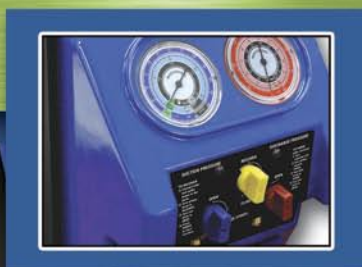




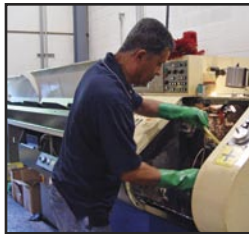
Mastercool® Inc.
"World Class Quality"



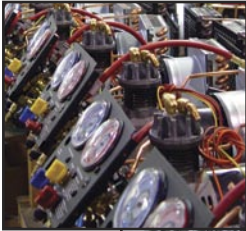
AIR CONDITIONING,
REFRIGERATION,
HVAC/R
SERVICE TOOLS
AND EQUIPMENT

For over 25 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 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!



**Corporate Office
Manufacturing and USA Warehouse**



European Sales Office and Warehouse



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THE BEST KEEPS GETTING BETTER....

With the introduction of the new 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 new 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.



EASILY UPDATE REFRIGERANTS: New refrigerants can be updated with a USB connection and Mastercool Software. Includes 63 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, 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

- 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



Part #	Description
99903	Manifold only
99961	Complete Kit in a blow molded case includes: manifold with a set of 3-150cm 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 3-180cm 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
OPTIONAL ACCESSORIES	
90413	R410a Straight Adapter 1/4 FL-M x 5/16 Swivel-F





- 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

MASTERCool'S 4-WAY DIGITAL MANIFOLD RECORDING FUNCTION:

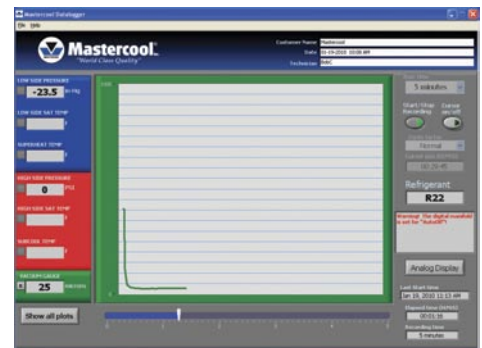
- Records and stores data directly into the manifold memory
- Records up to 24 hours of data or 15 jobs before having to download
- Downloads data at a rate 115 kb per second (24 hrs of data = approx. 15 min of download time)
- Uses Mastercool's Data Logger Application to easily view data

MASTERCool DATA LOGGER APPLICATION

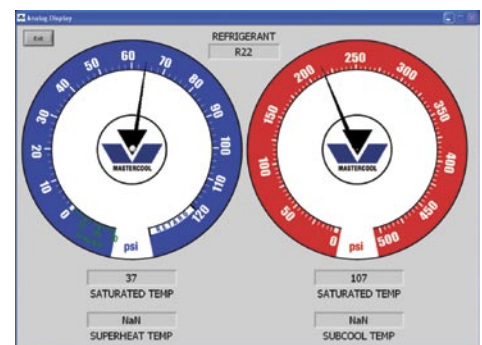
- Display data in "real time" using a USB connection, computer and software
- Platform: Windows 2000, XP and Windows Vista.
- Log Customer Name, Date and Technician's Name
- Recorder/Cursor Function Features
 - (1) Recorder TIME command. Record in intervals of 5, 15 min, 1, 4, 8 and 24 hrs.
 - (2) Recorder 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/cm², 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.



TEMPERATURE/PRESSURE SCREEN



VACUUM SCREEN



ANALOG GAUGE SCREEN

SPECIFICATIONS:

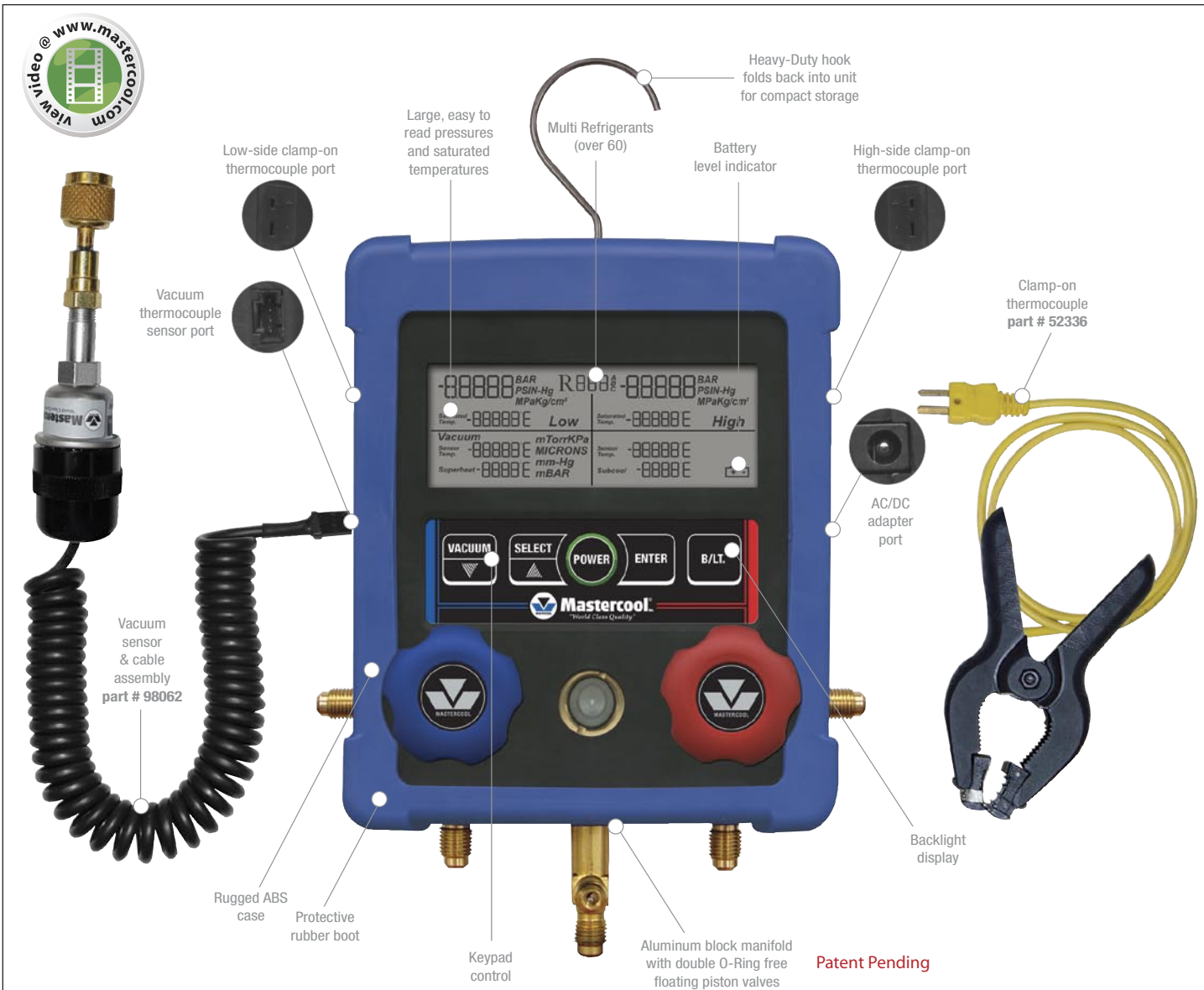
- Class 1.0 standard gauge reading
- Pressure Display: PSI, INHg, Bar, MPa, Kg/cm²
- Temperature Display: °F or °C
- Deep Vacuum Display: Micron, mBar, KPa, Pa, Torr, mTorr, mmHg
- Sensing Resolution: 1 psi (.07 Bar, .007 MPa, .07 Kg/cm²)
- Sensing Accuracy: ±1 psi or 1% of reading (whichever is greater)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



