



# Mastercool<sup>®</sup> Inc.

*"World Class Quality"*



Distributing Air Conditioning, Refrigeration, Service Tools  
& Equipment Worldwide

Distribuimos Mundialmente Equipos y Herramientas de  
Servicio de Aire Acondicionado y Refrigeracion

English  
Spanish



For over 30 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:**

**Corporate Office,  
Manufacturing and USA Warehouse**  
1 Aspen Drive, Randolph, NJ 07869  
USA

**European Sales Office and Warehouse**  
Industriezone TTS  
Laagstraat 19  
9140 Temse, Belgium

**Brazil Sales Office and Warehouse**  
R. Ver. Eurípedes Rama Parda, 157  
07756-595 – Cajamar – SP  
Brazil

Corporate Office  
Manufacturing and USA Warehouse



European Sales Office and Warehouse



Brazil Sales Office and Warehouse







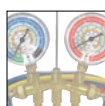



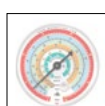
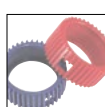


**Mastercool®**  
"World Class Quality"

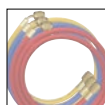
## CONTENTS







## ENGLISH

### MANIFOLDS



|   |  |    |
|---|--|----|
|    | 4-WAY DIGITAL MANIFOLD                         | 8  |
|    | 2-WAY DIGITAL MANIFOLD                         | 10 |
|    | R134a DIGITAL MANIFOLD                         | 12 |
|    | ALUMINUM 4-WAY MANIFOLD GAUGE SETS             | 13 |
|    | 3/8" BORE PREMIERE SERIES BALL VALVE MANIFOLDS | 15 |
|    | 2-WAY ALUMINUM MANIFOLD PISTON VALVE           | 16 |
|   | 2-WAY BRASS MANIFOLD PISTON VALVE              | 17 |
|  | 2-WAY AUTOMOTIVE MANIFOLDS                     | 18 |
|  | SPECIALTY MANIFOLDS                            | 20 |
|  | SINGLE VALVE MANIFOLDS                         | 21 |
|  | REPLACEMENT GAUGES                             | 22 |
|  | MANIFOLD REPLACEMENT PARTS                     | 24 |

### HOSES, ADAPTERS AND ACCESSORIES



|   |   |    |
|---|---|----|
|  | HOSES, AUTOMATIC AND MANUAL SHUT-OFF VALVES, HOSE REPLACEMENT PARTS | 26 |
|---|---|----|

|   |  |    |
|---|--|----|
|  | SERVICE TOOLS AND ACCESSORIES  | 29 |
|  | COUPLERS & CONNECTORS  | 30 |
|  | CHARGING ADAPTERS, REPLACEMENT GASKETS & DEPRESSORS, RETROFIT ADAPTERS | 32 |
|  | A/C CHARGING ADAPTER REPAIR KITS                                       | 34 |
|  | VALVE CORE REMOVER/INSTALLERS, FLUSH KIT                               | 36 |
|  | COMPRESSOR SERVICE TOOLS   | 38 |




### MEASURE AND TEST INSTRUMENTS




|   |                           |    |
|---|---------------------------|----|
|   | HANDHELD DIAGNOSTIC TOOLS | 40 |
|  | TEMPERATURE MEASUREMENT   | 44 |

### VACUUM PUMPS






|   |                      |    |
|---|----------------------|----|
|  | VACUUM PUMPS         | 50 |
|  | DIGITAL VACUUM GAUGE | 54 |

### CHARGING AND RECOVERY EQUIPMENT




|   |                             |    |
|---|-----------------------------|----|
|  | CHARGING SCALES & EQUIPMENT | 56 |
|  | RECOVERY CYLINDERS          | 58 |
|  | CHARGING STATIONS           | 60 |

|   |                           |    |
|---|---------------------------|----|
|  | RECOVERY/RECYCLE/RECHARGE | 61 |
|  | RECOVERY EQUIPMENT        | 62 |
|  | REFRIGERANT IDENTIFIERS   | 64 |

### LEAK DETECTION

|   |                                     |    |
|---|-------------------------------------|----|
|    | ELECTRONIC LEAK DETECTION           | 66 |
|    | NITROGEN REGULATORS                 | 71 |
|    | UV LIGHTS                           | 72 |
|   | UV LEAK LOCATOR KITS                | 73 |
|  | UV DYES/OIL INJECTORS & ACCESSORIES | 74 |

### TUBE AND HOSE FORMING

|   |                           |    |
|---|---------------------------|----|
|  | HOSE CRIMPING TOOLS       | 78 |
|  | SPECIALTY HYDRAULIC TOOLS | 79 |
|  | TUBING TOOLS              | 81 |
|   | PROMOTIONAL PRODUCTS      | 89 |
|   | NUMERICAL INDEX           | 92 |



**Mastercool<sup>®</sup>**  
"World Class Quality"



## CONTENIDO

## ESPAÑOL

### ANALIZADORES

|   |   |     |
|---|---|-----|
|    | ANALIZADOR DIGITAL DE 4-VÍAS  | 98  |
|    | ANALIZADOR DIGITAL DE 2-VÍAS  | 100 |
|    | ANALIZADOR DIGITAL PARA SISTEMA A/C AUTOMOTRIZ R134A                                | 102 |
|    | ANALIZADORES DE ALUMINIO - 4 VIAS   | 103 |
|    | ANALIZADORES CON VALVULA DE BOLA-PERFORACION DE 3/8" PRIMERA SERIE                  | 105 |
|    | ANALIZADOR DE 2 VÍAS CON VÁLVULA DE PISTÓN  | 106 |
|   | ANALIZADOR DE LATÓN DE 2 VÍAS CON VÁLVULA DE PISTÓN                                 | 107 |
|  | MANÓMETRO AUTOMOTRIZ DE 2-VIAS  | 108 |
|  | MANOMETROS ESPECIALES   | 20  |
|  | MANÓMETRO DE VÁLVULA INDIVIDUAL   | 111 |
|  | MANÓMETROS DE REEMPLAZO   | 112 |
|  | PARTES DE REEMPLAZO PARA EL MANÓMETRO   | 114 |
|  | MANGUERAS, VÁLVULAS DE CORTE AUTOMÁTICO, MANUAL, PARTES DE REEMPLAZO PARA MANGUERAS | 116 |

### MANGUERAS, ADAPTADORES Y ACCESORIOS

|   |   |     |
|---|---|-----|
|    | HERRAMIENTAS DE MANTENIMIENTO Y ACCESORIOS                                    | 119 |
|    | ACOPLES Y CONECTORES  | 120 |
|    | ADAPTADORES DE CARGA, JUNTAS DE RECAMBIO Y DEPRESORES, ADAPTADORES "RETROFIT" | 122 |
|    | A/C KITS REPARACIÓN DE ADAPTADORES DE CARGA                                   | 125 |
|    | DESINSTALADOR/ REINSTALADOR DE VALVULA DE OBUS, SET DE LAVADO                 | 126 |
|    | HERRAMIENTAS PARA EL MANTENIMIENTO DE COMPRESORES                             | 128 |
| <b>INSTRUMENTS DEMEDIDAY DE PRUEBA</b>  |   |     |
|   | HERRAMIENTAS DE DIAGNÓSTICO PORTATILES  | 130 |
|  | MEDICION DE TEMPERATURA   | 134 |
| <b>BOMBAS DE VACÍO</b>  |   |     |
|  | BOMBAS DE VACÍO   | 140 |
|  | EL MEDIDOR DE VACÍO DIGITAL   | 144 |
| <b>EQUIPO DE CARGA Y RECUPERACIÓN</b>   |   |     |
|  | BALANZAS DE CARGA Y EQUIPOS   | 146 |
|  | CILINDROS DE RECUPERACIÓN   | 148 |
|  | ESTACIÓN DE CARGA   | 150 |

|   |  |     |
|---|--|-----|
|    | RECUPERA/RECICLA/CARGA                   | 151 |
|    | EQUIPO DE RECUPERACIÓN                   | 152 |
|    | IDENTIFICADORES DE REFRIGERANTES         | 154 |
| <b>DETECTOR DE FUGAS</b>  |  |     |
|    | DETECTOR DE FUGAS ELECTRÓNICO            | 156 |
|    | REGULADORES DE PRESIÓN DE NITRÓGENO      | 161 |
|    | LUCES UV                                 | 162 |
|   | KITS PARA LA DETECCIÓN DE FUGAS UV       | 163 |
|  | INYECTORES DE TINTA/ ACEITE Y ACCESORIOS | 164 |
| <b>TUBOS Y TUBERÍAS FORMANDO</b>  |  |     |
|  | ENGATILLADORAS                           | 168 |
|  | HERRAMIENTAS HIDRÁULICAS ESPECIALIZADAS  | 169 |
|  | HERRAMIENTAS PARA TUBOS                  | 171 |
| PRODUCTOS PROMOCIONALES   |  |     |
| INDICE NÚMÉRICO   |  |     |



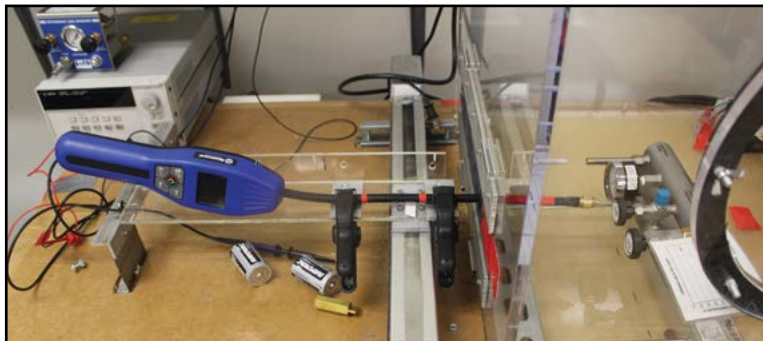
**Mastercool®**  
"World Class Quality"

## 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.



**Mastercool<sup>®</sup>**  
Inc.  
"World Class Quality"





**MANIFOLDS**



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

Patent Pending

**NOW COMPATIBLE WITH R744 (CO<sub>2</sub>)  
SENSORS ABLE TO WITHSTAND  
PRESSURE UP TO 750 PSI (50 BAR)**



USB CONNECTOR PORT

USB Cable  
99103-USB



THERMOCOUPLE PORT

3 ft. Clamp-On  
Thermocouple  
52336



VACUUM THERMOCOUPLE SENSOR PORT

Vacuum Sensor and  
Cable Assembly  
98062



99961



90413



90430



90433

99333



**99903** 4-Way Digital Manifold only

**99903-2** 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

**99972** Complete Kit in a blow molded case includes: manifold with a set of 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

**99963-EU** 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 3 ft)

**52337** Clamp-on Thermocouple (extends 10 ft)

**90413** R410A Straight Adapter 1/4 FL-M x 5/16 Swivel-F

**98062** Vacuum Sensor and Cable Assembly (6.5 ft)

**90430** 1/4 x 1/4" Swivel Ball Valve

**90433** 1/4 x 5/16" Swivel Ball Valve

**99333** 1/4 FL-M x 1/4 FL-M x 1/4 FL-F Tee

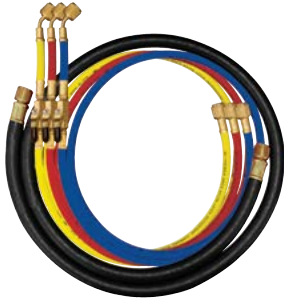
**99334-110** 110 V AC/DC Adapter

**99334-220** 220 V AC/DC Adapter (schuko plug)

**99103-PB** Plastic Carrying Case



**Mastercool<sup>®</sup>**  
"World Class Quality"



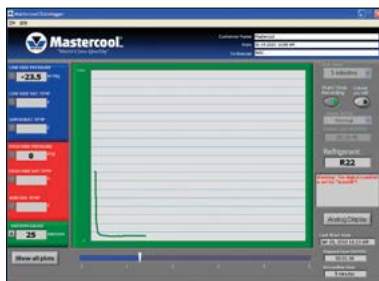
Includes three 1/4" SAE B-R-Y nylon barrier ball valve hoses with manual shut-off valves and one 3/8" SAE black vacuum hose



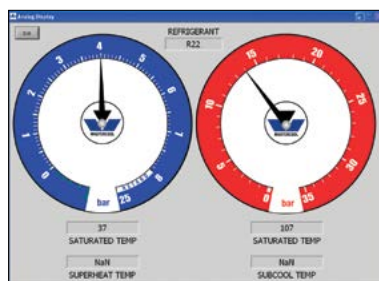
Mastercool Datalogger Application



Temperature/Pressure Screen



Vacuum Screen



Analog Gauge Screen

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, 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/cm<sup>2</sup>) (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 or backlight 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.

**66 Refrigerants:** R11, R12, R13, R21, R22, R23, R32, R113, R114, R115, R116, R123, R124, R125, R134, R134a, R141B, R142B, R143, R143A, R152A, R176, R218, R290, R401A, R401B, R401C, R402A, R402B, R403A, R403B, R404A, R405A, R406A, R407A, R407B, R407C, R407D, R407F, R408A, R409A, R410A, R410B, R411A, R411B, R412A, R413A, R414A, R414B, R417A (ISCEON M059), R422A (ISCEON M079), R422D (ISCEON M029), R427A (FX100), R501, R502, R503, R504, R507A, R508B, R509A, R600, R600A, R601, R601A, R744, R1270

#### 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:

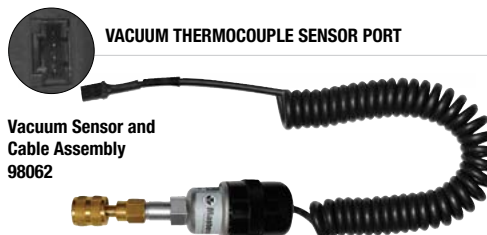
- Display data in "real time" using a USB connection, computer and software
- Platform: Windows 2000, XP, Windows Vista and Windows 7
- Log Customer Name, Date and Technician's Name
- Recorder/Cursor Function Features
  - (1) Recorder TIME command. Record in intervals of 5, 15 min, 1, 4, 8 and 24 hrs.
  - (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.



**Mastercool<sup>®</sup>**  
"World Class Quality"



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



Patent Pending

**99103-A** 2-Way Digital 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

|              |   |                  |                                    |
|--------------|---|------------------|------------------------------------|
| <b>52336</b> | Clamp-on Thermocouple (extends 3 ft)            | <b>90433</b>     | 1/4 x 5/16" Swivel Ball Valve      |
| <b>52337</b> | Clamp-on Thermocouple (extends 10 ft)           | <b>99333</b>     | 1/4 FL-M x 1/4 FL-M x 1/4 FL-F Tee |
| <b>90413</b> | R410A Straight Adapter 1/4 FL-M x 5/16 Swivel-F | <b>99334-110</b> | 110 V AC/DC Adapter                |
| <b>98062</b> | Vacuum Sensor and Cable Assembly (6.5 ft)       | <b>99334-220</b> | 220 V AC/DC Adapter (schuko plug)  |
| <b>90430</b> | 1/4 x 1/4" Swivel Ball Valve                    | <b>99103-PB</b>  | Plastic Carrying Case              |



**Mastercool<sup>®</sup>**  
Inc.  
"World Class Quality"

**NOW COMPATIBLE WITH R744 (CO<sub>2</sub>)  
SENSORS ABLE TO WITHSTAND  
PRESSURE UP TO 750 PSI (50 BAR)**



|                 |        |     |    |         |
|-----------------|--------|-----|----|---------|
|                 | 78 PSI | R   | 11 | 290 PSI |
| Saturated Temp. | 19 °F  | Low |    | 137 °F  |
| Sensor Temp.    | 49 °F  |     |    |         |
| Superheat       | 14 °F  |     |    |         |

#### SUPERHEAT & SUBCOOL CALCULATIONS

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



|        |             |
|--------|-------------|
|        |             |
| Vacuum | 120 MICRONS |

#### PRECISE VACUUM READINGS

Vacuum thermocouple sensor provides accurate vacuum readings.

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!*

#### INCLUDES 66 REFRIGERANTS:

R11, R12, R13, R21, R22, R23, R32, R113, R114, R115, R116, R123, R124, R125, R134, R134a, R141B, R142B, R143, R143A, R152A, R176, R218, R290, R401A, R401B, R401C, R402A, R402B, R403A, R403B, R404A, R405A, R406A, R407A, R407B, R407C, R407D, R407F, R408A, R409A, R410A, R410B, R411A, R411B, R412A, R413A, R414A, R414B, R417A (ISCEON MO59), R422A (ISCEON MO79), R422D (ISCEON MO29), R427A (FX100), R501, R502, R503, R504, R507A, R508B, R509A, R600, R600A, R601, R601A, R744, R1270

#### 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/cm<sup>2</sup>) (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 backlight mode (continuous use)
- Auto-Off: 15 min. with disabling capability



**Mastercool®**  
"World Class Quality"

## R134a DIGITAL MANIFOLD

Patent Pending



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 55 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!

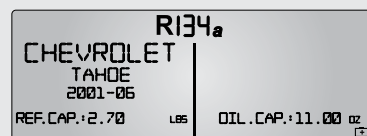


### SPECIFICATIONS

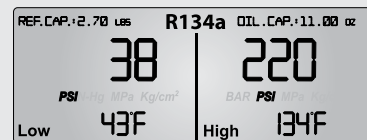
- Refrigerant: R134a
- Pressure & Vacuum Display: Low Side - PSI, Bar, MPa, Kg/cm<sup>2</sup> & IN-Hg  
High Side - PSI, Bar, MPa, Kg/cm<sup>2</sup>
- Temperature Display: -40 to 200°F (-4 to 93°C)
- Response Time: 250 mSec.
- Connection: 1/4" FL-M
- Operating Temperature: 32 to 122°F (0 to 45°C)
- Power: 9V DC battery
- Battery Life: 50-60 hours continuous use
- Low Battery Indicator: Special ICON on LCD
- Auto-Off: 15 min. with disabling capability

### MANUFACTURERS INCLUDE:

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



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



TEMPERATURE/PRESSURE DISPLAY

**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).

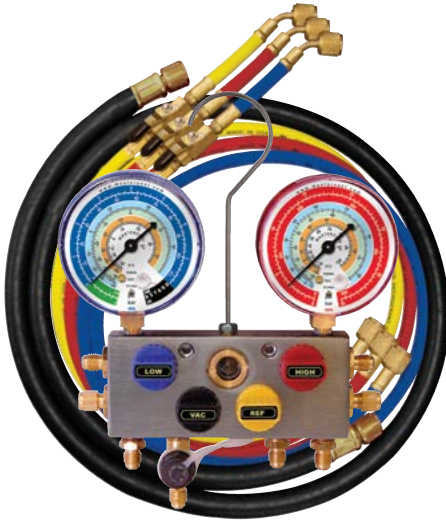
**99872-1/4-A** Complete Kit in a blow molded case includes: manifold with a set of 3-180 cm hoses and a set of manual couplers (82834-E & 82934-E).

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

\* Capable of Software Upgrade



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



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.

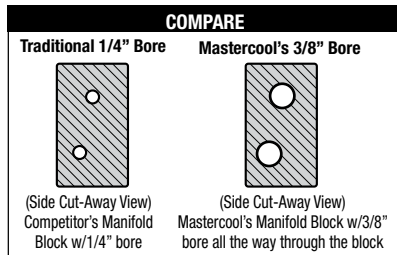
**All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.**

- 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)

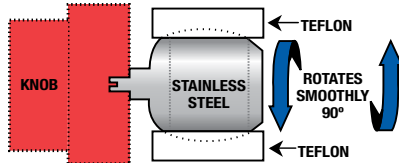


All fittings 1/4" SAE, tee with branch 3/8"

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



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



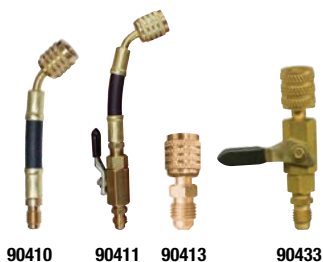
| Gauge class – diameter   | 1.6 - 80 mm                  |   |                       |   |
|--|------------------------------|---|-----------------------|---|
| Units  | Bar/PSI/°C                   | Bar/°C                                  | Bar/PSI/°C            | Bar/°C                                  |
| 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 - MRBL                  | MBH - MBL                               | EBH - EBL             | EBRL - 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 - 150 cm ball valve hoses (p/n 49262-60) + 1 - 150 cm black 3/8" hose (p/n 94160) | 96261-MRB                    | 96261-MB                                | 96261-EB              | 96261-EBR                               |
| Manifold (as above) with 3 - 180 cm ball valve hoses (p/n 49262-72) + 1 - 180 cm black 3/8" hose (p/n 94172) | 96272-MRB                    | 96272-MB                                | 96272-EB              | 96272-EBR                               |

\* 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

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

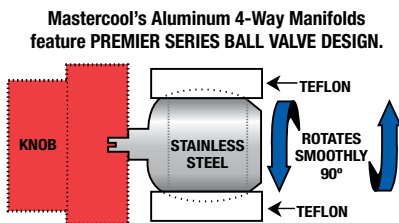
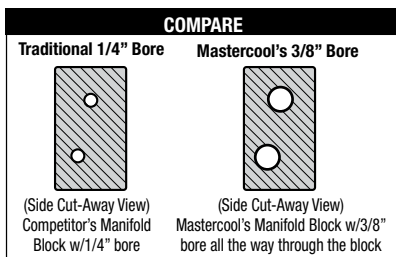
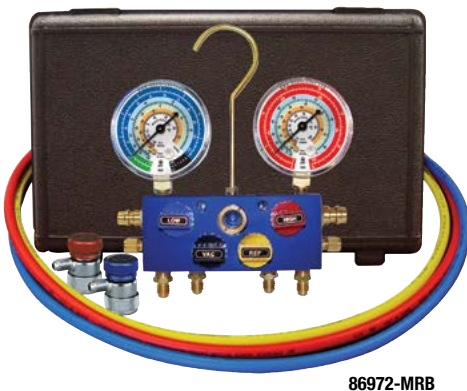
**-433** to include 2 pieces of 90433 adapter with fittings to convert 1/4 to 5/16 SAE



**Mastercool®**  
"World Class Quality"



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



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, blind connections for automotive quick couplers.

