NEW CLASS OF PRODUCTIVITY.



Wireless **Manometers**



Wireless Pressure Probes



Wireless Psychrometers



Wireless Temperature Clamps



Wireless Vacuum Gauge



Wireless Digital Manifolds



Wireless

Psychrometers

Wireless **Pressure Probes**

Tool Bag

CONVENIENT

BUILT-IN SCREENS



APP COMPATIBILITY



Wireless Temperature

Clamps

A2L-READY



Integrated Charging Port



OLED Display Rotates



SCAN TO LEARN MORE ABOUT THE PRODUCTS

WM-2, WC-2, WH-2, and WP-2 come with a durable hard-sided case



Climate Class

CLIMATE CLASS

Wireless Multi-Tool Kits

Our CLIMATE CLASS kits are equipped with essential tools for technicians to effortlessly capture comprehensive system snapshots. All sets come with a protective zip-up storage bag.

NEW



CC-2-CP KIT INCLUDES:



Wireless Temperature Clamps WC-1 (2) Wireless Pressure Probes
WP-1 (2)

Tool Bag JB-KITBAG1





Download JB GO V2 or measureQuick in your app store





A2L/A3

Pumps

Recovery

Scales

Digital

Leak Detection

Manifolds/

Hoses

Mini-Split

plit SHIELD

.D Core

ax Acce

Brass

Ball

Just Better

Capillary A

ng LA-CO

urranty/ Ind Jenair Com

Climate Class



CLIMATE CLASS

Wireless Manometers

- Simultaneously measure and view real-time return, supply, and TESP static pressures for efficient system analysis
- Flexibility to use in standalone mode, or with either the JB GO V2 app or measureQuick app
- Flexible measurement options
- Independent probe placement and short hoses for freedom of readings anywhere on the job site
- Assess gas pressure at regulator inlets and outlets using the 1/8" NPT fitting or slide gas adapter.
- Accurately evaluate pressure drops across filters and TESP with included static pressure tips
- Bright OLED screen with an intuitive, simple-to-use menu
- Over-molded parts for increased grip and durability
- Interchangeable color bands for easy tool identification

Specifications

Measurement Type Static Pressure

Accuracy +/- 0.02 from 0 to 2 in WC, +/- 1.5%FS from 2 to 60 in WC

Static Pressure

Measurement Range +/- 60 in WC

Units of Measure inWC, mmWC, mbar, psi, Pa Operating Temperature 32°F to 104°F (0°C to 40°C) Storage Temperature 14°F to 140°F (-10°C to 60°C)

Wireless Range Up to 350 ft (106.6m) - Dependent on environment

Power Supply 2 X AA batteries (included) Battery Life Approximately 120 hours

Display **OLED** Unit Weight: 8 oz Compatibility

Battery Life Indicator Yes

1 year

Warranty







PART NO.	DESCRIPTION
WM-1	Individual Wireless Manometer with Accessories
WM-2	Set of Wireless Manometers with Accessories

A2L/A3

SHIELD

CLIMATE CLASS

Wireless Pressure Probes

- Charge directly with integrated charging port—no manifold needed
- · Includes angled adapter
- Temperature compensated readings for accuracy
- Flexibility to use in standalone mode, or with either the JB GO V2 app or measureQuick app
- Bright OLED screen and intuitive, simple-to-use menu
- IP54 rated for dust particles and rain
- Over-molded parts for increased grip and durability

Specifications

Pressure Range 0-800 psi Accuracy ±4 psi Resolution 0.1 psi Pressure Units psi, kPa 1/4" SAE Flare Female Flare size

Up to 350ft (106.6m) dependent on environment Wireless Range

Power Supply 2 x AA batteries (included)

Battery Life Approximately 80 hours; indicator light +14°F to 140°F (-10°C to +60°C) Storage Temperature Operating Temperature -10°F to 120°F (-23°C to +49°C)

Display OLED Unit Weight 8 07

Compatibility Min iOS Version: 10.0+. Min Android Version: 6.0+

IP Rating IP54 1 Year Warranty

no manifold needed

CLIMATE CLASS

Wireless Psychrometers

- · Measures temperature and humidity (Wet Bulb, Dry Bulb, Relative Humidity and Dew Point)
- Flexibility to use in standalone mode, or with either the JB GO V2 app or measureQuick app
- Integrated red swivel cap protects sensor when not in use
- Flexible wand for pin-pointing specific areas
- Bright OLED screen and intuitive, simple-to-use menu
- IP54 rated for dust particles and rain
- Over-molded parts for increased grip and durability
- Rear-mounted magnet for secure positioning
- Interchangeable color bands for easy tool identification

Specifications

Sensor Type Digital Humidity and Temperature Sensor Operating Temperature -10°F to 120°F (-23°C to +49°C) Temperature Units Fahrenheit, Celsius

Humidity Range 0% to 100% Relative Humidity Accuracy Humidity ±2% RH

Temperature Accuracy ± 0.36°F (± 0.2°C)

Wireless Range Up to 350ft (106.6m) - Dependent on environment Power Supply 2 x AA batteries (included)

Battery Life Approximately 120 hours Operating Temperature +32°F to 122°F (0°C to +50°C) Storage Temperature +14°F to 140°F (-10°C to +60°C)

Storage Humidity 85% RH @113°F (45°C), non-condensing Display

Unit Weight 6.2 oz Compatibility

iOS Version: 10.0+, Android Version: 6.0+



PART NO.	DESCRIPTION
WP-1	Individual Wireless Pressure Probe with 1 Angled Adapter
WP-2	Set of Wireless Pressure Probes in Case with 2 Angled Adapters

PART NO.	DESCRIPTION	
WH-1	Individual Psychrometer/Hygrometer	
WH-2	Set of Psychrometers/Hygrometers in Case	

CLIMATE CLASS

Wireless Temperature Clamps

- Robust thermistor sensor for accurate pipe temperature measurements
- Flexibility to use in standalone mode, or with either the JB GO V2 app or measureQuick app
- Bright OLED screen and intuitive, simple-to-use menu
- IP54 rated for dust particles and rain

Climate Class

- Over-molded parts for increased grip and durability
- Interchangeable color bands for easy tool identification

Specifications

Sensor Type

Accuracy $\pm 2.3^{\circ} F (\pm 1.1)$

Operating Temperature Resolution

Temperature Units Pipe Diameter Range Power Supply Wireless Range

Battery Life
Storage Temperature

Humidity
Display
Unit Weight

Compatibility
Battery Life Indicator

Warranty

Thermistor

±2.3°F (± 1.28°C), -4 to 185°F (-20° to 85°C)

-10°F to 120°F (-23°C to +49°C)

0.1 °F (.055°C) Fahrenheit, Celsius ¼" – 2" (6.4 – 51mm) 2 x AA batteries (included)

Up to 350ft (106m) - Dependent on environment

Approximately 120 hours

+14°F to 140°F (-10°C to +60°C)

85% RH @113°F (45°C), non-condensing

OLED 6.5 oz Min iOS

Min iOS Version: 10.0+, Min Android Version: 6.0+

res 1 year







PART NO.	DESCRIPTION
WC-1	Individual Wireless Temperature Clamp
WC-2	Set of Wireless Temperature Clamps in Case

CLIMATE CLASS

Wireless Vacuum Gauge

- Field-replaceable sensor prolongs tool life and reading accuracy
- Direct access to sensor for easy and thorough cleaning of oil and contaminants
- Ten (10) included sensor filters provide an additional layer of protection
- Large OLED display rotates 360° making it easy-to-read at any angle
- Fast reacting and extremely accurate at any elevation with easy field calibration to barometric pressure

JB INDUSTRIES [A2]

- IP54 rated for dust particles and rain
- Flexibility to use in standalone mode or with the JB GO V2 app

Specifications

Pressure Range 0-800 psi

Pressure Range Atmospheric Pressure -10 Microns

Accuracy ±1 Micron Resolution 1 Micron

Sensor Type MEMS technologies, Stainless Steel structure Pressure Units Micron, pascal, psia, InHg, torr, mTorr, mBarr

Female Flare Size 1/4" SAE Flare

Power Supply 2 x AA batteries (included)

Wireless Range Up to 350ft (106m) - Dependent on environment

Battery Life approximately 136 hours Storage Temperature +14°F to 140°F (-10°C to +60°C)

Display OLED Unit Weight 8.5 oz

Compatibility Min iOS Version: 11.0+, Min Android Version: 7.0+

Battery Life Indicator Yes Warranty 1 year



PART NO. DESCRIPTION			
DV-22W	Climate Class Wireless Digital Vacuum Gauge with Angled Adapter		
REPLACEMENT PART NO.	DESCRIPTION		
DV-22W-SNR	Replacement Sensor		
DV-22W-FLT	Replacement Filters (10 pack)		
P-511	Replacement Gaskets (6 pack)		

A2L/A3

CLIMATE CLASS

REVOLVER® Wireless Digital Manifold and ZEPPELIN® Wireless Digital Manifold

Works with JB GO V2 or measureQuick Apps for advanced diagnostics and reporting

BUILT SMART

- 60+ Refrigerants; add/update through app
- Measures high side and low side pressure (psi, kPa and bar) and temperature (°F/°C)
- · Calculates superheat, sub-cooling, vapor and liquid saturation

BUILT TOUGH

- American made REVOLVER® 4-valve forged brass, liquid metering ball valve style manifold or American made heavy-duty forged aluminum ZEPPELIN® 4-valve piston style manifold
- · Laser welded stainless steel transducers
- Rugged protective boot and water-resistant design
- Backed by a 1-year warranty

BUILT FOR CONVENIENCE

- Compatible with JB wireless temperature clamps and psychrometers (sold separately)
- Hanging hook and padded drawstring bag protects manifold
- Includes 4 pack of 60" CCLE4-60 KOBRA® hoses
- Operates with three AA batteries (included)

Specifications

Pressure Display Range Temperature Display Range Operating Temperature Maximum Overpressure **Power Supply** Refrigerant Data Source **Dimensions**

29 inHg to 800 psig -50°F to 260°F (-46°C to 127°C) -10° F to 120° F (-23° C to 49° C) 1000 psi 3 x AA batteries (included) NIST REF PROP and Manufacturer Data

DM4-ZW: 7.5" height x 8.5" width x 4.3" depth DM4-RW: 7.5" height x 8.5" width x 4.3" depth 1 year

Warranty





Download JB GO V2 or measureQuick in your app store



PART NO.	DESCRIPTION	
DM4-RW	REVOLVER _® Digital Manifold (including parts listed below)	
DM4-ZW	ZEPPELIN _® Digital Manifold (including parts listed below)	
REPLACEMENT PART NO.	DESCRIPTION	
DM4-CS	Digital manifold protective carrying case	
DM4-TC	Temperature clamp (1)	
DM4-BRK	Brackets for clamps, hook strap and screws	
CCLE4-60	60" Gasket seal KOBRA® hose set (4)	



116.3

335.3

103.6

97.2

SHIELD

Hoses

YOUR A2L OPTIONS JUST GOT BETTER

As the industry moves to mildly-flammable refrigerants, JB offers the essential service tools to help technicians work safely and efficiently.

PLATINUM PRO DC 10

DV-285DC 10 CFM Vacuum Pump



PLATINUM PRO DC 8.4

DV-240DC 8.4 CFM Vacuum Pump



ELIMINATOR DC 6E

DV-6EDC 6 CFM Vacuum Pump



PLATINUM BEAST

DV-340N 12 CFM Vacuum Pump

Page 15



PLATINUM FLEX

Battery/AC Powered Vacuum Pump

Page 16



PLATINUM/ ELIMINATOR

The Original Spark-Proof, Dual-Voltage Pumps

Pages 17 & 19



CLIMATE CLASS

Pages 4-9









NEW

A2L MANIFOLDS & GAUGES

JB INDUSTRIES

Pages 30-37







FT-HANDED THREAD **ADAPTERS**

Pages 38 & 82



SHIELD A2L **LOCKING CAPS**

Page 48



Want More

A2L Facts?

Scan to download



Page 58



NEW







Hoses

JB INDUSTRIES (A2)

Preparation is Key: When the situation arises, JB offers a lineup of tools that safely work with hydrocarbon and A3 refrigerants.

PLATINUM/ELIMINATOR

Hydrocarbon/A3 Overview

Spark-Proof Pumps

Page 17 & 19



F6-B00ST

BLDC Ignition-Proof Refrigerant Recovery Machine



ATLAS DS-5000

Propane Scale



PATRIOT 22733RF-18

Rugged 2-Valve Brass Manifold

Page 30



CLRF Series Hose

2mm Polyamide Capillary Flexible Vibration Eliminating **Hydrocarbon Hoses**

Page 39



CNTL90 Series Hose

2mm Pressure Control Hose

Page 39



Hydrocarbon Gauges

M2-600 Compound/ M2-605 Pressure

Pages 36-37



LDC-4000

Combustible Gas and HC Refrigerant **Leak Detector** Page 29



Page 36



Recovery

SHIELD

JB INDUSTRIES

A2L CHEAT SHE

POLICY OVERVIEW - WHAT'S CHANGING



In June 2021, the EPA approved A2L refrigerants for use in residential AC applications and the phase out of A1 refrigerants. Approved refrigerants include the commonly known R-32 and R-454B.

A2L REFRIGERANTS HAVE LOWER:



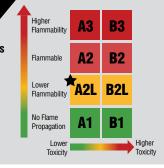




A2L - THE CHOSEN ONE

Service-wise, the switch to A2Ls won't require fundamental changes to the way technicians operate.

A2Ls are considerably less flammable than Class II and III refrigerants, but they will require more attention to basic service principles, new equipment and some A2L-rated tools.



SERVICING A2L SYSTEMS: THE FOUR MAIN TOOLS TECHNICIANS WILL NEED

While service technicians may believe they will need to purchase all new tools to work with A2L refrigerants. many of the tools they use each day will remain the same.

In general, tools that don't touch the refrigerant circuitsuch as non-electric hand tools, access valves and valve core removal tools—can usually be used for both A1 and A2L systems.









JB OFFERS ALL THE ESSENTIAL SERVICE TOOLS FOR TECHNICIANS TO WORK SAFELY AND EFFICIENTLY WITH A2L REFRIGERANTS













MANIFOLDS AND GAUGES

SHOWN:

PATRIOT 22633 2-Valve Brass Manifold

ÜSÄ

VACUUM PUMPS

SHOWN

PLATINUM PRO DV-240DC 8.4 CFM

Also available in: 6, 10, 12 CFM and Spark Proof

USA

RECOVERY

SHOWN:

F6-B00ST **BLDC** Ignition-proof Refrigerant Recovery Machine

LEAK DETECTORS

SHOWN

PROWLER LD-5000 Electrochemical Leak Detector

MICRON GAUGES

SHOWN:

CLIMATE CLASS DV-22W Wireless Digital Vacuum Gauge

JB offers American-made A2L accessories such as our KOBRA Charging

WIRELESS TOOLS

SHOWN:

CLIMATE CLASS WP-2 Wireless Digital Probes and DM4-ZW **ZEPPELIN Wireless** Digital Manifold

A2L CYLINDER DIFFERENCES AND HELPFUL ACCESSORIES



A2L reclaim and recovery cylinders have three distinct features to help distinguish them from other types of refrigerants.

Hoses with reverse-thread fittings and reverse-thread hose adapters to help technicians safely access A2L refrigerant and charge systems. KOBRA CCLBV-A2L-60 1/4" x 60"

SHOWN:

Hose Set with A2L Adapter Reverse-thread, left-handed A2L Adapters

SHIELD A2L Locking Caps

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Capillary Automotive/ Warranty/ Tubing LA-CO Repair

PREMIUM VACUUM PUMPS



PLATINUM PRO

PROFESSIONAL GRADE VACUUM PUMP

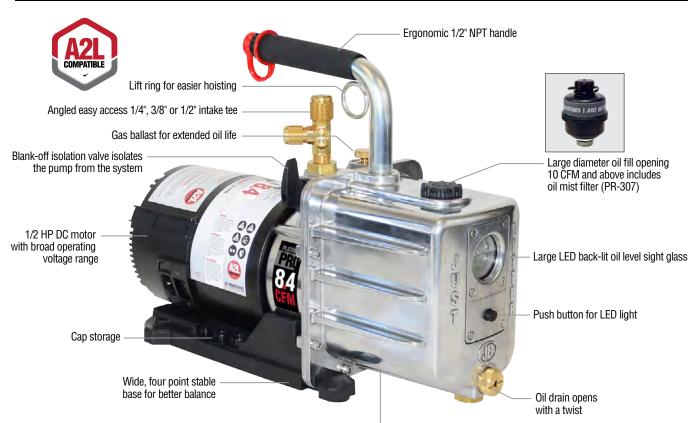
AMERICAN CRAFTSMANSHIP FOR PROFESSIONALS.

CRAFTED WITH ATTENTION TO DETAIL.

Check oil level at any time with LED back-lit sight glass Integrated bottle seal piercing spike for quick oil changes Wide, four point stable base for better balance IEC 10 ft. locking cord

CRAFTED WITH THE TRADE IN MIND.

One-shot, full quart oil fill
Drains oil 3X faster with 1/4 turn ball valve drain
Dual-voltage 115/230V DC motor with sliding voltage switch
A2L system compatible





Premium all metal construction with heavy-duty finned aluminum housing, American-manufactured brass fittings and stainless steel valving

PLATINUM _® PRO VACUUM PUMPS				
DV-240DC DV-285DC				
CFM	8.4 CFM	10 CFM		
MOTOR	1/2 HP DC Motor	1/2 HP DC Motor		
VOLTAGE	115v/230v/50Hz	115v/230v/50Hz		
INTAKE PORT	1/2" x 1/4" x 3/8"	1/2" x 1/4" x 3/8"		
OIL CAPACITY	32oz (946cc)	32oz (946cc)		



JB INDUSTRIES

12 CFM VACUUM PUMP

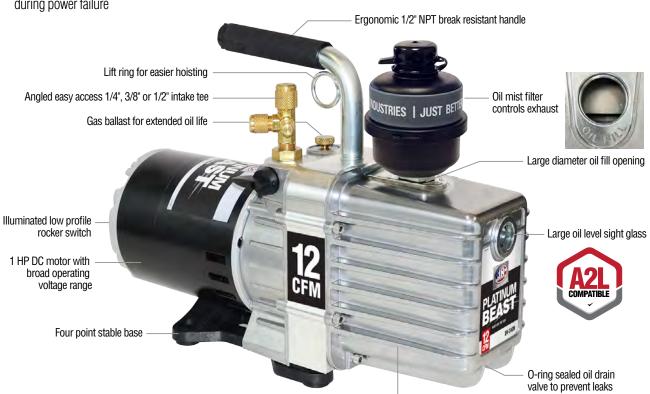
TEAR THROUGH YOUR WORKLOAD. JUST FASTER. JUST BETTER.

PREMIUM VACUUM PUMPS

- 1 HP DC motor with broad operating voltage range
- 2-stage direct drive
- Dual-voltage switch 115v/230v
- 15 micron vacuum rating
- Gas ballast and blank-off isolation valve
- Internal check valve prevents oil back-flow during power failure

- Easy access 1/4", 3/8" or 1/2" intake tee
- Field Repairable; see page 81 for repair parts
- 2 year OTC warranty
- Made in the USA







PLATINUM _® BEAST 12 CFM VACUUM PUMP			
	DV-340N		
CFM	12 CFM (340 I/m)		
MOTOR	1 HP, DC		
VOLTAGE	115v/230v		
INTAKE PORT	1/2" x 1/4" x 3/8"		
OIL CAPACITY	32oz (946cc)		
WEIGHT	34 lb		

All metal construction with finned aluminum housing for heat dissipation, brass fittings and stainless steel valving

FLE

AC/BATTERY POWERED VACUUM PUMP

FLEXIBLE POWER CHOICES WHEREVER THE JOB TAKES YOU.

Meet PLATINUM FLEX—the only pump that gives you the choice of battery or AC power to fit any job's needs. Proudly American-made, it delivers JB's unmatched quality and durability with the freedom to choose how you power up.

- Powered by JB's 9.0 Ah/18v lithium-ion battery or auto-switching dual voltage AC Adapter
- 1/2 HP DC brushless motor
- Available in 3 CFM or 5 CFM
- · Low battery warning light with audible alert
- Easy access 1/4", 3/8" or 1/2" intake tee
- 15 micron vacuum rating
- Gas ballast and blank-off isolation valve
- Metal construction with finned aluminum heavy-duty housing, brass fittings and stainless steel valving
- Ergonomic 1/2" NPT exhaust handle with lift ring
- Large, easy-to-read oil level sight glass with easy access oil fill located on cover
- O-ring sealed oil drain valve to prevent leaks and tethered safety cap to prevent oil spills
- Internal check valve prevents oil back-flow during power failure
- 22oz. oil capacity

Accessories

- Field repairable
- 1 year OTC warranty; 2 year on vacuum pump
- Made in the USA

Accessories shown right are available in pump kits or sold separately. Dealer Design AWARDS

PLATINUM _® FLEX AC/BATTERY POWERED VACUUM PUMPS				
DV-85-FLEX DV-142-FLEX				
CFM	3 CFM (85 l/m)	5 CFM (142 I/m)		
MOTOR	1/2 HP, 1725 RPM	1/2 HP, 1725 RPM		
VOLTAGE	Battery: 9.0 Ah/18v Adapter: 115v/60Hz 230v/50Hz	Battery: 9.0 Ah/18v Adapter: 115v/60Hz 230v/50Hz		
INTAKE PORT	1/2" x 1/4" x 3/8"	1/2" x 1/4" x 3/8"		
OIL CAPACITY	26oz (769cc)	21oz (621cc)		
AC ADAPTER: DV-BP-AC	Included	Included		
BATTERY: DV-BP-BAT CHARGER: DV-BP-CHRG	Included	Included		
BATTERY RUN TIME	Approximately 90 minutes	Approximately 60 minutes		







DV-BP-BAT

DV-BP-CHRG



DV-BP-AC



PLATINUM® AC

Premium Vacuum Pumps

- 2-Stage direct drive with 1/2 HP capacitor start and thermal overload protection
- Available in 1.5. 3. 5. 7 and 10 CFM
- Easy access 1/4", 3/8" or 1/2" intake tee
- 15 micron vacuum rating
- Gas ballast and blank-off isolation valve
- All-metal construction with finned aluminum heavy-duty housing, brass fittings, stainless steel valving and splash guard
- Ergonomic 1/2" NPT break-resistant exhaust handle with lift ring
- Large, easy-to-see oil level sight glass with easy access oil fill
- O-ring sealed oil drain valve to prevent leaks and tethered safety cap to prevent oil spills
- Internal check valve prevents oil back-flow during power failure
- 100% field repairable; see pages 86-88 for repair parts
- Available in 115v or dual voltage motor with switch (115v/230v)
- Removable, interchangeable power cord on dual voltage motors
- 2 year OTC warranty
- Made in the USA

Spark-Proof Pump

Spark-proof, dual voltage motor with switch and removable, interchangeable power cord for use on Class A1, A2L, A2 and A3 refrigeration systems, **DV-200N-250SP**

International Dual Voltage Pump

PLATINUM -250 and -250SP Series models feature a dual voltage motor with switch and removable, interchangeable power cord. Specify US, EU, UK, AU or BR plug type.



PREMIUM VACUUM PUMPS

PLATINUM _® PUMPS						
	DV-42N	DV-85N	DV-142N	DV-200N	DV-285N	
CFM	1.5 CFM (42 l/m)	3 CFM (85 l/m)	5 CFM (142 l/m)	7 CFM (200 l/m)	10 CFM (285 I/m)	
MOTOR	1/2 HP, 1725 RPM					
VOLTAGE	115v/60Hz	115v/60Hz	115v/60Hz	115v/60Hz	115v/60Hz	
INTAKE PORT	1/4"	1/4" x 3/8"	1/2" x 1/4" x 3/8"	1/2" x 1/4" x 3/8"	1/2" x 1/4" x 3/8"	
OIL CAPACITY	26oz (769cc)	26oz (769cc)	26oz (769cc)	21oz (621cc)	21oz (621cc)	
SHIPPING DIMS	17-5/8" x 9-1/8" x 14"					
WEIGHT	29lbs (13.2kg)	30lbs (13.6kg)	32lbs (14.5kg)	32lbs (14.5kg)	34lbs (15.4kg)	

L	PLATINUM® DUAL VOLTAGE AND SPARK-PROOF PUMPS						
		DV-42N-250	DV-85N-250	DV-142N-250	DV-200N-250	DV-200N-250SP Spark-proof	DV-285N-250
	MOTOR	1/2 HP, 1725/1425 RPM	1/2 HP, 1725/1425 RPM				
	VOLTAGE	115v/60Hz, 230v/50Hz	115v/60Hz, 230v/50Hz				
F	PLUG OPTIONS*	US/EU/UK/AU/BR	US/EU/UK/AU/BR	US/EU/UK/AU/BR	US/EU/UK/AU/BR	US/EU/UK/AU/BR	US/EU/UK/AU/BR



ELIMINATOR DC 6E

DC MOTOR VACUUM PUMP

AMERICAN-MADE PERFORMANCE AT AN OUTSTANDING VALUE.

- A2L compatible
- Dual voltage at a flip of a switch (115v/230v)
- 1/2 HP DC motor operates in low voltage situations
- IEC 10 ft. locking cord
- Lightweight
- 25 micron vacuum rating
- Easy access 1/4" or 3/8" intake tee
- 25 micron vacuum rating
- All-metal construction with burnished cover, brass fittings and stainless steel valving
- Ergonomic 1/2" break-resistant exhaust handle
- Large, easy-to-see oil level sight glass with easy access oil fill
- Tethered safety cap to prevent oil spills
- 2 year OTC warranty
- Made in the USA



ELIMINATOR DV-6EDC VACUUM PUMP	
DV-6EDC	
CFM	6 CFM
MOTOR	1/2 HP DC Motor
VOLTAGE	115v/230v
INTAKE PORT	1/4" x 3/8"
OIL CAPACITY	25 oz (739 cc)
WEIGHT	24 lbs



Vacuum Pumps

Change Your Pump Oil

Deep vacuum cannot be achieved with contaminated oil which can damage the pump and shorten pump life. JB recommends pump oil be changed after every evacuation for maximum performance and pump efficiency.

Use a Micron Gauge

The best test to check for oil contamination is through a micron gauge. In a leak-free system, if the micron gauge is not reading a deep vacuum, the oil is contaminated and should be changed. During the testing process is the only time it is recommended to have a micron gauge attached directly to pump.

Choosing Proper CFM

CFM² = Maximum Tonnage Rating

Take the CFM rating and multiply it by that number to find the maximum number of tons a pump is rated for:

3 CFM pump (3x3) is rated for 9 tons 7 CFM pump (7x7) is rated for 49 tons

Depending on the system line size, it is better to use two or more small, easily maneuverable pumps at different locations to overcome pressure drop issues and evacuate faster than a single, large pump. Pumps in the 1.5 to 10 CFM class are adequate to handle 99% of the work. JB pumps are built to last and are the best and longest-lasting pumps in the industry.



JB INDUSTRIES

ELIMINATOR® AC

USA Made Economy Vacuum Pump

- 1/2 HP 1725 RPM motor
- Available in 3, 4 and 6 CFM
- Easy access 1/4" or 3/8" intake tee
- 25 micron vacuum rating
- All-metal construction with burnished cover, brass fittings and stainless steel valving
- Ergonomic 1/2" break-resistant exhaust handle
- Large, easy-to-see oil level sight glass with easy access oil fill
- Tethered safety cap to prevent oil spills
- 100% field repairable; see pages 89-90 for repair parts
- Available in 115v or dual voltage motor with switch (115v/230v)
- Removable, interchangeable power cord on dual voltage motors
- 2 year OTC warranty
- Made in the USA



Spark-Proof Pump

Spark-proof, dual voltage motor with switch and removable, interchangeable power cord for use on Class A1, A2L, A2 and A3 refrigeration systems, **DV-6E-250SP**

International Dual Voltage Pump

ELIMINATOR -250 and -250SP Series models feature a dual voltage motor with switch and removable, interchangeable power cord. Specify US, EU, UK, AU or BR plug type.



ECONOMY VACUUM PUMPS



ELIMINATOR PUMPS				
	DV-3E	DV-4E	DV-6E	
СҒМ	3 CFM (85 I/m)	4 CFM (113 l/m)	6 CFM (170 l/m)	
MOTOR	1/2 HP, 1725 RPM	1/2 HP, 1725 RPM	1/2 HP, 1725 RPM	
VOLTAGE	115v/60Hz	115v/60Hz	115v/60Hz	
INTAKE PORT	1/4" x 3/8"	1/4" x 3/8"	1/4" x 3/8"	
OIL CAPACITY	28oz (828cc)	25oz (739cc)	25oz (739cc)	
SHIPPING DIMS	17-5/8" x 9-1/8" x 14"	17-5/8" x 9-1/8" x 14"	17-5/8" x 9-1/8" x 14"	
WEIGHT	29lbs (13.2kg)	30lbs (13.6kg)	30lbs (13.6kg)	

ELIMINATOR DUAL VOLTAGE					
	DV-3E-250	DV-4E-250	DV-6E-250	DV-6E-250SP	
MOTOR	1/2 HP, 1725/1425 RPM				
VOLTAGE	115v/60Hz, 230v/50Hz	115v/60Hz, 230v/50Hz	115v/60Hz, 230v/50Hz	115v/60Hz, 230v/50Hz	
PLUG	US 220v	US 220v	US 220v	US 220v	
PLUG OPTIONS*	US/EU/UK/AU/BR	US/EU/UK/AU/BR	US/EU/UK/AU/BR	US/EU/UK/AU/BR	

VACUUM PUMP ACCESSORIES



ACCELERATOR

VL-200 Rapid Evacuation Kit

The VL-200 ACCELERATOR Rapid Evacuation Kit paired with a JB vacuum pump allows technicians to remove restrictive valve cores and perform HVACR system evacuations up to 20x Faster.

- Y-FORCE Dual, High-speed Coupler Connector increases speed of evacuation
- 48" long, 1/2" diameter vacuum certified evacuation hose will not collapse or permeate
- 1/4" valve core tool removes restrictive cores and maximizes flow: Vacuum rated to 20 microns
- Opens up over 90% of internal diameter of access port
- Slide valve easily attaches and protects vacuum gauge with the slide valve side port
- Made in the USA



Easily attaches and protects vacuum gauge with the slide valve side port

Increase speed of evacuation with the Y-FORCE Coupler Connector and two large diameter hoses

DESCRIPTION		
ACCELERATOR evacuation kit with A32525N, A32525SV, QC-208, QC-206, CL264-48 (2) and convenient storage bag		
DESCRIPTION		
Valve Core Removal Tool with Slide Valve Side Port		
Valve Core Removal Tool		
(3/8") Y-FORCE Dual, High-Speed Coupler Connector		
(1/2") Y-FORCE Dual, High-Speed Coupler Connector		
(2) 48" long, 1/2" diameter evacuation hose with 3/8" x 1/4" SAE female swivel hose connections		
1/4" and 5/16" replacement gaskets for A32525N (1 each)		





QC-208 (1/2") QC-206 (3/8")

VELOCITY

VL-100 Rapid Evacuation Kit

The VL-100 VELOCITY Rapid Evacuation Kit paired with a vacuum pump allows technicians to remove restrictive valve cores and perform HVACR system evacuations up to 10x Faster.