Mastercool[®]
"World Class Quality"

2-WAY DIGITAL MANIFOLD

Mastercool introduces 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!



SPECIFICATIONS:

- Pressure Display: PSI, INHg, Bar, MPa, Kg/cm²
- Temperature Display: °F or °C
- Deep Vacuum Display: Micron, mBar, KPa, mmHg, Pa, Torr, mTorr
- Sensing Resolution: 1 psi (.07 Bar, .007 MPa, .07 Kg/cm²)
- Sensing Accuracy: ±1 psi or 1% of reading (whichever is greater)
- Working Pressure: 0 to 750 psi (52 Bar, 5 MPa, 52 Kg/cm²)
- Proof Pressure: 1000 psi (70 Bar, 7 MPa, 70 Kg/cm²) (Tolerable pressure without internal damage)
- Refrigerant Temperature Range: -40 to 200°F (-40 to 93°C)
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- 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

All the Information you Need,
in the PALM OF YOUR HAND!



SUPERHEAT & SUBCOOL CALCULATIONS



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

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



Includes 63 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, 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

PRECISE VACUUM READINGS



Vacuum	120 MICRONS
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Vacuum thermocouple sensor provides accurate vacuum reading.

Model #	Digital Manifold	Hoses	Vacuum Sensor & Cable (98062)	Clamp-On Thermocouple (52336)
99103-A	✓	NA	NA	NA
99661-A	✓*	3-60" standard hoses	✓	✓
99661-AR	✓*	3-60" manual shut-off valve hoses	✓	✓
99663-R	✓*	3-60" standard hoses	NA	✓
99663-AR	✓*	3-60" manual shut-off valve hoses	NA	✓
99772-A	✓*	3-72" standard hoses	✓	✓
99772-AR	✓*	3-72" manual shut-off valve hoses	✓	✓
99773-R	✓*	3-72" standard hoses	NA	✓
99773-AR	✓*	3-72" manual shut-off valve hoses	NA	✓

* includes blow molded plastic box

OPTIONAL ACCESSORIES FOR 2-WAY & 4-WAY DIGITAL MANIFOLDS

Part #	Description
52336	Clamp-on Thermocouple (extends 3 ft)
52337	Clamp-on Thermocouple (extends 10 ft)
90411	1/4 x 5/16 R410a Ball Valve Adapter
98062	Vacuum Sensor and cable assembly (extends 6.5 ft)
99332	1/8 NPT x 1/4-FL Flare Swivel Adapter
99333	1/4 FL-M x 1/4 FL-M x 1/4 FL-F Tee
99334-110	110V AC/DC Adapter
99334-220	220V AC/DC Adapter (schuko plug)



Mastercool®
"World Class Quality"

ALUMINUM 3/8" BORE 4-WAY BALL VALVE MANIFOLD GAUGE SETS WITH HOSES



Exclusive 3/8" Ball Valve Design

- Full 3/8" bore all the way through the block increases flow over the standard block designs.
- 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.
- Visual knob position quickly indicates if valves are opened or closed.
- Gauges offered in a wide variety of selections.
- Color Coordinated Gauges for multi-refrigerant recognition.
- 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 in plastic box.



R410A, R22 & R404A		
HOSE LENGTH	2 1/2" GAUGES (PSI/F)	3 1/8" GAUGES (PSI/F)
36"	96236	96336
60"	96261	96361 POPULAR
72"	96272	96372

R12, R22 & R502		R404A, R407C, R507A & R134a
HOSE LENGTH	3 1/8" GAUGES (PSI/F)	3 1/8" GAUGES (PSI/BAR/F)
36"	96436	96536
60"	96461	96561
72"	96472	96572

* All gauges above are available with shock resistant gauge protectors – to order, add -G after the Part#

REPLACEMENT GAUGES

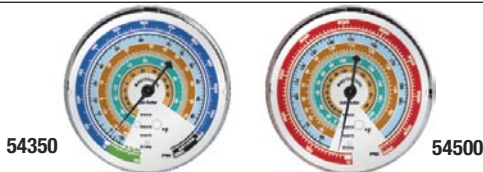
57501	R410A, R22, & R404A (PSI -°F) Low-Side (2 1/2")
57803	R410A, R22, & R404A (PSI -°F) High-Side (2 1/2")
58501	R410A, R22, & R404A (PSI -°F) Low-Side (3 1/8")
58803	R410A, R22, & R404A (PSI -°F) High-Side (3 1/8")



91250	R12, R22 & R502 (PSI-°F) Low-Side (3 1/8")
91500	R12, R22 & R502 (PSI-°F) High-Side (3 1/8")



54350	R404A, R407A, R507A & R134a (PSI/BAR/°F) Low-Side (3 1/8")
54500	R404A, R407A, R507A & R134a (PSI/BAR/°F) High-Side (3 1/8")



4-WAY MANIFOLDS WITH GAUGES ONLY

96203	R410A, R22, & R404A (2 1/2" Gauges)
96303	R410A, R22, & R404A (3 1/8" Gauges)
95103	R12, R22 & R502 (3 1/8" Gauges)
96503	R404A, R407A, R507A & R134a (3 1/8") Gauges