Assemblies packed in custom molded carrying case, inclusive quick couplers (p/n 82834-E and 82934-E)

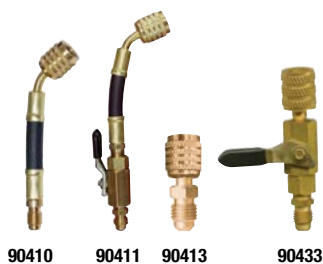
| Gauge class – diameter  | 1.6 - 80 mm                             |                              |
|---|---|------------------------------|
| Units   | Bar/°C                                  | Bar/PSI/°C                   |
| Refrigerant scales  | R134a<br>R404A<br>R407C<br>R507A<br>R22 | R134a<br>R22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

\* 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

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

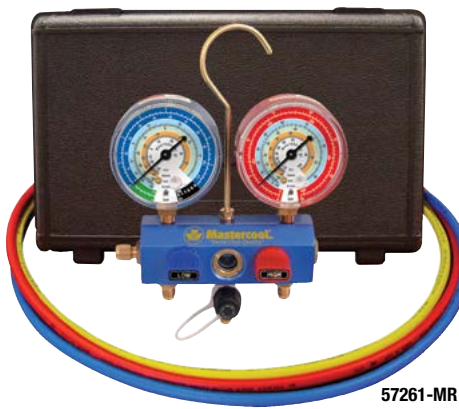
**-433** to include **2 pieces of 90433** adapter with fittings to convert 1/4 to 5/16 SAE



**Mastercool<sup>®</sup>**  
"World Class Quality"



## 2-WAY SIGHT GLASS MANIFOLD – BALL VALVES



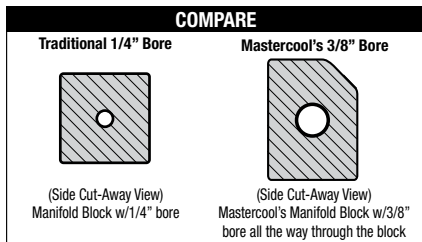
**All Mastercool Gauges are Color Coordinated for Easy Refrigerant Recognition.**



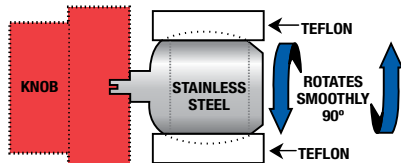
- Full 3/8" bore all the way through the block increases flow considerably – faster charging and time savings
- Ball valve rotates 90° between two Teflon washers requiring little effort to turn, even under pressure
- Opens and closes quickly with only a quarter turn
- Knob position shows whether valves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

### 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 barrier with in-line 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 with in-line ball valve - red and blue 1/4" x 5/16", yellow 1/4" x 1/4" hoses | 57261-E-JT                            | -                      | -                                 |



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



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 GAUGE CLASS - 80 MM DIAMETER

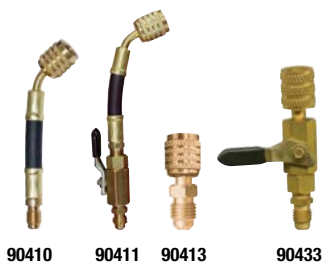
| Units  | Bar/PSI/°C                            | Bar/PSI/°C                   | Bar/°C                                 | Bar/°C                                  |
|--|---------------------------------------|------------------------------|--|---|
| Refrigerant scales   | R410A<br>R407C<br>R22                 | R134a<br>R22<br>R12<br>R404A | 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   | nylon barrier with in-line ball valve |                              |  |   |
| 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 nylon barrier with in-line ball valve - red and blue 1/4" x 5/16", 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

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



**Mastercool®**  
"World Class Quality"

## 2-WAY ALUMINUM MANIFOLD – PISTON VALVES



93636-MR

**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-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 with in-line ball valve - red and blue 1/4" x 5/16", yellow 1/4" x 1/4" hoses | 93661-E-JT               | -                      | -                                 |

### 1.6 GAUGE CLASS - 80 MM 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-R22<br>R507A | R22-R422A<br>R427A<br>R422D<br>R417A |
| Gauge p/n (HP/LP)  | EBH-EBL               | MRBH-MRBL                    | MBH-MBL                              | EBRL-EBRH                            |
| Hoses 1/4" SAE   | standard              |                              |                                      |                                      |
| 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 standard with in-line ball valve - red and blue 1/4" x 5/16", yellow 1/4" x 1/4" hoses | 93661-EB-JT           | -                            | -                                    | -                                    |

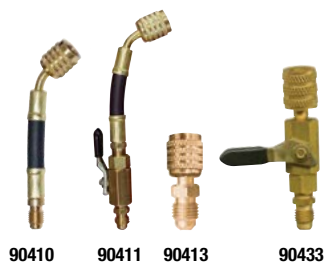
\* Manifolds assembled with teflon gasket hoses, add a -T

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

\* For packaging please see page 18, 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

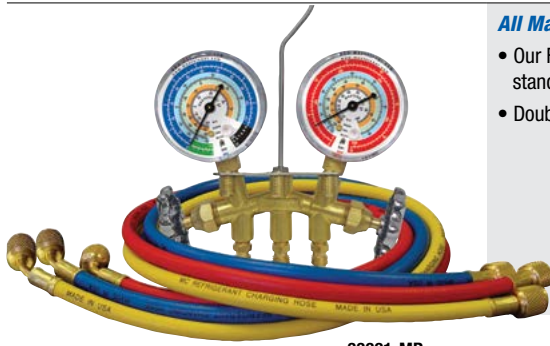
**-413** to include **2 pieces of 90413** straight adapter fittings to convert 1/4 to 5/16 SAE

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



**Mastercool®**  
"World Class Quality"

## 2-WAY BRASS MANIFOLD – PISTON VALVES



33661-MR

**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

| Unit   | 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  | <b>33103-E</b>           | <b>33103-MR</b>        | <b>33103-M</b>                    |
| Manifold with 3 – 90 cm hoses  | <b>33636-E</b>           | <b>33636-MR</b>        | <b>33636-M</b>                    |
| Manifold with 3 – 150 cm hoses   | <b>33661-E</b>           | <b>33661-MR</b>        | <b>33661-M</b>                    |
| Manifold with 3 – 150 cm ball valve hoses  | <b>32661-E</b>           | <b>32661-MR</b>        | <b>32661-M</b>                    |
| Manifold with 3 – 180 cm hoses   | <b>33772-E</b>           | <b>33772-MR</b>        | <b>33772-M</b>                    |
| R410 Manifold with 3-150 cm standard with in-line ball valve - red and blue 1/4" x 5/16", yellow 1/4" x 1/4" hoses | <b>33661-E-JT</b>        | -                      | -                                 |

## 1.6 GAUGE CLASS - 80 MM 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-R422A<br>R427A<br>R422D<br>R417A |
| Gauge p/n (HP/LP)  | EBH-EBL               | MRBH-MRBL                    | MBH-MBL                              | EBRL-EBRH                            |
| Hoses 1/4" SAE   | standard              |                              |                                      |                                      |
| Manifold with gauges, 3 x 1/4" SAE fittings  | <b>33103-EB</b>       | <b>33103-MRB</b>             | <b>33103-MB</b>                      | <b>33103-EBR</b>                     |
| Manifold with 3 – 90 cm hoses  | <b>33636-EB</b>       | <b>33636-MRB</b>             | <b>33636-MB</b>                      | <b>33636-EBR</b>                     |
| Manifold with 3 – 150 cm hoses   | <b>33661-EB</b>       | <b>33661-MRB</b>             | <b>33661-MB</b>                      | <b>33661-EBR</b>                     |
| Manifold with 3 – 150 cm ball valve hoses  | <b>32661-EB</b>       | <b>32661-MRB</b>             | <b>32661-MB</b>                      | <b>32661-EBR</b>                     |
| Manifold with 3 – 180 cm hoses   | <b>33772-EB</b>       | <b>33772-MRB</b>             | <b>33772-MB</b>                      | <b>33772-EBR</b>                     |
| R410 Manifold with 3-150 cm standard with in-line ball valve - red and blue 1/4" x 5/16", yellow 1/4" x 1/4" hoses | <b>33661-EB-JT</b>    | -                            | -                                    | -                                    |

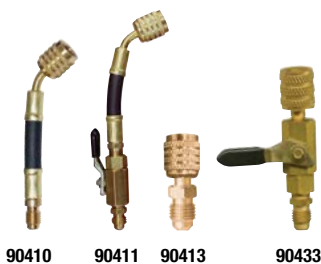
\* Manifolds assembled with teflon gasket hoses, add a -T

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

\* For packaging please see page 18, 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



**Mastercool®**  
"World Class Quality"

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



89772-M



#### 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
- 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<br>R22<br>R507A | R134a<br>R404A<br>R407C<br>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)  | <b>85102-1/4</b>                        | <b>85102-1/4</b>                        | <b>85102-1/4</b>             |
| Manifold with gauges only (1/4" SAE)   | <b>85103-M</b>                          | <b>85103-MB</b>                         | <b>85103-MRB</b>             |
| Manifold (as above) with 3 - 180 cm hoses, 1/4" SAE (p/n 40372) w/quick couplers (p/n 82834-E & 82934-E) | <b>89772-M</b>                          | <b>89772-MB</b>                         | <b>89772-MRB</b>             |
| Manifold (as above) with 3 - 250 cm hoses, 1/4" SAE (p/n 40396) w/quick couplers (p/n 82834-E & 82934-E) | <b>89996-M</b>                          | <b>89996-MB</b>                         | <b>89996-MRB</b>             |

#### \*Packaging Note



clamshell



cardboard box



89772-PB

- All piston valve 2-way manifold gauge sets are packaged in a clamshell.

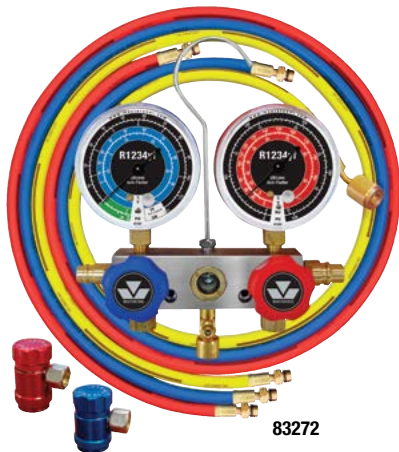
- European Standard Packaging - Cardboard Box.

- For Plastic Carrying Case, please order Part# 89772-PB.



**Mastercool<sup>®</sup>**  
Inc.  
"World Class Quality"

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

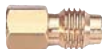


- Anti-flutter gauges smooth out needle movement
- E-Z to read temperature scales on gauge face
- E-Z to recalibrate gauges to insure accuracy
- Extra large sight glass for visual checks of refrigerant
- Easy grip front-facing knobs
- Piston type free-floating valves reduce o-ring wear
- Manifold block 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 SAE J2888
- 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       |

83634 VACUUM PUMP ADAPTER FITTING



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

\*Packaging Note



clamshell



cardboard box



89772-PB

- 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# 89772-PB.



**Mastercool®**  
"World Class Quality"



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



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



### 1.0 GAUGE CLASS - 80 MM DIAMETER

| Units  | Bar/PSI/°C             | Bar/PSI/°C               |
|--|------------------------|--------------------------|
| Refrigerant scales   | R22-R407C<br>R32-R410A | R22-R404A<br>R407F-R134a |
| Gauge p/n (HP/LP)  | EBH1-EBL1              | MRBH1-MRBL1              |
| Hoses 1/4" SAE   | standard               |                          |
| Manifold with gauges, fittings + central tee 1/4" SAE  | 93103-EB1              | 93103-MRB1               |
| Manifold with 3-90 cm hoses  | 93636-EB1              | 93636-MRB1               |
| Manifold with 3-150 cm hoses   | 93661-EB1              | 93661-MRB1               |
| Manifold with 3-150 cm ball valve hoses  | 92661-EB1              | 92661-MRB1               |
| Manifold with 3-180 cm hoses   | 93772-EB1              | 93772-MRB1               |
| R410 Manifold with 3-150 cm standard with in-line ball valve - red and blue 1/4" x 5/16", yellow 1/4" x 1/4" hoses | 93661-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 page 18, 19

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



*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            |

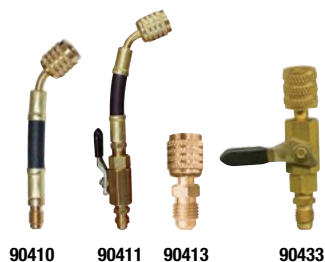
\* Manifolds assembled with teflon gasket hoses, add a -T

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

\* For packaging please see page 18, 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



**Mastercool<sup>®</sup>**  
"World Class Quality"

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



92103-MRL

(packaged in a clamshell)



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

\* Manifolds assembled with gauge guards, add a -G

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



92103-EBL-5/16

(packaged in a clamshell)



| Single Valve Manifold | Gauge Class Diameter | Unit       | Refrigerant Scales              | Gauge p/n (HP/LP) |
|-----------------------|----------------------|------------|---------------------------------|-------------------|
| 92103-EL-5/16         | 1.6<br>63 mm         | Bar/PSI/°C | R410A-R507A-<br>R404A-R22       | EL                |
| 92103-MRL-5/16        |                      | 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        | 1.6<br>80 mm         | 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        |                      | 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<br>80 mm         | Bar/PSI/°C | R22-R404A-R407F-R134a           | MRBL1             |
| 92103-EB1-5/16        |                      | Bar/PSI/°C | R22-R407C-R32-R410A             | EBL1              |

\* Manifolds assembled with gauge guards, add a -G






**Mastercool®**  
"World Class Quality"



## CLASS 1.6 REPLACEMENT GAUGES

|   | High pressure<br>p/n | Low pressure<br>p/n | Gauge<br>Diameter | Units                      | Refrigerant Scales                      |
|---|----------------------|---------------------|-------------------|----------------------------|---|
|    | <b>MH</b>            | <b>ML</b>           | 63 mm             | Bar/°C                     | R134a<br>R404A<br>R407C<br>R22<br>R507A |
|    | <b>MRH</b>           | <b>MRL</b>          | 63 mm             | Bar/PSI/°C                 | R134a<br>R22<br>R404A<br>R12            |
|    | <b>EH</b>            | <b>EL</b>           | 63 mm             | Bar/PSI/°C                 | R410A<br>R404A<br>R507A<br>R22          |
|   | <b>MRKH</b>          | <b>MRKL</b>         | 63 mm             | PSI/kg/cm <sup>2</sup> /°C | R12<br>R404A<br>R22<br>R134a            |
|  | <b>MBH</b>           | <b>MBL</b>          | 80 mm             | Bar/°C                     | R134a<br>R404A<br>R407C<br>R22<br>R507A |
|  | <b>MRBH</b>          | <b>MRBL</b>         | 80 mm             | Bar/PSI/°C                 | R134a<br>R22<br>R404A<br>R12            |
|  | <b>EBH</b>           | <b>EBL</b>          | 80 mm             | Bar/PSI/°C                 | R410A<br>R407C<br>R22                   |

## CLASS 1.6 REPLACEMENT GAUGES

|  | High pressure<br>p/n | Low pressure<br>p/n | Gauge<br>Diameter | Units      | Refrigerant Scales                      |
|--|----------------------|---------------------|-------------------|------------|---|
|   | <b>EBRH</b>          | <b>EBRL</b>         | 80 mm             | Bar/°C     | R22<br>R422A<br>R427A<br>R422D<br>R417A |
|   | <b>RBH</b>           | <b>RBL</b>          | 80 mm             | Bar/PSI/°C | R1270<br>R290<br>R600a                  |
|  | <b>87500</b>         | <b>87350</b>        | 80 mm             | Bar/°F     | R1234yf                                 |

## CLASS 1.0 REPLACEMENT GAUGES

|   | High pressure<br>p/n | Low pressure<br>p/n | Gauge<br>Diameter | Units      | Refrigerant Scales             |
|---|----------------------|---------------------|-------------------|------------|--------------------------------|
|  | <b>EBH1</b>          | <b>EBL1</b>         | 80 mm             | Bar/PSI/°C | R22<br>R407C<br>R32<br>R410A   |
|  | <b>MRBH1</b>         | <b>MRBL1</b>        | 80 mm             | Bar/PSI/°C | R22<br>R404A<br>R407F<br>R134a |



## MANIFOLD REPLACEMENT PARTS

### 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



|       |             |
|-------|-------------|
| 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) |

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

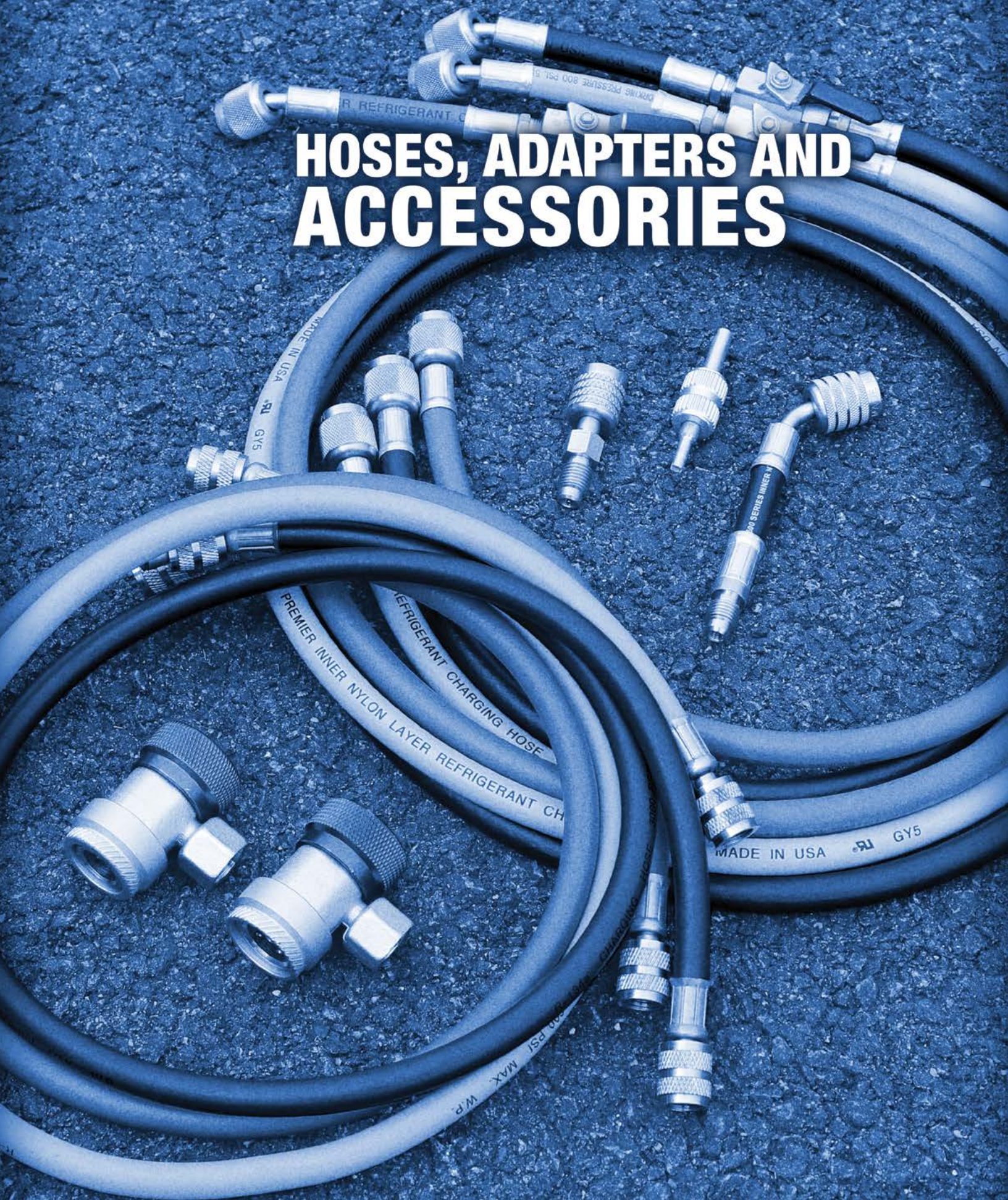


|             |   |
|-------------|---|
| 95102-R-KIT | O-Ring Repair Kit for 2-3 and 4 Way Ball Valve Manifold |
|-------------|---|





# HOSES, ADAPTERS AND ACCESSORIES





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)



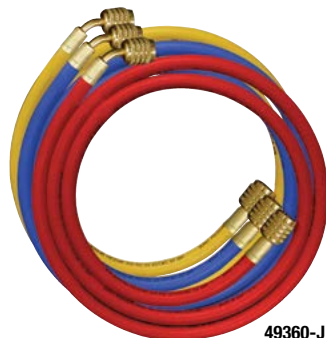
Standard Hoses, Working Pressure 52 BAR, Burst 210 BAR

| 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        |
| <b>SETS 1/4" x 1/4"</b> | <b>40336</b> | <b>40360</b> | <b>40372</b> | <b>40396</b> | <b>40396-120</b> | <b>40396-200</b> |