- 60" long, 1/2" diameter evacuation hose
- 1/4" Valve Core Tool removes restrictive cores; vacuum rated to 20 microns
- Opens up over 90% of internal diameter of access port
- · Vacuum certified hose will not collapse or permeate
- Made in the USA





JB INDUSTRIES

Y-FORCE

Dual, High-Speed Coupler Connectors

Work faster with the Y-FORCE Dual, High-Speed Coupler Connector available with a 3/8" or 1/2" connection.

- Speed up evacuation with dual hose connections; Easily connects two hoses to one point
- Vacuum rated and designed for high-pressure refrigerants
- Rugged solid brass construction
- Use with any vacuum pump
- Made in the USA



3/8" or 1/2"



Increase speed of evacuation with the Y-FORCE Dual, High-speed Coupler Connector and two large diameter hoses.

PART NO.	DESCRIPTION
QC-206	3/8" x 3/8" x 3/8"
QC-208	3/8" x 3/8" x 1/2"

DV-T1

The TANK Vacuum **Pump Oil Container**

Changing the oil after every job will extend the life of your vacuum pump and clean oil ensures peak pump efficiency and deep vacuum.

- Holds up to 10 quarts
- · No mess, No spills
- · Corner hand grips for easy handling
- Stores upright or flat with no spills
- Environmentally friendly
- Made in the USA



PART NO.	DESCRIPTION
DV-T1	The TANK Vacuum Pump Oil Caddy

BLACK GOLD®

VACUUM PUMP ACCESSORIES

Pump Oil

- Acts as a coolant, lubricant and sealant simultaneously. Non-detergent, hydro-processed
- Made in the USA





	DESCRIPTION	QTY.	PART NO.
	BLACK GOLD pint case	24	DV0-1
	BLACK GOLD quart case	12	DVO-12
е	BLACK GOLD gallon case	6	DV0-24
	BLACK GOLD quart case	12	DV0-12

Oil Mist Filter

Eliminates oil mist from pump handle

Made in the USA



DV-F8

PART NO.	DESCRIPTION
DV-F6	Oil mist filter 3/8"; ELIMINATOR
DV-10	(pre-2011) and PLATINUM (pre-2008)
DV-F8	Oil mist filter 1/2"; ELIMINATOR
DA-LO	(2011+) and PLATINUM (2000+)

Quick Couplers

- Features o-ring seal and no depressor
- Made in the USA



QC-E64

PART NO.	DESCRIPTION
QC-E64	3/8" QC x 1/4" SAE elbow
QC-S64	3/8" QC x 1/4" SAE straight
P90009	1/4" Replacement o-ring (10 pack)
P90012	3/8" Replacement o-ring (10 pack)

Shutoff Valve

- 0-ring quick coupler shutoff valves for blanking off vacuum system; pressures up to 800lbs
- Made in the USA



D10162

PART NO.	DESCRIPTION
D10162	1/4" Female QC x 1/4" flare

Swivel Couplers

- Features an o-ring seal
- Made in the USA



D10244

PART NO.	DESCRIPTION	
D10244 1/4" Female swivel coupler		
D10266	3/8" Female swivel coupler	
P90009	1/4" Replacement o-ring (10 pack)	
P90012	3/8" Replacement o-ring (10 pack)	

Recovery



FE-BUST

BLDC Ignition-Proof Refrigerant Recovery Machine

The F6-BOOST Refrigerant Recovery Machine provides over 20% faster recovery rates than competitor models. The unique 2-cylinder, oilless compressor and long-lasting pistons are contained in a lightweight, ergonomically designed, easy-to-use unit. The F6-BOOST gives the user fast and reliable refrigerant recovery.

Features

- Dual voltage (100-240VAC 50/60Hz)
- Powerful 1.25 HP BLDC (Brushless DC) motor-driven oilless compressor
- Ignition-proof design tested and approved to ISA 12.12.01:2016 Ed.7
- High air-flow fan with a micro-channel condenser keeps the unit running cool
- Variable speed motor (based on load)
- 2-piece, oilless piston-seal design with long-lasting, durable elastomer, easy-to-replace piston seals
- Built-in purge functionality (self-clearing or pump down) to prevent cross-contamination
- High-pressure 550 psig cutout switch
- Easy-to-use interface with 2-1/4" high/low gauges
- Auto shut-off when recovery is complete
- Status indicator light
- Compact lightweight 23.5lb unit with robust, high-impact, injection-molded case
- Recessed folding handle with rubber grip and padded shoulder strap
- 10' locking power cable and velcro cord wrap
- 1 year OTC warranty / 2 year return and repair; Use this device to recover only HVACR refrigerants from sealed HVACR systems. Warranty voided if used for any other purpose.



PART NO.	DESCRIPTION
F6-B00ST	BLDC Ignition-Proof Refrigerant Recovery Machine





Unit has rugged recessed handle for storage, locking cable and velco cord wrap. Knock-out location for optional tank overflow switch (sold separately).

^{*}Speed based on vapor recovery for certain refrigerants.



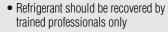
Refrigerant Recovery Machine

- Full one horsepower motor
- Powerful dual piston compressor
- Self-purge without changing hoses
- Simple two-valve operation
- Micro-channel condenser for industry-leading recovery rates
- Oversized cooling fan for superior heat dissipation
- Full-size protected gauges for suction and tank pressure
- Heavy-duty handle with comfortable rubber grip and detachable power cord
- Filter/drier included

• 3 year OTC warranty

Recovery

Safety



- Wear protective gear, gloves and eye protection
- · Never mix refrigerants
- Do not overfill tanks past 80% capacity

Use Proper Equipment

Use a refrigerant scale such as JB's DS-250 to ensure proper refrigerant measurement.



Carrying strap with shoulder pad Heavy-duty metal handle with comfortable rubber grip

Rugged blow-molded outer shell











PART NO.	DESCRIPTION
F6-DP	F6 Refrigerant Recovery Machine (115v)
F6-DP-250	F6 Refrigerant Recovery Machine (230v)
REC-TANK-30	30lb Empty refrigerant tank cylinder
REC-TANK-50	50lb Empty refrigerant tank cylinder
REPLACEMENT PART NO.	DESCRIPTION
F6-FLT	Filter/drier attachment
F6-RHP	Gauges

Recessed gauges

Sturdy metal knobs

Easy access filter

Self-purge without changing hoses



Micro-channel condenser for industry-leading recovery rates

Large fan for superior heat dissipation

Circuit breaker

Detachable and replaceable power cord for easy maintenance





Refrigerant Scales



ATLAS DS-5000

Propane Scale

- · Back-lit LCD display
- Large weighing platform and high accuracy load cell
- Durable and sturdy injection molded components
- Pass-through charging (moving the charge hose does not affect weight)
- Small diameter durable CLRF Series hoses included
- Charging valve included for precision charging
- Schrader valves included to prevent refrigerant loss/leaks
- Cylinder adapter with Secure Seal low-loss fitting included for inverted charging
- 2 charging orientation options: upright and inverted
- Velcro loop included for stabilizing the refrigerant canister (upright charging)
- Designed for R600a and R290
- Other charging methods are possible by using additional adapters for different canister types
- 1 year warranty

Specifications

 Capacity
 5000g / 176oz

 Accuracy
 1g / 0.1oz

Power Supply Two AA batteries (included)
Dimensions (L x W x H) 7.9" x 5.9" x 1.9"

(200mm x 150mm x 48mm)

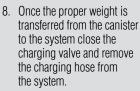


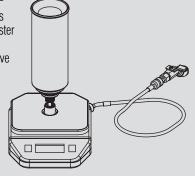
PART NO.	DESCRIPTION
DS-5000	ATLAS Propane Scale with two CLRF-18Y Series hoses, MBV4-01 Mini Ball-valve fitting, Propane cylinder adapter, Velcro loop and case.
DSR-290SS	7/16" x 28 UNEF female to ¼" Secure seal (EN417 Lindal female to ¼" Secure seal)
DSR-290LDL	1" x 20 female to 7/16" x 28 UNEF male propane adapter (1" x 20 female to EN417 Lindal male)
MBV4-01	1/4" Mini Ball-valve fitting

ATLAS DS-5000 Propane Scale

Inverted Charging:

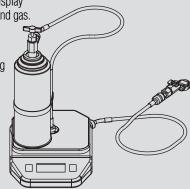
- 1. Connect the charging hose to the scale side port.
- 2. Connect the other end of the charging hose (with the charging valve closed) to the system.
- 3. Attach the secure-seal adapter fitting to the refrigerant canister.
- 4. Invert the can and connect the secure seal fitting to the fitting on the scale platter.
- 5. Turn on the scale. Scale will display combined weight of cylinder and gas.
- 6. Short press the TARE button to zero the scale.
- 7. Charge the system by throttling the charging valve and monitoring the scale weight.





Upright Charging:

- 1. Connect the charging hose to the scale side port.
- 2. Connect the other end of the charging hose (with the charging valve closed) to the system.
- 3. Attach can tap to the refrigerant canister (Can tap should not release refrigerant).
- 4. Connect one end of the hose to the can tap.
- 5. Connect the other end of the hose to the scale platter fitting.
- Use Velcro loop to secure the can to the hose and stabilize the can on the scale platter.
- 7. Open the can tap valve to release the refrigerant.
- 8. Turn on the scale. Scale will display combined weight of cylinder and gas.
- 9. Short press the TARE button to zero the scale.
- Charge the system by throttling the charging valve and monitoring the scale weight.
- 11. Once the proper weight is transferred from the canister to the system close the can tap and charging valve and remove the charging hose from the system.





JB INDUSTRIES

ATLAS DS-250

Wireless Digital Refrigerant Scale with Wired Handset

- Wireless connection to smart devices via DS-250 app available through JB GO
- · Wired, full-color, LCD display on removable handset
- Job time recording/data logging with email capability
- Wired handset with built-in magnets and hanging hook
- Programmable weight alarms
- Adjustable units of measurement
- Selectable auto-shutoff
- Slip-resistant platform and water-resistant design
- Durable, blow-molded case
- · Safe for use with A2L refrigerants
- 2 year warranty

Specifications

Capacity 250lb (113kg) Resolution 0.25 oz Display units lb/oz, oz, lb, kg

+32°F to 122°F (0°C to +50°C) Operating Temperature Storage Temperature +14°F to 140°F (-10°C to +60°C)

85% RH @113°F (45°C), non-condensing Humidity

Power Supply Four AA batteries (included) Approximately 58 hours **Battery Life**

Minimum +/-0.3% of reading +/-10gAccuracy

Wireless Range 300ft (92m)







Refrigerant Scales







PART NO.	DESCRIPTION
DS-250	ATLAS Wireless Refrigerant Scale with Wired Handset

ATLAS DS-20000

Digital Refrigerant Scale

- Features all-metal construction, superior sensitivity and accuracy with replaceable parts
- Highly sensitive, solid-state load cell (0.25oz/10g)
- Easy-to-read LCD screen
- Field repairable with replaceable cable, weighing platform and handheld remote
- Displays weight in decimal/pounds, pounds/ounces and kilograms
- Automatic shutoff option to conserve battery life
- Protective carrying case
- 2 year warranty

Specifications

Capacity 220lb (100kg)

Operating Temperature +32°F to 122°F (0°C to +50°C) +14°F to 140°F (-10°C to +60°C) Storage Temperature Humidity 85% RH @113°F (45°C), non-condensing

One 9v battery (included) **Power Supply Battery Life** Approximately 60 hours









PART NO	DESCRIPTION
DS-20000	ATLAS Digital Refrigerant Scale in case
REPLACEME PART NO.	DESCRIPTION
DSR-10	Communication cable
DSR-20	Handheld remote

Digital Vacuum Gauges



DV-22W

CLIMATE CLASS Wireless Vacuum Gauge



- Field-replaceable sensor prolongs tool life and reading accuracy
- Direct access to sensor for easy and thorough cleaning of oil/contaminants
- Ten (10) included sensor filters provide an additional layer of protection
- Large OLED display rotates 360° making it easy-to-read at any angle
- Fast reacting and extremely accurate at any elevation with easy field calibration to barometric pressure
- IP54 rated for dust particles and rain
- Flexibility to use in standalone mode or with the JB GO V2 app

Specifications

Pressure Range 0-800 psi

Atmospheric Pressure -10 Microns Pressure Range

±1 Micron Accuracy Resolution 1 Micron

Sensor Type MEMS technologies, Stainless Steel structure Pressure Units Micron, pascal, psia, InHg, torr, mTorr, mBarr 1/4" SAE Flare Female Flare Size

Power Supply

2 x AA batteries (included) Wireless Range Up to 350ft (106m) - Dependent on environment

Battery Life approximately 136 hours

Storage Temperature +14°F to 140°F (-10°C to +60°C)

Display **OLED** Unit Weight 8.5 oz

Min iOS Version: 11.0+, Min Android Version: 7.0+ Compatibility

Battery Life Indicator Warranty 1 year





PART NO.	DESCRIPTION
DV-22W	Climate Class Wireless Digital Vacuum Gauge with Angled Adapter
REPLACEMENT PART NO.	DESCRIPTION
DV-22W-SNR	Replacement Sensor
DV-22W-FLT	Replacement Filters (10 pack)
P-511	Replacement Gaskets (6 pack)

DV-22R

Digital Vacuum Gauge with Replaceable Sensor

- Easily replaceable MEMS sensor enhances tool lifespan and precision
- · Accessible sensor design allows for easy, thorough cleaning of oil and debris
- · Easy-to-read back-lit LCD display

• Improved response time for instantaneous vacuum reading

• Audible and visual alarms when target vacuum level is achieved

• Intuitive user menu with custom setting options

 Low battery indicator with automatic shutoff

 Measures in microns. psia, inHg, pascals, Torr, mTorr and mBar

 Operates with three AA batteries (included)





Both the DV-22W and DV-22R feature an easily accessible, replaceable sensor for filter cleaning and changing.





PART NO.	DESCRIPTION
DV-22R	Digital Vacuum Gauge with Replaceable Sensor
REPLACEMENT PART NO.	DESCRIPTION
DV-22W-SNR	Replacement Sensor
DV-22W-FLT	Replacement Filters
P-511	Replacement Gaskets (6)



DV-22N/DV-24N

Digital Vacuum Gauge

- Factory calibrated extended range MEMS sensor; vacuum reading range 100,000 to 10 microns
- Easy-to-read back-lit display
- Working temperature +32°F to 120°F (+0°C to 48.9°C)
- Allows for direct connection to A/C unit without a hose
- Intuitive user menu with custom setting options; Audible and visual alarms when target vacuum level is achieved
- Low battery indicator with automatic shutoff
- Measures in microns, psia, inHg, pascal, torr, mTorr and mBar
- Operates with three AA batteries (included)
- Available with protective carrying case as DV-24N







PART NO.	DESCRIPTION
DV-22N	Digital vacuum gauge
DV-24N	DV-22N with protective carrying case
REPLACEMENT PART NO.	DESCRIPTION
DV-27N	Protective carrying case only
DV-FILTER	Depressor and gasket with filter
P511	Gasket (6 pack)
P511-10	Gasket (10 pack)
P90009	O-ring for older models with o-ring (10 pack)

DVR-22

Digital Vacuum Gauge

- Measures vacuum levels in HVACR equipment
- Brass female 1/4" flare fitting easily attaches to common system fittings; Includes an angled adapter fitting for alternate positioning and improved visibility

Digital Vacuum Gauges

- · Large back-lit LCD display is easy to read
- Intuitive design saves the lowest vacuum reading
- · Adjustable auto-off feature, long run-times and battery life indicator
- Four button interface offers easy setting adjustments
- Durable plastic housing
- · Thermistor sensor for accurate vacuum measurements and easy cleaning
- 1 year warranty
- Made in the USA



PART NO.	DESCRIPTION
DVR-22	Digital Vacuum Gauge
REPLACEMENT PART NO.	DESCRIPTION
P511	Gasket (6 pack)
P90514	Depressor (5 pack)

DV-29

Vacuum Gauge Blank-off Test Kit

The **DV-29** Vacuum Gauge Blank-off Test Kit works with vacuum gauges and the SH-35N Wireless Digital Gauge for Superheat and Sub-cooling to create a closed system ideal for checking leaks.

PART NO.	DESCRIPTION
DV-29	Leakproof micron hook-up test kit Includes: DV-292, DV-293, DV-294 and DV-295
REPLACEMENT PART NO.	DESCRIPTION
DV-291	1/4" SAE swivel coupler (D10244)
DV-292	90° male flare with 1/4" o-ring QC
DV-293	Valve assembly 1/4" MFL connector
DV-294	10" (25.4 cm) metal hose with o-ring
DV-295	Ball valve with o-ring QC and depressor
P90009	O-ring (10 pack)

Leak Detection



LD-6000IR

AURORA Infrared Refrigerant Leak Detector

The Aurora LD-6000IR sets a new standard in leak detection with advanced infrared sensor technology, offering consistently high sensitivity that won't diminish over time. Designed for precision, it delivers exceptional accuracy in detecting CFC/HCFC, HFC, HFO, and blended refrigerants including A2Ls—pinpointing even the smallest leaks with ease.

Features

- IR technology detects refrigerants by measuring how the gas absorbs infrared light
- Infrared sensor maintains high sensitivity and will not degrade over time
- Durable with a lifespan of up to 1,000 hours.
- Wide refrigerant compatibility including all CFC, HFC, HFO, HCFC & blended refrigerants including A2Ls
- Three sensitivity levels (High, Medium, Low) to suit various applications
- Sensitivity as low as 1 g/year
- Features both automatic calibration and manual with reset control for added versatility
- Rechargeable Lithium-Ion battery provides up to 8 hours of continuous operation
- Instant response time ensures quick identification of leaks
- Easy-to-read back-lit, color LCD screen
- Visual and audible alerts
- 17" flexible probe
- Certifications- CE & EN14624:2020
- Warranty: 2-years (1-year for sensor and battery)
- Made in the USA with globally sourced parts

Specifications

- Sensitivity:
- R134a: 1g/a
- Ammonia: 3g/a
- R1234yf: .5g/a
- · Wand length: 14 in
- Unit Weight: 14 oz
- Warm-up Time: 45-90 seconds
- Rechargeable Lithium Ion Battery (Type C USB connection)







PART NO.	DESCRIPTION
LD-6000IR	AURORA Leak Detector in Case

A2L/A3

SHIELD

LD-5000

PROWLER® Electrochemical Refrigerant Leak Detector

- Detects all HFC, HCFC, HFO and blended refrigerants
- Sensor life > 10 years; proprietary electrochemical sensor will not diminish over time or with use
- Manual calibration mode and reset control
- High, medium and low sensitivity settings
- Warm-up time < 30 seconds; response time immediate
- Mutable alarm with a silent vibrating handle
- Back-lit LCD screen tilts up for easy viewing at any angle
- 17" flexible probe
- · Protective carrying case
- Operates with four AA batteries (included)
- 2 year warranty



PART NO.	DESCRIPTION
LD-5000	PROWLER Leak Detector in Case
REPLACEMENT PART NO.	DESCRIPTION
LD-S101	Sensor (6 prong)
LD-RF5	Filters (5 pack)
LD-TV	Leak test vial
LD-PK	Parts kit (includes 6 prong sensor, filter kit and test vial)

LDC-4000

Combustible Gas and HC Refrigerant Leak Detector

- High sensitivity to all HC refrigerants and combustible gases
- Long life solid-state heated sensor
- Sensitive to < 5 ppm of methane
- Sensor life > 300 hours
- · Automatic calibration and reset to ambient
- Comfortable rubber handle
- · Intrinsically safe certified
- Low battery indicator
- 17" flexible probe
- Protective carrying case
- Operates with four AA batteries (included)
- 2 year warranty





PART NO.	DESCRIPTION
LDC-4000	Combustible Gas and HC Refrigerant Leak Detector in Case
REPLACEMENT PART No.	DESCRIPTION
LDC-4000-1	Sensor (4 prong)

LD-3000

QUEST Electrochemical Refrigerant Leak Detector

• Long life electrochemical sensor

• Detects all CFC, HFC, HFO, HCFC refrigerants and hydrocarbon blends

· Automatic calibration and reset to ambient levels

• Three adjustable sensitivity levels

- Low battery indicator
- Mutable alarm function
- · Comfortable rubber handle
- 18" flexible probe
- Protective carrying case
- Operates with four AA batteries (included)
- 2 year warranty







PART NO.	DESCRIPTION
LD-3000	QUEST Leak Detector in Case
REPLACEMENT PART NO.	DESCRIPTION
LD-S101	Sensor (6 prong)
LD-RF5	Filters (5 pack)
LD-TV	Leak test vial
LD-PK	Parts kit (includes 6 prong sensor, filter kit and test vial)

JB INDUSTRIES (A21)

PATRIOT**

2-Valve Brass Manifold

- Rugged bar design paired with easy-to-grip metal handles
- Available with assorted gauge options
- Free-floating, dual o-ring sealing system for faster evacuation and charging
- Surge dampened gauges for reduced needle movement
- 360° swiveling hose holders
- Secure hanging hook
- Easy-to-turn metal handwheels
- Solid brass forging
- 1 year warranty; lifetime on bar
- Made in the USA



The Manifold that Gives Back



For each PATRIOT™, MSKIT1 or MSKIT2 sold JB will donate to Operation Homefront. To learn more about Operation Homefront visit www.operationhomefront.net

R22	R404A	R410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22225	Manifold Only	3-1/8" (80mm)	Illuminating Class 1, 1%
22225L	Manifold Only	3-1/8" (80mm)	LED
22225CM	Manifold Only	3-1/8" (80mm)	Illuminating, Class 1, 1% Camo
22233	CCLE-60"	3-1/8" (80mm)	Illuminating, Class 1, 1%
22233L	CCLE-60"	3-1/8" (80mm)	LED
22233CM	CCLE-60"	3-1/8" (80mm)	Illuminating, Class 1, 1% Camo
22246	CCLS-60"	3-1/8" (80mm)	Illuminating, Class 1, 1%
22246CM	CCLS-60"	3-1/8" (80mm)	Illuminating, Class 1, 1%, Camo

R22	R134A	R404A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22125	Manifold Only	3-1/8" (80mm)	Illuminating, Class 1, 1%
22133	CCLE-60"	3-1/8" (80mm)	Illuminating, Class 1, 1%

R410A

PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22500	Manifold Only	2-1/2" (63.5mm)	R410A Only
22505	Manifold Only (5/16")	2-1/2" (63.5mm)	R410A Only
22525	Manifold Only	3-1/8" (80mm)	R410A Only
22531	CCLE-60"	3-1/8" (80mm)	R410A Only

Additional manifold gauge options, refrigerant combinations and accessories available on page 37. Hose options available begin on page 38. Manifold rebuild kits and repair parts on pages 91-92.

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R290	R600A		COMPATIBLE
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22725	Manifold Only	3-1/8" (80mm)	Illuminating, Class 1, 1% Hydrocarbon
22733	CCLE-36"	3-1/8" (80mm)	Illuminating, Class 1, 1% Hydrocarbon
22733RF-18	18" CLRF Hoses	3-1/8" (80mm)	Illuminating, Class 1, 1% Hydrocarbon

R32	R454B	R410A	A2L DOMPATIBLE
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22646	CCLS-60"	3-1/8" (80mm)	Illuminating NEW
22633	CCLE-60"	3-1/8" (80mm)	Illuminating
22625	Manifold Only	3-1/8" (80mm)	Illuminating
22605	Manifold Only (5/16")	3-1/8" (80mm)	Illuminating

R448A	R449A	R410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22833	CCLE-60"	3-1/8" (80mm)	Illuminating

R448A	R449A	R407A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22933	CCLE-60"	3-1/8" (80mm)	Illuminating

•			
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
22433	CCLE-60"	2-1/2" (63.5mm)	Illuminating

R1234YF

SHIELD

REVOLVER®

4-Valve Ball Valve Manifold

- Integrated liquid charging capability
- Adjusts to finite openings for liquid charging
- Quarter-turn full open/close handle
- 3/8" port for faster evacuation
- Available with 2-1/2" and 3-1/8" size gauges
- 360° swiveling hose holders for greater flexibility
- Replaceable durable hanging hook
- Surge dampened all-metal gauges for reduced needle movement
- 1 year warranty; lifetime on bar
- Made in the USA

Liquid Charging

1. Full Open

2. Liquid Charging

3. Closed







R22	R404A	R410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
26200	Manifold Only	2-1/2" (63.5mm)	Standard
26225	Manifold Only	3-1/8" (80mm)	Illuminating
26225L	Manifold Only	3-1/8" (80mm)	LED
26208	CCLE4-60"	2-1/2" (63.5mm)	Standard
26233	CCLE4-60"	3-1/8" (80mm)	Illuminating
26233L	CCLE-60"	3-1/8" (80mm)	LED
26240	CCLBV4-60"	3-1/8" (80mm)	Illuminating
26244	CCLV4-60"	3-1/8" (80mm)	Illuminating
26246	CCLS-60"	3-1/8" (80mm)	Illuminating

R134A	R404A	
HOSES	GAUGE SIZE	GAUGE FEATURES
Manifold Only	2-1/2" (63.5mm)	Standard
Manifold Only	3-1/8" (80mm)	Illuminating
CCLE4-60"	2-1/2" (63.5mm)	Standard
CCLE4-60"	3-1/8" (80mm)	Illuminating
CCLV4-60"	3-1/8" (80mm)	Illuminating
CCLS-60"	3-1/8" (80mm)	Illuminating
	HOSES Manifold Only Manifold Only CCLE4-60" CCLE4-60"	HOSES GAUGE SIZE Manifold Only 2-1/2" (63.5mm) Manifold Only 3-1/8" (80mm) CCLE4-60" 2-1/2" (63.5mm) CCLE4-60" 3-1/8" (80mm) CCLV4-60" 3-1/8" (80mm)

R12	R22	R502	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
26000	Manifold Only	2-1/2" (63.5mm)	Standard
26025	Manifold Only	3-1/8" (80mm)	Illuminating
26008	CCLE4-60"	2-1/2" (63.5mm)	Standard
26033	CCLE4-60"	3-1/8" (80mm)	Illuminating
26040	CCLV4-60"	3-1/8" (80mm)	Illuminating
26044	CCLS-60"	3-1/8" (80mm)	Illuminating

R32	R454B	R410A	COMPATELE
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
26633	CCLE-60"	3-1/8" (80mm)	Illuminating
26625	Manifold Only	3-1/8" (80mm)	Illuminating

JB INDUSTRIES (A21)

ZEPPELIN®

2-Valve Aluminum Manifold

- Machined from durable, solid aluminum billets
- Rubber handwheels for improved grip and reduced turns to open/close
- Improved stem design—fully open in only 2-1/2 turns
- Surge dampened gauges for reduced needle movement
- Original free-floating dual o-ring sealing system for faster evacuation and charging
- Available with 2-1/2" and 3-1/8" size gauges
- Easy-to-read, color-coded refrigerant dials
- Replaceable, durable hanging hook
- Replaceable intake/hose holder fittings
- 1 year warranty; lifetime on bar
- Made in the USA



R22	R404A	R410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24200	Manifold Only	2-1/2" (63.5mm)	Standard
24250	Manifold Only	3-1/8" (80mm)	Liquid Filled
24225	Manifold Only	3-1/8" (80mm)	Illuminating
24208	CCLE-60"	2-1/2" (63.5mm)	Standard
24258	CCLE-60"	3-1/8" (80mm)	Liquid Filled
24233	CCLE-60"	3-1/8" (80mm)	Illuminating
24265	CCLV-60"	3-1/8" (80mm)	Liquid Filled
24240	CCLV-60"	3-1/8" (80mm)	Illuminating
24244	CCLS-60"	3-1/8" (80mm)	Illuminating

R22	R134A	404A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24100	Manifold Only	2-1/2" (63.5mm)	Standard
24150	Manifold Only	3-1/8" (80mm)	Liquid Filled
24125	Manifold Only	3-1/8" (80mm)	Illuminating
24108	CCLE-60"	2-1/2" (63.5mm)	Standard
24158	CCLE-60"	3-1/8" (80mm)	Liquid Filled
24133	CCLE-60"	3-1/8" (80mm)	Illuminating
24165	CCLBV-60"	3-1/8" (80mm)	Liquid Filled
24140	CCLBV-60"	3-1/8" (80mm)	Illuminating
24169	CCLS-60"	3-1/8" (80mm)	Liquid Filled, Class 1, 1%
24144	CCLS-60"	3-1/8" (80mm)	Illuminating

R22	R134A	R404A	R410A
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24600	Manifold Only	3-1/8" (80mm)	Liquid Filled, Class 1, 1%
24608	CCLE-60"	3-1/8" (80mm)	Liquid Filled, Class 1, 1%
24615	CCLBV-60"	3-1/8" (80mm)	Liquid Filled, Class 1, 1%

Additional manifold gauge options, refrigerant combinations and accessories available on page 37. Hose options available begin on page 38. Manifold rebuild kits and repair parts on pages 91-92.

R12	R22	R502	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24000	Manifold Only	2-1/2" (63.5mm)	Standard
24050	Manifold Only	3-1/8" (80mm)	Liquid Filled
24025	Manifold Only	3-1/8" (80mm)	Illuminating
24008	CCLE-60"	2-1/2" (63.5mm)	Standard
24058	CCLE-60"	3-1/8" (80mm)	Liquid Filled
24033	CCLE-60"	3-1/8" (80mm)	Illuminating
24065	CCLBV-60"	3-1/8" (80mm)	Liquid Filled
24040	CCLBV-60"	3-1/8" (80mm)	Illuminating
24069	CCLS-60"	3-1/8" (80mm)	Liquid Filled
24044	CCLS-60"	3-1/8" (80mm)	Illuminating

PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24500	Manifold Only	2-1/2" (63.5mm)	R410A Only
24525	Manifold Only	3-1/8" (80mm)	R410A Only
24508	CCLE-60"	2-1/2" (63.5mm)	R410A Only
24533	CCLE-60"	3-1/8" (80mm)	R410A Only

R407A	R422B	R427A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24325	Manifold Only	3-1/8" (80mm)	Illuminating

R22	R407C	410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24425	Manifold Only	3-1/8" (80mm)	Illuminating
			1 (12)
R32	R454B	R410A	COMPATBLE
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
24633	CCLE-60"	3-1/8" (80mm)	Illuminating NEW
24625	Manifold Only	3-1/8" (80mm)	Illuminating NEW

JB INDUSTRIES

ZEPPELIN®

4-Valve Forged Aluminum Manifold

- Heavy-duty forged aluminum body is rugged and durable
- Rubber handwheels for improved grip and reduced effort to open/close
- Full 3/8" bore evacuates 40% faster
- Surge dampened gauges for reduced needle movement
- Available with 2-1/2", 3-1/8" and 4" gauges
- Easy-to-read, color-coded refrigerant dials
- Replaceable, durable hanging hook
- Replaceable intake/hose holder fittings
- 1 year warranty; lifetime on bar
- Made in the USA





R12	R22	R502	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25000	Manifold Only	2-1/2" (63.5mm)	Standard
25050	Manifold Only	3-1/8" (80mm)	Liquid Filled
25025	Manifold Only	3-1/8" (80mm)	Illuminating
25008	CCLE4-60"	2-1/2" (63.5mm)	Standard
25058	CCLE4-60"	3-1/8" (80mm)	Liquid Filled
25033	CCLE4-60"	3-1/8" (80mm)	Illuminating
25065	CCLV4-60"	3-1/8" (80mm)	Liquid Filled
25040	CCLV4-60"	3-1/8" (80mm)	Illuminating
25069	CCLS-60"	3-1/8" (80mm)	Liquid Filled
25044	CCLS-60"	3-1/8" (80mm)	Illuminating

R410A	

R407A

PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25500	Manifold Only	2-1/2" (63.5mm)	R410A Only
25550	Manifold Only	3-1/8" (80mm)	Liquid Filled, R410A Only
25525	Manifold Only	3-1/8" (80mm)	R410A Only
25508	CCLE4-60"	2-1/2" (63.5mm)	R410A Only
25558	CCLE4-60"	3-1/8" (80mm)	Liquid Filled, R410 Only
25533	CCLE4-60"	3-1/8" (80mm)	R410A Only
25523	CCLV4-60"	2-1/2" (63.5mm)	R410A Only
25573	CCLV4-60"	3-1/8" (80mm)	Liquid Filled, R410A Only
25548	CCLV4-60"	3-1/8" (80mm)	R410A Only

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25325	CCLE-60"	3-1/8" (80mm)	Illuminating
25608	CCLE4-60"	3-1/8" (80mm)	Liquid Filled, Class 1, 1%
			1
R22	R407C	410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25425	Manifold Only	3-1/8" (80mm)	Illuminating
R438A	R407C	422D	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25825	Manifold Only	3-1/8" (80mm)	Illuminating
25833	CCLE-60"	3-1/8" (80mm)	Illuminating

R422B

Additional manifold gauge options, refrigerant combinations and accessories available	on page 37.
Hose options available begin on page 38. Manifold rebuild kits and repair parts on page	es 91-92.