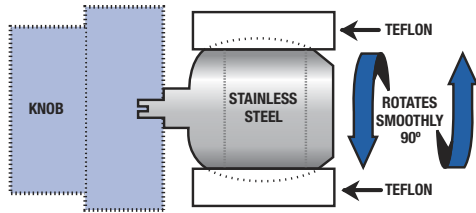
3/8" SAE REPLACEMENT BLACK HOSE

94136	W/O Ball Valve (36")	
94160	W/O Ball Valve (60")	
94172	W/O Ball Valve (72")	
94236	W/ Ball Valve (36")	
94260	W/ Ball Valve (60")	
94272	W/ Ball Valve (72")	

ACCESSORIES

93553-E	Set of Blue & Red Gauge Protectors (2 1/2")	
91553-E	Set of Blue & Red Gauge Protectors (3 1/8")	
86772-PB	Plastic Carrying Case	

ALUMINUM 3/8" BORE 2-3 WAY BALL VALVE MANIFOLD GAUGE SETS WITH HOSES



Exclusive 3/8" Ball Valve Design

- Full 3/8" bore all the way through the block increases flow over the standard block designs.
- 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.
- Visual knob position quickly indicates if valves are opened or closed.
- Gauges offered in a wide variety of selections.
- Color Coordinated Gauges for multi-refrigerant recognition.
- Includes nylon barrier ball valve hoses with manual shut-off valves in a plastic box.
- * Optional 3/8" hose with special 90° 3/8" swivel ball valve for vacuum line makes 2-Way into 3-Way full control gauge set.



57236/59636

R410A, R22 & R404A BALL VALVE MANIFOLD SET W/ STANDARD 2 1/2" GAUGES		
Hose Length	2-Way 3/8" Ball Valve Manifold w/ (3) 1/4" SAE Ball Valve Hoses with Manual Shut-Off Valves	3-Way 3/8" Ball Valve Manifold w/ (3) 1/4" SAE Ball Valve Hoses with Manual Shut-Off Valves, (1) 3/8" SAE Vacuum Hose & 90° Swivel Vacuum Ball Valve
36"	57236	57436
60"	57261	57461
72"	57272	57472

R410A, R22 & R404A BALL VALVE MANIFOLD SET W/ LARGE 3 1/8" GAUGES		
Hose Length	2-Way 3/8" Ball Valve Manifold w/ (3) 1/4" SAE Hoses with Manual Ball Valves	3-Way 3/8" Ball Valve Manifold w/ (3) 1/4" SAE Hoses w/Manual Ball Valves, (1) 3/8" SAE Vacuum Hose & 90° Swivel Vacuum Ball Valve
36"	59636	59836
60"	59661	59861 POPULAR
72"	59672	59872



57461/59861

REPLACEMENT GAUGES

57501	R410A, R22, & R404A (PSI -°F) Low-Side (2 1/2")
57803	R410A, R22, & R404A (PSI -°F) High-Side (2 1/2")
58501	R410A, R22, & R404A (PSI -°F) Low-Side (3 1/8")
58803	R410A, R22, & R404A (PSI -°F) High-Side (3 1/8")



REPLACEMENT PARTS

90530	Ball Valve Only (3/8" FML x 3/8" FFL 90°)	90530
98225	Ball Valve Repair Kit	
89772-PB	Plastic Carrying Case	

BALL VALVE MANIFOLD WITH GAUGES ONLY

58103	R410A, R22 & R404 (2 1/2" Gauges)
58203	R410A, R22 & R404 (3 1/8" Gauges)



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2-WAY MANIFOLD GAUGE SETS



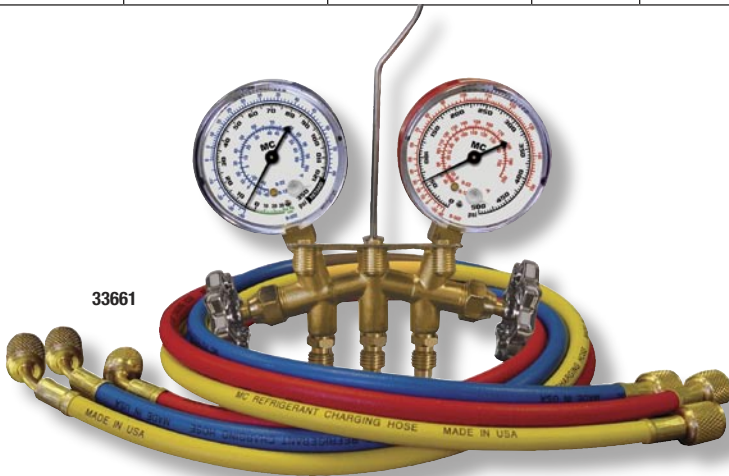
2-WAY MANIFOLD GAUGE SETS WITH HOSES - R12, R22 & R502

Aluminum R12, R22 & R502 2-Way Manifold Gauge Sets with Hoses packaged in clamshells. Hose connections are 1/4" SAE. Gauges are 2 1/2" or 3 1/8" in PSI & °F.

HOSE LENGTH (SET OF 3)	STANDARD HOSES STANDARD FITTINGS		STANDARD HOSES AUTO SHUT-OFF VALVES		NYLON BARRIER HOSES STANDARD FITTINGS		NYLON BARRIER HOSES AUTO SHUT-OFF VALVES		NYLON BARRIER HOSES MANUAL BALL VALVES	
	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"
GAUGE SIZE	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"
36"	93636	93136	95636	95536	96636	96136	97636	97136	92636	92136
60"	93661	93161	95661	95561	96661	96161	97661	97161	92661	92161
72"	93772	93172	95772	95572	96772	96172	97772	97172	92772	92172

Brass R12, R22 & R502 2-Way Manifold Gauge Sets with Hoses packaged in clamshells. Hose connections are 1/4" SAE. Gauges are 2 1/2" or 3 1/8" in PSI & °F.