Nylon Barrier Hoses, Working Pressure 56 BAR, Burst 280 BAR

|   |              |              |              |              |                  |                  |
|---|--------------|--------------|--------------|--------------|------------------|------------------|
| 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              |
| <b>SETS 1/4" x 1/4"</b>                 | <b>47336</b> | <b>47360</b> | <b>47372</b> | <b>47396</b> | <b>47396-120</b> | <b>47396-200</b> |
| Black 1/4" hose w/(3/8" x 3/8" fitting) | 48364        | 48604        | 48724        | 48964        | N/A              | N/A              |
| Black 3/8" hose w/(3/8" x 3/8" fitting) | 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         |
| <b>SETS 5/16" SAE x 5/16" SAE</b>                        | <b>49336-J</b>  | <b>49360-J</b>  |
| Blue 1/4" x 5/16"  | -               | 96411           |
| Red 1/4" x 5/16"   | -               | 96413           |
| <b>SETS Blue/Red 1/4" x 5/16" and Yellow 1/4" x 1/4"</b> | <b>49336-JT</b> | <b>49360-JT</b> |

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



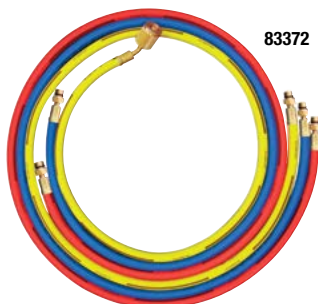
Nylon Barrier Hoses, Working Pressure 56 BAR, Burst 280 BAR

| 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        |
| <b>SETS Blue/Red 14 mm-M x 1/2" ACME-F and Yellow w/Shut-off Valve 1/2" ACME-F x 1/2" ACME-F</b> | <b>84336</b> | <b>84360</b> | <b>84372</b> | <b>84396</b> |

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



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

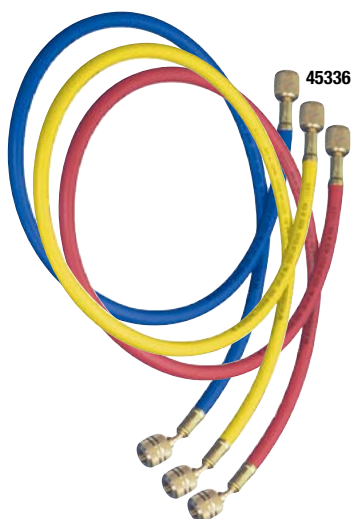


83372

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



45336

## Standard Hoses, Working Pressure 52 BAR, Burst 210 BAR

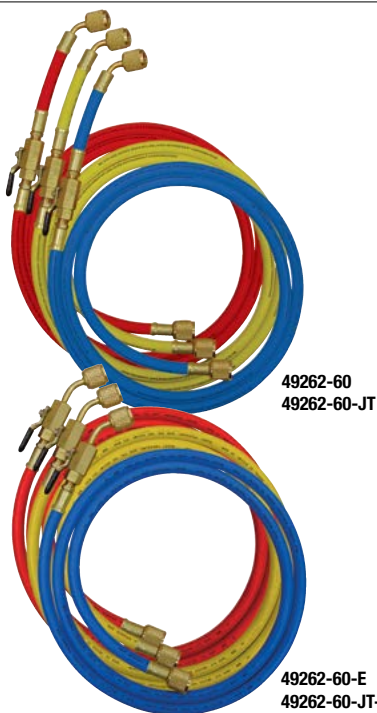
| HOSE LENGTH        | 90 cm | 150 cm | 180 cm | 250 cm |
|--------------------|-------|--------|--------|--------|
| Blue 1/4" x 1/4"   | 45361 | 45601  | 45721  | 45961  |
| Yellow 1/4" x 1/4" | 45362 | 45602  | 45722  | 45962  |
| Red 1/4" x 1/4"    | 45363 | 45603  | 45723  | 45963  |
| Black 1/4" x 1/4"  | N/A   | N/A    | N/A    | N/A    |
| SETS 1/4" x 1/4"   | 45336 | 45360  | 45372  | 45396  |

## Nylon Barrier Hoses, Working Pressure 56 BAR, Burst 280 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 |
| SETS 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 &amp; HIGH PRESSURE HOSES W/MANUAL SHUT-OFF VALVE FITTINGS (1/4" SAE)

49262-60  
49262-60-JT49262-60-E  
49262-60-JT-E

## Standard Hoses, Working Pressure 52 BAR, Burst 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 Barrier Hoses, Working Pressure 56 BAR, Burst 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 with (3/8" x 3/8" 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 1/4 x 5/16", 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



**Mastercool®**  
"World Class Quality"

## 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"         | <a href="#">47124-STR</a> | <a href="#">47124-ST</a> |
| 18"         | <a href="#">47184-STR</a> | <a href="#">47184-ST</a> |
| 24"         | <a href="#">47244-STR</a> | <a href="#">47244-ST</a> |
| 36"         | <a href="#">47364-STR</a> | <a href="#">47364-ST</a> |
| 48"         | <a href="#">47484-STR</a> | <a href="#">47484-ST</a> |
| 60"         | <a href="#">47604-STR</a> | <a href="#">47604-ST</a> |

## AUTOMATIC SHUT-OFF VALVES



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

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

|                          |                      |
|--------------------------|----------------------|
| <a href="#">90333-R</a>  | 90° 1/4 x 1/4"       |
| <a href="#">90333-UV</a> | 90° 1/4" FFL x 13 mm |
| <a href="#">90335-R</a>  | Straight 1/4 x 1/4"  |
| <a href="#">90337</a>    | Straight 1/4 x 3/16" |

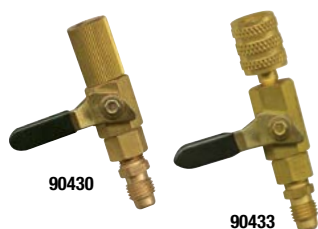
## CONTROL VALVE



Ideal for use on charged systems. Eliminates refrigerant, oil or dye from spraying during connections. Brass body with 1/4" FFL swivel coupler.

|                       |                     |
|-----------------------|---------------------|
| <a href="#">90328</a> | 1/4" FFL x 1/4" MFL |
|-----------------------|---------------------|

## 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.

|                       |                               |
|-----------------------|-------------------------------|
| <a href="#">90430</a> | 1/4 x 1/4" Swivel Ball Valve  |
| <a href="#">90433</a> | 1/4 x 5/16" Swivel Ball Valve |

## SERVICE HOSE REPLACEMENT PARTS



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





## 80011 HEAVY DUTY RATCHET HOSE CUTTER



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) O.D.  
(Not recommended for PVC200)

**80111** Replacement blade for 80011

## 80013 AUTOMOTIVE REFRIGERANT HOSE CUTTER



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

**80113** Replacement blade for 80013

## 91390 R12 SERVICE PORT THREAD REPAIR TOOL



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-J

**85510-E** 1/4" SAE Can Tap Valve - Screw-On Model (European Standard)

**85510-J** R134a Can Tap Valve - Screw-On Model (Japanese Standard) M14-F x M10-FL-M



**Mastercool®**  
"World Class Quality"

## 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**

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



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

## E-Z SNAP™ COUPLERS



82214 82224



82214-E 82224-E

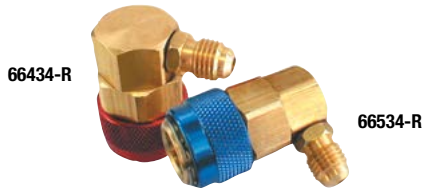
This unique patented design easily snaps on and off the A/C systems service ports under any pressure. The E-Z Snap™ automatically adjusts to various service port dimensions allowing fast and immediate access into the A/C system. The swivel feature enables the user to easily access all service ports,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

**PATENT# 5,244,010**

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



## ECONOMY COUPLERS



Specially designed to work in the tightest quarters. Attaches to your existing R12 hoses and snaps easily to A/C service ports.

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

## R1234yf COUPLERS



- High and low couplers with extended disconnect protection sleeve
- Meets SAE J639 & J2888
- Allows recovery of entire refrigerant, including the space between the coupler and fitting.

|              |                           |
|--------------|---------------------------|
| <b>83834</b> | High Side R1234yf Coupler |
| <b>83934</b> | Low Side R1234yf 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.

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

## MALE x MALE CONNECTORS



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

## FEMALE x MALE CONNECTORS



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

## 93000 SPRING LOCK COUPLING TOOL SET



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:

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



**Mastercool®**  
"World Class Quality"

## 90° ADAPTERS



A

B

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

## 45° ADAPTERS



C

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

## STRAIGHT ADAPTERS



D



E



F



G



H



I



J



K

|   |                         | REPLACEMENT  | GASKET/O-RING | DEPRESSOR |
|---|-------------------------|--|---------------|-----------|
| D | <a href="#">82272*</a>  | R134a 1/2" ACME-F x 13 mm R134a (Low-Side)   | 85511         | -         |
| E | <a href="#">82335</a>   | R134a Shut-Off Valve 1/2" ACME-M x 1/2" ACME-F                                     | 90336         | -         |
| E | <a href="#">90335-R</a> | Shut-Off Valve 1/4" MFL x 1/4" FFL   | 90336         | -         |
| E | <a href="#">90337</a>   | Shut-Off Valve 1/4" MFL x 3/16" FFL  | 90331         | -         |
| F | <a href="#">82634*</a>  | 1/4" FFL x 1/2" ACME-M   | 80234         | -         |
| F | <a href="#">82634-M</a> | 1/4" FFL x 1/2" ACME-M Without Core Valve  | 80234         | -         |
| G | <a href="#">82734</a>   | 14 mm-M x 1/4" MFL   | 83341         | -         |
| H | <a href="#">90358*</a>  | 1/4" MFL x 3/16" FFL (High-Side)   | 42010         | 42014     |
| I | <a href="#">90274</a>   | 1/4" MFL x 1/4" FFL Swivel   | 42010         | 42014     |
| I | <a href="#">90332**</a> | 1/4" MFL x 1/4" FFL Anti-Blowback Fitting  | 42010         | 42014     |
| I | <a href="#">90357</a>   | 1/4" MFL x 3/16" FFL (High-Side) Swivel  | 90369         | 90368     |
| I | <a href="#">91084*</a>  | 1/4" MFL x 3/16" FFL (High-Side) Swivel Adapter GM 1976 & Later, Ford 1981 & Later | 90369         | 90368     |
| J | <a href="#">90338*</a>  | GM 1991 & Later Service Adapter  | 90339         | -         |
| K | <a href="#">90633</a>   | 1/4" MFL x 1/4" MFL Union  | -             | -         |
| K | <a href="#">82633</a>   | 1/2" ACME-M x 1/2" ACME-M Union  | -             | -         |

## 90413 STRAIGHT ADAPTER FITTING



Convert 1/4 to 5/16 SAE (1/2-20 UNF) swivel female nut with depressor.

## FLEX ADAPTERS



L

|   |                        | REPLACEMENT   | GASKET/O-RING | DEPRESSOR |
|---|------------------------|---|---------------|-----------|
| L | <a href="#">90355*</a> | 1/4" MFL x 3/16" FFL (High-Side) GM 1976 & Later, Ford 1981 & Later | 90369         | 90368     |
| L | <a href="#">90356*</a> | 1/4" MFL x 1/4" FFL   | 42010         | 42014     |
| L | <a href="#">90373*</a> | 1/4" MFL x 1/8" FFL (High-Side) Ford 1977-1980                      | 90341         | 90368     |



**Mastercool**<sup>®</sup>  
Inc.  
"World Class Quality"

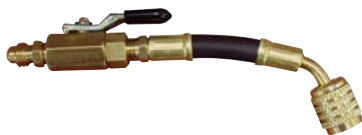


## 90410 FLEX ADAPTER



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



M

|   |        | REPLACEMENT            | GASKET/O-RING | DEPRESSOR |
|---|--------|------------------------|---------------|-----------|
| M | 90296* | 1/4" MFL x 1/8" NPT    | -             | -         |
| M | 90298  | 3/16" MFL x 1/8" NPT   | -             | -         |
| M | 80296* | 1/2" ACME-M x 1/8" NPT | -             | -         |

\* Includes Access Valve Core (0377-001) – (90-110 PSI Opening)

\*\* Includes Check Valve Core (0332-002) – (8-12 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 |



**Mastercool**<sup>®</sup>  
"World Class Quality"

### 91207 CHARGING AND DEPRESSOR ASSORTMENT



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

Consists of:

|              |                         |
|--------------|-------------------------|
| <b>42010</b> | 1/4" Gasket (3 pcs)     |
| <b>42014</b> | 1/4" Depressor (3 pcs)  |
| <b>90368</b> | 3/16" Depressor (3 pcs) |
| <b>90369</b> | 3/16" Gasket (3 pcs)    |
| <b>90341</b> | 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 of:

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

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



Consists of:

|                |                                      |
|----------------|--------------------------------------|
| <b>42010</b>   | 1/4" FL Gasket (10 pcs)              |
| <b>42014</b>   | 1/4" FL Depressor (5 pcs)            |
| <b>42016</b>   | Screw Type Depressor (5 pcs)         |
| <b>90336</b>   | Gasket for 90335 (5 pcs)             |
| <b>82010</b>   | Black Gasket for R134a Hose (10 pcs) |
| <b>83341</b>   | O-Ring for R134a Hose (5 pcs)        |
| <b>80034-2</b> | Black O-Ring for High Side (5 pcs)   |
| <b>80134-2</b> | 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:

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



**Mastercool<sup>®</sup>**  
"World Class Quality"

**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:

|                 |                                   |
|-----------------|-----------------------------------|
| <b>42010</b>    | 1/4" Gasket (20 pcs)              |
| <b>42014</b>    | 1/4" Depressor (20 pcs)           |
| <b>90368</b>    | 3/16" Depressor (20 pcs)          |
| <b>90369</b>    | 3/16" Gasket (20 pcs)             |
| <b>90341</b>    | 1/8" O-ring (20 pcs)              |
| <b>92107</b>    | Quick Disconnect Gasket (10 pcs)  |
| <b>0377-001</b> | Refrigeration Valve Core (10 pcs) |
| <b>90378</b>    | 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:

|                 |                           |
|-----------------|---------------------------|
| <b>1336-006</b> | #6 O-ring (10 pcs)        |
| <b>1336-008</b> | #8 O-ring (10 pcs)        |
| <b>1336-010</b> | #10 O-ring (10 pcs)       |
| <b>1336-012</b> | #12 O-ring (10 pcs)       |
| <b>1336-016</b> | #6 Garter Spring (5 pcs)  |
| <b>1336-018</b> | #8 Garter Spring (5 pcs)  |
| <b>1336-110</b> | #10 Garter Spring (5 pcs) |
| <b>1336-112</b> | #12 Garter Spring (5 pcs) |

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

Replacement valve cores for valve core removers & installers.

Consists of:

|                 |   |
|-----------------|---|
| <b>0377-001</b> | Access Valve Core (20 pcs)                      |
| <b>0378-001</b> | Valve Core (10 pcs)                             |
| <b>0531-001</b> | R134a JRA High/Low Import Valve Core (10 pcs)   |
| <b>0768-001</b> | R134a Domestic High Flow Valve Core M8 (5 pcs)  |
| <b>0769-001</b> | R134a Domestic High Flow Valve Core M10 (5 pcs) |
| <b>81290</b>    | R12/R134a Valve Core Remover/Installer (1 pc)   |

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

Consists of:

|  |   |
|--|---|
| • 7/32" x 1/6" (5.29 x 1.78 mm) (25 pcs)   | • 11 x 2 mm (15 pcs)                        |
| • 1/4" x 1/16" (6.07 x 1.78 mm) (20 pcs)   | • 12 x 2 mm (15 pcs)                        |
| • 6.8 x 1.9 mm (20 pcs)                    | • 13.9 x 1.8 mm (10 pcs)                    |
| • 5/16" x 1/16" (7.65 x 1.78 mm) (20 pcs)  | • 9/16" x 3/32" (13.95 x 2.62 mm) (10 pcs)  |
| • 7.8 x 1.9 mm (20 pcs)                    | • 14 x 2 mm (10 pcs)                        |
| • 8 x 2 mm (20 pcs)                        | • 15 x 2 (10 pcs)                           |
| • 8.8 x 1.9 mm (20 pcs)                    | • 17 x 2 (10 pcs)                           |
| • 7/16" x 1/16" (10.82 x 1.78 mm) (15 pcs) | • 11/16" x 1/16" (17.17 x 1.78 mm) (10 pcs) |
| • 7/16" x 3/32" (10.77 x 2.62 mm) (15 pcs) | • 11/16" x 1/8" (17.04 x 3.53 mm) (10 pcs)  |



**Mastercool®**  
"World Class Quality"



### 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**

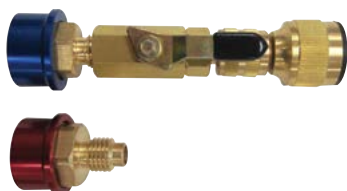


### 81290 R134a UNIVERSAL LARGE BORE REMOVER



Used on R12/R134a Standard and JRA/EATON Large Bore R134a 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

### 91290 UNIVERSAL VALVE CORE REMOVER



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

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

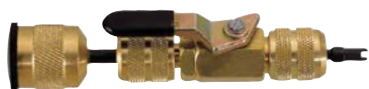


Quickly removes valve cores. Storage area includes six replacement access valve cores.

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

## VALVE CORE REMOVERS/INSTALLERS AUTOMOTIVE/HVAC (1/4" FL)

### 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**



### 91499 SUPERHEAT DETERMINATION SET (HVAC)



Special valve core remover/installer adapter allows replacement of damaged or faulty service valve cores without recharging the system. Valve replacement no longer requires time consuming refrigerant recovery. Calculation of superheat with excellent accuracy by reading refrigerant temperature and pressure from the same location in the system.

### 91046-A 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 refrigerant oil debris during retrofitting or compressor replacement.



### 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.





# MEASURE AND TEST INSTRUMENTS



## THE COMPLETE A/C DIAGNOSTIC TOOL



52251



52270



52280

Mastercool's new 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, R134a, R141B, R142B, R401A, R401B, R404A, R407A, R407B, R407C, R407D, R408A, R409A, R410A, R411A, R411B, R414A, R414B, R417A, R507A
- 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%
- Storage Temperature: -20 to 50°C (-4 to 122°F), humidity <90%
- 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
- Backlit LCD Display
- Low battery indicator
- K-type thermocouple connection
- USB connection
- 6 AA batteries

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 #   | 52251<br>System<br>Analyzer | 52253<br>Round Vane | 52254<br>Antenna Type Meter<br>(extends to 37") | 52336<br>3 Ft. Clamp-on<br>Thermocouple | 52252<br>Pressure<br>Transducer |
|--|-----------------------------|---------------------|---|---|---------------------------------|
| <b>SYSTEM ANALYZER KITS</b> in a blow molded plastic box |                             |                     |   |   |                                 |
| <b>52255</b>   | ✓                           | ✓                   | -   | ✓                                       | -                               |
| <b>52260</b>   | ✓                           | -                   | ✓   | ✓                                       | -                               |
| <b>52270</b>   | ✓                           | ✓                   | -   | ✓                                       | ✓                               |
| <b>52280</b>   | ✓                           | -                   | ✓   | ✓                                       | ✓                               |



**Mastercool<sup>®</sup>**  
Inc.  
"World Class Quality"

**52253 ROUND VANE****Temp. Range/Resolution/Accuracy:**

- -20 to 60°C (-4 to 140°F)
- 0.1°C (0.2°F)
- $\pm 0.6^\circ\text{C}$  (1.1°F) (-20 to 50°C (-4 to 122°F)),  $\pm 1.2^\circ\text{C}$  (2.2°F) at other range

**Range/Resolution/Accuracy:**

- 0.1% to 99.9% RH
- 0.1% RH
- $\pm 3\%$  RH (at 25°C (77°F), 10 to 90% RH),  $\pm 5\%$  RH at other range

**Windspeed Range/Resolution/Accuracy:**

- 0.6 to 32 m/s
- 0.1 m/s
- $\pm 2\%$  of full scale



TEMP SPLIT 1  
Insert combo gauge to  
instrument & place  
gauge in return air  
by evaporator  
DB 75.5°F WB 61.9°F  
Press ENTER to save  
REDO(NEXT) T/S IEXIT

TEMP SPLIT ANALYSIS  
Target split 18.2°F  
Actual split 19.8°F  
Difference 1.6°F  
If diff is over 3°F  
(1.7°C) then airflow  
is low  
I T/S IEXIT

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)
- $\pm 0.6^\circ\text{C}$  (1.1°F) (-20 to 50°C (-4 to 122°F)),  $\pm 1.2^\circ\text{C}$  (2.2°F) at other range

**Humidity Range/Resolution/Accuracy:**

- 0.1% to 99.9% RH
- 0.1% RH
- $\pm 3\%$  RH (at 25°C (77°F), 10 to 90% RH),  $\pm 5\%$  RH at other range

**Windspeed Range/Resolution/Accuracy:**

- 0.5 to 25 m/s
- 0.1 m/s
- $\pm (2\% \text{ of reading} + 0.3 \text{ m/s})$

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

Get target superheat temperature by following screen instructions for two simple measurements with the probe.



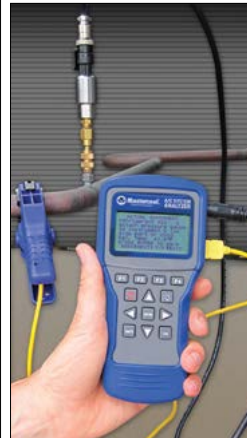
DB/WB/RH/DP/Air Vel  
use combo gauge  
DB 75.7°F WB 63.5°F  
RH 51.0% DP 56.3°F  
VEL 0.0 ft/min  
for air flow volume  
press ENTER  
HOLD MAX I T/S IEXIT

TARGET SUPERHEAT 1  
combo gauge into  
instrument & place  
gauge in return air  
DB 77.7°F  
WB 67.8°F  
press ENTER to save  
REDO(NEXT) T/S IEXIT

TARGET SUPERHEAT 2  
Leave combo gauge in  
instrument & place  
into air flow going  
to condenser  
DB 81.1°F  
press ENTER to save  
REDO(NEXT) T/S IEXIT

**52252 PRESSURE TRANSDUCER**

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



ACTUAL SUPERHEAT  
refrigerant R22 &  
attach pressure gauge  
to instrument & low  
side port of cond  
sat. temp 43.0°F  
press ENTER to save  
REDO(NEXT) T/S IEXIT

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

SUPERHEAT ANALYSIS  
Actual S.H. 16.3°F  
Target S.H. 21.0°F  
Difference -4.1°F  
If diff is over 5°F  
(2.8°C) add below -5°F  
(-2.8°C) remove refrig  
I T/S IEXIT

System will compare target and actual superheat.