R22	R404A	R410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25200	Manifold Only	2-1/2" (63.5mm)	Standard
25250	Manifold Only	3-1/8" (80mm)	Liquid Filled
25225	Manifold Only	3-1/8" (80mm)	Illuminating
25225L	Manifold Only	3-1/8" (80mm)	LED
25208	CCLE4-60"	2-1/2" (63.5mm)	Standard
25258	CCLE4-60"	3-1/8" (80mm)	Liquid Filled
25233	CCLE4-60"	3-1/8" (80mm)	Illuminating
25233L	CCLE4-60"	3-1/8" (80mm)	LED
25265	CCLV4-60"	3-1/8" (80mm)	Liquid Filled
25240	CCLV4-60"	3-1/8" (80mm)	Illuminating
25248	CCLV-60"	3-1/8" (80mm)	Illuminating
25269	CCLV4-60"	3-1/8" (80mm)	Liquid Filled
25246	CCLS-60"	3-1/8" (80mm)	Illuminating

R22	R134A	R404A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25100	Manifold Only	2-1/2" (63.5mm)	Standard
25150	Manifold Only	3-1/8" (80mm)	Liquid Filled
25125	Manifold Only	3-1/8" (80mm)	Illuminating
25108	CCLE4-60"	2-1/2" (63.5mm)	Standard
25158	CCLE4-60"	3-1/8" (80mm)	Liquid Filled
25133	CCLE4-60"	3-1/8" (80mm)	Illuminating
25165	CCLV4-60"	3-1/8" (80mm)	Liquid Filled
25140	CCLBV-60"	3-1/8" (80mm)	Illuminating
25169	CCLS-60"	3-1/8" (80mm)	Liquid Filled
25144	CCLS-60"	3-1/8" (80mm)	Illuminating
non	D1048	D4044	D#108

R22	R134A	R404A	R410A
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25708	CCLE4-60"	4" (102mm)	Illuminating
25713	CCLV4-60"	4" (102mm)	Illuminating

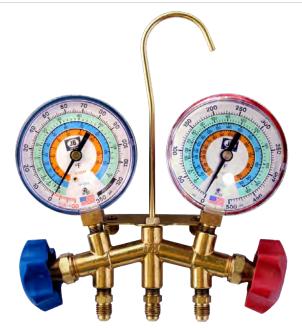
R32	R454B	R410A	A21 COMPATERE
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
25645	CCLBV4-A2L-60"	3-1/8" (80mm)	Illuminating NEW
25646	CCLS-60"	3-1/8" (80mm)	Illuminating NEW
25633	CCLE-60"	3-1/8" (80mm)	Illuminating
25625	Manifold Only	3-1/8" (80mm)	Illuminating



M2 Standard

2-Valve Classic Brass Manifold

- Full-flow, free-floating, dual o-ring sealing system design for faster evacuation and charging
- Forged brass bar with angled bar for increased knuckle clearance to rotate handwheels
- · Heavy-duty, all-metal gauge cases for added durability
- Surge dampened gauges for reduced needle movement
- Available in 2-1/2" and 3-1/8" gauges
- Easy-to-read, color-coded refrigerant dials
- Replaceable, durable hanging hook and intake/hose holder fittings
- Easy-to-turn plastic handwheels; metal available on select models
- 1 year warranty; lifetime on bar
- Made in the USA



M2-23125

KZZ	K4U4A	K41UA		KIZ	KZZ
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES	PART NO.	HOSES
M2-8-410A*	Manifold Only	2-1/2" (63.5mm)	Standard	M2-8	Manifold Only
M2-8-410AB	Manifold Only	2-1/2" (63.5mm)	Standard w/boots	M2-8B	Manifold Only
M2-5-410A*	CCLE-60"	2-1/2" (63.5mm)	Standard	M2-6	CL-36R, CL-36B,
M2-5-410AB	CCLE-60"	2-1/2" (63.5mm)	Standard w/boots		CL-60Y CL-36R. CL-36B.
M2-5-410A-SS	CCLS-60"	2-1/2" (63.5mm)	Standard	M2-6B	CL-30h, CL-30b, CL-60Y
M2-23225	Manifold Only	3-1/8" (80mm)	Illuminating, Class 1, 1%	M2-5	CCL-60"
M2-22225	Manifold Only	3-1/8" (80mm)	Illuminating	M2-5B	CCL-60"
M2-23231	CCLE-60"	3-1/8" (80mm)	Illuminating, Class 1, 1%	M2-36	CCL-36"
M2-22231	CCLE-60"	3-1/8" (80mm)	Illuminating	M2-36B	CCL-36"
M2-22244	CCLS-60"	3-1/8" (80mm)	Illuminating		

R22	R134A	R404A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
M2-21125	Manifold Only	2-1/2" (63.5mm)	Standard
M2-21125B	Manifold Only	2-1/2" (63.5mm)	Standard w/boots
M2-21131	CCLE-60"	2-1/2" (63.5mm)	Standard
M2-21131B	CCLE-60"	2-1/2" (63.5mm)	Standard w/boots
M2-23125	Manifold Only	3-1/8" (80mm)	Illuminating, Class 1, 1%
M2-22125	Manifold Only	3-1/8" (80mm)	Illuminating
M2-23131	CCLE-60"	3-1/8" (80mm)	Illuminating, Class 1, 1%
M2-22131	CCLE-60"	3-1/8" (80mm)	Illuminating

	410A	R407C	R22
GAUGE FEATURES	GAUGE SIZE	HOSES	PART NO.
Illuminating	3-1/8" (80mm)	Manifold Only	M2-22425
A2L COMPATBLE	R410A	R454B	R32
GAUGE FEATURES	GAUGE SIZE	HOSES	PART NO.
Illuminating	2-1/2" (63.5mm)	CCLF-60"	M2-5-454-32

2-1/2" (63.5mm)

Illuminating

R12	R22	R502	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
M2-8	Manifold Only	2-1/2" (63.5mm)	Standard
M2-8B	Manifold Only	2-1/2" (63.5mm)	Standard w/boots
M2-6	CL-36R, CL-36B, CL-60Y	2-1/2" (63.5mm)	Standard
M2-6B	CL-36R, CL-36B, CL-60Y	2-1/2" (63.5mm)	Standard w/boots
M2-5	CCL-60"	2-1/2" (63.5mm)	Standard
M2-5B	CCL-60"	2-1/2" (63.5mm)	Standard w/boots
M2-36	CCL-36"	2-1/2" (63.5mm)	Standard
M2-36B	CCL-36"	2-1/2" (63.5mm)	Standard w/boots

R410A

PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
M2-21525	Manifold Only	2-1/2" (63.5mm)	R410A Only
M2-21525B	Manifold Only	2-1/2" (63.5mm)	R410A Only w/boots
M2-22525	Manifold Only	3-1/8" (80mm)	R410A Only
M2-21531	CCLE-60"	2-1/2" (63.5mm)	R410A Only
M2-21531B	CCLE-60"	2-1/2" (63.5mm)	R410A Only w/boots
M2-22531	CCLE-60"	3-1/8" (80mm)	R410A Only

R407A	R422B	R427A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
M2-22325	Manifold Only	3-1/8" (80mm)	Illuminating
M099	R407C	422D	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
PART NO. M2-22825	HOSES Manifold Only	GAUGE SIZE 3-1/8" (80mm)	GAUGE FEATURES Illuminating

Additional manifold gauge options, refrigerant combinations and accessories available on page 37. Hose options available begin on page 38. Manifold rebuild kits and repair parts on pages 91-92.

Manifold Only

M2-8-454-32

JB INDUSTRIES

M2 Heat Pump Manifold

2-Valve Forged Brass Body

• Full-flow, free-floating, dual o-ring sealing system design for faster evacuation and charging

• Includes Illuminating, Class 1, 1% metal gauges designed for 800 psi to handle heat pump pressures

- Pressure/temperature scale has two sections to accommodate temperature glide on R407c
- · Replaceable, durable hanging hook and intake/hose holder fittings
- 1 year warranty; lifetime on bar
- Made in the USA



M2-HP

CO² Manifold

2-Valve Aluminum Manifold

• For transcritical CO2 applications

 Unique spindle valves tighten easily

- 3-1/8" (80mm) Class 1, 1% pulse-free liquid filled gauges
- 36" hoses with 1/4" SAE fittings (3 pack)
- Working pressure 2900 psi (200 bar)
- 3 year warranty

Specifications

Low Pressure 30" of Hg to 1200 psi (83 bar) High Pressure 30" of Hg to 2300 psi (160 bar) Temperature Range -60°F to 80°F (-55°C to 30°C) Critical Point 87.98°F/1.071 psi (31.1°C/72.9 bar) Certifications EN472/EN837 Pressure Equipment Directive and 2014/6 8/CE Article 4.

Paragraph 3

PART NO.	DESCRIPTION
30744	CO2 Manifold with 36" hose set in protective carrying case
CL744-36	36" single hose for CO2 manifold

R22	R407C	410A	
PART NO.	HOSES	GAUGE SIZE	GAUGE FEATURES
M2-HP	Manifold Only	3-1/8" (80mm)	Illuminating, Class 1, 1%
M2-HP-5 CL6-60" (3)		3-1/8" (80mm)	Illuminating, Class 1, 1%
M2-808	Replacement Gauge	3-1/8" (80mm)	Illuminating, Class 1, 1%

Metric Manifolds

Metric manifolds come with 63.5 mm (2-1/2") metric gauges in bar/psi, kPa/psi and kg/cm², as well as standard CL and KOBRA® CLE series hoses. Refer to the M2 Brass, 2-Valve Aluminum ZEPPELIN® and 4-Valve ZEPPELIN® pages for a full list of features for each. Also available with 80mm (3-1/8") metric gauges in select quantities. For more information, contact customer service. Made in the USA

DESCRIPTION		M2 BRAS	S	2-VA	LVE ZEPP	ELIN®	4-VA	LVE ZEPP	ELIN®	RE	FRIGERA	NTS
DESCRIPTION	bar/psi	kPa/psi	Kg/cm²	bar/psi	kPa/psi	Kg/cm²	bar/psi	kPa/psi	Kg/cm2	R22	R404A	R410A
Manifold Only	28592	28292	28192	28752	28852	28952	27752	27852	27952	•	•	•
CCLE-60" (152cm)	28596	28296	28196	28754	28854	28954	27754	27854	27954	•	•	•
CCLS5-60 (152cm)	28597	28297	28197	_	_	_	_	_	_	•	•	•
CCLBV KOBRA®	28599	28299	28199	28759	28859	28959	27759	27859	27959	•	•	•
DESCRIPTION	bar/psi	M2 BRASS kPa/psi	S Kg/cm²	2-VA bar/psi	LVE ZEPP kPa/psi	ELIN® Kg/cm²	4-VA bar/psi	LVE ZEPP kPa/psi		RI2	FRIGERAI R22	NTS R502
Manifold Only	28572	28272	28172	28772	28872	28972	27772	27872	27972	•	•	•
CCL-36" (91cm)	28570	28270	28170	28770	28870	28970	27770	27870	27970	•	•	•
CCL-60" (152cm)	28574	28274	28174	28774	28874	28974	27774	27874	27974	•	•	•
CCLS-60" (152cm) UL R410A	28576	28276	28176	28776	28876	28876	27776	27774	27776	•	•	•
DESCRIPTION	bar/psi	M2 BRASS kPa/psi	S Kg/cm²	2-VA bar/psi	LVE ZEPP kPa/psi	ELIN® Kg/cm²	4-VA bar/psi	LVE ZEPP kPa/psi	ELIN® Kg/cm2	R134A	FRIGERAI R404A	NTS R507A
Manifold Only	28582	28282	28182	28782	28882	28982	27782	27882	27982	•	•	•
CCL-36" (91cm)	28580	28280	28180	28780	28880	28980	27780	27880	27980	•	•	•
CCL-60" (152cm)	28584	28284	28184	28784	28884	28984	27784	27884	27984	•	•	•
CCLE-60" (152cm)	28586	28286	28186	28786	28886	28986	27786	27886	27986	•	•	•
CCLS-60" (152 cm) UL R410A	28588	28288	28188	28788	28888	28988	27788	27888	27988	•	•	•
DESCRIPTION	bar/psi	M2 BRASS kPa/psi	S Kg/cm²	2-VA bar/psi	LVE ZEPP kPa/psi	ELIN® Kg/cm²	4-VA bar/psi	LVE ZEPP kPa/psi	ELIN® Kg/cm2	REFRIG. R134A		
Manifold Only	28502	28202	28102	28732	28832	28932	_	_	_	•		
CCL-36" (91 cm)	28505	28205	28105	28735	28835	28935	_	_	_	•		

Gauges

JB INDUSTRIES (A2)

Gauge Options

LED Gauges

- 3-1/8" Metal gauges for use with R22, R404A and R410A
- On/off rocker switch; 250+ hour battery life
- 3v Lithium coin cell battery (included)
- Available in convenient 8-pack counter display as M2-LED8PK

Made in the USA



PART NO.	DESCRIPTION			
M2-820L	3-1/8" Compound, LED			
M2-825L	3-1/8" Pressure, LED			
M2-LED8PK	8 pack LED counter display			

Gauge Boots/Lenses

- Protective gauge boots add increased durability to manifold gauges
- Available for 2-1/2" and 3-1/8" gauges
- Made in the USA





MR-596 PART NO. DESCRIPTION MR-590 2-1/2" Black boot (single) MR-593 3-1/8" Black boot (single) 3-1/8" Red boot for M2-865 liquid filled MR-594 (single) 3-1/8" Blue boot for M2-860 liquid filled MR-595 (single) MR-596 Set of two 3-1/8" black boots Set of two 3-1/8" black boots for LED MR-596L MR-598 Set of two black 2-1/2" black boots 2-1/2" Screw-on lens fits both plastic and MR-517 metal gauges MR-533 3-1/8" Snap-on lens

A2L and **Hydrocarbon** Gauges

- Flammable gas gauges for A2L, A3, and hydrocarbon refrigerants
- 3-1/8" Illuminating, Class 1, 1% metal gauges with high impact clear view Lexan lens
- Full-size brass movements
- See page 37 for full descriptions and refrigerants
- Made in the USA





M2-861

3-1/8" Illuminating.

Standard





M2-820 3-1/8" Illuminating. Standard



M2-810 (R410A Only) 3-1/8" Non-illuminating, Standard

Gas Pressure Test Kits

Made in the USA



PART NO.	DESCRIPTION
29433	Natural and LP gas; Scale 0-20 oz/sq. in; 0-15" of water column
29435	Natural and LP gas; Scale 0-20 oz/sq. in; 0-30" of water column
29436	Natural gas only; Scale 0-6 oz/sq. in; 0-10" of water column



M2-460 2-1/2" Non-illuminating, Standard



M2-400 4" Illuminating, Class 1, 1%



QC-G430 2-1/2" Single Test, Standard



QC-G851 3-1/8" Single Test, Standard

Gas Test Bell Gauges

Made in the USA



PART NO.	DESCRIPTION
GTBG-12	3-1/2" Test gauge 0-30lb 3/4" end
GTBG-16	3-1/2" Test gauge 0-30lb 1" end

Gauges



Gauge Options

All-metal gauges with high impact clear view Lexan lens, full-size brass movements and recalibrating screw. Available for compound and pressure in assorted sizes and options for use, visibility and refrigerant type. Metric gauges and replacement lenses also available; contact customer service. Made in the USA

	PART	NO.	SIZE	DESCRIPTION									REF	RIGERA	NTS								
	COMPOUND	PRESSURE	3125	DESCRIPTION	R12	1234YF	R22	R32	R134A	R438A	R290	R404A	R407A	R407C	R410A	R422D	R427A	R448A	R449A	R454B	R502	R507A	R600A
NEW	M2-863	M2-864	2-1/2" (63.5mm)	Illuminating, Standard (A)				•							•					•			
NEW	M2-861	M2-862	3-1/8" (80mm)	Illuminating, Standard				•							•					•			
NEW	M2-871	M2-872	3-1/8" (80mm)	Illuminating, Standard									•					•	•				
NEW	M2-472	M2-473	2-1/2" (63.5mm)	Illuminating, Standard		•			•														
NEW	M2-876	M2-877	3-1/8" (80mm)	Illuminating, Standard											•			•	•				
	M2-250	M2-500	2-1/2" (63.5mm)	Non-illuminating, Standard	•		•														•		
	M2-350	M2-355	2-1/2" (63.5mm)	Non-illuminating, Standard					•														
	M2-400	M2-405	4" (102mm)	Illuminating, Class 1, 1%			•		•			•			•								
	M2-410	M2-415	2-1/2" (63.5mm)	Non-illuminating, Standard											•								
	M2-420	M2-425	2-1/2" (63.5mm)	Non-illuminating, Standard					•			•										•	
	M2-430	M2-435	2-1/2" (63.5mm)	Non-illuminating, Standard			•		•			•											
	M2-460	M2-465	2-1/2" (63.5mm)	Non-illuminating, Standard			•					•			•								
	M2-600	M2-605	3-1/8" (80mm)	Illuminating, Class 1, 1%							•												•
	M2-800	M2-805	3-1/8" (80mm)	Illuminating, Standard	•		•														•		
	M2-810	M2-815	3-1/8" (80mm)	Non-illuminating, Standard											•								
	M2-820	M2-825	3-1/8" (80mm)	Illuminating, Standard			•					•			•								
	M2-820L	M2-825L	3-1/8" (80mm)	LED, Standard			•					•			•								
	M2-826	M2-827	3-1/8" (80mm)	Illuminating, Standard			•		•						•								
	M2-828	M2-829	3-1/8" (80mm)	Illuminating, Standard									•			•	•						
	M2-830	M2-831	3-1/8" (80mm)	Illuminating, Standard			•							•	•								
	M2-844	M2-845	3-1/8" (80mm)	Illuminating, Standard						•				•		•							
	M2-851	M2-856	3-1/8" (80mm)	Illuminating, Standard			•		•			•											
	M2-860	M2-865	3-1/8" (80mm)	Liquid Filled, Class 1, 1%			•		•			•			•								
	M2-870	M2-875	3-1/8" (80mm)	Liquid Filled, Standard	•		•														•		
	M2-880	M2-885	3-1/8" (80mm)	Liquid Filled, Standard			•		•			•											
	M2-890	M2-895	3-1/8" (80mm)	Liquid Filled, Standard			•					•			•								
	M2-924	M2-925	3-1/8" (80mm)	Illuminating, Class 1, 1%			•					•			•								
	M2-951	M2-956	3-1/8" (80mm)	Illuminating, Class 1, 1%			•		•			•											
	QC-G430	QC-G434	2-1/2" (63.5mm)	Single Test, Standard			•		•			•											
	QC-G460	QC-G465	2-1/2" (63.5mm)	Single Test, Standard			•					•			•								
	QC-G820	QC-G825	3-1/8" (80mm)	Single Test, Standard			•					•			•								
	QC-G851	QC-G856	3-1/8" (80mm)	Single Test, Standard			•		•			•											
NEW	QC-G863	QC-G864	2-1/2" (63.5mm)	Single Test, Standard				•							•					•			
NEW	QC-G861	QC-G862	3-1/8" (80mm)	Single Test, Standard				•							•					•			

Gauges indicated as Standard are accuracy rated 3-2-3% Note: Gauges and hoses not specified for use with R410A can damage tool and cause injury.

Metric Gauges

(REFRIGERANTS								
bar/psi	K/psi	KG/CM ²	R12	R22	R134A	R404A	R410A	R502	R507A
29310	29311	29312		•		•	•		
29333				•	•	•			
29290		29292			•	•			•
29280	29260	29384	•	•				•	
29330	29331	29332			•				

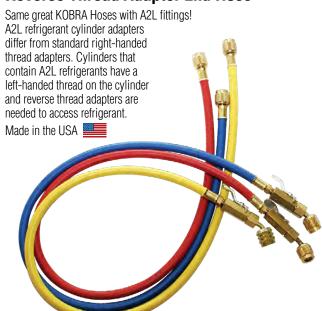
	PRESSURE		REFRIGERANTS						
bar/psi	K/psi	KG/CM ²	R12	R22	R134A	R404A	R410A	R502	R507A
29315	29316	29317		•		•	•		
29338				•	•	•			
29295		29297			•	•			•
29285	29263	29385	•	•				•	
29335	29336	29337			•				

JB INDUSTRIES (A2)

A2L Adapter Hose

NEW

Connect to A2L Cylinders with Reverse Thread Adapter End Hose



CCLBV-A2L-60



SLBV-A2L-60Y

PART NO.	DESCRIPTION
CCLBV-A2L-60	1/4" x 60" Yellow KOBRA Hose Set with Ball-Valve and A2L Fitting
CCLBV4-A2L-60	1/4" x 60" Yellow KOBRA Hose Set with Ball-Valve and A2L Fitting including Black Hose
CCLE-A2L-60	1/4" x 60" Yellow KOBRA Hose Set and A2L Fitting
CCLV-A2L-60	1/4" x 60" Yellow KOBRA Hose Set with Ball Valve Whip End and A2L Fitting
CLBV-A2L-60Y	1/4" x 60" Yellow KOBRA Hose with Ball Valve and A2L Fitting
CLE-A2L-60Y	1/4" x 60" Yellow KOBRA Charging Hose and A2L Fitting
CLV-A2L-6Y	1/4" x 6" Yellow KOBRA Whip End with Shut-Off Ball Valve and A2L Fitting
CLV-A2L-60Y	1/4" x 60" Yellow KOBRA Hose with Ball Valve Whip End and A2L Fitting

A2L Adapters

Connect to A2L Cylinders with Left-handed, Reverse-thread Adapters

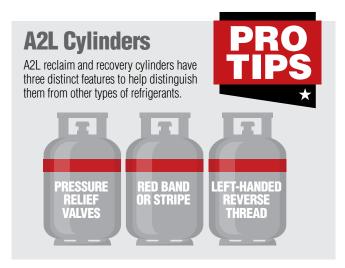
A2L refrigerant cylinder adapters differ from standard right-handed thread adapters. Cylinders that contain A2L refrigerants have a left-handed thread on the cylinder and reverse thread adapters are needed to access refrigerant.







PART NO.	QTY.	DESCRIPTION
QC-A2L-LH	1	1/4" Female SAE flare left-handed x 1/4" Male flare
QC-A2L-LH-25	25	1/4" Female SAE flare left-handed x 1/4" Male flare (bulk)
QC-A2L-LH-50	50	1/4" Female SAE flare left-handed x 1/4" Male flare (bulk)
QC-A2L-LH-100	100	1/4" Female SAE flare left-handed x 1/4" Male flare (bulk)
QC-A2L-LH45	1	1/4" FE SAE flare left-handed x 1/4" Male flare 45°
QC-A2L-LH45-25	25	1/4" FE SAE flare left-handed x 1/4" Male flare 45° (bulk)
QC-A2L-LH45-50	50	1/4" FE SAE flare left-handed x 1/4" Male flare 45° (bulk)
QC-A2L-LH45-100	100	1/4" FE SAE flare left-handed x 1/4" Male flare 45° (bulk)





CLRF Series

2mm Polyamide Capillary Flexible Vibration Eliminating Hydrocarbon Hose

The sophisticated CLRF Series hose system is a safe and cost effective polyamide capillary hose for use with critical charge hydrocarbon refrigeration systems. CLRF Series hose has excellent mechanical and thermal properties combined with extreme durability and vibration eliminating performance.

- Hose ID of 2mm; Highly flexible with a small bend radius
- Suitable for all non-corrosive refrigerants including flammable gases. HFC, HFO, HC and CO2 sub-critical refrigerants and the relevant special oils such as ester- and PAG
- Absorbs all possible multi-directional vibrations
- Maximum working pressure 1160 psi (80 bar)
- Very high burst proof value > 14,500 psi (1,000 bar)
- Temp Range -40°(-40°C) to 266°(130°C)
- Ozone-, UV- and oil resistant

CNTL90 Series

2mm Pressure Control Hose

Pressure control hose is constructed of an inner core of polyamide and an outer cover of vinyl. The polyamide inner core is wrapped with a synthetic fiber to give the hose pull strength. The polyamide inner lining is the reason it can withstand higher pressures and eliminates the vibration failures of copper capillary tube installations. Higher temperature ratings up to 266°F eliminate the failures caused by maximum loads on rubber hoses.

- Hose ID of 2mm: Highly flexible with a small bend radius
- Suitable for all non-corrosive refrigerants including flammable gases, HFC, HFO, HC and CO2 sub-critical refrigerants and the relevant special oils such as ester- and PAG
- 90° x Straight, 1/4" FFL Connects
- Absorbs all possible multi-directional vibrations
- 1000 psi working; 5000 psi burst
- Temp Range -40°(-40°C) to 266°(130°C)
- · Ozone-, UV- and oil resistant



CLRF SERIES 1, (psi 1160/14,500	RF SERIES 1/4" X 1/4" FLEXIBLE HYDROCARBON HOSE i 1160/14,500)								
LENGTH	BLUE YELLOW RED B/Y/R 3 PACK								
18" (46cm)	CLRF-18B CLRF-18Y CLRF-18R CCLRF-18								
22733RF-18	2-Valve PATRIOT™ w/R290/R600 illuminating gauges and 18" CLRF Series Hose Set								



JB INDUSTRIES [A2]

CLSX Series

KOBRA® Secure Seal Hose

- 800 psi working; 4000 psi burst
- · Larger fitting for increased flow
- UL approved for R410A
- Removable head and rebuildable seal kit for guick, easy field repair or replacement
- Angled depressor with custom gasket and large fitting to prevent leaks and increase flow
- · Dual thrust washers (Teflon and stainless steel) for easy turn and free rotation under high pressure
- · Smooth action, low-loss fitting minimizes refrigerant loss and prevents spray
- Made in the USA



CLSX SERIES KOBRA® 1/4" X 1/4" SECURE SEAL (psi 800/4000)								
LENGTH	BLUE	YELLOW	RED	B/Y/R 3 PACK				
36" (91cm)	CLSX-36B	CLSX-36Y	CLSX-36R	CCLSX-36				
48" (122cm)	CLSX-48B	CLSX-48Y	CLSX-48R	CCLSX-48				
60" (152cm)	CLSX-60B	CLSX-60Y	CLSX-60R	CCLSX-60				
72" (182cm)	CLSX-72B	CLSX-72Y	CLSX-72R	CCLSX-72				
Replaceable H	lead	CLSX-RH						
Rebuild Kit		CLSX-RK						

CLSX Series Repair Instructions

Easily Replace/Repair Head with Basic Tools

Replace Head CLSX-RH

1. Attach 3/8" wrench to the flats of the head base. Use an adjustable wrench on hex of the barb and turn counterclockwise to remove the head. Apply one to two drops of a standard thread sealant or Teflon tape to the pipe thread of the hose barb.



2. Attach new head and finger tighten turning clockwise. Use 3/8" wrench and adjustable wrench to fully tighten. Torque to 6ft/lbs (approximately 3/4 to 1-1/2 turns past finger tight).



Rebuild Head CLSX-RK

- 1. Attach 3/8" wrench to the flats of the head base. Use an adjustable wrench on hex of the barb and turn counterclockwise to remove the head.
- 2. Use spring clip pliers to remove internal spring clip from inside of end cap assembly. Remove coupler nut exposing cup assembly.
- 3. Remove the Teflon and stainless steel thrust washers.
- 4. Stabilize slot at base of cup assembly with straight-edge and using a 3/8" wrench turn counterclockwise to detach end cap from cup assembly. Remove and replace end cap o-ring.
- 5. Remove and discard spring, depressor, and gasket from inside cup using pointed hook or removal tool.
- 6. Remove and replace o-ring from slotted end of cup.
- 7. Insert new gasket, depressor and spring in cup. Apply one to two drops of a standard thread sealant or Teflon tape to the pipe thread of the end cap. Reattach end cap with new o-ring to cup assembly using a 3/8" wrench and a straight edge.
- 8. Replace the Teflon and stainless steel thrust washers. Place cup assembly into coupler nut.
- 9. Use spring clip pliers to secure internal snap ring inside of end cap assembly. Refer to REPLACE HEAD Step 1 and 2 to reassemble.



















CLS Series

KOBRA® Secure Seal Hose

- 800 psi working; 4000 psi burst
- UL R410A approved Secure Seal, specially designed to lock refrigerant inside the hose without the need for a ball valve attachment
- Fully field repairable with 33112RK/33115RK Rebuild Kits
- Stainless steel thrust washer ensures free rotation under high pressure
- Three-point contact on depressor



CLS SERIES K	OBRA® 1/4" 2	X 1/4" SECUR	E SEAL HOSE	E (psi 800/40	00)
LENGTH	BLUE	YELLOW	RED	B/Y/R 3 PACK	B/Y/R BLACK: 3/8" 4 PACK
36" (91cm)	CLS-36B	CLS-36Y	CLS-36R	CCLS-36	CCLS4-36
48" (122cm)	CLS-48B	CLS-48Y	CLS-48R	CCLS-48	CCLS4-48
60" (152cm)	CLS-60B	CLS-60Y	CLS-60R	CCLS-60	CCLS4-60
72" (182cm)	CLS-72B	CLS-72Y	CLS-72R	CCLS-72	CCLS4-72
10' (3m)	CLS-120B	CLS-120Y	CLS-120R		
25' (7.6m)	CLS-300B	CLS-300Y	CLS-300R		
50' (15.2m)	CLS-600B	CLS-600Y	CLS-600R		
75' (22.8m)	CLS-900B	CLS-900Y	CLS-900R		
100' (30.5m)	CLS-1200B	CLS-1200Y	CLS-1200R		
CLS5 SERIES	KOBRA® 1/4'	' X 5/16" SEC	URE SEAL H	OSE* (psi 80	0/4000)
36" (91cm)	CLS5-36B	CLS5-36Y	CLS5-36R	CCLS5-36	
48" (122cm)	CLS5-48B	CLS5-48Y	CLS5-48R	CCLS5-48	
60" (152cm)	CLS5-60B	CLS5-60Y	CLS5-60R	CCLS5-60	

CLS5-72Y

72" (182cm) CLS5-72B

CLS Series Repair Instructions For use with 33112RK/33115RK Rebuild Kits

1. Hold the cup in one hand so that the slotted face of the cup is exposed. Pinch the cup seal o-ring and insert it into the large groove to seat it correctly as shown.