HOSE LENGTH (SET OF 3)	STANDARD HOSES STANDARD FITTINGS		STANDARD HOSES AUTO SHUT-OFF VALVES		NYLON BARRIER HOSES STANDARD FITTINGS		NYLON BARRIER HOSES AUTO SHUT-OFF VALVES		NYLON BARRIER HOSES MANUAL BALL VALVES	
	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"
GAUGE SIZE	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"	2 1/2"	3 1/8"
36"	33636	33136	35636	35136	36636	36136	37636	37136	32636	32136
60"	33661	33161	35661	35161	36661	36161	37661	37161	32661	32161
72"	33772	33172	35772	35172	36772	36172	37772	37172	32772	32172



2-WAY MANIFOLDS WITH GAUGES ONLY

33103	Brass R12, R22, & R502 (2 1/2") 1/4" MFL
33113	Brass R12, R22, & R502 (3 1/8") 1/4" MFL
93103	Aluminum R12, R22 & R502 (2 1/2") 1/4" MFL
93113	Aluminum R12, R22, R502 (3 1/8") 1/4" MFL

REPLACEMENT GAUGES

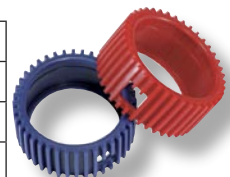
93350	R12, R22, & R502 (PSI-°F) Low-Side (2 1/2")
93500	R12, R22, & R502 (PSI-°F) High-Side (2 1/2")
91250	R12, R22, & R502 (PSI-°F) Low-Side (3 1/8")
91500	R12, R22, & R502 (PSI-°F) High-Side (3 1/8")

PARTS FOR 2-WAY MANIFOLDS

34215	Piston O-rings (Set of 4) / Brass Manifold
34216	Seal & Seat Assembly / Brass Manifold
85215	Piston O-rings (Set of 4) / Aluminum Manifold
85216	Seal & Seat Assembly / Aluminum Manifold

GAUGE PROTECTORS

93253-E	Blue Gauge Protector (2 1/2")
93503-E	Red Gauge Protector (2 1/2")
91253-E	Blue Gauge Protector (3 1/8")
91503-E	Red Gauge Protector (3 1/8")



2-WAY MANIFOLD GAUGE SETS WITH HOSES - R22, R404A & R410A

Aluminum R22/R404A/R410A 2-Way Manifold Gauge Sets W/Hoses packaged in clamshells. Gauges are 3 1/8" Designed for High Pressure R410A with Readings in PSI, °F.

HOSE LENGTH (SET OF 3)	R410A HOSES STANDARD 1/4" SAE FITTINGS	R410A HOSES BALL VALVE CONTROL STANDARD 1/4" SAE FITTINGS
36"	57136	57336
60"	57161	57361
72"	57172	57372

Brass R22/R404A/R410A 2-Way Manifold Gauge Sets W/Hoses packaged in clamshells. Gauges are 3 1/8" Designed for High Pressure R410A with Readings in PSI, °F.

HOSE LENGTH (SET OF 3)	R410A HOSES STANDARD 1/4" SAE FITTINGS	R410A HOSES BALL VALVE CONTROL STANDARD 1/4" SAE FITTINGS
36"	59136	59236
60"	59161 POPULAR	59261
72"	59172	59272

2-WAY MANIFOLD GAUGE SETS WITH HOSES - R404A, R407C, R507A & R134a

Aluminum R404A, R407C, R507A & R134a 2-Way Commercial Manifold Gauge Sets W/Hoses packaged in clamshells. Hose connections are 1/4" SAE. Gauges are 3 1/8" in PSI, BAR & °F.

HOSE LENGTH (SET OF 3)	NYLON BARRIER HOSES STANDARD FITTINGS	NYLON BARRIER HOSES AUTO SHUT-OFF VALVES	NYLON BARRIER HOSES BALL VALVE
36"	54136	54236	54336
60"	54161	54261	54361
72"	54172	54272	54372

Brass R404A, R407C, R507A & R134a 2-Way Commercial Manifold Gauge Sets W/Hoses packaged in clamshells. Hose connections are 1/4" SAE. Gauges are 3 1/8" in PSI, BAR & °F.

HOSE LENGTH (SET OF 3)	NYLON BARRIER HOSES STANDARD FITTINGS	NYLON BARRIER HOSES AUTO SHUT-OFF VALVES	NYLON BARRIER HOSES BALL VALVE
36"	56136	56236	56336
60"	56161 POPULAR	56261	56361
72"	56172	56272	56372

3 1/8" REPLACEMENT GAUGES

54350	Low Side R404A, R407C, R507, R134a, PSI, BAR, °F
54500	High Side R404A, R407C, R507, R134a, PSI, BAR, °F
58501	Low Side R410A, R22, R404A, PSI, °F
58803	High Side R410A, R22, R404A, PSI, °F

2-WAY MANIFOLDS WITH GAUGES ONLY

54103	Aluminum R404A, R407C, R507A & R134a (3 1/8") 1/4" MFL
56103	Brass R404A, R407C, R507A & R134a (3 1/8") 1/4" MFL
57103	Aluminum R22/R404A/R410A (3 1/8") 1/4" MFL
59103	Brass R22/R404A/R410A (3 1/8") 1/4" MFL

PARTS FOR 2-WAY MANIFOLDS

34215	Piston O-rings (Set of 4) / Brass Manifold
34216	Seal & Seat Assembly / Brass Manifold
85215	Piston O-rings (Set of 4) / Aluminum Manifold
85216	Seal & Seat Assembly / Aluminum Manifold

GAUGE PROTECTORS

91253-E	Blue Gauge Protector (3 1/8")
91503-E	Red Gauge Protector (3 1/8")



Mastercool[®]
"World Class Quality"



Mastercool offers one of the most extensive lines of high quality replacement gauges. Our wide variety of gauge scales are available in different sizes and styles. All of our gauges are designed with the ANTI-FLUTTER feature that reduces needle fluctuation and increases reading accuracy.

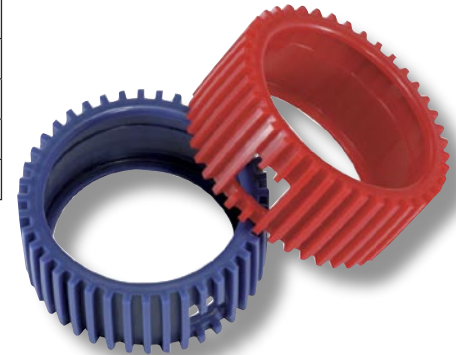


2 1/2" REPLACEMENT GAUGES		
REFRIGERANT	COMPOUND (LOW SIDE)	PRESSURE (HIGH SIDE)
R12, R22 & R502	93350 PSI/°F	93500 PSI/°F
R410A, R22 & R404A	57501 PSI/°F	57803 PSI/°F
3 1/8" REPLACEMENT GAUGES		
REFRIGERANT	COMPOUND (LOW SIDE)	PRESSURE (HIGH SIDE)
R12, R22 & R502	91250 PSI/°F	91500 PSI/°F
R404A, R407C, R507A & R134a	54350 PSI/BAR/°F	54500 PSI/BAR/°F
R410A, R22 & R404A	58501 PSI/°F	58803 PSI/°F



Mastercool Gauge Protectors are built to cushion shock due to rough handling. The unique ribbing deadens bumps and deflects shocks. Snug fitting. Color coded. All Mastercool manifold gauge sets are available with gauge protectors installed. To order, simply place a "-G" after any gauge set number.