**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)

**52337** Clamp-On Thermocouple  
(extends 10 ft (3 M))



**Mastercool®**  
"World Class Quality"

## 52246 COMPACT SUBCOOL/SUPERHEAT CALCULATOR



**ACHIEVE SUBCOOL OR SUPERHEAT READINGS  
IN 3 EASY STEPS...**

- 1.) Enter refrigerant
- 2.) Enter pressure from gauges
- 3.) Clamp thermocouple on proper tube

### FEATURES:

- Pre-programmed with 37 popular refrigerants
- Clamp-on K-Type thermocouple included to achieve accurate temperature measurement
- View bubble and dew temperature for corresponding pressure on large LCD display
- Easily select superheat or subcool temperature with a touch of a button
- Easily look up saturated temperature using the pressure from any gauge set
- Hold function keeps data on the LCD even when thermocouple is disconnected

### SPECIFICATIONS:

- 37 Refrigerants (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)



## 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.

### FEATURES:

- Auto-off with disabling capability
- Metric & inch unit selection
- Tripod mountable for extended use
- Microprocessor circuitry
- Professional remote vane
- Large backlit LCD display
- Fast response & accurate reading
- Dew Point & Wet Bulb
- 4 AAA batteries
- Low battery indicator

### 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 m<sup>3</sup>/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
- LCD digital display
- Max/Min record function
- Auto-off function

### 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.



**Mastercool®**  
"World Class Quality"

**52233 DIGITAL PSYCHROMETER**

- Rotating cap to protect sensor
- LCD digital display
- Low battery indicator
- Max/Min record function
- Auto Power Off with disabling capability
- External Temp. probe (optional)
- Data Hold to capture readings
- Fast response, Accurate reading
- Microprocessor circuitry for reliability

**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**

**52733**



**52775**

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)



**Mastercool<sup>®</sup>**  
"World Class Quality"



## 52224-A INFRARED THERMOMETER WITH LASER



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

### SPECIFICATIONS:

|                                |   |
|--------------------------------|---|
| Non-Contact Temperature Range: | -50 to 500°C<br>(-58 to 932°F)                                    |
| Field of View:                 | 12 : 1  |
| Display Illumination:          | Backlit LCD Color Display   |
| Target Indicator:              | Single Laser Spot   |
| Emissivity:                    | 0.98  |
| Resolution:                    | 0.5°F / 0.5°C   |
| Accuracy:                      | ±2°C (4°F) or ±2% of reading                                      |
| Response Time:                 | 0.5 seconds   |
| Power Off:                     | Automatic after 15 seconds  |
| Battery Life:                  | Approximately 180 hours   |
| Included Accessories:          | 2 AAA batteries, instruction manual, plastic molded carrying case |



## 52224-C INFRARED THERMOMETER WITH DUAL LASER



Features both infrared and dual laser technologies.

### SPECIFICATIONS:

|                                |   |
|--------------------------------|---|
| Non-Contact Temperature Range: | -60 to 550°C<br>(-76 to 1022°F)                                   |
| Field of View:                 | 12 : 1  |
| Display Illumination:          | Backlit LCD Color Display   |
| Target Indicator:              | Dual Laser Spot   |
| Emissivity:                    | 0.95  |
| Resolution:                    | 0.1°F / 0.1°C   |
| Accuracy:                      | ±2°C (4°F) or ±2% of reading                                      |
| Response Time:                 | 1 second  |
| Power Off:                     | Automatic after 15 seconds  |
| Battery Life:                  | Approximately 180 hours   |
| Included Accessories:          | 2 AAA batteries, instruction manual, plastic molded carrying case |



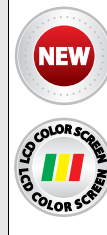
## 52224-D MULTI-LASER INFRARED THERMOMETER



The multi-laser infrared thermometer safely monitor 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)   |
| Field of View:        | 12 : 1 (90% energy covered)  |
| Display Illumination: | Backlit LCD Color Display  |
| Target Indicator:     | Eight Laser  |
| Emissivity:           | 0.95 fixed   |
| 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, Tamb=25°C): +/-1.0°C (1.8°F)<br>(Tamb=23 +/- 3°C): 0~550°C: +/-2% of reading or 2°C (4°F) whichever is greater -60~0°C: +/- (2°C+0.05/degree) |
| Response Time (90%):  | 1 second   |
| Battery Life:         | Typ.12, min 9 hours continuous use (Alkaline, with Laser and Back Light.)  |
| Included Accessories: | 2 AAA batteries, instruction manual, plastic molded carrying case  |



## 52225-A DUAL TEMP PLUS INFRARED THERMOMETER



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:

|                                 |  |
|---------------------------------|--|
| Non-Contact Temperature Range:  | -60 to 760°C<br>(-76 to 1400°F)  |
| Thermocouple Temperature Range: | -64 to 1400°C<br>(-83 to 1999°F)   |
| Field of View:                  | 30 : 1   |
| Display Illumination:           | Backlit 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   |
| Accuracy:                       | ±2°C (4°F) or ±2% of reading   |
| Response Time:                  | 1 second   |
| Power Off:                      | Automatic after 15 seconds   |
| Battery Life:                   | Approximately 180 hours  |
| Included Accessories:           | 2 AAA batteries, 1m thermocouple probe, instruction manual, plastic molded carrying case |
| Optional Accessories:           | 3 m Wire Thermocouple Probe, Piercing Penetration Probe, Surface Probe, Air Probe        |



## 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<br>(-76 to 1832°F)   |
| Thermocouple Temperature Range: | -64 to 1400°C<br>(-83 to 1999°F)   |
| Field of View:                  | 50 : 1   |
| Display Illumination:           | Backlit LCD display  |
| Target Indicator:               | Dual Laser Spot  |
| Emissivity:                     | 0.95   |
| Resolution:                     | 0.1°F / 0.1°C  |
| Modes:                          | MIN, MAX, DIFF & AVG   |
| Accuracy:                       | ±2°C (4°F) or ±2% of reading   |
| Response Time:                  | 1 second   |
| Power Off:                      | Automatic after 15 seconds   |
| Battery Life:                   | Approximately 180 hours  |
| Included Accessories:           | 2 AAA batteries, instruction manual, plastic molded carrying case  |
| Optional Accessories:           | 1 m, 3 m Wire Thermocouple Probes, Piercing Penetration Probe, Surface Probe, Air Probe, Removable Magnetic Base |



## TAKE TEMPERATURE MEASURING TO ANOTHER LEVEL WITH MASTERCool'S NEW THERMAL IMAGING CAMERA...

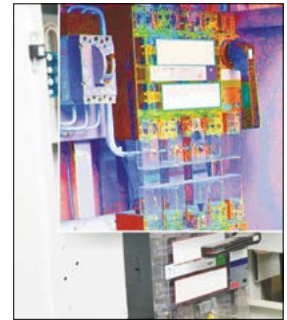
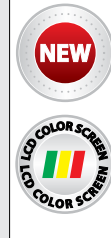


Mastercool's thermal imaging camera can measure from -20 to 250°C (-4 to 482°F) and display thermal images and temperature. Thermal images can be saved to a micro SD card and transferred to the software included for image reporting.

- Fully Automatic
- Focus Free
- Superior Measurement/Accuracy
- Micro SD Card Storage
- Reporting Software Included

### SPECIFICATIONS:

|                              |   |
|------------------------------|---|
| Thermal Image Resolution:    | 32 x 31 pixels  |
| Measurement Range:           | -20 to 250°C (-4 to 482°F)                            |
| Accuracy (Tamb=-20 to 26°C): | ±2% of reading, or 2°C (4°F) whichever is greater     |
| Thermal Sensitivity:         | 0.1°C   |
| Frame Rate:                  | 9 Hz  |
| Field of View:               | 40 x 40 deg   |
| Emissivity Range:            | 0.95 default – adjustable 0.1 to 1 step 0.1           |
| Focus:                       | Focus free  |
| LCD Size:                    | 2.8" (71 mm)  |
| LCD:                         | Color   |
| Image Storage:               | Stores up to 25,000 images per gb, bmp file format    |
| Memory Type:                 | Support 8G micro SD card                              |
| Sensor Filter:               | 8 to 14 um  |
| Interface:                   | USB   |
| Battery Type:                | (4) AA  |
| Battery Life (hr) (backlit): | 6 hours   |
| Dimensions:                  | 5.7" (l) x 2.8" (w) x 9.3" (h)<br>(145 x 71 x 236 mm) |
| Weight:                      | 11.5 oz (0.33 kg)                                     |



Electrical/Mechanical



Solar



Building Diagnostics

**52300** Thermal Imaging Camera with carry case, 8 gb micro SD card, CD, USB cord, batteries and instructions



**Mastercool<sup>®</sup>**  
"World Class Quality"

## 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
- Backlit 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°F                 |

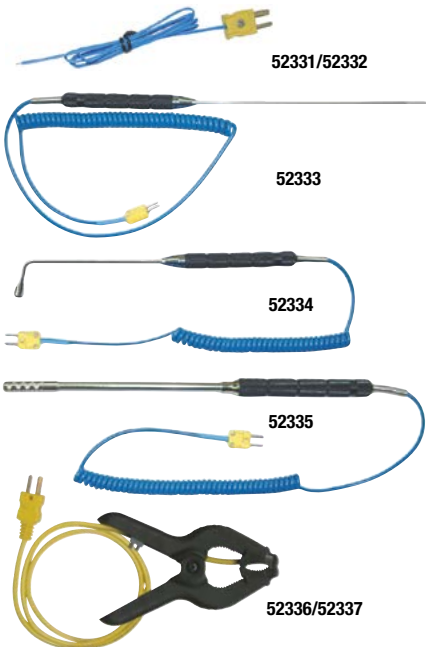
POCKET DIGITAL DESIGN



All thermometers include pocket holder and clip.  
Battery operated (1.5V, life of 5000 hours), (on/off and auto shut-off after 10 minutes)

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

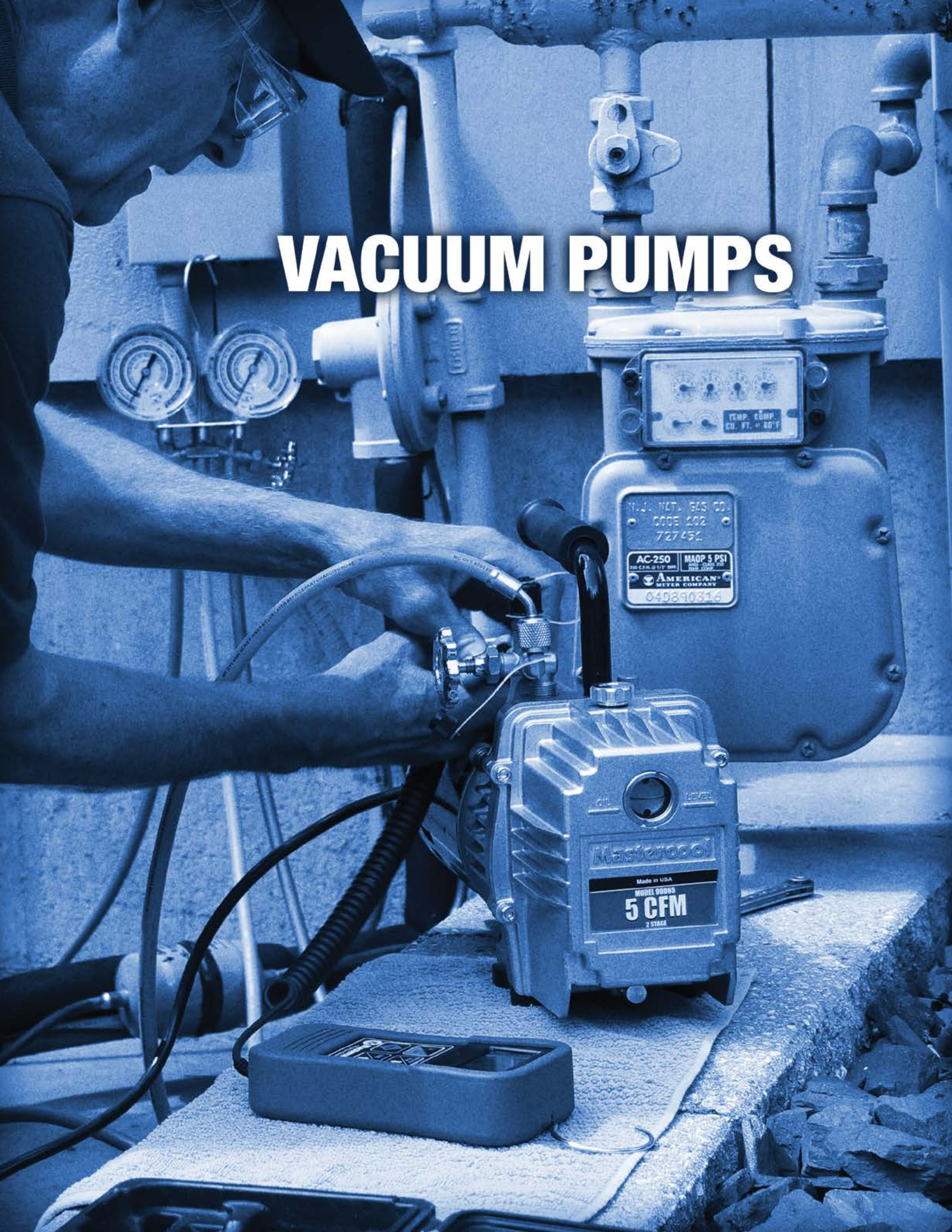
OPTIONAL THERMOCOUPLE PROBES



|       |  |
|-------|--|
| 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 | Clamp-On Probe - 10 ft (3 m)           |



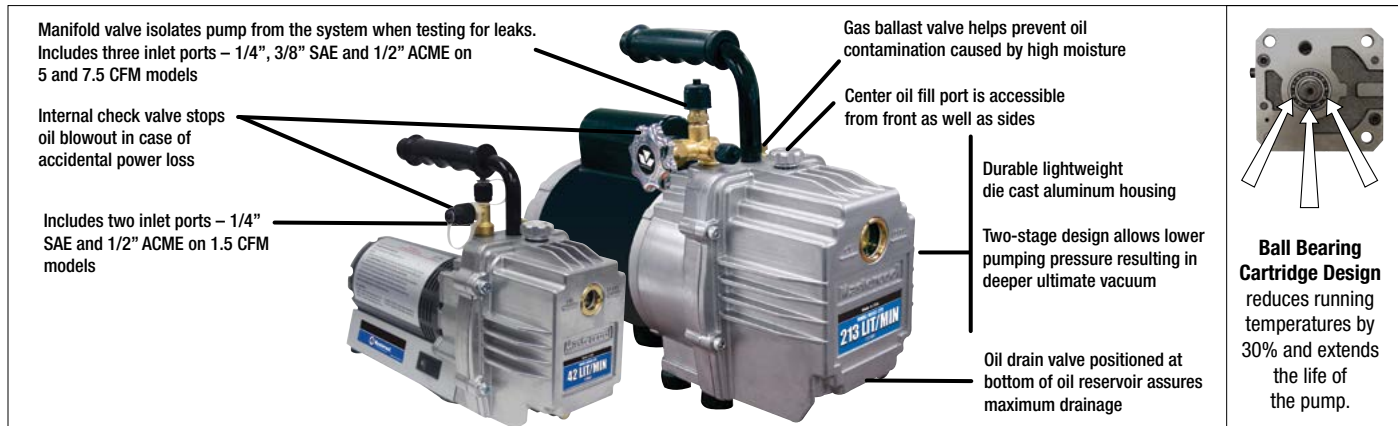
# VACUUM PUMPS





## 2 STAGE ELITE BALL BEARING DESIGN VACUUM PUMPS

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.



### 35 LIT/MIN - 42 LIT/MIN - 1.5 CFM VACUUM PUMP

\*Japanese Standard



| MODEL                 | 90060-220                    | 90060                   | 90060-J*                |
|-----------------------|------------------------------|-------------------------|-------------------------|
| NO. OF STAGES         | 2                            | 2                       | 2                       |
| FREE AIR DISPLACEMENT | 35 lit/min, 42 lit/min       | 1.5 CFM                 | 35 lit/min, 42 lit/min  |
| ULTIMATE VACUUM       | 25 Microns                   | 25 Microns              | 25 Microns              |
| MOTOR                 | 1/6 HP                       | 1/6 HP                  | 1/6 HP                  |
| PUMP SPEED            | 2850 RPM<br>3450 RPM         | 2850 RPM<br>3450 RPM    | 2850 RPM<br>3450 RPM    |
| ELECTRICAL SPECS      | 220 V / 50 HZ, 220 V / 60 HZ | 110 V / 60 HZ           | 100 V / 50/60 HZ        |
| WEIGHT                | 5.40 kg (12 lbs)             | 5.40 kg (12 lbs)        | 5.40 kg (12 lbs)        |
| DIMENSIONS IN CM      | 29.5 x 11.5 x 21.5 x 18      | 29.5 x 11.5 x 21.5 x 18 | 29.5 x 11.5 x 21.5 x 18 |

### 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 DISPLACEMENT | 119 lit/min, 142 lit/min     | 5 CFM                 | 119 lit/min, 142 lit/min |
| ULTIMATE VACUUM       | 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, 220 V / 60 HZ | 110 V / 60 HZ         | 100 V / 50/60 HZ         |
| WEIGHT                | 15.0 kg (32 lbs)             | 15.0 kg (32 lbs)      | 15.0 kg (32 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



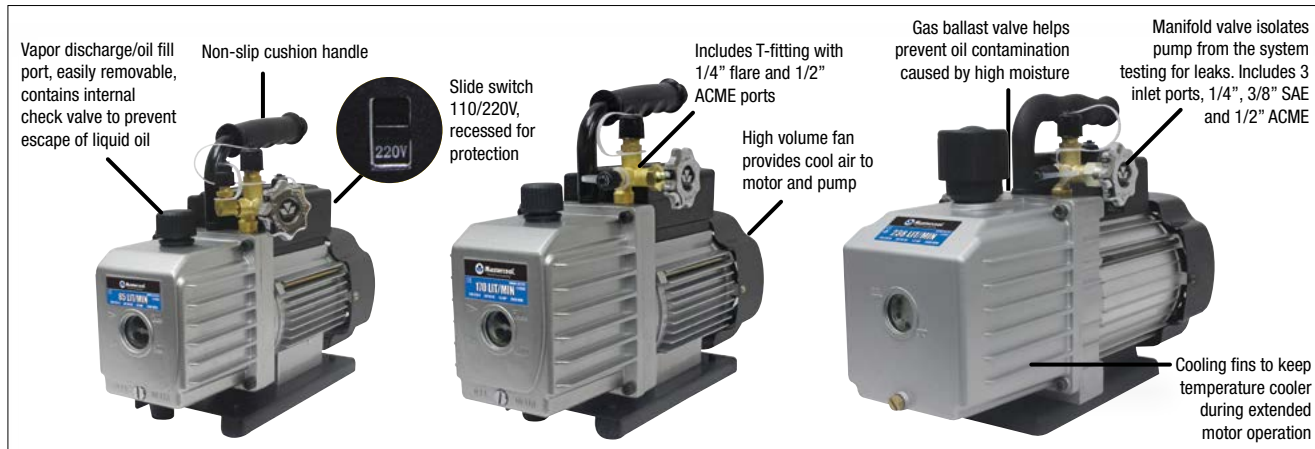
| MODEL                 | 90067-220                    | 90067                 | 90067-J*                 |
|-----------------------|------------------------------|-----------------------|--------------------------|
| NO. OF STAGES         | 2                            | 2                     | 2                        |
| FREE AIR DISPLACEMENT | 178 lit/min, 213 lit/min     | 7.5 CFM               | 178 lit/min, 213 lit/min |
| ULTIMATE VACUUM       | 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, 220 V / 60 HZ | 110 V / 60 HZ         | 100 V / 50/60 HZ         |
| WEIGHT                | 15.40 kg (34 lbs)            | 15.40 kg (34 lbs)     | 15.40 kg (34 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    |



**Mastercool®**  
"World Class Quality"



## 2 STAGE DUAL VOLTAGE VACUUM PUMPS



### 85 LIT/MIN - 71 LIT/MIN - 3 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                 | 90063-2V-110              | 90063-2V-220                         |
|-----------------------|---------------------------|--------------------------------------|
| NO. OF STAGES         | 2                         | 2                                    |
| FREE AIR DISPLACEMENT | 3 CFM                     | 85 lit/min (60Hz), 71 lit/min (50Hz) |
| ULTIMATE VACUUM       | 15 Microns                | 15 Microns                           |
| MOTOR                 | 1/4 HP                    | 1/4 HP                               |
| PUMP SPEED            | 3440 RPM                  | 2880 RPM                             |
| ELECTRICAL SPECS      | 110/220 V, 50/60 HZ       | 110 /220 V, 50/60 HZ                 |
| POWER CORD            | 110 V Cable (US Standard) | 220 V Cable (Schuko)                 |
| WEIGHT                | 10.7 kg (24 lbs)          | 10.7 kg (24 lbs)                     |
| DIMENSIONS IN CM      | 35 x 14.3 x 26.5          | 35 x 14.3 x 26.5                     |

