



Distributing Air Conditioning, Refrigeration, Service Tools & Equipment Worldwide



For over 35 years Mastercool has been supplying professional quality air conditioning service tools and equipment. As one of the fastest growing companies in this market, our primary goal is to drive New Product Innovation and Technologies to make the every day work of the HVAC/R technician easier!

With our never-ending focus on innovation and new technology, Mastercool has been awarded many patents worldwide. Our products are currently being distributed in over 76 countries and growing everyday!

#### **MASTERCOOL LOCATIONS:**

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Manufacturing and USA Warehouse



European Sales Office and Warehouse



**Brazil Sales Office and Warehouse** 



Australian Sales Office





## MANIFOLDS HOSES, ADAPTERS AND ACCESSORIES HOSES, AUTOMATIC AND MANUAL 4-WAY DIGITAL MANIFOLD SHUT-OFF VALVES, HOSE REPLACEMENT PARTS SERVICE TOOLS AND 2-WAY DIGITAL MANIFOLD 10 **ACCESSORIES** R134a DIGITAL MANIFOLD 12 COUPLERS & CONNECTORS CHARGING ADAPTERS, **ALUMINUM 4-WAY MANIFOLD** 13 REPLACEMENT GASKETS & **GAUGE SETS** DEPRESSORS. RETROFIT ADAPTERS 3/8" BORE PREMIERE SERIES A/C CHARGING ADAPTER REPAIR 15 BALL VALVE MANIFOLDS **KITS** 2-WAY ALUMINUM MANIFOLD 16 VALVE CORE REMOVER/INSTALLERS 36 PISTON VALVE 2-WAY BRASS MANIFOLD PISTON MEASURE AND TEST INSTRUMENTS VALVE HANDHELD DIAGNOSTIC TOOLS 2-WAY AUTOMOTIVE MANIFOLDS 18 TEMPERATURE MEASUREMENT SPECIALTY MANIFOLDS 19 PRESSURE TESTING SINGLE VALVE MANIFOLDS 21 BRAKE LINE TOOLS REPLACEMENT GAUGES 22

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# MASTERCOOL PRODUCTS ARE MADE/ASSEMBLED IN THE USA



Mastercool manufactures all of its products with the highest quality components and management systems. All products are checked and tested directly at Mastercool headquarters in Randolph, New Jersey, USA.

Our products comply in every respect with the requirements set forth by SAE and EPA Standards as well as ARI Standard 740-98 and EU Directives.





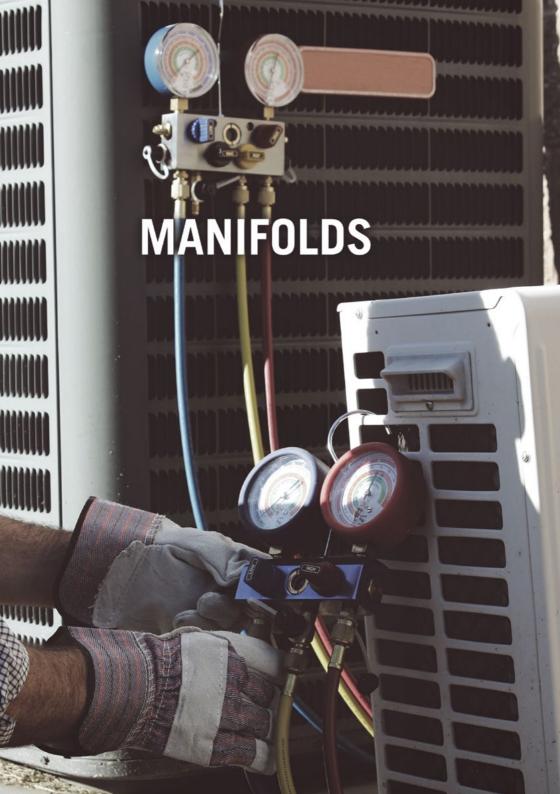






⚠ All of our products comply with current PROP 65 guidelines, for more information please visit www.mastercool.com





#### THE BEST KEEPS GETTING BETTER.....









Patent Pending















| 99903   | 4-Way Digital Manifold only        |
|---------|------------------------------------|
| 00002 2 | Manifold with (2) clamp on thormor |

Manifold with (2) clamp-on thermocouples in a blow molded case 99961 Complete Kit in a blow molded case includes: manifold with a set of 3-150 cm ball valve hoses with manual shut-off valves and one black vacuum hose, vacuum sensor with cable, clamp-on thermocouple, data logger CD and USB cable

Complete Kit in a blow molded case includes: manifold with a set of 99972 3-180 cm ball valve hoses with manual shut-off valves and one black vacuum hose, vacuum sensor with cable, clamp-on thermocouple, data logger CD and USB cable

99961-EU Complete Kit in a blow molded case includes: manifold with a set of 3-150 cm ball valve hoses with manual shut-off valves and one black vacuum hose, vacuum sensor with cable, clamp-on thermocouple, 2-straight adapter fittings (90413), data logger CD and USB cable

Same as 99961-EU less vacuum sensor with cable

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E

## **OPTIONAL ACCESSORIES**

| 52336 | Clamp-on Thermocouple (extends 1 m)                | 90433     | 1/4 x 5/16" Swivel Ball Valve         |
|-------|--|-----------|---------------------------------------|
| 52337 | Clamp-on Thermocouple (extends 3 m)                | 99333     | 1/4 FL-M x 1/4 FL-M x<br>1/4 FL-F Tee |
| 90413 | R410A Straight Adapter<br>1/4 FL-M x 5/16 Swivel-F | 99334-110 | 110 V AC/DC Adapter                   |
| 98062 | Vacuum Sensor and Cable<br>Assembly (6.5 ft)       | 99334-220 | 220 V AC/DC Adapter (schuko plug)     |
| 90430 | 1/4 x 1/4" Swivel Ball Valve                       | 99903-PBA | Plastic Carrying Case                 |





Includes three 1/4" SAE B-R-Y nylon harrier hall valve hoses with manual shut-off valves and one 3/8" SAE black vacuum hoep



Mastercool Datalogger Application



Temperature/Pressure Screen



Vacuum Screen



Analog Gauge Screen

#### **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

With the 4-way digital manifold. Mastercool is showing its determination to become the leader in this sector of the industry. Taking the experience gained with the 2-way digital manifold the 4-way model not only offers a 4-valve option but it also allows for a multitude of interactive PC enhanced functions and the capability of 24 hours of data logging.

- Record and store up to 24 hours of data and up to 15 jobs
- Large easy to read LCD
- · Displays pressures, saturated, actual, superheat and subcool temperatures Over 60 refrigerants
- · Clamp-on thermocouple connector displays actual temperature and automatically calculates superheat or subcool temperature
- · Vacuum sensor cable displays deep vacuum Ball valve design includes 3/8" bore through the block for increased flow

#### SPECIFICATIONS:

- · Class 1.0 standard gauge reading
- Pressure Display: PSI, INHq, Bar, MPa, Kq/cm<sup>2</sup>
- . Temperature Display: °F or °C
- · Deep Vacuum Display: Micron, mBar, KPa, Pa, Torr, mTorr, mmHg
- Sensing Resolution: 1 psi (.07 Bar. .007 MPa. .07 Kg/cm²)
- Sensing Accuracy: ±1 psi or 1% of reading (whichever is greater)
- Working Pressure: 0 to 750 psi (52 Bar. 5 MPa. 52 Kg/cm²) (does not display 0-5 psi)
- Proof Pressure: 1000 psi (70 Bar. 7 MPa, 70 Kg/cm²) (Tolerable pressure without internal damage)
- Refrigerant Temperature Range: -40 to 200°F (-40 to 93°C)
- . Operating Temperature: 32 to 122°F (0 to 45°C)
- Temperature Accuracy: ±1°F (±0.5°C) between 32 to 160°F (0 to 71°C)
- Storage Temperature: 10 to 120°F (-12 to 49°C)
- · Connections: 1/4" M-Flare
- . Power: 9V DC battery with optional AC/DC adapter
- Battery Life: 30-36 hours pressure and temperature mode only (continuous use) 25-30 hours vacuum or back-light mode (continuous use)
- Auto-Off: 15 min, with disabling capability

EASILY UPDATE REFRIGERANTS: New refrigerants can be updated with a USB connection and Mastercool Software, R12, R22, R23, R32, R113, R114, R115, R116, R123, R124, R134, R134a, R141B, R142B, R143, R143a, R152a, R290, R401A, R401B, R404A, R407A, R407B, R407C, R407D, R407F, R409A, R410A, R410B, R411A, R411B, R412A, R413A, R414A, R414B, R417A, R422A, R422B, R422C, R422D, R427A, R434A, R437A, R438A, R441A, R448A, R449A, R452A, R455A, R501, R502, R503, R504, R507A, R508B, R509A, R600, R600A, R601, R601A, R744

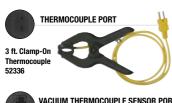
#### MASTERCOOL'S 4-WAY DIGITAL MANIFOLD RECORDING FUNCTION:

- · Records and stores data directly into the manifold memory
- · Records up to 24 hours of data or 15 jobs before having to download
- Downloads data at a rate 115 kb per second (24 hrs of data = approx. 15 min of download time)
- · Uses Mastercool's data logger application to easily view data

#### MASTERCOOL DATA LOGGER APPLICATION:

- . Display data in "real time" using a USB connection, computer and software
- Platform: Windows 2000, XP, Windows Vista and Windows 7
- Log customer name, date and technician's name
- Recorder/cursor function features:
- (1) Recorder TIME command. Record in intervals of 5, 15 min, 1, 4, 8 and 24 hrs.
- (2) Recorder ON/OFF command.
- (3) ZOOM: NORMAL, 5X or 10X. Use the zoom option to view specific data points of interest.
- (4) The time-line measures the selected recording time. Moving the cursor along the timeline easily displays specific plot points.
- The data logger program uses the Units information (Kg/cm<sup>2</sup>, BAR, Mpa, PSI, °C, and °F) contained in each data bit on the manifold and displays these units on the screen.
- Display function features
- (1) Display ALL command. This enables all parameters of the digital manifold to be displayed simultaneously. As the line functions propagate across the screen, the "real-time" data will also be displayed digitally.
- (2) Monitor specific functions of interest. The data logger continues to record all the functions in the background, regardless of how many individual functions are being displayed.
- (3) Display DEEP VACUUM ONLY command. This enables only the deep vacuum readings to be displayed on the screen.
- (4) View ANALOG GAUGES function enables the user to represent the digital manifold data in the form of high and low pressure analog gauges.

















| 19103- <i>k</i> | 2-Way Dinital | Manifold only |
|-----------------|---------------|---------------|

99103-A-2 Manifold with (2) clamp-on thermocouples in a blow molded case

99661-A Complete Kit in a blow molded case includes: manifold with a set of
3-150 cm hoses, vacuum sensor with cable and clamp-on thermocouple

99772-A Complete Kit in a blow molded case includes: manifold with a set of 3-180 cm hoses, vacuum sensor with cable and clamp-on thermocouple

99661-A-EU Complete Kit in a blow molded case includes: manifold with a set of 3-150 cm ball valve hoses with manual shut-off valves, vacuum sensor with cable, clamp-on thermocouple and 2-straight adapter fittings (90413)

99663-A-EU Same as 99661-A-EU less vacuum sensor with cable

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E

#### **OPTIONAL ACCESSORIES**

| 52336 | (extends 1 m)                                      | 90433     | 1/4 x 5/16" Swivel Ball Valve         |
|-------|--|-----------|---------------------------------------|
| 52337 | Clamp-on Thermocouple (extends 3 m)                | 99333     | 1/4 FL-M x 1/4 FL-M x<br>1/4 FL-F Tee |
| 90413 | R410A Straight Adapter<br>1/4 FL-M x 5/16 Swivel-F | 99334-110 | 110 V AC/DC Adapter                   |
| 98062 | Vacuum Sensor and Cable<br>Assembly (6.5 ft)       | 99334-220 | 220 V AC/DC Adapter (schuko plug)     |
| 90430 | 1/4 x 1/4" Swivel Ball Valve                       | 99903-PBA | Plastic Carrying Case                 |

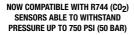


#### ALL THE INFORMATION YOU NEED IN THE PALM OF YOUR HAND!











|                    | 7B <sub>PSI</sub> | R   |                    | 290, | PSI  |
|--------------------|-------------------|-----|--------------------|------|------|
| Saturated<br>Temp. | 19 IF             | Low | Saturated<br>Temp. | 137F | High |
| Sensor<br>Temp.    | 48°F              |     |                    |      |      |
| Superheat          | 14 IF             |     |                    |      | 7.   |

# SUPERHEAT & SUBCOOL CALCULATIONS

Clamp-on thermocouple provides fast and accurate superheat and subcool readings.





PRECISE VACUUM READINGS
Vacuum thermocouple sensor provides
accurate vacuum readings.

#### CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

Mastercool's 2-way digital manifold is the most advanced and user friendly digital manifold on the market today! This manifold offers a large easy to read LCD that displays pressures, saturated temperatures, actual temperatures, superheat and subcooling temperatures for over 60 refrigerants. When used with the clamp-on thermocouple connector it will display the actual temperature and automatically calculate the superheat or subcool temperature. When the vacuum sensor cable is attached to the manifold it will display deep vacuum. To insure lasting performance and durability the manifold case is constructed of ABS material and protected by a rugged rubber boot. The technician now has a fully functional manifold with the intelligence to quickly access and deliver the accurate information needed to do the job right!

#### REFRIGERANTS INCLUDED:

R12, R22, R23, R32, R113, R114, R115, R116, R123, R124, R134, R134A, R141B, R142B, R143, R143A, R152A, R290, R401A, R401B, R404A, R407A, R407B, R407C, R407D, R407F, R409A, R410A, R410B, R411A, R411B, R412A, R413A, R414A, R414B, R417A, R422B, R422B, R422C, R422D, R427A, R434A, R437A, R438A, R449A, R449A, R452A, R455A, R501, R502, R503, R504, R507A, R508B, R509A, R600, R600A, R601, R601A, R744

#### SPECIFICATIONS:

- . Class 1.0 standard gauge reading
- Pressure Display: PSI, INHg, Bar, MPa, Kg/cm<sup>2</sup>
- Temperature Display: °F or °C
- · Deep Vacuum Display: Micron, mBar, KPa, Pa, Torr, mTorr, mmHg
- Sensing Resolution: 1 psi (.07 Bar, .007 MPa, .07 Kg/cm<sup>2</sup>)
- Sensing Accuracy: ±1 psi or 1% of reading (whichever is greater)
- Working Pressure: 0 to 750 psi (52 Bar, 5 MPa, 52 Kg/cm²) (does not display 0-5 psi)
- Proof Pressure: 1000 psi (70 Bar, 7 MPa, 70 Kg/cm<sup>2</sup>) (Tolerable pressure without internal damage)
- Refrigerant Temperature Range: -40 to 200°F (-40 to 93°C)
- Operating Temperature: 32 to 122°F (0 to 45°C)
- Temperature Accuracy: ±1°F (±0.5°C) between 32 to 160°F (0 to 71°C)
- Storage Temperature: 10 to 120°F (-12 to 49°C)
- . Connections: 1/4" M-Flare
- Power: 9V DC battery with optional AC/DC adapter
- Battery Life: 30-36 hours pressure and temperature mode only (continuous use)
   25-30 hours vacuum and back-light mode (continuous use)
- Auto-Off: 15 min. with disabling capability







#### **R134a DIGITAL MANIFOLD**



**Patent Pending** 

CHEVROLET REF.CAP.: 2.70 OIL.CAP.:11.00 cz

MANUFACTURER/MODEL/YEAR REFRIGERANT (LB/KG) & OIL CAPACITY (OZ/ML) DISPLAY



TEMPERATURE/PRESSURE DISPLAY



CALIBRATION CERTIFICATE AVAILABLE UPON REQUES

This manifold offers a large easy to read LCD that displays temperature, pressure and vacuum readings for R134a. The unit easily allows the technician to obtain refrigerant and oil capacity readings for automobile manufacturers. This unit also performs systems leak check at the conclusion of the evacuation process. To insure lasting performance and durability the manifold case is constructed of ABS material and protected by a rugged rubber boot. The technician now has a fully functional manifold with the intelligence to quickly access and deliver the accurate information needed to do the job right!

#### SPECIFICATIONS

· Refrigerant: R134a

Pressure & Vacuum

Display:

Low Side - PSI. Bar. MPa. Kg/cm<sup>2</sup> & IN-Hg

High Side - PSI, Bar, MPa, Kg/cm<sup>2</sup>

 Temperature Display: -40 to 200°F (-4 to 93°C) 250 mSec. · Response Time:

1/4" FL-M Connection:

• Operating Temperature: 32 to 122°F (0 to 45°C)

9V DC battery Power:

 Battery Life: 50-60 hours continuous use • Low Battery Indicator: Special ICON on LCD Auto-Off-15 min. with disabling capability

#### MANUFACTURERS INCLUDE:

| Acura     | Hummer     | Mercury       | Saab       |
|-----------|------------|---------------|------------|
| Audi      | Hyundai    | Mini          | Saturn     |
| BMW       | Infiniti   | Mitsubishi    | Scion      |
| Buick     | Isuzu      | Mercedes Benz | Smart      |
| Cadillac  | Jaguar     | Nissan        | Subaru     |
| Chevrolet | Jeep       | Oldsmobile    | Suzuki     |
| Chrysler  | Kia        | Peugeot       | Toyota     |
| Dodge     | Lancia     | Plymouth      | Volkswagen |
| Fiat      | Land Rover | Pontiac       | Volvo      |
| Ford      | Lexus      | Porsche       |            |
| GMC       | Lincoln    | Renault       |            |
| Honda     | Mazda      | Rover         |            |

99134-1/4-A Manifold only with 1/4 FL-M (7/16"-20 UNF) connection

99860-1/4-A Complete Kit in a blow molded case includes: manifold with a set of 3-150 cm hoses and a set of manual couplers (82834-E & 82934-E).

99872-1/4-A Complete Kit in a blow molded case includes: manifold with a set of 3-180 cm hoses and a set of manual couplers (82834-E & 82934-E).

\* Manifolds assembled with teflon gasket Hoses, add a -T

\* Capable of software upgrade



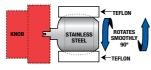
# W. Company

#### 3/8" BORE 4-WAY BALL VALVE MANIFOLD



# COMPARE Traditional 1/4" Bore Mastercool's 3/8" Bore (Side Cut-Away View) Competitor's Manifold Block wil'4" bore Mastercool's Manifold Block wil'3/8" Mastercool's Manifold Block wil'3/8"

# Mastercool's Aluminum 4-Way Manifolds feature PREMIER SERIES BALL VALVE DESIGN.



#### CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

Mastercool is the leading manufacturer of professional quality A/C manifold gauge sets. Our manifold gauge sets are constructed of the finest materials and machined with precision to the highest quality standards. At Mastercool, every manifold we build is built to last.

#### All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.

- Full 3/8" bore through the block increases flow considerably, faster charging & recovery
- Ball valve rotates 90° between two teflon washers requiring little effort to turn, even under pressure
- . Opens and closes quickly with only a quarter turn
- Knob position shows whether valves are open or closed (Vertical = OPEN, Horizontal = CLOSED)

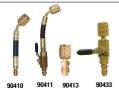
All fittings 1/4" SAE, tee with branch 3/8"

Assemblies packed in custom molded plastic carrying case, p/n 86772-PB.

| Gauge class – diameter  | 1.6 - 80 mm                  |   |                       |   |
|---|------------------------------|---|-----------------------|---|
| Units   | Bar/PSI/°C                   | Bar/°C                                  | Bar/PSI/°C            | Bar/°C                                  |
| Refrigerant scales  | R134a<br>R22<br>R12<br>R404A | R134a<br>R404A<br>R407C<br>R22<br>R507A | R410A<br>R407C<br>R22 | R22<br>R422A<br>R427A<br>R422D<br>R417A |
| Gauge p/n (HP/LP)   | MRBH<br>MRBL                 | MBH<br>MBL                              | EBH<br>EBL            | EBRL<br>EBRH                            |
| Manifold body only  | 95102                        | 95102                                   | 95102                 | 95102                                   |
| Manifold with gauges only   | 96203-MRB                    | 96203-MB                                | 96203-EB              | 96203-EBR                               |
| Manifold (as above) with 3 -<br>150 cm ball valve hoses (p/n<br>49262-60) + 1 - 150 cm black<br>3/8" hose (p/n 94160) | 96261-MRB                    | 96261-MB                                | 96261-EB              | 96261-EBR                               |
| Manifold (as above) with 3 -<br>180 cm ball valve hoses (p/n<br>49262-72) + 1 - 180 cm black<br>3/8" hose (p/n 94172) | 96272-MRB                    | 96272-MB                                | 96272-EB              | 96272-EBR                               |

<sup>\*</sup> Manifolds assembled with teflon gasket hoses, add a -T

#### **OPTIONAL 1/4 X 5/16" ADAPTERS**



- -410 to include 2 pieces of 90410 flex adapters to convert 1/4 SAE hose into 5/16 SAE
- -411 to include 2 pieces of 90411 flex adapters with ball valve to convert 1/4 SAE hose into 5/16 SAE
- -413 to include 2 pieces of 90413 straight adapter fittings to convert 1/4 to 5/16 SAE
- -433 to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE



<sup>\*</sup> Manifolds assembled with ball valves at the end of hoses, add a -E

#### 4-WAY BALL VALVE MANIFOLD FOR AUTOMOTIVE A/C





#### **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

Mastercool is the leading manufacturer of professional quality A/C manifold gauge sets. Our manifold gauge sets are constructed of the finest materials and machined with precision to the highest quality standards. At Mastercool, every manifold we build is built to last.

- Full 3/8" bore through the block increases flow considerably, faster charging & recovery
- Ball valve rotates 90° between two teflon washers requiring little effort to turn, even under pressure
- . Opens and closes quickly with only a quarter turn
- Knob position shows whether valves are open or closed (Vertical = OPEN, Horizontal = CLOSED)

All fittings 1/4" SAE, blind connections for automotive quick couplers.
Assemblies packed in custom molded carrying case, inclusive quick couplers (p/n 82834-E and 82934-E)

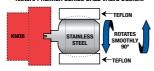
| (p/II 82834-E and 82934-E)  |   |                              |
|---|---|------------------------------|
| Gauge class – diameter 1.6 - 80 m   |   | 80 mm                        |
| Units   | Bar/°C                                  | Bar/PSI/°C                   |
| Refrigerant scales  | R134a<br>R404A<br>R407C<br>R507A<br>R22 | R134a<br>R22<br>R12<br>R404A |
| Gauge p/n (HP/LP)   | MBH - MBL                               | MRBH - MRBL                  |
| Manifold body only, 1/4"  | 86102-1/4                               | 86102-1/4                    |
| Manifold with gauges only   | 86103-MB                                | 86103-MRB                    |
| Manifold (as above) with (3) 180 cm 1/4" hoses (p/n<br>40372) + (1) 180 cm black 1/4" hose (p/n 47724) - No<br>quick couplers     | 86572-MB                                | 86572-MRB                    |
| Manifold (as above) with (3) 180 cm 1/4" hoses (p/n<br>40372) + (1) 180 cm black 1/4" hose (p/n 47724) -<br>Manual quick couplers | 86972-MB                                | 86972-MRB                    |
| Manifold (as above) with (3) 250 cm 1/4" hoses (p/n<br>40396) + (1) 250 cm black 1/4" hose (p/n 47964) - No<br>quick couplers     | 86596-MB                                | 86596-MRB                    |
| Manifold (as above) with (3) 250 cm 1/4" hoses (p/n<br>40396) + (1) 250 cm black 1/4" hose (p/n 47964) -<br>Manual quick couplers | 86996-MB                                | 86996-MRB                    |
|   |   |                              |

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E

86972-MRB

# Traditional 1/4" Bore Mastercool's 3/8" Bore (Side Cut-Away View) Competitor's Manifold Block w/1/4" bore Mastercool's Manifold Block w/3/8" bore all the way through the block

# Mastercool's Aluminum 4-Way Manifolds feature PREMIER SERIES BALL VALVE DESIGN.



#### **OPTIONAL 1/4 X 5/16" ADAPTERS**



- -410 to include 2 pieces of 90410 flex adapters to convert 1/4 SAE hose into 5/16 SAE
- -411 to include 2 pieces of 90411 flex adapters with ball valve to convert 1/4 SAE hose into 5/16 SAE
- -413 to include 2 pieces of 90413 straight adapter fittings to convert 1/4 to 5/16 SAE
- -433 to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE



#### 2-WAY SIGHT GLASS MANIFOLD - BALL VALVES

ol's 3/8" Bore

(Side Cut-Away View)
Mastercool's Manifold Block w/3/8"
bore all the way through the block





#### **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

- Full 3/8" bore all the way through the block increases flow considerably faster charging and time savings
- Ball valve rotates 90° between two teflon washers requiring little effort to turn, even under pressure
- . Opens and closes quickly with only a quarter turn
- . Knob position shows whether valves are open or closed
- Includes nylon barrier GY5 hoses with manual ball valves
- Assemblies packed in plastic carrying case. Plastic carrying case, p/n 58102-PBR

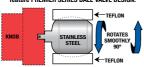
#### 1.6 GAUGE CLASS - 63 MM DIAMETER

| Units  | Bar/PSI/°C                 | Bar/PSI/°C                | Bar/°C                                |
|--|----------------------------|---------------------------|---------------------------------------|
| Refrigerant scales   | R410A, R507,<br>R404A, R22 | R134a, R22,<br>R12, R404A | R134a, R404A,<br>R407C, R22,<br>R507A |
| Gauge p/n (HP/LP)  | EH-EL                      | MRH-MRL                   | MH-ML                                 |
| Hoses 1/4" SAE   | nylon bar                  | rier with in-lin          | e ball valve                          |
| Manifold with gauges 2 x 1/4" fittings + central tee 1/4" SAE with branch 3/8"   | 58103-E                    | 58103-MR                  | 58103-M                               |
| Manifold with 3-90 cm ball valve hoses   | 57236-E                    | 57236-MR                  | 57236-M                               |
| Manifold with 3-150 cm ball valve hoses  | 57261-E                    | 57261-MR                  | 57261-M                               |
| Manifold with 3-180 cm ball valve hoses  | 57272-E                    | 57272-MR                  | 57272-M                               |
| R410A Manifold with 3-150 cm nylon barrier<br>with in-line ball valve - red and blue 1/4" x<br>5/16", yellow 1/4" x 1/4" hoses | 57261-E-JT                 | -                         | -                                     |

#### Mastercool's Aluminum 2-Way Manifolds feature PREMIER SERIES BALL VALVE DESIGN.

Traditional 1/4" Bore

(Side Cut-Away View)





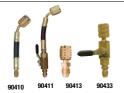
Optional 90° 3/8" swivel ball valve **90530** for 3/8" vacuum, makes 2-valve into 3-valve full control 4-way manifold

#### 1 6 CALICE CLASS - 80 MM DIAMETED

| 1.6 GAUC  | iE CLASS - 80 I       | NINI DIAMETEK                |  |   |
|---|-----------------------|------------------------------|--|---|
| Units   | Bar/PSI/°C            | Bar/PSI/°C                   | Bar/°C                                 | Bar/°C                                  |
| Refrigerant scales  | R410A<br>R407C<br>R22 | R134a<br>R22<br>R12<br>R404A | R134<br>R404A<br>R407C<br>R22<br>R507A | R22<br>R422A<br>R427A<br>R422D<br>R417A |
| Gauge p/n (HP/LP)   | EBH-EBL               | MRBH-MRBL                    | MBH-MBL                                | EBRL-EBRH                               |
| Hoses 1/4" SAE  | nylo                  | n barrier with ir            | n-line ball val                        | ve                                      |
| Manifold with gauges 2 x 1/4" fittings + central tee 1/4" SAE with branch 3/8"  | 58103-EB              | 58103-MRB                    | 58103-MB                               | 58103-EBR                               |
| Manifold with 3-90 cm ball valve hoses  | 57236-EB              | 57236-MRB                    | 57236-MB                               | 57236-EBR                               |
| Manifold with 3-150 cm ball valve hoses   | 57261-EB              | 57261-MRB                    | 57261-MB                               | 57261-EBR                               |
| Manifold with 3-180 cm ball valve hoses   | 57272-EB              | 57272-MRB                    | 57272-MB                               | 57272-EBR                               |
| R410A Manifold with 3-150 cm<br>nylon barrier with in-line ball<br>valve - red and blue 1/4" x 5/16",<br>yellow 1/4" x 1/4" hoses | 57261-EB-JT           | -                            | -                                      | -                                       |

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E

#### **OPTIONAL 1/4 X 5/16" ADAPTERS**



- **-410** to include **2 pieces of 90410** flex adapters to convert 1/4 SAE hose into 5/16 SAE
- -411 to include 2 pieces of 90411 flex adapters with ball valve to convert 1/4 SAE hose into 5/16 SAE
- -413 to include 2 pieces of 90413 straight adapter fittings to convert 1/4 to 5/16 SAE
- -433 to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE





#### 2-WAY ALUMINUM MANIFOLD - PISTON VALVES



93636-MR



Mastercool's 2-Way Manifolds feature FREE FLOATING PISTON VALVE DESIGN.