GAUGES WITHOUT BEZEL		
COLOR	2 1/2"	3 1/8"
Red	93253-E	91253-E
Blue	93503-E	91503-E
SET	93553-E	91553-E



85200 DELUXE A/C SERVICE REPAIR KIT

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

- 42010** 1/4" Gasket (10 pcs)
- 42014** 1/4" Depressor (10 pcs)
- 80034** O-ring for 82834 (10 pcs)
- 80034-1** High side nylon guide (5 pcs)
- 80134** O-ring for 82934 (10 pcs)
- 82010** Gasket for R134a Hose (10 pcs)
- 82336** Gasket for 82335 (10 pcs)
- 83341** O-ring for R134a Hose (10 pcs)
- 90336** Gasket for R12 shut-off valve (10 pcs)



92207 REFRIGERATION GASKET, DEPRESSOR ASSORTMENT KIT

Consists of:

- 42010** 1/4" Gasket (6 pcs)
- 42016** Screw Type Depressor (3 pcs)
- 85511** 3/8" Hose Gasket (1 pc)

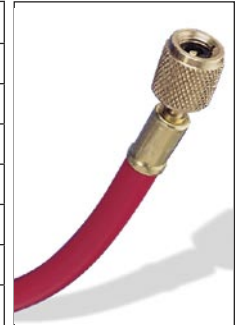
Mastercool charging hoses stand the test of time. They are available in a wide variety of lengths. Nylon barrier models meet EPA, SAE and UL standards for containment of refrigerant. Standard hoses are an economical alternative. Knurled brass nuts make finger tightening easy. Crimped with 8 segment dies for secure fit and maximum durability. All are available in sets and individually. Standard hoses are designed for use of R12, R22 and R502. High pressure hoses are designed for use of R12, R22, R502, R404A, R407C, R507A, R134a and R410A.



HOSES W/STANDARD FITTINGS (1/4" SAE)

R12, R22, R502				
Standard Hoses, Working Pressure 750 PSI, Burst 3000 PSI				
HOSE LENGTH	36"	60"	72"	96"
BLUE 1/4"	41361	41601	41721	41961
YELLOW 1/4"	41362	41602	41722	41962
RED 1/4"	41363	41603	41723	41963
BLACK 1/4"	N / A	N / A	N / A	N / A
SETS*	40336	40360	40372	40396

R22, R410A				
Nylon Barrier Hoses, Working Pressure 800 PSI, Burst 4000 PSI				
HOSE LENGTH	36"	60"	72"	96"
BLUE 1/4"	47361	47601	47721	47961
YELLOW 1/4"	47362	47602	47722	47962
RED 1/4"	47363	47603	47723	47963
BLACK 1/4"	47364	47604	47724	47964
SETS*	47336	47360	47372	47396

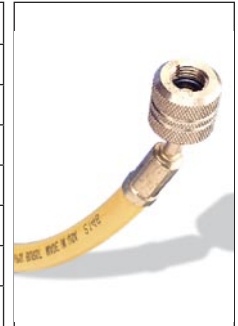


HOSES W/AUTOMATIC SHUT-OFF VALVE FITTINGS (1/4" SAE)

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

R12, R22, R502				
Standard Hoses, Working Pressure 750 PSI, Burst 3000 PSI				
HOSE LENGTH	36"	60"	72"	96"
BLUE 1/4"	45361	45601	45721	45961
YELLOW 1/4"	45362	45602	45722	45962
RED 1/4"	45363	45603	45723	45963
BLACK 1/4"	N / A	N / A	N / A	N / A
SETS*	45336	45360	45372	45396

R22, R410A				
Nylon Barrier Hoses, Working Pressure 800 PSI Burst 4000 PSI				
HOSE LENGTH	36"	60"	72"	96"
BLUE 1/4"	46361	46601	46721	46961
YELLOW 1/4"	46362	46602	46722	46962
RED 1/4"	46363	46603	46723	46963
BLACK 1/4"	46364	46604	46724	46964
SETS*	46336	46360	46372	46396



HOSES W/MANUAL SHUT-OFF VALVE FITTINGS (1/4" SAE)

R12, R22, R502				
Standard Hoses, Working Pressure 750 PSI, Burst 3000 PSI				
HOSE LENGTH	36"	60"	72"	
BLUE 1/4"	90263-36	90263-60	90263-72	
YELLOW 1/4"	90264-36	90264-60	90264-72	
RED 1/4"	90265-36	90265-60	90265-72	
SETS*	90262-36	90262-60	90262-72	

R22, R410A				
Nylon Barrier Hoses, Working Pressure 800 PSI Burst 4000 PSI				
HOSE LENGTH	36"	60"	72"	
BLUE 1/4"	49263-36	49263-60	49263-72	
YELLOW 1/4"	49264-36	49264-60	49264-72	
RED 1/4"	49265-36	49265-60	49265-72	
SETS*	49262-36	49262-60	49262-72	



*Sets include one blue, one red and one yellow hose (1/4").

SERVICE HOSE REPLACEMENT PARTS

1/4" FITTING	SPRING TYPE		SCREW TYPE	
	GASKET	DEPRESSOR	GASKET	DEPRESSOR
CHARGING HOSES	42010-10	42014-10	42010-10	42016-10
SHUT-OFF VALVE	90336-10	N/A	N/A	N/A
8511-10	3/8" GASKET for 8510 (can tap valve)			
48010	3/8" GASKET for 3/8" Hose			



3/8" SAE REPLACEMENT BLACK HOSE

94136	W/O Ball Valve (36")	
94160	W/O Ball Valve (60")	
94172	W/O Ball Valve (72")	
94236	W/ Ball Valve (36")	
94260	W/ Ball Valve (60")	
94272	W/ Ball Valve (72")	




Mastercool[®]
"World Class Quality"

Mastercool manufactures a complete line of shut-off valves for containment of refrigerant. The EPA requires shut-off valves within 12 inches of the charging hose ends to prevent unnecessary venting of refrigerant. Using shut-off valves is much safer than allowing refrigerant to blow out during service.