### 170 LIT/MIN - 141 LIT/MIN - 6 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                 | 90066-2V-110              | 90066-2V-220                           |
|-----------------------|---------------------------|--|
| NO. OF STAGES         | 2                         | 2                                      |
| FREE AIR DISPLACEMENT | 6 CFM                     | 170 lit/min (60Hz), 141 lit/min (50Hz) |
| ULTIMATE VACUUM       | 15 Microns                | 15 Microns                             |
| MOTOR                 | 1/3 HP                    | 1/3 HP                                 |
| PUMP SPEED            | 3440 RPM                  | 2880 RPM                               |
| ELECTRICAL SPECS      | 110/220 V<br>50/60 HZ     | 110/220 V<br>50/60 HZ                  |
| POWER CORD            | 110 V Cable (US Standard) | 220 V Cable (Schuko)                   |
| WEIGHT                | 11.2 kg (25 lbs)          | 11.2 kg (25 lbs)                       |
| DIMENSIONS IN CM      | 35 x 14.3 x 26.5          | 35 x 14.3 x 26.5                       |

### 283 LIT/MIN - 236 LIT/MIN - 10 CFM DUAL VOLTAGE VACUUM PUMP



| MODEL                 | 90070-2V-110              | 90070-2V-220                           |
|-----------------------|---------------------------|--|
| NO. OF STAGES         | 2                         | 2                                      |
| FREE AIR DISPLACEMENT | 10 CFM                    | 283 lit/min (60Hz), 236 lit/min (50Hz) |
| ULTIMATE VACUUM       | 12 Microns                | 12 Microns                             |
| MOTOR                 | 1/2 HP                    | 1/2 HP                                 |
| PUMP SPEED            | 3440 RPM                  | 2880 RPM                               |
| ELECTRICAL SPECS      | 110/220 V, 50/60 HZ       | 110/220 V, 50/60 HZ                    |
| POWER CORD            | 110 V Cable (US Standard) | 220 V Cable (Schuko)                   |
| WEIGHT                | 14.8 kg (33 lbs)          | 14.8 kg (33 lbs)                       |
| DIMENSIONS IN CM      | 38 x 16 x 28.5            | 38 x 16 x 28.5                         |



**Mastercool<sup>®</sup>**  
"World Class Quality"

## 2 STAGE DUAL VOLTAGE VACUUM PUMPS WITH SOLENOID VALVE

### 85 LIT/MIN VACUUM PUMP WITH SOLENOID VALVE



|                       |  |
|-----------------------|--|
| MODEL                 | 90063-2V-220-SV                        |
| NO. OF STAGES         | 2                                      |
| FREE AIR DISPLACEMENT | 85 lit/min (60 Hz), 71 lit/min (50 Hz) |
| ULTIMATE VACUUM       | 15 Microns                             |
| MOTOR                 | 1/4 HP                                 |
| PUMP SPEED            | 2880 RPM                               |
| ELECTRICAL SPECS      | 110/220 V / 50/60 HZ                   |
| POWER CORD            | 220V Cable (Shuko)                     |
| WEIGHT                | 10.7 kg (24 lbs)                       |



### 170 LIT/MIN VACUUM PUMP WITH SOLENOID VALVE



|                       |  |
|-----------------------|--|
| MODEL                 | 90066-2V-220-SV                          |
| NO. OF STAGES         | 2  |
| FREE AIR DISPLACEMENT | 170 lit/min (60 Hz), 141 lit/min (50 Hz) |
| ULTIMATE VACUUM       | 15 Microns                               |
| MOTOR                 | 1/3 HP                                   |
| PUMP SPEED            | 2880 RPM                                 |
| ELECTRICAL SPECS      | 110/220 V / 50/60 HZ                     |
| POWER CORD            | 220V Cable (Shuko)                       |
| WEIGHT                | 11.15 kg (25 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

## SINGLE STAGE VACUUM PUMPS

### 35 LIT/MIN - 42 LIT/MIN - 1.5 CFM SINGLE STAGE VACUUM PUMP



|                       |                              |                         |
|-----------------------|------------------------------|-------------------------|
| MODEL                 | <b>90059-R-220</b>           | <b>90059-R</b>          |
| NO. OF STAGES         | 1                            | 1                       |
| FREE AIR DISPLACEMENT | 35 lit/min, 42 lit/min       | 1.5 CFM                 |
| ULTIMATE VACUUM       | 75 Microns                   | 75 Microns              |
| MOTOR                 | 1/6 HP                       | 1/6 HP                  |
| PUMP SPEED            | 2850 RPM, 3450 RPM           | 3450 RPM                |
| ELECTRICAL SPECS      | 220 V / 50 HZ, 220 V / 60 HZ | 110 V / 60 HZ           |
| WEIGHT                | 7.25 kg (16 lbs)             | 7.25 kg (16 lbs)        |
| DIMENSIONS IN CM      | 29.5 x 11.5 x 21.5 x 18      | 29.5 x 11.5 x 21.5 x 18 |

### 170 LIT/MIN - 141 LIT/MIN - 6 CFM SINGLE STAGE VACUUM PUMP



|                       |                          |                  |
|-----------------------|--------------------------|------------------|
| MODEL                 | <b>90066-2V-220-A</b>    | <b>90066-A</b>   |
| NO. OF STAGES         | 1                        | 1                |
| FREE AIR DISPLACEMENT | 170 lit/min, 141 lit/min | 6 CFM            |
| ULTIMATE VACUUM       | 75 Microns               | 75 Microns       |
| MOTOR                 | 1/4 HP                   | 1/4 HP           |
| PUMP SPEED            | 1720 RPM                 | 1720 RPM         |
| ELECTRICAL SPECS      | 110/220 V, 50/60 HZ      | 110 V / 60 HZ    |
| WEIGHT                | 10.2 kg (22 lbs)         | 10.2 kg (22 lbs) |
| DIMENSIONS IN CM      | 35 x 14.3 x 26.5         | 35 x 14.3 x 26.5 |

**\* PLEASE NOTE:**

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

## SERVICE INFORMATION

| SERVICE INFORMATION | <b>90060<br/>90060-220</b> | <b>90065<br/>90065-220</b> | <b>90067<br/>90067-220</b> |
|---------------------|----------------------------|----------------------------|----------------------------|
| OIL CAPACITY        | 295 ml / 10 oz             | 531 ml / 18 oz             | 708 ml / 24 oz             |
| REPL. CARTRIDGE     | <b>90160-R</b>             | <b>90165-R</b>             | <b>90167-R</b>             |
| SEAL SERVICE KIT    | -                          | <b>90062-11-SEAL</b>       | <b>90062-11-SEAL</b>       |

## VACUUM PUMP OIL



|                |  |
|----------------|--|
| <b>90010-6</b> | (Six) - 295 ml / 10 oz bottles (90060)                     |
| <b>90018-6</b> | (Six) - 531 ml / 18 oz bottles (90065, 90066-2V, 90063-2V) |
| <b>90024-6</b> | (Six) - 708 ml / 24 oz bottles (90067, 90070-2V-220)       |
| <b>90061-8</b> | (Eight) - 236 ml / 8 oz bottles (90059-R-220)              |
| <b>90016-6</b> | (Six) - 450 ml / 16 oz bottles (90066-A, 90066-2V-220-A)   |



**Mastercool®**  
"World Class Quality"



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 tabletop 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: ±10% of reading  
1000 - 100 Microns: ±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.



**Optional Accessories**

|              |                                    |
|--------------|------------------------------------|
| 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 |

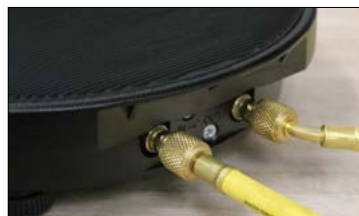


# CHARGING AND RECOVERY EQUIPMENT



## 98310 WIRELESS REFRIGERANT CHARGING SCALE

## 98315 WIRELESS REFRIGERANT CHARGING SCALE WITH SOLENOID



98315 with solenoid



REMOTE RANGE:  
100 FEET (30 M),  
LINE OF SIGHT

### 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:  $[\pm 0.01 \text{ lb} / \pm 0.005 \text{ kg}]$  or 0.1% of reading whichever is greater
- Resolution: 0.02 lb / 0.01 kg
- Automatic Shut-Off: After 20 minutes
- 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



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 (240 lbs)
- Accuracy:  $\pm 0.01 \text{ kg}$  or 0.1% of reading  
 $\pm 0.16 \text{ oz}$  (whichever is greater)  
 $\pm 0.01 \text{ lb}$
- Resolution: 0.01 kg / 0.02 lb
- 3 hrs Auto Off Function
- Operating Temperature is 0 to 49°C (32 to 120°F)
- 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



Platform  
Level Eye

Adjustable  
Leveling Feet





**98211-A ACCU-CHARGE III CERTIFIED REFRIGERANT SCALE (OIML & CE Approved, Legal for Trade)****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
- Accuracy:  $\pm 50$  g
- 3 hrs AUTO OFF Function
- Battery Life (approximately 40 hrs)
- Capacity: 50 kg
- Resolution: 0.05 kg
- Operating Temperature is 0 to 49°C (32 to 120°F)
- 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. 98230 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 and 170 psi for R12.
- Quick working 300W heater element
- An excellent complement to all Mastercool Refrigerant Scales

**98250** 110 V

**98250-220** 220 V



**Mastercool<sup>®</sup>**  
"World Class Quality"

## REFRIGERANT/RECOVERY CYLINDERS

### Features:

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



### 6 LITER REFRIGERANT/RECOVERY CYLINDERS

61009-EUGRN-1/4 61009-EUGRY-1/4 61009-EUGRN



61009-EUGRY 61010-EUGRN 61010-EUGRY

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

| SINGLE VALVE |                              |                          |
|--------------|------------------------------|--------------------------|
| Model        | 61009-EUGRY-1/4 (grey tank)  | 61009-EUGRY (grey tank)  |
|              | 61009-EUGRN-1/4 (green tank) | 61009-EUGRN (green tank) |
| DOUBLE VALVE |                              |                          |
| Model        | 61010-EUGRY (grey tank)      | NA                       |
|              | 61010-EUGRN (green tank)     | NA                       |
| Connection   | 1/4" FL-M (7/16-20)          | W21.8-14.M               |

### 12.5 LITER REFRIGERANT/RECOVERY CYLINDERS

62010-EUGRY-1/4 62010-EUGRN-1/4 62010-EUGRY



62010-EUGRN 62009-EUGRY

62020-EUGRN

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

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

### 12.5 LITER REFRIGERANT/RECOVERY CYLINDERS WITH TANK TEST PRESSURE: 42 BAR

|            | SINGLE VALVE             | DOUBLE VALVE             |
|------------|--------------------------|--------------------------|
| Model      | 62029-EUGRN (green tank) | 62020-EUGRN (green tank) |
| Connection | 1/4" FL-M (7/16-20)      |                          |



### 27.2 LITER REFRIGERANT/RECOVERY CYLINDERS

63010-EUGRN-1/4 63010-EUGRY-1/4 63010-EUGRN



63010-EUGRY 63009-EUGRN 63009-EUGRY

- Size (w x h): 298 mm x 613 mm
- Standard Specification: ADR/RID2009, EN13322-1N D TUV 1
- Service Pressure: 32 bar
- Air Tightness Test Pressure: 32 bar
- Bursting Volumetric Expansion Rate: >20%
- Tare Weight: 15.7 Kg
- Nominal Water Capacity: 27.2 l
- Tank Test Pressure: 48 bar
- Bursting Pressure: >108 bar
- Body Material: HP295

| SINGLE VALVE |                              |                          |
|--------------|------------------------------|--------------------------|
| Model        | 63009-EUGRY-1/4 (grey tank)  | 63009-EUGRY (grey tank)  |
|              | 63009-EUGRN-1/4 (green tank) | 63009-EUGRN (green tank) |
| DOUBLE VALVE |                              |                          |
| Model        | 63010-EUGRY (grey tank)      | NA                       |
|              | 63010-EUGRN (green tank)     | NA                       |
| Connection   | 1/4" FL-M (7/16-20)          | W21.8-14.M               |

### TANK ADAPTERS



90639



90637

90639

W21.8-14 x 1/4" FL (EU Standard)

90640

Gasket for 90639

90637

3/4-16 x 1/4" FL (US Standard)

90638

Gasket for 90637



**Mastercool**  
"World Class Quality"

## DOT-APPROVED RECOVERY CYLINDERS

### Features:

- 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



62010

67010

67011

- Size (w x h): 9.125" x 17.52"
- Standard Spec.: DOT - 4BA400
- Service Pressure: 400 PSI / 2.7 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
- Tank Test Pressure: 800 PSI / 5.5 MPa
- Air Tightness Test Pressure: 400 PSI / 2.7 MPa

| Model      | 62010<br>without float<br>switch | 62011<br>with float<br>switch | 62012<br>with float switch<br>& NCG Port | 64010<br>without 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                      |                               |  | blue                             |                               | yellow/blue                   |

### 50 LB. DOT-APPROVED RECOVERY CYLINDERS



63010

66010

63010-AUS

- Size (w x h): 12.25" x 18.78"
- Standard Spec.: DOT - 4BA400
- Service Pressure: 400 PSI / 2.7 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
- Tank Test Pressure: 800 PSI / 5.5 MPa
- Air Tightness Test Pressure: 400 PSI / 2.7 MPa

| Model      | 63010<br>without float<br>switch | 65010<br>with float<br>switch | 66010<br>without float<br>switch | 66011<br>with float<br>switch | 66012<br>with float<br>switch<br>& NCG Port | 63010-AUS<br>without float<br>switch (Australian<br>standard) |
|------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|---|---|
| Connection | 1/4" FL-M (7/16-20)              |                               |                                  | 1/2" ACME                     |   | 1/2" ACME   |
| Color      | yellow/gray                      |                               |                                  | yellow/gray                   |   | white   |

### 100 LB. DOT-APPROVED RECOVERY CYLINDERS



68010

- Size (w x h): 11.25" x 31.81"
- Standard Spec.: DOT - 4BW400
- Service Pressure: 400 PSI / 2.7 MPa
- 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
- 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



62020-W

- Size (w x h): 8.39" x 20"
- Standard Spec.: DOT - 4BA400
- Service Pressure: 400 PSI / 2.7 MPa
- Tare Weight: 19.9 LB
- Body Material: HP295
- Relief Valve Pressure: 600 PSI / 4.1 MPa
- Nominal Water Capacity: >30 LB / 13.6 L
- 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               |



**Mastercool®**  
"World Class Quality"



## PORTABLE ELECTRONIC CHARGING STATION



91585-220



91586-2V-220

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 35 lit/min, 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      | 1.5 CFM | 35 lit/min (50 Hz)<br>42 lit/min (60 Hz) | 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                                      | 110 V   | 220 V                                      |
| 2 Way Alum Block | 91580   | 91580-220                                | 91585 | 91585-220                                  | 91587   | 91587-220                                  |
| 4 Way Alum Block | 91581   | 91581-220                                | 91586 | 91586-220                                  | 91588   | 91588-220                                  |

## DUAL VOLTAGE PORTABLE CHARGING STATION

|                  |              |              |
|------------------|--------------|--------------|
| VACUUM PUMP      | 90063-2V-220 | 90066-2V-220 |
| 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



91680

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      | 1.5 CFM | 35 lit/min | 5 CFM | 119 lit/min | 7.5 CFM | 178 lit/min |
|------------------|---------|------------|-------|-------------|---------|-------------|
| MANIFOLD         | 110 V   | 220 V      | 110 V | 220 V       | 110 V   | 220 V       |
| 2 Way Alum Block | 91680   | 91680-220  | 91685 | 91685-220   | 91687   | 91687-220   |
| 4 Way Alum Block | 91681   | 91681-220  | 91686 | 91686-220   | 91688   | 91688-220   |

## DUAL VOLTAGE MOBILE CHARGING STATION

|                  |              |              |
|------------------|--------------|--------------|
| VACUUM PUMP      | 90063-2V-220 | 90066-2V-220 |
| 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 |

**69788-220 AUTOMATIC R134a R/R/R**

- 3 Pressure Level Gauges to Indicate High and Low Pressure plus Bottle Pressure
- LCD Display
- Quality Performance Year after Year
- Automatic/Programmable or Manual: Can be programmed to complete a continuous recovery/recycle, vacuum and recharge. Can also be set to run each operation individually.
- Includes Refrigerant Capacity Database (over 1000 vehicles): Includes refrigerant capacities for US and Import makes and models from 1995 to 2012. Capable of database upgrades as well.
- Auto Oil Discharge: Oil is automatically discharged during the recovery process. If oil is present, it will drain into a graduated container clearly displaying the amount of oil that was removed.
- Auto Filter Alarm: The machine's LCD and alarm will warn that a filter change is required.
- Compact Footprint: Compact design makes it easy to maneuver and requires minimal shop space.
- Full Tank Alarm: Notifies operator when tank is full.
- Low Refrigerant Alarm: Notifies operator when refrigerant is low.

**SPECIFICATIONS:**

- Type of Refrigerant: R134a
- Voltage: 220-240V, 50/60 Hz
- Scale Resolution: 10 g (.02 lb)
- Operating Temperature Range: 11/49°C (59/120°F)
- Filter: Double Filtering System
- Compressor: 12 cc
- Vacuum Pump: Capacity 75 l/min
- Recovery Speed: 300 g/min (.66 lb/min) in liquid phase
- Bottle Heater: Automatic
- Hoses: 250 cm (96")
- Couplers: Manual
- Dimensions: 55 x 60 x 105 cm
- Weight: 80 kg (176 lbs)

**69789-220 FULLY AUTOMATIC R134a R/R/R**

- 3 Pressure Level Gauges to Indicate High and Low Pressure plus Bottle Pressure
- LCD Display
- Quality Performance Year after Year
- Automatic/Programmable or Manual: Can be programmed to complete a continuous recovery/recycle, vacuum and recharge. Can also be set to run each operation individually.
- Includes Refrigerant Capacity Database (over 1000 vehicles): Includes refrigerant capacities for US and Import makes and models from 1995 to 2012. Capable of database upgrades as well.
- Auto Vacuum Leak Test: Can be programmed to perform a vacuum leak test and will inform the technician of possible leaks.
- Auto Oil Discharge: Oil is automatically discharged during the recovery process. If oil is present, it will drain into a graduated container clearly displaying the amount of oil that was removed.
- Auto Filter Alarm: The machine's LCD and alarm will warn that a filter change is required.
- Compact Footprint: Compact design makes it easy to maneuver and requires minimal shop space.
- Full Tank Alarm: Notifies operator when tank is full.
- Low Refrigerant Alarm: Notifies operator when refrigerant is low.
- Automatic Oil Injection: With electronic scale (refillable)
- Thermal Printer: For a complete, detailed report.

**SPECIFICATIONS:**

- Type of refrigerant: R134a
- Service Procedure: Fully automatic or manual
- Voltage: 220 V / 50/60 Hz
- Scale Resolution: 10g (.02 lb)
- Oil Scale Resolution: 5g (.01 lb)
- Working Temperature Range: 11/49°C (59/120°F)
- Filter System: 1 filters for humidity
- Vacuum Pump: 72 litre/min capacity, 0.1 mbar (.001 psi) vacuum level
- Compressor: Hermetically sealed, 12cc, high pressure
- Recovery Speed: 300g/min (.66 lb/min) in liquid phase
- Recovery Cylinder: 12 litres, refillable
- Hoses: 250 cm (96")
- Couplers: Manual
- Thermal Printer: Standard Equipment
- Pressure Gauges: Class 1
- Bottle Temperature Sensor: Integrated
- Dimensions: (105 (h) x 60 (w) x 55 (d) cm)
- Weight: 80 kg (176 lbs)



# TWIN TURBO

REFRIGERANT RECOVERY MACHINE



69300-220


DUAL VOLTAGE  
69300-2V-220


69350-220


DUAL VOLTAGE  
69350-2V-220

Mastercool's newest 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 new 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!



## 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

## SPECIFICATIONS:

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

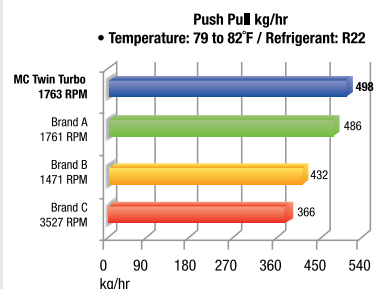
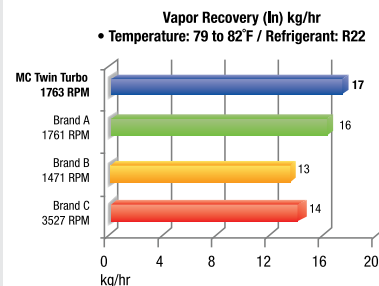
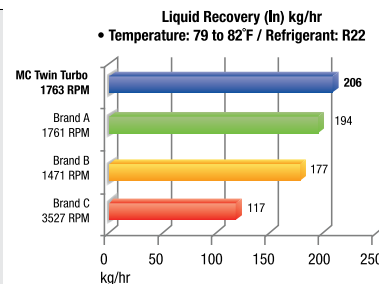
| R134a                           | R22                             |
|---------------------------------|---------------------------------|
| • Direct vapor up to 14 kg/hr   | • Direct vapor up to 17 kg/hr   |
| • Direct liquid up to 130 kg/hr | • Direct liquid up to 206 kg/hr |
| • Push pull up to 318 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)
- Compatible refrigerants: All CFC, HCFC, and HFC's

|                     |   |
|---------------------|---|
| <b>69300</b>        | 115 V - 60 Hz   |
| <b>69300-220</b>    | 220 V - 50/60 Hz  |
| <b>69300-220-EU</b> | 220 V - 50/60 Hz<br>Includes a manual restart button per EU standards |
| <b>69300-2V-110</b> | Dual Voltage 110/220 V - 50/60 HZ - 110 V Cable                       |
| <b>69300-2V-220</b> | Dual Voltage 110/220 V - 50/60 HZ - 220 V Cable (Schuko)              |
| <b>69300-2V-UK</b>  | Dual Voltage 110/220 V - 50/60 HZ - UK Cable                          |

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.