Hoses

2. Install the barb seal o-ring in the groove located between the hex feature and the back portion of thread. Gently stretch and pull it over the threads of the barb fitting. Ensure the seal is not torn or damaged.



3. Insert bushing/seal into the thread side of the cup. Brass bushing side goes in first with seal facing up as shown.



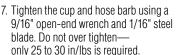
4. Insert depressor with three-blade feature into the cup assembly. The depressor fits into the bushing/seal installed in the previous step. The depressor must sit flat and true to the seal surface.

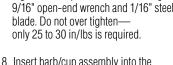


5. Place spring into cup assembly over the emboss on the back of the depressor.



6. Screw cup assembly, with spring in an upward position, onto hose barb fitting. Hand tighten the cup to the barb ensuring cup seats over the barb gasket (o-ring) and does not damage the o-ring.









For additional information on assembly or disassembly, refer to 33112RK or 33115RK Rebuild Kit Instructions online at JBIND.COM.

the coupler.



CCLS5-72

CLS5-72R

JB INDUSTRIES (A2)

CLE Series

KOBRA® Gasket Seal Hose

- 800 psi working; 4000 psi burst
- Gasket seal, high-pressure charging hose
- Blow-out resistant gasket locks into the cup of the fitting
- Barbed depressor precisely machined to guide the valve core into place



CLE SERIES KOBRA® 1/4" X 1/4" GASKET SEAL HOSE (psi 800/4000)									
LENGTH	BLUE	YELLOW	RED	B/Y/R 3 PACK	B/Y/R BLACK: 3/8" 4 PACK				
36" (91cm)	CLE-36B	CLE-36Y	CLE-36R	CCLE-36	CCLE4-36				
48" (122cm)	CLE-48B	CLE-48Y	CLE-48R	CCLE-48	CCLE4-48				
60" (152cm)	CLE-60B	CLE-60Y	CLE-60R	CCLE-60	CCLE4-60				
72" (182cm)	CLE-72B	CLE-72Y	CLE-72R	CCLE-72	CCLE4-72				
10' (3m)	CLE-120B	CLE-120Y	CLE-120R						
25' (7.6m)	CLE-300B	CLE-300Y	CLE-300R						
50' (15.2m)	CLE-600B	CLE-600Y	CLE-600R						
75' (22.8m)	CLE-900B	CLE-900Y	CLE-900R						
100' (30.5m)	CLE-1200B	CLE-1200Y	CLE-1200R						
CLE5 SERIES	KOBRA® 1/4	I" X 5/16" G <i>A</i>	SKET SEAL	HOSE (psi 80	00/4000)				
LENGTH	BLUE 1/4" x 5/16"	YELLOW 1/4" x 5/16"	RED 1/4" x 5/16"	BLUE/RED: 1/4" x 5/16" YELLOW: 1/4" x 1/4" 3 PACK	B/Y/R 5/16" x 5/16"				
36" (91cm)	CLE5-36B	CLE5-36Y	CLE5-36R	CCLE5-36	CCLE55-36				
60" (152cm)	CLE5-60B	CLE5-60Y	CLE5-60R	CCLE5-60	CCLE55-60				
72" (182cm)	CLE5-72B	CLE5-72Y	CLE5-72R	CCLE5-72	CCLE55-72				

CLBV Series

KOBRA® Gasket Seal Quarter-Turn Ball Valve Hose

- 800 psi working; 4000 psi burst
- Meets non-venting requirements by trapping refrigerant with ball valve

1/4 turn lever-style ball valve fitting at one end opens to full flow
 Barbed depressor locks into the gasket exuding more outward force pushing the gasket further into place



	,5	49.			- —
CLBV SERIES	KOBRA® 1/4	" X 1/4" WIT	H BALL VAL	/E (psi 800/4	000)
LENGTH	BLUE	YELLOW	RED	B/Y/R 3 PACK	B/Y/R BLACK: 3/8" 4 PACK
36" (91cm)	CLBV-36B	CLBV-36Y	CLBV-36R	CCLBV-36	CCLBV4-36
48" (122cm)	CLBV-48B	CLBV-48Y	CLBV-48R	CCLBV-48	CCLBV4-48
60" (152cm)	CLBV-60B	CLBV-60Y	CLBV-60R	CCLBV-60	CCLBV4-60
72" (182cm)	CLBV-72B	CLBV-72Y	CLBV-72R	CCLBV-72	CCLBV4-72

72 (1020111)	OLDV 12D	OLDV 121					
CCLBV5 SERIES KOBRA® 1/4" X 5/16" WITH BALL VALVE (psi 800/4000)							
LENGTH BLUE/RED: 1/4" x 5/16 YELLOW: 1/4" x 1/4" 3 PACK							
36" (91cm)	CCLBV5-36						
60" (152cm)	CCLBV5-60						
72" (182cm)	CCLBV5-72						

SHIELD

KOBRA® Gasket Seal Quarter-Turn Ball Valve Hose with 6" Whip End

• 800 psi working; 4000 psi burst

• Meets non-venting requirements by trapping refrigerant with ball valve

• CLV6: 6" Ball valve with whip end

• CLP: 6" Whip end only



CLV SERIES KOBRA® 1/4" X 1/4" W/BALL VALVE WHIP END (psi 800/4000)					
LENGTH	BLUE	YELLOW	RED	B/Y/R 3 PACK	B/Y/R BLACK (3/8") 4 PACK
36" (91cm)	CLV-36B	CLV-36Y	CLV-36R	CCLV-36	CCLV4-36
48" (122cm)	CLV-48B	CLV-48Y	CLV-48R	CCLV-48	CCLV4-48
60" (152cm)	CLV-60B	CLV-60Y	CLV-60R	CCLV-60	CCLV4-60
72" (182cm)	CLV-72B	CLV-72Y	CLV-72R	CCLV-72	CCLV4-72
CLV SERIES W/RALL VALVE WHIP END ONLY (nsi 800/4000)					

CLV SERIES W/BALL VALVE WHIP END ONLY (psi 800/4000)					
1/4" x 6"	CLV-6B	CLV-6Y	CLV-6R	CCLV-6	CLV-6BL
3/8" x 6"		CLV6-6Y			CLV6-6BL

CLP SERIES K	OBRA® 1/4")	X 1/4" HOSE	WHIP END () NLY (psi 800	/4000)
6" (15cm)	CLP-6B	CLP-6Y	CLP-6R		
CLV6 AND CL6 SERIES KOBRA® 3/8" X 3/8" CHARGING HOSE (psi 600/3000)					

			(
LENGTH	BLACK	BLACK W/BALL VALVE	YELLOW
36" (91cm)	CL6-36	CLV6-36	CL6-36Y
48" (122cm)	CL6-48	CLV6-48	CL6-48Y
60" (152cm)	CL6-60	CLV6-60	CL6-60Y
72" (182cm)	CL 6-72	CIV6-72	CL6-72Y

CLV5 AND CCLV5 SERIES KOBRA® W/BALL VALVE WHIP END 1/4" X 5/16" (psi 800/4000)				
LENGTH	BLUE/RED: 1/4" x 5/16" YELLOW: 1/4" x 1/4" 3 PACK	BLUE 1/4" x 5/16"	YELLOW 1/4" x 5/16"	RED 1/4" x 5/16"
36" (91cm)	CCLV5-36			
60" (152cm)	CCLV5-60	CLV5-60B	CLV5-60Y	CLV5-60R
72" (182cm)	CCLV5-72			

Brass Fittings

Hoses

JB INDUSTRIES (A2)

Fast Evacuation Hose

1/2" Heavy-Duty Black

- 1/2": 640 psi working; 3200 psi burst
- Heavy-duty charging hose reduces permeation
- Straight fittings by straight fittings
- Made in the USA





FAST EVACUATION HOSE (640PSI/3200PSI)				
LENGTH	BLACK (1/2" DIAMETER)			
48" (122cm)	CL264-48 (1/4" x 3/8" SAE FE swivel fittings)			
60" (152cm)	CL264-60 (1/4" x 3/8" SAE FE swivel fittings)			

Heavy-Duty Series

1/4", 3/8" and 1/2" Heavy-Duty Black Charging Hose

- 1/4": 800 psi working; 4000 psi burst
- 3/8": 800 psi working; 4000 psi burst
- 1/2": 640 psi working; 3200 psi burst
- Heavy-duty charging hose reduces permeation
- Straight fittings by straight fittings
- Made in the USA



	800PSI/4000PSI	500PSI/	2000PSI	640PSI/3200PSI
LENGTH	BLACK (1/4" DIAMETER)		ACK Ameter)	BLACK (1/2" DIAMETER)
	(1/4" x 1/4" fittings)	(3/8" x 3/8" fittings)		(1/2" x 1/2" fittings)
36" (91cm)	CL4HD-36	CL6H	1D-36	CL2HD-36
48" (122cm)	CL4HD-48	CL6HD-48		CL2HD-48
60" (152cm)	CL4HD-60	CL6H	1D-60	CL2HD-60
72" (182cm)	CL4HD-72	CL6H	ID-72	CL2HD-72
	500PSI/2000F	PSI	64	OPSI/3200PSI
LENGTH	BLACK (3/8" DIAI	METER)	BLACK	((1/2" DIAMETER)
LENGIN	(1/4" x 3/8" fittings)		(1/4" x 1/2" fittings)	
60" (152cm)	CL64-60			CL84-60
48" (122cm)	CL644-48			

JB INDUSTRIES

Standard Series

1/4" Standard Charging Hose

• 750 psi working; 3000 psi burst

• Ideal for use with all standard refrigerants (except high pressure)

• Permeation can be detected and will vary



STANDARD 1/4" X 1/4" CHARGING HOSE (psi 750/3000)				
LENGTH	BLUE	YELLOW	RED	B/Y/R 3 PACK
36" (91cm)	CL-36B	CL-36Y	CL-36R	CCL-36
48" (122cm)	CL-48B	CL-48Y	CL-48R	CCL-48
60" (152cm)	CL-60B	CL-60Y	CL-60R	CCL-60
72" (182cm)	CL-72B	CL-72Y	CL-72R	CCL-72

Hose Replacement Parts Made in the USA



PART NO.	DESCRIPTION
A10974	O-ring/Gasket Removal Tool
33112RK	1/4" Secure Seal Rebuild Kit
33115RK	5/16" Secure Seal Rebuild Kit
CLSX-RK	CLSX Secure Seal Rebuild Kit
CLSX-RH	CLSX Replacement Head
T21295	Snap Ring Pliers for CLS Secure Seal Fittings, Includes 33112RK 1/4" Rebuild Kit
P90022	O-ring for T21295 and 33112RK (10 pack)
P511	Gasket for 1/4" CLE, CLV, CLBV Series Hose (6 pack)
P90514	1/4" Depressor for CLE, CLV and CLBV Series (5 pack) used with P509
P90016	Gasket for 3/8" Hose (10 pack)
P90008	Gasket for 1/2" Heavy-duty Black Charging Hose (5 pack)

Mini Ball Valves



- 1/4" for use up to 4000 psi (276 bar) minimum burst; 800 psi (55 bar) maximum working pressure
- 5/16" for R410A applications; 4000 psi (276 bar) minimum burst; 800 psi (55 bar) maximum working pressure



PART NO.	DESCRIPTION	
MBV4-LH-01	1/4" Compact mini ball valve A2L left-hand thread (1 pack)	(A2L)
MBV4-LH-03	1/4" Compact mini ball valve set A2L left-hand thread (3 pack)	(A2L)
MBV4-03	1/4" Compact mini ball valve set (3 pack)
MBV4-01	1/4" Compact mini ball valve (1 pa	ack)
MBV5-03	5/16" QC x 1/4" SAE compact min valve set (3 pack)	i ball
MBV5-01	5/16" QC x 1/4" SAE compact min ball valve (1 pack)	i
P511	Replacement Gasket	

Flexible Metal Hose

- 900 psi working; 3500 psi burst
- Unlike charging hoses, flexible metal lines will not permeate under vacuum
- Metal lines feature finger-tight o-ring coupler ends



All the same of th	
PART NO.	DESCRIPTION
D10436	1/4" x 36" Flexible metal line (one 45° fitting)
D10472	1/4" x 72" Flexible metal line (one 45° fitting)
D10636	3/8" x 36" Flexible metal line (one 45° fitting)
D10660	3/8" x 60" Flexible metal line (one 45° fitting)
DV-294	1/4" x 10" Flexible metal line (one 45° fitting)
P90009	1/4" Replacement o-ring (10 pack)
P90012	3/8" Replacement o-ring (10 pack)

Secure Seal Adapters

- Convert your CLE Series hose into CLS Secure Seal
- Made in the USA





33113N

PART NO.	DESCRIPTION
33112N	1/4" QC x 1/4" SAE
33113N	1/4" QC x 1/4" SAE 90°
33115N	5/16" QC x 1/4" SAE
33116N	5/16" QC x 1/4" SAE 90°

Mini-Split Tool Kits



Mini-Split Tool Kits

MSKIT1 and MSKIT2

Everything you need for R410A ductless mini-splits in one convenient kit. MSKIT1 and MSKIT2 contain all essential tools to get the job done, including the award-winning PATRIOT $^{\text{TM}}$ 2-Valve Manifold, a KOBRA $^{\text{®}}$ Secure Seal hose set that is UL approved for R410A, and a heavy-duty six spanner head torque wrench.

MSKIT3

The MSKIT3 is an affordable solution for service technicians who already have a few basic tools in their toolbox.

The Manifold that Gives Back



For each PATRIOT™, MSKIT1 or MSKIT2 sold JB will donate to Operation Homefront. To learn more about Operation Homefront visit www.operationhomefront.net



MSKIT1 (1/4") AND MSKIT2 (5/16") BACKPACK			
MSKIT1 Includes	MSKIT2 INCLUDES	DESCRIPTION	
22625	22605	PATRIOT™ manifold with R410A/R32/R454B gauges NEW	
CCLS-60	CCLS5-60	KOBRA® UL approved Secure Seal hose set	
A32525N	A32535N	Valve core remover w/side port	
SHLD-P4	SHLD-E4	SHIELD® locking cap R410A (4 pack)	
A31656	A31665	SAE brass adapters (2 included)	
NFT5-4	NFT5-5	Brass caps (NFT5-4, 10 pack/NFT5-5, 5 pack)	
T3060)5	Metric (2-8mm) and Imperial (5/64" - 1/4") hex key set	
T30600		Ratcheting eccentric cone flare tool	
T30600-G		Metal Flare Size Gauge; 1/4", 3/8", 1/2", 5/8", 3/4" SAE (6.4mm, 9.5mm, 12.7mm, 15.9mm, 19.1mm)	
TRQ1080		Torque wrench set with 6 spanner heads	
JB-BACKPACK1		JB backpack (40 pockets)	

MSKIT3 TOOLBAG (1/4" AND 5/16")			
MSKIT3 Includes	DESCRIPTION		
JB-TOOLBAG1	JB tool bag (30 pockets)		
T30605	Metric (2-8mm) and Imperial (5/64" - 1/4") hex key set		
T30600	Ratcheting eccentric cone flare tool		
T30600-G	Metal Flare Size Gauge; 1/4", 3/8", 1/2", 5/8", 3/4" SAE (6.4mm, 9.5mm, 12.7mm, 15.9mm, 19.1mm)		
TRQ1080	Torque wrench set with 6 spanner heads		
NFT5-4	1/4" Brass caps (10 pack)		
NFT5-5	5/16" Brass caps (5 pack)		
A31656	5/16" Female x 1/4" SAE brass adapters (2 included)		

Mini-Split Tool Kits

Mini-Split Kit Tool Descriptions



22625 1/4" | 22605 5/16"

PATRIOT™ 2-valve Brass Manifold with R410A/R32/R454B Gauges

Made in the USA



T30600

Ratcheting eccentric cone flaring tool with internal clutch to prevent over-torquing. For tube OD: 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4"



T30600-G

Metal Flare Size Gauge; 1/4", 3/8", 1/2", 5/8", 3/4" SAE (6.4mm, 9.5mm, 12.7mm, 15.9mm, 19.1mm)



CCLS-60 1/4" | CCLS5-60 5/16"

KOBRA® Secure Seal refrigerant charging hoses with low-loss, UL-approved for R410A

Made in the USA



A32525N 1/4" | A32535N 5/16"

Valve core removal tool with side port for removing valve cores without losing system charge

Made in the USA



NFT5-4 1/4" | NFT5-5 5/16"

Five finger-tight 1/4" o-ring sealed brass caps Made in the USA





Heavy-duty canvas JB backpack



TRQ1080

7.375-59.004 pound-feet (10-80 N-M) torque wrench with six spanner heads (17, 22, 24, 26, 27, 29mm) and 1/2" DR Ratchet head

Made in the USA



SHLD-P4 1/4" | SHLD-E4 5/16"

SHIELD® Refrigerant locking cap with water-resistant rubber sleeves color-coded for R410A

Made in the USA



A31656 1/4" | A31665 5/16" male

Brass adapters for 5/16" - 1/4" SAE connections Made in the USA



T30605

Metric (2-8mm) and Imperial (5/64" - 1/4") hex key sets

Made in the USA



JB-BACKPACK1

Heavy-duty canvas JB tool bag



JB-TOOLBAG1

Capillary Automotive/ Warranty/ Tubing LA-CO Repair

SHIELD

SHIELD





REFRIGERANT LOCKING CAPS

Enhance A2L Refrigerant Safety with Clear Identification

As mildly flammable A2L refrigerants become more widespread, the SHIELD A2L Locking Cap provides an easy way to help quickly identify A2L refrigerants while safeguarding against unauthorized access or accidental refrigerant release.

Key Benefits:

Standardized Identification: Helps to quickly identify systems using A2L refrigerants.

Cross-Contamination Prevention: Helps reduce the risk of refrigerant mix-ups while servicing systems.

Enhanced Safety: Minimizes the risk of refrigerant mishandling and encourages proper servicing procedures, especially in commercial or industrial settings where multiple individuals have access to equipment.

Features:

- A2L-Specific color-coded cap cover
- UV and Water resistant cover
- Secure lock requires tamper-resistant bit and driver for access
- Secondary Seal adds an extra layer of leak prevention
- Made in the USA from durable, corrosion-resistant brass
- Available in 1/4" and 5/16" sizes
- Offered in packs of 4, 12, 50, 100, or bulk
- Meets International Mechanical Code 1101.10 and International Residential Code M1411.6 standards
- Made in the USA

PART NO.	QTY.	SIZE	SIZE DESCRIPTION	
SHLD-A2L4	4	1/4"	Locking caps and 1 bit (4 pack)	
SHLD-A2L12	12	1/4"	Locking caps and 1 bit (12 pack)	
SHLD-A2L50	50	1/4" Locking caps, 1 bit and 3" driver (50 pack)		
SHLD-A2L100	100	1/4" Locking caps, 2 bits and 8" long driver (100 pack)		
SHLD-E4-A2L	4	5/16" Locking caps and 1 bit (4 pack)		
SHLD-E12-A2L	12	5/16" Locking caps and 1 bit (12 pack)		
SHLD-E50-A2L	50	5/16" Locking caps, 1 bit and 3" driver (50 pack)		
SHLD-E100-A2L	100	5/16" Locking caps, 2 bits and 8" long driver (100 pack)		
SHLD-A2L-SL20	20	Red Sleeves		







SHIELD® R22/410A/Universal

Refrigerant Locking Caps

- Easily identifiable with water-resistant color-coded caps for R22, R410A and universal refrigerants
- Secure, tamper-resistant lock
- Protects against unauthorized access to refrigerants and deters against huffing inhalant abuse and theft
- Helps prevent leaks and excessive energy usage by providing a strong secondary seal to Schrader or backseat valve
- All brass, corrosion-resistant design
- Available with 1/4" and 5/16" fittings in packs of 4, 12, 50 and 100; also available in bulk
- Requires tamper-resistant bit and driver for unlocking
- Made in the USA

Meets International Safety Codes

International Mechanical Code 1101.10 – Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps

International Residential Code M1411.6 - Refrigerant circuit access ports located outdoors shall be fitted with locking-type tamper-resistant caps

Universal Refrigerant Locking Cap Key

SHLD-MULTI Refrigerant locking cap key with interchangeable bits conveniently stored inside the tool handle. For use with SHIELD, C&D Valve[™] and Novent® Refrigerant Locking Caps.

SHIELD Drivers

For use with SHIELD Refrigerant Locking Caps. Available in 3" (includes one bit), 8" (includes two bits) or combination pack with both driver sizes and two bits, SHLD-COMBO-DRIVER.





SHLD-G4 1/4" 4 Pack (R22)



SHLD-P4 1/4" 4 Pack (R410A)



SHLD-U4 1/4" 4 Pack (Universal)



SHLD-E4 5/16" 4 Pack (Universal)



™NEWS BRONZE					
PART NO.	QTY.	FITTING SIZE	SLEEVE COLOR CODE	DESCRIPTION	
SHLD-U4	4	1/4"	Universal	Locking caps and 1 bit (4 pack)	
SHLD-U12	12	1/4"	Universal Locking caps and 1 bit (12 pack)		
SHLD-U50	50	1/4"	Universal	Locking caps, 1 bit and 3" driver (50 pack)	
SHLD-U100	100	1/4"	Universal	Locking caps, 2 bits and 8" long driver (100 pack)	
SHLD-E4	4	5/16"	Universal	Locking caps and 1 bit (4 pack)	
SHLD-E12	12	5/16"	Universal	Locking caps and 1 bit (12 pack)	
SHLD-E50	50	5/16"	Universal Locking caps, 1 bit and 3" driver (50 pack)		
SHLD-G4	4	1/4"	R22 Locking caps and 1 bit (4 pack)		
SHLD-G12	12	1/4"	R22 Locking caps and 1 bit (12 pack)		
SHLD-G50	50	1/4"	R22	Locking caps, 1 bit and 3" driver (50 pack)	
SHLD-P4	4	1/4"	R410A Locking caps and 1 bit (4 pack)		
SHLD-P12	12	1/4"	R410A	Locking caps and 1 bit (12 pack)	
SHLD-P50	50	1/4"	R410A Locking caps, 1 bit and 3" driver (50 pack)		
PAI	RT NO.			DESCRIPTION	
SHLD-CJ			Empty storage jar holds 150 SHIELD _® caps		
SHLD-SLU20			Universal (black) SHIELD _® sleeves (20 pack)		
SHLD-SLG20			R22 (green) SHIELD _® sleeves (20 pack)		
SHLD-SLP20			R410A (pink) SHIELD _® sleeves (20 pack)		
SHLD-BIT			SHIELD _® 2 pack bit		
SHLD-3-DRIVER			SHIELD® 3" driver with 1 bit		
SHLD-8-DRIVER			SHIELD _® 8" long driver with 2 bits		
SHLD-COMBO	-DRIVER		SHIELD® 3" and 8" drivers with 2 bits		
SHLD-MULTI			Universal locking cap key for SHIELD®, Novent® and C&D Valve™ locking caps		

CoreMax®

JB INDUSTRIES (A21)

CoreMax®

Rapid Charge and Evacuation System

The innovative CoreMax® family of manufacturing and service tools is an integrated, flexible system design that shortens processing time and provides up to 5x greater flow. This dramatically improves sealing with faster access connections. CoreMax® gives you the choice of how you want to test, fill and evacuate your systems.

- Process directly through the valve with additional flow and dramatically better sealing
- Easy-to-use connector at every process station
- Automatic valve shutoff on both sides of connection
- Higher flow improves vacuum quality to maximize SEER rating
- Improves line throughput and reduces evacuation stations
- Easy implementation with lower tool costs
- Improves processing time and field service
- Made in the USA

High-Flow Valve Cores

For more information and instructional video visit jbind.com



CM-S370 Seats



Valve Core Removal Tool

PART NO.	DESCRIPTION
CM-VC003	High-Flow Valves with Caps (3 pack)
CM-VC010	High-Flow Valves with Caps (10 pack)
CM-VC025	High-Flow Valves with Caps (25 pack)
CM-VC100	High-Flow Valves with Caps (100 pack)
CM-S370	3/8" Seats (3 pack)
CM-SS370	3/8" Saddle Seats (3 pack)
CM-S250	1/4" Seats (3 pack)
CM-SS250	1/4" Saddle Seats (3 pack)
CM-CRTOOL	Valve Core Removal Tool
CM-SEAL	Main Seal Replacement for CM-CRTOOL (O-ring)
CM-RBK	Rebuild Kit for CM-CRTOOL
CM-SNAP	SnapMate® Service Connector
CM-TRQ	Manual Torque Wrench 3/8" drive





CM-SNAP
SnapMate® Connector





Access Valve Overview

100% Made in the USA

JB machines access valves at our Aurora, Illinois facility using 100% American C360 alloy brass sourced from US mills. Our brass fittings and access valves have high tensile strength and resist corrosion. All of our valves are machined according to strict AHRI specifications to ensure proper sealing of valve and core surfaces. Quality and dependability come standard with our American-made tools.

ACCESS VALVES SPECIFICATIONS		
AHRI Standard	720-2002	
AHRI Torque	3.0 - 5.0 inches/pound	
Temp Range	-40°F to 250°F (-40°C to 121°C)	
Valve Bodies	Brass	
Valve Core	Stainless steel and brass for use with all refrigerants such as R12, R22, R134a, R410A and R502. Resistant to oils, alkalites and diluted mineral acids	

Tube Sizing: ODS and ODF Fit Descriptions

Descriptions for solder/braze access valves specify the connecting tube OD. Size and type fit illustrated are examples of the types of fit for an A31723 valve. The connecting line slips around access fitting; refer to AC/R Copper Tube Fitting Guide and Connecting Tube Size table.

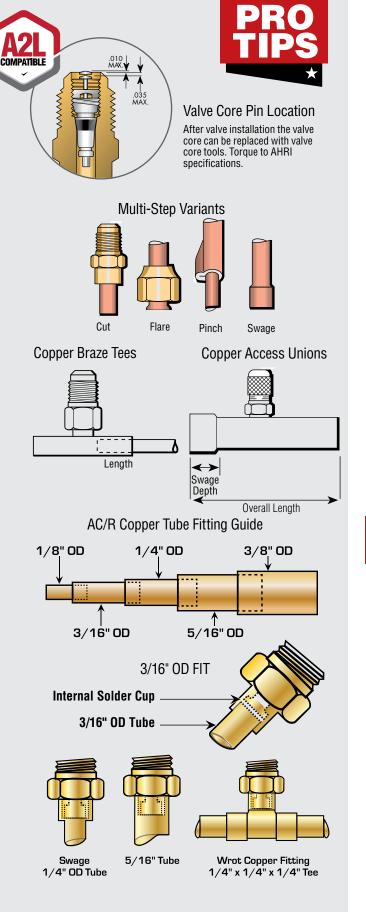
There are two types of ODF fit—external tube fit and swage fit. JB access valve descriptions for ODF refer to swage fit. The connecting tube OD is the same OD as the fitting end. Therefore, the A31723 example above will also slip into 5/16" OD tube. If connecting to wrot copper fitting use ODF swage size.

CONNECTING TUBE SIZE					
TUBE SIZE	ODS Internal Tube Fit	ODF External Tube Fit	ODF Swage Fit		
1/8"	-	3/16"	-		
3/16"	1/8"	1/4"	3/16"		
1/4"	3/16"	5/16"	1/4"		
5/16"	1/4"	3/8"	5/16"		
3/8"	5/16"	_	3/8"		

For easy sizing reference the last two numerals of our flare fittings correspond to their respective tube sizes.

SIZING REFERENCE GUIDE				
NUMBER	TUBE SIZE	NUMBER	TUBE SIZE	
02	1/8"	08	1/2"	
03	3/16"	10	5/8"	
04	1/4"	12	3/4"	
05	5/16"	14	7/8"	
06	3/8"	18	1-1/8"	







A32525SV

Valve Core Removal Tool with Slide Valve Side Port

Designed with the daily job of technicians in mind—The Dealer Design Award-winning A32525SV valve core removal tool utilizes an additional slide valve side port to accommodate a vacuum gauge.

Primary function is to remove and replace the valve core under pressure and/ or to remove valve cores in refrigeration systems to increase evacuation and charging performance.

- Swap out damaged valve cores under pressurized air conditioning and refrigeration systems for much faster evacuation
- Slide valve side port valve provides an excellent location to attach a vacuum gauge so system can be checked for absence of moisture and air
- Slide valve side port provides an easy open/close so vacuum gauge can be removed without the introduction of air into the system before
- Protect sensitive vacuum gauge sensors when left on during the charging process by closing slide valve side port
- In-line actuated handle allows the contractor to open and close the valve in tight areas with a single finger
- Uses a series of o-rings and precision machining to stay sealed and not leak during evacuation
- Solid brass construction with the tip machined from A2 tool steel extends tool life
- Patented and Made in the USA



PART NO.	DESCRIPTION
A32525SV	1/4" x 1/4" Valve Core Removal Tool with Slide Valve Side Port
A32535SV	5/16" x 1/4"Valve Core Removal Tool with Slide Valve Side Port
P325	Replacement o-rings

A32525SVT



Valve Core Removal Tool with Slide Valve Side Port and Torque Setting

Designed with the daily job of technicians in mind—The A32525SVT valve core removal tool utilizes an additional slide valve side port to accommodate a vacuum gauge.

Primary function is to remove and replace the valve core under pressure and/ or to remove valve cores in refrigeration systems to increase evacuation and charging performance.