90262 STRAIGHT MANUAL SHUT-OFF VALVE SET
 Ball valve design with flexible hose controls refrigerant with a quarter turn of the valve handle. Meets SAE, EPA and UL requirements for containment of refrigerant. One hand operation. Screws onto charging hose end.
 Straight Manual Shut-Off Valve Set Includes:
90263 Blue 1/4" x 1/4"
90264 Yellow 1/4" x 1/4"
90265 Red 1/4" x 1/4"
 Also Available:
90365 Red 1/4" x 3/16"



90262-R 45° MANUAL SHUT-OFF VALVE SET
 Ball valve design with flexible hose controls refrigerant with a quarter turn of the valve handle. Meets SAE, EPA and UL requirements for containment of refrigerant. One hand operation. Screws onto charging hose end.
 45° Manual Shut-Off Valve Set Includes:
90263-R Blue 1/4" x 1/4"
90264-R Yellow 1/4" x 1/4"
90265-R Red 1/4" x 1/4"

POPULAR



MANUAL SHUT-OFF BALL VALVES

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

90430 1/4" x 1/4" Swivel Ball Valve less hose



QUICK DISCONNECT
 No Loss of Refrigerant

90333-R

90335-R

AUTOMATIC SHUT-OFF VALVES

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

90333-R 90° 1/4" FL-M x 1/4" FL-F

90335-R Straight 1/4" FL-M x 1/4" FL-F

90337 Straight 1/4" FL-M x 3/16" FL-F

91496 VALVE CORE REMOVER/INSTALLER W/ACCESS PORT

Temporary removal of service valve core eliminates the restriction it creates and provides full flow of refrigerant and vacuum during recovery, evacuation and recharge. You will save valuable service time.



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.

90328 1/4" FFL x 1/4" MFL



90376 VALVE CORE REMOVER W/VALVE CORES

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

90377 Replacement Standard Valve Cores for 90376 (6 pcs.)



90410 MINI SPLIT ADAPTER FITTING

Flexible adapter converts 5/16" mini split fitting to 1/4" flare.



90411 FLEX ADAPTER WITH BALL VALVE

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



90413 STRAIGHT ADAPTER FITTING

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



91490 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.

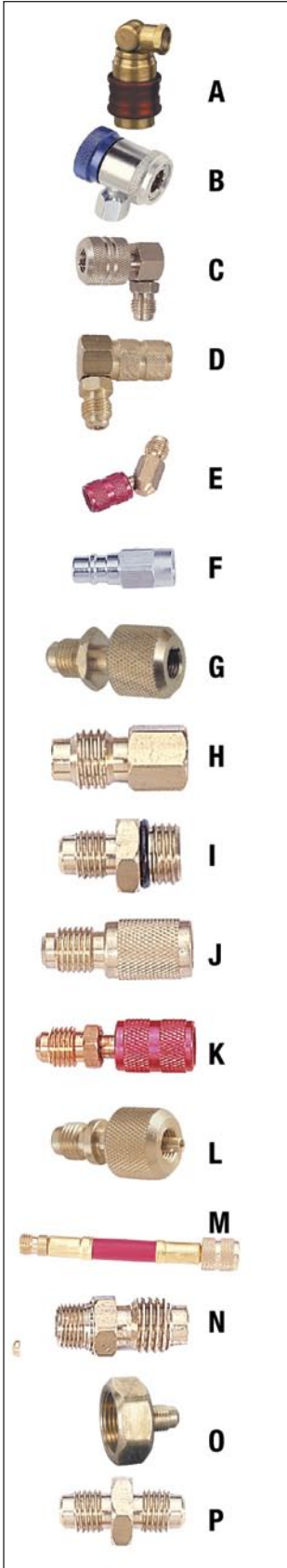
1490-002 STANDARD VALVE CORE SHAFT ONLY
(Can be used w/ 91490/91491 body)

91490-K REPLACEMENT TIP & PIN for 91490, 91496 & 91499

91499 SUPERHEAT DETERMINATION SET

Special valve core remover/installer adapter allows replacement of damaged or faulty service valve cores without discharging 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.





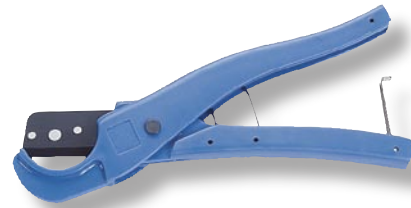
90° ADAPTERS	REPLACEMENT	GASKET/O-RING	DEPRESSOR
A) 82214	R134a E-Z Snap Coupler (High Side)	80034	-
A) 82224	R134a E-Z Snap Coupler (Low Side)	80134	-
B) 82834	R134a Compact Manual Coupler (High Side)	80034	-
B) 82934	R134a Compact Manual Coupler (Low Side)	80134	-
C) 90333-R	Shut-Off Valve 1/4" MFL x 1/4" FFL	90336	-
D) 90314*	1/4" MFL x 1/4" FFL w/ Valve Core	42010	42014
D) 90354*	1/4" MFL x 3/16" FFL (High Side) GM 1976 & Later	90369	90368
45° ADAPTERS			
E) 90924	1/4" MFL x 1/4" FFL	42010	42014
E) 90927*	1/4" MFL x 3/16" FFL (High Side)	90369	90368
STRAIGHT ADAPTERS			
F) 82272*	R134a 1/2" ACME-F x 13mm Low Side	85511	-
G) 82335	R134a Shut-Off Valve 1/2" ACME-M x 1/2" ACME-F	90330/90336	-
G) 90335-R	Shut-Off Valve 1/4" MFL x 1/4" FFL	90330/90336	-
G) 90337	Shut-Off Valve 1/4" MFL x 3/16" FFL	90330/90331	-
H) 82634*	1/4" FFL x 1/2" ACME-M	80234	-
I) 82734	14mm x 1/4" MFL	83341	-
J) 90358*	1/4" MFL x 3/16" FFL (High Side)	42010	42014
K) 90274	1/4" MFL x 1/4" FFL Swivel	42010	42014
K) 90332**	1/4" MFL x 1/4" FFL Anti-Blow Back Fitting	42010	42014
K) 90357	1/4" MFL x 3/16" FFL (High Side) Swivel	90369	90368
K) 91084*	1/4" MFL x 3/16" FFL (High Side) Swivel Adapter GM 1976 & Later, Ford 1981 & Later	90369	90368
L) 90338*	GM 1991 & Later Service Adapter	90339	-
O) 90637	3/4" NPSF x 1/4" MFL Refrigeration Tank Adapter	90638	-
P) 90633	1/4" MFL x 1/4" MFL Union	-	-
P) 82633	1/2" ACME-M x 1/2" ACME-M Union	-	-
FLEX ADAPTERS			
M) 90355*	1/4" MFL x 3/16" FFL (High Side) GM 1976 & Later, Ford 1981 & Later	90369	90368
M) 90356*	1/4" MFL x 1/4" FFL	42010	42014
ACCESS SERVICE VALVES			
N) 90296*	1/4" MFL x 1/8" MPT	-	-
N) 90298	3/16" MFL x 1/8" MPT	-	-
N) 80296*	1/2" ACME-M x 1/8" MPT	-	-
*Includes Access Valve Core (0377-001)			
**Includes check Valve Core (0332-002)			



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" O.D. (not recommended for PVC200).