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



**Mastercool®**  
"World Class Quality"



## 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
- Automatic low pressure Cut-Off Switch
- Safety high pressure Cut-Off Switch
- High volume cooling fan design
- Liquid compatible head-valve system
- 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



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

## 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



**Mastercool®**  
"World Class Quality"

## 69134-A REFRIGERANT IDENTIFIER FOR R134a



### ***Keeps Equipment Safe, Prevents Contamination, Detects Air Contamination***

The Refrigerant Identifier helps confirm the presence and quality of R134a refrigerant in vehicle air conditioning systems. This process will help avoid potential damage from refrigerant contamination. This unit delivers quick and precise refrigerant analysis in a rugged, compact and portable package. The refrigerant identifier automatically provides step-by-step indication of the gas sampling process.



### **SPECIFICATIONS:**

- Weight: 0.8 kg
- Refrigerant Detected: R134a (Tetrafluoroethane)
- 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

## 69HVAC ULTIMA ID™ HVAC REFRIGERANT IDENTIFIER 69HVAC-P ULTIMA ID™ HVAC REFRIGERANT IDENTIFIER WITH PRINTER



The Ultima ID Refrigerant Identifier is the most advanced A/C service tool on the market. Smarter and faster than any refrigerant identifier you've ever used, its compact size and light weight makes testing easier.

Avoid costly cross contamination!

- 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" Flare sample hose, 110/220VAC Power Adapter, Identifier and accessories housed in a rugged portable case

### **SPECIFICATIONS:**

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



**69HVAC-PR** Printer roll for 69HVAC-P & 69HVAC-PRO

## 69HVAC-PRO ULTIMA ID™ PRO HVAC REFRIGERANT IDENTIFIER



### ***Diagnostic refrigerant analyzer for multiple HVAC and refrigeration applications***

The Ultima ID Pro HVAC/R Refrigerant Analyzer enables fast, accurate testing of refrigerant, reducing the need for costly and time-consuming gas chromatography. Improved accuracy and the ability to test for a wide variety of refrigerants make this an essential tool for pre-screening refrigerant prior to consolidation and reclamation.

### **FEATURES:**

- Oil contamination resistant
- Internal thermal printer
- Wide refrigerant range
- Remote software updates for new refrigerants
- Fast test results
- Greater accuracy in less time
- Refrigerant composition breakdown

### **SPECIFICATIONS:**

- Refrigerant: R22, R134a, R404A, R407C, R410A, Hydrocarbons and many more
- Weight: Less than 10 Lbs.
- Accuracy: +/- 2% of indicated gasses or better
- Power Requirements: 12 VDC @ 2A via 110/220 VAC Adapter
- Approvals: CE, UL and CUL
- User Interface: Graphic display, soft keys, built in printer
- Sample Gas Extraction: Pressure from cylinder or system
- Temperature Range: 50 to 110°F
- Response Time: Less than 3 minutes
- Humidity: 0-95% RH non-condensing
- Test Sample Size: 5g per test, Test Pressure: 50psi - 500psi





# LEAK DETECTION





## THE ONLY LEAK DETECTOR YOU WILL EVER NEED



### IntelliSense<sup>®</sup> REFRIGERANT LEAK DETECTOR

Detects:

- Combustible Gases
- Hydrogen
- Refrigerants: All CFC's, HCFC's & HFC's

<< 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:

- 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: This indication flashes whenever the unit is in the wait mode. This could occur whenever the unit is turned on or interference is detected.

READY: This indication appears when the unit is ready for use.

INT: This indication appears whenever the microprocessor detects conditions that are not suitable for reliable leak detection. Excessive wind blowing, blocked probe (no air flow), burned out fan, or a missing or defective sensor that needs to be replaced.

BATTERY SYMBOL: When the battery symbol becomes illuminated this is an indication that the battery is low and needs to be replaced.

H - M - L: High, Medium and Low sensitivity ranges will be displayed accordingly based on the selection made on the keypad.

SIGNAL LEVEL BARS: There are 10 vertical signal level bars on the display corresponding to the level of signal detected by the unit.

ERROR SIGNALS: E1 through E9 indicates diagnostic signals.

#### KEYPAD FUNCTIONS:

ON/OFF: Press the ON/OFF button on the center of the keypad to turn the unit on or off.

VOLUME/MUTE: Press the VOLUME/MUTE button to control the volume of the unit.

H M L SENSITIVITY: Press the H M L SENSITIVITY button to select the desired sensitivity level.

HOLD: Press the HOLD button to freeze the signal bars. Press the HOLD button again to disengage.

PEAK: Press the PEAK button when multiple leaks are suspected as being present.



LCD Display



Keypad



**Mastercool<sup>®</sup>**  
Inc.  
"World Class Quality"

55800

## IntellaSense

REFRIGERANT LEAK DETECTOR



- High Sensitivity, Fast Response
- Intelligent tip design senses environmental conditions to eliminate the potential of false alarms
- First progressive color LCD corresponds to the magnitude of the detected leak
- Packaged in a blow molded case with 2 "D" batteries, leak test vial and replacement filters



**55800-FILTER** 3 Replacement Filters

**55800-VL** Leak Test Vial

55850

## IntellaSense

REFRIGERANT LEAK DETECTOR  
KIT



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)



**55800-FILTER** 3 Replacement Filters

**55800-VL** Leak Test Vial



**Mastercool**<sup>®</sup>  
"World Class Quality"

## ELECTRONIC LEAK DETECTION

The **55200 “INSPECTOR”** and **55100** offer revolutionary features and state of the art micro processing technology. The design sensor delivers an accurate and instantaneous response. Both units come in a heavy duty custom molded carrying case and meet SAE J1627 and CE conformity.

### 55100 / 55200 GENERAL FEATURES & SPECIFICATIONS:

- Digital Signal Micro Processor
- Auto Release Feature
- Keypad Control
- Detects All Halogenated Refrigerants
- Battery Test Feature
- Power Supply (2 “C” Batteries)
- Meets SAE J1627 / CE Conformity
- Flexible 43 cm (16”) Probe
- Variable Frequency Audible Alarm

### 55100 ELECTRONIC LEAK DETECTOR



The 55100 offers an accurate and reliable solution to Electronic Leak Detection.

#### SPECIFIC FEATURES:

- 3 Levels Of Sensitivity (5 Levels Of Detection)
- Visual Leak Level Indicator
- Detects Leaks As Small As 3 gr (1/10 oz) Per Year
- Detects All Refrigerants, CFC'S, HCFC'S, HFC'S
- Includes a Custom Molded Carrying Case



**55100-SEN**

Sensor Tip for 55100, 55200, 55300 & 55400

### 55200 “INSPECTOR” 2 IN 1 ELECTRONIC / UV LEAK DETECTOR



This revolutionary design allows the user to perform Electronic and UV Leak Detection all with one tool. The “INSPECTOR” offers six levels of sensitivity (15 levels of detection) with a tri-colored LED indicator. This allows the “INSPECTOR” to pin-point leaks as small as 3 gr (1/10 oz) per year. The ultra bright UV light is built into the end of the probe allowing easy access into tight areas. Incorporating both electronic and UV technology into one unit insures that even the toughest leaks can be found.

**PATENT# 6,647,761**

#### SPECIFIC FEATURES:

- Ultra Bright UV/Blue LED Light
- UV Safety Glasses
- 6 Levels Of Sensitivity (15 Levels Of Detection)
- Tri-colored Visual Leak Level Indicator
- Mute Function
- Detects Leaks As Small As 3 gr (1/10 oz) Per Year
- Detects All Refrigerants, CFC'S, HCFC'S, HFC'S
- Includes A Custom Molded Carrying Case



**53515-B**

LED Bulb for 55200, 55300 & 55400



**Mastercool®**  
“World Class Quality”



**55300 COMPLETE ELECTRONIC & UV LEAK DETECTION KIT**

This kit offers the "INSPECTOR" along with our UV Dye Injection System. Our cartridge type dye injector is fast and easy to use. Just twist the handle to inject the appropriate amount of dye. The 55300 kit is the ultimate solution for all your A/C leak detection needs.

**SPECIFIC FEATURES:**

- 55200 "INSPECTOR" Electronic Leak Detector
- UV Dye Injector w/25 Application Dye Cartridge
- Dye Injector Connection Hose w/R12 Adapter
- UV Safety Glasses & Dye Cleaner
- Comes In A Custom Molded Carrying Case

**55400 COMPLETE ELECTRONIC & UV LEAK DETECTION KIT**

This kit offers the "INSPECTOR" along with our UV Dye Injection System. Our refillable dye injector is fast and easy to use. Just twist the handle to inject the appropriate amount of dye. The 55400 kit is the ultimate solution for all your A/C leak detection needs.

**SPECIFIC FEATURES:**

- 55200 "INSPECTOR" Electronic Leak Detector
- Refillable Dye Injector
- Dye Injector Connection Hose w/R12 Adapter
- 2 oz Bottle of Concentrated Universal Dye
- UV Safety Glasses & Dye Cleaner
- Comes In A Custom Molded Carrying Case

**55500 ELECTRONIC LEAK DETECTOR W/HEATED SENSOR WITH 110 V BATTERY CHARGER**  
**55500-220 ELECTRONIC LEAK DETECTOR W/HEATED SENSOR WITH 220 V BATTERY CHARGER**


The HEATED SENSOR technology delivers fast and accurate results while eliminating non-refrigerant false alarms. The flexible 381 mm (15") probe has a patented UV Blue Light built into the tip allowing dual UV and Electronic Leak Detection.

**PATENT# 6,647,761**

**SPECIFICATIONS:**

- Operating Temp: 0 to 52°C (32-125°F)
- Power Supply: 2 C-Size 1.5V Ni-MH Battery
- Battery Life: 8 hrs per cycle (1000 cycles)
- Warm-Up Time: 25 Seconds
- Probe/Core Length: 381 mm (15")
- Dimension: 178 x 178 mm (7 x 7")
- Weight: .49 kg (1.10 lbs)
- Ultimate Sensitivity: 3 gr (1/10 oz) per year

**FEATURES:**

- Six Sensitivity Levels
- Low Battery Indicator
- Automatic Warm Up
- High Volume Pump
- Reset Function
- Dual-colored Visual LED Leak Size Display
- Detects all Refrigerants (CFC's, HCFC's, HFC's)
- Blue UV LED Light
- Rechargeable Ni-MH Battery
- Meets and Exceeds SAE J1627



**53515-B** LED Bulb for 55500

**55500-SEN** Replacement Sensor

**55750-CH-110** 110 V Battery Charger

**55750-CH-220** 220 V Battery Charger



**Mastercool®**  
"World Class Quality"

**55750 COMBUSTIBLE GAS LEAK DETECTOR W/110 V BATTERY CHARGER**  
**55750-220 COMBUSTIBLE GAS LEAK DETECTOR W/220 V BATTERY CHARGER**



Offering the most advanced sensor technology with a state-of-the-art microprocessor, these units detect leaks fast and accurately. The flexible 15" probe has a bright LED light built into the tip for easy viewing in hard to reach locations. The membrane switch panel offers easy one touch control and operation. Each of the six levels of sensitivity has an audible alarm and visual indicator to identify leak activity. These units include the rechargeable Ni-MH battery (nearly double the power of existing Ni-Cad batteries) and comes in a custom molded case.

**PATENT# 6,647,761**

**SPECIFICATIONS:**

- Operating Temp: 0 to 52°C (32-125°F)
- Power Supply: 2 C-Size 1.5V Ni-MH Battery
- Battery Life: 8 hrs per cycle (1000 cycles)
- Warm-Up Time: 25 seconds
- Probe/Core Length: 381 mm (15")
- Dimension: 178 x 178 mm (7 x 7")
- Weight: .49 kg (1.10 lbs)
- Ultimate Sensitivity: 50 – 1000 ppm

**FEATURES:**

- Six Sensitivity Levels
- Reset Function
- Automatic Warm Up
- Bright LED Light
- Audible Leak Alarm & Visual Leak Size Indicator
- Rechargeable Ni-MH Battery
- Low Battery Indicator
- Custom Molded Carrying Case

DETECTS: Acetone, Acetylene, Ammonia, Benzene, Butane, Butanol, Chlorine, Ethane, 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



**55750-CH-110** 110 V Battery Charger

**55750-CH-220** 220 V Battery Charger








## 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)
- Kits come with leak testing gauge and charging hose, packaged in a blow molded case

**CE**  
Directive  
97/23/EC

|          |   |  |   |   |   |
|----------|---|--|---|---|---|
|          |  |                         |  |  |  |
| Model #  | 53001   | 53002  | 53003   | 53004   | 53005   |
| Standard | CGA580 (US)   | DIN477#6 and DIN477#10 (This unit includes an adapter to convert DIN477#6 to DIN477#10) (France/Germany) | BS3 (England)   | AS2473.2 (Australia)  | 5-UNI11144 (Italy)  |

1/4 FL-M outlet connection

## PRESSURE TESTING REGULATOR KITS



### 53010 PRESSURE TESTING REGULATOR KIT (US)

53001 Nitrogen Pressure Regulator, 48" Yellow Charging Hose (47482), Leak Testing Adapter (53042), Blow molded case (53000-PB)

### 53020 PRESSURE TESTING REGULATOR KIT (France/Germany)

53002 Nitrogen Pressure Regulator, 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)

53003 Nitrogen Pressure Regulator, 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)

53004 Nitrogen Pressure Regulator, 48" Yellow Charging Hose (47482), Leak Testing Adapter (53042), Blow molded case (53000-PB)

### 53050 PRESSURE TESTING REGULATOR KIT (Italy)

53005 Nitrogen Pressure Regulator, 48" Yellow Charging Hose (47482), Leak Testing Adapter (53042), Blow molded case (53000-PB)

## OPTIONAL ACCESSORIES

|          |  |           |                               |
|----------|--|-----------|-------------------------------|
| 66434-R  | High Side Standard R134a 1/4" FL-M x 13 mm Economy Coupler | 53000-70  | Low Pressure Regulator Gauge  |
| 82834    | High Side Manual R134a 14 mm-F 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                 |

LEAK DETECTION



**Mastercool®**  
"World Class Quality"



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



- 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  $\mu\text{W}/\text{cm}^2$  which is compatible to a 50 watt UV flashlight
- 2 Illumination Modes: super bright and battery conservation
- Battery: Lithium Li-Ion, full discharge and cut-off discharge of 4.2V and 2.75V
- 53518-UV includes 110V charger, 53518-UV-220 includes 220V charger



## 53512-UV MINI UV FLASHLIGHT (LED)



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



## 53517-UV COMPACT UV FLASHLIGHT (LED)



- 17 LED Bulb UV Illumination
- Aluminum body with Type III anodized finish
- 25,000 hour bulb life
- Includes safety glasses
- Battery Life: 4 hours continuous leak detection
- 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 glow.

- 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
- Heavy Duty Metal Construction
- Instant ON
- Includes UV Enhancing Safety Glasses

**53012-B** Light Bulb

**53012-L** Lens

## 53312 UV MINI LIGHT (12 V/50 WATTS)



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



**53312-B** Light Bulb

**53312-L** Lens



**Mastercool<sup>®</sup>**  
"World Class Quality"

# COMPACT UV LEAK LOCATOR KITS



53585



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.

| KIT PART#   | INJECTOR / LIGHT       | CONTENTS OF EACH KIT   | VOLTAGE/WATT  |  |
|-------------|------------------------|--|---------------|--|
| 53451-110   | 53123/<br>53518-UV     | Rechargeable UV light, Batteries, Rechargeable Batteries, Battery Holder, Refillable 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           |  |
| 53451-220   | 53123/<br>53518-UV-220 | Rechargeable UV light, Batteries, Rechargeable Batteries, Battery Holder, Refillable 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, R12 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) Dye Injector, w/Replaceable 1 oz (30 ml) Dye Cartridge (10 Appl.), Low-Side Hose w/R134a Coupler, R12 Adapter, 10 Serv. Info. Lbls. & UV Enhancing Safety Glasses   | LED           |  |
| 53585       | 53809/<br>53515        | Same as above, but w/1 oz OIL/ATF/Gas (53610) & Diesel Fluorescent Dye and 1oz (30ml) Engine Coolant Fluorescent Dye (53609)   | LED           |  |
| 53100       | 53123/<br>53012        | High Intensity Swivel Head Light, w/ Refillable 2 oz (60 ml) Dye Injector, 2 oz (60 ml) Concentrated Universal A/C Fluorescent Dye (25 Appl.), 4 oz (1200 ml) Dye Remover, 25 Serv. Info. Lbls. & UV Enhancing Safety Glasses                          | 12 V/100 WATT |  |
| 53100-C     | 53223/<br>53012        | Same as 53100, but with Replaceable 2 oz (60 ml) Dye Cartridge (25 Appl.)  | 12 V/100 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 WATT  |  |
| 53500-C     | 53223/<br>53312        | Same as 53500, but with Replaceable 2 oz (60 ml) Dye Cartridge (25 Appl.)  | 12 V/50 WATT  |  |



## REFILLABLE UNIVERSAL DYE/OIL INJECTOR



53123-A

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. The injector hose comes complete with a R134a coupler and auto shut-off valve adapter for 1/4" FL systems.

- 53123** Refillable Universal Dye Injector with 2 oz (60 ml) Bottle of Concentrated A/C Dye (25 Apps)
- 53123-A** Refillable Universal Dye/Oil Injector (w/o dye)
- 53134** Refillable Dye Injector with (R134a 13 mm Connection) 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) 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 R12/22/502 and R134a systems. The injector hose comes complete with a R134a coupler and auto shut-off valve adapter for 1/4" FL systems.

## 53809 MINI DYE INJECTOR



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

## 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 92708 92732

- 92699** Standard Universal Dye - Six 1/4 oz Packs (6 pcs)  
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 53810 53625

- 53825** Concentrated Universal Dye Cartridge  
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 53610

- 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



**Mastercool<sup>®</sup>**  
"World Class Quality"





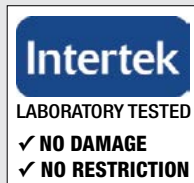
- Lubricates system and helps prevent leaks
- Seals small leaks in evaporator, condenser, hoses, o-rings and gaskets
- Illuminates larger leaks through the use of high quality universal fluorescent dye
- For R12, R134a A/C systems
- Safe for hybrid and electric compressors



- 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, R12 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, R12 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, R12 adapter, UV safety glasses, Service info. labels, Packaged in clam shell



- 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



- 53615** Master Leak Shield HVAC  
Up to 1.5 Tons (5.3 kW)  
1 oz can of Master Leak Shield HVAC sealant with dye for use on systems up to 1.5 tons
- 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



## 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-OIL 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)



## 90935-12 ALUM BOND



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

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:  $40 \times 10^{-6} \text{ cm/cm}^\circ\text{C}$
- 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 hours application time): 650 psi

## COMPRESSOR OILS



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

- |              |                                      |
|--------------|--------------------------------------|
| <b>53826</b> | PAG 100 Oil (2 oz (60 ml) cartridge) |
| <b>53827</b> | Ester Oil (2 oz (60 ml) cartridge)   |
| <b>92709</b> | PAG 100 Oil (8 oz (240 ml) bottle)   |
| <b>92710</b> | Ester Oil (8 oz (240 ml) bottle)     |
| <b>92711</b> | PAG 100 Oil (32 oz (1 L) bottle)     |
| <b>92712</b> | Ester Oil (32 oz (1 L) bottle)       |

## ACCESSORIES



- |              |   |
|--------------|---|
| <b>53314</b> | Dye Remover<br>4 oz (120 ml)  |
| <b>53315</b> | Service Labels<br>25 per pack, bright yellow label indicating that the system has been charged with UV Dye.   |
| <b>92398</b> | UV Enhancing Safety Glasses<br>This is a must for protection against ultraviolet light during leak detection. |







# **TUBE AND HOSE FORMING**



## 71500-A HYDRA-KRIMP



### 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.

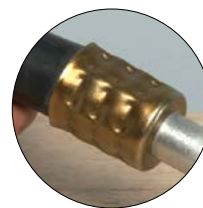
**PATENT# 6,324,884**

Kit comes in a custom molded case and includes:

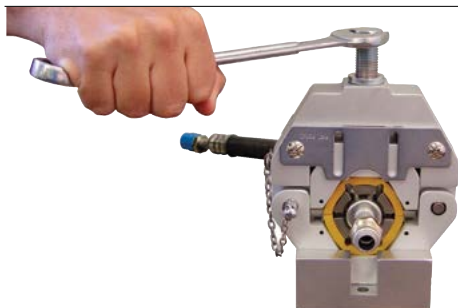
|                    |   |
|--------------------|---|
| <b>71500-001AB</b> | Hydra - Krimp Pump  |
| <b>71500-001B</b>  | Hydra - Krimp Yoke  |
| <b>71500-001C</b>  | Complete Die Set Assembly (7 pc. set)                         |
| <b>71500-6</b>     | Die Set - #6 (5/16")<br>Die Set - #8 (13/32") Reduced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



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

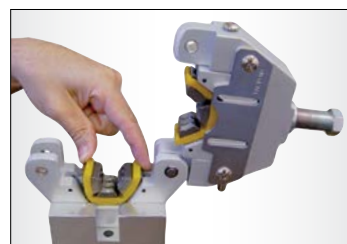


## 71550 A/C HOSE CRIMPER



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.



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



Kit comes in a custom molded case and includes:

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



**Mastercool<sup>®</sup>**  
"World Class Quality"

## HYDRA-SWAGE



71600-A



71650-A

Fabricates and Expands Copper, Aluminum and Soft Steel Tubing Using Hydraulic Power.