- Swap out damaged valve cores under pressurized air conditioning and refrigeration systems for much faster evacuation
- The A32525SVT automatically sets torque 3 to 5 in-lb
- Slide valve side port valve provides an excellent location to attach a vacuum gauge so system can be checked for absence of moisture and air
- Slide valve side port provides an easy open/close so vacuum gauge can be removed without the introduction of air into the system before charging
- · Protect sensitive vacuum gauge sensors when left on during the charging process by closing slide valve side port
- In-line actuated handle allows the contractor to open and close the valve in tight areas with a single finger
- Uses a series of o-rings and precision machining to stay sealed and not leak during evacuation
- · Solid brass construction with the tip machined from A2 tool steel extends tool life
- Patented and Made in the USA





PART NO.	DESCRIPTION
A32525SVT	1/4" x 1/4"Valve Core Removal Tool with Slide Valve Side Port and Torque Setting; 3 to 5 in-lb
A32535SVT	5/16" x 1/4" Valve Core Removal Tool with Slide Valve Side Port and Torque Setting; 3 to 5 in-lb
P325	Replacement o-rings



Vacuum Rated Valve Core Removal Tool with Access Port



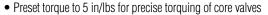
- · Vacuum rated to 20 microns with quarter-turn ball valve shutoff and o-ring seals
- Speeds up evacuation, recovery or recharging through the full flow port
- Storage area for spare valve cores
- Made in the USA



A32525N

PART NO.	QUICK CONNECT	FLARE RUN	SIDE PORT
A32500N	1/4"	1/4"	_
A32505N	5/16"	1/4"	_
A32525N	1/4"	1/4"	1/4"
A32530N	5/16"	1/4"	1/4"
A32535N	5/16"	5/16"	1/4"
A32501N	Core remover bit for A32500N replacement		
A32504	Core remover bit for A32525N replacement		
P325	1/4" and 5/16" rep	lacement gaskets for A32	2525N (1 each)

Valve Core Torque Tool



Works with all standard valve cores



PART NO.	QTY.	DESCRIPTION
A32008	1	1/4" Valve core torque tool
A32008-B	12	1/4" Valve core torque tools in bulk
A32008-BX	12	1/4" Valve core torque tools in display box

Valve Cores and Tool

- · Positive stop valve core with neoprene cup washer and PTFE barrel gasket seal for A/C system valves
- Installation torque 3 to 5 in/lbs
- Max 800 psi and 220°F (104°C)
- Made in the USA



PART NO.	OTY.	DESCRIPTION
A32004	1	1/4" Valve core tool with storage for six valve cores
A31999	5	1/4" Valve cores
A31999-25	25	1/4" Valve cores
A31999-100	100	1/4" Valve cores

Evacuation Recovery Tool



- Plier-type tool with a quick-release trigger to puncture large holes into the line for discharge of a recovery unit
- Fits 3/16" to 7/8" OD hard tubing



PART NO.	QTY.	DESCRIPTION
A32100	1	Evacuation/recovery tool
A32101	1	Hardened steel needle and gasket



Copper Tube Extension

Single Step

- For use with Sil-Fos alloy and copper fittings
- Includes 1/4" ID cap (NFT5-4) and valve core
- Generous counterbore allows removal of core if flare becomes damaged
- All tees and crosses are tapped to receive an access core in all 1/4" SAE flare ends
- All pipe connections have internal braze cups for dip tube applications
- Made in the USA

Note: OD x ID sizes are for copper tube extension



A31004



PART NO.	QTY.	DESCRIPTION
A31002	5	1/8" OD
A31003	5	3/16" OD x 1/8" ID
A31004	5	1/4" OD x 3/16" ID
A31005	5	5/16" OD x 1/4" ID
A31006	5	3/8" OD x 5/16" ID
A31008	3	1/2" OD
A31004S	5	1/4" OD

Copper Tube Extension

Multi-Step

- For use with Sil-Fos alloy and copper fittings
- Includes 1/4" ID cap (NFT5-4) and valve core
- Generous counterbore allows removal of core if flare becomes damaged
- All tees and crosses are tapped to receive an access core in all 1/4" SAE flare ends
- All pipe connections have internal braze cups for dip tube applications
- Made in the USA

Note: OD x ID sizes are for copper tube extension



A31009

PART NO.	QTY.	DESCRIPTION
A31009	3	1/8" OD ext; 3/16",1/4" and 5/16" ODF body steps
A31011	3	3/16" OD ext; 1/4" and 3/8" ODF body step
A31012	3	1/8" OD ext.; 1/8" and 3/16" body step

Copper Braze

Tapper Only

Made in the USA



Copper Braze

Saddle with Tapper

Made in the USA



Copper 90° Elbow

- Includes cap (NFT5-4) and valve core
- Use Sil-Fos alloy only
- Made in the USA



A32804

PART NO.	QTY.	DESCRIPTION
A32804	5	1/4"
A32805	5	5/16"
A32806	5	3/8"
A32808	3	1/2"
A32810	3	5/8"
A32812	2	3/4"
A32814	2	7/8"
A32818	2	1-1/8"

A32904

PART NO.	QTY.	DESCRIPTION
A32904	5	1/4"
A32905	5	5/16"
A32906	5	3/8"
A32908	3	1/2"
A32910	3	5/8"
A32912	2	3/4"
A32914	2	7/8"

A31160

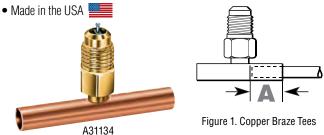
PART NO.	QTY.	SLIP-FIT CONNECT LINE SIZE
A31160	1	5/8" ODS
A31162	1	3/4" ODS
A31164	1	7/8" ODS
A31168	1	1-1/8" ODS

JB INDUSTRIES

Copper Braze Tee

Adjustable

- Bend, cut, flare, swage or pinch; extra depth slip fit braze cups
- Simple installation anywhere along the line
- Use Sil-Fos alloy only



PART NO.	QTY.	SLIP-FIT CONNECT LINE SIZE	OVER ALL Length (OAL)	LENGTH FIG 1. (A)
A31134	3	1/4" ODS x 5/16" ODF	2-1/8"	1"
A31135	3	5/16" ODS x 3/8 ODF	2-1/8"	1"
A31136	3	3/8" ODS x 1/2" ODF	2-1/8"	1"
A31138	3	1/2" ODS	2-1/8"	1"
A31140	1	5/8" ODS	2-1/2"	1"
A31142	1	3/4" ODS	3"	1-1/4"
A31144	1	7/8" ODS	3-1/2"	1-1/2"
A31148	1	1-1/8" ODS	3-13/16"	1-5/8"
A31154	2	3/16" ODS x 1/4" ODF	4"	1-15/16"
A31155	2	1/4" ODS x 5/16" ODF	4"	1-15/16"
A31156	2	5/16" ODS x 3/8" ODF	4"	1-15/16"

Copper Access Union

- Includes cap (NFT5-4) and valve core
- · Install valve in any position
- Connecting line size for ODS and ODF external tube ends
- Use Sil-Fos alloy only
- Made in the USA

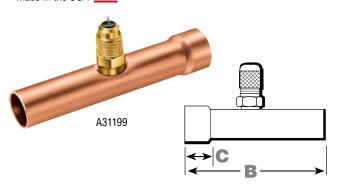


Figure 2. Copper Access Unions

PART NO.	QTY.	SLIP-FIT CONNECT Line Size	OVER ALL LENGTH (OAL) FIG 2. (B)	MIN. LENGTH (MIN) FIG 2. (C)
A31199	2	1/4" OD	2-3/8"	5/16"
A31200	2	3/8" OD	2-3/4"	5/16"
A31201	2	1/2" OD	3"	3/8"
A31202	2	5/8" OD	3-1/4"	1/2"
A31204	2	7/8" OD	3-3/4"	3/4"

Copper Braze Tee

Swaged

- Braze cup ends
- Simple installation anywhere along the line
- Use Sil-Fos alloy only
- Made in the USA



Access Valves

PART NO.	QTY.	SLIP-FIT CONNECT LINE SIZE	OVER ALL LENGTH (OAL)
A31334	3	1/4" OD	2-1/8"
A31335	3	5/16" OD	2-1/8"
A31336	3	3/8" OD	2-1/8"
A31338	3	1/2" OD	2-1/8"
A31340	1	5/8" OD	2-1/2"
A31342	1	3/4" OD	3"
A31344	1	7/8" OD	3-1/2"
A31348	1	1-1/8" OD	3-13/16"

Access Valve Service Kit

- The most popular access fittings for service calls in one convenient storage case. Includes: A31002 (3), A31003 (3), A31004 (3), A31005 (3), A31006 (3), NFT5-4 (6), A31851 (1), A31852 (1), A32004 (1), A31998 (3), A33500 (1), A31729 (3)
- Made in the USA



PART NO.	DESCRIPTION
AVK-001	Access valve service kit in storage case

Bulk Fitting Jar

• Best selling access valves packaged in a convenient display jar



A31004-CJ

PART NO.	QTY.	DESCRIPTION
A31004-CJ	250	1/4" OD x 3/16" ID copper tube extension with bulk jar
NFT5-4-CJ	500	1/4" SAE cap with bulk jar

SHIELD

Access Valves



Swivel Flare Connections

Add Multiple Ports with One Fitting

- Safe, simple installation without the need for brazing
- Flare ends are tapped to receive access cores
- One core and cap are packaged with each valve

Swivel Flare with **Core Depressor**

- Add a new line or control
- No refrigerant loss on charged system

Swivel Flare without Core Depressor

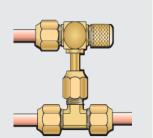
- Multiple ports
- Additional line or controls

Swivel Flare Tee

without Depressor

· Additional access site

Made in the USA



Swivel Flare 3/8" **SAE Tee**



A31853

PART NO.	QTY.	DESCRIPTION
A31853	1	3/8" SAE x 3/8" Female SAE swivel nut x 1/4" access tee
A31856	1	3/8" SAE x 1/4" access x 3/8" Female SAE swivel nut

Made in the USA

Swivel Cross

Made in the USA

with Depressor



PART NO.	QTY.	DESCRIPTION
A31853	1	3/8" SAE x 3/8" Female SAE swivel nut x 1/4" access tee
A31856	1	3/8" SAE x 1/4" access x 3/8" Female SAE swivel nut

Swivel Flare Tee with Depressor

Made in the USA



A31851

PART NO.	QTY.	DESCRIPTION
A31851	3	1/4" Female SAE swivel nut on run
A31852	3	1/4" Female SAE swivel nut on branch

Coupler with Depressor

Made in the USA



A33004

PART NO.	QTY.	DESCRIPTION
A33004	1	1/4" SAE swivel flare x male flare

Bulkhead Mounting

A31854

DESCRIPTION

1/4" Female SAE swivel nut on branch 1/4" FE swivel nut w/o depressor x

1/4" SAE run x 1/4" SAE branch

Made in the USA

PART NO. QTY

A31854

A31864



A31434

AUTOT		
PART NO.	QTY.	DESCRIPTION
A31434*	1	1/4" SAE x 1/4" SAE w/nut
A31727*	1	1/4" SAE x 3/16" and 1/4" ODS or 3/8" ODF

PART NO.	QTY.	DESCRIPTION
A31520	1	1/4" Female SAE swivel nut x access

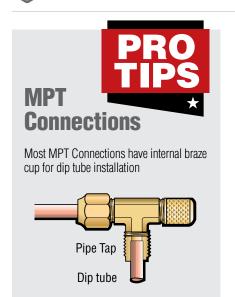
A31520

Cross with Three Access Points

A31522

PART NO.	QTY.	DESCRIPTION
A31522	1	1/8" MPT cross

JB INDUSTRIES



MPT Connection

Made in the USA



A31482

PART NO.	QTY.	DESCRIPTION
A31482*	5	1/4" Flare x 1/8" MPT Half Union
A31484*	5	1/4" Flare x 1/4" MPT Half Union
A31492*	3	1/4" Flare x 1/8" MPT Elbow
A31494*	3	1/4" Flare x 1/4" MPT Elbow

^{*}Core pre-torqued to AHRI

MPT Tee Connection

Access Valves

Made in the USA



A31452

PART NO.	QTY.	DESCRIPTION
A31452	3	1/8" MPT x 1/4" SAE Branch Tee
A31454	3	1/4" MPT x 1/4" SAE Branch Tee
A31512	3	1/8" MPT run
A31514	3	1/4" MPT x 1/4" SAE Run x 1/4" SAE Branch Tee

MPT Forged Brass Braze Tee

Made in the USA



PART NO.	QTY.	DESCRIPTION
A31234	3	1/4" ODS x 3/8" ODF
A31235	3	5/16" ODS x 3/8" ODF
A31236	3	3/8" ODS x 1/2" ODF
A31238	3	1/2" ODS x 5/8" ODF

MPT Flared Tube Connection

Made in the USA



A31424

PART NO.	QTY.	DESCRIPTION
A31424*	3	1/4" Female SAE union w/flare nut
A31444	3	1/4" Female SAE union w/flare nut

^{*}Core pre-torqued to AHRI

MPT Flare Connection and Flare Fitting **Adapter**

Made in the USA



PART NO.	QTY.	DESCRIPTION
A31614*	5	1/4" Female SAE w/copper gasket
A31734*	3	1/4" Female SAE swivel nut w/depressor

^{*}Core pre-torqued to AHRI

MPT Brass Bodies

Made in the USA



A31722

PART NO.	QTY.	DESCRIPTION
A31722	3	1/8" ODS x 1/4" ODF
A31723	3	3/16" ODS x 1/4" ODF
A31724	3	1/4" ODS x 3/8" ODF
A31725	3	5/16" ODS x 1/2" ODF
A31726	3	3/8" ODS x 1/2" ODF
A31728	3	1/2" ODS x 5/8" ODF

MPT Multi-Step



A31720



A31720 5 3/16" ODS x 1/4" or 3/8" ODF steps A31729 3 3/16", 1/4", 5/16", 1/2" ODF steps A31736 1/8" ODS x 3/16", 1/4" or 5/16" ODF



Red A2L Quick Seal O-Ring Caps

- Deep vacuum and A/C refrigeration
- Finger-tight sealing for all male 1/4" SAE connections
- Made in the USA



NFT5-4-A2L-10

	QTY.	DESCRIPTION
·10	10	A2L 1/4" SAF can

PART NO.	QTY.	DESCRIPTION
NFT5-4-A2L-10	10	A2L 1/4" SAE cap
NFT5-4-A2L-25	25	A2L 1/4" SAE cap
NFT5-4-A2L-50	50	A2L 1/4" SAE cap
P90010	10	Replacement 1/4" o-ring

E-Z Tapper

- Backseating stem eliminates line restriction when servicing through access port or when using the valve for flow control
- Made in the USA



EZ-40288

PART NO.	QTY.	DESCRIPTION
EZ-40288	1	E-Z tapper piercing valve 3/16" x 3/8" OD tube
EZ-40288-126	5	E-Z tapper gasket

Quick Seal O-Ring Caps

- Deep vacuum and A/C refrigeration
- Finger-tight sealing for all male SAE connections
- Made in the USA





NFT5-4

PART NO.	QTY.	DESCRIPTION		
NFT5-4	10	1/4" SAE cap		
NFT5-5	5	5/16" SAE cap		
NFT5-6	3	3/8" SAE cap		
NFT5-8	3	1/2" SAE cap		
NFT5-4-25	25	1/4" SAE cap		
NFT5-4-100	100	1/4" SAE cap		
NFT5-6-100	100	3/8" SAE cap		
P90010	10	Replacement 1/4" o-ring		
P90011	5	Replacement 5/16" o-ring		

O-Ring Seal Line Piercing

- Spring-loaded needle automatically backseats forming a leakproof seal
- Simple installation that is 100% restriction-free
- Made in the USA



LT-456

PART NO.	DESCRIPTION
LT-456	1/4" – 3/8" Line piercing valve
LT-810	1/2" – 5/8" Line piercing valve

Quick Seal Gasket Caps

- Deep vacuum and A/C refrigeration
- Finger-tight sealing for all male SAE connections
- Made in the USA





A31985

PART NO.	QTY.	DESCRIPTION
A31985	10	1/4" SAE cap
A31985-100 10		1/4" SAE cap
P509	6	1/4" Replacement gasket
P509-25	25	1/4" Replacement gasket

Backseating Control Valve

- Ideal for use on pre-charged line sets
- Stops spray of leak detection dye/refrigerant
- Compact brass body for long service and swivel coupler with double safety grooves
- Made in the USA



A33000

PART NO.	QTY.	DESCRIPTION	
A33000	1	1/4" SAE x 1/4" o-ring quick coupler	
P90009	10	Replacement o-ring	

JB INDUSTRIES

QC Angled **Adapter 45°**

Made in the USA



Made in the USA

QC Female NPT Thread

Made in the USA

PART NO QC-S4A

QC-S4B



Access Valves







QC-S4

3/16" QC x 1/4" SAE

1/4" QC x 1/4" SAE

1/4" QC x 3/8" SAE

5/16" QC x 1/4" SAE

DESCRIPTION

5/16" QC x 1/4" SAE (w/valve core)

3/8" QC x 1/4" SAE (no depressor)

3/8" QC x 5/16" SAE (no depressor)



QC-S4A

1/4" QC x 1/8" Female NPT

1/4" QC x 1/4" Female NPT

Specialty Caps

Made in the USA

PART NO.	DESCRIPTION
QC-S45-45	5/16" Female x 1/4" SAE Male Angled Adapter 45°

Wrench Style Seal Cap

- For A/C refrigeration service
- Brass-to-brass positive seal and permanent installation

A31986

Made in the USA



A31997



A31998

Core Removers

PART NO.

QC-S3

QC-S4

QC-S46

QC-S5

QC-S5S

QC-S64

QC-S65

Made in the USA







			PART NO.	QTY.	DESCRIPTION	
ART NO.	QTY.	DESCRIPTION	A31997	10	1/4" Core remover cap	
31986	5	1/4" SAE cap	A31998	5	1/4" Plastic core removers	
	•					_

PART NO.	QTY.	DESCRIPTION				
A31992	5	1/4" SAE cap				
A31992-100	100	1/4" SAE cap				
13493	2	Plastic cap with retainer strap				
13494	1	Plastic cap				

A31992

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JB INDUSTRIES [A2]

QC Elbow

Made in the USA

QC SAE Female Adapter

Made in the USA

QC Access Tee

- 0-ring seal quick coupler
- Includes cap and valve core
- Made in the USA





QC-E5



A31656



A34000

PART NO.	DESCRIPTION
QC-E4	1/4" QC x 1/4" SAE elbow
QC-E5	5/16" QC x 1/4" SAE elbow
QC-E64	3/8" QC x 1/4" SAE elbow (no depressor)

PART NO.	DESCRIPTION
A31656	1/4" SAE Male x 5/16" SAE Female Adapter
A31665	5/16" SAE Male x 1/4" SAE Female Adapter

PART NO.	QTY.	DESCRIPTION
A34000	1	1/4" QC x 1/4" access branch tee
P90009	10	Replacement o-ring

Core Depressor

Made in the USA



Liquid Charging Adapters

- Metering element assures a safe, fast charge without damaging the compressor
- Made in the USA

Swivel	Cylinder	Valve

- 0-ring seal quick coupler
- Includes cap and valve core
- Made in the USA





A33500



LC-4/LC-5



CV-20004

PART NO.	DESCRIPTION
A33500	1/4" Thumbscrew core depressor
P90009	Replacement o-ring

PART NO.	DESCRIPTION		
LC-4	1/4" Liquid charging adapter		
LC-5	5/16" Liquid charging adapter		

PART NO.	DESCRIPTION			
CV-20004	3/4" NPS x 1/4" M flare			
CV-20006	3/4" NPS x 3/8" M flare			

JB INDUSTRIES

O-Rings/Gaskets

Replacement Parts

Made in the USA

P90513

P90514











P90016

JB JUST BETTER

	P90	0009 P90010	P90012
PART NO.	QTY.	DESCRIPTION	
A10974	1	O-ring/Gasket Removal Tool	
A10974-BX	12	O-ring/Gasket Removal Tool Display Box	W
P325	2	1/4" and 5/16" replacement gaskets for A32525N (1 each)	
P509	6	1/4" Gasket for quick couplers, gasket caps (6 pack)	
P509-25	25	1/4" Gasket for quick couplers, gasket caps (25 pack)	
P510	6	1/4" CLA Series R134a gasket (6 pack)	
P511	6 Gasket for 1/4" CLE, CLV, CLBV Series hose (6 pack)		
P511-10	10	Gasket for 1/4" CLE, CLV, CLBV Series hose (10 pack)	
P90008	5	Gasket for 1/2" heavy-duty black charging hose (5 pack)	
P90009	10	1/4" O-ring for couplers, vacuum pumps and flexible metal hose (10 pack)	
P90010	5	1/4" O-ring for access valves and liquid charging adapters, 1/4" caps (5 pa	ıck)
P90011	5	5/16" O-ring for liquid charging adapters (5 pack)	
P90012	10	3/8" O-ring for couplers, vacuum pumps and flexible metal hose (10 pack)	
P90016	10	Gasket for 3/8" hose (10 pack)	
P90022	10	O-ring for T21295 and 33112RK (10 pack)	

1/4" Spring type clip depressor for coupler; used with P509 (5 pack)

1/4" Depressor for CLE, CLV and CLBV Series used with P511 (5 pack)



P90513









P511



Access Valves

A10974

A10974-BX

American-made Brass

SAE 45° Flared Tube Fittings

JB fittings are for use with copper, brass, aluminum, steel and plastic tube provided an acceptable flare can be generated with the material.

Vacuum and pressures of 5,000 psi can be handled depending upon the size, material and conditions. Using a 4:1 safety factor, the following general rule (excluding plastic tube) is used:

3,000 psi to 1/4" 2,000 psi to 1/2" 1,500 psi to 1"

Long nuts are recommended when vibration is a factor. Tubing should be double-flared in extreme applications to minimize flare thinning on over-tightening.

Fittings listed generally comply with SAE, ASA, ASME and MS standards; however, when design makes dimensions critical, please contact customer service for samples and/or prints for testing and evaluation.

Tube sizes listed are OD (outside diameter). To determine nominal (water tube) size, subtract 1/8", thus 5/8" OD equals 1/2" nominal. Pipe sizes listed are standard nominal pipe size and threads are to dry seal taper pipe standards. JB will provide flare fitting to SAE Standard J513 whenever possible. In some cases slight deviations will occur when full compliance fittings are not available.

Heavy-duty ACR tube fittings generally conform to SAE. ASA and AHRI Standards for hydraulic, marine and refrigeration service. Long dry seal pipe threads minimize leakage and provide more clearance for tightening flare nuts. Shapes, elbows, tees, etc. are made from brass forgings to maximize strength and eliminate cracks.

Assembly Instructions

P90514

- 1. Cut tube square and remove cut-off burr
- 2. Slide nut on tube, threaded end facing end of tube
- 3. Flare tube following flaring tool manufacturers instructions (check flare quality)
- 4. Thread nut on to fitting body "hand tighten"
- 5. With proper wrench, tighten to a solid feel

CAUTION: Over-tightening and dirt can damage fittings and/or tube causing leaks.

NOTE: Lubrication of flare faces and threads is recommended when practical.







Copper seal gaskets (B2) series furnished with all female flares

Fiber gaskets (K1 and D/E) furnished with all drum adapters (K1-1 through 8)

	THREAD SIZE OF TUBE ENDS			TORQUE PO FOR FLARE (DRY THRE	FITTING
OD TUBE	SAE - FLARE	OD TUBE	SAE FLARE	SIZE	FT/LBS
1/8"	5/16" - 24	1/2"	3/4" - 16	1/4"	8-10
3/16"	3/8" – 24	5/8"	7/8" – 14	3/8"	15-25
1/4"	7/16" – 20	3/4"	1-1/16" – 14	1/2"	25-35
5/16"	1/2" - 20	7/8"	1-1/4" – 12	5/8"	40-55
3/8"	5/8" – 18	1"	1-3/8" – 12	3/4"	50-60
7/16"	11/16" – 16				

SHIELD

Contacts

Brass Fittings

JB INDUSTRIES (A)

Copper Flare Bonnet

- Use with flare nut to cap fittings
- Made in the USA



B1-3

PART NO.	QTY.	SIZE
B1-3	5	3/16"
B1-4	25	1/4"
B1-6	5	3/8"
B1-8	5	1/2"
B1-10	10	5/8"
B1-12	5	3/4"

Swivel Female Flare x Solder Adapter

Made in the USA



A32700

PART NO.	QTY.	DESCRIPTION
A32700	4	1/4" x 1/4" (US5-44)
A32701	4	3/8" x 3/8" (US5-66)
A32702	4	1/2" x 1/2" (US5-88)
A32703	2	5/8" x 5/8" (US5-1010)
A32704	2	3/4" x 3/4" (US5-1212)

Swivel Female Flare x Solder Adapter

Made in the USA



US5-1212

PART NO.	QTY.	SIZE
US5-44	5	1/4" x 1/4"
US5-66	5	3/8" x 3/8"
US5-88	5	1/2" x 1/2"
US5-1010	5	5/8" x 5/8"
US5-1212	2	3/4" x 3/4"

Copper Flare Gasket

- For brass-to-brass or brass-to-steel connections to prevent leaks
- Made in the USA



PART NO.	QTY.	SIZE
B2-3	5	3/16"
B2-4	25	1/4"
B2-5	5	5/16"
B2-6	25	3/8"
B2-8	25	1/2"
B2-10	10	5/8"
B2-12	10	3/4"

Short Forged Nut

Made in the USA



A32600

PART NO.	QTY.	DESCRIPTION
A32600	10	1/4" (NS4-4)
A32601	5	5/16" (NS4-5)
A32602	10	3/8" (NS4-6)
A32603	5	1/2" (NS4-8)
A32604	5	5/8" (NS4-10)
A32605	2	3/4" (NS4-12)

Short Forged Nut

Made in the USA



NS4-14

PART NO.	QTY.	SIZE
NS4-3	10	3/16"
NS4-4	25	1/4" (A32600)
NS4-4-CS	1000	1/4" (A32600)
NS4-5	10	5/16" (A32601)
NS4-6	25	3/8" (A32602)
NS4-6-CS	500	3/8" (A32602)
NS4-8	25	1/2" (A32603)
NS4-8-CS	350	1/2" (A32603)
NS4-10	10	5/8" (A32604)
NS4-10-CS	200	5/8" (A32604)
NS4-12	5	3/4" (A32605)
NS4-12-CS	100	3/4" (A32605)
NS4-14	2	7/8"

Flare x Female Solder Ell

- For brass-to-brass or brass-to-steel connections to prevent leaks
- Made in the USA

ES2-88



PART NO.	QTY.	SIZE
ES2-44	5	1/4" x 1/4"
ES2-66	5	3/8" x 3/8"
FS2-68	2	3/8" x 1/2"

1/2" x 1/2'

Female Flare x Flare Ell

- Includes copper gasket
- Made in the USA



E4-44

PART NO.	QTY.	SIZE
E4-44	5	1/4" x 1/4"
E4-66	2	3/8" x 3/8"
E4-88	2	1/2" x 1/2"

Brass Fittings

Flare x Male Pipe Ell

Made in the USA



E1-12E

PART NO.	QTY.	SIZE
E1-2A	5	1/8" x 1/8"
E1-3A	2	3/16" x 1/8"
E1-4A	10	1/4" x 1/8"
E1-4B	10	1/4" x 1/4"
E1-4C	5	1/4" x 3/8"
E1-5A	5	5/16" x 1/8"
E1-5B	5	5/16" x 1/4"
E1-5C	5	5/16" x 3/8"
E1-6A	5	3/8" x 1/8"
E1-6B	10	3/8" x 1/4"
E1-6C	10	3/8" x 3/8"

PART NO.	QTY.	SIZE
E1-6D	5	3/8" x 1/2"
E1-6E	2	3/8" x 3/4"
E1-8B	5	1/2" x 1/4"
E1-8C	5	1/2" x 3/8"
E1-8D	10	1/2" x 1/2"
E1-8E	2	1/2" x 3/4"
E1-10C	2	5/8" x 3/8"
E1-10D	2	5/8" x 1/2"
E1-10E	2	5/8" x 3/4"
E1-12D	2	3/4" x 1/2"
E1-12E	2	3/4" x 3/4"

Flare Ell

Made in the USA

E2-2

PART NO.	QTY.	SIZE
E2-2	5	1/8"
E2-3	5	3/16"
E2-4	5	1/4"
E2-5	5	5/16"
E2-6	5	3/8"
E2-8	5	1/2"
E2-10	2	5/8"
E2-12	2	3/4"

Reducing Flare Ell

Made in the USA

Swivel Female Flare x Flare Ell

Made in the USA

Flare x Female Pipe Ell

Made in the USA



E3-5B



ER2-64 ES4-44

PART NO.	QTY.	SIZE
ER2-64	5	3/8" x 1/4"
ER2-84	2	1/2" x 1/4"
ER2-86	5	1/2" x 3/8"
ER2-108	2	5/8" x 1/2"

PART NO.	QTY.	SIZE
ES4-44	2	1/4" x 1/4"
ES4-66	2	3/8" x 3/8"
ES4-88	2	1/2" x 1/2"
ES4-1212	2	3/4" x 3/4"

PART NO.	QTY.	SIZE
E3-4A	5	1/4" x 1/8"
E3-4B	2	1/4" x 1/4"
E3-5B	2	5/16" x 1/4"
E3-6A	5	3/8" x 1/8"
E3-6B	2	3/8" x 1/4"
E3-6C	2	3/8" x 3/8"
E3-6D	2	3/8" x 1/2"
E3-8C	2	1/2" x 3/8"
E3-8D	2	1/2" x 1/2"
E3-10D	2	5/8" x 1/2"
E3-10E	2	5/8" x 3/4"

SHIELD

Contacts

Brass Fittings

JB INDUSTRIES (A23)

Fusible Pipe Plug

Made in the USA



FP-C-283

U_B LISTED

PART NO.	SIZE	QTY.		
168°F				
FP-A-168	1/8"	5		
FP-B-168	1/4"	5		
FP-C-168	3/8"	2		
210°F				
FP-A-210	1/8"	5		
FP-B-210	1/4"	5		
FP-C-210	3/8"	2		
283°F				
FP-A-283	1/8"	5		
FP-B-283	1/4"	2		
FP-C-283	3/8"	2		

Flare Cap

Made in the USA



N5-4

PART NO.	QTY.	SIZE
N5-3	5	3/16"
N5-4	25	1/4"
N5-5	5	5/16"
N5-6	25	3/8"
N5-8	10	1/2"
N5-10	10	5/8"
N5-12	2	3/4"

Fusible Flare x Pipe Adapter

Made in the USA



FU-4C-210

LISTED

PART NO.	SIZE	QTY.			
	168° F				
FU-4B-168	1/4" x 1/4"	2			
FU-6C-168	3/8" x 3/8"	2			
210° F					
FU-4B-210	1/4" x 1/4"	2			
FU-4C-210	1/4" x 3/8"	2			
FU-6C-210	3/8" x 3/8"	2			
283° F					
FU-4B-283	1/4" x 1/4"	2			
FU-4C-283	1/4" x 3/8"	2			
FU-6C-283	3/8" x 3/8"	2			

Old Style Extra Heavy Nut

Made in the USA

PART NO

HNS4-4



HNS4-12

Cross

Made in the USA



PART NO.	QTY.	SIZE
C1-4	2	1/4"
C1-6	2	3/8"

Frost-Proof Forged Nut

- Holes relieve frost in thread area
- Made in the USA



NST4-10

PART NO.	QTY.	SIZE
NST4-4	5	1/4"
NST4-6	5	3/8"
NST4-8	10	1/2"
NST4-10	2	5/8"

Long Forged Refrigeration Nut

Made in the USA



N4-12

PART NO.	QTY.	SIZE
N4-4	10	1/4"
N4-5	5	5/16"
N4-6	10	3/8"
N4-8	5	1/2"
N4-10	5	5/8"
N4-12	2	3/4"

1/4" (3/4" hex)

QTY.