80111 Replacement blade for 80011



80013 RUBBER HOSE CUTTER

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

80113 Replacement blade for 80013



85530 3-IN-1 SIDE MOUNT CAN TAP VALVE (US STANDARD)

This unique design covers 2 7/8" (R134a), 2 1/2" (R12) and 2" (OIL) charge cans. Includes 1/2" ACME-M and 1/4 FL-M ports. Internal safety check valve prevents system back flow.



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.



R134a AUTOMOTIVE COUPLERS

Patented manual couplers adjust easily to R134a service ports. Patent #5,370,359

- 82834** High-Side Manual R134a 14 mm-F x 16 mm Coupler
- 82934** Low-Side Manual R134a 14 mm-F x 13 mm Coupler
- 82834-E** High-Side Manual R134a 1/4" FL-M x 16 mm Quick Coupler
- 82934-E** Low-Side Manual R134a 1/4" FL-M x 13 mm Quick Coupler

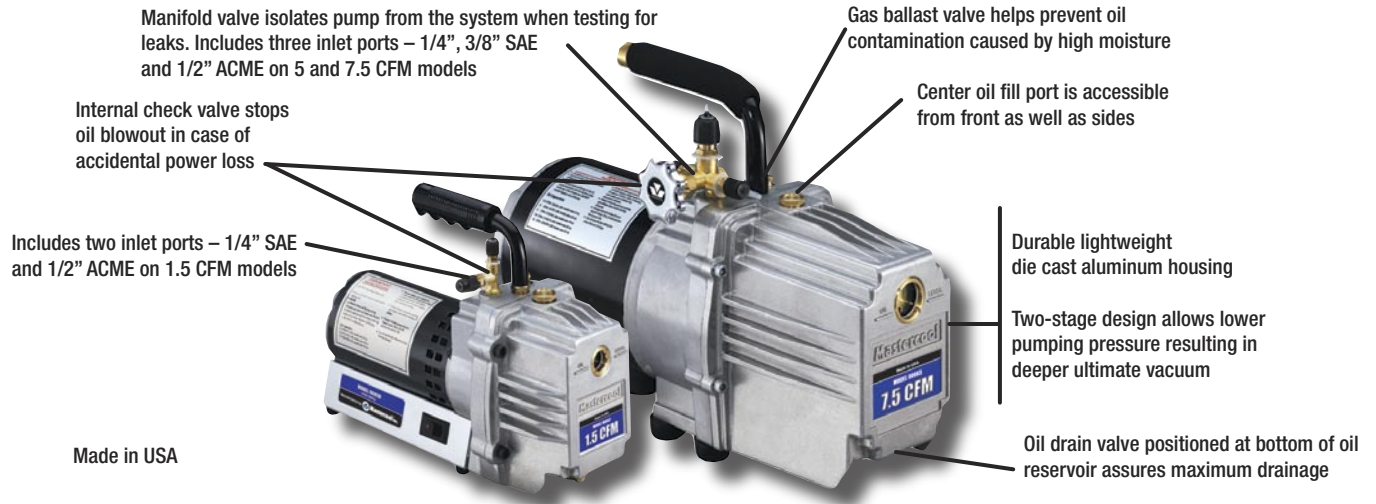


R134a STANDARD AUTOMOTIVE COUPLERS

- 66434-R** High-Side Standard R134a 1/4" FL-M x 16 mm Economy Coupler
- 66534-R** Low-Side Standard R134a 1/4" FL-M x 13 mm Economy Coupler



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.



90060

90060 1.5 CFM VACUUM PUMP (TWO STAGE)

This lightweight and easy to store vacuum pump (12 lbs) is ideal for less than 3 lb capacity evacuation. The inlet ports include 1/4" FL and 1/2" ACME (for automotive R134a systems.)

MODEL #	NO OF STAGES	FREE AIR DISPLACEMENT	ULTIMATE VACUUM	PUMP MOTOR	PUMP SPEED	ELECTRICAL SPECS	SHIPPING WEIGHT
90060	2	1.5 CFM	50 MICRONS	1/6HP	3450 RPM	110 / 60HZ	12 lbs

-220 model also available

90065 5 CFM VACUUM PUMP (TWO STAGE)

This model is an excellent choice for small to medium sized systems (2.5 lb to 10 lb charge capacity). This two stage pump features a manifold valve to isolate it from the system and three inlet ports: 1/4" flare, 3/8" flare and 1/2" ACME (for automotive R134a systems).

MODEL #	NO OF STAGES	FREE AIR DISPLACEMENT	ULTIMATE VACUUM	PUMP MOTOR	PUMP SPEED	ELECTRICAL SPECS	SHIPPING WEIGHT
90065	2	5 CFM	25 MICRONS	1/3HP	1725 RPM	110 / 60HZ	32 lbs

-220 model also available



90065



90067

90067 7.5 CFM VACUUM PUMP (TWO STAGE)

This model is the choice for medium sized and larger systems (5 lb and above charge capacity). The 1/2 horsepower motor makes cold condition start up quick and easy. This two stage pump features a manifold valve to isolate it from the system and three inlet ports: 1/4" flare, 3/8" flare and 1/2" ACME (for automotive R134a systems).