#### **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

#### All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.

- Our free floating piston valve results in less wear and tear in comparison to market standard twisting piston valves
- · Double o-ring allows for a much better seal resulting in less leaks

## 1.6 GAUGE CLASS - 63 MM DIAMETER

| Units  | Bar/PSI/°C                     | Bar/PSI/°C                | Bar/°C                                |
|--|--------------------------------|---------------------------|---------------------------------------|
| Refrigerant scales   | R410A,<br>R507A,<br>R404A, R22 | R134a, R22,<br>R12, R404A | R134a, R404A,<br>R407C, R22,<br>R507A |
| Gauge p/n (HP/LP)  | EH-EL                          | MRH-MRL                   | MH-ML                                 |
| Hoses 1/4" SAE   |                                | standard                  |                                       |
| Manifold with gauges, fittings + central tee 1/4" SAE  | 93103-E                        | 93103-MR                  | 93103-M                               |
| Manifold with 3-90 cm hoses  | 93636-E                        | 93636-MR                  | 93636-M                               |
| Manifold with 3-150 cm hoses   | 93661-E                        | 93661-MR                  | 93661-M                               |
| Manifold with 3-150 cm ball valve hoses  | 92661-E                        | 92661-MR                  | 92661-M                               |
| Manifold with 3-180 cm hoses   | 93772-E                        | 93772-MR                  | 93772-M                               |
| R410 Manifold with 3-150 cm standard<br>with in-line ball valve - red and blue 1/4"<br>x 5/16", yellow 1/4" x 1/4" hoses | 92661-E-JT                     | -                         | -                                     |

#### 1.6 GAUGE CLASS - 80 MM DIAMETER

| 1.0 GAUGE CLASS - OU WIN DIAMETER   |                       |                              |   |   |  |  |  |
|---|-----------------------|------------------------------|---|---|--|--|--|
| Units   | Bar/PSI/°C            | Bar/PSI/°C                   | Bar/°C                                  | Bar/°C                                  |  |  |  |
| Refrigerant scales  | R410A<br>R407C<br>R22 | R134a<br>R22<br>R12<br>R404A | R134a<br>R404A<br>R407C<br>R22<br>R507A | R22<br>R422A<br>R427A<br>R422D<br>R417A |  |  |  |
| Gauge p/n (HP/LP)   | EBH-EBL               | MRBH-MRBL                    | MBH-MBL                                 | EBRL-EBRH                               |  |  |  |
| Hoses 1/4" SAE  |                       | standa                       | ard                                     |   |  |  |  |
| Manifold with gauges, fittings + central tee 1/4" SAE   | 93103-EB              | 93103-MRB                    | 93103-MB                                | 93103-EBR                               |  |  |  |
| Manifold with 3-90 cm hoses   | 93636-EB              | 93636-MRB                    | 93636-MB                                | 93636-EBR                               |  |  |  |
| Manifold with 3-150 cm hoses  | 93661-EB              | 93661-MRB                    | 93661-MB                                | 93661-EBR                               |  |  |  |
| Manifold with 3-150 cm ball valve hoses   | 92661-EB              | 92661-MRB                    | 92661-MB                                | 92661-EBR                               |  |  |  |
| Manifold with 3-180 cm hoses  | 93772-EB              | 93772-MRB                    | 93772-MB                                | 93772-EBR                               |  |  |  |
| R410 Manifold with 3-150 cm<br>standard with in-line ball valve<br>- red and blue 1/4" x 5/16",<br>yellow 1/4" x 1/4" hoses | 92661-EB-JT           | -                            | -                                       | -                                       |  |  |  |

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E
- \* For packaging please see page 19

#### **OPTIONAL 1/4 X 5/16" ADAPTERS**

For all manifolds ending in -E and -EB add the suffix



-410 to include 2 pieces of 90410 flex adapters to convert 1/4 SAE hose into 5/16 SAE

-411 to include 2 pieces of 90411 flex adapters with ball valve to convert 1/4 SAE hose into 5/16 SAE

-413 to include 2 pieces of 90413 straight adapter fittings to convert 1/4 to 5/16 SAE

-433 to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE



#### 2-WAY BRASS MANIFOLD - PISTON VALVES

Mastercool's 2-Way Manifolds feature FREE FLOATING PISTON VALVE DESIGN.





**CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST** 

## All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.

- Our free floating piston valve results in less wear and tear in comparison to market standard twisting piston valves
- . Double o-ring allows for a much better seal resulting in less leaks

#### 1.6 GAUGE CLASS - 63 MM DIAMETER

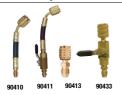
| <b>Unit</b>   | Bar/PSI/°C                  | Bar/PSI/°C                | Bar/°C                                |
|---|-----------------------------|---------------------------|---------------------------------------|
| Refrigerant scales  | R410A, R507A,<br>R404A, R22 | R134a, R22,<br>R12, R404A | R134a, R404A,<br>R407C, R22,<br>R507A |
| Gauge p/n (HP/LP)   | EH-EL                       | MRH-MRL                   | MH-ML                                 |
| Hoses 1/4" SAE  |                             | standard                  |                                       |
| Manifold with gauges, 3 x 1/4" SAE fittings   | 33103-E                     | 33103-MR                  | 33103-M                               |
| Manifold with 3 – 90 cm hoses   | 33636-E                     | 33636-MR                  | 33636-M                               |
| Manifold with 3 - 150 cm hoses  | 33661-E                     | 33661-MR                  | 33661-M                               |
| Manifold with 3 - 150 cm ball valve hoses   | 32661-E                     | 32661-MR                  | 32661-M                               |
| Manifold with 3 - 180 cm hoses  | 33772-Е                     | 33772-MR                  | 33772-M                               |
| R410 Manifold with 3-150 cm<br>standard with in-line ball valve - red<br>and blue 1/4" x 5/16", yellow 1/4" x<br>1/4" hoses | 33661-E-JT                  | -                         | -                                     |

## 1.6 GAUGE CLASS - 80 MM DIAMETER

| 1.0 GAUGE CLASS - 60 MINI DIAMETER  |                       |                              |                                      |   |  |  |  |
|---|-----------------------|------------------------------|--------------------------------------|---|--|--|--|
| Unit  | Bar/PSI/°C            | Bar/PSI/°C                   | Bar/°C                               | Bar/°C                                  |  |  |  |
| Refrigerant scales  | R410A<br>R407C<br>R22 | R134a<br>R22<br>R12<br>R404A | R134a<br>R404A<br>R407C<br>R22-R507A | R22<br>R422A<br>R427A<br>R422D<br>R417A |  |  |  |
| Gauge p/n (HP/LP)   | EBH-EBL               | MRBH-MRBL                    | MBH-MBL                              | EBRL-EBRH                               |  |  |  |
| Hoses 1/4" SAE  |                       | standa                       | rd                                   |   |  |  |  |
| Manifold with gauges, 3 x 1/4" SAE fittings   | 33103-EB              | 33103-MRB                    | 33103-MB                             | 33103-EBR                               |  |  |  |
| Manifold with 3 - 90 cm hoses   | 33636-EB              | 33636-MRB                    | 33636-MB                             | 33636-EBR                               |  |  |  |
| Manifold with 3 - 150 cm hoses  | 33661-EB              | 33661-MRB                    | 33661-MB                             | 33661-EBR                               |  |  |  |
| Manifold with 3 – 150 cm ball valve hoses   | 32661-EB              | 32661-MRB                    | 32661-MB                             | 32661-EBR                               |  |  |  |
| Manifold with 3 - 180 cm hoses  | 33772-EB              | 33772-MRB                    | 33772-MB                             | 33772-EBR                               |  |  |  |
| R410 Manifold with 3-150 cm<br>standard with in-line ball valve<br>- red and blue 1/4" x 5/16",<br>yellow 1/4" x 1/4" hoses | 32661-EB-JT           | -                            | -                                    | -                                       |  |  |  |

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E
- \* For packaging please see page 19

#### **OPTIONAL 1/4 X 5/16" ADAPTERS**



- -410 to include 2 pieces of 90410 flex adapters to convert 1/4 SAE hose into 5/16 SAE
- -411 to include 2 pieces of 90411 flex adapters with ball valve to convert 1/4 SAE hose into 5/16 SAE
- -413 to include 2 pieces of 90413 straight adapter fittings to convert 1/4 to 5/16 SAE
- -433 to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE



#### 2-WAY PISTON VALVE MANIFOLD FOR AUTOMOTIVE A/C - R134a



#### CALIBRATION CERTIFICATE AVAILABLE LIPON REQUEST

- · Free floating piston valve results in less wear and tear in comparison to market standard twisting piston valves
- . Double o-ring allows for a much better seal resulting in less leaks
- · Solid extruded aluminum body
- · Extra access port for vacuum line
- · Silicone dampened gauges smooth out needle movement
- . Gauges can be easily re-calibrated in the field to maintain accuracy
- Extra large sight glass for visual refrigerant check
- Large easy-to-grip knobs

| Gauge class – diameter   | 1.6 - 63 mm                              | 1.6 - 80 mm                              |                                 |
|--|--|--|---------------------------------|
| Units  | Bar/°C                                   | Bar/°C                                   | Bar/PSI/°C                      |
| Refrigerant scales   | R134a,<br>R404A,<br>R407C, R22,<br>R507A | R134a,<br>R404A,<br>R407C, R22,<br>R507A | R134a,<br>R22,<br>R12,<br>R404A |
| Gauge p/n (HP/LP)  | MH-ML                                    | MBH-MBL                                  | MRBH-MRBL                       |
| Manifold body only (1/4" SAE)  | 85102-1/4                                | 85102-1/4                                | 85102-1/4                       |
| Manifold with gauges only (1/4" SAE)   | 85103-M                                  | 85103-MB                                 | 85103-MRB                       |
| Manifold (as above) with 3 - 180 cm<br>hoses, 1/4" SAE (p/n 40372) w/quick<br>couplers (p/n 82834-E & 82934-E) | 89772-M                                  | 89772-MB                                 | 89772-MRB                       |
| Manifold (as above) with 3 - 250 cm<br>hoses, 1/4" SAE (p/n 40396) w/quick<br>couplers (p/n 82834-E & 82934-E) | 89996-M                                  | 89996-MB                                 | 89996-MRB                       |





#### 2-WAY PISTON VALVE MANIFOLD FOR AUTOMOTIVE A/C - R1234yf



- . Easy to read temperature scales on gauge face
- · Easy to recalibrate gauges to insure accuracy
- · Extra large sight glass for visual checks of refrigerant
- · Easy grip front-facing knobs
- · Piston type free-floating valves reduce o-ring wear
- Manifold block assembled with (3) 12 mm-F fittings per SAE J2888
- Red & Blue nylon barrier hoses with 12 mm-M fittings on both sides meets SAE J2888, EPA, SAE & UL standards
- Yellow hose 12 mm fitting on one side and 1/2 x 16 ACME LH on the other meets
- . R1234yf high and low side couplers with extended disconnect protection sleeve meets SAE J639 & J2888

| Gauge class – diameter   | 1.6 - 80 mm |
|--|-------------|
| Unit   | Bar/PSI     |
| Refrigerant scales   | R1234yf     |
| Gauge p/n (HP/LP)  | 87500-87350 |
| Manifold with gauges, 3 x 12 mm-F fittings                                   | 83102       |
| Manifold with 3 – 180 cm hoses and R1234yf couplers packaged in a clam shell | 83272       |

#### **VACUUM PUMP ADAPTER FITTING** 83634-M



1/4 FL-F x 1/2 ACME LH male vacuum pump adapter fitting for R1234yf systems







#### 2-WAY ALUMINUM MANIFOLD - PISTON VALVES - CLASS 1.0 GAUGES





- All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.
- · Our free floating piston valve results in less wear and tear in comparison to market standard twisting piston valves
- . Double o-ring allows for a much better seal resulting in less leaks



93661-MRB1

93661-EB1

# 1.0 GAUGE CLASS - 80 MM DIAMETER

| Units   | Bar/PSI/°C                | Bar/PSI/°C                  | Bar/PSI/°C                               |
|---|---------------------------|-----------------------------|--|
| Refrigerant scales  | R22, R407C,<br>R32, R410A | R22, R404A,<br>R407F, R134a | >>NEW<<<br>R455A, R448A,<br>R449A, R452A |
| Gauge p/n (HP/LP)   | EBH1-EBL1                 | MRBH1-MRBL1                 | MNBH1-MNBL1                              |
| Hoses 1/4" SAE  |                           | standard                    |  |
| Manifold with gauges, fittings + central tee 1/4" SAE   | 93103-EB1                 | 93103-MRB1                  | 93103-MNB1                               |
| Manifold with 3-90 cm hoses   | 93636-EB1                 | 93636-MRB1                  | 93636-MNB1                               |
| Manifold with 3-150 cm hoses  | 93661-EB1                 | 93661-MRB1                  | 93661-MNB1                               |
| Manifold with 3-150 cm ball<br>valve hoses  | 92661-EB1                 | 92661-MRB1                  | 92661-MNB1                               |
| Manifold with 3-180 cm hoses  | 93772-EB1                 | 93772-MRB1                  | 93772-MNB1                               |
| R410 Manifold with 3-150 cm<br>standard with in-line ball valve<br>- red and blue 1/4" x 5/16",<br>yellow 1/4" x 1/4" hoses | 92661-EB1-JT              | -                           | -  |

- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E
- \* For packaging please see below

#### **OPTIONAL 1/4 X 5/16" ADAPTERS**

For all manifolds ending in -E and -EB add the suffix



- -410 to include 2 pieces of 90410 flex adapters to convert 1/4 SAE hose into 5/16 SAE
- -411 to include 2 pieces of 90411 flex adapters with ball valve to convert 1/4 SAE hose into 5/16 SAE
- -413 to include 2 pieces of 90413 straight adapter fittings to convert 1/4 to 5/16 SAE
- -433 to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE

#### \*Packaging Note









- · All piston valve 2-way manifold gauge sets are packaged in a clamshell
- · European standard packaging cardboard box
- For plastic carrying case, please order Part# 58102-PBR





#### 2-WAY ALUMINUM MANIFOLD - PISTON VALVES - ISOBUTANE GAUGES



#### **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

#### All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.

#### 1.6 GAUGE CLASS - 80 MM DIAMETER

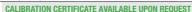
| Units   | Bar/PSI/°C            |
|---|-----------------------|
| Refrigerant scales                                    | R1270, R290,<br>R600a |
| Gauge p/n (HP/LP)                                     | RBH-RBL               |
| Hoses 1/4" SAE  | standard              |
| Manifold with gauges, fittings + central tee 1/4" SAE | 93103-RB              |
| Manifold with 3-90 cm hoses                           | 93636-RB              |
| Manifold with 3-150 cm hoses                          | 93661-RB              |
| Manifold with 3-150 cm ball valve hoses               | 92661-RB              |
| Manifold with 3-180 cm hoses                          | 93772-RB              |

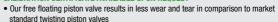
- \* Manifolds assembled with teflon gasket hoses, add a -T
- \* Manifolds assembled with ball valves at the end of hoses, add a -E
- \* For packaging please see page 19

## NVLe SYNS



#### 2-WAY PISTON VALVE MANIFOLD FOR CO2 (R744)





- . Double o-ring allows for a much better seal resulting in less leaks
- . Oil filled, class 1.0, 70 mm gauges
- Low side gauge max pressure of 10 MPA (1400 PSI), high side gauge max pressure of 16 MPA (2400 PSI)
- . E-Z to read temperature scales on gauge face
- · Solid extruded aluminum body
- · Large easy-to-grip-knobs
- 1/4" SAE
- Steel braided hoses for CO2 with 200 bar working pressure and 800 bar burst
- · Assemblies packed in plastic carrying case
- Plastic carrying case, p/n 58102-PBR

| ,            |                          |
|--|--------------------------|
| Gauge class – diameter                             | 1.0 - 70 mm              |
| Units  | PSI/MPa                  |
| Refrigerant scales                                 | R744                     |
| Gauge p/n (HP/LP)                                  | 55102-2400<br>55102-1400 |
| Manifold body with hook and hose holder (1/4" SAE) | 55102                    |
| Manifold with oil filled gauges only (1/4" SAE)    | 55103                    |
| Manifold (as above) with 3 - 150 cm braided hoses  | 55661                    |







## 1/4" SINGLE VALVE MANIFOLD - BALL VALVE



CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST (packaged in a clamshell)

| Single Valve<br>Manifold | Gauge Class<br>Diameter | Unit       | Refrigerant Scales              | Gauge p/n<br>(HP/LP) |
|--------------------------|-------------------------|------------|---------------------------------|----------------------|
| 92103-EL                 |                         | Bar/PSI/°C | R410A-R507A-<br>R404A-R22       | EL                   |
| 92103-MRL                | 1.6<br>63 mm            | Bar/PSI/°C | R134a-R22-<br>R12-R404A         | MRL                  |
| 92103-ML                 |                         | Bar/°C     | R134a-R404A-<br>R407C-R22-R507A | ML                   |
| 92103-EBL                |                         | Bar/PSI/°C | R410A-R407C-<br>R22             | EBL                  |
| 92103-MRBL               |                         | Bar/PSI/°C | R134a-R22-<br>R12-R404A         | MRBL                 |
| 92103-MBL                | 1.6<br>80 mm            | Bar/°C     | R134a-R404A-<br>R407C-R22-R507A | MBL                  |
| 92103-EBRL               |                         | Bar/°C     | R22-R422A-<br>R427A-R422D-R417A | EBRL                 |
| 92103-RB                 |                         | Bar/PSI/°C | R1270-R290-R600a                | RBL                  |
| 92103-MRB1               | 1.0                     | Bar/PSI/°C | R22-R404A-R407F-<br>R134a       | MRBL1                |
| 92103-EB1                | 80 mm                   | Bar/PSI/°C | R22-R407C-R32-<br>R410A         | EBL1                 |

<sup>\*</sup> Manifolds assembled with gauge guards, add a -G



#### 5/16" SINGLE VALVE MANIFOLD - BALL VALVE



# CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST (packaged in a clamshell)

| Single Valve<br>Manifold | Gauge Class<br>Diameter | Unit       | Refrigerant Scales              | Gauge p/n<br>(HP/LP) |
|--------------------------|-------------------------|------------|---------------------------------|----------------------|
| 92103-EL-5/16            |                         | Bar/PSI/°C | R410A-R507A-<br>R404A-R22       | EL                   |
| 92103-MRL-5/16           | 1.6<br>63 mm            | Bar/PSI/°C | R134a-R22-<br>R12-R404A         | MRL                  |
| 92103-ML-5/16            |                         | Bar/°C     | R134a-R404A-<br>R407C-R22-R507A | ML                   |
| 92103-EBL-5/16           |                         | Bar/PSI/°C | R410A-R407C-<br>R22             | EBL                  |
| 92103-MRBL-5/16          |                         | Bar/PSI/°C | R134a-R22-<br>R12-R404A         | MRBL                 |
| 92103-MBL-5/16           | 1.6<br>80 mm            | Bar/°C     | R134a-R404A-<br>R407C-R22-R507A | MBL                  |
| 92103-EBRL-5/16          |                         | Bar/°C     | R22-R422A-<br>R427A-R422D-R417A | EBRL                 |
| 92103-RB-5/16            |                         | Bar/PSI/°C | R1270-R290-R600a                | RBL                  |
| 92103-MRB1-5/16          | 1.0                     | Bar/PSI/°C | R22-R404A-R407F-<br>R134a       | MRBL1                |
| 92103-EB1-5/16           | 80 mm                   | Bar/PSI/°C | R22-R407C-R32-<br>R410A         | EBL1                 |

<sup>\*</sup> Manifolds assembled with gauge guards, add a -G



#### **CLASS 1.6 REPLACEMENT GAUGES**

|  | High<br>pressure<br>p/n | Low<br>pressure<br>p/n | Gauge<br>Diameter | Units                          | Refrigerant Scales                      |
|--|-------------------------|------------------------|-------------------|--------------------------------|---|
|  | МН                      | ML                     | 63 mm             | Bar/°C                         | R134a<br>R404A<br>R407C<br>R22<br>R507A |
|  | MRH                     | MRL                    | 63 mm             | Bar/PSI/°C                     | R134a<br>R22<br>R404A<br>R12            |
|  | ЕН                      | EL                     | 63 mm             | Bar/PSI/°C                     | R410A<br>R404A<br>R507A<br>R22          |
|  | MRKH                    | MRKL                   | 63 mm             | PSI/kg/<br>cm <sup>2</sup> /°C | R12<br>R404A<br>R22<br>R134a            |
|  | МВН                     | MBL                    | 80 mm             | Bar/°C                         | R134a<br>R404A<br>R407C<br>R22<br>R507A |
|  | MRBH                    | MRBL                   | 80 mm             | Bar/PSI/°C                     | R134a<br>R22<br>R404A<br>R12            |
|  | ЕВН                     | EBL                    | 80 mm             | Bar/PSI/°C                     | R410A<br>R407C<br>R22                   |
|  | EBRH                    | EBRL                   | 80 mm             | Bar/°C                         | R22<br>R422A<br>R427A<br>R422D<br>R417A |



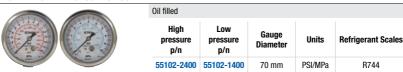
## **CLASS 1.6 REPLACEMENT GAUGES**

| High<br>pressure<br>p/n | Low<br>pressure<br>p/n | Gauge<br>Diameter | Units            | Refrigerant Scales     |
|-------------------------|------------------------|-------------------|------------------|------------------------|
| RBH                     | RBL                    | 80 mm             | Bar/PSI/°C       | R1270<br>R290<br>R600a |
| 87500                   | 87350                  | 80 mm             | Bar/<br>PSI/F/°C | R1234yf                |

## **CLASS 1.0 REPLACEMENT GAUGES**

| High<br>pressure<br>p/n | Low<br>pressure<br>p/n | Gauge<br>Diameter | Units              | Refrigerant Scales                          |
|-------------------------|------------------------|-------------------|--------------------|---|
| EBH1                    | EBL1                   | 80 mm             | Bar/PSI/°C         | R22<br>R407C<br>R32<br>R410A                |
| ЕВАН1                   | EBAL1                  | 80 mm             | Bar/kPA/<br>PSI/°C | >>NEW <<<br>R32<br>R410A                    |
| MRBH1                   | MRBL1                  | 80 mm             | Bar/kPA/<br>PSI/°C | R22<br>R404A<br>R407F<br>R134a              |
| MNBH1                   | MNBL1                  | 80 mm             | Bar/PSI/°C         | >>NEW<<<br>R455A<br>R448A<br>R449A<br>R452A |

## **CLASS 1.0 REPLACEMENT GAUGE FOR CO2**





#### **63 MM GAUGE PROTECTORS**



| 93253-E | 63 mm Blue Gauge Protector |
|---------|----------------------------|
| 93503-E | 63 mm Red Gauge Protector  |
| 93553-E | 63 mm Set (Red & Blue)     |

#### **80 MM GAUGE PROTECTORS**



| 91253-EE | 80 mm Red Gauge Protector  |
|----------|----------------------------|
| 91503-EE | 80 mm Blue Gauge Protector |
| 91553-EE | 80 mm Set (Red & Blue)     |

#### LENS



85253-E 63 mm (2 1/2") Lens 98251-E 80 mm (3 1/8") Lens

#### 4-WAY MANIFOLD REPLACEMENT KNOBS



| 61 K) F | CVA       | 3 |
|---------|-----------|---|
|         |           |   |
| 5821    | 3 / 58214 | 4 |

| 58211 | Blue Knob   |
|-------|-------------|
| 58212 | Red Knob    |
| 58213 | Yellow Knob |
| 58214 | Black Knob  |

#### 2-WAY MANIFOLD REPLACEMENT KNOBS

85212-R / 85211-R



| 85211   | Blue Knob  |
|---------|------------|
| 85212   | Red Knob   |
| 93211   | Black Knob |
| 85211-R | Blue Knob  |
| 85212-R | Red Knob   |
| 93211-R | Black Knob |

#### PARTS FOR PISTON MANIFOLDS

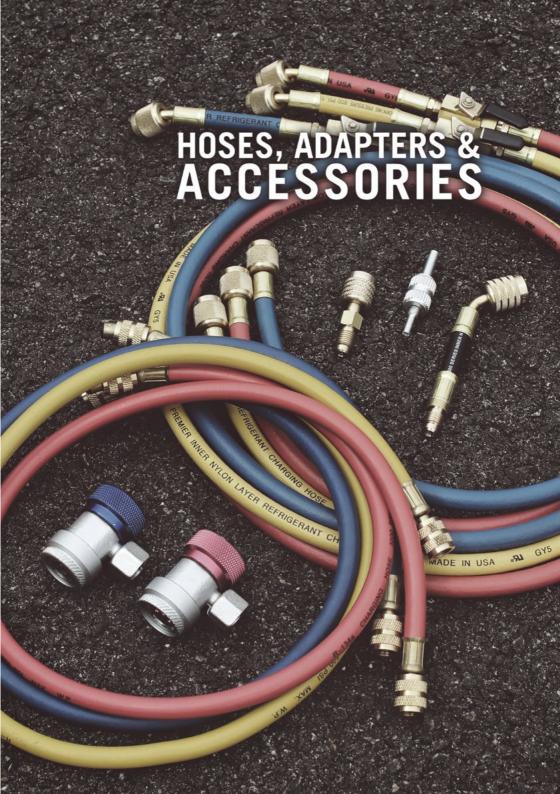
| 85215 | O-rings (4 pcs)              |
|-------|------------------------------|
| 85216 | Seal & Seat Assembly (2 pcs) |
| 85217 | Stem 0-ring (2 pcs)          |

#### PARTS FOR 2-3 AND 4 WAY BALL VALVE MANIFOLDS



95102-R-KIT O-ring Repair Kit for 2-3 and 4 Way Ball Valve Manifold





Mastercool uses only (GRADE 5 HOSE) with a selection of standard and nylon barrier for high pressure applications. Knurled brass nuts make finger tightening easy. Crimped with 8 segment dies for secure fit and maximum durability. Hoses are available in sets and a variety of lengths to meet all EPA, SAE and UL requirements for containment of refrigerant.

- Sets include one blue, one red and one yellow hose
- . Hoses assembled with teflon gaskets, add a -T to the p/n
- · For special length hoses, please inquire

#### STANDARD & HIGH PRESSURE HOSES W/STANDARD FITTINGS (1/4" SAE)

fitting)



| Stand   | ard Hoses  | , Working  | Pressure 4 | 41 BAR, Bu  | rst 210 BAR  |           |
|---|------------|------------|------------|-------------|--------------|-----------|
| HOSE LENGTH                                   | 90 cm      | 150 cm     | 180 cm     | 250 cm      | 3 m          | 5 m       |
| Blue 1/4" x 1/4"                              | 41361      | 41601      | 41721      | 41961       | 41961-120    | 41961-200 |
| Yellow 1/4" x 1/4"                            | 41362      | 41602      | 41722      | 41962       | 41962-120    | 41962-200 |
| Red 1/4" x 1/4"                               | 41363      | 41603      | 41723      | 41963       | 41963-120    | 41963-200 |
| SETS 1/4" x 1/4"                              | 40336      | 40360      | 40372      | 40396       | 40396-120    | 40396-200 |
| Nylon B                                       | arrier Hos | es, Workin | ng Pressur | e 56 BAR, I | Burst 280 BA | R         |
| Blue 1/4" x 1/4"                              | 47361      | 47601      | 47721      | 47961       | 47961-120    | 47961-200 |
| Yellow 1/4" x 1/4"                            | 47362      | 47602      | 47722      | 47962       | 47962-120    | 47962-200 |
| Red 1/4" x 1/4"                               | 47363      | 47603      | 47723      | 47963       | 47963-120    | 47963-200 |
| Black 1/4" x 1/4"                             | 47364      | 47604      | 47724      | 47964       | N/A          | N/A       |
| SETS 1/4" x 1/4"                              | 47336      | 47360      | 47372      | 47396       | 47396-120    | 47396-200 |
| Black 1/4" hose<br>w/(3/8" x 3/8"<br>fitting) | 48364      | 48604      | 48724      | 48964       | N/A          | N/A       |
| Black 3/8" hose w/(3/8" x 3/8"                | 94136      | 94160      | 94172      | N/A         | N/A          | N/A       |

#### **R410A HOSES**



| Nylon Barrier Hoses, Working Pressure 56 BAR, Burst 280 BAR |          |          |  |  |
|---|----------|----------|--|--|
| HOSE LENGTH   | 90 cm    | 150 cm   |  |  |
| Blue 5/16" SAE x 5/16" SAE                                  | 49361-J  | 49601-J  |  |  |
| Yellow 5/16" SAE x 5/16" SAE                                | 49362-J  | 49602-J  |  |  |
| Red 5/16" SAE x 5/16" SAE                                   | 49363-J  | 49603-J  |  |  |
| SETS 5/16" SAE x 5/16" SAE                                  | 49336-J  | 49360-J  |  |  |
| Blue 1/4" x 5/16"   | -        | 96411    |  |  |
| Red 1/4" x 5/16"  | -        | 96413    |  |  |
| SETS Blue/Red 1/4" x 5/16" and Yellow 1/4" x 1/4"           | 49336-JT | 49360-JT |  |  |

#### R134a HOSES WITH 1/2" ACME-F AND 14 MM-M AUTO A/C FITTINGS



| Nylon Barrier Hoses, Working Pressure 56 BAR, Burst 280 BAR                                     |       |        |        |        |  |  |
|---|-------|--------|--------|--------|--|--|
| HOSE LENGTH   | 90 cm | 150 cm | 180 cm | 240 cm |  |  |
| Blue-14 mm-M x 1/2" ACME-F  | 84361 | 84601  | 84721  | 84961  |  |  |
| Yellow w/Shut-off Valve 1/2" ACME-F x 1/2" ACME-F   | 84362 | 84602  | 84722  | 84962  |  |  |
| Red-14 mm-M x 1/2" ACME-F   | 84363 | 84603  | 84723  | 84963  |  |  |
| Black-1/2" ACME-F x 1/2" ACME-F   | 84364 | 84604  | 84724  | 84964  |  |  |
| Yellow w/o Shut-off Valve 1/2" ACME-F x 1/2" ACME-F   | 84365 | 84605  | 84725  | 84965  |  |  |
| SETS Blue/Red 14 mm-M x 1/2" ACME-F<br>and Yellow w/Shut-off Valve 1/2" ACME-F x<br>1/2" ACME-F | 84336 | 84360  | 84372  | 84396  |  |  |

Mastercool R134a charging hoses meet SAE J2196 specifications and are UL tested.