PATENT# 6,619,099



**71600-A (7 HEAD KIT)** Consists of Expander Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1 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.



| PART#            | DESCRIPTION                           | TUBE O.D.      |
|------------------|---------------------------------------|----------------|
| <b>71601-A</b>   | Hydra-Swage                           |                |
| <b>71601-D</b>   | Adapter for 71601                     |                |
| <b>71685</b>     | Inner - Outer Reamer                  |                |
| <b>71600-PB</b>  | Molded Box for 71600, 71600-M & 71650 |                |
| <b>71600-03</b>  | Expander Head                         | 3/8"           |
| <b>71600-04</b>  | Expander Head                         | 1/2"           |
| <b>71600-05</b>  | Expander Head                         | 5/8"           |
| <b>71600-06</b>  | Expander Head                         | 3/4"           |
| <b>71600-07</b>  | Expander Head                         | 7/8"           |
| <b>71600-08</b>  | Expander Head                         | 1"             |
| <b>71600-09</b>  | Expander Head                         | 1 1/8"         |
| <b>71600-11</b>  | Expander Head                         | 1 3/8" (35 mm) |
| <b>71600-13</b>  | Expander Head                         | 1 5/8"         |
| <b>71600-17</b>  | Expander Head                         | 2 1/8" (54 mm) |
| <b>71600-10M</b> | Expander Head                         | 10 mm          |
| <b>71600-12M</b> | Expander Head                         | 12 mm          |
| <b>71600-15M</b> | Expander Head                         | 15 mm          |
| <b>71600-16M</b> | Expander Head                         | 16 mm          |
| <b>71600-18M</b> | Expander Head                         | 18 mm          |
| <b>71600-22M</b> | Expander Head                         | 22 mm          |
| <b>71600-28M</b> | Expander Head                         | 28 mm          |

AVAILABLE UPON REQUEST



**71600-02** Expander Head 1/4"



**Mastercool®**  
"World Class Quality"

## HYDRAULIC FLARING AND EXPANDING



71675



71676

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.



71675

### (7 HEAD KIT)

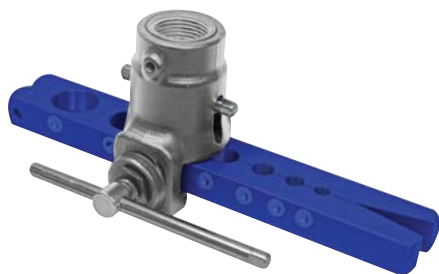
Complete Hydraulic Flaring and Expanding Kit Consists of Expander Heads 3/8, 1/2, 5/8, 3/4, 7/8, 1 and 1 1/8", Hydra-Swage 71601, Adapter, Inner-Outer Reamer and Hydraulic Flaring Accessory 71680 packaged in a blow molded case

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 OEM flares with a simple pump of the handle.



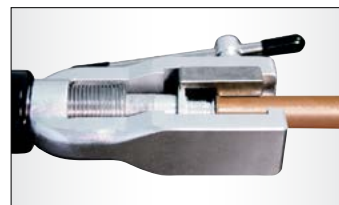


**71700 HYDRAULIC FLARING & SWAGING TOOL**

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**

|                  |                            |
|------------------|----------------------------|
| <b>71700-A</b>   | Flaring & Swaging Pump     |
| <b>71700-B</b>   | Yoke Assembly              |
| <b>71700-PB</b>  | Plastic Molded Box         |
| <b>71700-01</b>  | 45° Flaring Cone           |
| <b>71700-04</b>  | 1/4" Swaging Adapter       |
| <b>71700-05</b>  | 5/16" Swaging Adapter      |
| <b>71700-06</b>  | 3/8" Swaging Adapter       |
| <b>71700-08</b>  | 1/2" Swaging Adapter       |
| <b>71700-10</b>  | 5/8" Swaging Adapter       |
| <b>71700-12</b>  | 3/4" Swaging Adapter       |
| <b>71700-14</b>  | 7/8" Swaging Adapter       |
| <b>71700-104</b> | 1/4" Die Set               |
| <b>71700-105</b> | 5/16" Die Set              |
| <b>71700-106</b> | 3/8" Die Set               |
| <b>71700-108</b> | 1/2" Die Set               |
| <b>71700-110</b> | 5/8" Die Set               |
| <b>71700-112</b> | 3/4" Die Set               |
| <b>71700-114</b> | 7/8" Die Set               |
| <b>71685</b>     | Inner-Outer Reamer         |
| <b>70087</b>     | Steel Brush Thread Cleaner |



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.

**71475 UNIVERSAL HYDRAULIC FLARING TOOL SET**

This kit fabricates:

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



Push  
Connect

GM Fuel

45° Double  
Flare

ISO Bubble  
Flare

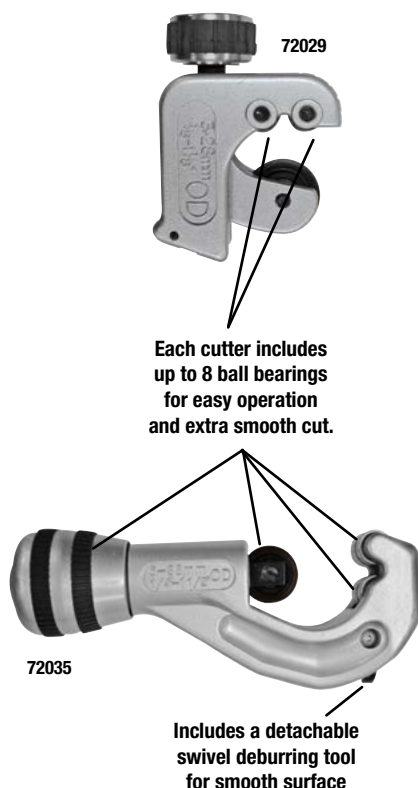


**71475-PB** Custom Molded Plastic Box for 71475



**Mastercool®**  
"World Class Quality"

## BALL BEARING CUTTERS



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!



### COMPARE



Standard steel cutting wheel used on competing cutters



Re-enforced steel cutting wheel with internal ball bearings for extra smooth cut

- 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



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) O.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)
- 70037** Sliding Ratchet Tube Cutter for 1/4 to 2 5/8" (6-67 mm) O.D. Tubing (1/4 to 2 3/4" Nominal), Triple Chrome Plated
- 70038** Sliding Ratchet Tube Cutter for 1/4 to 3 1/2" (6-89 mm) O.D. Tubing (1/4 to 1 1/2" Nominal)



**Mastercool<sup>®</sup>**  
Inc.  
"World Class Quality"

## 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" O.D. Tubing)

**70031** (5/16 to 1 1/8" O.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) O.D. Tubing. (1/8 to 3/4" nom.)

**80121** Spare Cutting Wheel for 80021

## REPLACEMENT CUTTER WHEELS



70028



70034

**70028** Replacement Cutting Wheels for 70027 (10 pcs).

**70034** Replacement Cutting Wheels for 70029, 70030, 70031, 70033, 70035 (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.

**70137** Replacement Cutting Wheel for 70037

**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

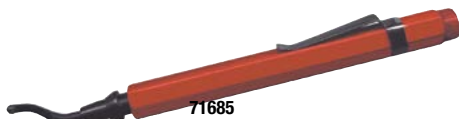


70085

**70085** Inner/Outer Reamer for 3/16 to 1 1/2" O.D. Tubing.

**71685** Designed to remove inner burrs easily. Full metal grip. Includes one spare tungsten blade for long use.

**71686-2** Two spare blades for 71685 (2 pcs).



71685



**Mastercool®**  
"World Class Quality"



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



70059

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



70060

**70059** Flares 6 sizes: 1/4, 3/8, 1/2, 5/8, 3/4, 7/8" O.D. Tubing.

**70060** 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.



3/8" access drive allows for use with impact wrench

## ECCENTRIC FLARING TOOLS



70057

### << 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 O.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. O.D. Tubing (1/4 to 1" Nominal).

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



70058



**Mastercool<sup>®</sup>**  
"World Class Quality"

**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 O.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" O.D. Tubing.



**Mastercool<sup>®</sup>**  
"World Class Quality"

## 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" O.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:

|                 |       |
|-----------------|-------|
| <b>70078-19</b> | 19 mm |
| <b>70078-25</b> | 25 mm |
| <b>70078-28</b> | 28 mm |
| <b>70078-32</b> | 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" O.D. Tubing.

**70069-AM** Complete 180° bend all metal multi-purpose tube bender for 6, 8, 10 mm O.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 |
|--------------|-------|--------|
| <b>70071</b> | 1/4"  | 10"    |
| <b>70072</b> | 5/16" | 10"    |
| <b>70073</b> | 3/8"  | 10"    |
| <b>70074</b> | 1/2"  | 12"    |
| <b>70075</b> | 5/8"  | 14"    |
| <b>70077</b> | 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" O.D. tubing.

**LEVER STYLE TUBE BENDERS****70061**

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

**70066**

| MODEL #      | OUTSIDE DIAMETER OF TUBING | NOMINAL SIZE | RADIUS TO CENTER OF TUBE |
|--------------|----------------------------|--------------|--------------------------|
| <b>70061</b> | 1/4"                       | 1/8"         | 9/16"                    |
| <b>70062</b> | 5/16"                      | -            | 11/16"                   |
| <b>70063</b> | 3/8"                       | 1/4"         | 15/16"                   |
| <b>70064</b> | 1/2"                       | 3/8"         | 1 1/2"                   |
| <b>70065</b> | 5/8"                       | 1/2"         | 2 1/4"                   |
| <b>70066</b> | 3/4"                       | 5/8"         | 3"                       |
| <b>70067</b> | 7/8"                       | 3/4"         | 3"                       |



**Mastercool<sup>®</sup>**  
"World Class Quality"

### 70070 "Ratchet Style" TUBE BENDER KIT



- 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" O.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 O.D. soft tubing.

### 70080 "Ratchet Style" TUBE BENDER KIT



#### << 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" O.D. soft tubing.

### 70070-RD REVERSE DIRECTION BENDING ADAPTER



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



**70200-MSK-INT MINI-SPLIT TOOL KIT**

Consists of:

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

**70200-BSK-INT BASIC STARTER KIT**

Consists of:

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

**70200-PK-INT PREMIUM KIT**

Consists of:

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

**70200-PRK-INT PRO KIT**

Consists of:

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

**70200-HK-INT HAND TOOL KIT**

Consists of:

|                    |   |
|--------------------|---|
| <b>MC HVAC-BAG</b> | HVAC Utility Bag                        |
| <b>70082</b>       | Ratchet Wrench                          |
| <b>70088</b>       | 1/4" Tube Piercing Plier                |
| <b>70083</b>       | Pinch Off Plier                         |
| <b>71685</b>       | Pen Type Inner/Outer Reamer             |
| <b>52227</b>       | Pocket Infrared Thermomter              |
| <b>52336</b>       | Clamp-On Thermocoupler (extends 3 feet) |



**Mastercool<sup>®</sup>**  
"World Class Quality"



### 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)



**Mastercool<sup>®</sup>**  
"World Class Quality"  
Inc.

## 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.

|                     |                            |
|---------------------|----------------------------|
| <b>MC-SHIRT-SS</b>  | Small Silver T-Shirt       |
| <b>MC-SHIRT-MS</b>  | Medium Silver T-Shirt      |
| <b>MC-SHIRT-LS</b>  | Large Silver T-Shirt       |
| <b>MC-SHIRT-XLS</b> | Extra Large Silver T-Shirt |
| <b>MC-SHIRT-SB</b>  | Small Black T-Shirt        |
| <b>MC-SHIRT-MB</b>  | Medium Black T-Shirt       |
| <b>MC-SHIRT-LB</b>  | Large Black T-Shirt        |
| <b>MC-SHIRT-XLB</b> | Extra Large Black T-Shirt  |
| <b>MC-HAT</b>       | Hat                        |

## MC-BANNER12-LG LARGE VINYL BANNER



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

## MC-BANNER12-SM CARDBOARD SIGN



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

## COUNTERPAD-13 COUNTERPAD



Counterpad features a scratch resistant surface and non-slip base to provide durability.  
Dimensions: 20" (w) x 14" (h)

## POSTERS



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

|                       |             |
|-----------------------|-------------|
| <b>MC-POSTER-HVAC</b> | HVAC Poster |
| <b>MC-POSTER-AUTO</b> | Auto Poster |



**Mastercool**<sup>®</sup>  
"World Class Quality"

| ITEM #      | PAGE # | ITEM #     | PAGE #     | ITEM #      | PAGE # | ITEM #      | PAGE #            | ITEM #       | PAGE #     | ITEM #          | PAGE # |
|-------------|--------|------------|------------|-------------|--------|-------------|-------------------|--------------|------------|-----------------|--------|
| 0332-002    | 33     | 41601      | 26         | 47244-ST    | 28     | 49265-72-JT | 27                | 53012-B      | 72         | 55800-VL        | 67     |
| 0377-001    | 33, 35 | 41602      | 26         | 47244-STR   | 28     | 49336-J     | 26                | 53012-L      | 72         | 55850           | 67     |
| 0378-001    | 35     | 41603      | 26         | 47336       | 26     | 49336-JT    | 26                | 53020        | 71         | 57236-E         | 15     |
| 0531-001    | 35     | 41721      | 26         | 47360       | 26     | 49360-J     | 26                | 53030        | 71         | 57236-EB        | 15     |
| 0768-001    | 35     | 41723      | 26         | 47361       | 26     | 49360-JT    | 26                | 53040        | 71         | 57236-EBR       | 15     |
| 0769-001    | 35     | 41961      | 26         | 47362       | 26     | 49361-J     | 26                | 53042        | 71         | 57236-M         | 15     |
| 1336-006    | 35     | 41961-120  | 26         | 47363       | 26     | 49362-J     | 26                | 53050        | 71         | 57236-MB        | 15     |
| 1336-008    | 35     | 41961-200  | 26         | 47364       | 26     | 49363-J     | 26                | 53100        | 73         | 57236-MR        | 15     |
| 1336-010    | 35     | 41962      | 26         | 47364-ST    | 28     | 49601-J     | 26                | 53123        | 73, 74     | 57236-MRB       | 15     |
| 1336-012    | 35     | 41962-120  | 26         | 47364-STR   | 28     | 49602-J     | 26                | 53123-A      | 74         | 57261-E         | 15     |
| 1336-016    | 35     | 41962-200  | 26         | 47372       | 26     | 49603-J     | 26                | 53134        | 74         | 57261-E-G       | 89     |
| 1336-018    | 35     | 41963      | 26         | 47396       | 26     | 52161       | 48                | 53223        | 73, 74     | 57261-E-JT      | 15     |
| 1336-110    | 35     | 41963-120  | 26         | 47396-120   | 26     | 52220-C     | 48                | 53312        | 72, 73     | 57261-EB        | 15     |
| 1336-112    | 35     | 41963-200  | 26         | 47396-200   | 26     | 52223-A     | 48                | 53312-B      | 72         | 57261-EB-JT     | 15     |
| 252219      | 89     | 42010      | 32, 34, 35 | 47482       | 71     | 52224-A     | 44                | 53312-L      | 72         | 57261-EBR       | 15     |
| 32661-E     | 17     | 42010-10   | 28         | 47484-ST    | 28     | 52224-C     | 44                | 53314        | 76         | 57261-M         | 15     |
| 32661-EB    | 17     | 42010-T-10 | 28         | 47484-STR   | 28     | 52224-D     | 44                | 53315        | 76         | 57261-MB        | 15     |
| 32661-EBR   | 17     | 42014      | 32, 34, 35 | 47601       | 26     | 52225-A     | 45                | 53322        | 74         | 57261-MR        | 15     |
| 32661-M     | 17     | 42014-10   | 28         | 47602       | 26     | 52225-B     | 45                | 53451-110    | 73         | 57261-MRB       | 15     |
| 32661-MB    | 17     | 42016      | 34         | 47603       | 26     | 52226       | 47                | 53451-220    | 73         | 57272-E         | 15     |
| 32661-MR    | 17     | 42016-10   | 28         | 47604       | 26     | 52227       | 47, 89            | 53451-C-110  | 73         | 57272-EB        | 15     |
| 32661-MRB   | 17     | 45336      | 27         | 47604-ST    | 28     | 52228       | 47                | 53451-C-220  | 73         | 57272-EBR       | 15     |
| 33103-E     | 17     | 45360      | 27         | 47604-STR   | 28     | 52229       | 47                | 53500        | 73         | 57272-M         | 15     |
| 33103-EB    | 17     | 45361      | 27         | 47721       | 26     | 52230       | 42                | 53500-C      | 73         | 57272-MB        | 15     |
| 33103-EBR   | 17     | 45362      | 27         | 47722       | 26     | 52233       | 43                | 53512-UV     | 67, 72     | 57272-MR        | 15     |
| 33103-M     | 17     | 45363      | 27         | 47723       | 26     | 52236       | 41, 42            | 53515        | 72, 73     | 57272-MRB       | 15     |
| 33103-MB    | 17     | 45372      | 27         | 47724       | 26     | 52237       | 42                | 53515-B      | 68, 69, 72 | 58103-E         | 15     |
| 33103-MR    | 17     | 45396      | 27         | 47961       | 26     | 52238       | 43                | 53517-UV     | 72, 73     | 58103-EB        | 15     |
| 33103-MRB   | 17     | 45601      | 27         | 47961-120   | 26     | 52240       | 43                | 53518-UV     | 73         | 58103-EBR       | 15     |
| 33636-E     | 17     | 45602      | 27         | 47961-200   | 26     | 52246       | 42, 89            | 53518-UV-220 | 72, 73     | 58103-M         | 15     |
| 33636-EB    | 17     | 45603      | 27         | 47962       | 26     | 52251       | 40                | 53580        | 73         | 58103-MB        | 15     |
| 33636-EBR   | 17     | 45721      | 27         | 47962-120   | 26     | 52252       | 40, 41            | 53585        | 73         | 58103-MR        | 15     |
| 33636-M     | 17     | 45722      | 27         | 47962-200   | 26     | 52253       | 40, 41            | 53587        | 73         | 58103-MRB       | 15     |
| 33636-MB    | 17     | 45723      | 27         | 47963       | 26     | 52254       | 40, 41            | 53592        | 75         | 58211           | 24     |
| 33636-MR    | 17     | 45961      | 27         | 47963-120   | 26     | 52255       | 40                | 53597        | 75         | 58212           | 24     |
| 33636-MRB   | 17     | 45962      | 27         | 47963-200   | 26     | 52260       | 40                | 53609        | 74         | 58213           | 24     |
| 33661-E     | 17     | 45963      | 27         | 47964       | 26     | 52270       | 40                | 53610        | 74         | 58214           | 24     |
| 33661-E-G   | 89     | 46336      | 27         | 48010-10    | 28     | 52280       | 40                | 53615        | 75         | 58490           | 36     |
| 33661-E-JT  | 17     | 46360      | 27         | 48364       | 26     | 52300       | 46                | 53625        | 74         | 60034-10        | 31     |
| 33661-EB    | 17     | 46361      | 27         | 48604       | 26     | 52331       | 48                | 53660        | 75         | 60134-10        | 31     |
| 33661-EB-JT | 17     | 46362      | 27         | 48724       | 26     | 52332       | 48                | 53809        | 73, 74     | 61009-EUGRN     | 58     |
| 33661-EBR   | 17     | 46363      | 27         | 48964       | 26     | 52333       | 48                | 53810        | 74         | 61009-EUGRN-1/4 | 58     |
| 33661-M     | 17     | 46364      | 27         | 49262-36    | 27     | 52334       | 48                | 53825        | 74         | 61009-EUGRY     | 58     |
| 33661-MB    | 17     | 46372      | 27         | 49262-36-JT | 27     | 52335       | 48                | 53826        | 76         | 61009-EUGRY-1/4 | 58     |
| 33661-MR    | 17     | 46396      | 27         | 49262-60    | 27     | 52336       | 8, 10, 40, 48, 89 | 53827        | 76         | 61010-EUGRN     | 58     |
| 33661-MRB   | 17     | 46601      | 27         | 49262-60-JT | 27     | 52337       | 8, 10, 41, 48     | 53909        | 75         | 61010-EUGRY     | 58     |
| 33772-E     | 17     | 46602      | 27         | 49262-72    | 27     | 52733       | 43                | 53910        | 75         | 62009-EUGRN     | 58     |
| 33772-EB    | 17     | 46603      | 27         | 49262-72-JT | 27     | 52775       | 43                | 55100        | 68         | 62009-EUGRN-1/4 | 58     |
| 33772-EBR   | 17     | 46604      | 27         | 49263-36    | 27     | 53000-300   | 71                | 55100-SEN    | 68         | 62009-EUGRY     | 58     |
| 33772-M     | 17     | 46721      | 27         | 49263-36-JT | 27     | 53000-42    | 71                | 55200        | 68, 69     | 62009-EUGRY-1/4 | 58     |
| 33772-MB    | 17     | 46722      | 27         | 49263-60    | 27     | 53000-70    | 71                | 55300        | 69         | 62010           | 59     |
| 33772-MR    | 17     | 46723      | 27         | 49263-60-JT | 27     | 53000-PB    | 71                | 55400        | 69         | 62010-EUGRN     | 58     |
| 33772-MRB   | 17     | 46724      | 27         | 49263-72    | 27     | 53000-W     | 71                | 55500        | 69         | 62010-EUGRY     | 58     |
| 40336       | 26     | 46961      | 27         | 49263-72-JT | 27     | 53001       | 71                | 55500-220    | 69         | 62011           | 59     |
| 40360       | 26     | 46962      | 27         | 49264-36    | 27     | 53002       | 71                | 55500-SEN    | 69         | 62012           | 59     |
| 40372       | 26     | 46963      | 27         | 49264-60    | 27     | 53003       | 71                | 55750        | 70         | 62020-EUGRN     | 58     |
| 40396       | 26     | 46964      | 27         | 49264-72    | 27     | 53004       | 71                | 55750-220    | 70         | 62020-W         | 59     |
| 40396-120   | 26     | 47122      | 26         | 49265-36    | 27     | 53005       | 71                | 55750-CH-110 | 69, 70     | 62029-EUGRN     | 58     |
| 40396-200   | 26     | 47124-ST   | 28         | 49265-36-JT | 27     | 53010       | 71                | 55750-CH-220 | 69, 70     | 63009-EUGRN     | 58     |
| 41361       | 26     | 47124-STR  | 28         | 49265-60    | 27     | 53012       | 72, 73            | 55800        | 67         | 63009-EUGRN-1/4 | 58     |
| 41362       | 26     | 47184-ST   | 28         | 49265-60-JT | 27     |             |                   | 55800-FILTER | 67         | 63009-EUGRY     | 58     |
| 41363       | 26     | 47184-STR  | 28         | 49265-72    | 27     |             |                   | 55800-PB     | 67         | 63009-EUGRY-1/4 | 58     |