25

Flare x Flare x **Male Pipe Tee**

JB INDUSTRIES

Made in the USA



T1-10D

PART NO.	QTY.	SIZE
T1-4A	10	1/4" x 1/4" x 1/8"
T1-4B	10	1/4" x 1/4" x 1/4"
T1-4C	2	1/4" x 1/4" x 3/8"
T1-5B	2	5/16" x 5/16" x 1/4"
T1-6B	5	3/8" x 3/8" x 1/4"
T1-6C	5	3/8" x 3/8" x 3/8"
T1-6D	2	3/8" x 3/8" x 1/2"
T1-8B	2	1/2" x 1/2" x 1/4"
T1-8C	2	1/2" x 1/2" x 3/8"
T1-8D	2	1/2" x 1/2" x 1/2"
T1-10C	2	5/8" x 5/8" x 3/8"
T1-10D	2	5/8" x 5/8" x 1/2"

Refrigerant **Drum Adapter**

- NPS cylinder x male flare; with fiber gasket
- Made in the USA



K1-1

PART NO.	QTY.	SIZE
K1-1	10	3/4" x 1/4"
K1-3	2	3/4" x 3/8"
K1-5	2	3/4" x 1/2"
K1-8	2	1/2" x 1/4"

Made in the USA

Flare Tee



PART NO.	QTY.	SIZE
T2-3	5	3/16"
T2-4	10	1/4"
T2-5	5	5/16"
T2-6	10	3/8"
T2-8	5	1/2"
T2-10	2	5/8"
T2-12	2	3/4"

Reducing Flare Tee

Made in the USA



PART NO.	QTY.	SIZE
TR2-446	5	1/4" x 1/4" x 3/8"
TR2-664	5	3/8" x 3/8" x 1/4"
TR2-668	2	3/8" x 3/8" x 1/2"
TR2-886	2	1/2" x 1/2" x 3/8"

Fiber Drum Adapter Seal Gasket

Made in the USA



K1-D

PART NO.	QTY.	SIZE
K1-D	10	1/2"
K1-E	10	3/4"

Reducing Nut



NRS4-43

PART NO.	QTY.	SIZE
_		_
NRS4-43	5	1/4" x 3/16"
NRS4-54	5	5/16" x 1/4"
NRS4-64	10	3/8" x 1/4"
NRS4-65	10	3/8" x 5/16"
NRS4-86	10	1/2" x 3/8"
NRS4-108	5	5/8" x 1/2"
NRS4-1210	2	3/4" x 5/8"

Flare Plug



P2-12

PART NO.	QTY.	SIZE
P2-3	5	3/16"
P2-4	10	1/4"
P2-5	5	5/16"
P2-6	10	3/8"
P2-8	10	1/2"
P2-10	5	5/8"
P2-12	2	3/4"

Brass Fittings

Brass Fittings

JB INDUSTRIES (A21)

Flare x Male Pipe Adapter



PART NO.	QTY.	SIZE
U1-3A	5	3/16" x 1/8"
U1-3B	5	3/16" x 1/4"
U1-4A	25	1/4" x 1/8"
U1-4B	25	1/4" x 1/4"
U1-4C	10	1/4" x 3/8"
U1-4D	10	1/4" x 1/2"
U1-5A	5	5/16" x 1/8"
U1-5B	5	5/16" x 1/4"
U1-5C	5	5/16" x 3/8"
U1-6A	10	3/8" x 1/8"
U1-6B	10	3/8" x 1/4"
U1-6C	10	3/8" x 3/8"
U1-6D	10	3/8" x 1/2"
U1-6E	5	3/8" x 3/4"
U1-8A	2	1/2" x 1/8"
U1-8B	5	1/2" x 1/4"
U1-8C	10	1/2" x 3/8"
U1-8D	10	1/2" x 1/2"
U1-8E	5	1/2" x 3/4"
U1-10B	5	5/8" x 1/4"
U1-10C	5	5/8" x 3/8"
U1-10D	10	5/8" x 1/2"
U1-10E	5	5/8" x 3/4"
U1-12C	2	3/4" x 3/8"
U1-12D	2	3/4" x 1/2"
U1-12E	2	3/4" x 3/4"
U1-14E	2	7/8" x 3/4"

Flare x Female Pipe Adapter

Made in the USA



U3-10E

Flare x	
Solder	Adapte i

- Furnished with copper gasket
- Made in the USA



US3-1214

PART NO.	QTY.	SIZE
U3-2A	5	1/8" x 1/8"
U3-3A	5	3/16" x 1/8"
U3-4A	10	1/4" x 1/8"
U3-4B	10	1/4" x 1/4"
U3-4C	5	1/4" x 3/8"
U3-5A	5	5/16" x 1/8"
U3-5B	5	5/16" x 1/4"
U3-6A	5	3/8" x 1/8"
U3-6B	5	3/8" x 1/4"
U3-6C	5	3/8" x 3/8"
U3-6D	5	3/8" x 1/2"
U3-8B	5	1/2" x 1/4"
U3-8C	5	1/2" x 3/8"
U3-8D	5	1/2" x 1/2"
U3-8E	2	1/2" x 3/4"
U3-10C	5	5/8" x 3/8"
U3-10D	5	5/8" x 1/2"
U3-10E	2	5/8" x 3/4"

PART NO.	QTY.	SIZE
US3-44	10	1/4" x 1/4"
US3-45	5	1/4" x 5/16"
US3-46	5	1/4" x 3/8"
US3-64	5	3/8" x 1/4"
US3-65	5	3/8" x 5/16"
US3-66	10	3/8" x 3/8"
US3-68	5	3/8" x 1/2"
US3-610	5	3/8" x 5/8"
US3-86	2	1/2" x 3/8"
US3-88	5	1/2" x 1/2"
US3-810	2	1/2" x 5/8"
US3-108	2	5/8" x 1/2"
US3-1010	5	5/8" x 5/8"
US3-1012	2	5/8" x 3/4"
US3-1212	5	3/4" x 3/4"
US3-1214	2	3/4" x 7/8"

Flare x Male Pipe x Flare Tee



T3-4A

PART NO.	QTY.	SIZE
T3-4A	5	1/4" x 1/8" x 1/4"
T3-4B	5	1/4" x 1/4" x 1/4"
T3-5B	2	5/16" x 1/4" x 5/16"
T3-6B	5	3/8" x 1/4" x 3/8"
T3-6C	2	3/8" x 3/8" x 3/8"
T3-6D	2	3/8" x 1/2" x 3/8"
T3-8C	2	1/2" x 3/8" x 1/2"
T3-8D	2	1/2" x 1/2" x 1/2"
T3-10D	2	5/8" x 1/2" x 5/8"

Flare x Flare x Female Flare Tee

Made in the USA



T6-4

Finger Tight Flare Cap



NFT5-4

			PART NO.	QTY.	SIZE
ART NO.	QTY.	SIZE	NFT5-4-101	1000	1/4"
-4	2	1/4"	NFT5-6-101	500	3/8"

JB INDUSTRIES

Flare Union

Made in the USA







UR2-54

Female Flare x Flare Adapter

Made in the USA



UR3-1210

PART NO.	QTY.	SIZE
U2-2	5	1/8"
U2-3	5	3/16"
U2-4	25	1/4"
U2-5	10	5/16"
U2-6	25	3/8"
U2-8	10	1/2"
U2-10	10	5/8"
U2-12	2	3/4"
U2-14	2	7/8"

U2-3

PART NO.	QTY.	SIZE
UR2-43	5	1/4" x 3/16"
UR2-54	5	5/16" x 1/4"
UR2-64	10	3/8" x 1/4"
UR2-65	5	3/8" x 5/16"
UR2-84	5	1/2" x 1/4"
UR2-86	10	1/2" x 3/8"
UR2-106	5	5/8" x 3/8"
UR2-108	5	5/8" x 1/2"
UR2-128	2	3/4" x 1/2"
UR2-1210	2	3/4" x 5/8"

PART NO.	QTY.	SIZE
UR3-43	2	1/4" x 3/16"
UR3-46	10	1/4" x 3/8"
UR3-48	5	1/4" x 1/2"
UR3-64	20	3/8" x 1/4"
UR3-68	10	3/8" x 1/2"
UR3-84	10	1/2" x 1/4"
UR3-86	10	1/2" x 3/8"
UR3-810	10	1/2" x 5/8"
UR3-108	5	5/8" x 1/2"
UR3-1012	2	5/8" x 3/4"
UR3-1210	2	3/4" x 5/8"

Female Flare x Female Flare Connector

- Includes two copper gaskets
- Made in the USA

Female SAE Flare x Female Pipe Thread

Made in the USA



Swivel Female Flare Connector





U4-12



U6-4B



US4-10

PART NO.	QTY.	SIZE
U4-4	10	1/4"
U4-6	10	3/8"
U4-8	2	1/2"
U4-10	2	5/8"
U4-12	2	3/4"

PART NO.	QTY.	SIZE
U6-4A	2	1/4" x 1/8"
U6-4B	2	1/4" x 1/4"

PART NO.	QTY.	SIZE
US4-4	10	1/4"
US4-5	5	5/16"
US4-6	10	3/8"
US4-8	10	1/2"
US4-10	5	5/8"

Brass Fittings



PROTIPS Brass Pipe Fittings

American-made forged brass pipe fittings manufactured from CA 377 alloy and threaded to Dry Seal Taper Pipe Standards to comply with SAE, ASA, ASME and MS Standards.

Forgings can be used to pressures of 5,000 psi depending on size, material and conditions.

- Vibration-resistant
- Low cost
- Easy assembly

Recommended for use with a compatible thread sealant and tightened 2-1/2 full turns past hand tight; over-tightening and dirt can damage fittings.

NO	NOMINAL PIPE SIZE THREADS		
NOM. PIPE	THD. / IN.	NOM. PIPE	THD. / IN.
1/16"	27	2"	11.5
1/8"	27	2-1/2"	8
1/4"	18	3"	8
3/8"	18	3-1/2"	8
1/2"	14	4"	8
3/4"	14	5"	8
1"	11.5	6"	8
1-1/4"	11.5	8"	8
1-1/2"	11.5	_	_

Long Nipple

Made in the USA



PART NO.	QTY.	SIZE
113-A15	5	1/8" x 1-1/2"
113-A2	5	1/8" x 2"
113-A25	5	1/8" x 2-1/2"
113-A3	5	1/8" x 3"
113-A35	5	1/8" x 3-1/2"
113-B15	5	1/4" x 1-1/2"
113-B2	5	1/4" x 2"
113-B25	5	1/4" x 2 -1/2"
113-B3	5	1/4" x 3"
113-B35	5	1/4" x 3-1/2"
113-C15	5	3/8" x 1- 1/2"
113-C2	5	3/8" x 2"
113-C25	5	3/8" x 2 -1/2"
113-C3	5	3/8" x 3"
113-D15	5	1/2" x 1-1/2"
113-D2	5	1/2" x 2"
113-D25	5	1/2" x 2-1/2"
113-D3	2	1/2" x 3"
113-D35	2	1/2" x 3-1/2"

Hex Nipple (U10)

Made in the USA



PART NO.	QTY.	SIZE
122-A	5	1/8"
122-B	10	1/4"
122-C	5	3/8"
122-D	5	1/2"
122-E	5	3/4"

Close Nipple

Made in the USA



112-B

PART NO.	QTY.	SIZE
112-A	5	1/8"
112-B	10	1/4"
112-C	5	3/8"
112-D	5	1/2"
112-E	5	3/4"

Extra Long Flare x Male Pipe Adapter

Made in the USA





UX1-4B

PART NO.	OTY.	S17F
UX1-4A	2	1/4" x 1/8"
UX1-4B	5	1/4" x 1/4"

Extra Long Flare Union

Made in the USA



UX2-4

PART NO.	QTY.	SIZE
UX2-4	5	1/4"

Female SAE Flare x Male Pipe Thread

- Includes copper seal gasket
- Made in the USA



U5-4B

PART NO.	QTY.	SIZE
U5-4A	5	1/4" x 1/8"
U5-4B	10	1/4" x 1/4"
U5-6B	5	3/8" x 1/4"
U5-8C	2	1/2" x 3/8"
U5-8D	2	1/2" x 1/2"

JB INDUSTRIES

EII

Made in the USA

Coupling PC

Made in the USA

PART NO.

103-A

103-B

103-C

103-D

103-E



100-E

PART NO.	QTY.	SIZE
100-A	5	1/8"
100-B	5	1/4"
100-C	5	3/8"
100-D	2	1/2"
100-E	2	3/4"

103-E

SIZE

1/8"

1/4"

3/8"

1/2"

3/4"

Street Ell

Made in the USA



116-D

PART NO.	QTY.	SIZE
116-A	5	1/8" Forged
116-B	5	1/4" Forged
116-C	5	3/8" Forged
116-D	2	1/2" Forged

One-way Check Valve



Brass Fittings

- 1/4" x 1/4" Flare
- Self centering seal design
- O-ring soft seat / metal back-up seal
- Zero leakage
- 1/3 psi cracking pressure
- Maximum pressure 1500 psig
- Temperature -40 to 300°F
- Made in the USA



Tee

Made in the USA



101-E

PART NO.	QTY.	SIZE
101-A	5	1/8"
101-B	10	1/4"
101-C	5	3/8"
101-D	2	1/2"
101-E	2	3/4"

U2-4CHK 1/4" x 1/4" Flare Valve

Hex Brushing (R1)

Made in the USA



110-EA

Compression Break-Off Sleeve Pilot Nut

QTY.

10

5

5

Made in the USA



81LB-4

PART NO.	QTY.	SIZE
81LB-4	10	1/4"

Hex Head Plug (P3)



121-C

PART NO.	QTY.	SIZE
121-A	10	1/8"
121-B	10	1/4"
121-C	5	3/8"
121-D	5	1/2"
121-E	5	3/4"
121-F	2	1"

PART NO.	QTY.	SIZE
110-BA	10	1/4" x 1/8"
110-CA	5	3/8" x 1/8"
110-CB	10	3/8" x 1/4"
110-DA	5	1/2" x 1/8"
110-DB	10	1/2" x 1/4"
110-DC	10	1/2" x 3/8"
110-EA	2	3/4" x 1/8"
110-EB	5	3/4" x 1/4"
110-EC	5	3/4" x 3/8"
110-ED	5	3/4" x 1/2"
110-FD	2	1" x 1/2"
110-FE	2	1" x 3/4"

Ball Valves



Full Flow Refrigeration Ball Valves

Large port design that provides a minimum pressure drop with straight through flow. Copper end fittings reduce installation time without disturbing the valve. Two types of ball valves to suit your needs—traditional refrigerant ball valves with brass actuators and a working pressure rating of 500 psi, and E-Line ball valves featuring stainless steel actuators and a working pressure rating of 700 psi.

Fig 1 - Measurement Chart Key (Fig 1:1 - Fig 1:6 chart below)

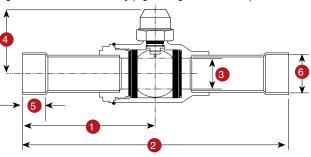


Fig 2 – Ball Valve Operation (7-8)

Quarter-turn mechanical stop. Positive open and closed positions. Packing gland adjusting nut.

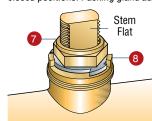
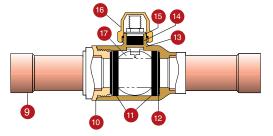


Fig 3 - Anatomy of a Ball Valve (9-17)



- Oopper tube extensions
- 10 Hermetic welded and brazed joints
- Reinforced Teflon seats
- 12 One-piece forged brass body
- Bearing washer

- (4) Changeable reinforced PTFE stem packing
- 15 Packing gland
- 16 Stem cap assembly with neoprene seal
- 17 Chromium plated ball with vented valve

E-Line Actuators

- Pressure rated to 700 psi
- · Bolted or screwed bonnets or flanges
- UL Listed 32DC







PART NO. WITHOUT PORT	PART NO. WITH PORT	ID FIG 1: 6	FIG 1: 1	FIG 1: 2	FIG 1: 3	FIG 1: 4	FIG 1: 5
V34350	V34525	1/4"	3.25"	6.5"	0.50"	1.51"	3/8"
V34300	V34500	3/8"	3.18"	6.09"	0.30"	1.55"	3/8"
V34301	V34501	1/2"	3.18"	6.09"	0.45"	1.55"	3/8"
V34302	V34502	5/8"	3.43"	6.59"	0.50"	1.55"	1/2"
V34303	V34503	3/4"	3.45"	7.27"	0.69"	1.89"	3/4"
V34304	V34504	7/8"	3.69"	7.07"	0.75"	1.83"	3/4"
V34306	V34506	1-1/8"	4.20"	8"	1"	2.01"	2-9/32"
V34307	V34507	1-3/8"	4.54"	8.63"	1.25"	2.61"	3-1/32"
V34308	V34508	1-5/8"	4.47"	8.85"	1.50"	2.79"	1-3/32"
V34309	V34509	2-1/8"	4.84"	9.59"	2"	3.17"	1-11/32"
V34310	V34510	2-5/8"	5"	10"	2.43"	3.90"	1-31/64"
V34311	V34511	3-1/8"	7"	14"	2.50"	3.90"	1-43/64"

Shutoff Ball Valves

JB INDUSTRIES

- Straight through flow design has no restriction
- Quarter-turn and valve is fully open or closed
- Made in the USA



PART NO.	DESCRIPTION
V34900	1/8" Female NPT x 1/8" Female NPT
V34901	1/4" SAE x 1/8" NPT
V34905	1/4" SAE x 1/4" NPT
V34910	3/8" Female NPT x 3/8" Female NPT

Mini Ball Valves

- 1/4" for use up to 4000 psi (276 bar) minimum burst; 800 psi (55 bar) maximum working pressure
- 5/16" for R410A applications; 4000 psi (276 bar) minimum burst; 800 psi (55 bar) maximum working pressure
- Made in the USA



PART NO.	DESCRIPTION	
MBV4-LH-01	1/4" Compact mini ball valve left-hand thread (1 pack)	
MBV4-LH-03	1/4" Compact mini ball valve set left-hand thread (3 pack)	
MBV4-03	1/4" Compact mini ball valve set (3 pack)	
MBV4-01	1/4" Compact mini ball valve (1 pack)	
MBV5-03	5/16" QC x 1/4" SAE compact mini ball valve set (3 pack)	
MBV5-01	5/16" QC x 1/4" SAE compact mini ball valve (1 pack)	
P511	Replacement Gasket	

Needle Ball Valves

- Resistant to gasoline, oils and water
- Metal-to-metal seating provides ease in shutoff
- Working pressures of 105 psi



NV62-4

PART NO.	DESCRIPTION	
NV62-4	1/4" COMP x 1/4" COMP	

E-Line Actuator Retrofit Caps

For the replacement of existing caps on installed valves. Secures the cap assembly to valve neck, allowing the center post to easily turn for on/ off operation. Utilizes a Teflon® o-ring stem seal and base seal to assure a positive seal offsetting any stem packing leak.









V34-RC33

V34-RC19

V34-RC12

V34-RC4

PART NO.	DESCRIPTION
V34-RC33	2-1/8" - 3-1/8" Ball valve retrofit cap
V34-RC19	1-3/8" - 1-5/8" Ball valve retrofit cap
V34-RC12	3/4" - 1-1/8" Ball valve retrofit cap
V34-RC4	1/4" - 5/8" Ball valve retrofit cap

Just Better Tools



JUST BETTER TOOLS

Our JUST BETTER tool lineup is a carefully selected range of durable, high-performance tools and accessories designed to meet the demands of the HVACR trade and complete any technician's toolkit. From everyday essentials to specialized problemsolvers, we source tools that technicians can rely on.

For wholesale distributors, we offer flexible planogram options for showroom displays. Contact our customer service team to learn more.

Professional Tube Cutters

- For use with copper, brass and aluminum
- Retractable deburrer blade and a spare cutter wheel in the handle
- · Easy-to-turn knob for quick adjustment



PART NO.	QTY.	DESCRIPTION
RT70027	1	1/4" to 1-3/8" OD copper, brass and aluminum pipe
RT70029	1	1/4" to 1-5/8" OD copper, brass and aluminum pipe
RT21652	1	Replacement deburring blade
RT21652B	10	Replacement deburring blades
RT70017B	2	Replacement cutter wheel
RT70017D	5	Replacement cutter wheel
RT70056D	5	Replacement cutter wheel for stainless steel

Mini Tube Cutters

- For use with copper
- Large knurled knob for fatigue-free pressure control





RT70401

RT70015

PART NO.	QTY.	DESCRIPTION
RT70401	1	Copper Mini-Cut Pro 1/8" to 5/8" OD
RT70402	1	Copper Mini-Pro 1/4" to 7/8" OD
RT70105	1	Copper Mini-Pro 1/8" to 7/8" OD
RT70015	1	Copper Mini-Max 1/8" to 1-1/8" OD
RT70017B	2	Replacement cutter wheel
RT70017D	5	Replacement cutter wheel
RT70041	1	Replacement axle screw/pin

Rotrac Plus Tube Cutters

- For use with copper
- Smooth-running telescopic action for consistent working radius
- Protected screw spindle to shield against dirt and jamming
- Includes three spare cutter wheels; storage in handle



PART NO.	QTY.	DESCRIPTION
RT70020	1	Copper tube 1/8" to 1-1/8" OD
RT70021	1	Copper tube 1/4" to 1-5/8" OD
RT70007B	2	Replacement cutter wheel
RT70007X	10	Replacement cutter wheel
RT99016	1	Replacement clip and axle



Ratchet Tube Cutter

- For use with copper, brass, aluminum, thin-walled steel and plastic coated tubes
- Telescopic guide; automatic spring-driven withdrawal



PART NO.	QTY.	DESCRIPTION
RT70030	1	1/4" to 2-5/8" OD
RT70142	1	2" to 5" OD
RT70017B	2	RT70030 Replacement wheel
RT70017D	5	RT70030 Replacement wheel
RT70057D	2	RT70142 Replacement wheel
RT21652	1	Replacement deburring blade
RT21652B	10	Replacement deburring blades
RT75007	1	Replacement pin/axle

Pipe Shears

- For use with PVC, PP, PE, PEX, PB, CPVC and PVDF
- · Quick-release lever
- Double-sided stainless steel blade with v-shaped edges
- · Locking lever

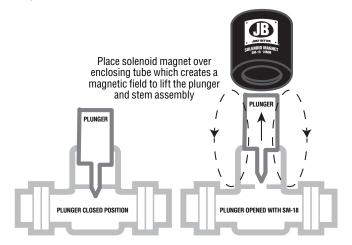


PART NO.	QTY.	DESCRIPTION
RT52000	1	Max. OD 1-5/8", Schedule 40 PVC 1-1/4"
RT52010	1	Max. OD 2", Schedule 40 PVC 1-1/2"
RT52011	1	Replacement blade for RT52010
RT52030	1	ROCUT® 63TC, Max. OD 2-1/2"
RT52042	1	Replacement blade for RT52000

Solenoid Valve Operating Magnet

Just Better Tools

- Designed to convert electrically operated solenoid valves into hand-operated valves to enable service engineers to operate valves manually
- Operates by magnetically lifting the stem assembly and plunger to actuate the valve during service
- Use this solenoid service magnet to test, troubleshoot or manually activate and control a direct connected or pilot operated 2-way solenoid, 3-way reclaim or 4-way reversing valve
- Use to hold a solenoid valve open during recovery and evacuation
- Use in place of the powerhead on a hot water oil shutoff valve to eliminate the need to wait for the delay on open
- Use to temporarily replace faulty coil to open solenoid valve
- Use to turn the power on or replace faulty solenoid
- Handy pocket size
- Easy to use and time-saving
- Permanent magnet molded in ABS plastic
- Safe design fits all makes of solenoid valves
- 18mm





Just Better Tools



Digital Adjustable Torque Wrench

The Digital Adjustable Torque Wrench captures and displays torque measurements in real-time, ensuring accuracy and ease of use. With nine common preset torque values and advanced features, this tool simplifies demanding tasks and boosts productivity.

3/8" Square Drive: 85 N-m, 62.7 ft-lb, 752 in-lb, 867 kg-cm



Torque Wrench Kit

• Torque range of 7.375 - 59.004 lb-ft or 10-80 Nm with a 1/2" DR ratchet head



Imperial Spanner Heads

• For use with TRQ1080 torque wrench



DART NA	PEGGPIPTION
PART NO.	DESCRIPTION
TRQ-1080D	Digital Torque Wrench Kit with adjustable head and 3/8" square drive

Water Pump Pliers

- Ideal for hard to reach places
- Heavy-duty, slip-proof with self-clamping jaws



RT70522

PART NO.	DESCRIPTION
RT70521	7" Pliers Max. 1" OD
RT70522	10" Pliers Max. 1-1/4" OD
RT70523	12" Pliers Max. 1-1/4" OD

PART NO.	DESCRIPTION
TRQ-1080	Torque wrench kit; six spanner heads: 17, 22, 24, 26, 27, 29mm

Rolock Pliers

- Professional-grade jaw locking system
- Groove opening positions up to 2-1/3"



RT70532

PART NO.	DESCRIPTION
RT70531	7" Rolock
RT70532	10" Rolock

PART NO.	DESCRIPTION
TRQ-IMP	Imperial spanner heads; four spanner heads: 5/8", 13/16", 15/16", 1-1/8"

Machine Grooved Joint Pliers



PART NO.	SIZE
RT70534	12" Machine grooved joint pliers

Slim Profile Adjustable Wrench

JB INDUSTRIES

- Slim profile; Extra-wide jaw opening
- Designed for TXV/TEV valves, motor mounts. gas lines, pumps and more
- 40% slimmer jaw allows for greater capacity and range of motion in tight spaces
- Extremely strong and durable for years of use
- Comfortable cushion grip handle



PART NO.	DESCRIPTION
RT70170	6" Adjustable wrench
RT70171	8" Adjustable wrench

Minibend_® **Tube Bender**

- For use with soft copper, brass, aluminum and precision steel
- Precise bending up to 180° 1/4", 5/16" and 3/8" OD



PART NO.	DESCRIPTION
RT25151	Minibend® tube bender

Service Wrenches

- Double-end reversible
- Available in offset, hex and square ends
- Made in the USA



T21127U-HKA

PART NO.	DESCRIPTION
T21124U	3/16", 1/4" square x 1/2", 9/16" hex port
T21125U	3/8" Square end and 1/2" square end
T21126U	Offset 1/4", 3/16" x 3/8", 5/16"
T21127U	1/4", 3/16" x 3/8", 5/16" on other end
T21127U-HKA	1/4", 3/16" x 3/8", 5/16" on other end with a Hex Key Adapter
T21128U	1/8" End Sporlan Wrench

Hand Tube Bender

- For use with soft copper, aluminum and light grade stainless steel tubing
- Universal tool for bending of 1/2", 5/8", 3/4" and 7/8" OD



PART NO.	DESCRIPTION
RT90614	Hand tube bender

Aluminum Pipe Wrench



RT70160

PART NO.	DESCRIPTION
RT70159	10" Aluminum pipe wrench
RT70160	14" Aluminum pipe wrench
RT70161	18" Aluminum pipe wrench

Standard Tube Bender Pro

- For use with 1/2" and 3/4" soft copper, aluminum and precision steel
- Precise bending radius up to 180°
- · Clamping mechanism



PART NO.	DESCRIPTION
RT25140	1/4" OD radius (0.71")
RT25131	5/16" OD radius (0.95")
RT25913	Tube Bender Pro 1/2" OD radius
RT25914	Tube Bender Pro 3/4" OD radius
RT25142	1/2" OD radius
RT25136	5/8" OD radius (2.28")

Just Better Tools



Spring Tube Benders

- For use with soft copper, aluminum, brass and steel
- Made in the USA



SPRING TUBE BENDER SETS		
PART NO.	DESCI	RIPTION
BS-55	1/4", 5/16", 3/8", 1/2", 5/8"	in pouch
BS-77	1/4", 5/16", 3/8", 7/16", 1/2	", 5/8", 3/4", 7/8" in pouch
	SINGLE SPRING TUBE BENDERS	
PART NO.	TUBE OD	NOM
BS-4	1/4"	1/8"
BS-5	5/16"	_
BS-6	3/8"	1/4"
BS-7	7/16"	_
BS-8	1/2"	3/8"
BS-10	5/8"	1/2"
BS-12	3/4"	5/8"
BS-14	7/8"	3/4"

Ratcheting Flare Tool



PART NO.	DESCRIPTION
T20195	3/16", 1/4", 5/16", 3/8", 7/16" OD (Nom: 1/8", 1/4", 3/8" and 1/2")
T20203	5/8", 3/4", 7/8", and 1-1/8" OD
T20500	3/16", 1/4", 5/16", 3/8", 1/2", 5/8" OD

Maxi Tube Bender Set

- For use on copper and soft aluminum 3/8", 1/2", 5/8", 3/4" and 7/8" OD
- Smooth-running feed lever ideal in tight spaces
- Single-handed operation
- · Quick-release side lever
- Includes tool, bending support, bending formers and case



PART NO.	DESCRIPTION
RT23022	Maxi tube bender set for use on copper and soft aluminum 3/8", 1/2", 5/8", 3/4" and 7/8" OD

45° Flare Tool

Made in the USA



PART NO.	DESCRIPTION
RT26036	45° Flare tool; flares 3/16", 1/4", 5/16", 3/8", 1/2", and 5/8"

Ratcheting Flare Tool



PART NO.	DESCRIPTION
T30600	Flares: 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" OD

Flare Tool



PART NO.	DESCRIPTION
RT222601	Flare tool; adjustable from 3/16" to 5/8" OD

45° Flare Tool



PART NO.	DESCRIPTION
RT222402	Flares: 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4" OD

JB INDUSTRIES

45° Flare/Swage

- Heavy-duty, wide range bar type flaring tool
- Centering yoke with hardened chrome plated and swivel-type cone



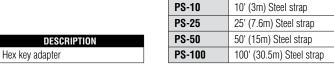
PART NO.	DESCRIPTION
T20275	Flare: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 3/4"
	Nominal Flare: 1/8", 1/4", 1/2", 5/8"
	Swage: 3/16", 1/4", 5/16", 3/8", 1/2", 5/8", 3/4"
	Nominal Swage: 1/8", 1/4", 3/8", 1/2", 5/8"

Hex Key Adapter

- For use with 3/16" and 5/16" hex valves
- Made in the USA

PART NO. T2-HKA





Tube Expander Kit

- High strength, forged aluminum body for lower weight and easy handling
- Automatic retractable pin guide



PART NO.	DESCRIPTION
RT12518	Tube expander kit; riveted expander heads in 3/8", 1/2", 5/8", 3/4", 7/8", 1-1/8", internal/external deburring tool, steel case

Steel Strap

- Zinc plated with alternating 1/8" and 1/4" nail and bolt holes
- Made in the USA



PART NO.	DESCRIPTION
PS-10	10' (3m) Steel strap
PS-25	25' (7.6m) Steel strap
PS-50	50' (15m) Steel strap
PS-100	100' (30.5m) Steel strap

Metal Flare Size Gauge

• Measures all flares to provide superior seal tightness against flare fittings— a must for every toolbox

Just Better Tools

Made in the USA



PART NO.	DESCRIPTION
T30600-G	Metal Flare Size Gauge; 1/4", 3/8", 1/2", 5/8", 3/4" SAE (6.4mm, 9.5mm, 12.7mm, 15.9mm, 19.1mm)

Oil Transfer Pump

- Pumps oil into the system without shutting down for charging
- Universal tapered rubber adapter fits all 1, 2.5 and 5-gallon containers
- Works against 200 psi of pressure
- Compatible with all oil types
- Pumps 2.6 ounces (78ml) per stroke



PART NO.	DESCRIPTION	
T30251	Oil transfer pump	

Just Better Tools



Swaging Kit

- For use with copper, brass, aluminum and steel tubes
- Includes flaring tool, 45° cone, expander pin, internal/external deburrer, tube cutter and plastic case



PART NO.	DESCRIPTION
RT26715	Swaging kit; 3/16", 1/4", 5/16", 3/8", 1/2", 5/8"

Single Size Swage Tools

Made in the USA



PART NO.	TUBE OD	NOM
T21002	1/8"	_
T21003	3/16"	_
T21004	1/4"	1/8"
T21005	5/16"	_
T21006	3/8"	1/4"
T21007	7/16"	_
T21008	1/2"	3/8"
T21010	5/8"	1/2"
T21012	3/4"	5/8"
T21014	7/8"	3/4"
T21018	1-1/8"	1"
T21024	Packaged set: 1/4", 3/8", 1/2" and 5/8"	Packaged set: 1/8", 1/4", 3/8" and 1/2"

Multi-Swage

Made in the USA



PART NO.	DESCRIPTION		
T21000	Multi-swage Tool Set; 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8" OD. 1/8", 1/4", 3/8", 1/2", 5/8", 3/4" Nominal		

Multi-Swage

Made in the USA



PART NO.	DESCRIPTION
T20095	Multi-swage Tool; 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" OD

Hex Key Sets

Made in the USA



PART NO.	DESCRIPTION	
T30605	Metric (2-8mm) and Imperial (5/64" - 1/4") hex key sets	

JB INDUSTRIES

Braze-Rite Adapter

- For use with copper tube
- Stepped nitrogen purging adapter for HVACR pipe
- Made in the USA





Braze-Rite Adapter; ACR copper tube size: 1-1/8", 7/8", 3/4", 5/8", 1/2", 3/8"

Pinch-Off Tool

- Temporarily closes off line during repairs
- Quick-release trigger and rounded jaws



PART NO.	DESCRIPTION
T21294	Pinch-off tool; For 1/8" to 5/8" OD (1/8" to 1/2" Nominal)

O-ring/Gasket Removal Tool

Just Better Tools



PART NO.	DESCRIPTION	
A10974	O-ring/Gasket Removal Tool	
A10974-BX	O-ring/Gasket Removal Tool Display Box of 12	

Deburring Tools

• For copper and plastic tube

PART NO.