#### R1234yf HOSES (Meets J2888, EPA, SAE & UL Standards)



| Nylon Barrier Hoses, Working Pressure 56 BAR, Burst 280 BAR                |        |  |  |  |
|--|--------|--|--|--|
| HOSE LENGTH  | 180 cm |  |  |  |
| Blue-12 mm-M x 12 mm-M   | 83721  |  |  |  |
| Yellow-12 mm fitting x 1/2 x 16 ACME LH                                    | 83722  |  |  |  |
| Red-12 mm-M x 12 mm-M  | 83723  |  |  |  |
| SET Blue/Red 12 mm-M x 12 mm-M and Yellow 12 mm fitting x 1/2 x 16 ACME LH | 83372  |  |  |  |

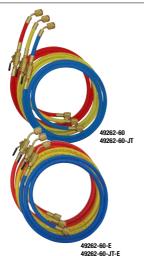
#### STANDARD & HIGH PRESSURE HOSES W/AUTOMATIC SHUT-OFF VALVE FITTINGS (1/4" SAE)



| Standard           | Hoses, Workir  | ng Pressure 41 I | BAR, Burst 210  | BAR    |
|--------------------|----------------|------------------|-----------------|--------|
| HOSE LENGTH        | 90 cm          | 150 cm           | 180 cm          | 250 cm |
| Blue 1/4" x 1/4"   | 45361          | 45601            | 45721           | 45961  |
| Yellow 1/4" x 1/4" | 45362          | 45602            | 45722           | 45962  |
| Red 1/4" x 1/4"    | 45363          | 45603            | 45723           | 45963  |
| Black 1/4" x 1/4"  | N/A            | N/A              | N/A             | N/A    |
| SETS 1/4" x 1/4"   | 45336          | 45360            | 45372           | 45396  |
| Nylon Barrio       | er Hoses, Worl | king Pressure 50 | 6 BAR, Burst 28 | O BAR  |
| Blue 1/4" x 1/4"   | 46361          | 46601            | 46721           | 46961  |
| Yellow 1/4" x 1/4" | 46362          | 46602            | 46722           | 46962  |
| Red 1/4" x 1/4"    | 46363          | 46603            | 46723           | 46963  |
| Black 1/4" x 1/4"  | 46364          | 46604            | 46724           | 46964  |
| SFTS 1/4" x 1/4"   | 46336          | 46360            | 46372           | 46396  |

Auto shut-off valves automatically retain refrigerant in the service hose when they are removed from the system, meets EPA, SAE and UL standards for containment of refrigerant.

#### STANDARD & HIGH PRESSURE HOSES W/MANUAL SHUT-OFF VALVE FITTINGS (1/4" SAE)



| Standard   | Hoses, Working Pre  | ssure 41 BAR, Burst | t 210 BAR   |
|--|---------------------|---------------------|-------------|
| HOSE LENGTH  | 90 cm               | 150 cm              | 180 cm      |
| Blue 1/4" x 1/4"                                   | 90263-36            | 90263-60            | 90263-72    |
| Yellow 1/4" x 1/4"                                 | 90264-36            | 90264-60            | 90264-72    |
| Red 1/4" x 1/4"                                    | 90265-36            | 90265-60            | 90265-72    |
| SETS 1/4" x 1/4"                                   | 90262-36            | 90262-60            | 90262-72    |
| Nylon Barri  | er Hoses, Working P | ressure 56 BAR, Bu  | rst 280 BAR |
| Blue 1/4" x 1/4"                                   | 49263-36            | 49263-60            | 49263-72    |
| Yellow 1/4" x 1/4"                                 | 49264-36            | 49264-60            | 49264-72    |
| Red 1/4" x 1/4"                                    | 49265-36            | 49265-60            | 49265-72    |
| SETS 1/4" x 1/4"                                   | 49262-36            | 49262-60            | 49262-72    |
| Black 3/8" Hose<br>with (3/8" x 3/8"<br>fitting)   | 94236               | 94260               | 94272       |
| Red 1/4 x 5/16"                                    | 49265-36-JT         | 49265-60-JT         | 49265-72-JT |
| Blue 1/4 x 5/16"                                   | 49263-36-JT         | 49263-60-JT         | 49263-72-JT |
| SETS Red/Blue<br>1/4 x 5/16",<br>Yellow 1/4 x 1/4" | 49262-36-JT         | 49262-60-JT         | 49262-72-JT |

Add a -E for ball valve at the end hoses



#### **STEEL BRAIDED HOSES FOR CO2**



| Steel Braided Hoses, Working Pressure 200 BAR, Burst 800 BAR |        |  |  |
|--|--------|--|--|
| HOSE LENGTH  | 150 cm |  |  |
| Steel braided hose for CO2                                   | 55601  |  |  |
| SET of 3 steel braided hoses for CO2                         | 55360  |  |  |

#### PRESSURE CONTROL HOSES



Replaces regular copper capillary tubing and eliminates capillary failure due to work hardening from vibration.

- 1/4" operates to 600 psi (42 bar) and 200°F (93°C)
- Operational temperature: -20° to 200°F (-29° to 93°C)

| Hex Style Fittings with 1/4" SAE Thread |                     |                |  |
|---|---------------------|----------------|--|
| HOSE LENGTH                             | STRAIGHT X STRAIGHT | STRAIGHT X 90° |  |
| 12"                                     | 47124-STR           | 47124-ST       |  |
| 18"                                     | 47184-STR           | 47184-ST       |  |
| 24"                                     | 47244-STR           | 47244-ST       |  |
| 36"                                     | 47364-STR           | 47364-ST       |  |
| 48"                                     | 47484-STR           | 47484-ST       |  |
| 60"                                     | 47604-STR           | 47604-ST       |  |

#### **AUTOMATIC SHUT-OFF VALVES**



Valve simply screws onto hose end. Available in straight and  $90^\circ$  models. Meets SAE, EPA and UL requirements for containment of refrigerant.

#### << QUICK DISCONNECT : NO LOSS OF REFRIGERANT >>

| 90333-R  | 90° 1/4 x 1/4"       | 90335-R | Straight 1/4 x 1/4"  |
|----------|----------------------|---------|----------------------|
| 90333-UV | 90° 1/4" FFL x 13 mm | 90337   | Straight 1/4 x 3/16" |

#### MANUAL SHUT-OFF BALL VALVES



For custom application, Mastercool offers swivel ball valves without the hoses. This valve may be used to add shut-off valves to recycling equipment, manifold sets, flushing equipment, etc.

| 90430 | 1/4 x 1/4" Swivel Ball Valve  |
|-------|-------------------------------|
| 90433 | 1/4 x 5/16" Swivel Ball Valve |

#### **CONTROL VALVE**





Ideal for use on charged systems. Eliminates refrigerant, oil or dye from spraying during connections.

90328 1/4" FFL x 1/4" MFL 90328-5/16 5/16" FFL x 5/16" MFL

#### **SERVICE HOSE REPLACEMENT PARTS**

|                | 1/4                    | " SAE                    | SAE 1/2" |           | 14 mm-M  | 3/8"     | UNF 1/2 - 20" |           |
|----------------|------------------------|--------------------------|----------|-----------|----------|----------|---------------|-----------|
|                | GASKET                 | DEPRESSOR                | GASKET   | DEPRESSOR | 0-RING   | GASKET   | GASKET        | DEPRESSOR |
| Charging Hoses | 42010-10               | 42014-10                 | 82010-10 | 42014-10  | 83341-10 | 48010-10 | 82010-10      | 42016-10  |
|                | 42010-T-10<br>(Teflon) | 42016-10<br>(Screw-Type) |          |           |          |          |               |           |
| Shut-Off Valve | 90336-10               | N/A                      | 90336-10 | N/A       | N/A      | N/A      | N/A           | N/A       |



#### **HEAVY DUTY RATCHET HOSE CUTTER** 80011



Ratcheted action makes this cutter extremely easy to operate resulting in quick, clean cuts. Cutting blade is made of special alloy, heat treated steel for long life. Cuts all rubber hoses and PVC pipe up to 1 1/2" (38 mm) 0.D. (Not recommended for PVC200)

80111 Replacement blade for 80011

#### 80013 **AUTOMOTIVE REFRIGERANT HOSE CUTTER**



Makes guick, clean cuts. Cuts rubber automotive refrigerant hoses up to 1 1/2" O.D.

80113 Replacement blade for 80013

#### **R12 SERVICE PORT THREAD REPAIR TOOL** 91390



Recuts stripped R12 service port threads. All-in-one design for 1/8", 3/16" and 1/4" service ports. An excellent retrofit tool - it will ensure that the R134a retrofit adapters will fit securely.

#### R134a OCTAGON SERVICE PORT SOCKETS



98134 R134a Low Side Octagon Socket 98234 R134a High Side Octagon Socket

#### 90925 **CONDENSER FIN COMB**



Cleans and straightens condenser and evaporator fins. Six sided head for 8, 9, 10, 12, 14 and 15 fins per inch applications.

#### **CAN TAP VALVES**





85510-E 85510-.1

1/4" SAE Can Tap Valve - Screw-On Model (European Standard) R134a Can Tap Valve - Screw-On Model (Japanese Standard)

M14-F x M10-FL-M

R1234yf 1/2" Acme-LH Thread Piercing Design Can Tap Valve





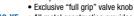
· Exclusive "full grip" valve knob 85510-YF

All metal construction provides durability

- · Gasket assures leak proof operation
- · Built-in safety check
- Meets SAE J2844

R1234yf 1/2" Acme-LH Thread Self-Sealing Design Can Tap Valve







- · Gasket assures leak proof operation
- . Built-in safety check
- Meets SAE J2844





#### **MANUAL COUPLERS**



82834 82934



82834-E 82934-E

Patented manual couplers adjust easily to R134a service ports with varying dimensions. All metal construction for extra durability. Patented, spring loaded depressor will not damage service valves. Can be removed from service ports regardless of knob position without losing refrigerant. Meets SAE, UL and EPA requirements for containment of refrigerant. Color coded. PATENT# 5,370,359

| 82834     | High-Side Manual R134a 14 mm-F x 16 mm Quick Coupler    |
|-----------|---|
| 82934     | Low-Side Manual R134a 14 mm-F x 13 mm Quick Coupler     |
| 82834-E   | High-Side Manual R134a 1/4" FL-M x 16 mm Quick Coupler  |
| 82934-E   | Low-Side Manual R134a 1/4" FL-M x 13 mm Quick Coupler   |
| 82834-3/8 | High-Side Manual R134a 3/8" FL-M x 16 mm Quick Coupler  |
| 82934-3/8 | Low-Side Manual R134a 3/8" FL-M x 13 mm Quick Coupler   |
| 82834-J   | High-Side Manual R134a M12 x 1.75 x 16 mm Quick Coupler |
| 82934-J   | Low-Side Manual R134a M10 x 1.5 x 13 mm Quick Coupler   |
| 80034     | 0-ring for 16 mm Quick Coupler (10 pcs)                 |
| 80134     | 0-ring for 13 mm Quick Coupler (10 pcs)                 |

#### **SAFETY-LOCK MANUAL COUPLERS**





82834-SL 82934-SL

Mastercool's new safety-lock manual couplers are designed for use on all R134a systems. This unique design allows the technician to work on the system without the worry of accidentally disconnecting the hose regardless of movement. Once the coupler is connected to the system, the safety-lock sleeve slides into place guaranteeing that the coupler cannot be taken off without unscrewing the manual valve. Meets all SAE, UL and EPA requirements for containment of refrigerant. Color coded.

| 82834-SL     | High Side Manual R134a Safety Lock Coupler 14 mm-F x 16 mm    |
|--------------|---|
| 82934-SL     | Low Side Manual R134a Safety Lock Coupler 14 mm-F x 13 mm     |
| 82834-SL-E   | High Side Manual R134a Safety Lock Coupler 1/4" FL-M x 16 mm  |
| 82934-SL-E   | Low Side Manual R134a Safety Lock Coupler 1/4" FL-M x 13 mm   |
| 82834-SL-3/8 | High Side Manual R134a Safety Lock Coupler 3/8" FL-M x 16 mm  |
| 82934-SL-3/8 | Low Side Manual R134a Safety Lock Coupler 3/8" FL-M x 13 mm   |
| 82834-SL-J   | High Side Manual R134a Safety Lock Coupler M12 x 1.75 x 16 mm |
| 82934-SL-J   | Low Side Manual R134a Safety Lock Coupler M10 x 1.5 x 13 mm   |
| 80034        | 0-ring for 16 mm Quick Coupler (10 pcs)                       |
| 80134        | 0-ring for 13 mm Quick Coupler (10 pcs)                       |

#### E-Z SNAP™ COUPLERS



82214 82224



82214-E 82224-E

This unique patented design easily snaps on and off the A/C systems service ports under any pressure. The E-Z Snap<sup>TM</sup> automatically adjusts to various service port dimensions allowing fast and immediate access into the A/C system. The swivel feature enables the user to easily access all service ports, even in the tightest quarters. Meets SAE, UL, and EPA requirements for containment of refrioerant. PATENT# 5.244.010

High Cide E 7 Cree B124e 14 mm E v 16 mm Quiek Coupler

| 82214     | High-Side E-2 Shap K134a 14 mm-F x 16 mm Quick Coupler    |
|-----------|---|
| 82224     | Low-Side E-Z Snap R134a 14 mm-F x 13 mm Quick Coupler     |
| 82214-E   | High-Side E-Z Snap R134a 1/4" FL-M x 16 mm Quick Coupler  |
| 82224-E   | Low-Side E-Z Snap R134a 1/4" FL-M x 13 mm Quick Coupler   |
| 82214-3/8 | High-Side E-Z Snap R134a 3/8" FL-M x 16 mm Quick Coupler  |
| 82224-3/8 | Low-Side E-Z Snap R134a 3/8" FL-M x 13 mm Quick Coupler   |
| 82214-J   | High-Side E-Z Snap R134a M12 x 1.75 x 16 mm Quick Coupler |
| 82224-J   | Low-Side E-Z Snap R134a M10 x 1.5 x 13 mm Quick Coupler   |
| 80034     | 0-ring for 16 mm Quick Coupler (10 pcs)                   |
| 80134     | O-ring for 13 mm Quick Coupler (10 pcs)                   |



#### **ECONOMY COUPLERS**

66434-R

Specially designed to work in the tightest quarters. Attaches to your existing 1/4" flare hoses and snaps easily to A/C service ports.

66434-R High Side R134a 1/4" FL-M x 16 mm Economy Coupler 66534-R Low Side R134a 1/4" FL-M x 13 mm Economy Coupler 60034-10 0-ring for 66434 (10 pcs) 60134-10 0-ring for 66534 (10 pcs)

#### R1234vf COUPLERS



Meets SAE J639 & J2888

67534

. Allows recovery of entire refrigerant, including the space between the coupler and fitting.



| 83834 | protection sleeve  | connect |
|-------|--|---------|
| 83934 | Low Side R1234yf 12 mm-F x 14 mm Coupler with extended disc<br>protection sleeve | onnect  |
| 67434 | High Side R1234yf 12 mm-F x 17 mm Quick Coupler                                  |         |

Low Side R1234yf 12 mm-F x 14 mm Quick Coupler

#### **R134a EXTRA LONG COUPLERS**



Extra long high side R134a coupler used on BMW E60 (2003-2009 5 series), Volvo and Renault models. This extra long high side coupler can easily reach the service port.

| 82836   | High Side Extra Long 14 mm-F x 16 mm    |  |
|---------|---|--|
| 82836-E | High Side Extra Long 1/4" SAE-M x 16 mm |  |

#### **MALE x MALE CONNECTORS**



| 82734 | 14 mm-M x 1/4" FL-M (7/16-20") Connector   |
|-------|--|
| 82735 | 14 mm-M x M10 x 1.5-M Connector            |
| 82736 | 14 mm-M x M12 x 1.75-M Connector           |
| 82738 | 14 mm-M x 3/8" FL-M Connector              |
| 83341 | 0-Ring for 82733, 82734, 82735 and 82736   |
| 80234 | 0-Ring for 82634, 82634-M, 90364 and 90365 |

#### **FEMALE x MALE CONNECTORS**



| 82635   | 1/2" ACME-F x 1/4" FL (7/16-20")-M R134a Adapter Coupler |
|---------|--|
| 82733   | 14 mm-F x 1/2" ACME-M Connector                          |
| 90364   | 1/4" (7/16-20")-F x M10 x 1.5-M Adapter                  |
| 90363   | 5/16" (1/2-20 UNF)-F x 1/4" FL-M Connector               |
| 82634   | 1/4" FL-F (7/16-20") x 1/2" ACME-M Connector             |
| 82634-M | 1/4" FL-F (7/16-20") x 1/2" ACME-M R134a Connector       |

#### SPRING LOCK COUPLING TOOL SET 93000



Four sizes 3/8" (#6), 1/2" (#8), 5/8" (#10) and 3/4" (#12) used on Fords and Chryslers. Durable spring loaded design for long life and reliable fit.

| Set includes: |
|---------------|
| 00000         |

| 93098 | 3/8" (#6) Red  | 93100 | 5/8" (#10 ) Black |
|-------|----------------|-------|-------------------|
| 93099 | 1/2" (#8) Blue | 93101 | 3/4" (#12) Beige  |



#### 90° ADAPTERS



|   |         | REPLACEMENT                                      | GASKET/O-RING | DEPRESSOR |
|---|---------|--|---------------|-----------|
| Α | 90333-R | Shut-Off Valve 1/4" MFL x 1/4" FFL               | 90336         | -         |
| В | 90314*  | 1/4" MFL x 1/4" FFL                              | 42010         | 42014     |
| В | 90340*  | 1/4" MFL x 1/8" FFL (High Side) Ford 1977-1980   | 90341         | 90368     |
| В | 90354*  | 1/4" MFL x 3/16" FFL (High Side) GM 1976 & Later | 90369         | 90368     |

#### **45° ADAPTERS**



|   |        | REPLACEMENT                      | GASKET/O-RING | DEPRESSOR |
|---|--------|----------------------------------|---------------|-----------|
| C | 90924  | 1/4" MFL x 1/4" FFL              | 42010         | 42014     |
| ( | 90927* | 1/4" MFL x 3/16" FFL (High-Side) | 90369         | 90368     |

#### STRAIGHT ADAPTERS



|   |         | REPLACEMENT   | GASKET/O-RING | DEPRESSOR |
|---|---------|---|---------------|-----------|
| D | 82272*  | R134a 1/2" ACME-F x 13 mm R134a (Low-Side)  | 85511         | -         |
| Ε | 82335   | R134a Shut-Off Valve 1/2" ACME-M x 1/2"<br>ACME-F                                     | 90336         | -         |
| Ε | 90335-R | Shut-Off Valve 1/4" MFL x 1/4" FFL  | 90336         | -         |
| Ε | 90337   | Shut-Off Valve 1/4" MFL x 3/16" FFL   | 90331         | -         |
| F | 82634*  | 1/4" FFL x 1/2" ACME-M  | 80234         | -         |
| F | 82634-M | 1/4" FFL x 1/2" ACME-M without Core Valve   | 80234         | -         |
| G | 82734   | 14 mm-M x 1/4" MFL  | 83341         | -         |
| Н | 90358*  | 1/4" MFL x 3/16" FFL (High-Side)  | 42010         | 42014     |
| I | 90274   | 1/4" MFL x 1/4" FFL Swivel  | 42010         | 42014     |
| I | 90332** | 1/4" MFL x 1/4" FFL Anti-Blowback Fitting   | 42010         | 42014     |
| I | 90357   | 1/4" MFL x 3/16" FFL (High-Side) Swivel   | 90369         | 90368     |
| ı | 91084*  | 1/4" MFL x 3/16" FFL (High-Side) Swivel Adapter<br>GM 1976 & Later, Ford 1981 & Later | 90369         | 90368     |
| J | 90338*  | GM 1991 & Later Service Adapter   | 90339         | -         |
| K | 90633   | 1/4" MFL x 1/4" MFL Union   | -             | -         |
| K | 82633   | 1/2" ACME-M x 1/2" ACME-M Union   | -             | -         |
| L | 90413   | Convert 1/4 to 5/16 SAE (1/2-20 UNF) swivel female nut with depressor                 | -             | -         |

#### **SWIVEL/ANGLE ADAPTER FITTING** 90416





#### **FLEX ADAPTERS**





#### 90410 FLEX ADAPTER



Convert 1/4 SAE hose into 5/16 SAE, 1/2-20 UNF swivel connection for R410A.

## 90411 FLEX ADAPTER WITH BALL VALVE



Convert 1/4 SAE hose into 5/16 SAE, 1/2-20 UNF swivel connection for R410A.

#### **ACCESS SERVICE TOOLS**



|   |        | REPLACEMENT            | GASKET/O-RING | DEPRESSOR |
|---|--------|------------------------|---------------|-----------|
| M | 90296* | 1/4" MFL x 1/8" NPT    | -             | -         |
| М | 80296* | 1/2" ACME-M x 1/8" NPT | -             | -         |

<sup>\*</sup> Includes Access Valve Core (0377-001) - (90-110 PSI Opening)

## **RETROFIT ADAPTERS**

#### 82357 GM HIGH FLOW ADAPTER W/VALVE CORE & SERVICE PORT CAPS



GM High Flow Adapter

#### **INDIVIDUAL TERMINATION (BLOCK OFF) CAPS**



| 81297 | 1/4 (7/16"- 20) alum.   |  |
|-------|-------------------------|--|
| 81379 | 3/16 (3/8" - 24) alum.  |  |
| 82297 | Low Side R134a blue cap |  |
| 82379 | High Side R134a red cap |  |

#### STRAIGHT ADAPTERS W/VALVE CORE & SERVICE PORT CAPS



| 82274 | Low Side, 1/4 (7/16"- 20) x 13 mm   |  |
|-------|-------------------------------------|--|
| 82332 | High Side, 1/4 (7/16" - 20) x 16 mm |  |
| 82358 | High Side, 3/16 (3/8"- 24) x 16 mm  |  |

#### 90° ADAPTERS W/VALVE CORE & SERVICE PORT CAPS



| 82275 | Low Side, 1/4 (7/16"- 20) x 13 mm  |
|-------|------------------------------------|
| 82333 | High Side, 1/4 (7/16"- 20) x 16 mm |
| 82354 | High Side, 3/16 (3/8"- 24) x 16 mm |



<sup>\*\*</sup> Includes Check Valve Core (0332-002) - (8-12 PSI Opening)

#### 91207 CHARGING AND DEPRESSOR ASSORTMENT



Replacement gaskets, o-rings and depressors for charging hoses and adapters.

| Consists o | f:                      |
|------------|-------------------------|
| 42010      | 1/4" Gasket (3 pcs)     |
| 42014      | 1/4" Depressor (3 pcs)  |
| 90368      | 3/16" Depressor (3 pcs) |
| 90369      | 3/16" Gasket (3 pcs)    |
| 90341      | 1/8" O-ring (3 pcs)     |

#### 91334 CHARGING ADAPTER REPAIR KIT



55 piece assortment of replacement gaskets, o-rings and depressors for charging hoses and adapters.

| Consists<br>42010 | 1/4" Gasket (10 pcs)            |
|-------------------|---------------------------------|
| 42014             | 1/4" Depressor (10 pcs)         |
| 90368             | 3/16" Depressor (10 pcs)        |
| 90369             | 3/16" Gasket (10 pcs)           |
| 90341             | 1/8" O-ring (10 pcs)            |
| 92107             | Quick Disconnect Gasket (5 pcs) |

#### 91334-A R12/R134a CHARGING HOSE REPLACEMENT PARTS ASSORTMENT



| Consists of: |                                      |  |  |
|--------------|--------------------------------------|--|--|
| 42010        | 1/4" FL Gasket (10 pcs)              |  |  |
| 42014        | 1/4" FL Depressor (5 pcs)            |  |  |
| 42016        | Screw Type Depressor (5 pcs)         |  |  |
| 90336        | Gasket for 90335 (5 pcs)             |  |  |
| 82010        | Black Gasket for R134a Hose (10 pcs) |  |  |
| 83341        | 0-ring for R134a Hose (5 pcs)        |  |  |
| 80034-2      | Black O-ring for High Side (5 pcs)   |  |  |
| 80134-2      | Black O-ring for Low Side (5 pcs)    |  |  |

## 85200 DELUXE A/C SERVICE REPAIR KIT



Replacement gaskets, depressors, o-rings and nylon guides for charging hoses and adapters.

| Consists of: |  |  |  |
|--------------|--|--|--|
| 42010        | 1/4" Gasket (10 pcs)                     |  |  |
| 42014        | 1/4" Depressor (10 pcs)                  |  |  |
| 80034        | 0-ring for 82834 (10 pcs)                |  |  |
| 80034-1      | High Side Nylon Guide (5 pcs)            |  |  |
| 80134        | 0-ring for 82934 (10 pcs)                |  |  |
| 80134-1      | Low Side Nylon Guide (5 pcs)             |  |  |
| 82010        | Gasket for R134a Hose (10 pcs)           |  |  |
| 82336        | Gasket for 82335 (10 pcs)                |  |  |
| 83341        | O-ring for R134a Hose (10 pcs)           |  |  |
| 90336        | Gasket for 90335 Shut-off Valve (10 pcs) |  |  |



#### 91335 MASTER A/C CHARGING ADAPTER REPAIR KIT



126 piece assortment of replacement gaskets, o-rings and depressors for charging hoses and adapters. Also includes valve core removal tool and replacement valve cores.

| Consists of                            | :                                 |
|--|-----------------------------------|
| 42010                                  | 1/4" Gasket (20 pcs)              |
| 42014                                  | 1/4" Depressor (20 pcs)           |
| 90368                                  | 3/16" Depressor (20 pcs)          |
| 90369                                  | 3/16" Gasket (20 pcs)             |
| 90341                                  | 1/8" 0-ring (20 pcs)              |
| 92107 Quick Disconnect Gasket (10 pcs) |                                   |
| 0377-001                               | Refrigeration Valve Core (10 pcs) |
| 90378                                  | GM Large Bore Valve Core (5 pcs)  |

#### 91336 FORD SPRING LOCK REPLACEMENT O-RING AND GARTER SPRING ASSORTMENT



| Compatible with R12 and R134a systems. |                           |  |  |
|--|---------------------------|--|--|
| Consists of:                           |                           |  |  |
| 1336-006                               | #6 O-ring (10 pcs)        |  |  |
| 1336-008                               | #8 O-ring (10 pcs)        |  |  |
| 1336-010                               | #10 O-ring (10 pcs)       |  |  |
| 1336-012                               | #12 O-ring (10 pcs)       |  |  |
| 1336-016                               | #6 Garter Spring (5 pcs)  |  |  |
| 1336-018                               | #8 Garter Spring (5 pcs)  |  |  |
| 1336-110                               | #10 Garter Spring (5 pcs) |  |  |
| 1336-112                               | #12 Garter Spring (5 pcs) |  |  |

#### 91337 R12/R134a VALVE CORE REPAIR KIT



| Replacement valve cores for valve core removers & installers. |   |  |  |  |
|---|---|--|--|--|
| Consists of:  |   |  |  |  |
| 0377-001  | Access Valve Core (20 pcs)                      |  |  |  |
| 0378-001  | Valve Core (10 pcs)                             |  |  |  |
| 0531-001  | R134a JRA High/Low Import Valve Core (10 pcs)   |  |  |  |
| 0768-001  | R134a Domestic High Flow Valve Core M8 (5 pcs)  |  |  |  |
| 0769-001  | R134a Domestic High Flow Valve Core M10 (5 pcs) |  |  |  |
| 81290   | R12/R134a Valve Core Remover/Installer (1 pc)   |  |  |  |

#### 91339 AUTOMOTIVE R12 & R134a O-RING ASSORTMENT (270 PIECE HNBR)



| Consists o | sists of:                                   |          |  |  |
|------------|---|----------|--|--|
| 91339-01   | 7/32" x 1/16"<br>(5.29 x 1.78 mm) (20 pcs)  | 91339-10 | 11 x 2 mm (15 pcs)                           |  |
| 91339-02   | 1/4" x 1/16"<br>(6.07 x 1.78 mm) (20 pcs)   | 91339-11 | 12 x 2 mm (15 pcs)                           |  |
| 91339-03   | 6.8 x 1.9 mm (20 pcs)                       | 91339-12 | 13.9 x 1.8 mm (10 pcs)                       |  |
| 91339-04   | 5/16" x 1/16"<br>(7.65 x 1.78 mm) (20 pcs)  | 91339-13 | 9/16" x 3/32"<br>(13.95 x 2.62 mm) (10 pcs)  |  |
| 91339-05   | 7.8 x 1.9 mm (20 pcs)                       | 91339-14 | 14 x 2 mm (10 pcs)                           |  |
| 91339-06   | 8 x 2 mm (20 pcs)                           | 91339-15 | 15 x 2 (10 pcs)                              |  |
| 91339-07   | 8.8 x 1.9 mm (20 pcs)                       | 91339-16 | 17 x 2 (10 pcs)                              |  |
| 91339-08   | 7/16" x 1/16"<br>(10.82 x 1.78 mm) (15 pcs) | 91339-17 | 11/16" x 1/16"<br>(17.17 x 1.78 mm) (10 pcs) |  |
| 91339-09   | 7/16" x 3/32"<br>(10.77 x 2.62 mm) (15 pcs) | 91339-18 | 11/16" x 1/8"<br>(17.04 x 3.53 mm) (10 pcs)  |  |



#### 58490 UNIVERSAL R12/R134a MASTER KIT







Kit covers all R12 & R134a system valve cores for Standard, JRA, Eaton and GM Large Bore.