| ITEM #        | PAGE # | ITEM #        | PAGE # | ITEM #      | PAGE #             | ITEM #       | PAGE # | ITEM #       | PAGE #     | ITEM #          | PAGE # |
|---------------|--------|---------------|--------|-------------|--------------------|--------------|--------|--------------|------------|-----------------|--------|
| 63010         | 59     | 70051-M       | 85     | 71500-10SRB | 78                 | 72030        | 82     | 82836-E      | 31         | 86572-MB        | 14     |
| 63010-AUS     | 59     | 70052         | 85     | 71500-12    | 78                 | 72034        | 82     | 82934        | 30         | 86572-MRB       | 14     |
| 63010-EUGRN   | 58     | 70053         | 85, 89 | 71500-12SRB | 78                 | 72035        | 82     | 82934-3/8    | 30         | 86596-MB        | 14     |
| 63010-EUGRY   | 58     | 70057-A       | 84     | 71500-6     | 78                 | 80011        | 29     | 82934-E      | 30         | 86596-MRB       | 14     |
| 64010         | 59     | 70057-AM      | 84     | 71500-6SRB  | 78                 | 80013        | 29     | 82934-J      | 30         | 86972-MB        | 14     |
| 65010         | 59     | 70058         | 89     | 71500-8     | 78                 | 80021        | 83     | 82934-SL     | 30         | 86972-MRB       | 14     |
| 66010         | 59     | 70058-A       | 84     | 71500-A     | 78                 | 80034        | 30, 34 | 82934-SL-3/8 | 30         | 86996-MB        | 14     |
| 66011         | 59     | 70058-AM      | 84     | 71500-PB    | 78                 | 80034-1      | 34     | 82934-SL-E   | 30         | 86996-MRB       | 14     |
| 66012         | 59     | 70059         | 84     | 71550       | 78                 | 80034-2      | 34     | 82934-SL-J   | 30         | 87350           | 19, 23 |
| 66434-R       | 31, 71 | 70060         | 84     | 71550-002   | 78                 | 80111        | 29     | 83102        | 19         | 87500           | 19, 23 |
| 66534-R       | 31     | 70061         | 87     | 71550-003   | 78                 | 80113        | 29     | 83272        | 19         | 89772-M         | 18     |
| 67010         | 59     | 70062         | 87     | 71550-PB    | 78                 | 80121        | 83     | 83341        | 31, 32, 34 | 89772-MB        | 18     |
| 67011         | 59     | 70063         | 87     | 71600-02    | 79                 | 80134        | 30, 34 | 83341-10     | 28         | 89772-MRB       | 18     |
| 68010         | 59     | 70064         | 87     | 71600-03    | 79                 | 80134-1      | 34     | 83372        | 27         | 89772-PB        | 18     |
| 69000         | 63     | 70065         | 87     | 71600-04    | 79                 | 80134-2      | 34     | 83634        | 19         | 89772-PB        | 19     |
| 69000-220     | 63     | 70066         | 87     | 71600-05    | 79                 | 80234        | 31, 32 | 83721        | 27         | 89996-M         | 18     |
| 69000-220-TUV | 63     | 70067         | 87     | 71600-06    | 79                 | 80296        | 33     | 83722        | 27         | 89996-MB        | 18     |
| 69000-J       | 63     | 70069-A       | 87, 89 | 71600-07    | 79                 | 81290        | 35, 36 | 83723        | 27         | 89996-MRB       | 18     |
| 69134-A       | 64     | 70069-AM      | 87     | 71600-08    | 79                 | 81297        | 33     | 83834        | 31         | 90010-6         | 53     |
| 69200-220     | 63     | 70070         | 88     | 71600-09    | 79                 | 81379        | 33     | 83934        | 31         | 90016-6         | 53     |
| 69300         | 62     | 70070-M       | 88     | 71600-10M   | 79                 | 81490        | 36     | 84336        | 26         | 90018-6         | 53     |
| 69300-220     | 62     | 70070-RD      | 88     | 71600-11    | 79                 | 82010        | 34     | 84354        | 26         | 90024-6         | 53     |
| 69300-220-EU  | 62     | 70071         | 87     | 71600-12M   | 79                 | 82010-10     | 28     | 84360        | 26         | 90059-R         | 53     |
| 69300-2V-110  | 62     | 70072         | 87     | 71600-13    | 79                 | 82214        | 30     | 84361        | 26         | 90059-R-220     | 53     |
| 69300-2V-220  | 62     | 70073         | 87     | 71600-15M   | 79                 | 82214-3/8    | 30     | 84362        | 26         | 90060           | 50     |
| 69300-2V-UK   | 62     | 70074         | 87     | 71600-16M   | 79                 | 82214-E      | 30     | 84363        | 26         | 90060-220       | 50     |
| 69350         | 62     | 70075         | 87     | 71600-17    | 79                 | 82214-J      | 30     | 84364        | 26         | 90060-J         | 50     |
| 69350-220     | 62     | 70076         | 87, 89 | 71600-18M   | 79                 | 82224        | 30     | 84372        | 26         | 90061-8         | 53     |
| 69350-220-EU  | 62     | 70077         | 87     | 71600-22M   | 79                 | 82224-3/8    | 30     | 84396        | 26         | 90062-11-SEAL   | 53     |
| 69350-2V-110  | 62     | 70078         | 86, 89 | 71600-28M   | 79                 | 82224-E      | 30     | 84601        | 26         | 90063-2V-110    | 51     |
| 69350-2V-220  | 62     | 70078-19      | 86     | 71600-4-M   | 79                 | 82224-J      | 30     | 84602        | 26         | 90063-2V-220    | 51     |
| 69350-2V-UK   | 62     | 70078-25      | 86     | 71600-A     | 79                 | 82272        | 32     | 84603        | 26         | 90063-2V-220-SV | 52     |
| 69500         | 63     | 70078-28      | 86     | 71600-PB    | 79                 | 82274        | 33     | 84604        | 26         | 90065           | 50     |
| 69500-DR      | 62, 63 | 70078-32      | 86     | 71601-A     | 79                 | 82275        | 33     | 84605        | 26         | 90065-220       | 50     |
| 69788-220     | 61     | 70080         | 88     | 71601-D     | 79                 | 82297        | 33     | 84721        | 26         | 90065-J         | 50     |
| 69789-220     | 61     | 70081         | 86     | 71650-A     | 79                 | 82332        | 33     | 84722        | 26         | 90066-2V-110    | 51     |
| 69HVAC        | 64     | 70082         | 86, 89 | 71675       | 80                 | 82333        | 33     | 84723        | 26         | 90066-2V-220    | 51     |
| 69HVAC-P      | 64     | 70083         | 86, 89 | 71676       | 80                 | 82335        | 32     | 84724        | 26         | 90066-2V-220    | 52     |
| 69HVAC-PRO    | 64     | 70085         | 83, 89 | 71680       | 80                 | 82336        | 34     | 84725        | 26         | 90066-2V-220-A  | 53     |
| 69HVAV-PR     | 64     | 70087         | 81     | 71685       | 79, 81, 83, 84, 89 | 82354        | 33     | 84961        | 26         | 90066-2V-220-SV | 52     |
| 70025         | 83     | 70088         | 86, 89 | 71686-2     | 83                 | 82357        | 33     | 84962        | 26         | 90066-A         | 53     |
| 70027         | 82     | 70088-TIP     | 86     | 71700       | 81                 | 82358        | 33     | 84963        | 26         | 90066-SV-G      | 52     |
| 70028         | 83     | 70091         | 89     | 71700-01    | 81                 | 82375        | 74     | 84964        | 26         | 90067           | 50     |
| 70029         | 82     | 70128         | 83     | 71700-04    | 81                 | 82379        | 33     | 84965        | 26         | 90067-220       | 50     |
| 70030         | 83     | 70134         | 83     | 71700-05    | 81                 | 82633        | 32     | 85102-14     | 18         | 90067-J         | 50     |
| 70031         | 83     | 70137         | 83     | 71700-06    | 81                 | 82634        | 31, 32 | 85103-M      | 18         | 90070-2V-110    | 51     |
| 70033         | 82, 84 | 70138         | 83     | 71700-08    | 81                 | 82634-M      | 31, 32 | 85103-MB     | 18         | 90070-2V-220    | 51     |
| 70034         | 83     | 70200-BSK-INT | 89     | 71700-10    | 81                 | 82635        | 31     | 85103-MRB    | 18         | 90160-R         | 53     |
| 70035         | 82     | 70200-HK-INT  | 89     | 71700-104   | 81                 | 82733        | 31     | 85200        | 34         | 90165-R         | 53     |
| 70037         | 82     | 70200-MSK-INT | 89     | 71700-105   | 81                 | 82734        | 31, 32 | 85211        | 24         | 90167-R         | 53     |
| 70038         | 82     | 70200-PK-INT  | 89     | 71700-106   | 81                 | 82735        | 31     | 85211-R      | 24         | 90262-36        | 27     |
| 70040         | 86, 89 | 70200-PRK-INT | 89     | 71700-108   | 81                 | 82736        | 31     | 85212        | 24         | 90262-60        | 27     |
| 70041         | 86     | 70233         | 83     | 71700-110   | 81                 | 82738        | 31     | 85212-R      | 24         | 90262-72        | 27     |
| 70042         | 86     | 70237         | 83     | 71700-112   | 81                 | 82834        | 30, 71 | 85215        | 24         | 90263-36        | 27     |
| 70043         | 86     | 70238         | 83     | 71700-114   | 81                 | 82834-3/8    | 30     | 85216        | 24         | 90263-60        | 27     |
| 70044         | 86     | 71475         | 81     | 71700-12    | 81                 | 82834-E      | 30     | 85253-E      | 24         | 90263-72        | 27     |
| 70045         | 86     | 71475-PB      | 81     | 71700-14    | 81                 | 82834-J      | 30     | 85510-E      | 29         | 90264-36        | 27     |
| 70046         | 86     | 71500-001     | 78     | 71700-A     | 81                 | 82834-SL     | 30     | 85510-J      | 29         | 90264-60        | 27     |
| 70047         | 86     | 71500-001AB   | 78     | 71700-B     | 81                 | 82834-SL-3/8 | 30     | 85511        | 32         | 90264-72        | 27     |
| 70048         | 86     | 71500-001B    | 78     | 71700-PB    | 81                 | 82834-SL-E   | 30     | 86102-1/4    | 14         | 90265-36        | 27     |
| 70049         | 86     | 71500-001C    | 78     | 72029       | 82, 89             | 82834-SL-J   | 30     | 86103-MB     | 14         | 90265-60        | 27     |
| 70051         | 85     | 71500-10      | 78     |             |                    | 82836        | 31     | 86103-MRB    | 14         | 90265-72        | 27     |



| ITEM #   | PAGE #                                    | ITEM #          | PAGE # | ITEM #        | PAGE # | ITEM #       | PAGE #    | ITEM #         | PAGE #                         | ITEM # | PAGE #     |
|----------|---|-----------------|--------|---------------|--------|--------------|-----------|----------------|--------------------------------|--------|------------|
| 90274    | 32  | 91336           | 35     | 92103-RB-5/16 | 21     | 93661-MB     | 16        | 99772-A        | 10                             | RBL    | 20, 21, 23 |
| 90296    | 33  | 91337           | 35     | 92107         | 34, 35 | 93661-MR     | 16        | 99860-1/4-A    | 12                             |        |            |
| 90298    | 33  | 91339           | 35     | 92311         | 38     | 93661-MRB    | 16        | 99872-1/4-A    | 12                             |        |            |
| 90314    | 32  | 91390           | 29     | 92329         | 38     | 93661-MRB1   | 20        | 99903          | 8                              |        |            |
| 90328    | 28  | 91490           | 37     | 92398         | 67, 76 | 93661-RB     | 20        | 99903-2        | 8                              |        |            |
| 90331    | 32  | 91496           | 37     | 9261-MRB      | 13     | 93772-E      | 16        | 99961          | 8                              |        |            |
| 90332    | 32  | 91498           | 37, 89 | 92661-RB      | 20     | 93772-EB     | 16        | 99961-EU       | 8                              |        |            |
| 90333-R  | 28, 32                                    | 91499           | 37     | 92661-E       | 16     | 93772-EB1    | 20        | 99963-EU       | 8                              |        |            |
| 90333-UV | 28  | 91503-EE        | 24     | 92661-EB      | 16     | 93772-EBR    | 16        | 99972          | 8                              |        |            |
| 90335-R  | 28, 32                                    | 91553-EE        | 24     | 92661-EB1     | 20     | 93772-M      | 16        | COUNTERPAD-13  | 91                             |        |            |
| 90336    | 32, 34                                    | 91580           | 60     | 92661-EBR     | 16     | 93772-MB     | 16        | EBH            | 13, 15, 16, 17, 22             |        |            |
| 90336-10 | 28  | 91580-220       | 60     | 92661-M       | 16     | 93772-MR     | 16        | EBH1           | 20, 23                         |        |            |
| 90337    | 28, 32                                    | 91581           | 60     | 92661-MB      | 16     | 93772-MRB    | 16        | EBL            | 13, 15, 16, 17, 21, 22         |        |            |
| 90338    | 32  | 91581-220       | 60     | 92661-MR      | 16     | 93772-MRB1   | 20        | EBL1           | 20, 21, 23                     |        |            |
| 90340    | 32  | 91583-2V-220    | 60     | 92661-MRB1    | 20     | 93772-RB     | 20        | EBRH           | 13, 15, 16, 17, 23             |        |            |
| 90341    | 32, 34, 35                                | 91584-2V-220    | 60     | 92699         | 74     | 94136        | 26        | EBRL           | 13, 15, 16, 17, 21, 23         |        |            |
| 90354    | 32  | 91585           | 60     | 92707         | 76     | 94160        | 26        | EH             | 15, 16, 17, 22                 |        |            |
| 90355    | 32  | 91585-220       | 60     | 92708         | 74     | 94172        | 26        | EL             | 15, 16, 17, 21, 22             |        |            |
| 90356    | 32  | 91585-2V-220    | 60     | 92709         | 76     | 94236        | 27        | MBH            | 13, 14, 15, 16, 17, 18, 22     |        |            |
| 90357    | 32  | 91586           | 60     | 92710         | 76     | 94260        | 27        | MBL            | 13, 14, 15, 16, 17, 18, 21, 22 |        |            |
| 90358    | 32  | 91586-220       | 60     | 92711         | 76     | 94272        | 27        | MC HVAC-BAG    | 89                             |        |            |
| 90363    | 31  | 91586-2V-220    | 60     | 92712         | 76     | 95102        | 13        | MC-BANNER12-LG | 91                             |        |            |
| 90364    | 31  | 91587           | 60     | 92732         | 74     | 95102-R-KIT  | 24        | MC-BANNER12-SM | 91                             |        |            |
| 90368    | 32, 34, 35                                | 91587-220       | 60     | 93000         | 31     | 96203-EB     | 13        | MC-CRDBD-DISP  | 90                             |        |            |
| 90369    | 32, 34, 35                                | 91588           | 60     | 93098         | 31     | 96203-EBR    | 13        | MC-GLASS-DISP  | 90                             |        |            |
| 90373    | 32  | 91588-220       | 60     | 93099         | 31     | 96203-MB     | 13        | MC-HAT         | 91                             |        |            |
| 90375    | 74  | 91680           | 60     | 93100         | 31     | 96203-MRB    | 13        | MC-LCD-DISP    | 90                             |        |            |
| 90376    | 36, 89                                    | 91680-220       | 60     | 93101         | 31     | 96261-EB     | 13        | MC-POSTER-AUTO | 91                             |        |            |
| 90377    | 36  | 91681           | 60     | 93103-E       | 16     | 96261-EBR    | 13        | MC-POSTER-HVAC | 91                             |        |            |
| 90378    | 35  | 91681-220       | 60     | 93103-EB      | 16     | 96261-MB     | 13        | MC-SHIRT-LB    | 91                             |        |            |
| 90410    | 13, 14, 15, 16, 17, 20, 33                | 91683-2V-220    | 60     | 93103-EB1     | 20     | 962661-MRB   | 16        | MC-SHIRT-LS    | 91                             |        |            |
| 90411    | 13, 14, 15, 16, 17, 20, 33                | 91684-2V-220    | 60     | 93103-EBR     | 16     | 96272-EB     | 13        | MC-SHIRT-MB    | 91                             |        |            |
| 90413    | 8, 10, 13, 14, 15, 16, 17, 20, 32, 71, 89 | 91685           | 60     | 93103-M       | 16     | 96272-EBR    | 13        | MC-SHIRT-MS    | 91                             |        |            |
| 90430    | 8, 10, 28                                 | 91685-220       | 60     | 93103-MB      | 16     | 96272-MB     | 13        | MC-SHIRT-SB    | 91                             |        |            |
| 90433    | 8, 10, 13, 14, 15, 16, 17, 20, 28         | 91685-2V-220    | 60     | 93103-MR      | 16     | 96272-MRB    | 13        | MC-SHIRT-SS    | 91                             |        |            |
| 90633    | 32  | 91686           | 60     | 93103-MRB     | 16     | 96411        | 26        | MC-SHIRT-XLB   | 91                             |        |            |
| 90637    | 58  | 91686-220       | 60     | 93103-MRB1    | 20     | 96413        | 26        | MC-SHIRT-XLS   | 91                             |        |            |
| 90638    | 58  | 91686-2V-220    | 60     | 93103-RB      | 20     | 98061        | 54        | MH             | 15, 16, 17, 18, 22             |        |            |
| 90639    | 58  | 91687           | 60     | 93211         | 24     | 98061-SENSOR | 54        | ML             | 15, 16, 17, 18, 21, 22         |        |            |
| 90640    | 58  | 91687-220       | 60     | 93211-R       | 24     | 98062        | 8, 10     | MRBH           | 13, 14, 15, 16, 17, 18, 22     |        |            |
| 90861    | 89  | 91688           | 60     | 93253-E       | 24     | 98134        | 29        | MRBH1          | 20, 23                         |        |            |
| 90925    | 29  | 91688-220       | 60     | 93254-E       | 71     | 98209        | 57        | MRBL           | 13, 14, 15, 16, 17, 18, 21, 22 |        |            |
| 90927    | 32  | 92103-EB1       | 21     | 93503-E       | 24     | 98210-A      | 56        | MRBL1          | 20, 21, 23                     |        |            |
| 90934    | 32  | 92103-EB1-5/16  | 21     | 93553-E       | 24     | 98211-A      | 57        | MRH            | 15, 16, 17, 22                 |        |            |
| 90935-12 | 76  | 92103-EBL       | 21     | 93636-E       | 16     | 98230        | 57        | MRKH           | 22                             |        |            |
| 91000-B  | 38  | 92103-EBL-5/16  | 21     | 93636-EB      | 16     | 98234        | 29        | MRKL           | 22                             |        |            |
| 91046-A  | 37  | 92103-EBRL      | 21     | 93636-EB1     | 20     | 98250        | 57        | MRL            | 15, 16, 17, 21, 22             |        |            |
| 91084    | 32  | 92103-EBRL-5/16 | 21     | 93636-EBR     | 16     | 98251-E      | 24        | RBH            | 20, 23                         |        |            |
| 91120    | 48  | 92103-EL        | 21     | 93636-M       | 16     | 98310        | 56        |                |                                |        |            |
| 91207    | 34  | 92103-EL-5/16   | 21     | 93636-MB      | 16     | 98315        | 56        |                |                                |        |            |
| 91253-EE | 24  | 92103-MBL       | 21     | 93636-MR      | 16     | 99103-A      | 10        |                |                                |        |            |
| 91290    | 36  | 92103-MBL-5/16  | 21     | 93636-MRB     | 16     | 99103-A-2    | 10        |                |                                |        |            |
| 91334    | 34  | 92103-MBL       | 21     | 93636-MRB1    | 20     | 99103-PB     | 8, 10     |                |                                |        |            |
| 91334-A  | 34  | 92103-ML-5/16   | 21     | 93636-RB      | 20     | 99103-usb    | 8         |                |                                |        |            |
| 91335    | 35  | 92103-MRB1      | 21     | 93661-E       | 16     | 99134-1/4-A  | 12        |                |                                |        |            |
|          |   | 92103-MRB1-5/16 | 21     | 93661-E-JT    | 16     | 99333        | 8, 10, 54 |                |                                |        |            |
|          |   | 92103-MRBL      | 21     | 93661-EB      | 16     | 99334-110    | 8, 10, 54 |                |                                |        |            |
|          |   | 92103-MRBL-5/16 | 21     | 93661-EB-JT   | 16     | 99334-220    | 8, 10, 54 |                |                                |        |            |
|          |   | 92103-MRL       | 21     | 93661-EB1     | 20     | 99661-A      | 10        |                |                                |        |            |
|          |   | 92103-MRL-5/16  | 21     | 93661-EB1-JT  | 20     | 99661-A-EU   | 10        |                |                                |        |            |
|          |   | 92103-RB        | 21     | 93661-EBR     | 16     | 99663-A-EU   | 10        |                |                                |        |            |
|          |   |                 |        | 93661-M       | 16     |              |           |                |                                |        |            |