BRZ1000



PART NO.	QTY.	DESCRIPTION	
RT11006	1	Copper and stainless steel internal/external reamer 1/8" to 1-3/8" OD	
RT70075	1	Copper and stainless steel internal/external reamer 1/8" to 2" OD	
RT21660	1	Deburring tool (blade non-replaceable)	
RT21655	1	Deburring tool	
RT21652	1	Replacement deburring blade	
RT21652B	10	Replacement deburring blades	

Fin Straighteners



PART NO.	DESCRIPTION	
T20351	For 8, 9, 10, 12, 14 and 15 spacings per inch	
T20352	T20352 Stainless steel fin straightener	
T20353 Stainless steel fin straightener with large, easy-to-grip handle		

Hoses

PART NO.

Capillary Tubing

JB INDUSTRIES

Capillary Tubing

- Cut from 100' (30.5m) sealed and dehydrated tube
- Boxed with conversion and application charts
- Available in cartons of 10; add suffix -101 to part number
- Made in the USA



TC-26-16

SHORT COIL	100' COILS	DESCRIPTION
TC-26-16	TC-26-100	0.026 ID x 0.072 OD x 16'
TC-31-12	TC-31-100	0.031 ID x 0.083 OD x 12'
TC-36-12	TC-36-100	0.036 ID x 0.087 OD x 12'
TC-42-12	TC-42-100	0.042 ID x 0.093 OD x 12'
TC-44-12	TC-44-100	0.044 ID x 0.109 OD x 12'
TC-49-11	TC-49-100	0.049 ID x 0.099 OD x 11'
TC-50-11	TC-50-100	0.050 ID x 0.114 OD x 11'
TC-54-11	TC-54-100	0.054 ID x 0.106 OD x 11'
TC-55-11	TC-55-100	0.055 ID x 0.125 OD x 11'
TC-59-10	TC-59-100	0.059 ID x 0.112 OD x 10'
TC-64-10	TC-64-100	0.064 ID x 0.125 OD x 10'
TC-70-12	TC-70-100	0.070 ID x 0.125 OD x 12'
TC-75-9	TC-75-100	0.075 ID x 0.125 OD x 9'
TC-80-10	TC-80-100	0.080 ID x 0.145 OD x 10'
TC-85-9	TC-85-100	0.085 ID x 0.145 OD x 9'
TC-90-7	TC-90-100	0.090 ID x 0.145 OD x 7'
TC-100-10	TC-100-100	0.100 ID x 0.156 OD x 10'

Cap Tube Gauge and File

- Specially designed file to cut and open tubes
- ID sizes 0.026 to 0.090 units and OD sizes 0.072" to 7/16" (5 to 12mm)

A10972

A10971

Made in the USA

• Sturdy cap tube cutter—no collapsing of the tube, no chips and clean cuts

Cap Tube Cutting Tool



PART NO.	DESCRIPTION
A10973	Cap tube cutting tool

Acid Brushes

• Ideal for thread sealant, flux and paste solders



PART NO.	DESCRIPTION
C33804	1/4" Flux brush (12 pack)
C33808	1/2" Flux brush (10 pack)
C33808-CTN	1/2" Flux brush (144 bulk)

A2L/A3

Capillary Tubing

Capillary Tubing Length Conversion Chart

It is recommended that conversions be made using factors within the unshaded area.

- 1. Locate recommended Cap Tube ID in left hand column
- 2. Read across and find conversion factor under Cap Tube ID Size
- 3. Multiply the given length of the recommended cap tube by the conversion factor
- 4. The resulting length (min. 5ft/max.16ft) of copper cap tube will give the same flow characteristics as the original recommended cap tube

Example:

Recommended cap tube: 9'-.040 ID

Locate .040 in left hand column. Read across the recommended conversion:

Part No. TC-36 = .62, Part No. TC-42 = 1.25

Multiply the recommended cap tube length of 9' by the conversion factor:

Part No. TC-36 = 9' x .62 = 5.58" Part No. TC-42 = 9' x 1.25 = 11.25"

Either of these cap tubes will give the same results as the original cap tube

									PART NO.								
CAP TUBE ID	TC-26 (.026)	TC-31 (.031)	TC-36 (.036)	TC-42 (.042)	TC-44 (.044)	TC-49 (.049)	TC-50 (.050)	TC-54 (.054)	TC-55 (.055)	TC-59 (.059)	TC-64 (.064)	TC-70 (.070)	TC-75 (.075)	TC-80 (.080)	TC-85 (.085)	TC-90 (.090)	TC-10 (.100
.024	1.44							, , ,			, , ,	, ,			, ,		
.025	1.20																
.026	1.00	2.24															
.028	.72	1.59															
.030	.52	1.16															
.031	.45	1.00	2.00														
.032		.86	1.75														
.033		.75	1.54														
.034		.65	1.35														
.035		.58	1.16	2.31													
.036		.50	1.00	2.10													
.037		.45	.90	1.79	2.22												
.038		.39	.80	1.59	1.92												
.039		.35	.71	1.41	1.75												
.040		.31	.62	1.25	1.55	2.51											
.041		.28	.56	1.12	1.38	2.26	2.50										
.042		.25	.50	1.00	1.24	2.03	2.23										
.043		.23	.45	.87	1.11	1.83	1.98										
.044		.20	.39	.81	1.00	1.62	1.79										
.045			.35	.73	.90	1.47	1.60	2.32									
.046			.32	.67	.82	1.34	1.47	2.08	2.27								
.047				.59	.74	1.20	1.31	1.89	2.06								
.048				.54	.67	1.10	1.20	1.72	1.87								
.049				.49	.61	1.00	1.09	1.55	1.69								
.050				.45	.56	.91	1.00	1.43	1.56	2.14							
.051				.41	.51	.84	.93	1.31	1.44	1.96							
.052					.47	.76	.85	1.19	1.32	1.78							
.053					.43	.69	.78	1.09	1.20	1.64							
.054					.39	.65	.70	1.00	1.09	1.52	2.18						
.055					.36	.59	.64	.92	1.00	1.38	2.00						
.056						.54	.60	.85	.94	1.27	1.85						
.057						.50	.55	.79	.87	1.17	1.72						
.058						.46	.51	.73	.80	1.07	1.56						
.059						.42	.47	.67	.73	1.00	1.44	2.18					
.060						.39	.43	.62	.67	.93	1.33	2.04					
.064							.32	.47	.50	.69	1.00	1.50	2.07				
.070								.30	.33	.46	.67	1.00	1.37	1.84			
.075											.48	.73	1.00	1.37	1.75		
.080												.54	.74	1.00	1.32	1.71	
.085													.57	.76	1.00	1.29	
.090													.43	.62	.76	1.00	1.62
.095														.46	.60	.79	1.2
.100															.48	.62	1.00
.105																.49	.80
.110																	.65
.115																	.53
.120																	.43

Automotive



R134a Automotive Couplers

- Quick connect/disconnect valve actuation without refrigerant venting
- Safety sleeve holds coupler securely to service port
- Color-coded knobs
- Made in the USA



R134a Automotive Quick Adapters



- Retrofit existing SAE flare fitting for R134a auto service
- Made in the USA



QC-13445-134a

QC-S4A-134a

PART NO.	DESCRIPTION			
AC-13430	High side 90° snap coupler x 14 mm			
AC-13435	C-13435 Low side 90° snap coupler x 14 mm			
AC-15530 High side 90° snap coupler x 1/4" SAE				
AC-15535	Low side 90° snap coupler x 1/4" SAE			

PART NO.	QC GASKET	DESCRIPTION	
QC-1234-LH	P510	1/2" Acme left-handed x ¼" Male Flare for automotive and R1234yf	<u>A21</u>
QC-S4A-134A	P509	1/4" QC x 1/2" male ACME thread	
QC-13445-134A	P510	1/2" ACME QC x 1/4" male flare	

1/2" **ACME Thread Half Union**

Made in the USA



Automotive Oil Tap Tube

- Reduces motor burnout by simplifying acid tests
- Can be left in place for future tests and oil changes
- Made in the USA

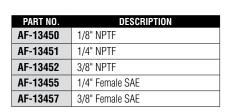
1/2" ACME **Service Valve**

- 1/2" ACME x 1/8" NPTF with cap
- Made in the USA





AF-13457







PART NO.	DESCRIPTION
A33600	Automotive oil tap tube

PART NO.	DESCRIPTION
AF-13550	1/2" Acme service valve

Cool Gel[™]

Heat Barrier Spray

 Prevents heat damage during soldering, brazing and welding

JB INDUSTRIES

- Safe, non-toxic and odorless
- Made in the USA



Bloc-It®

Heat Absorbing Paste

- Protects against damage caused by heat from soldering brazing and welding
- Made in the USA





Heat-Seal Stik®

Premixed Epoxy Sealer

- For use on aluminum, copper, metals, glass and ceramics
- Works on R410A based systems
- Cures in 90 seconds
- Sealing temperature to 350° F (177°C); pressures to 450 psi (31 bar)
- Made in the USA



NSI	F
1101	/

DESCRIPTION

Heat-Seal Stik® 3/8oz sticks

PART NO.	QTY.	DESCRIPTION
11509	12	Cool Gel™ 1 quart bottles

11511 Bloc-It_® 10oz tubes

Paste with PTFE

Slic-Tite®

- Seals water, air, steam, natural gas, LP gas. refrigerants, ammonia, gasoline and oil
- For use with metal, PVC, CPVC and ABS plastic threads
- Sealing temperature -50°F to 500° F (-46°C to 260°C)
- Pressures 3,000 psi (204 bar) for gas, 10,000 psi (680 bar) for liquid.
- Made in the USA



		UPC NSF
RT NO.	QTY.	DESCRIPTION

Slic-Tite® 8oz bottles

Valve Action[™]

12

Paint Marker

- Lead-free, weather, water, UV-resistant paint marker dries in three minutes
- For use on metal, wood, glass, plastic, rubber, cardboard and paper
- Marking range -50°F to 150°F (-46°C to 66°C)
- Made in the USA



PART NO.	QTY.	DESCRIPTION
96820	12	White Valve Action™ paint marker
96822	12	Red Valve Action™ paint marker
96823	12	Black Valve Action™ paint marker

Pipetite-Stik®

- · For use with water, steam, air, natural gas and LP gas
- · Non-toxic and lead-free
- Sealing temperature to 350°F (177°C)
- Pressures to 2,000 psi (136 bar) for liquids and 350 psi (24 bar) for gases
- Made in the USA









42019

PART NO.	QTY.	DESCRIPTION
11175	12	Pipetite-Stik® 1.25oz sticks
19571	12	Epoxy-Stik® 4oz sticks

Warranty



LIMITED WARRANTY

All JB Industries, Inc. tools are covered by a warranty against defects in materials and workmanship for a period of 1-year from the date of purchase. The following categories of products are also covered for 1-year unless otherwise specified:

CLIMATE CLASS:

WC-1, WC-2, WH-1, WH-2, WM-2. WM-2, WP-1, WP-2, DM4-ZW, DM4-RW, and DV-22W 1 year

Leak Detectors:

LD-6000IR, LD-5000, LD-3000, LDC-4000 2 years

ATLAS® Scales:

• CO2 Manifold:	3 years
DS-5000	1 year
DS-250, DS-20000	2 years

Recovery:

F6-DP	3 years OTC
F6-B00ST	1 year OTC

Vacuum Pumps:

PLATINUM _®	2 years OTC
PLATINUM® PRO	2 years OTC
PLATINUM® BEAST	2 years OTC
PLATINUM® FLEX	1 year OTC
ELIMINATOR _®	2 years OTC
Rebuilt Vacuum Pumps	6 months
Out of Warranty Vacuum Pump Repairs	90 days

JB tools are guaranteed when used according to our guidelines and recommendations. Warranty coverage includes repair, replacement, or credit at the invoice price (at our discretion) for tools deemed defective due to materials or workmanship. Warranty coverage strictly excludes charges for labor, additional expenses, and any consequential damages. Repairs on items outside of warranty are invoiced at nominal rates; please contact your wholesaler for details. Additional tool warranty information is available at www.jbind.com.

NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Technical information, recommendations and advice as to properties and usages of materials, design, installation and use of tools, engineering and other matters are provided as an accommodation and are intended only as suggestions. Although they are believed to be accurate, based on JB's knowledge and experience, JB assumes no obligation or liability for any results obtained in their use or application and they are not to be construed as establishing any warranty, expressed or implied. In no event shall JB be liable for claims for any damages whatsoever (whether direct, foreseeable, consequential or special) suffered by buyer or anyone else arising out of any breach by JB. JB makes no warranty to those defined as consumers in the Magnuson-Moss Warranty-Federal Trade Commission Improvement Act.

Disclaimers: All tool items pictured, described or otherwise displayed herein are subject to change, alteration and/or modification at any time by JB Industries, Inc. The terms and conditions for the purchase of JB Industries, Inc. tools are subject to change, alteration and/

or modification at any time by JB Industries, Inc. and will be made available upon request to JB Industries Inc. and shall be provided to customers of JB Industries, Inc. at time of purchase.

Over-the-Counter (OTC) Warranty: Applies ONLY to newly purchased F6™ Refrigerant Recovery Machines (3 year OTC), PLATINUM® Vacuum Pumps (2 year OTC), ELIMINATOR® Vacuum Pumps (2 year OTC) and PLATINUM® FLEX Vacuum Pumps (1 year OTC).

The OTC Warranty covers manufacturing defects in materials and workmanship, as determined by JB. Warranty claims will not be honored for product abuse, misuse (e.g., broken parts, inadequate maintenance, failure to keep vacuum pump oil clean), abnormal use, or normal wear and tear.

All OTC warranty claims must include the contractor's invoice with model number, serial number, and date of sale. Products replaced under warranty should be returned by the wholesaler to JB. Upon receipt and verification, JB will issue appropriate credit to the designated wholesaler.

Please note, JB vacuum pumps are not designed for use with ammonia or lithium bromide (salt water) systems. Use on such systems will VOID the warranty.

Lifetime Manifold Bar Warranty: Manifold bar only has a lifetime warranty, while the components, i.e. gauges, hoses, handles, hose holders, etc. are covered under the limited warranty policy.

For Professional Use Only: JB manifolds and tools are designed exclusively for use by technically trained HVACR service professionals. Given the high pressures in these systems and the physical and chemical hazards of refrigerants and oils present in all systems, improper use or misapplication could result in serious injury or death.

VACUUM PUMPS: 1 AND 2 YEAR OTC WARRANTIES

All warranty statements apply to the PLATINUM® (2-year OTC), PLATINUM® FLEX (1-Year OTC) and ELIMINATOR® (2-year OTC) pumps.

JB Industries vacuum pumps are warrantied to be free of defects in materials and workmanship for period indicated from the date of purchase. This warranty applies to all repairable instruments that have not been tampered with or damaged through improper use including unauthorized opening of the unit.

Pumps received within warranty period are assessed upon arrival at the JB Industries facility to determine warranty coverage. Wholesaler will be notified of warranty coverage determination. Over-the-counter warranty applies only to manufacturing defects and is VOID if determination has been deemed tool misuse.

To eliminate unnecessary returns and/or costly repairs, verify oil has been changed and proper pump operation guidelines have been followed prior to requesting a Return Goods Authorization (RGA) number.

NOT CHANGING OIL WILL VOID WARRANTY

RTANT: OIL LEVEL MUST BE ABOVE HALF WAY IN SIGHT GLASS

D

CHECK FOR SIGNS OF MISUSE

- A. Housing area
- B. Broken base
- C. Trap
- D. Damage to fins or drain valve
- E. Sight glass
- F. Damage or dents to pump body
- G. Broken or bent handle
- H. Damaged or missing intake valve



REASONS FOR VOID OF WARRANTY

- Improper usage of pump and pump oil
- Oil has not been changed
- Corrosive substances and/or contaminants found in pump
- Pump has been damaged, altered or components have been removed or are missing

PACKING VACUUM PUMP FOR RETURN

To ensure that no additional charges are incurred due to improper packaging:

- 1. Drain **all** oil from pump and close off valves.
- 2. Place pump in a sealed plastic bag.
- 3. Package pump in a cushioned bottom carton with packing paper. Be sure to secure and protect pump in carton on all sides. Do not use packing peanuts.
- 4. Include RGA number issued by JB Industries and supporting paperwork with detailed description of issue in a sealed, separate plastic bag.
- 5. If an estimate is required, be sure to specify in documentation and include contact information (name/address/phone/email).



JB Industries warrants the F6-DP Refrigerant Recovery Machine to be free from defects of materials or workmanship for three years from the date of purchase. JB Industries does not warrant any machine that has been subjected to misuse, negligence or accident, or has been repaired or altered by anyone other than JB Industries.

The compressor is warrantied for a period of three years by the manufacturer. To keep this warranty in force, a filter (included) must be used on the inlet port or hose at all times to prevent particulates from entering the compressor. Failure to use the included filter will void the compressor warranty.

JB Industries liability is limited to repairing or replacing, at its option, a defective machine or part. If a defect arises, a valid claim must be received by JB Industries, with transportation prepaid, no later than thirty (30) days after the warranty period expires. JB Industries will determine whether the machine has malfunctioned due to defective materials or workmanship.

RETURN FOR REPAIR

JB provides reliable, superior quality tools—However, in the event your instrument requires repair, you are required to contact JB Customer Service Department to obtain a Return Goods Authorization (RGA) number.

Ensure that all returned tools are packed to avoid damage in shipment. Warranty claims for items damaged in transit will not be honored. Refrain from applying stickers or strong tape on tool face as item may be returned with no manufacturer defects. Paperwork should be placed in a separate plastic bag and should include JB's assigned RGA number, a description of the problem, copy of invoice and any customer assigned repair or purchase order number, if applicable. Please provide contact information (name/address/phone/email) of whom to inform of package receipt as well as the person authorized to accept repair charges should the warranty be void. Tool returns for repair will not be accepted without an RGA number from JB Industries.

Contact Customer Service for RGA number:

800.323.0811 Toll-free 630.851.9444 Tel 800.552.5593 Toll-free Fax 630.851.9448 Fax

Tools should be shipped with freight prepaid to:

JB Industries RGA# 601 N. Farnsworth Ave. Aurora, IL 60505 USA

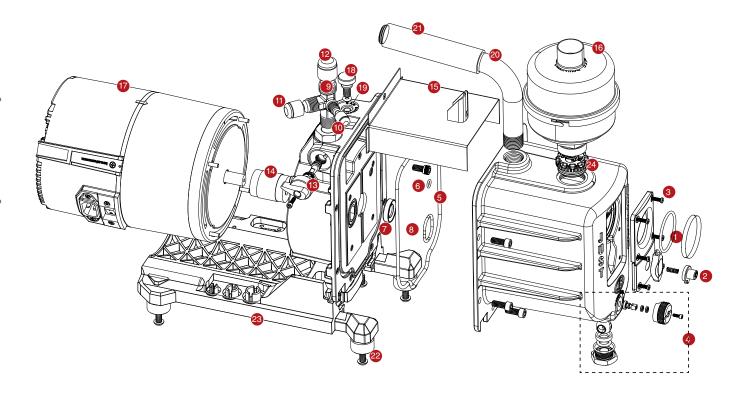
SHIELD

Hoses

PLATINUM® PRO Vacuum Pump Repair DV-240DC and DV-285DC

Repair parts can be ordered from your local JB wholesaler. When ordering please provide the following information:

- Model numberSerial number
- Part number and description



		PLATINUM _® PRO REPAIR PARTS	
REF.NO.	PART NO.	DESCRIPTION	
1	PR-801	Sight glass with o-ring	
2	PR-805	Light and button	
3	PR-806	Light cover screw	
4	PR-807	Oil drain repair kit	
5	PR-811	Cover seal	
6	PR-211	Trap o-ring, gas ballast	
7	PR-3	Shaft seal	
8	PR-315	Trap o-ring, intake	
9	PR-78	Angled intake tee with caps	
10	NFT5-4	1/4" O-ring, cap	
11	NFT5-6	3/8" O-ring, cap	
12	NFT5-8	1/2" O-ring, cap	

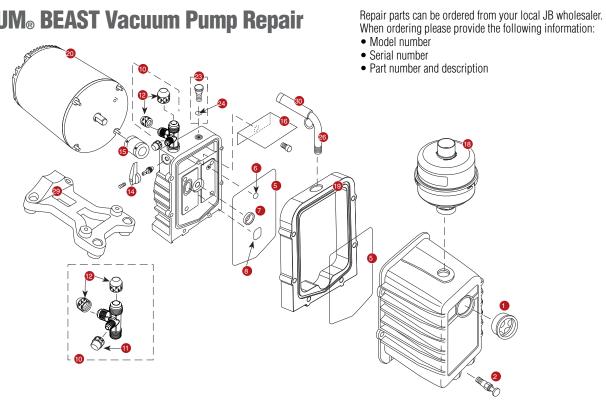
REF.NO.	PART NO.	PLATINUM⊚ PRO REPAIR PARTS Description	
13	PR-209	Plastic isolation valve handle and screw w/stem, o-rings and retainer	
14	PR-208	Flexible coupler	
15	PR-840	Splash guard with piercing valve	
16	PR-307	Oil mist filter	
17	PR-607	Motor	
18	PR-7	Gas ballast valve w/o-ring	
19	P90009	O-ring, gas ballast valve	
20	PR-75	Cushioned handle w/lift ring 1/2" NPT	
21	PR-501	Cushion and cap 1/2" NPT for DV-240DC	
22	PR-4	Rubber feet assembly	
23	PR-862	Pump base with feet	
24	PR-822	Oil fill cap for DV-240DC	
NOT SHOWN	DV-EP8	1/2" Red tethered safety exhaust cap for DV-240DC	
NOT SHOWN	PR-49	Replacement Cord	

Repair

JB INDUSTRIES

PLATINUM® **BEAST Vacuum Pump Repair**

DV-340N



REF.NO.	PART NO.	PLATINUM® BEAST REPAIR PARTS DESCRIPTION	
1 1	PR-1	Sight glass	
2	PR-2	Drain valve	
6	PR-211	Trap o-ring, gas ballast	
7	PR-3	Shaft seal	
8	PR-315	Trap o-ring, intake	
10	PR-78	Angled intake tee with caps	
11	NFT5-4	1/4" O-ring, cap	
12	NFT5-6	3/8" O-ring, cap	
12	NFT5-8	1/2" O-ring, cap	
14	PR-209	Plastic isolation valve handle and screw w/stem, o-rings and retainer	
15	PR-208	Flexible coupler* 1-1/2"(Start of 1995) 2-1/2" (Prior to 12/1994)*	
	PR-308	Flexible section only 7/8"; use w/PR-208 flexible coupler*	
16	PR-41	Splash Guard	
17	PR-59	Base	
18	PR-307	Oil Mist Filter	
19	PR-306	Spacer with handle and cushion	
20	PR-608	Motor	
23	PR-7	Gas ballast valve w/o-ring	
24	P90009	O-ring, gas ballast valve	

* Coat with thread sealant when replacing.
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		PLATINUM _® BEAST REPAIR PARTS	
REF.NO.	PART NO.	DESCRIPTION	
26	PR-75	Cushioned handle w/lift ring 1/2" NPT	
27	PR-22	Oil fill plug w/o-ring	
28	PR-56	Adapter nut w/nut o-ring	
30	PR-501	Cushion and cap 1/2" NPT	
3	PR-301	DV-285N Cover assembly w/sight glass and drain valve	
5	PR-311	Cover seal	
29	PR-62	Pump base (includes feet); fits all pumps with serial #0101 and higher	
NOT SHOWN	PR-45	Pump repair kit PR-1, PR-59 (4), PR-2, PR-208	
NOT SHOWN	PR-110	Replacement Cord	

SHIELD

Repair

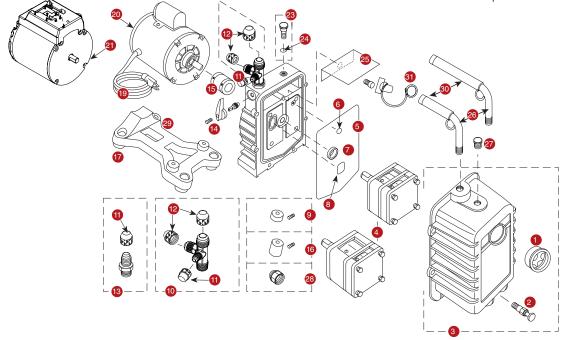


PLATINUM® **Vacuum Pump Repair** DV-42N through DV-285N Series

Repair parts can be ordered from your local JB wholesaler. When ordering, please provide the following information:

Cushioned handle w/lift ring 1/2" NPT and DV-EP-8 as of 2008

- Model number
- Serial number
- Part number and description



PR-75

	PLAT	INUM® SERIES REPAIR PARTS – ALL MODELS	
REF.NO.	PART NO.	DESCRIPTION	
- 1	PR-1	Sight glass	
2	PR-2	Drain valve	
6	PR-211	Trap o-ring, gas ballast	
7	PR-3	Shaft seal	
8	PR-315	Trap o-ring, intake	
9	PR-4	Rubber foot and screw assembly – 1 per package (Prior to 2006)	
10	PR-66	Angled intake tee with caps	
11	NFT5-4	1/4" O-ring, cap	
12	NFT5-6	3/8" O-ring, cap	
12	NFT5-8	1/2" O-ring, cap	
14	PR-209	Plastic isolation valve handle and screw w/stem, o-rings and retainer	
	PR-208	Flexible coupler* 1-1/2"(Start of 1995) 2-1/2" (Prior to 12/1994)*	
15	PR-308	Flexible section only 7/8"; use w/PR-208 flexible coupler*	
15	PR-6	Flexible coupler* 2-1/4"	
	PR-77	1-5/8" Middle section; use w/PR-6 flexible coupler*	
16	PR-42	Motor foot w/screw (prior to 2006)	
17	PR-59	Base foot	
19	PR-31	Line cord (Marathon motor) old style	
20	PR-54	Rocker switch w/wire leads (Emerson) models since 2004	
	PR-610	FLEX motor	
21	PR-206	1/2 Hp, 115v, 60 Hz Motor w/line cord and switch	
	PR-207	1/2 Hp, 115/230v, 50/60 Hz Dual Voltage Motor (not shown)	
23	PR-7	Gas ballast valve w/o-ring	
24	P90009	O-ring, gas ballast valve	
25	PR-40	Splash guard and screw (excludes 3 CFM manufactured before 1/01)	

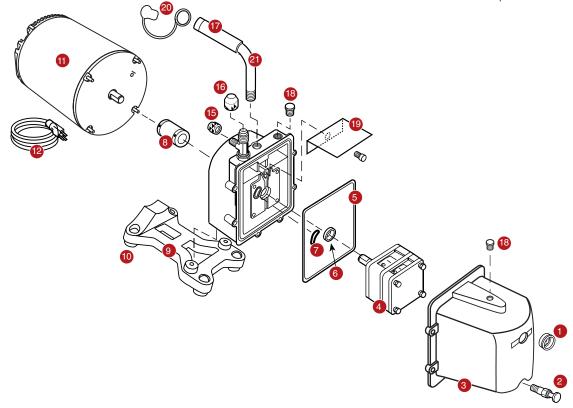
26	PR-205	Cushioned handle 3/8" NPT
	PR-605	Cushioned handle w/lift ring FLEX
27	PR-22	Oil fill plug w/o-ring
28	PR-56	Adapter nut w/nut o-ring
	PR-500	Cushion and cap 3/8" NPT
30	PR-501	Cushion and cap 1/2" NPT
	PR-601	Cushion and cap FLEX
31	DV-EP6	Tethered safety cap 3/8" NPT (prior to 2008)
	DV-EP8	Tethered safety cap 1/2" NPT
		REPAIR PARTS – MANUFACTURED AFTER JANUARY 2001
REF.NO.	PART NO.	DESCRIPTION
3	PR-300	DV-42N through DV-200N cover assembly w/sight glass and drain valve
	PR-301	DV-285N Cover assembly w/sight glass and drain valve
	PR-302	DV-42N and DV-85N Cartridge w/o-rings and cover seal
4	PR-303	DV-142N Cartridge w/o-rings and cover seal
4	PR-304	DV-200N Cartridge w/o-rings and cover seal
	PR-314	DV-285N Cartridge w/o-rings and cover seal
5	PR-311	Cover seal
13	PR-32	1/4" Intake w/cap
29	PR-62	Pump base (includes feet); fits all pumps with serial #0101 and higher
PLATIN	UM _® SERIES	REPAIR PARTS – MANUFACTURED BEFORE JANUARY 2001
5	PR-217	Cover seal
8	PR-215	Trap o-ring, intake
NOT SHOWN	PR-18	Cartridge valve repair kit (includes DV-285N as of 2007 models
NOT SHOWN	PR-52	DV-285N Cartridge valve repair kit (prior to 2007 models)
NOT SHOWN	PR-45	Pump repair kit PR-1, PR-59 (4), PR-42, PR-208

Emerson® is a registered trademark of US Motors. Marathon® is a registered trademark of Marathon Electric. *Coat with thread sealant when replacing.