PATENT# 6,253,436









#### 58490-YF UNIVERSAL R1234yf MASTER KIT



For 17 mm and 14 mm high and low side service ports. Kit covers: Standard Valve Cores, High Flow Valve Core M10, High Flow Valve Core M8.

#### **VALVE CORE REMOVERS**



#### 81290 R134A UNIVERSAL LARGE BORE REMOVER

Used on R12/R134a Standard and JRA/EATON Large Bore R134a Valve Cores.

#### 91290 UNIVERSAL VALVE CORE REMOVER

Double ended for easy replacement of Standard and GM R12 Large Bore Valve Cores.

#### 81490 R134a VALVE CORE REMOVER AND INSTALLER





- . For 13 mm and 16 mm high and low service port standard type valve
- . Built-in ball valve retains charge and allows access to A/C system
- Excellent for replacing valve cores without discharging the system and for speeding recovery and recharging large systems





## 81490-YF R1234yf VALVE CORE REMOVER AND INSTALLER



- For 17 mm and 14 mm high and low service port standard type valve
- . Built-in ball valve retains charge and allows access to A/C system
- Excellent for replacing valve cores without discharging the system and for speeding recovery and recharging large systems

#### 90376 VALVE CORE REMOVER W/VALVE CORES FOR R12



Quickly removes valve cores. Storage area includes six replacement access valve cores.

90377 Replacement Standard Valve Cores for 90376 (6 pcs of 0377-001)

#### 91490 STANDARD VALVE CORE REMOVER/INSTALLER



Sturdy ball valve design controls refrigerant flow with 1/4 turn of the valve lever. Lever position also gives visual indication of whether valve is opened or closed.

91496 Valve Core Remover/Installer with 1/4" MFL side port

#### 91498 UNIVERSAL VALVE CORE REMOVER/INSTALLER KIT



(for High Pressure Refrigerants) (410A) Newly designed with patented locking mechanism, the 91498 is the only valve core remover kit that has a safety nut allowing the technician to freely access the valve core without fighting high pressures. Packaged in a blow molded carrying case, this kit also offers 1/2"-20 UNF and 1/4" flare fittings for all refrigerant applications. PATENT# 6,253,436







## THE COMPLETE A/C DIAGNOSTIC TOOL









52270



52280

Mastercool's A/C System Analyzer is an all-in one tool that not only calculates critical information for the air conditioning system but also diagnoses basic system problems. The LCD display leads the technician through basic tests making service quicker and less complicated. The A/C System Analyzer is able to calculate: actual superheat, subcool, target superheat, temperature split, dry bulb, wet bulb, relative humidity, dew point, air velocity and air flow volume. The A/C System Analyzer easily guides the technician in determining if the refrigerant charge is correct. No calculations or charts are needed. Easily save test results under a customer and technician name and even download the data for future reference.

#### FEATURES:

- Calculates actual superheat and subcool temperatures for the following refrigerants: R22, R114, R123, R124, R134, R134a, R141, R142, R401A, R401B, R404A, R407A, R407B, R407C, R407D, R408A, R409A, R410A, R411A, R411B, R414A, R414B, R417A,
- · Provides all the functions of a high-end anemometer: airflow volume, air velocity, dry bulb temperature, wet bulb temperature, relative humidity and dew point
- . Save results and download in Excel format for future use
- Optional pressure transducer for direct system readings
- . Optional antenna type meter for any hard to reach locations

#### SPECIFICATIONS:

- Operating Temperature: 0 to 50°C (32 to 122°F), humidity <80%</li>
- Storage Temperature: -20 to 50°C (-4 to 122°F), humidity <90%</li>
- . Dimensions with boot: 191mm x 93 mm x 41 mm
- . Weight: (meter w/ batteries & round vane) 500 g
- . Temperature Display: "F and "C
- · Pressure Display: PSI and Bar
- · Back-lit LCD Display
- · Low battery indicator
- . K-type thermocouple connection
- USB connection
- 6 AA hatteries

All models available in multiple languages.

Please add the suffix below to the part number for the corresponding languages

-ES: English and Spanish -EG: English and German -EF: English and French -EI: English and Italian -EP: English and Portuguese

| Part # | <b>52251</b><br>System<br>Analyzer                | <b>52253</b><br>Round Vane | Antenna Type Meter (extends to 37") | <b>52336</b><br>3 Ft. Clamp-on<br>Thermocouple | <b>52252</b><br>Pressure<br>Transducer |
|--------|---|----------------------------|-------------------------------------|--|--|
|        | SYSTEM ANALYZER KITS in a blow molded plastic box |                            |                                     |  |  |
| 52255  | ✓   | ✓                          | -                                   | ✓  | -                                      |
| 52260  | ✓   | -                          | ✓                                   | ✓  | -                                      |
| 52270  | ✓   | ✓                          | -                                   | ✓  | ✓                                      |
| 52280  | ✓   | -                          | ✓                                   | ✓  | ✓                                      |



#### 52253 ROUND VANE



Temp. Range/Resolution/Accuracy:

- -20 to 60°C (-4 to 140°F)
- 0.1°C (0.2°F)
- ±0.6°C (1.1°F) (-20 to 50°C (-4 to 122°F)), ±1.2°C (2.2°F) at other range

Humidity Range/Resolution/ Accuracy:

- 0.1% to 99.9% RH
- 0.1% RH
- ±3% RH (at 25°C (77°F), 10 to 90% RH), ±5% RH at other range Windspeed Range/Resolution/ Accuracy:
- 0.6 to 32 m/s
- 0.1 m/s
- ±2% of full scale





Just two measurements with the probe will give the target temperature split and actual temperature split across the evaporator and compare the two.

## **52254 ANTENNA TYPE METER**



Temp. Range/Resolution/Accuracy:

- -20 to 60°C (-4 to 140°F)
- 0.1°C (0.2°F)
- ±0.6°C (1.1°F) (-20 to 50°C (-4 to 122°F)), ±1.2°C (2.2°F) at other range

Humidity Range/Resolution/ Accuracy:

- 0.1% to 99.9% RH
- 0.1% RH
- ±3% RH (at 25°C (77°F), 10 to 90% RH), ±5% RH at other range Windspeed Range/Resolution/
  Accuracy:
- 0.5 to 25 m/s
- 0.1 m/s
- ±(2% of reading +0.3 m/s)

Probe will measure dry bulb, wet bulb, relative humidity, dew point, air velocity and air







superheat temperature

by following screen instructions for two simple measurements with the probe.

## **52252 PRESSURE TRANSDUCER**



- Operating Pressure Range: 0-750 psi (0-52 bar)
- 1/4 FL swivel nut connection
- Accuracy: ±0.5, ±1% F.S.
- Operating Temperature:
   -40 to 100°C (-40 to 212°F)
- Certification: CE, Explosion-proof D EMC: EN50081-1/-2: EMS: EN50082-2

#### 52336 CLAMP-ON THERMOCOUPLE (extends 3 ft (1 M))



Temp. Range/Resolution

- -40 to 121°C (-40 to 250°F)
- 0.1°C (0.2°F)

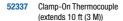




Pressure transducer and thermocouple will measure saturated temperature and actual temperature, to calculate actual superheat and subcool temperature.



System will compare target and actual superheat.





#### 52246 COMPACT SUBCOOL/SUPERHEAT CALCULATOR







### **FEATURES:**

- Clamp-on K-Type thermocouple included to achieve accurate temperature measurement
- · View bubble and dew temperature for corresponding pressure on large
- · Easily select superheat or subcool temperature with a touch of a button
- · Easily look up saturated temperature using the pressure from any
- · Hold function keeps data on LCD even when thermocouple is disconnected

## SPECIFICATIONS:

- R22, R32, R114, R123, R124, R134, R134a, R141B. R142B, R290, R401A, R401B, R404A, R407A, R407B, R407C, R407D, R407F, R408A, R409A, R410A, R411A, R411B, R414A, R414B, R417A, R421A, R422A, R422B, R422C, R422D, R427A, R434A, R437A, R438A, R441A, R507A
- °F or °C Temperature
- Displays bubble, saturated and dew point temperatures
- Pressure displays in Kg/cm<sup>2</sup>, MPa, Bar, PSI (0-600 PSI)

· LCD digital display

· Auto-off function

. Max/Min record function

#### 52236 AIRFLOW+PSYCHROMETER



Reads Humidity, Air Temp., Dew Point, Wet Bulb, Air Velocity, Air Volume & BTU. The sensor is built into the remote fan and is protected by a rotating cap.

- Auto-off with disabling capability
- Large back-lit LCD display
- . Metric & inch unit selection Fast response & accurate reading
- Tripod mountable for extended use
   Low battery indicator
- . Dew point & wet bulb
- · Microprocessor circuitry
- 4 AAA batteries
- · Professional remote vane

#### SPECIFICATIONS:

- Temperature: -4 to 140°F (-20 to 60°C) / Accuracy: ±1°F (±0.6°C)
- Relative Humidity: 0 to 100% RH / Accuracy: ±3% at 10 to 90% RH (cal. temp.) ±5% at other range
- Dew Point: -90 to 158°F (-68 to 70°C)
- Wet Bulb Temperature: -7.6 to 158°F (-22 to 70°C)
- Air Velocity: 0.3 to 35 m/s (1 to 114 ft/s)
- Air Volume: 0 to 99999 m3/s (0 to 99999 cfm)

52237 Data Logger CD & USB Cable for use with 52236 AirFlow+Psychrometer



#### 52230 **PEN TYPE HYGROMETER**



- · Rotating cap to protect sensor
- . Temperature and humidity in °F or °C
- · Data hold to capture readings

#### SPECIFICATIONS:

Size: 6.8" x 1.6" x 0.6" (17 x 4 x 1.5 cm) Sensor: Electronic Capacitance Polymer Film Temp. Range: -4 to 140°F (-20 to 60°C)

RH Range: 0 to 100%

Accuracy: ±3% from 10 to 95% RH at 77°F (25°C) / ±1% from other RH range

Resolution: 0.1°F / 0.1°C / 0.1%

Storage Temp.: 14 to 140°F (-10 to 60°C) / Storage RH%: <95% Battery: (1) CR2032 (Lithium Coin Cell) / Battery Life: 100 hrs.



#### **52233 DIGITAL PSYCHROMETER**



- Rotating cap to protect sensor External temp. probe (optional)
- LCD digital display
- . Data hold to capture readings
- Low battery indicator
- Fast response, accurate reading
- Max/Min record function
   Microprocessor circuitry for reliability
- · Auto power off with disabling capability

#### SPECIFICATIONS:

Temp. Range: -4 to 122°F (-20 to 50°C)

RH% Range: 0 to 100% RH

Wet Bulb Range: -6.88 to 122°F (-21.6 to 50.0°C) Dew Point Range: -109.7 to 122°F (-78.7 to 50.0°C) Ext Temp. Range: -4 to 158°F (-20 to 70°C) Accuracy: RH% 3% at 77°F (25°C)/Temp: 1°F (0.6°C)

Response Time: 60 seconds

Pocket Size: 0.9" (h) x 1.9" (w) x 7.0" (l) (2 x 5 x 18 cm)

Power: (2) 1.5V AAA battery

52231 Probe for 52233



#### **52238 DIGITAL SOUND LEVEL METER**



- · Automatic or manual ranging
- . 4 measurement ranges from 40 to 130 dB
- 0.1dB resolution
- · Select fast or slow response times
- · Select A or C weighting
- Maximum hold function
- · Record maximum or minimum measurements
- · Jacks provide AC analog output

## 52240 PROFESSIONAL HVAC/R CLAMP METER



- . Multi-Function: Frequency count, diode check and alarm
- Current: (AC) 20 MA 600A
- Voltage: AC 200 mv 750V / DC 1V-1000V
- Auto Power OFF
- Frequency: 10Hz 2KHZ
- Ohms: (Resistance) 200m ohm-20K ohm
- · Peak data hold
- · Unit and sign display

## **SALT SOLUTION BOTTLE**





for calibrating 52230 Pen Type Hygrometer and 52233 Digital Psychrometer

52733 Salt Solution Bottle 33% (Dark Brown Bottle)

52775 Salt Solution Bottle 75% (Blue Bottle)



#### 52224-A **INFRARED THERMOMETER WITH LASER**



The 52224-A offers laser targeting accuracy, enhanced back-lit LCD display and an expanded temperature range. The compact design is simple to use and easy to store.

#### SPECIFICATIONS:

Non-Contact Temperature -50 to 500°C Range: (-58 to 932°F)

Field of View:

Back-lit LCD Color Display Display Illumination: Target Indicator: Single Laser Spot

Emissivity: 0.95 Resolution: 0.5°F / 0.5°C

±2°C (4°F) or ±2% of reading Accuracy:

Response Time: 0.5 seconds

Power Off: Automatic after 15 seconds Battery Life: Approximately 14 hours

Included Accessories: 2 AAA batteries, instruction manual, plastic molded case



## **INFRARED THERMOMETER WITH CIRCULAR LASER**







Features both infrared and circular laser technologies.

#### SPECIFICATIONS:

Non-Contact -60 to 550°C Temperature Range: (-76 to 1022°F) Field of View: 12:1

Display Illumination: Back-lit LCD Color Display

Target Indicator: Circular Laser Emissivity:

Resolution: 0.1°F / 0.1°C

±2°C (4°F) or ±2% of reading Accuracy: Response Time: 1 second

Included Accessories: 2 AAA batteries, instruction manual,

Power Off: Automatic after 15 seconds Battery Life: Approximately 14 hours

plastic molded carrying case



#### MULTI-LASER INFRARED THERMOMETER 52224-D





The multi-laser infrared thermometer safely monitors hot, hazardous, or hard to reach materials without contamination or damage to the surface. Simply point at target, pull the trigger, and read the temperature.

## SPECIFICATIONS:

Measurement Range: -60 to 760°C (-76 to 1400°F) Operating Range: 0 to 50°C (32 to 122°F) Field Of View: 12:1

Display Illumination: Back-lit LCD Color display

Target Indicator: Eight Laser Emissivity: 0.95 default -

adjustable 0.1 to 1 step .01

Resolution: 0.1°C/0.1°F at -76 to 999.9(°C/°F), otherwise 1°C/1°F

Modes: E, MAX, MIN, DIF and AVG

Accuracy, (Tobj=15-35°C, ±1.0°C (1.8°F)

Tamb=25°C):

Accuracy, (Tamb=23  $\pm 3^{\circ}$ C): Tobj=-60~0:  $\pm (2+0.05/^{\circ}$ C) $^{\circ}$ C, Tobj=0~760:  $\pm 2\%$  of

reading or 2°C (4°F) whichever is greater

Response Time: 1 second

Battery Life: Min. 30 hours continuous use without laser. Min. 7 hours

continuous use with laser

Included Accessories: 2 AAA batteries, instruction manual, plastic molded case



#### 52225-A DUAL TEMP PLUS INFRARED THERMOMETER



Included

Features both infrared and contact thermometer technologies. Includes programmable HI/LO alarms and Lock Mode to capture temperature readings. The contact function offers a built-in K type jack and wire thermocouple.

#### SPECIFICATIONS:

Accuracy:

Display Illumination: Back-lit LCD display
Target Indicator: Single Laser Spot
Emissivity: 0.10 (10E) to 1.0 (100E)
Resolution: 0.1°F / 0.1°C
Modes: MIN, MAX, DIFF & AVG

Response Time: 1 second

Power Off: Automatic after 15 seconds
Battery Life: Approximately 14 hours

Included Accessories: 2 AAA batteries, 1m thermocouple probe, instruction manual, plastic molded case

Optional Accessories: 3 m wire thermocouple probe, piercing penetration

probe, surface probe, air probe

±2°C (4°F) or ±2% of reading

#### **52225-B ULTRA TEMP DUAL LASER THERMOMETER**



Features both infrared and contact thermometer technologies. Includes programmable HI/LO alarms, and Lock Mode to capture temperature readings. The built-in K type jack offers optional contact functions. Illuminates working area with built-in LED light.

### SPECIFICATIONS:

 Non-Contact Temperature Range:
 -60 to 1000°C

 (-76 to 1832°F)

 Thermocouple Temperature
 -64 to 1400°C

 Range:
 (-83 to 1999°F)

 Field of View:
 50 : 1

Display Illumination: Back-lit LCD display

Target Indicator: Dual Laser Spot Emissivity: 0.95

Resolution: 0.1°F / 0.1°C

Modes: MIN, MAX, DIFF & AVG
Accuracy:  $\pm 2^{\circ}$ C (4°F) or  $\pm 2\%$  of reading
Response Time: 1 second

Response Time: 1 second
Power Off: Automatic after 15 seconds

Battery Life: Approximately 14 hours
Included Accessories: 2 AAA batteries, instruction manual, plastic

molded case

Optional Accessories: 1 m, 3 m wire thermocouple probes, piercing penetration probe, surface probe, air probe



## **52325 THERMAL IMAGING CAMERA**

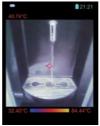






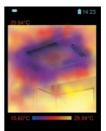


VISIBLE CAMERA:



Fusion





Fusion

- Fully Automatic
- Focus Free
- Superior Measurement/Accuracy
- · Micro SD Card Storage
- · Carry case, micro SD card, USB cord, batteries and instructions included

## SPECIFICATIONS:

- Thermal Image Resolution: 32 x 32 pixels
- Visual Image Resolution: 640 x 480
- Measurement Range: -4 to 662°F (-20 to 350°C)
- Accuracy (Tamb=20 to 26°C): ±2% of reading, or 4°F (2°C) whichever is greater
- Thermal Sensitivity: 0.1°F (0.1°C)
- Frame Rate: 9 Hz
- Field of View: 33 x 33 deg
- Emissivity Range: 0.95 default adjustable 0.1 to 1 step 0.01
- · Focus: Focus free
- LCD Size: 2.8" (71 mm)
- LCD: Color
- . Memory Type: micro SD card
- Sensor Filter: 8 to 14 um
- · Interface: USB
- Battery Type: 3.7 V Li-ion rechargeable battery
- . Battery Life (with back-lit): 3 hours continuous use
- Dimensions: 96.29 x 74.03 x 233.68 mm (3.79 x 2.91 x 9.20 inch)



#### **52226 DUAL TEMP INFRARED/PROBE THERMOMETER**



The 52226 Dual Temp Thermometer offers both infrared and contact probe technologies.

- Infrared Temp Range: -67 to 428°F (-55 to 220°C)
- Probe Temp Range: -67 to 626°F (-55 to 330°C)
- . Field of View Ratio 1:1
- · Adjustable Emissivity
- · Lock Mode for hands free scanning
- Minimum/Maximum capture mode
- . Contact Probe locks safely on the side of the unit

#### 52227 POCKET INFRARED THERMOMETER



The 52227 Pocket Infrared Thermometer offers accurate non-contact temperature measurement in a compact and easy to use size

- Temp Range: -67 to 428°F (-55 to 220°C)
- Field of View Ratio 1 : 1
- Adjustable Emissivity
- Back-lit LCD Display
- Minimum/Maximum Capture Mode



## **52228 DIGITAL DIFFERENTIAL THERMOMETER**



The 52228 Digital Differential Thermometer provides instant measurements of TWO points. (T1, T2) and T1 - T2.

- Max Hold Function
- Data Hold Function
- Temperature in °F or °C
- AUX Output Jacks
- T1 T2 Differential
- Temp. Range: -50 to 1999°F (-50 to 1300°C)
- . Type K Thermocouple Input
- Resolution: 1°F (1°C)
- Includes two 3 ft (1m) Thermocouple Probes

## 52229 HANDHELD WATERPROOF DIGITAL THERMOMETER



- Measuring Range: -58 to 572°F / -50 to 300°C
- · Wide Measurement Range
- · Maximum/Minimum temperature memory
- Celsius and Fahrenheit exchange
- Data Hold Function
- High/Low Temperature Alarm Setting
- Key Tone for Operation Confirmation
- Stainless Steel Probe
- Foldaway Stand



## **POCKET ANALOG DESIGNS**



All thermometers include pocket holder and clip.

| Item#   | Dial Size | Temperature Scale          |
|---------|-----------|----------------------------|
| 52220-C | 25 mm     | -10 to 100°C               |
| 52161   | 35 mm     | -40 to 70°C (-40 to 160°F) |
| 91120   | 44.5 mm   | 0 to 220°E                 |

## **POCKET DIGITAL DESIGN**



All thermometers include pocket holder and clip.
Battery operated, (on/off and auto shut-off after 10 minutes)

- ±1°C Accuracy
- 0.1°C Resolution

| Item#   | Dial Size | Temperature Scale           |
|---------|-----------|-----------------------------|
| 52223-A | 25 mm     | -50 to 150°C (-58 to 302°F) |

## **OPTIONAL THERMOCOUPLE PROBES**



| 52331 | Wire Probe - 3 ft (1 m)                |
|-------|--|
| 52332 | Wire Probe - 10 ft (3 m)               |
| 52333 | Piercing Penetration Probe w/coil cord |
| 52334 | Surface Probe w/coil cord              |
| 52335 | Air Probe w/coil cord                  |
| 52336 | Clamp-On Probe - 3 ft (1 m)            |
| 52337 | Clamn-On Probe - 10 ft (3 m)           |



#### 43300 14 PIECE UNIVERSAL COOLING SYSTEM PRESSURE TEST KIT





- · Detects and exposes external system leaks
- · Detects internal engine leaks due to blown gaskets or cracked block
- Includes hand pump, thermometer and 12 adapters (No.'s 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13) to fit most popular domestic and import cars and trucks

#### 43301 27 PIECE MASTER RADIATOR PRESSURE TEST KIT





- . Detects and exposes external system leaks
- . Detects internal engine leaks due to blown gaskets or cracked block
- · Vacuum type cooling system
- · Purge and refill for quick change of coolant
- Test Range: 0 − 35 psi
- Includes 1 blue radiator cap test connector R123/R125
- Includes 1 black radiator cap test connector R123/R124
- Includes 1 thermometer, 1 universal radiator cap, 1 vacuum purge and refill tool, coolant hose and additional installation accessories
- Includes hand pump and 19 adapters (No.'s 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21) to fit most popular domestic and import cars and trucks

#### 43302 25 PIECE MASTER COOLING SYSTEM PRESSURE TEST KIT





- · Detects and exposes external system leaks
- . Detects internal engine leaks due to blown gaskets or cracked block
- Includes blue and black radiator cap test connectors
- Includes hand pump, thermometer and 21 adapters (No.'s 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23) to fit most popular domestic and import cars and trucks



# NEW

#### 43305 10 PIECE COOLING SYSTEM PRESSURE TEST ADAPTER KIT



- . Adapter update kit to be used with 43300
- · Detects and exposes external system leaks
- · Detects internal engine leaks due to blown gaskets or cracked block
- · Includes blue and black radiator cap test connectors
- Includes 8 adapters (No's 14, 15, 16, 17, 18, 19, 20, 21) to fit most popular domestic and import cars and trucks



## 43306 HEAVY DUTY COOLING SYSTEM PRESSURE TEST & REFILL KIT



Remove the complications that often result from unreliable rubber plugs or bladders with our heavy duty cooling system pressure test & refill kit. This kit will save set-up time and provide precise test results.

- Uses shop air to uphold continual pressure to the cooling system during testing and refill
- 4 quick disconnect vacuum attachments provide quick refilling of the cooling system and eradicates airlocks
- For use with Freightliner, International, Kenworth, Peterbilt, Mack, Volvo, GMC and Sterling cooling systems
- Includes heavy duty vehicle adapters, pressure test regulator, vacuum refill attachment with tubing in a plastic case



#### 43390 UNIVERSAL 90° ADAPTER FITTING FOR COOLING SYSTEM PRESSURE TEST ADAPTERS



- . Universal fitting for cooling system pressure test hand pumps
- · Provides 90° access for hard to reach places





#### 43013 VACUUM TYPE COOLING SYSTEM FILLER KIT



- Significantly shortens time for refilling new coolant by creating a vacuum in the cooling system
- No need to undergo time-consuming air bleeding after refilling new coolant
- · Conical adapter offers a wide application to different radiator filler necks
- Kit can be hooked underneath the vehicle's hood for easy access
- . Minimizes the risks of engine overheating
- Kit includes vacuum purge and refill tool, coolant hose, 1 universal radiator cap



#### 43705 REFRACTOMETER



- Offers a quick and easy way to test the freezing point of coolant/anti-freeze
- Compatible with Ethylene or Propylene Glycol
- Measures battery acid specific gravity
- Automatic temperature compensation
- · Large, easy to read graphics and high contrast lens
- · Adjustable focus viewfinder
- . Strong, metal body structure
- $\bullet$  Includes storage case, fluid dropper and calibration screw driver
- Not for use with OAT coolants or DEF
- Fahrenheit temperature scale (celsius conversion chart supplied)





#### 43050 AIR POWERED BRAKE CALIPER WIND BACK TOOL KIT



Pneumatic brake caliper piston compressor kit constructed of light weight durable anodized aluminum. Right or left hand wind-back operation for rear brake caliper pistons. Pneumatic single piston press shaft operation allows one technician to perform the brake job.

- · Durable non-impact single piston shaft
- . Magnetic base to secure press adapters
- 15 piece press adapter set
- · Left or right wind-back operation
- 0-ring protected shaft to maintain proper pressure
- · Center shaft constructed of chrome alloy steel
- · Protective rubber guard to prevent damage to shaft and caliper
- 3/8" drive adapter surface



## 43051 AIR POWERED BRAKE CALIPER WIND BACK TOOL



- Pneumatic wind back tool offers energy-savings on brake calipers
- · Pneumatic tool allows right and left-hand rotation



## 43058 DRUM BRAKE HOLD-DOWN SPRING PLIERS



- Universal application for nearly all drum brakes
- Special curved neck provides easy access to hold-down pins regardless of the barrier created by the wheel hub
- · An integral forming head without welding offers high strength



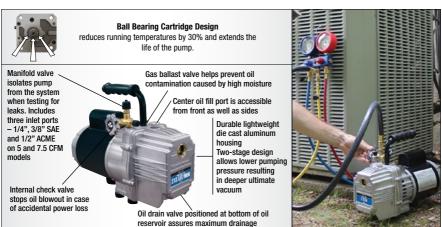


## 2 STAGE ELITE BALL BEARING DESIGN VACUUM PUMPS



CE

A good quality vacuum pump is an integral tool for complete A/C service. Mastercool vacuum pumps are durable and time tested. They stand up to the most grueling conditions and will provide years of reliable service. Mastercool offers a complete selection of pumps. Regardless of your service requirements, Mastercool has a model for your application.



#### 119 LIT/MIN - 142 LIT/MIN - 5 CFM VACUUM PUMP

#### \*Japanese Standard



| MODEL                    | 90065-220                      | 90065                 | 90065-J*                   |
|--------------------------|--------------------------------|-----------------------|----------------------------|
| NO. OF STAGES            | 2                              | 2                     | 2                          |
| FREE AIR<br>DISPLACEMENT | 119 lit/min<br>142 lit/min     | 5 CFM                 | 119 lit/min<br>142 lit/min |
| <b>ULTIMATE VACUUM</b>   | 25 Microns                     | 25 Microns            | 25 Microns                 |
| MOTOR                    | 1/3 HP                         | 1/3 HP                | 1/3 HP                     |
| PUMP SPEED               | 1425 RPM<br>1725 RPM           | 1425 RPM<br>1725 RPM  | 1425 RPM<br>1725 RPM       |
| ELECTRICAL SPECS         | 220 V / 50 HZ<br>220 V / 60 HZ | 110 V / 60 HZ         | 100 V / 50/60 HZ           |
| WEIGHT                   | 13.2 kg (29 lbs)               | 13.2 kg (29 lbs)      | 13.2 kg (29 lbs)           |
| DIMENSIONS IN CM         | 37 x 15.5 x 27.5 x 24          | 37 x 15.5 x 27.5 x 24 | 37 x 15.5 x 27.5 x 24      |

## 178 LIT/MIN - 213 LIT/MIN - 7 CFM VACUUM PUMP

## \*Japanese Standard



| MODEL                    | 90067-220                      | 90067                 | 90067-J*                   |
|--------------------------|--------------------------------|-----------------------|----------------------------|
| NO. OF STAGES            | 2                              | 2                     | 2                          |
| FREE AIR<br>DISPLACEMENT | 178 lit/min<br>213 lit/min     | 7.5 CFM               | 178 lit/min<br>213 lit/min |
| <b>ULTIMATE VACUUM</b>   | 25 Microns                     | 25 Microns            | 25 Microns                 |
| MOTOR                    | 1/2 HP                         | 1/2 HP                | 1/2 HP                     |
| PUMP SPEED               | 1425 RPM<br>1725 RPM           | 1425 RPM<br>1725 RPM  | 1425 RPM<br>1725 RPM       |
| ELECTRICAL SPECS         | 220 V / 50 HZ<br>220 V / 60 HZ | 110 V / 60 HZ         | 100 V / 50/60 HZ           |
| WEIGHT                   | 16.0 kg (35.5 lbs)             | 16.0 kg (35.5 lbs)    | 16.0 kg (35.5 lbs)         |
| DIMENSIONS IN CM         | 41 x 15.5 x 27.5 x 24          | 41 x 15.5 x 27.5 x 24 | 41 x 15.5 x 27.5 x 24      |



• New U.S. Design • Stronger Motor • Field Serviceable

## 70 LIT/MIN - 58 LIT/MIN - 3 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                    | 90063-2V-110-B   | 90063-2V-220-B                         |
|--------------------------|------------------|--|
| NO. OF STAGES            | 2                | 2                                      |
| FREE AIR<br>DISPLACEMENT | 3 CFM            | 85 lit/min (60Hz)<br>71 lit/min (50Hz) |
| <b>ULTIMATE VACUUM</b>   | 15 Microns       | 15 Microns                             |
| MOTOR                    | 1/3 HP           | 1/3 HP                                 |
| PUMP SPEED               | 1720 RPM         | 1440 RPM                               |
| <b>ELECTRICAL SPECS</b>  | 110/120 V, 60 HZ | 220 V, 50/60 HZ                        |
| POWER CORD               | 110 V Cable (US) | 220 V Cable (Schuko)                   |
| WEIGHT                   | 7 kg (15.43 lbs) | 7 kg (15.43 lbs)                       |
| DIMENSIONS IN CM         | 27 x 15 x 25     | 27 x 15 x 25                           |

## 170 LIT/MIN - 142 LIT/MIN - 6 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                    | 90066-2V-110-B     | 90066-2V-220-B                           |
|--------------------------|--------------------|--|
| NO. OF STAGES            | 2                  | 2  |
| FREE AIR<br>DISPLACEMENT | 6 CFM              | 170 lit/min (60Hz)<br>142 lit/min (50Hz) |
| <b>ULTIMATE VACUUM</b>   | 15 Microns         | 15 Microns                               |
| MOTOR                    | 1/2 HP             | 1/2 HP                                   |
| PUMP SPEED               | 1720 RPM           | 1440 RPM                                 |
| ELECTRICAL SPECS         | 110/120 V, 60 HZ   | 220 V, 50/60 HZ                          |
| POWER CORD               | 110 V Cable (US)   | 220 V Cable (Schuko)                     |
| WEIGHT                   | 11 kg (24.25 lbs)  | 11 kg (24.25 lbs)                        |
| DIMENSIONS IN CM         | 37.9 x 16.7 x 27.5 | 37.9 x 16.7 x 27.5                       |

## 227 LIT/MIN - 189 LIT/MIN - 8 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                    | 90068-2V-110-B    | 90068-2V-220-B                           |
|--------------------------|-------------------|--|
| NO. OF STAGES            | 2                 | 2  |
| FREE AIR<br>DISPLACEMENT | 8 CFM             | 227 lit/min (60Hz)<br>189 lit/min (50Hz) |
| <b>ULTIMATE VACUUM</b>   | 15 Microns        | 15 Microns                               |
| MOTOR                    | 3/4 HP            | 3/4 HP                                   |
| PUMP SPEED               | 1720 RPM          | 1440 RPM                                 |
| ELECTRICAL SPECS         | 110/120 V, 60 HZ  | 220 V, 50/60 HZ                          |
| POWER CORD               | 110 V Cable (US)  | 220 V Cable (Schuko)                     |
| WEIGHT                   | 15.43 kg (34 lbs) | 15.43 kg (34 lbs)                        |
| DIMENSIONS IN CM         | 38 x 18 x 27      | 38 x 18 x 27                             |

## 340 LIT/MIN - 283 LIT/MIN - 12 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                    | 90612-2V-110-B    | 90612-2V-220-B                           |
|--------------------------|-------------------|--|
| NO. OF STAGES            | 2                 | 2  |
| FREE AIR<br>DISPLACEMENT | 12 CFM            | 340 lit/min (60Hz)<br>283 lit/min (50Hz) |
| <b>ULTIMATE VACUUM</b>   | 15 Microns        | 15 Microns                               |
| MOTOR                    | 1 HP              | 1 HP                                     |
| PUMP SPEED               | 1720 RPM          | 1440 RPM                                 |
| ELECTRICAL SPECS         | 110/120 V, 60 HZ  | 220 V, 50/60 HZ                          |
| POWER CORD               | 110 V Cable (US)  | 220 V Cable (Schuko)                     |
| WEIGHT                   | 15.88 kg (35 lbs) | 15.88 kg (35 lbs)                        |
| DIMENSIONS IN CM         | 39 x 18 x 27      | 39 x 18 x 27                             |



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## 2 STAGE VACUUM PUMPS WITH SOLENOID VALVE

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#### **DUAL VOLTAGE SERIES WITH SOLENOID VALVE**



| MODEL                    | 90063-2V-220SVB                         | 90066-2V-220SVB                           | 90068-2V-220SVB                           | 90612-2V-220SVB                           |
|--------------------------|---|---|---|---|
| NO. OF STAGES            | 2                                       | 2   | 2   | 2   |
| FREE AIR<br>DISPLACEMENT | 85 lit/min (60Hz),<br>71 lit/min (50Hz) | 170 lit/min (60Hz),<br>142 lit/min (50Hz) | 227 lit/min (60Hz),<br>189 lit/min (50Hz) | 340 lit/min (60Hz),<br>283 lit/min (50Hz) |
| ULTIMATE<br>VACUUM       | 15 Microns                              | 15 Microns                                | 15 Microns                                | 15 Microns                                |
| MOTOR                    | 1/3 HP                                  | 1/2 HP                                    | 3/4 HP                                    | 1 HP                                      |
| PUMP SPEED               | 1440 RPM                                | 1440 RPM                                  | 1440 RPM                                  | 1440 RPM                                  |
| ELECTRICAL<br>SPECS      | 220 V,<br>50/60 HZ                      | 220 V,<br>50/60 HZ                        | 220 V,<br>50/60 HZ                        | 220 V,<br>50/60 HZ                        |
| POWER CORD               | 220 V Cable<br>(Schuko)                 | 220 V Cable<br>(Schuko)                   | 220 V Cable<br>(Schuko)                   | 220 V Cable<br>(Schuko)                   |
| WEIGHT                   | 7.37 kg (16.2 lbs)                      | 11.33 kg (25 lbs)                         | 15.76 kg (34.75 lbs)                      | 16.32 kg (36 lbs)                         |

# ELITE BALL BEARING DESIGN WITH SOLENOID VALVE



| THE COLLEGED VALUE    |                              |                              |  |
|-----------------------|------------------------------|------------------------------|--|
| MODEL                 | 90065-220-SV                 | 90067-220-SV                 |  |
| NO. OF STAGES         | 2                            | 2                            |  |
| FREE AIR DISPLACEMENT | 119 lit/min, 142 lit/min     | 178 lit/min, 213 lit/min     |  |
| ULTIMATE VACUUM       | 25 Microns                   | 25 Microns                   |  |
| MOTOR                 | 1/3 HP                       | 1/2 HP                       |  |
| PUMP SPEED            | 1425 RPM , 1725 RPM          | 1425 RPM, 1725 RPM           |  |
| ELECTRICAL SPECS      | 220 V / 50 HZ, 220 V / 60 HZ | 220 V / 50 HZ, 220 V / 60 HZ |  |
| POWER CORD            | 220 V Cable (Schuko)         | 220 V Cable (Schuko)         |  |
| WEIGHT                | 13.6 kg (30 lbs)             | 17 kg (36.5 lbs)             |  |

## 90066-SV-220 UNIVERSAL SOLENOID VALVE AND GAUGE ASSEMBLY



Mastercool's universal solenoid valve and gauge assembly can be assembled on any vacuum pump for protection of pump and systems with full control by solenoid valve. Gauge assembly will also allow for vacuum leak test.

- 3/8 NPT vacuum connection port
- 1/4" flare hose connection port

\*Note: Some internal wiring assembly necessary

90066-SV-G Replacement gauge for universal solenoid valve and gauge assembly

## **SPARK FREE 2 STAGE VACUUM PUMP**

## 170 LIT/MIN - 142 LIT/MIN 2 STAGE VACUUM PUMP <<SPARK FREE>>







| MODEL                  | 90066-220-BSF                          |
|------------------------|--|
| NO. OF STAGES          | 2                                      |
| FREE AIR DISPLACEMENT  | 170 lit/min (60Hz), 142 lit/min (50Hz) |
| <b>ULTIMATE VACUUM</b> | 15 Microns                             |
| MOTOR                  | 1/2 HP                                 |
| PUMP SPEED             | 1440 RPM                               |
| ELECTRICAL SPECS       | 220 V, 50/60 HZ                        |
| POWER CORD             | 220 V Cable (Schuko)                   |
| WEIGHT                 | 11 kg (24.25 lbs)                      |
| DIMENSIONS IN CM       | 37.9 x 16.7 x 27.5                     |



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## 51 LIT/MIN - 42 LIT/MIN / 1.8 CFM SINGLE STAGE VACUUM PUMP



| MODEL                 | 90059-B-220            | 90059-B           |
|-----------------------|------------------------|-------------------|
| NO. OF STAGES         | 1                      | 1                 |
| FREE AIR DISPLACEMENT | 51 lit/min, 42 lit/min | 1.8 CFM           |
| ULTIMATE VACUUM       | 80 Microns             | 80 Microns        |
| MOTOR                 | 1/4 HP                 | 1/4 HP            |
| PUMP SPEED            | 1440 RPM               | 1720 RPM          |
| ELECTRICAL SPECS      | 220 V, 50/60 HZ        | 110/120 V, 60 HZ  |
| WEIGHT                | 6.2 kg (13.6 lbs)      | 6.2 kg (13.6 lbs) |
| DIMENSIONS IN CM      | 30 x 15 x 26           | 30 x 15 x 26      |

\* PLEASE NOTE:

The micron readings on all vacuum pumps represent optimal laboratory conditions. Field conditions may vary from these readings.

All vacuum pumps are available with either a UK or Australian Cable, please add a:

-AUS for an Australian cable

-UK for a UK cable

#### SERVICE INFORMATION

|                                | OIL CAPACITY    | REPLACEMENT CARTRIDGE | SEAL SERVICE KIT |
|--------------------------------|-----------------|-----------------------|------------------|
| 90065, 90065-220               | 531 ml / 18 oz  | 90165-R               | 90062-11-SEAL    |
| 90067, 90067-220               | 708 ml / 24 oz  | 90167-R               | 90062-11-SEAL    |
| 90063-2V-110-B, 90063-2V-220-B | 250 ml / 8.5 oz | -                     | -                |
| 90066-2V-110-B, 90066-2V-220-B | 440 ml / 15 oz  | 90166-B               | -                |
| 90068-2V-110-B, 90068-2V-220-B | 570 ml / 19 oz  | 90168-B               | -                |
| 90612-2V-110-B, 90612-2V-220-B | 536 ml / 18 oz  | 90112-B               | -                |
| 90059-B, 90059-220-B           | 342 ml / 12 oz  | -                     | -                |
| 90066-220-BSF                  | 440 ml / 15 oz  | 90166-B               | -                |

## **VACUUM PUMP OIL**



| 90010-6 | (Six) - 295 ml / 10 oz bottles<br>(90063-2V-B)                                   |
|---------|--|
| 90016-6 | (Six) - 450 ml / 16 oz bottles<br>(90059-B)                                      |
| 90018-6 | (Six) - 531 ml / 18 oz bottles<br>(90065, 90066-2V-B, 90612-2V-B, 90066-220-BSF) |
| 90024-6 | (Six) - 708 ml / 24 oz bottles<br>(90067, 90068-2V-B)                            |
| 90032-6 | (Six) - 946 ml / 32 oz bottles   |
| 90128-4 | (Four) - 3.7 liter / 1 gallon bottles  |



## 98061 DIGITAL VACUUM GAUGE



As a professional technician the assurance of a deep vacuum on a system is imperative. The main problem with many small handheld units is their inaccuracy and durability. Although the thermocouple sensor has been proven to be much more accurate and durable than the thermister type, the problem has been the inconvenience of a cumbersome tableton unit.

Mastercool's hand held unit uses thermocouple technology. This vacuum gauge has been designed with the technician's field environment in mind, allowing for self-calibration and a sensor that will not be damaged by small mists of oil. The Mastercool unit allows for a target vacuum range to be programmed with a light sensor indicator. Now you have the freedom to continue with your other work and come back to the system once you see the indicator light signaling your target vacuum. (packaged in blow molded case)

#### SPECIFICATIONS:

- · Response Time: 250 mSec.
- Sensor Cable: Spiral cable extended to 6.5 feet (2.6 meter)
- Sensor: Thermocouple sensor
- Connection Fitting: 1/4" flare female adapter
  Operating Temperature: 32 to 120°F (0 to 45°C)
- Power: 9V DC battery (AC/DC Adapter optional)
- . Battery Life: 36 hours
- Low Battery Indicator: Special ICON on LCD
- · Vacuum Units: Micron, Torr, mTorr, mmHg, mBar, Pa
- Range: 20,000 to 1 micron
- Accuracy Range\*:

ATM-1000 Microns:  $\pm 10\%$  of reading 1000 - 100 Microns:  $\pm 7\%$  of reading,

100 - 1 Micron: ±5% of reading

\* Unit accuracy refers to sensor specifications and is based on optimal laboratory conditions. Field operations may greatly deviate from these levels.



| 98061-SENSOR | Replacement Sensor                 |
|--------------|------------------------------------|
| 99334-110    | 110 V AC/DC Adapter                |
| 99334-220    | 220 V AC/DC Adapter                |
| 99333        | 1/4 FL-M x 1/4 FL-M x 1/4 FL-F Tee |







98310 WIRELESS REFRIGERANT CHARGING SCALE
98315 WIRELESS REFRIGERANT CHARGING SCALE WITH SOLENOID





98315 with solenoid



# CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

#### FEATURES:

- · Wireless unit prevents unwanted tangles in wires
- . Easily store the remote in the body of the platform
- Keypad provides synchronization and zeroing
- · Extremely accurate weight sensor
- Magnet on remote allows easy placement on fixtures
- Battery life symbol for platform and remote constantly displayed on LCD
- Wireless signal strength indicator conveniently displays on remote

#### **FUNCTIONS:**

CHARGE PROGRAMMING: Allows user to program desired quantities. Before charge is complete, an alarm will sound allowing ample time to turn off refrigerant supply.

PAUSE/CHARGE (98315 model only): This feature allows user to stop and continue charging. TANK CAPACITY PROGRAMMING: EMPTY/FULL tank feature allows user to know the amount of refrigerant in the tank at any time.

REPEAT (98315 model only): Allows user to charge previously stored amount.

#### SPECIFICATIONS:

- Capacity: 243 lbs (110 kg)
- Accuracy: ≤±0.05% of reading
- Resolution: 0.05 lb / 0.5 oz / 0.01 kg
- Automatic Shut-Off: 3 hours
- $\bullet$  Operating Temperature: 32°F to 120°F (0°C to 49°C)
- · Battery Life: approximately 20 hours
- 31 cm Platform
- . Accepts all US & EU standard cylinders



When remote is out of range the unit will automatically pause. This pause mechanism allows unit to restart when remote is back in range.



#### 98210-A ACCU-CHARGE II



#### CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

Mastercool's ACCU-CHARGE II is the most advanced electronic refrigerant scale in the market today. Constructed with a rugged aluminum cast body, the ACCU-CHARGE II now offers programming capabilities.

## FUNCTIONS:

CHARGE PROGRAMMING: Allows user to program desired quantities. Before charge is complete, an alarm will sound allowing user ample time to turn off refrigerant supply. TANK CAPACITY PROGRAMMING: Allows user to know the amount of refrigerant that is left in the tank at any time.

REPEAT: Allows user to charge previously stored amount.

#### SPECIFICATIONS:

- Capacity: 110 kg (243 lbs)
- Accuracy: ≤±0.05% of reading
- Resolution: 0.05 lb/ 0.5 oz / 0.01 kg
- . Operating Temperature: 0 to 49°C (32 to 120°F)
- 3 hrs auto off function
- · Battery life approximately 40 hrs
- Works w/110 or 220V transformer
- (part no. 99334-110 or 99334-220)
- 22 x 22 cm (9 x 9") platform



CE

 $C \in$ 

# 98211-A ACCU-CHARGE III CERTIFIED REFRIGERANT SCALE (OIML & CE Approved, Legal for Trade)

## C€ OIML



#### **FUNCTIONS:**

CHARGE PROGRAMMING: Allows user to program desired quantities. Before charge is complete, an alarm will sound allowing user ample time to turn off refrigerant supply. PAUSE/CHARGE: (Using the 98230 Charging Solenoid Module)

TANK CAPACITY PROGRAMMING: Allows user to know the amount of refrigerant that is left in the tank at any time.

REPEAT: Allows user to charge previously stored amount.

#### SPECIFICATIONS:

- · Complies with European (OIML) Standards
- Capacity: 50 kg
- Accuracy: ±50 g
- Resolution: 0.05 kg
- 3 hrs AUTO OFF function
- Operating Temperature is 0 to 49°C (32 to 120°F)
- · Battery Life (approximately 40 hrs)
- 22 x 22 cm (9 x 9") Platform



#### 98230 CHARGING SOLENOID MODULE



# The 98230 Charging Solenoid Module turns the 98210-A ACCU-CHARGE II & 98211-A ACCU-CHARGE III into Automatic Programmable Scales!

This module allows the user to control the exact amount of refrigerant transferring to and from the A/C System. The compact design is battery powered (9V), lightweight, portable and works with all types of refrigerant. The 98230 with 1/4" x 1/4" fittings includes a short hose for tank connection, USB cord and 1/4" FL - 1/2" ACME adapters.



## 98209 ELECTRONIC CHARGING SCALE



- . Slim design for easy storage
- . Two keys for easy operation
- Unit change (grams & ounces)
- One touch tare weighing function
- Auto zero and auto off

Automatically turns off its power if the scale is not used within 2 minutes

#### SPECIFICATIONS:

- Capacity: 5000 g / 176 oz
- Sensitivity: 1 g / .035 oz
- Dimension: 140 (w) x 185 (l) x 35 (h) mm
- Platform Size: 120 mm
- Power Source: 2 x AAA 1.5v battery

#### **ELECTRONIC TANK HEATER BLANKET**



The Mastercool Refrigerant Tank Heater Blanket speeds up recharging time.

- Assures total discharge of refrigerant from 30 lb and 50 lb tanks. Heats tanks to 125°F resulting in maximum pressure of 185 psi for R134a.
- · Quick working 300W heater element
- An excellent complement to all Mastercool Refrigerant Scales

98250 110 V 98250-220 220 V



61009-EUGRY

#### REFRIGERANT/RECOVERY CYLINDERS

- Y-valve for liquid/vapour TPED approved
- · Single valve for vapour TPED approved
- . Tanks conform to PED and ADR regulations
- CE and TÜV approved
- Raised collar for ease of handling and protection Used for storage and transport of refrigerant gases

#### 6 LITER REFRIGERANT/RECOVERY CYLINDERS



61010-EUGRN

- Size (w x h): 185 mm x 338 mm Tare Weight: 5.18 Kg
- Standard Specification: ADR/RID2009, EN13322-1N D TUV 1
- Nominal Water Capacity: 6 I
- Tank Test Pressure: 48 bar
- · Air Tightness Test Pressure: 32 bar
- . Bursting Pressure: >108 bar
- . Bursting Volumetric Expansion Rate: >20%
- . Body Material: HP295
- . Service Pressure: 32 bar

|            | SINGLE VALVE (available from US factory) |                          |  |  |  |
|------------|--|--------------------------|--|--|--|
| Madal      | 61009-EUGRY-1/4 (grey tank)              | 61009-EUGRY (grey tank)  |  |  |  |
| Model      | 61009-EUGRN-1/4 (green tank)             | 61009-EUGRN (green tank) |  |  |  |
|            | DOUB                                     | PLE VALVE                |  |  |  |
| Model      | 61010-EUGRY (grey tank)                  | NA                       |  |  |  |
| Model      | 61010-EUGRN (green tank)                 | NA                       |  |  |  |
| Connection | 1/4" FL-M (7/16-20)                      | W21.8-14.M               |  |  |  |

#### 12.5 LITER REFRIGERANT/RECOVERY CYLINDERS

61010-EUGRY

62010-EUGRY



- Size (w x h): 228 mm x 516 mm
- Tare Weight: 8 Kg
- Standard Specification: ADR/RID2009, EN13322-1N D TUV 1
- Nominal Water Capacity: 12.5 I
- . Service Pressure: 32 bar, Tank Test Pressure: 48 bar
- . Air Tightness Test Pressure: 32 bar
- . Bursting Pressure: >108 bar
- Bursting Volumetric Expansion Rate: >20%
- . Body Material: HP295

## SINGLE VALVE (available from US factory)

| Model      | 62009-EUGRY-1/4 (grey tank)  | 62009-EUGRY (grey tank)  |
|------------|------------------------------|--------------------------|
|            | 62009-EUGRN-1/4 (green tank) | 62009-EUGRN (green tank) |
|            | DOUB                         | BLE VALVE                |
| Model      | 62010-EUGRY (grey tank)      | NA                       |
|            | 62010-EUGRN (green tank)     | NA                       |
| Connection | 1/4" FL-M (7/16-20)          | W21.8-14.M               |

#### 27.2 LITER REFRIGERANT/RECOVERY CYLINDERS



63010-EUGRY 63009-EUGRN 63009-EUGRY

• Size (w x h): 298 mm x 613 mm

. Tare Weight: 15.7 Kg

- Standard Specification: ADR/RID2009, EN13322-1N D TUV 1
- . Nominal Water Capacity: 27.2 I
- . Service Pressure: 32 bar, Tank Test Pressure: 48 bar
- · Air Tightness Test Pressure: 32 bar
- Bursting Pressure: >108 bar
- Bursting Volumetric Expansion Rate: >20%
- Body Material: HP295

|            | SINGLE VALVE (available from US factory) |                          |  |  |  |
|------------|--|--------------------------|--|--|--|
| Madal      | 63009-EUGRY-1/4 (grey tank)              | 63009-EUGRY (grey tank)  |  |  |  |
| Model      | 63009-EUGRN-1/4 (green tank)             | 63009-EUGRN (green tank) |  |  |  |
|            | DOUE                                     | BLE VALVE                |  |  |  |
| Madal      | 63010-EUGRY (grey tank)                  | NA                       |  |  |  |
| Model      | 63010-EUGRN (green tank)                 | NA                       |  |  |  |
| Connection | 1/4" FI -M (7/16-20)                     | W21 8-14 M               |  |  |  |

#### **TANK ADAPTERS**





90639 W21.8-14 x 1/4" FL (EU Standard) 90637 3/4-16 x 1/4" FL (US Standard)

90640 90638

Gasket for 90639 Gasket for 90637



## DOT-APPROVED RECOVERY CYLINDERS

- · Powder coated cylinder for high gloss, durable finish
- · Pre-charged cylinder provides a clean, dry interior
- 3/4" NPT opening accepts 80% fill float switch shut-off device
- Reusable and conforms to DOT-4BA400 specs and ARI guidelines
- . Collar design for ease of handling

- Storage and transport of recovered refrigerant gases
- · Y-valve for liquid/vapor
- · AUS Approved and TC Canadian Approved
- 1/4" opening for air purge valve
- · Valve & float switch UL Listed

#### 30 LB. DOT-APPROVED RECOVERY CYLINDERS



- Size (w x h): 9.125" x 17.52"
- . Standard Spec.: DOT 4BA400
- Service Pressure: 400 PSI / 2.7 MPa
   Tank Test Pressure: 800 PSI / 5.5 MPa
- . Tare Weight: 17.99 LB . Body Material: HP295
- Relief Valve Pressure: 600 PSI / 4.1 MPa
- Nominal Water Capacity: >26.2 LB / 11.9 L
- . Air Tightness Test Pressure: 400 PSI / 2.7 MPa

| Model      | 62010<br>without<br>float<br>switch | 62011<br>with<br>float<br>switch | 62012<br>with float<br>switch & 1/4"<br>SAE Port | 64010<br>without<br>float<br>switch | 67010<br>with float<br>switch | 67011<br>with float<br>switch |
|------------|-------------------------------------|----------------------------------|--|-------------------------------------|-------------------------------|-------------------------------|
| Connection | 1/4                                 | " FL-M (7                        | /16-20)  |                                     | 1/2" ACME                     |                               |
| Color      | yellow/gray                         |                                  | b  | lue                                 | yellow/<br>blue               |                               |

#### 50 LB. DOT-APPROVED RECOVERY CYLINDERS



- Size (w x h): 12.25" x 18.78"
- Standard Spec.: DOT 4BA400
- Service Pressure: 400 PSI / 2.7 MPa Tank Test Pressure: 800 PSI / 5.5 MPa
- Tare Weight: 28.71 LB
- . Body Material: HP325 or HP345
- Relief Valve Pressure: 600 PSI / 4.1 MPa
- Nominal Water Capacity: >47.7 LB / 21.6 L
- · Air Tightness Test Pressure: 400 PSI / 2.7 MPa

CC012 C2010 AUC

| Model      | 63010<br>without<br>float<br>switch | 65010<br>with float<br>switch | 66010<br>without<br>float<br>switch | 66011<br>with float<br>switch | with float<br>switch &<br>1/4" SAE<br>Port | without float<br>switch<br>(Australian<br>standard) |
|------------|-------------------------------------|-------------------------------|-------------------------------------|-------------------------------|--|---|
| Connection | 1/4" FL-N                           | 1 (7/16-20)                   |                                     | 1/2" ACME                     |  | 1/2" ACME   |
| Color      | yellov                              | w/gray                        |                                     | yellow/grav                   | /  | white   |

#### 100 LB. DOT-APPROVED RECOVERY CYLINDERS



- Size (w x h): 11.25" x 31.81"
- . Standard Spec.: DOT 4BW400

- . Tare Weight: 50.5 LB
- . Body Material: HP325
- Relief Valve Pressure: 600 PSI / 4.1 MPa
- Nominal Water Capacity: >92.5 LB / 41.9 L
- Service Pressure: 400 PSI / 2.7 MPa Tank Test Pressure: 800 PSI / 5.5 MPa
  - Air Tightness Test Pressure: >87 PSI / 0.6 MPa

| Model      | 68010<br>without float switch |
|------------|-------------------------------|
| Connection | 1/4" FL-M (7/16-20)           |
| Color      | yellow/gray                   |

## **ENVIRO TANK (REFILLABLE CYLINDER)**

#### **30 LB. REFILLABLE CYLINDER**



- Size (w x h): 8.39" x 20"
- Standard Spec.: DOT 4BA400

- Tare Weight: 19.9 LB
- Body Material: HP295
- Relief Valve Pressure: 600 PSI / 4.1 MPa
- Nominal Water Capacity: >30 LB / 13.6 L
- Service Pressure: 400 PSI / 2.7 MPa Tank Test Pressure: 800 PSI / 5.5 MPa
  - Air Tightness Test Pressure: >87 PSI / 0.6 MPa

| Model      | 62020-W             |
|------------|---------------------|
| Connection | 1/4" FL-M (7/16-20) |
| Color      | white               |



# ARGIG GOMMANDER











Mastercool introduces its new ARCTIC COMMANDER line of R/R/R machines. Equipped with the latest technology, all models come standard with an 8" command center. The graphic user interface (GUI) will enable navigation through all functions and features with the greatest of ease. There is no longer a need to read any external instructions or paper manules, simply sit back, watch and learn how to use your machines. All machines are also equipped with Wi-Fi capabilities; allowing for real-time, interactive communication and troubleshooting. It's about time somebody introduced R/R/R machines for the 21st century!