ELIMINATOR® DC Vacuum Pump Repair DV-6EDC

Repair parts can be ordered from your local JB wholesaler. When ordering please provide the following information:

- Model number
- Serial number
- Part number and description



ELIMINATOR 6EDC REPAIR PARTS		
REF.NO.	PART NO.	DESCRIPTION
1	PR-1	Sight glass
2	PR-2	Oil drain valve
3	PR-10	DV-3E, DV-4E and DV-6E cover assembly w/sight glass, drain valve and oil fill plug
4	PR-406	DV-6E Cartridge complete w/o-rings and cover seal
5	PR-217	Cover seal
6	PR-3	Shaft seal
7	PR-315	Trap intake o-ring
8	PR-208	2-1/2" Flexible coupler*
9	PR-62	Pump base w/rubber feet and screws (4)
10	PR-59	Rubber pump foot (1)

ELIMINATOR 6EDC REPAIR PARTS		
REF.NO.	PART NO.	DESCRIPTION
11	PR-607	DC Motor
12	PR-49	IEC 10 ft. locking cord
14	PR-63	Intake tee w/cap
15	NFT5-4	1/4" O-ring cap
16	NFT5-6	3/8" O-ring cap
17	PR-501	1/2" Rubber grip and cap
18	PR-22	Oil fill plug w/o-ring
19	PR-40	Stainless steel splash guard w/screw
20	DV-EP8	1/2" Red tethered safety exhaust cap
21	PR-205	3/8" Cushioned handle
	PR-65	1/2" Cushioned handle

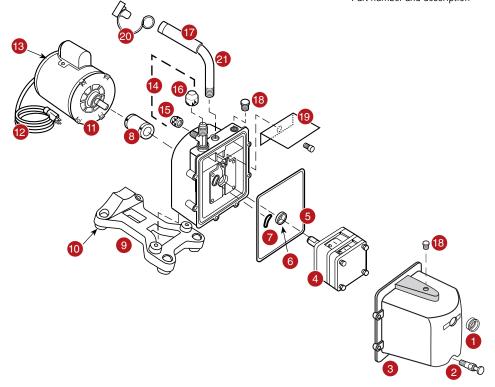
Repair

JB INDUSTRIES (A23)

ELIMINATOR_® **Vacuum Pump Repair** DV-3E, DV-4E and DV-6E Series

Repair parts can be ordered from your local JB wholesaler. When ordering, please provide the following information:

- Model number
- Serial number
- Part number and description



Current chrome cover will fit older black ELIMINATOR models

REF.NO.	ELIN Part no.	MINATOR SERIES REPAIR PARTS DESCRIPTION			
1	PR-1	Sight glass			
2	PR-2	Oil drain valve			
3	PR-10	DV-3E, DV-4E and DV-6E cover assembly w/sight glass, drain valve and oil fill plug			
	PR-403	DV-3E Cartridge complete w/o-rings and cover seal			
4	PR-404	DV-4E Cartridge complete w/o-rings and cover seal			
PR-406		DV-6E Cartridge complete w/o-rings and cover seal			
5	PR-217	Cover seal			
6	PR-3	Shaft seal			
7	PR-315	Trap intake o-ring			
	PR-208	1-1/2" Flexible coupler*			
8	PR-308	7/8" Middle section; used w/PR-208 2-1/2" Flexible coupler*			
0	PR-6	2-1/4" Flexible coupler*			
PR-77 1		1-5/8" Middle section; used w/PR-6 flexible coupler*			
9	PR-62	Pump base w/rubber feet and screws (4)			
10	PR-59	Rubber pump foot (1)			
Not Shown	PR-18	Cartridge valve repair kit			

Not Shown	PR-18	Cartridge valve repair kit					
Emerson® is a re * Coat with threa		nark of US Motors. Marathon® is a registered trademark of Marathon Electric. replacing.					

	FLIM	INATOR SERIES REPAIR PARTS						
REF.NO.	PART NO.	T NO. DESCRIPTION						
	PR-206	1/2 HP, 115v/60Hz motor w/line cord and switch						
11	PR-207	1/2 HP, 115/230v, 50/60Hz dual voltage motor w/line cord and switch (not shown)						
12	PR-31	6' Line cord (Emerson⊚ motor)						
13	PR-54	Rocker-switch 115v Emerson Motor (wire leads)						
14	PR-63	Intake tee w/cap						
15	NFT5-4	1/4" O-ring cap						
16	NFT5-6	3/8" O-ring cap						
17	PR-500	3/8" Rubber grip and cap						
17	PR-501	1/2" Rubber grip and cap						
18	PR-22	Oil fill plug w/o-ring						
19	PR-40	Stainless steel splash guard w/screw						
20	DV-EP6	3/8" Red tethered safety exhaust cap						
20	DV-EP8	1/2" Red tethered safety exhaust cap						
21	PR-205	3/8" Cushioned handle						
21	PR-65	1/2" Cushioned handle						

Repair

SHIELD

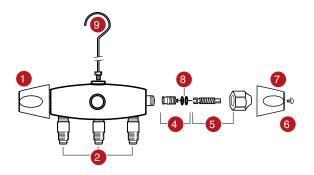


Manifold Rebuild Kits

- Rebuild kits are available for all manifold series
- Standard rebuild kits include a stem, nut, piston with seat and o-rings
- Premium rebuild kits feature two standard kits plus two handwheels and screws
- Caution: gauges and hoses not specified for R410A can damage tools and cause injury

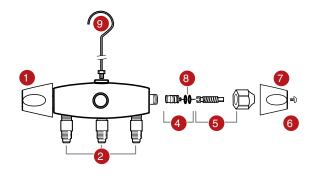
	MANIFOLD REBUILD KITS					
PART NO.	DESCRIPTION					
M2R-S	Standard M2 rebuild (also fits M5 through M9 series)					
M2R-P	Premium M2 rebuild (fits M2 series only)					
M4R-S	Standard M4 rebuild					
M4R-P	Premium M4 rebuild					
2VZR-S	Standard ZEPPELIN 2-valve rebuild (fits both aluminum and brass)					
2VZR-P	Premium ZEPPELIN 2-valve rebuild (fits both aluminum and brass)					
4VZR-S	Standard ZEPPELIN 4-valve rebuild					
4VZR-P	Premium ZEPPELIN 4-valve rebuild					
M2-106	1/8" FPT Gauge mounting brackets					
M2-108	1/4" FPT Gauge mounting brackets					

ZEPPELIN® Brass Series



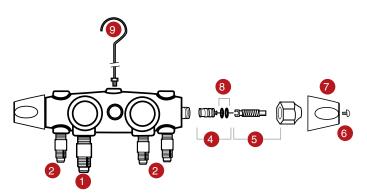
ZEPPELIN BRASS SERIES MANIFOLD						
REF.NO. PART NO. DESCRIPTION						
1	MR-601 Handwheel and screw					
2	U1-4A	A 1/4" Intake				
4	MR-505	1/4" Manifold piston				
5	MR-516	16 Stem and nut				
6	MR-601	Handwheel and screw				
7	MR-503	Handwheel screws (2)				
8	MR-509	O-rings (2)				
9	9 M2-102N Hanging hook					

ZEPPELIN® 2-Valve Aluminum Series



ZEPPELIN 2-VALVE ALUMINUM						
REF.NO.	REF.NO. PART NO. DESCRIPTION					
1	MR-601	Handwheel and screw				
2	U1-4A	1/4" Intake				
4	MR-505	Piston w/seat and o-rings				
5	MR-516	Stem and nut				
6	MR-601	Handwheel and screw				
7	MR-503 Handwheel screws (two)					
8	MR-509	0-rings (two)				
9	9 M2-102N Hanging hook					

ZEPPELIN® 4-Valve Aluminum Series

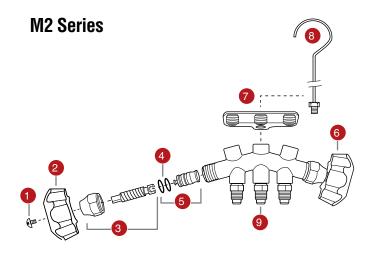


ZEPPELIN 4-VALVE ALUMINUM						
REF.NO.	REF.NO. PART NO. DESCRIPTION					
1	U1-6B 3/8" Intake					
2	U1-4A	1/4" Intake				
4	MR-605	Piston w/seat and o-rings				
5	MR-607	Stem and nut				
6	MR-601	Handwheel and screw				
7	MR-503	Handwheel screws (2)				
8	8 MR-409 O-rings (2)					
9	M2-102N	Hanging hook				

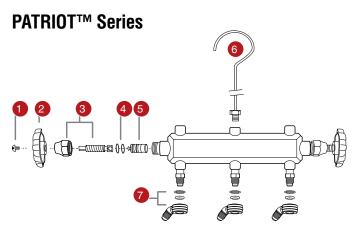
Ball Valves

Repair

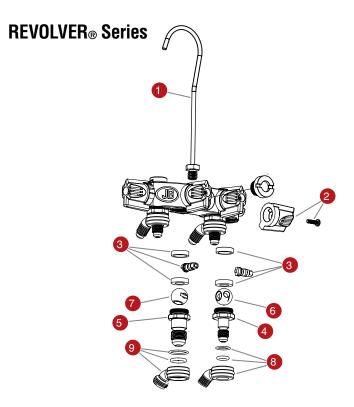




M2 SERIES MANIFOLDS							
REF.NO.	REF.NO. PART NO. DESCRIPTION						
1	MR-503	Handwheel screw (2)					
2	MR-501B	Blue handwheel and screw					
3	MR-516	Stem and nut					
4	MR-509	9 0-ring (2)					
5	MR-505	MR-505 Piston w/seat and o-rings					
6	MR-501R	Red handwheel					
7	7 M2-300 Hose holder 1/4"						
8	M2-102N	Hanging hook					
9	U1-4A	Intake					



PATRIOT SERIES MANIFOLDS							
REF.NO.	NO. PART NO. DESCRIPTION						
1	MR-503 Handwheel screw (2)						
2	MR-508 Metal handwheel and screw						
3	MR-516 Stem and nut						
4	MR-509 O-ring (2)						
5	MR-505 Piston w/seat and o-rings						
6	M2-102N Hanging hook						
7	MR-504 1/4" Hose holder sleeve and o-rings						



REVOLVER 4-VALVE BALL SERIES MANIFOLD							
REF.NO.	PART NO. DESCRIPTION						
1	M2-102N	Hanging hook					
2	MR-502	Handle and screw					
3	MR-BVK	Ball valve kit including: seals (2), stem (1), o-rings (2) and washer (1)					
4	MR-444	1/4" Retainer fitting					
5	MR-446	3/8" Retainer fitting					
6	MR-611	Throttle ball					
7	MR-610	Ball					
8	MR-504	1/4" Hose holder sleeve and o-rings					
9	MR-506 3/8" Hose holder sleeve and o-rings						

100-0. 69 15493 99 25044 33 26553 31 2676 55 28355 37 100-0. 69 15494 39 25050 33 27752 33 26500 35 28350 37 100-0. 69 15494 39 25050 33 27759 35 26500 55 28357 37 100-0. 69 15497 33 26505 33 27759 35 26500 55 28357 37 100-0. 69 27155 30 250505 33 27779 35 26500 55 28353 37 100-0. 69 27155 33 25050 30 250505 33 27779 35 26500 55 28353 37 100-0. 69 27155 33 25050 30 25050 33 27774 35 26500 55 28353 37 100-0. 69 27155 33 25050 30 25150 33 27774 35 26500 55 28355 37 12.36 100-0. 69 22233 30 25140 33 27776 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25140 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25160 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25160 33 27780 35 26500 55 28455 12.36 100-0. 69 22233 30 25160 33 27780 35 26500 55 28455 12.36 100-0. 69 22255 30 26500 35 265												
190 C	100-A	69	13493	59	25044	33	26633	31	28576	35	29335	37
100-0. 69 22125	100-B	69	13494	59			27752	35	28580	35	29336	37
100-F 69 22133 30 20609 33 27772 35 28586 35 28384 37 101-01-14 69 22220M 30 2100 32 27772 35 28589 35 28385 37 101-01-16 69 22220M 30 2100 33 27774 35 28589 35 28385 37 101-01-16 69 22230 30 2100 33 27784 35 28589 35 28343 12.36 101-01-16 69 22231 30 2100 33 27785 30 28589 35 28343 12.36 101-01-16 69 22231 30 28100 33 27785 30 28589 35 28345 12.36 101-01-16 69 22231 30 28100 33 27785 30 28589 35 28345 12.36 101-01-16 69 22231 30 28100 33 27786 35 28589 35 28345 12.36 101-01-16 69 22231 30 28100 33 27864 35 27784 35 28785 35 28785 36 287	100-C	69	19571	83	25058	33	27754	35	28582	35	29337	37
101-4 69 22225 30 25100 33 27774 35 28588 35 28385 37 1238 12.36 101-6 69 22237 30 25128 33 27774 35 28596 35 28433 12.36 101-6 69 22237 30 25125 33 27776 35 28596 35 28435 12.36 101-6 69 22237 30 25125 33 27780 35 28596 35 28435 12.36 101-6 69 22237 30 25125 33 27780 35 28596 35 28435 12.36 101-6 69 22237 30 25125 33 27780 35 28599 35 28778 35 28591 101-6 69 22237 30 25125 33 27780 35 28599 35 28778 35 28591 37 28778 35 28599 35 28778 35 28599 35 28778 35 28591 37 28778 35 28599 35 28778 35 28591 37 28778 35 28599 35 28778 35 2	100-D	69	22125	30	25065	33	27759	35	28584	35	29338	37
101-9	100-E	69	22133	30	25069	33	27770	35	28586	35	29384	37
101-C	101-A	69	22225	30			27772	<i>35</i>	28588	<i>35</i>	29385	37
101-D 69 22281 30 25134 33 2778C 35 26597 35 2446 123 101-E 69 22230M 30 25144 33 2778C 35 26598 35 2078-P 91 1093-A 69 22230M 30 25144 33 27786 35 26598 35 2078-S 91 1093-B 69 22230M 30 25150 33 27786 35 26593 35 2078-S 35 2078-S 1033-C 69 22246 30 25150 33 27786 35 2678-S 35 30744 35 1093-C 69 22246 30 25150 33 27786 35 2678-S 35 30744 35 1093-C 69 22246 30 25150 33 27786 35 2678-S 35 30744 35 1093-C 6 22460M 30 25150 33 27786 35 2678-S 35 30744 35 1093-C 6 22460M 30 25150 33 2778-S 35 2678-S 35 30712M 45 1093-C 6 22460M 30 25150 33 2789-S 35 2678-S 35 30712M 45 1093-C 6 22460M 30 25150 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 26779-S 35 3178M 45 1093-C 6 22460M 30 25203 33 2789-S 35 2678-S 35 2678-S 35 1099-S 35 2678-S 35 2	101-B	69	22225CM	30			27774	35	28592	<i>35</i>		
101-E	101-C	69	22433	30	25125	33	27776	35	28596	35	29435	12,36
103-8							27780	35	28597	35		
103-8			22233	30			27782	<i>35</i>	28599	<i>35</i>	2VZR-P	91
103-0. 69 22246. 30 25165 33 2788. 35 28752 35 33112N. 45 103-2. 69 22500. 30 25165 33 27854 35 28759 35 33112N. 45 103-3. 69 22500. 30 25169 33 27854 35 28759 35 33112N. 45 110-0. 60 22555 30 2500 33 27850 35 28770 35 33115N. 45 110-0. 60 92555 30 2500 33 27870 35 28777 35 33115N. 45 110-0. 60 92555 30 2500 33 27870 35 28777 35 33115N. 45 110-0. 60 92555 30 2503 33 27870 35 28777 35 33115N. 45 110-0. 60 92555 30 2503 33 27870 35 28777 35 34115N. 45 110-0. 60 92555 30 2503 33 27870 35 28776 35 28777 35	103-A	69	22233CM	30	25144	33	27784	35	28732	35	2VZR-S	91
103-0. 69 222460M. 30 25166 33 27852 35 28754 35 331178M. 45 103-6 69 22505 30 2500 33 27859 35 28770 35 331178M. 45 110-0-A. 69 22505 30 2500 33 27859 35 28770 35 33115M. 45 110-0-A. 69 22505 30 2500 33 27870 35 28777 35 33115M. 45 110-0-B. 69 22531 30 25225 33 27872 35 28774 35 33115M. 45 110-0-B. 69 22531 30 25225 33 27872 35 28774 35 33115M. 45 110-0-B. 69 22625 30 25331 33 27880 35 28760 35 4270-B. 31 110-0-B. 69 22625 30 25331 33 27860 35 28760 35 4270-B. 31 110-0-B. 69 22625 30 25331 33 27860 35 28760 35 4270-B. 91 110-0-B. 69 22646 30 25240 33 27864 35 28760 35 28760 35 4120-B. 91 110-0-B. 69 22743 30 25240 33 27864 35 28760 35 8620 83 110-0-B. 69 22725 30 25240 33 27864 35 28764 35 28764 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25349 33 27864 35 28768 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25549 33 27864 35 28768 35 8620 83 110-0-B. 69 227334 30 25555 33 27854 35 28855 35 410972 80 110-0-B. 69 227334 30 25555 33 27854 35 28855 35 410972 80 110-0-B. 69 227334 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25556 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25556 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25556 33 27854 35 28855 35 410972 80 1117-B. 69 24000 32 25560 33 27854 35 28855 35 410972 80 1117-B. 69 24000 32 25560 33 27854 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 25100 33 28100 35 28857 33 34000 54 4117-B. 60 24000	103-B	69	22233L	30	25150	33	27786	35	28735	35	30744	35
103-0. 69 222460M. 30 25166 33 27852 35 28754 35 331178M. 45 103-6 69 22505 30 2500 33 27859 35 28770 35 331178M. 45 110-0-A. 69 22505 30 2500 33 27859 35 28770 35 33115M. 45 110-0-A. 69 22505 30 2500 33 27870 35 28777 35 33115M. 45 110-0-B. 69 22531 30 25225 33 27872 35 28774 35 33115M. 45 110-0-B. 69 22531 30 25225 33 27872 35 28774 35 33115M. 45 110-0-B. 69 22625 30 25331 33 27880 35 28760 35 4270-B. 31 110-0-B. 69 22625 30 25331 33 27860 35 28760 35 4270-B. 31 110-0-B. 69 22625 30 25331 33 27860 35 28760 35 4270-B. 91 110-0-B. 69 22646 30 25240 33 27864 35 28760 35 28760 35 4120-B. 91 110-0-B. 69 22743 30 25240 33 27864 35 28760 35 8620 83 110-0-B. 69 22725 30 25240 33 27864 35 28764 35 28764 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25349 33 27864 35 28768 35 8620 83 110-0-B. 69 22733 30 25350 33 27862 35 28760 35 8620 83 110-0-B. 69 22733 30 25549 33 27864 35 28768 35 8620 83 110-0-B. 69 227334 30 25555 33 27854 35 28855 35 410972 80 110-0-B. 69 227334 30 25555 33 27854 35 28855 35 410972 80 110-0-B. 69 227334 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25555 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25556 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25556 33 27854 35 28855 35 410972 80 1117-B. 69 22833 30 25556 33 27854 35 28855 35 410972 80 1117-B. 69 24000 32 25560 33 27854 35 28855 35 410972 80 1117-B. 69 24000 32 25560 33 27854 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 28100 35 28857 33 34000 54 4117-B. 60 24000 32 25560 33 25100 33 28100 35 28857 33 34000 54 4117-B. 60 24000	103-C	69	22246	30	25158		27788	35	28752	35	33112N	45
103-F. 69 22500 30 25169 33 27854 35 28759 35 3115N 45 110-CA. 69 22555 30 25200 33 27870 35 28777 35 3115N 45 110-CA. 69 22555 30 25208 33 27870 35 28774 35 3116N 45 110-CA. 69 22555 30 25208 33 27874 35 28774 35 3116N 45 110-CA. 69 22565 30 25225 33 27874 35 28774 35 3116N 45 110-CA. 69 22565 30 25225 33 27874 35 28776 35 42019 83 110-CA. 69 22565 30 25233 33 27860 35 28780 35 42019 83 110-CA. 69 22533 30 25234 33 27862 35 28780 35 42019 83 110-CA. 69 22533 30 25246 33 27862 35 28782 35 412-F. 91 110-CA. 69 22533 30 25246 33 27866 35 28786 35 420-F. 91 110-CA. 69 22533 30 25246 33 27866 35 28786 35 56822 83 110-CC. 69 22733 71 80 25246 33 27866 35 28786 35 56822 83 110-CC. 69 22733 71 80 25246 33 27862 35 28786 35 56822 83 110-CC. 69 22733 71 80 25246 33 27864 35 28786 35 28786 35 56822 83 110-CC. 69 22733 71 80 25246 33 27862 35 28833 35 2862 83 110-CC. 69 22733 71 80 25283 33 27854 35 28833 35 2862 83 110-CC. 69 22733 71 80 25283 33 27854 35 28835 35 40977 80 110-FE 69 22833 30 25265 33 27954 35 28853 35 40977 80 110-FE 69 22833 30 25265 33 27954 35 28657 35 40977 80 110-FE 69 22833 30 25266 33 27979 35 28659 35 40977 80 1112-CC. 68 24000 32 25509 33 27970 35 28659 35 40977 80 1112-CC. 68 24033 32 25500 33 27970 35 28659 35 40977 80 1112-CC. 68 24033 32 25500 33 27970 35 28659 35 40977 80 1112-CC. 68 24034 32 25500 33 27962 35 28670 35 40977 80 1112-CC. 68 24034 32 25500 33 27962 35 28670 35 40977 80 1112-CC. 68 24044 32 25503 33 27964 35 28670 35 40977 80 1112-CC. 68 24044 32 25503 33 27964 35 28670 35 40977 80 1112-CC. 68 24040 32 25508 33 27960 35 28670 35 40977 80 1112-CC. 68 24044 32 25508 33 27962 35 28690 35 4300-FC. 54 1113-A113 40 60 24069 32 25508 33 27962 35 28690 35 4300-FC. 54 1113-A113 40 60 24069 32 25508 33 27962 35 28690 35 4300-FC. 54 1113-A113 40 60 24069 32 25508 33 27960 35 28690 35 4300-FC. 54 1113-A113 40 60 24069 32 25508 33 27960 35 28690 35 4300-FC. 54 1113-A113 40 60 24069 32 25508 33 28060 35 28090 35 43100-FC. 54 1113-A113 40 60 24069 32 25508 33 28060 35 28090 35 43100-FC. 54 1	103-D	69	22246CM	30	25165	33						
110-AA. 99 22505 30 25208 33 27809 35 28770 35 33115N 45 110-CA. 99 22531 30 25228 33 27872 35 28774 35 33116N 45 110-CA. 99 22651 30 25225 33 27872 35 28776 35 28776 35 110-DA. 99 22625 30 25233 33 27880 35 28780 35 28776 35 28776 35 110-DA. 99 22625 30 25233 33 27880 35 28780 35 28780 35 28776 35 28776 35 110-CA. 99 22646 30 25240 33 27884 35 28786 35 287	103-E	69					27854	35	28759	35	33113N	45
110-CA. 69	110-BA	69	22505	30	25200	33	27859	35				
110-CB. 69	110-CA	69										
110-DB 69 22605 30 25255 33 27874 35 28776 35 42019 83 110-DB 69 22653 30 25233 33 27880 35 28780 35 4778-91 110-DB 69 22633 30 25234 33 27884 35 28780 35 4778-91 110-DB 69 22633 30 25234 33 27884 35 28784 35 28784 35 28784 69 110-EB 69 22755 30 25240 33 27884 35 28784 35 28784 35 98820 83 110-ED 69 22733 30 25248 33 27888 35 28786 35 98820 83 110-ED 69 227336-18, 30.39 25249 33 27886 35 28788 35 28786 35 98822 83 110-ED 69 227336-18, 30.39 25249 33 27852 35 28852 35 98823 83 110-ED 69 22833 30 25248 33 27852 35 28852 35 98823 83 110-ED 69 22833 30 25248 33 27852 35 28852 35 98823 83 110-ED 69 22833 30 25248 33 27852 35 28852 35 410972 80 110-FE 69 22833 30 25248 33 27859 35 28852 35 410972 80 110-FE 69 22833 30 25269 33 27970 35 28854 35 410972 80 112-E 69 24003 32 25269 33 27970 35 28854 35 410972 80 112-E 69 24003 32 25269 33 27970 35 28859 35 410974 4.5617.9 112-E 69 24033 32 25500 33 27972 35 28859 35 410974 4.5617.9 112-E 69 24033 32 25500 33 27980 35 28872 35 410974 4.5617.9 112-E 69 24033 32 25500 33 27980 35 28872 35 410974 4.5617.9 112-E 69 24044 32 25508 33 27984 35 28876 35 410074 4.5617.9 112-E 69 24044 32 25508 33 27984 35 28876 35 410074 4.5617.9 112-E 69 24044 32 25508 33 27984 35 28876 35 410074 4.5617.9 112-E 69 24044 32 25508 33 27984 35 28876 35 41000 54 4113-412-E 69 24044 32 25508 33 27984 35 28876 35 41000 54 4113-412-E 69 24044 32 25508 33 27984 35 28876 35 41000 54 4113-412-E 69 24044 32 25508 33 27984 35 28893 35 41000 54 4113-412-E 69 24044 32 25508 33 27984 35 28893 35 41000 54 4113-412-E 69 24044 32 25508 33 27984 35 28893 35 41000 54 4113-412-E 69 24058 32 25508 33 29105 35 28890 35 41000 54 4113-412-E 69 24058 32 25508 33 29105 35 28890 35 41000 54 4113-412-E 69 24058 32 25508 33 29105 35 28890 35 41000 54 4113-412-E 69 24058 32 25508 33 29105 35 28990 35 41000 54 4113-412-E 69 24058 32 25508 33 29105 35 28990 35 41000 54 4113-412-E 69 24058 32 25508 33 29105 35 28990 35 41000 54 4113-412-E 69 24058 32 25508 33 29100 35 28990 35 41000 55 4113-412-E 69 24058 32 25508 33 29100 35 28												
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PR-80586	RT5201173	T1-4B		TC-44-12		U3-3A		US5-66	
PR-80686	RT5203073	T1-4C		TC-49-100		U3-4A		US5-88	
PR-80786	RT5204273	T1-5B		TC-49-11		U3-4B		UX1-4A	
PR-81186	RT70007B72	T1-6B		TC-50-100		U3-4C		UX1-4B	
PR-82286	RT70007X72	T1-6C	65	TC-50-11	80	U3-5A	66	UX2-4	
PR-84086	RT7001572	T1-6D	65	TC-54-100	80	U3-5B	66	V34-RC12	71
PR-86286	RT70017B72,73	T1-8B	65	TC-54-11	80	U3-6A		V34-RC19	71
PS-1077	RT70017D72,73	T1-8C		TC-55-100		U3-6B	66	V34-RC33	
PS-10077	RT7002072	T1-8D	65	TC-55-11	80	U3-6C	66	V34-RC4	71
PS-2577	RT7002172	T2-10	65	TC-59-10	80	U3-6D	66	V34300	
PS-5077	RT7002772	T2-12	65	TC-59-100	80	U3-8B	66	V34301	70
QC-1234-LH11,82	RT7002972	T2-3		TC-64-10		U3-8C	66	V34302	70
QC-13445-134A82	RT7003073	T2-4	65	TC-64-100		U3-8D		V34303	
QC-20620,21	RT7004172	T2-5	65	TC-70-100		U3-8E		V34304	
QC-20820,21	RT70056D72	T2-6		TC-70-12		U4-10		V34306	
QC-A2L-LH11,38	RT70057D73	T2-8		TC-75-100		U4-12		V34307	
QC-A2L-LH-2538	RT7007579	T2-HKA		TC-75-9		U4-4		V34308	
QC-A2L-LH-5038	RT7010572	T20095		TC-80-10		U4-6		V34309	
QC-A2L-LH-10038	RT7014273	T20095		TC-80-10		U4-8		V34310	
QC-A2L-LH4511,38	RT7015975	T20203		TC-85-100		5-4A		V34310 V34311	
QC-A2L-LH45-2538									
QC-A2L-LH45-5038	RT7016075	T20275		TC-85-9		U5-4B		V34350	
QC-A2L-LH45-10038	RT7016175	T20351		TC-90-100		U5-6B		V34500	
QC-E460	RT7017075	T20352		TC-90-7		U5-8C		V34501	
QC-E560	RT7017175	T20353		TR2-446		U5-8D		V34502	
QC-E6421,60	RT7040172	T20500		TR2-664		U6-4A		V34503	
QC-G43036,37	RT7040272	T21000		TR2-668		U6-4B		V34504	
QC-G43437	RT7052174	T21002		TR2-886		UR2-106		V34506	
QC-G46037	RT7052274	T21003		TRQ-IMP		UR2-108		V34507	
QC-G46537	RT7052374	T21004		TRQ1080		UR2-1210		V34508	
	RT7053174	T21005		TRQ-1080D		UR2-128		V34509	
QC-G82037	RT7053274	T21006		U1-10B	66	UR2-43	67	V34510	70
QC-G82537	RT7053474	T21007		U1-10C	66	UR2-54	67	V34511	70
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QC-G85637	RT9061475	T21010	78	U1-10E		UR2-65		V34900	
QC-G86137	RT9901672	T21012	78	U1-12C	66	UR2-84	67	V34901	71
QC-G86237	SHLD-3-DRIVER49	T21014	78	U1-12D	66	UR2-86	67	V34905	71
QC-G86337	SHLD-8-DRIVER49	T21018	78	U1-12E	66	UR3-1012	67	V34910	71
QC-G86437	SHLD-A2L448	T21024	78	U1-14E	66	UR3-108	67	VL-100	20
QC-S359	SHLD-A2L10048	T21124U	75	U1-3A	66	UR3-1210	67	VL-200	
QC-S459	SHLD-A2L1248	T21125U		U1-3B		UR3-43		WC-1	
QC-S45-4559	SHLD-A2L5048	T21126U	75	U1-4A	66,91	UR3-46	67	WC-2	4,8,10
QC-S4659	SHLD-A2L-SL2048	T21127U		U1-4B		UR3-48		WH-1	
QC-S4A59	SHLD-BIT49	T21127U-HKA		U1-4C		UR3-64		WH-2	
QC-S4A-134A82	SHLD-CJ49	T21128U	75	U1-4D	66	UR3-68	67	WM-1	
QC-S4B59	SHLD-COMBO-	T21294		U1-5A		UR3-810		WM-2	
QC-S559	DRIVER49	T21295		U1-5B		UR3-84		WP-1	
QC-S5S59	SHLD-E100-A2L48	T3-10D		U1-5C		UR3-86		WP-2	
QC-S6421,59	SHLD-E1249	T3-4A		U1-6A		US3-1010			
QC-S6559	SHLD-E12-A2L48	T3-4B		U1-6B		US3-1012			
REC-TANK-3023	SHLD-E446,47,49	T3-5B		U1-6C		US3-108			
REC-TANK-5023	SHLD-E4-A2L48	T3-6B		U1-6D		US3-1212			
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RT1251871	SHLD-E50-A2L48	T3-6D		U1-8A		US3-44			
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	SHLD-SLG2049	TC-100-10	80	U2-2		US3-810			
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