#### SPECIFICATIONS:

- Design Certified:
   R1234yf SAE J2843
   R134a SAE J2788
- Voltage: 110 V / 60 Hz or 220 V / 50/60 Hz
- . Scale Resolution: .02 lb (10 g)
- Working Temperature Range: 50/120°F (10/49°C)
- Compressor: Hermetically sealed, 12cc, high pressure
- Recovery Speed: 95% at 70 to 75°F (21 to 24°C)
   <30 minutes</li>
- Recovery Cylinder: 30 lb (12.5 liters), refillable
- Charge Accuracy: ±0.5 oz. at 70 to 75°F (±15 g at 21 to 24°C)
- Filter System:

R1234yf - 1 filter for cleaning and water removal R134a - 2 filters for cleaning and water removal

- Hoses: 96" (250 cm)
- Pressure Gauges: Class 1
- Cylinder Temperature Sensor: Integrated
- · Cylinder Heater: Standard Equipment
- Dimensions (mm): 1150 (h) x 600 (w) x 770 (d)



#### WI-FI

Wi-Fi capability allows for real time, interactive communication and troubleshooting



## COMPACT DESIGN

The machine's compact design makes it easy to maneuver and requires minimal shop space



#### **COOLING FAN**

Dedicated PC board cooling fan keeps the PC board consistently cool



# 8" COLOR TABLET WITH TOUCH SCREEN FEATURES:

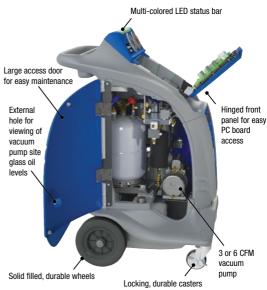


**Home Screen** allows for quick touch selection of options



**Status Screen** 

for quick reference of resources





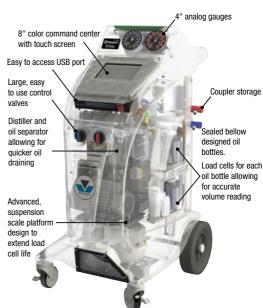
## **Settings Screen**

allows the user to select a default language, units, temperature, volume and weight measurement



## **Maintenance Screen**

offered only to authorized service technicians allowing for quick and easy diagnosis













| COMMANDER4000-E                             | COMMANDER3000-E   | COMMANDE   | R2000-E CO  | MMANDER1000-E  |
|---|---|--|---|--|
|   | COMMANDER4000 (110V)<br>COMMANDER4000-E (220V)<br>R1234yf | COMMANDER3000 (110V)<br>COMMANDER3000-E (220V)<br>R134a HYBRID | COMMANDER2000 (110V)<br>COMMANDER2000-E (220V)<br>R134a FULLY AUTOMATIC | COMMANDER1000 (110V)<br>COMMANDER1000-E (220V)<br>R134a MANUAL |
| 8" Color Touch Screen                       | X   | X  | X   | X  |
| Automatic and Manual<br>Procedures          | X   | X  | X   | Manual procedures only   |
| Refrigerant Database                        | X   | X  | X   | Optional   |
| Automatic Vacuum Leak<br>Test: Programmable | X   | x  | X   | X  |
| Auto Oil Discharge                          | X   | Χ  | Χ   | X  |
| Auto and Manual Air<br>Purge                | X   | X  | X   | Х  |
| Auto Filter and Full<br>Tank Alarm          | X   | X  | X   | X  |
| Low Refrigerant Alarm                       | X   | Χ  | Χ   | X  |
| Auto Oil Injection                          | COMMANDER4000-E only                                      | COMMANDER3000-E only   | X   | NA   |
| Thermal Printer                             | X   | X  | Optional  | Optional   |
| Hose Flushing                               | X   | X  | NA  | NA   |
| Vehicle A/C System<br>Flushing              | Optional  | Optional   | NA  | NA   |
| Tank Heater                                 | X   | X  | X   | X  |
| Vacuum Pump                                 | 6 CFM   | 6 CFM  | 6 CFM   | 3 CFM  |
| Refrigerant Identifier                      | X   | NA   | NA  | NA   |
| On-board Instructions                       | X   | X  | X   | X  |
| Multiple Languages                          | X   | Х  | X   | X  |
| On-board Unit<br>Conversion Calculator      | X   | X  | X   | x  |
| New Cabinet Design for Increased Air Flow   | X   | x  | X   | X  |
| Large Analog Gauges                         | X   | X  | X   | Х  |
| Hard Wired Power Cord                       | X   | Χ  | X   | Х  |
| Hose Coupler Storage                        | X   | X  | Χ   | X  |
| Solid Durable Wheels with Locking Casters   | X   | X  | X   | Х  |
| Multi-colored LED<br>Status Bar             | X   | X  | X   | NA   |
| Wi-Fi Capable                               | X   | X  | Х   | Χ  |

For R1234yf machines without a refrigerant identifier, use COMMANDER4000-X (110V model) or COMMANDER4000-E-X (220V model) NOTE: Per SAE J2843, the COMMANDER4000-X will work only in conjunction with an external refrigerant identifier

All Commander Machines are available with the following cables, please add:



-E for 220V schuko



-E-AUS for Australia



-E-UK for UK





#### COMMANDER CONSUMABLES

Mastercool uses only the highest quality oils and dies with their products. In order to keep your warranty valid, please use Mastercool oils and dies at all times. For the Commander line of machines. Mastercool recommends the following consumables:

#### **COMPRESSOR OILS**



92709-65-8 92709-65-32

Maximum protection with excellent thermal & oxidative stability. Moisture tolerant. OEM approved.

| 92709-65-8   | PAG 65 Oil (8 oz (236 ml) bottle)  |
|--------------|------------------------------------|
| 92709-65-32  | PAG 65 Oil (32 oz (1 L) bottle)    |
| 92709-100-8  | PAG 100 Oil (8 oz (236 ml) bottle) |
| 92709-100-32 | PAG 100 Oil (32 oz (1 L) bottle)   |
| 92709-150-8  | PAG 150 Oil (8 oz (236 ml) bottle) |
| 92709-150-32 | PAG 150 Oil (32 oz (1 L) bottle)   |









92709-YF-8 92709-YF-32

## . Optimized miscibility in HFO refrigerant R1234yf

- · Superior lubricity
- · Exceptional Viscosity Index (VI)
- · Good high temperature and chemical stability
- · Low hygroscopicity (tendency to absorb moisture)
- · Formulating expertise
- Excellent electrical resistivity properties for electrically driven systems
- \* For more information please see page 89

92709-YF-8 8 fl. oz (236 ml) bottle 92709-YF-32 32 fl. oz (946 ml) bottle





## **ULTRAVIOLET A/C DYES**



92708 Standard Universal Dve

8 oz (240 ml) Bottle - 32 Applications

Standard Universal Dve 92732

32 oz (1 L) Bottle - 128 Applications 53625 Concentrated Universal Dve

2 oz (60 ml) Bottle - 25 Applications

## COMMANDER REPLACEMENT FILTERS



COMD2-FLTRPK

Change the filter-drier when notified by the machine to assure adequate moisture and contaminant removal as well as prevent lockout.

COMD2-FLTRPK 2 filter pack for COMMANDER1000, COMMANDER2000,

COMMANDER3000. Has a 175 lb filtering capacity.

COMD1-FLTRPK 1 filter for COMMANDER4000, COMMANDER4000-E.

> COMMANDER3000-E, COMMANDER2000-E, COMMANDER1000-E. Has a 350 lb filtering capacity.

## A/C SYSTEM FLUSH HOSE ASSEMBLY



69889-SFHA 69843-SFHA R134a A/C System Flush Hose Assembly includes high and low

side couplers (82834, 82934) and 8 foot yellow hose

R1234yf A/C System Flush Hose Assembly includes high and low side couplers (83834, 83934) and 8 foot yellow hose



## THE TWIN TURBO SERIES IS THE MOST COMPLETE SOLUTION TO YOUR RECOVERY NEEDS!





#### **FEATURES & BENEFITS:**

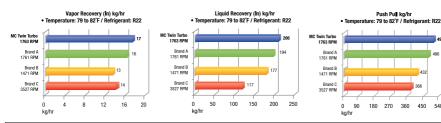
- · Revolutionary double piston oil-less compressor
- · Safety high pressure switch
- · Simple internal structure for field service
- Largest volume recovery rate in market
- For use with all refrigerants including R410A
- Injection molded high density polyethylene case for maximum durability
- Front cover has bumper guards built in to reduce damage to the control knobs
- . Compatible refrigerants: All CFC, HCFC, and HFC's

#### SPECIFICATIONS:

- 1/2 hp oil less compressor
- Recovery Rate:
   R134a

## R22

- Direct vapor up to 14 kg/hr Direct vapor up to 17 kg/hr
- Direct liquid up to 130 kg/hr Direct liquid up to 206 kg/hr
- Push pull up to 318 kg/hr
   Push pull up to 498 kg/hr
- Operating Temperature: 0 to 50°C / 32 to 122°F
- Weight: 12.8 kg / 28.3 lbs
- Dimensions: 457 mm (l) x 254 mm (w) x 356 mm (h) (18" (l) x 10" (w) x 14" (h))
- · Case Material is HDPE (High Density Polyethylene)



All Twin Turbo Recovery Machines are available with either a UK or Australian Cable, please add a:

- -AUS for an Australian cable
- -UK for a UK cable





#### TWIN TURBO REFRIGERANT RECOVERY MACHINE





Mastercool's addition to the recovery machine lineup takes the reliability of the 69000 series machines and enhances those features to allow for maximum recovery capacity while at the same time decreasing size and weight. The design of the double piston compressor and cooling by the largest fan and condenser in the market makes the 69300 series the most complete solution to your recovery needs!

| 69300        | 115 V - 60 Hz   |
|--------------|---|
| 69300-220    | 220 V - 50/60 Hz  |
| 69300-220-EU | 220 V - 50/60 Hz<br>includes a manual restart button per EU standards |
| 69300-2V-110 | Dual Voltage 110/220 V - 50/60 HZ - 110 V Cable                       |
| 69300-2V-220 | Dual Voltage 110/220 V - 50/60 HZ - 220 V Cable (Schuko)              |
| 603UU-3A-IIK | Dual Voltage 110/220 V - 50/60 H7 - UK Cable                          |

#### TWIN TURBO REFRIGERANT RECOVERY MACHINE





This unit offers all the same functions and features as the 69300. In addition it has an oil separation module, filter dryer and sight glass.

| 09330        | 115 V - 60 HZ   |
|--------------|---|
| 69350-220    | 220 V - 50/60 Hz  |
| 69350-220-EU | 220 V - 50/60 Hz<br>Includes a manual restart button per EU standards |
| 69350-2V-110 | Dual Voltage 110/220 V - 50/60 HZ - 110 V Cable                       |
| 69350-2V-220 | Dual Voltage 110/220 V - 50/60 HZ - 220 V Cable (Schuko)              |
| 69350-2V-UK  | Dual Voltage 110/220 V - 50/60 HZ - UK Cable                          |
| 69500-DR     | Replacement Filter Drver  |

## **MOBILE RECOVERY MACHINE**









69390-220

## COMPATIBLE WITH COMBUSTIBLE GASES

11EV CO U-

69390 115 V - 60 Hz

## FOR MOBILE A/C SYSTEMS DESIGNED FOR R1234yf

This unit offers all the same functions and features as the 69300. In addition:

- . Meets all requirements of SAE J2851
- 60" R1234yf blue hose and low side (1/4 FL-M x 13 mm) coupler
- 60" yellow transfer hose

Comes equipped with overfill protection switch cutting off at 80% tank capacity (Recovery tanks must have floats using 3 pin Brad Harris plug)

220 V - 50/60 Hz (same as above) 69390-220

> HVAC Combustible Gas Recovery Machine (220 V - 50/60 Hz) Comes as pictured less hoses and couplers with 1/4" flare fittings



 $\epsilon$ 



#### COMPATIBLE WITH COMBUSTIBLE GASES

Mastercool introduces the new "Mini Twin" all in one recovery machine. Equipped with the same high quality twin piston compressor as the Twin Turbo series this unit has been designed to work in all applications. Whether you find yourself up a ladder, in a crawl space or just not looking forward to luging around a heavy piece of equipment, this is the gript machine for you. Best of all, this machine has been constructed with the safest spark free component allowing for use with all combustible gases.

## SPECIFICATIONS:

- 1/2 HP motor
- Operating Temperature: 0 to 50°C (32 to 122°F)
- . Compatible with all CFC, HCFC, HFC's, and Combustible gases
- Weight: 11 kg (24 lbs)

 $\bullet$  Dimensions: 300 mm (l) x 200 mm (w) x 270 mm (h) (11.8" (l) x 7.9" (w) x 10.6" (h))

**69400** 115 V - 60 Hz **69400-220** 220 V - 50/60 Hz

## 69500 RECOVERYMATE



Turn any Recovery Machine into a Portable Recycler by adding the RECOVERYMATE!

#### SPECIFICATIONS:

- · Lightweight and easy to carry
- 4-way ball valve manifold controls the flow smoothly and quickly with only 1/4 turn
- · Large capacity oil separator
- · High performance dryer eliminates moisture from recovered refrigerant
- Extra large sight glass monitors refrigerant flow and changes color when a dryer change is necessary
- · Rugged carrying case can stand on its own or be mounted on a wall or bench
- Length: 38 cm (15")
- Width: 10 cm (4")
- Height: 43 cm (17")
- Weight: 5.5 kg (12.25 lbs)
- Includes hoses



#### REFRIGERANT RECOVERY SYSTEM





These recovery systems are compact, lightweight and work with all refrigerants. They're ideal for commercial, residential or industrial appliance applications. Our recovery systems offer a state-of-the-art 1/2 HP oil-less compressor with a built-in high volume cooling fan. This innovative design delivers maximum cooling efficiency which keeps the compressor working at high capacities in even the hottest climates. The compressor is also protected by an automatic low pressure cut-off switch that shuts off the unit once the recovery is complete. This AUTO SHUT-OFF feature eliminates the risk of compressor failure and reduces the user's need to monitor the entire recovery system. All of our recovery systems offer our color-coded gauges with pressure readings in PSI, BAR and MPa. Our stainless steel ball valve designed manifold, controls the flow smoothly and quickly with only a 1/4 turn. With all of this protected by a reinforced hard plastic case, Mastercool's recovery systems will meet all your refrigerant recovery needs.

#### **FEATURES**

- · High performance oil-less compressor
- · High volume cooling fan design
- · Automatic low pressure cut-off switch
- · Liquid compatible head-valve system
- · Safety high pressure cut-off switch
- Fully reinforced hard plastic casing

#### SPECIFICATIONS:

- 1/2 HP oil-less compressor
- Recovery Rate:

Direct vapor up to 12 kg/h

Direct liquid up to 71 kg/h Push-pull up to 326 kg/h

- Operating Temp. Range: 0 to 50°C (32 to 122°F)
- Weight: 16 kg (38 lbs)
- Dimensions: 432 mm (l) x 254 mm (w) x 305 mm (h) (17" (l) x 10" (w) x 12" (h))
- · Refrigerants: CFC's, HCFC's, HFC's

**69000** 115 V - 60 Hz **69000-220** 220 V - 50/60 Hz

**69000-220-TUV** 220 V - 50 Hz Certified to TUV/GS and E35-421

**69000-J** 100 V - 50 Hz (Japanese Standard)

## 69200-220 COMPLETE A/C RECOVERY SYSTEM

 $\epsilon$ 



This unit offers all the same functions and features as the reliable 69000 recovery machine. In addition, Mastercool has strategically placed an oil separation module inside the unit that will dispense used oil effortlessly. Together with its filter dryer and sight glass this unit allows for the technician to actually clean the used refrigerant and potentially re-use.

69500-DR

Replacement Filter Dryer





#### **PORTABLE ELECTRONIC CHARGING STATION**



A lightweight, durable, steel frame cart that contains all the necessary tools to quickly and conveniently charge the A/C system. No need for different sized charging cylinders with Mastercool's rugged die cast electronic scale. Simply place the refrigerant cylinder on the scale and charge.

#### FEATURES:

- · A rugged, lightweight steel cart with wheels and convenient storage pocket for
- scale and hoses allows this portable charging station to be taken almost anywhere
- Dimensions: 26" x 17" x 13" (66 cm x 43 cm x 33 cm)
- · Extruded aluminum manifold with long lasting valve design
- Large 80 mm gauges make it easy to read the pressure and temperature scales
- 109 kg (240 lb) capacity scale with long lasting 9V battery (60 hrs)
- Deep micron, rotary vane vacuum pumps.
   Available in 119 lit/min and 178 lit/min.
- Includes set of 180 cm (72") hoses

#### ALSO AVAILABLE:

- Refrigerant tank heater blanket #98250 and #98250-220
- \* R134a Automotive Service Couplers not included

| VACUUM PUMP      | 5 CFM | 119 lit/min (50 Hz)<br>142 lit/min (60 Hz) | 7.5 CFM | 178 lit/min (50 Hz)<br>213 lit/min (60 Hz) |
|------------------|-------|--|---------|--|
| MANIFOLD         | 110 V | 220 V                                      | 110 V   | 220 V                                      |
| 2 Way Alum Block | 91585 | 91585-220                                  | 91587   | 91587-220                                  |
| 4 Way Alum Block | 91586 | 91586-220                                  | 91588   | 91588-220                                  |

#### **DUAL VOLTAGE PORTABLE CHARGING STATION**

| VACUUM PUMP      | 90063-2V-220-B | 90066-2V-220-B |
|------------------|----------------|----------------|
| MANIFOLD         | 110/220 V      | 110/220 V      |
| 2 Way Alum Block | 91583-2V-220   | 91585-2V-220   |
| 4 Way Alum Block | 91584-2V-220   | 91586-2V-220   |

#### MOBILE ELECTRONIC CHARGING STATION





Keeping the same ideals in mind as the Portable Electronic Charging Station, the mobile unit is directed towards the garage technician. With an enlarged carry cart and larger wheels, this unit can get around the shop with the greatest of ease!

• Dimensions: 45" x 18" x 16.5" (114 cm x 46 cm x 42 cm)

| VACUUM PUMP      | 5 CFM | 119 lit/min | 7.5 CFM | 178 lit/min |
|------------------|-------|-------------|---------|-------------|
| MANIFOLD         | 110 V | 220 V       | 110 V   | 220 V       |
| 2 Way Alum Block | 91685 | 91685-220   | 91687   | 91687-220   |
| 4 Way Alum Block | 91686 | 91686-220   | 91688   | 91688-220   |

#### **DUAL VOLTAGE MOBILE CHARGING STATION**

| VACUUM PUMP      | 90063-2V-220-B | 90066-2V-220-B |
|------------------|----------------|----------------|
| MANIFOLD         | 110/220 V      | 110/220 V      |
| 2 Way Alum Block | 91683-2V-220   | 91685-2V-220   |
| 4 Way Alum Block | 91684-2V-220   | 91686-2V-220   |

All charging stations are available with either a UK or Australian Cable, please add a:

-AUS for an Australian cable

-UK for a UK cable



#### 69134-A REFRIGERANT IDENTIFIER FOR R134a





The Refrigerant Identifier helps confirm the presence and quality of R134a refrigerant in vehicle air conditioning systems.

#### SPECIFICATIONS:

- · Weight: 0.8 kg
- · Refrigerant Detected: R134a (Tetraflouroethane)
- Accuracy: PASS/FAIL 95% Pure R134a
- · Power Requirements: 12 VDC
- User Interface: Membrane type with visual indicators and function key
- Calibration Method: Manual pump aspirator
- Minimum Input Pressure: 1.38 Bar (20 Psig),
   Maximum Input Pressure: 20.70 Bar (300 Psig)
- Storage Temperature: -10° to 50°C
- . Operating Temperature: 10 to 45°C
- Construction Material: Molded ABS housing/molded rubber sleeve









## 691234YF-MINI MINI ID REFRIGERANT IDENTIFIER FOR R1234yf



The 691234YF-MINI helps verify the presence and quality of R1234yf refrigerant in vehicle air conditioning systems, to avoid potential damage from refrigerant contamination. The MINI ID delivers fast and accurate refrigerant analysis in a self-contained, compact, and extremely portable package. It automatically provides step-by-step indication of the gas sampling process.

#### SPECIFICATIONS:

- Weight: 0.8 kg
- Refrigerant Detected: R1234vf (Tetrafluoropropene)
- · Accuracy: PASS/FAIL 95% Pure R1234yf
- Power Requirements: 12 VDC
- . Approvals: UL, CE, RoHS Compliant
- User Interface: Membrane type with visual indicators and function key
- Calibration Method: Manual pump aspirator
- Storage Temperature: -10° to 50°C
- . Operating Temperature: 10°C to 45°C
- Construction Material: Molded ABS
- Housing/Molded Rubber Sleeve





#### 691234YF ULTIMA ID 1234YF REFRIGERANT ANALYZER



The Ultima ID 1234yf refrigerant analyzer is SAE J2912 certified. Its portability and USB integration with the R/R/R machine, provides a versatile and efficient method of validating the refrigerant purity during service.

- . Displays % air in pure R1234yf and R134a
- Built-in rechargeable power pack and printer to easily print test results
- Connects directly to SAE J2843 R/R/R machine

#### SPECIFICATIONS:

- · Refrigerant Measured: R1234yf, R134a
- . Accuracy: Better than ±1.0%
- Refrigerant % Displayed: R1234yf, R134a, R22, HC, Air
- . Ambient Operating Temperature Range: 50° to 120°F
- Power: 110/220V 50/60Hz
- Communication Protocols: USB 2.0
- User Interface: LCD + 3 switches
- Approvals: CE, UL, SAE
- Integral Pressure/Flow Control: Yes
- Integral Calibration Pump: Yes
- Oil Contamination: User Replaceable Oil Trap
- · Filtration: User Replaceable

Comes with complete kit: R134a adapter fitting for ACME ported cylinders, identifier and accessories housed in a portable case, R1234yf adapter for cylinders, R1234yf and R134a sample hoses



## NAC STYNO

#### **ULTIMA ID™ HVAC REFRIGERANT IDENTIFIER**



- Contractors can accurately determine the type of refrigerant they are recovering.
- Wholesalers can quickly check contractors' refrigerant and prevent contamination to their bulk reclaim supply.
- Reclaimers can easily pre-screen incoming refrigerant prior to the costly GC process and catch problem refrigerant before it causes damage.

Comes with complete kit: 1/4" FL sample hose, 110/220VAC power adapter, identifier and accessories in a rugged case

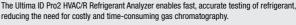
#### SPECIFICATIONS:

- · Refrigerant: R12, R134a, R22, and HC
- · Weight: 8.0 lbs.
- · Power requirements: 110/220 VAC via included adapter
- . Display: 128 x 64 pixel graphing
- 12-15V DC optional battery pack (Internal)
- · Resolution: 0.1%
- · Output: Digital display and LEDs
- . Operating temperature: 40 to 130°F
- . Operating humidity: 0-95% RH non-condensing
- . Optional built-in printer

| 69HVAC    | Ultima ID™ HVAC Refrigerant Identifier              |
|-----------|---|
| 69HVAC-P  | Ultima ID™ HVAC Refrigerant Identifier with printer |
| 69HVAC-PR | Printer roll for 69HVAC-P & 69HVAC-PRO              |

#### **ULTIMA ID™ PRO2 HVAC REFRIGERANT IDENTIFIER**





## FEATURES:



- · Vapor or liquid sample analysis
- · Internal thermal printer
- Greater accuracy in less time
- Wide refrigerant range
- Refrigerant composition breakdown
  Remote software updates for new refrigerants
- 1/4" flare sample hose

## SPECIFICATIONS:

- Analyzed Refrigerants: R22, R32, R134a, R404A, R407C, R410a, Hydrocarbons (HC) and Air
- Identified Refrigerants: R12, R1234yf, R408A, R409A, R417A, R421A, R421B, R422A, R422B, R422C, R427A and Hydrocarbons (HC)
- . Weight: Less than 10 Lbs.
- . Accuracy: ±2% of indicated gases or better
- . Approvals: CE, UL and CUL
- Power Requirements: 12 VDC @ 2A via 110/220 VAC Adapter
- · User Interface: Graphic display, soft keys, built in printer
- Sample Gas Extraction: Pressure from cylinder or system
- Temperature Range: 50 to 120°F
- · Response Time: Less than 3 minutes
- · Humidity: 0-95% RH non-condensing
- Test Sample Size: 5g per test, Test Pressure: 50 psi 500 psi

**69HVAC-PR02** Ultima ID™ PRO HVAC Refrigerant Identifier

 $\textbf{69HVAC-PRO2EU} \qquad \textbf{Ultima ID}^{\intercal M} \ \textbf{HVAC Refrigerant Identifier with schuko plug}$ 





#### **LEAK DETECTOR OVERVIEW** Model Detects all Detects all Detects all refrigerants (CFC's, Detects combustible refrigerants (CFC's, refrigerants (CFC's, HCFC's. HFC's and R744 Refrigerants HCFC's, HFC's HCFC's, HFC's gases, hydrogen blends), combustible and blends) and blends) gases, hydrogen Sensor Life 2000 hours 2000 hours 20 hours 20 hours >2 years

## THE ONLY LEAK DETECTOR YOU WILL EVER NEED

2 "D" hatteries



2 "C" batteries



4 "AA" batteries





Power

# Intella Sense

2 "C" hatteries

**CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST** 

2 "C" batteries

 ${\tt Detects: Combustible \ Gases, Hydrogen, Refrigerants: All \ CFC's, HCFC's \ \& \ HFC's \ and \ blends}$ 

## << MEETS AND EXCEEDS J2791 (R134A), J2913 (R1234YF) AND EN 14624 >>

The 55800 leak detector employs a new metal oxide gas sensor for the detection of chlorofluorocarbon gases and blends. This tin oxide sensor is characterized by high sensitivity and a fast response, upon detecting the presence of extremely small levels of chlorofluorocarbon gases. Integrated into the design is a powerful microprocessor that automatically selects the best operating conditions for the sensor, to ensure optimum performance. The optimum sensor performance is maintained and monitored throughout the life of the sensor.

## SPECIFICATIONS:

SENSITIVITY (\*based on optimal laboratory conditions):

- • HIGH  $\geq 0.05$  oz/yr (1.5 g/yr), MEDIUM  $\geq 0.25$  oz/yr (7 g/yr), LOW  $\geq 0.5$  oz/yr (14 g/yr) PROBE:
- Intelligent tip design that senses the condition of the environment, to eliminate the potential of false alarms
- Flexible 16" probe for difficult to reach locations DISPLAY:
- Progressive LCD with vertical bars corresponding to the magnitude of the detected leak
- · Visual indication of the selected sensitivity range

REFRIGERANTS: Detects all refrigerants (CFC's, HCFC's, & HFC's) Unit has been tested and approved to work with R1234yf as well as R32 and R410a

SENSOR LIFE: 2000 hours

OPERATING TEMPERATURE RANGE: 0 to 140°F

POWER: Two (2) D Batteries

BATTERY LIFE: 60 hours continuous use

WEIGHT: 1 lb. 8 oz

"SUPER SENSITIVE FUNCTION" allows the unit further sensitizing beyond the standard settings for locating small leaks with gases such as R1234yf and R407C

#### LCD FEATURES

Wait Mode, Ready Mode, INT Mode, Low Battery Indication, High-Medium-Low Sensitivity Range, Signal Level Bars, Error Signals

## KEYPAD FUNCTIONS:

On/Off, Volume/Mute, HML Sensitivity, Hold and Peak

55800

Intella Sense Refrigerant Leak Detector packaged in a blow molded case with 2 "D" batteries, leak test vial and replacement filters

55800-FILTER 3 Replacement Filters

Keypad 55800-VL

LCD Display

Leak Test Vial





# 55850 Intellation Sense REFRIGERANT LEAK DETECTOR KIT









#### **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

Intella Sense Refrigerant Leak Detector Kit includes:

- Intella Sense Refrigerant Leak Detector
- 12 LED UV light (53512-UV)
- UV safety glasses (92398)
- · 2 "D" batteries
- Replacement filters (55800-FILTER)
- Leak test vial (55800-VL)
- . Blow molded case (55800-PB)

55975 Intella Sense 55975 COMBUSTIBLE GAS LEAK DETECTOR





### COMPATIBLE WITH COMBUSTIBLE GASES

## **CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST**

Intella Sense III Combustible Gas Leak Detector is packaged in a blow molded case with 2 "C" batteries, leak test vial and replacement filters

## **SPECIFICATIONS**

- . Sensing Element: Heated tin oxide
- · Sensor Life: 2000 hours
- · Refrigerants: Detects combustible gases
- Response Time: less than 1 second
- . Battery: 2 "C" alkaline 6000 mAh batteries
- . Operating Temperature Range: 0°F to 120°F
- Ultimate Sensitivity: 50 1000 ppm

#### Probe:

- . Intelligent tip, with environment sensing element to eliminate the potential of false alarms
- Flexible 15.5 inch probe length for difficult to reach locations

## Display:

Six vertical LED's enable selectively (red, yellow or green) to display the following information to the user such as:

- . The relative signal level of the detected leak
- . The selected sensitivity range (low/medium or high) of the unit
- Diagnostic information: low battery, interference/wait, contaminated atmosphere, readiness of the unit or fault conditions of the unit

## **Keypad Controls:**

 ON/OFF, Volume/Mute, Sensitivity for High, Medium and Low level selection, Peak button when multiple leaks are suspected DETECTS: Acetone, Acetylene, Ammonia, Benzene, Butane, Butanol, Chlorine, Ethanol, Gasoline, Hexane, Hydrogen, Hydrogen Sulfide, Isobutane, Methane (natural gas), Methanol, Methyl Acetate, Methyl Chloride, Methyl Ether, Naptha, N-Butane, Pentane, Propane, Propanol, Sulfer Dioxide and Trichloroethane



56100 REPROGRANT LAK DETECTOR









# CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

The Raptor Refrigerant Leak Detector offers state-of-the-art features and micro-processing technology while the design sensor delivers an accurate and instantaneous response. Packaged in a blow molded case with 2 "C" batteries and sensor tip.

## **FEATURES:**

- · Digital Signal Micro Processor
- Visual Leak Level Indicator
- · Reset Function and Keypad Control
- Sensitivity Level Adjustment
- Battery Test Function
- Variable Frequency Audible Alarm
- Meets and Exceeds SAE J1627

## SPECIFICATIONS:

- 3 Levels of Sensitivity (5 Levels of Detection)
- Detects leaks as small as 1/10 oz per year\*
   \*based on optimal laboratory conditions
- . Detects all refrigerants (CFC's, HCFC's, HFC's)
- · Power: 2 "C" Batteries
- Probe: Flexible 16" (43 cm)







# **WITH UV BLUE LIGHT**

# CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

The Raptor Refrigerant Leak Detector with UV Blue Light offers state-of-the-art features and micro-processing technology while the design sensor delivers an accurate and instantaneous response. An ultra bright UV light is built into the end of the probe allowing for both electronic and UV leak detection of even the toughest leaks. Packaged in a blow molded case with UV glasses, 2 "C" batteries and sensor tip.



- · Digital Signal Micro Processor
- Mute Function
- · Visual Leak Level Indicator
- · Reset Function and Keypad Control
- Battery Test Function
- · Sensitivity Level Adjustment
- Ultra Bright UV/Blue LED Light
- Variable Frequency Audible Alarm
- Meets and Exceeds SAE J1627

## SPECIFICATIONS:

- 6 Levels of Sensitivity (15 Levels of Detection)
- Detects leaks as small as 1/10 oz per year\*
   \*based on optimal laboratory conditions
- Detects all refrigerants (CFC's, HCFC's, HFC's)
- · Power: 2 "C" Batteries
- Probe: Flexible 16" (43 cm)













#### **COMPLETE ELECTRONIC & UV LEAK DETECTION KIT**



## CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST

The ultimate solution for all your A/C leak detection needs.

Kit Includes:

56200 "Raptor" Electronic Leak Detector with UV Blue Light

UV Dye Injector w/25 Application Dye Cartridge

Dve Injector Connection Hose w/R12 Adapter

Dye Cleaner

**UV Safety Glasses** 

Custom Molded Carrying Case



#### **COMPLETE ELECTRONIC & UV LEAK DETECTION KIT** 56400



**CALIBRATION CERTIFICATE AVAILABLE UPON REQUEST** 

The ultimate solution for all your A/C leak detection needs.

56200 "Raptor" Electronic Leak Detector with UV Blue Light

Refillable Dye Injector

Dye Injector Connection Hose w/R12 Adapter 2 oz Bottle of Concentrated Universal Dve

**UV Safety Glasses** 

Dye Cleaner

**Custom Molded Carrying Case** 



## **ELECTRONIC LEAK DETECTOR FOR R744**



Mastercool's Electronic Leak Detector for R744 is the most technologically advanced instrument of its kind. The minimal power requirements, small size and high sensitivity combine to create a tool which is easy to handle and ultra-effective at locating even the most difficult to find leaks.

### SPECIFICATIONS:

- . Operating Temperature:
  - 32 122°F (0-50°C)
- . Warm Up Time: 10 seconds • Response Time: < 1 second
- Reset Time: < 1 second
- Sensitivity (High): < 400 ppm at 350 ppm ambient
- · Sensitivity (Low):
- < 4,000 ppm at 350 ppm ambient
- Sensor Lifetime: > 2 years
- Probe Length: 12" (30cm)
  Batteries: 4 x 1.5V 'AA' Alkaline Batteries (6 VDC)
- · Battery Life: 20 hours
- Dimensions: 20.3 cm x 6.3 cm x 5.7 cm
- · Weight: 15 oz (425 grams) with batteries





#### 53518-UV **RECHARGEABLE 110 V UV FLASHLIGHT (LED) RECHARGEABLE 220 V UV FLASHLIGHT (LED)** 53518-UV-220



- . Twist the handle to zoom the UV light in or out
- . AAA battery holder provides backup power to flashlight (3 AAA batteries included)
- . Battery Life: 3 to 5 hours continuous leak detection
- · Includes safety glasses

## SPECIFICATIONS:

- · High Intensity LED
- 154 170 μW/cm<sup>2</sup> which is compatible to a 50 watt UV flashlight
- 2 Illumination Modes: super bright and battery conservation
- . Battery: Lithium Li-lon, full discharge and cut-off discharge of 4.2V and 2.75V

#### 53512-UV MINI UV FLASHLIGHT (LED)



- 12 LED Bulb UV Illumination
- · Aluminum body with Type III anodized finish
- Battery Life: 5 hours continuous leak detection 25,000 hour bulb life
- · Includes safety glasses
- · Easy grip texture
- · 3 AAA batteries

#### 53517-UV **COMPACT UV FLASHLIGHT (LED)**



- 17 LED Bulb UV Illumination
- · Aluminum body with Type III anodized finish
- Battery Life: 4 hours continuous leak detection 25,000 hour bulb life
- · Includes safety glasses
- · Easy grip texture
- · 3 AAA batteries

#### 53515 MACH IV FLEXIBLE UV LIGHT (LED)



The Mach IV flexible UV light has 4 TRUE UV LEDS delivering a brilliant fluorescent

- · Gets into tight areas easily.
- · Includes UV Enhancing Safety Glasses

## PATENT NO. 6,647,761

53515-B Light Bulb

#### 53012 **UV SWIVEL HEAD LIGHT (12 V/100 WATTS)**



- 180° Swivel Heads Get Into Tight Places Instant ON
- Heavy Duty Metal Construction
- . Includes UV Enhancing Safety Glasses
- 53012-B Light Bulb
- 53012-L Lens

## **UV MINI LIGHT (12 V/50 WATTS)**



- · High Intensity
- 16ft. (5m) Cord
- · Compact & Lightweight
- Instant ON
- . Includes UV Enhancing Safety Glasses







## **COMPACT UV LEAK LOCATOR KITS**



Leading the way in UV LEAK DETECTION, Mastercool offers a variety of compact UV Leak Locator Kits. Each kit offers a powerful inspection lamp, a "Refillable" or "Cartridge Type" Dye Injector and accessories. All kits are packaged in a clamshell or custom molded carrying case.

|       | 53451-2                             |
|-------|-------------------------------------|
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| 53587 | © Rannord                           |

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| KIT PART#   | INJECTOR /<br>Light    | CONTENTS OF EACH KIT  | VOLTAGE<br>WATT  |
|-------------|------------------------|---|------------------|
| 53451-110   | 53123/<br>53518-UV     | Rechargeable UV light, Batteries, Rechargeable<br>Batteries, Battery Holder, Refillable 2 oz Dye<br>Injector, 2 oz Concentrated Universal A/C<br>Fluorescent Dye (25 Application), 4 oz Dye<br>Remover, 25 Service Information Labels, UV<br>Enhancing Safety Glasses | LED              |
| 53451-220   | 53123/<br>53518-UV-220 | Rechargeable UV light, Batteries, Rechargeable Batteries, Battery Holder, Refiliable 2 oz Dye Injector, 2 oz Concentrated Universal A/C Fluorescent Dye (25 Application), 4 oz Dye Remover, 25 Service Information Labels, UV Enhancing Safety Glasses                | LED              |
| 53451-C-110 | 53223/<br>53518-UV     | Same as 53451-110 but with Replaceable 2 oz Dye Cartridge (25 Applications)   | LED              |
| 53451-C-220 | 53223/<br>53518-UV-220 | Same as 53451-220 but with Replaceable 2 oz Dye Cartridge 25 Applications)  | LED              |
| 53587       | 53809/<br>53517-UV     | Compact UV Flashlight (53517-UV), 1 oz die injector with replaceable 1 oz die cartridge (10 application), Low Side Hose, 1/4" FL adapter, UV Enhancing Safety Glasses, Service Information Labels, Packaged in a clam shell   | LED              |
| 53580       | 53809/<br>53515        | MACH IV Flexible LED UV Light w/1 oz (30 ml)<br>Dye Injector, w/Replaceable 1 oz (30 ml) Dye<br>Cartridge (10 Appl.), Low-Side Hose w/R134a<br>Coupler, 1/4" FL Adapter, 10 Serv. Info. Lbls.<br>& UV Enhancing Safety Glasses  | LED              |
| 53585       | 53809/<br>53515        | Same as above, but w/1 oz OIL/ATF/Gas<br>(53610) & Diesel Fluorescent Dye and 1oz<br>(30ml) Engine Coolant Fluorescent Dye (53609)  | LED              |
| 53100       | 53123/<br>53012        | High Intensity Swivel Head Light, w/ Refillable<br>2 oz (60 ml) Dye Injector, 2 oz (60 ml)<br>Concentrated Universal A/C Fluorescent Dye<br>(25 Appl.), 4 oz (1200 ml) Dye Remover, 25<br>Serv. Info. Lbls. & UV Enhancing Safety Glasses                             | 12 V/100<br>WATT |
| 53100-C     | 53223/<br>53012        | Same as 53100, but with Replaceable 2 oz (60 ml) Dye Cartridge (25 Appl.)   | 12 V/100<br>WATT |
| 53500       | 53123/<br>53312        | High Intensity Mini Light w/Refillable 2 oz (60 ml) Dye Injector, 2 oz (60 ml) Concentrated Universal A/C Fluorescent Dye (25 Appl.), 4 oz (120 ml) Dye Remover, 25 Serv. Info. Lbls. & UV Enhancing Safety Glasses   | 12 V/50<br>WATT  |
| 53500-C     | 53223/<br>53312        | Same as 53500, but with Replaceable 2 oz (60 ml) Dye Cartridge (25 Appl.)   | 12 V/50<br>WATT  |



## REFILLABLE "PISTON TYPE" UNIVERSAL OIL/DYE INJECTOR



To inject the oil or dye, simply connect the injector to the low side of the A/C system and twist the handle until you reach the desired amount.

| 53123   | Refillable Universal Dye Injector<br>with auto shut-off valve adapter and 2 oz (60 ml) Bottle of Concentrated<br>A/C Dye (25 Apps) |
|---------|--|
| 53123-A | Refillable Universal Dye/Oil Injector (w/o dye) with auto shut-off valve adapter   |
| 53134   | Refillable Oil/Dye Injector with (R134a 13 mm Connection)<br>and 2 oz (60 ml) Bottle of Concentrated A/C Dye (25 Applications)     |
| 53322   | Refillable Dye Injector with (1/4" Auto Shut-off Valve Connection)<br>and 2 oz (60 ml) Bottle of Concentrated A/C Dye (25 Apps)    |

#### 53223 "CARTRIDGE TYPE" UNIVERSAL DYE/OIL INJECTOR



Adding dye with the 53223 is fast and easy, simply connect the injector to the low side of the A/C system and twist the handle to the next application line. The replaceable cartridge provides 25 applications of universal dye that is compatible with all systems. The injector hose comes complete with an auto shut-off valve adapter for 1/4" FL systems.

## 53809 MINI DYE INJECTOR



"Cartridge Type" Dye Injector (10 Applications) Concentrated Dye.



## 53123-YF REFILLABLE R1234yf OIL/DYE INJECTOR



To inject the oil or dye, simply connect the injector to the low side of the A/C system and twist the handle until you reach the desired amount.

- Heavy duty, anodized aluminum, 2 oz container with dye scales represented in 1/10 ounce, 1/4 ounce and milliliters
- . Nylon barrier blue hose meets J2888, EPA, SAE and UL standards
- R1234yf low side coupler with extended disconnect sleeve and meets SAEJ639 and J2888

### **OIL INJECTOR**



Excellent method for adding refrigerant oil or large amounts of UV leak detection dye to the A/C system. Add oil by allowing vacuum to pull it in after evacuation process, or use refrigerant to push it in using the recharge system.

90375 Standard 1/4" FFL x 1/4" MFL 82375 ACME 1/2" FFL x 1/2" MFL



## STANDARD UNIVERSAL ULTRAVIOLET A/C DYES







| 92699 | Standard Universal Dye - Six 1/4 oz Packs (6 po |
|-------|---|
|       | Pack 1/4 oz (7.5 ml) - 1 Application            |

92708 Standard Universal Dye

8 oz (240 ml) Bottle - 32 Applications

92732 Standard Universal Dye

32 oz (1 L) Bottle - 128 Applications



#### **CONCENTRATED UNIVERSAL ULTRAVIOLET A/C DYES**



| 53825 | Concentrated Universal Dye Cartridge<br>Replaceable Cartridge - 25 Applications |
|-------|---|
| 53810 | Concentrated Universal Dye Cartridge Replaceable Cartridge - 10 Applications    |

53625 Concentrated Universal Dye

2 oz (60 ml) Bottle - 25 Applications

## **FLUORESCENT DYE**



53609 Engine Coolant (1 oz. (30 ml) bottle)

• 1 oz for 1 vehicle application per 16 quarts (15 L) of fluid

53610 Engine Oil (1 oz. (30 ml) bottle)

- Engine Oil (Gas & Diesel) 1 vehicle application per 4-5 quarts (4 L-5 L) of oil
- Automatic Transmission Fluid 1 vehicle application per 4-5 quarts (4 L-5 L) of fluid
- Gasoline & Diesel Fuel 1 vehicle application per 2 gallons (8 L) of fuel









- · Lubricates system and helps prevent leaks
- Seals small leaks
- Illuminates larger leaks through the use of high quality universal fluorescent dye
- Compatible with all refrigerants and oils
- No need to recover refrigerant during application.
- Stops leaks in metal and rubber air conditioner and refrigeration parts including evaporators, o-rings, gaskets and hoses.
- Patented delivery system prevents any residual sealant from being left in can



53660 Master Leak Shield HVAC - 1.5 to 6 Tons (5.3 kW to 21 kW) 3 oz can of Master Leak Shield HVAC sealant with dye for use on systems 1.5 to 6 tons









53615-A



- · Lubricates system and helps prevent leaks
- · Seals small leaks in evaporator, condenser, hoses, o-rings and gaskets
- . Illuminates larger leaks through the use of high quality universal fluorescent dye
- For R134a A/C systems
- · Safe for hybrid and electric compressors

53909 Mini Auto A/C Master Leak Shield Dye Injector "Cartridge Type" 1 oz injector with Auto A/C Master Leak Shield Sealant with dye, low side hose, 1/4" FL adapter

53910 Auto A/C Master Leak Shield

1 oz replacement cartridge of Auto A/C Master Leak Shield Sealant with dye

53592 Mini UV Flashlight Kit

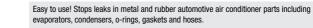
53512-UV Mini UV Flashlight (12 LED), "cartridge type" 1 oz Injector with Auto A/C Master Leak Shield Sealant with dye, low side hose, 1/4" FL adapter, UV safety glasses, service info. labels, packaged in clam shell

53597 Compact UV Flashlight Kit

53517-UV Compact UV Flashlight (17 LED), "cartridge type" 1 oz Injector with Auto A/C Master Leak Shield Sealant with Dye, low side hose, 1/4" FL adapter, UV safety glasses, service info. labels, packaged in clam shell







- For use in R134a, HFO-1234yf, hybrid and electronic A/C systems
- · Includes o-ring conditioner, proprietary anti-wear and anti-oxidant additives
- . Adds 1 oz. (30 ml) leak stop with U/V leak detection dye
- · Patented delivery system, does not contain refrigerant
- · Safe, does not contain harmful polymers
- HFC Free Aerosol

US Patent No. 8,074,009, other US and foreign patents pending

53615-A Auto Master Leak Shield

1 oz can of Auto Master Leak Shield Sealant with dye





## **NITROGEN PRESSURE REGULATORS**



Mastercool's nitrogen regulator is specifically designed to meet the specifications of HVAC/R and automotive A/C systems. This single stage nitrogen regulator is used to test systems for leaks when they do not contain refrigerant.

- 1/4" SAE flare outlet port, with control valve, to keep pressure on the regulator at all times
- . T-Handle for ease of pressure adjustment
- 63 mm (2 1/2") gauges with guards
- High pressure gauge 4400 psig (300 bar), Low pressure gauge 1000 psig (70 bar)



1/4 FL-M outlet connection

### PRESSURE TESTING REGULATOR KITS



53010 PRESSURE TESTING REGULATOR KIT (US): Nitrogen pressure regulator (53001), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), blow molded case (53000-PB)

53020 PRESSURE TESTING REGULATOR KIT (France/Germany): Nitrogen pressure regulator (53002), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), blow molded case (53000-PB)

53030 PRESSURE TESTING REGULATOR KIT (England): Nitrogen pressure regulator (53003), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), blow molded case (53000-PB)

53040 PRESSURE TESTING REGULATOR KIT (Australia): Nitrogen pressure regulator (53004), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), blow molded case (53000-PB)

53050 PRESSURE TESTING REGULATOR KIT (Italy): Nitrogen pressure regulator (53005), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), blow molded case (53000-PB)

53060 NITROGEN/HYDROGEN PRESSURE TESTING REGULATOR KIT: Nitrogen/ Hydrogen pressure regulator (53006), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), blow molded case (53000-PB)

#### **LEAK TESTING ADAPTER FOR R1234YF** 53042-YF





- 80 mm gauge
- R1234yf low side coupler

## **OPTIONAL ACCESSORIES**

| 66434-R  | High Side Standard R134a 1/4" FL-M x 16 mm Economy Coupler | 53000-70  | Low Pressure Regulator Gauge  |
|----------|--|-----------|-------------------------------|
| 82834-E  | High-Side Manual R134a 1/4" FL-M x 16 mm Coupler           | 53000-300 | High Pressure Regulator Gauge |
| 90413    | R410a Straight Adapter 1/4" FL-M x 5/16" Swivel-F          | 47482     | 48" Yellow Charging Hose      |
| 53042    | Leak Testing Adapter                                       | 93254-E   | Black Gauge Guard             |
| 53000-42 | Leak Testing Gauge   | 53000-W   | Teflon Washer                 |



#### PRESSURE TESTING REGULATOR KITS\*

ONLY FOR SALE IN EUROPE



53025 PRESSURE TESTING REGULATOR KIT (France/Germany): Nitrogen pressure regulator (53002), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1.4 FL-M x 5/16 swivel-F (90413), regulator adapter (53002-AD), 1 liter bottle of nitrogen (91150), blow molded case (53015-PB)

53035 PRESSURE TESTING REGULATOR KIT (England): Nitrogen pressure regulator (53003), 48" yellow charging hose (47482), leak testing adapter (53042), 8410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413),1 liter bottle of nitrogen (91150), regulator adapter (53003-AD), blow molded case (53015-PB)

53055 PRESSURE TESTING REGULATOR KIT (Italy): Nitrogen pressure regulator (53005), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), 1 liter bottle of nitrogen (91150), regulator adapter (53004-AD), blow molded case (53015-PB)

53025-NH PRESSURE TESTING REGULATOR KIT (France/Germany): Nitrogen pressure regulator (53002), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), 1 liter bottle of NitroH (91151), regulator adapter (53002-AD), blow molded case (53015-PB)

53035-NH PRESSURE TESTING REGULATOR KIT (England): Nitrogen pressure regulator (53003), 48" yellow charging hose (47482), leak testing adapter (53042), 8410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413),1 liter bottle of NitroH (91151), regulator adapter (53003-AD), blow molded case (53015-PB)

53055-NH PRESSURE TESTING REGULATOR KIT (Italy): Nitrogen pressure regulator (53005), 48" yellow charging hose (47482), leak testing adapter (53042), R410a straight adapter 1/4 FL-M x 5/16 swivel-F (90413), 1 liter bottle of NitroH (91151), regulator adapter (53004-AD), blow molded case (53015-PB)

- \* add an -A to include a low side manual R134a 1/4" FL-M x 13mm quick coupler (82934-e)
- coupler (82934-e) \* add an -AYF to convert the leak testing adapter to a R1234yf leak testing adapter (53042-yf)



#### REGULATOR ADAPTER

ONLY FOR SALE IN EUROPE



These adapters are designed to work with Mastercool's line of Nitrogen Pressure Regulators and allow for the use of our new 1 Liter Nitrogen and NitroH bottles.

53002-AD France/Germany 53003-AD England 53005-AD Italy

## 1 LITER NITROGEN BOTTLE (max filling pressure 110 bar)

ONLY FOR SALE IN EUROPE



Mastercool introduces its new offering of 1 liter portable Nitrogen bottles.

- The nitrogen bottles are commonly used for:

   Testing for leaks in pressure of HVAC & A/C
- . Flushing of HVAC & A/C systems
- Fluxing during soldering in HVAC & A/C
- · Calibration of pressure switches
- . Gauge calibration and much more

| 91150-6  | (6 pcs.) 1 liter bottle of Nitrogen  |
|----------|--------------------------------------|
| 91150-48 | (48 pcs.) 1 liter bottle of Nitrogen |
| 91150-96 | (96 pcs.) 1 liter bottle of Nitrogen |

## 1 LITER NITRO H BOTTLE (max filling pressure 110 bar)

ONLY FOR SALE IN EUROPE



Mastercool introduces its new offering of 1 liter portable NitroH bottles. NitroH is a mixture of 95% nitrogen and 5% hydrogen. This unique combination allows this gas to be used for leak detection in conjunction with Mastercool's 55800 Intella Sense Refrigerant Leak Detector.

| 91151-6  | (6 pcs.) 1 liter bottle of NitroH  |  |  |
|----------|------------------------------------|--|--|
| 91151-48 | (48 pcs.) 1 liter bottle of NitroH |  |  |
| 91151-96 | (96 pcs.) 1 liter bottle of NitroH |  |  |



#### "MASTERCLEANSE" FLUSH MACHINE





Mastercool introduces its new "MASTERCLEANSE" large volume flush machines designed to flush all HVAC/R and automotive systems. "MASTERCLEANSE" will be commonly used for the removal of all solids and residues caused by breakage of compressor or filters. Designed with durable roll-away wheels and handle, this machine can conveniently move as needed.

#### FEATURES:

- · Stainless steel ball valve controls
- 1/4" SAE connection
- Additional external container connection
- External nitrogen bottle connection
- Pump equipped with mechanical
- seal and PTFE gasket
- Mechanical filter present at suction side

# SPECIFICATIONS:

- Pump Flow Rate:
  - 4 g/min (16 l/min)
- Pump Motor: 300 wattsPump Horsepower:
- 110V/60 Hz 0.4 HP, 220-240V/50/60 Hz - 0.28 HP

• Full Load Amperage: 110V/60 Hz - 2.4 amps, 220-240V/50/60 Hz - 1.7 amps

- Flush Container: 2.6 gal (10 l)
- . Hoses: 9 ft (3 m) flexible, clear coiled
- Dimensions: 15" (l) x 16" (w) x 24" (h) /with handle extended 36" (h)
   (381 mm (l) x 406 mm (w) x 609 mm (h) /with handle extended 914 mm (h))
- Weight: 42 lbs (19 kg)

69900 110 V / 60 Hz

69900-220 220-240 V / 50/60 Hz

69901-220 220-240 V / 50/60 Hz

with internal nitrogen regulator for use with European standard 1 liter nitrogen bottle

## 69925 MULTIPLE FLUSHING & LEAK TEST ADAPTER KIT FOR FLUSH MACHINE





Multi-purpose leak test and flushing adapters suitable for more that 80% of the automotive air conditioning systems in the market!

- Isolates A/C system components for closed loop flushing
- Flush individual components without removing them from the vehicle
- Install adapters on A/C line ends to allow attachment of flushing equipment





#### A/C FLUSH SOLVENT



91049-32

91049-128

- Effectively removes debris and sludge from A/C components
- Solvent-based
- · Evaporates quickly
- Leaves no residue
- 0-Ring safe
- Non-Flammable
- Non-Corrosive
- Flush any A/C system

91049-32 32 oz. Flush Solvent 91049-32-6 6 pack - 32 oz. Flush Solvent

91049-128 1 Gallon Flush Solvent

91049-128-4 4 pack - 1 Gallon Flush Solvent

## **TOTAL A/C QUICK FLUSH**



Specific fluid for the inner flushing of air conditioning and refrigeration systems.

- . 0-Ring safe
- Non-Flammable
- Non-Corrosive
- · For Professional Use
- · Pressurized container ready to use

91051 Total A/C Quick Flush Kit

91050 17 oz. Total A/C Quick Flush Can

91050-6 6 Pack - 17 oz. Total A/C Quick Flush Cans

#### A/C SYSTEM FLUSH KIT



Includes flush gun, hose, canister and canister adapter.

Designed to work with any light weight flushing agent which can be mixed with pressurized air. Excellent for quickly and effectively removing perfigerant oil debris during retrofitting or compressor replacement.



91046-A A/C System Flush Kit with standard compressed air connection

91046-0EX A/C System Flush Kit with 1/4" male flare connection



## 92707 HYBRID A/C COMPRESSOR OIL



- Formulated for vehicles with electric A/C compressors
- · High dielectric formula provides advanced compressor protection
- Synthetic lubricant specifically created for electric hybrid air conditioning compressors
- For replenishing hybrid or electric compressor oil in accordance with the quantity evacuated or the quantity recommended by the compressor manufacturer
- · Provides outstanding lubricity and compressor protection
- Compatible replacement lubricant for compressors using Honda 38899RCJA01, ND-10, ND-0IL 11 (ND-11), and SE-10Y
- High dielectric protection formula has excellent "resistivity" to potential electrical current leakage in high voltage hybrid A/C systems
- . Contains conditioners, inhibitors and anti-wear agents
- Net contents 7 oz. (210 mL)

## **COMPRESSOR OILS**



Maximum protection with excellent thermal & oxidative stability. Moisture tolerant. OEM approved.

|              | PAG 65                               |
|--------------|--------------------------------------|
| 92709-65-8   | PAG 65 Oil (8 oz (236 ml) bottle)    |
| 92709-65-32  | PAG 65 Oil (32 oz (1 L) bottle)      |
|              | PAG 100                              |
| 53826        | PAG 100 Oil (2 oz (60 ml) cartridge) |
| 92709-100-8  | PAG 100 Oil (8 oz (236 ml) bottle)   |
| 92709-100-32 | PAG 100 Oil (32 oz (1 L) bottle)     |
|              | PAG 150                              |
| 92709-150-8  | PAG 150 Oil (8 oz (236 ml) bottle)   |
| 92709-150-32 | PAG 150 Oil (32 oz (1 L) bottle)     |
|              | Ester 100 Oil                        |
| 53827        | Ester Oil (2 oz (60 ml) cartridge)   |
| 92710        | Ester Oil (8 oz (236 ml) bottle)     |
| 92712        | Ester Oil (32 oz (1 L) hottle)       |

## **ACCESSORIES**



|  | 53314 | Dye Remover<br>4 oz (120 ml)   |
|--|-------|--|
|  | 53315 | Service Labels 25 per pack, bright yellow label indicating that the system has been charged with UV Dye. |
|  | 92398 | UV Enhancing Safety Glasses  |

This is a must for protection against ultraviolet light during leak detection.



## ZEROL' HD46 R1234yf MOBILE AIR CONDITIONING COMPRESSOR LUBRICANT







ZEROL HD46 is a fully formulated ISO VG46 grade polyalkylene glycol lubricant designed specifically for application with HFO refrigerant R1234yf in mobile air conditioning (MAC) systems. The product is a double end-capped PAG, and is manufactured to exacting standards of high double endcapping efficiency. ZEROL HD46 is suitable for use in both belt and electrically driven compressors utilizing R1234yf, and is also fully suitable for use in R134a belt-driven and electric MAC compressors.

- . Optimized miscibility in HFO refrigerant R1234yf
- · Superior lubricity compared to alternative lubricant types, including standard 'single end-capped' PAG products, and di-capped PAGs with lower di-capped material content
- Exceptional Viscosity Index (VI) The high VI enhances compressor life by ensuring efficient running at temperature extremes. The high VI may also allow the user to select a lower viscosity fluid than typically used, with associated power usage savings.
- . Good high temperature and chemical stability, even in presence of water, resulting in system lifetime extension and reduced maintenance costs.
- Low hygroscopicity (tendency to absorb moisture) compared to alternative PAG products with lower di-capping content.
- Formulating expertise ZEROL HD46 series contain optimized additive technology to provide additional corrosion protection within the A/C system, to further enhance the extreme pressure and anti-wear performance of the PAG, and to maximize fluid lifetime by ensuring against thermal or oxidative deterioration of the lubricant.
- · Excellent electrical resistivity properties for electrically driven systems.

#### SPECIFICATIONS:

- Viscosity @ 40°C (cSt): 42.0 48.0
- . Colour (Gardner): 1 max.
- Water content (ppm): 300 max.
- Total Acid Value (mgKOH/g): 0.03 max.
- Pour point (°C): <-25</li>
- · Capping Efficiency: 85.0% minimum
- · Appearance: Clear to slightly hazy, free of visible particles

92709-YF-8 8 fl. oz (236 ml) bottle 92709-YF-32 32 fl. oz (946 ml) bottle

#### **ALUM BOND**



A two-component epoxy formula highly concentrated with carefully selected pure aluminum particles, modified curing agents and special high quality additives to provide maximum strength, durability and ease of application. Alumbond is aluminum filled epoxy specially formulated for repairing condenser coils, tanks, valves, pumps, castings, water jackets, radiators, etc., where non-rusting, non-magnetic aluminum finish is desired.

#### PHYSICAL PROPERTIES:

- . Hardness (Shore, ASTM D 1706): 83D
- . Coefficient of Thermal Expansion: 40 x 10-6 cm/cm/°C
- Compression Strength (ASTM D 695): 8600 psi (59 M Pa)
- Tensile Strength (ASTM D 638): 3500 psi (24 M Pa)
- Maximum Line Pressure (after 5 hrs application time): 650 psi



Aluminum Repair Kit - box of 12 (each box contains Hardener & Resin 90935-12 (3.25 oz. (94g) each)



## 91000-B DELUXE CLUTCH HUB PULLER/INSTALLER KIT



Kit contains a complete offering of A/C compressor clutch hub pullers and installers for GM, Ford, Chrysler and Imports. Includes a universal clutch holding tool and comes in a custom molded case.

## 92311 DELUXE ORIFICE TUBE SERVICE KIT



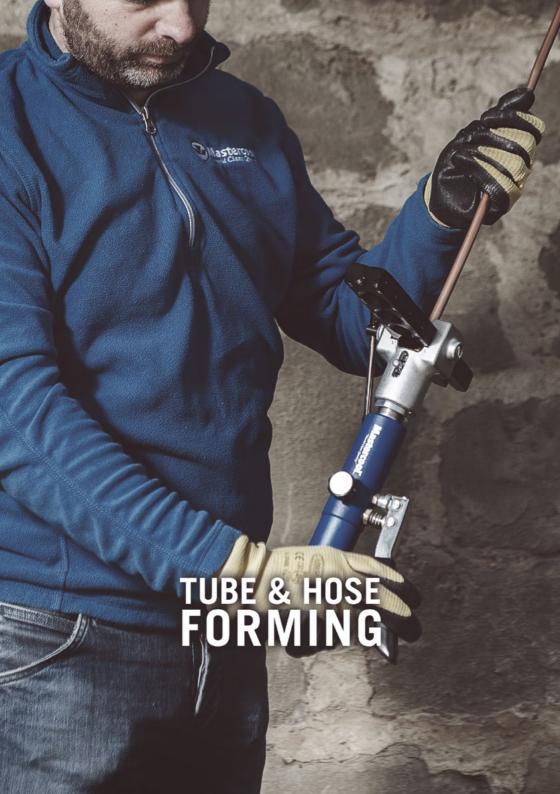
This 5 piece universal kit will remove and install any style orifice tube. Comes in custom molded box.

## 92329 TOYOTA A/C DISCONNECT TOOL



The new Toyota spring lock A/C hose couplings require this special disconnect tool. Simply insert the end of the tool into the coupling to disengage the hose.





#### 71500-A HYDRA-KRIMP









The die snaps quickly into the press fixture requiring no pins or screws.





## Fabricating A/C Hoses Just Got Easier...

Mastercool's Patented "Hydra - Krimp" makes crimping barbed and beaded fittings as easy as 1 - 2 - 3! The lightweight hand-held hydraulic press is very portable and ideal for shop and field applications. The kit comes with a complete set of dies covering hose sizes #6, #8, #10, #12 and reduced barrier #6, #8, #10 and #12. The dies snap quickly into the press fixture requiring no pins or screws. PATENT# 6,324,884

Kit comes in a custom molded case and includes:

| 71500-001AB | Hydra - Krimp Pump  |
|-------------|---|
| 71500-001B  | Hydra - Krimp Yoke  |
| 71500-001C  | Complete Die Set Assembly (7 pc. set)                       |
| 71500-6     | Die Set - #6 (5/16"), Die Set - #8 (13/32" Reduced Barrier) |
| 71500-8     | Die Set - #8 (13/32")                                       |
| 71500-10    | Die Set - #10 (1/2")  |
| 71500-12    | Die Set - #12 (5/8")  |
| 71500-6SRB  | Die Set - #6 (5/16" Reduced Barrier)                        |
| 71500-10SRB | Die Set - #10 (1/2" Reduced Barrier)                        |
| 71500-12SRB | Die Set - #12 (5/8" Reduced Barrier)                        |
| 71500-PB    | Custom Molded Box   |





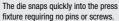
## 71550 A/C HOSE CRIMPER





The 71550 is our "manual style" A/C hose crimper. The dies snap quickly into place requiring no pins or screws. The unit can be easily mounted to a bench using the holding fixture or held securely in a vice. This kit comes with a complete set of dies covering standard hose sizes #6, #8, #10 and #12. PATENT# 6,324,884
\*Optional reduced barrier sizes are available.







Kit comes in a custom molded case and includes:

| 71500-001 | Hydra - Krimp Pump       | 71500-8  | Die Set - #8 (13/32")       |
|-----------|--------------------------|----------|-----------------------------|
| 71550-002 | Arbor Assembly           | 71500-10 | Die Set - #10 (1/2")        |
| 71550-003 | Holding Fixture Assembly | 71500-12 | Die Set - #12 (5/8")        |
| 71500_6   | Die Set - #6 (5/16")     | 71550-PR | Custom Molded Carrying Case |







## **HYDRA-SWAGE**





## PATENT# 6,619,099



(7 HEAD KIT) Consists of Expander Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1 71600-A and 1 1/8", Hydra-Swage 71601, Adapter and Inner-Outer Reamer

71600-A-M (7 HEAD KIT) Same as 71600, but using Metric Expander Heads 10, 12, 15, 16, 18, 22 and 28 mm.

71650-A (10 HEAD KIT) Consists of Expander Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 3/8, 1 5/8, and 2 1/8", Hydra-Swage 71601, Adapter and Inner-Outer Reamer.

|          | lillor outer realiter.                |
|----------|---------------------------------------|
| 71601-A  | Hydra-Swage                           |
| 71601-D  | Adapter for 71601                     |
| 71685    | Inner - Outer Reamer                  |
| 71600-PB | Molded Box for 71600, 71600-M & 71650 |



| PART#     | DESCRIPTION   | TUBE O.D.      |
|-----------|---------------|----------------|
| 71600-03  | Expander Head | 3/8"           |
| 71600-04  | Expander Head | 1/2"           |
| 71600-05  | Expander Head | 5/8"           |
| 71600-06  | Expander Head | 3/4"           |
| 71600-07  | Expander Head | 7/8"           |
| 71600-08  | Expander Head | 1"             |
| 71600-09  | Expander Head | 1 1/8"         |
| 71600-11  | Expander Head | 1 3/8" (35 mm) |
| 71600-13  | Expander Head | 1 5/8"         |
| 71600-17  | Expander Head | 2 1/8" (54 mm) |
| 71600-10M | Expander Head | 10 mm          |
| 71600-12M | Expander Head | 12 mm          |
| 71600-15M | Expander Head | 15 mm          |
| 71600-16M | Expander Head | 16 mm          |
| 71600-18M | Expander Head | 18 mm          |
| 71600-22M | Expander Head | 22 mm          |
| 71600-28M | Expander Head | 28 mm          |







# NVAC SYNCE

## **HYDRAULIC FLARING AND EXPANDING**



Mastercool introduces the newest members of its handheld hydraulic line of tubing tools. These new kits are an upgrade to the existing hydra-swage expanding kits, allowing the user to easily make OEM flares with a pump of the handle.

PATENT# 6,619,099

#### 1 A1 E11 1 1 0,0 10,000

#### 71675 (7 HEAD KIT)

Complete Hydraulic Flaring and Expanding Kit
Consists of Expander Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1 and 1 1/8", Hydra-Swage 71601,
Adapter, Inner-Outer Reamer and Hydraulic Flaring Accessory 71680 packaged in a blow molded case



# W

## 71676 (10 HEAD KIT)

Complete Hydraulic Flaring and Expanding Kit
Consists of Expander Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1
1/8, 1 3/8, 1 5/8, and 2 1/8",
Hydra-Swage 71601, Adapter,
Inner-Outer Reamer and
Hydraulic Flaring Accessory
71680 packaged in a blow molded case





## 71680 HYDRAULIC FLARING ACCESSORY





Add the 71680 to your existing Mastercool hydraulic expanding kits to allow for the ability to make 0EM flares with a simple pump of the handle. Flares 7 sizes: 1/4, 5/16, 3/8, 1/2, 5/8, 3/4, 7/8."



# WYAC STATE OF THE STATE OF THE

## 71700 HYDRAULIC FLARING & SWAGING TOOL





This kit features a hand-held hydraulic press that accurately flares & swages copper tubing. Once the die and adapter are secured in the fixture, a few pumps of the handle and you're done! This tool really takes the work out of swaging and flaring, especially on larger tube sizes. The kit includes dies and adapters for flaring and swaging copper tubing sizes 1/4, 5/16, 3/8, 1/2, 5/8, 3/4 and 7/8." Comes in custom molded carrying case. PATENT# 5,782,128

| 71700-A   | Flaring & Swaging Pump |
|-----------|------------------------|
| 71700-B   | Yoke Assembly          |
| 71700-PB  | Plastic Molded Box     |
| 71700-01  | 45° Flaring Cone       |
| 71700-04  | 1/4" Swaging Adapter   |
| 71700-05  | 5/16" Swaging Adapter  |
| 71700-06  | 3/8" Swaging Adapter   |
| 71700-08  | 1/2" Swaging Adapter   |
| 71700-10  | 5/8" Swaging Adapter   |
| 71700-12  | 3/4" Swaging Adapter   |
| 71700-14  | 7/8" Swaging Adapter   |
| 71700-104 | 1/4" Die Set           |
| 71700-105 | 5/16" Die Set          |
| 71700-106 | 3/8" Die Set           |
| 71700-108 | 1/2" Die Set           |
| 71700-110 | 5/8" Die Set           |
| 71700-112 | 3/4" Die Set           |
| 71700-114 | 7/8" Die Set           |
| 71685     | Inner-Outer Reamer     |





The copper tube is secured in the holding fixture by the forming dies. The hydraulic pump pushes in the forming adapter to fabricate the flare or swage. This cut-away photo shows the forming process.

## 72475 UNIVERSAL HYDRAULIC FLARING TOOL SET



This kit fabricates:

70087

- Push Connect 1/4, 5/16 and 3/8"
- GM Fuel Line Flare
- . Brake Lines and Transmission 5/16 and 3/8"

Steel Brush Thread Cleaner

- Flare/Double Flare 3/16, 1/4, 5/16, 3/8 and 1/2"
- . Metric Bubble Flare 4.75, 6, 8, and 10 mm
- Comes in a custom molded box.

## PATENT# 5,782,128



**72485-PB** Custom Molded Plastic Box for 72475







GM Fuel

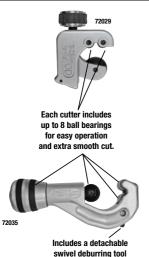
45° Double Flare

ISO Bubble Flare





#### **BALL BEARING CUTTERS**



for smooth surface

Mastercool's EZ Tube Cutters offer the latest "Reduced Friction" technology! Our reduced friction design incorporates ball bearings into the cutter wheel, tube rollers and a control knob. Reducing the resistance in these high friction areas allows the cutter to roll fast and easy as it slices through the tube. The "Reduced Friction" design is sure to save time and reduce fatigue!





**72029** "Reduced Friction" Tube Cutter for 1/8 to 1 1/8" (3-28 mm) **72035** "Reduced Friction" Tube Cutter for 1/4 to 1 1/2" (6-38 mm)

**72030** Replacement Cutting Wheel for 72029

72034 Replacement Cutting Wheel for 72035

## **TUBE CUTTERS**



70037

MASTERCOOL tube cutters are lightweight yet durable. Carbide steel cutting wheels work with hard and soft copper, aluminum, brass, thin wall steel and stainless steel. All cutters feature rollers with flare cut-off grooves to salvage as much old tubing material as possible.

70027 Mini Tube Cutter

for 1/8 to 5/8" (3-16 mm) O.D. Tubing (1/8 to 1/2" Nominal)

70029 Mini Tube Cutter

for 3/8 to 1 1/8" (4-28 mm) O.D. Tubing (1/4 to 1" Nominal)

70033 Heavy Duty Tube Cutter

for 1/8 to 1 1/8" (4-28 mm) 0.D. Tubing (1/4 to 1" Nominal)
70035 Heavy Duty Tube Cutter

for 1/4 to 1 5/8" (6-40 mm) (1/4 to 1 1/2" Nominal)

Sliding Ratchet Tube Cutter for 1/4 to 2 5/8" (6-67 mm) 0.D. Tubing (1/4 to 2 3/4" Nominal), Triple

Chrome Plated

70037

70038 Sliding Ratchet Tube Cutter

for 1/4 to 3 1/2" (6-89 mm) 0.D. Tubing (1/4 to 3" Nominal)



## **RATCHET STYLE TUBE CUTTER**



When you don't have swing room, ratchet action allows cutting all the way around the tubing easy.

**70030** (1/4 to 7/8" 0.D. Tubing) **70031** (5/16 to 1 1/8" 0.D. Tubing)

## 70025 CAPILLARY TUBE CUTTER



Cuts all sizes of capillary tubes without collapsing the tube.

## 80021 PLUMBERS TYPE MINI CUTTER



Designed for applications with limited working space. Cuts soft copper, aluminum and thin wall steel tubing. Tube Cutter for 1/8 to 7/8" (4-22 mm) 0.D. Tubing. (1/8 to 3/4" nom.)

80121 Spare Cutting Wheel for 80021

## REPLACEMENT CUTTER WHEELS





|  | 70028 | Replacement Cutting Wheels for 70027 (10 pcs).   |
|--|-------|--|
|  | 70034 | Replacement Cutting Wheels for 70029, 70030, 70031, 70033, 70035, 70037 (10 pcs + 1 holding screw).                              |
|  | 70128 | Carbide Cutting Wheel & Screw Set for 70027 includes: 2 Spare Cutting Wheels and 1 Holding Screw.                                |
|  | 70134 | Carbide Cutting Wheel and Screw Set for 70029, 70035. Includes: 2 Spare Cutting Wheels and 1 Holding Screw.                      |
|  | 70138 | Replacement Cutting Wheel for 70038 (1 per pkg.) Cut Hard and Soft Copper, Aluminum, Brass, Thin Wall Steel and Stainless Steel. |
|  | 70237 | PVC Cutting Wheel for 70037. Cuts PVC and ABS.   |
|  | 70238 | Oversize PVC Cutting Wheel for 70038. Wheel is 1 5/8" Diameter. Cuts PVC and ABS.  |

## **TUBE CONSTRICTOR WHEEL**



70233 Used with 70033 or 70035.

#### **INNER-OUTER REAMERS**



| 70085 | Inner/Outer Reamer for 3/16 to 1 1/2" O.D. Tubing.                            |
|-------|---|
| 71685 | Designed to remove inner burrs easily.<br>Full metal grip. Includes one spare |

tungsten blade for long use.
71686-2 Two spare blades for 71685 (2 pcs).





## ONLY ECCENTRIC FLARING TOOL ON THE MARKET TO COVER UP TO 7/8"



Make the perfect flare every time.

Keeping with tradition, Mastercool introduces the newest addition to our flaring tool line. This eccentric flaring tool is the only tool on the market to cover up to 7/8" making the job of the HVAC/R technician easier everyday! Its automatic torque release prevents cracking of copper caused by over flaring.

Flares 6 sizes: 1/4, 3/8, 1/2, 5/8, 3/4, 7/8" O.D. Tubing



Railing allows yoke to smoothly travel while keeping the flaring tool and bar aligned



 $3/8\ensuremath{\mbox{"}}$  access drive allows for use with impact wrench

70059 70060

Flares 6 sizes: 1/4, 3/8, 1/2, 5/8, 3/4, 7/8" O.D. Tubing.

Kit includes: **70059** Eccentric Flaring Tool, **71685** Inner-Outer Reamer, **70033** Heavy Duty Tube Cutter for  $(1/8" - 1\ 1/8")\ 4$  to 28 mm.

## **ECCENTRIC FLARING TOOLS**



- << NEW AND IMPROVED >>
- · Aluminum design
- · Light weight and durable
- Automatic torque release

70057-A Flares 6 Sizes: 1/4, 5/16, 3/8, 1/2, 5/8 and 3/4" O.D. Tubing.

70057-AM Flares 7 Metric Sizes: 6, 8, 10, 12, 14, 16 and 18 mm 0.D. Tubing.

70058-A Kit includes: 70057-A Eccentric Flaring Tool, 71685 Inner-Outer Reamer, 70033 Heavy Duty Tube Cutter for (1/8 – 1 1/8") 4 to 28 mm. 0.D. Tubing

(1/4 to 1" Nominal).

70058-AM Same as Kit 70058-A, but with Metric Eccentric Flaring Tool 70057-AM.



#### **STANDARD 45° FLARING TOOL**



70051 Standard 45° Flaring Tool

Flares 7 Sizes: 3/16, 1/4, 5/16, 3/8, 7/16, 1/2 and 5/8" O.D. Tubing.

70051-M Metric 45° Flaring Tool

Flares 7 Metric Sizes: 4, 6, 8, 10, 12, 15 and 16 mm 0.D. Tubing.

## 70052 SLIDING DIE-BLOCK 45° FLARING TOOL



Sliding Die-Block 45° Flaring Tool Flares and Burnishes 6 Sizes: 3/16, 1/4, 5/16, 3/8, 1/2 and 5/8" O.D. Tubing.

## 70053 45° FLARING & SWAGING TOOL SET



Durable forged steel slip-on yoke. Bars are chrome plated, hardened steel. Swages in close quarters where punch style cannot be used. Includes custom molded plastic box.

45° Flaring & Swaging Tool Set includes:

Two Flaring Bars covering 9 sizes: 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8 and 3/4" O.D. Tubing.

Five Swaging Adapters covering 7 sizes: 3/16, 1/4, 5/16, 3/8, 1/2, 5/8 and 3/4" 0.D. Tubing.



#### **PUNCH-TYPE SWAGING TOOLS**



Enlarge one end of copper tubing to accept piece of original size tubing then solder together like a fitting. Tools are heat treated for durability.

70040 All-In-One Swaging Punch

Nickel-Chrome finish. Swages 1/4, 5/16, 3/8, 1/2 and 5/8".

70048 Set of 5 Swaging Punches

for 1/4, 5/16, 3/8, 1/2 and 5/8" 0.D.

70049 Flaring Bar and Set of 5 Punches

for 1/4, 5/16, 3/8, 1/2 and 5/8" O.D. all in case.

| MODEL# | SIZE  | LENGTH |
|--------|-------|--------|
| 70041  | 1/4"  | 1/8"   |
| 70042  | 5/16" | -      |
| 70043  | 3/8"  | 1/4"   |
| 70044  | 1/2"  | 3/8"   |
| 70045  | 5/8"  | 1/2"   |
| 70046  | 3/4"  | 5/8"   |
| 70047  | 7/8"  | 3/4"   |

## 70078 TORQUE WRENCH



Ensures accurate tightness of fittings, especially R410A. Kit in a blow molded case includes sizes: 17, 22, 24, 26, 27 and 29 mm.

## Optional Wrench Sizes Available:

70078-19 19 mm

70078-25 25 mm

70078-28 28 mm

70078-32 32 mm

## **RATCHET WRENCHES**



70081 Steel forged wrench with reversible ratchet. 9/16", 1/2" hex, 1/4" and 3/16" square.

70082 Compact chrome plated wrench specially designed for use in hard to reach places. 1/4, 3/8, 3/16 and 5/16" square ratchet.

# 70088 1/4" TUBE PIERCING PLIER



70088-TIP Replacement Tip for 70088

#### 70083 PINCH-OFF PLIER



Specially designed for the refrigeration industry. Pinches off and locks on copper tubing. Size: Throat 7", Depth 1", Jaw thickness 1/4"



## 70069-A 4-IN-1 LEVER STYLE TUBE BENDER



Complete 180° bend all metal multi-purpose tube bender for  $\,$  3/16, 1/4, 5/16 and 3/8" 0.D. Tubing.

**70069-AM** Complete 180° bend all metal multi-purpose tube bender for 6, 8, 10 mm 0.D. Tubing.

## **SPRING STYLE TUBE BENDERS**



Economical and effective tools for bending soft copper or aluminum tubing without kinks. Special nickel plated, spring steel is flared on one end for quick tube insertion. Each tool bends one size.

| MODEL# | SIZE  | LENGTH |
|--------|-------|--------|
| 70071  | 1/4"  | 10"    |
| 70072  | 5/16" | 10"    |
| 70073  | 3/8"  | 10"    |
| 70074  | 1/2"  | 12"    |
| 70075  | 5/8"  | 14"    |
| 70077  | 3/4"  | 14"    |

## 70076 SPRING STYLE TUBE BENDER SET



Set of 5 spring benders for 1/4, 5/16, 3/8, 1/2 and 5/8" 0.D. tubing.

#### **LEVER STYLE TUBE BENDERS**



Open side design slips over tube at any point. Makes smooth short radius bends up to  $180^\circ$  with minimum effort. Calibrated to show angle of bend. Easy  $90^\circ$  start requires much less effort to make fast and accurate bends. Each tool bends one size.





| MODEL # | TUBING | SIZE | OF TUBE |
|---------|--------|------|---------|
| 70061   | 1/4"   | 1/8" | 9/16"   |
| 70062   | 5/16"  | -    | 11/16"  |
| 70063   | 3/8"   | 1/4" | 15/16"  |
| 70064   | 1/2"   | 3/8" | 1 1/2"  |
| 70065   | 5/8"   | 1/2" | 2 1/4"  |
| 70066   | 3/4"   | 5/8" | 3"      |
| 70067   | 7/8"   | 3/4" | 3"      |



## 70070 "Ratchet Style" TUBE BENDER KIT - 5 SIZES



- Hand-operated ratchet design bends tubes easily. Bends 5 sizes: 3/8, 1/2, 5/8, 3/4 and 7/8" O.D. soft tubing
- Includes heavy duty tube cutter for 1/8 1 1/8" 0.D. tubing
- Includes inner-outer reamer for 3/16 – 1 1/2" O.D. tubing
- . Comes in custom molded case



70070-M "Ratchet Style" Metric Tube Bender Kit Same as 70070 less 70033 Cutter & 70085 Reamer. Bends 8, 10, 12, 14, 16, 18 & 22 mm 0.D. soft tubing.

# 70080 "Ratchet Style" TUBE BENDER KIT - 6 SIZES



## << BENDS 6 SIZES >>

Same as 70070 less 70033 Cutter & 70085 Reamer. Bends 6 sizes: 3/8, 1/2, 5/8, 3/4, 7/8 and 1 1/8" 0.D. soft tubing.

## 70070-RD REVERSE DIRECTION BENDING ADAPTER



Bends: 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8" 0.D. tubing





# 70200-MSK-INT MINI-SPLIT TOOL KIT



| Consists of: |   |
|--------------|---|
| MC HVAC-BAG  | HVAC Utility Bag  |
| 57261-E-G    | Ball Valve Manifold Gauge Set with Gauge Guards & Set of 3-60" ball valve hoses |
| 70078        | Torque Wrench   |
| 90413        | Straight Adapter Fittings (2 pcs)   |
| 70058        | Eccentric Flaring Tool Kit  |
| 91498        | Universal Valve Core Remover/Installer Kit                                      |

# 70200-BSK-INT BASIC STARTER KIT



| Consists of: |  |
|--------------|--|
| MC HVAC-BAG  | HVAC Utility Bag   |
| 33661-E-G    | Brass Manifold Gauge Set with gauge guard & Set of 3-60" hoses |
| 70082        | Ratchet Wrench   |
| 70040        | All in One Swaging Punch                                       |
| 70076        | Spring Style Tube Bender                                       |
| 70091        | 45° Flaring & Cutting Tool                                     |
| 70085        | Reamer   |
| 90376        | Valve Core Remover w/Valve Cores                               |
| 70088        | 1/4" Tube Piercing Plier                                       |
| 52227        | Pocket Infrared Thermometer                                    |

## 70200-PK-INT PREMIUM KIT



|   | Consists of: |  |
|---|--------------|--|
|   | MC HVAC-BAG  | HVAC Utility Bag   |
|   | 33661-E-G    | Brass Manifold Gauge Set with gauge guard & Set of 3-60" hoses |
|   | 70082        | Ratchet Wrench   |
| ) | 70053        | Flaring and Swaging Tool Kit                                   |
|   | 70069-A      | 4-1 Lever Style Tool Bender                                    |
|   | 72029        | Ball Bearing Tube Cutter                                       |
|   | 71685        | Pen Type Inner/Outer Reamer                                    |
|   | 91498        | Universal Valve Core Remover/Installer                         |
|   | 252219       | 8:1 Infrared Thermometer                                       |
|   |              |  |

## 70200-PRK-INT PRO KIT



| Consists of: |   |
|--------------|---|
| MC HVAC-BAG  | HVAC Utility Bag  |
| 57261-E-G    | Ball Valve Manifold Gauge Set with Gauge Guards & Set of 3-60" ball valve hoses |
| 52246        | Compact Subcool/Superheat Calculator  |
| 98061        | Digital Vacuum Gauge  |

## 70200-HK-INT HAND TOOL KIT



| Consists of: |  |
|--------------|--|
| MC HVAC-BAG  | HVAC Utility Bag                       |
| 70082        | Ratchet Wrench                         |
| 70088        | 1/4" Tube Piercing Plier               |
| 70083        | Pinch Off Plier                        |
| 71685        | Pen Type Inner/Outer Reamer            |
| 52227        | Pocket Infrared Thermometer            |
| 52336        | Clamp-On Thermocouple (extends 3 feet) |



## MC-GLASS-DISP LIGHTED GLASS DISPLAY



Lighted Glass Display to promote Mastercool products. Dimensions: 2000 mm (h) x 750 mm (w) x 500 mm (d)

## MC-CRDBD-DISP FULL COLOR DISPLAY



3 Level, Full Color Cardboard Display to promote Mastercool products. Dimensions: 1828 mm (h) x 508 mm (w) x 724 mm (d)

## MC-LCD-DISP LCD MONITOR



17" LCD monitor that mounts to ceiling. This monitor displays video containing information and operation procedures of various Mastercool products. Dimensions: 370 mm (h) x 540 mm (w)



## APPAREL



This T-shirt is made with 100% combed ringspun, preshrunk cotton material and features Mastercool's screenprinted logo on the front.

Adult-size solid-color cotton hat features Mastercool's embroidered logo on the front. Cloth strap with buckle closure in back.

| Small Silver T-Shirt       |
|----------------------------|
| Medium Silver T-Shirt      |
| Large Silver T-Shirt       |
| Extra Large Silver T-Shirt |
| Small Black T-Shirt        |
| Medium Black T-Shirt       |
| Large Black T-Shirt        |
| Extra Large Black T-Shirt  |
|                            |

#### **LARGE VINYL BANNER** MC-BANNER12-LG



Heavy-Duty vinyl banner with grommets for easy hanging. Dimensions: 48" (w) x 24" (h)

#### MC-SIGN12-SM **CARDBOARD SIGN**



Cardboard sign for top of display Dimensions: 30" (w) x 6" (h)

Hat

MC-HAT

#### **COUNTERPAD-18** COUNTERPAD



Counterpad features a scratch resistant surface and non-slip base to provide durability.

Dimensions: 20" (w) x 14" (h)

## **POSTERS**



MCPOSTER-AUTO18 MCPOSTER-HVAC17

Gloss finish poster Dimensions: 24" (w) x 36" (h)

MCPOSTER-HVAC17 HVAC Poster MCPOSTER-AUTO18 Auto Poster



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