MODEL #	NO OF STAGES	FREE AIR DISPLACEMENT	ULTIMATE VACUUM	PUMP MOTOR	PUMP SPEED	ELECTRICAL SPECS	SHIPPING WEIGHT
90067	2	7.5 CFM	25 MICRONS	1/2HP	1725 RPM	110 / 60HZ	34 lbs

-220 model also available

ECONOMY SERIES

- High volume fan provides cool air to motor and pump
- Vapor discharge/oil fill port, easily removable, contains internal check valve to prevent escape of liquid oil
- Non-slip cushion handle
- Includes T-fitting with 1/4" flare and 1/2" ACME ports

- Cooling fins to keep temperature cooler during extended motor operation
- Manifold valve isolates pump from the system testing for leaks. Includes 3 inlet ports, 1/4", 3/8" SAE and 1/2" ACME.
- Gas ballast valve helps prevent oil contamination caused by high moisture
- -220 models are available please visit www.mastercool.com for details



Model	90059-R
No. of Stages	1
Free Air Displacement	1.5 CFM
Ultimate Vacuum	100 Microns
Motor	1/6 HP
Pump Speed	3450 RPM
Electrical Specs	110 V/ 60 HZ
Shipping Weight	16 lbs.



Model	90062-A
No. of Stages	1
Free Air Displacement	3 CFM
Ultimate Vacuum	75 Microns
Motor	1/4 HP
Pump Speed	1720 RPM
Electrical Specs	110 V/ 60 HZ
Shipping Weight	17 lbs.



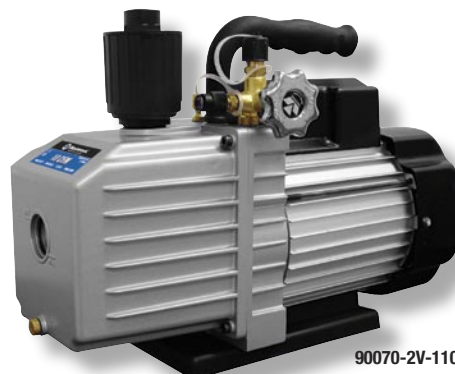
Model	90066-A
No. of Stages	1
Free Air Displacement	6 CFM
Ultimate Vacuum	75 Microns
Motor	1/4 HP
Pump Speed	1720 RPM
Electrical Specs	110 V/ 60 HZ
Shipping Weight	22 lbs.

Model	90066-2V-110
No. of Stages	2
Free Air Displacement	6 CFM
Ultimate Vacuum	15 Microns
Motor	1/3 HP
Pump Speed	3440 RPM
Electrical Specs	110/220V 50/60 HZ
Shipping Weight	24.6 lbs



90066-2V-110

Model	90070-2V-110
No. of Stages	2
Free Air Displacement	10 CFM
Ultimate Vacuum	12 Microns
Motor	1/2 HP
Pump Speed	3440 RPM
Electrical Specs	110/220V / 50/60 HZ
Shipping Weight	33 lbs.



90070-2V-110

VACUUM PUMP OIL	
PART#	DESCRIPTION
90010-6	Case of Six (10 oz bottles)
90018-6	Case of Six (18 oz bottles)
90024-6	Case of Six (24 oz bottles)
90032-6	Case of Six (32 oz bottles)
90128-4	Case of Four (1 gallon bottles)



REPLACEMENT CARTRIDGE			
SERVICE INFORMATION	1.5 CFM	5 CFM	7.5 CFM
OIL CAPACITY	10 oz	18 oz	24 oz
REPLACEMENT CARTRIDGE	90160-R	90165-R	90167-R
SEAL SERVICE KIT	-	90062-11-SEAL	90062-11-SEAL



Mastercool[®]
"World Class Quality"

98061 DIGITAL VACUUM GAUGE packaged in blow molded case

98061-C DIGITAL VACUUM GAUGE packaged in clam shell

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 thermistor type, the problem has been the inconvenience of a cumbersome tabletop unit. Mastercool is introducing a hand held unit using 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.



SPECIFICATIONS:

- Response Time: 250 mSec.
 - Sensor Cable: Spiral cable extended to 6.5 feet (2.6 meter)
 - Sensor: Thermocouple sensor
 - Connection Fitting: 1/4" FL-F 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 : ±5% of reading
 - 1000 - 100 Microns : ±3% of reading
 - 100 - 1 Micron : ±1.5% of reading
- * Unit accuracy refers to sensor specifications and based on optimal laboratory conditions. Field operations may greatly deviate from these levels.

Optional Accessories

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

ELECTRONIC TANK HEATER BLANKET

The Mastercool Refrigerant Tank Heater Blanket speeds up recharge time.

- Assures total discharge of refrigerant from 30 lb and 50 lb tanks of 125°F/55°C and maximum pressure of 185 PSI (R134a) and 170 PSI (R12)
- Quick working 300 Watt heater element
- An excellent compliment to the 98210-A Accu-Charge II Electronic Refrigerant Scale

98250 110 Volt
98250-220 220 Volt



98100 AIR CONTENT ANALYZER

When an A/C system leaks, refrigerant is lost and air enters the system. Your refrigerant recycler cannot tell the difference between refrigerant and air – it recycles both from partially filled systems. You end up with an unknown quantity of efficiency robbing air in your supply tank. Excess actual pressure in your supply tank indicates the pressure of air, also called “non-condensable gases” or NCG’s. When you release the excess pressure, you are releasing air. The result is purer refrigerant which will work more efficiently. The Mastercool Air Content Analyzer is more accurate than most automatic purging systems. It can be left on your supply tank for regular monitoring or it can be removed to check all your tanks.

Refrigerants: R12 & R134a



30 LB. AND 50 LB. DOT-APPROVED RECOVERY CYLINDERS

- Powder coated cylinder for high gloss, durable finish
- Pre-charged cylinder provides a clean, dry interior
- 1/4" opening for air purge valve
- 3/4" NPT opening accepts 80% fill float switch shut-off device
- Collar design for ease of handling
- Valve & Float Switch UL Listed
- Reusable and conforms to DOT-4BA400 specs and ARI guidelines
- Storage and transport of recovered refrigerant gases
- Y-valve for liquid/vapor
- AUS Approved and TC Canadian Approved



30 lb.						
Model	62010 without float switch	62011 with float switch	62012 with float switch & NCG Port	64010 without float switch	67010 with float switch	67011 with float switch
Connection	1/4" FL-M (7/16-20)			1/2" ACME		1/2" ACME
Size (w x h)	9.125" x 17.52"			9.125" x 17.52"		9.125" x 17.52"
Tare Weight	17.99 LB			17.99 LB		17.99 LB
Standard Spec.	DOT - 4BA400			DOT - 4BA400		DOT - 4BA400
Nominal Water Capacity	>26.2 LB / 11.9 L			>26.2 LB / 11.9 L		>26.2 LB / 11.9 L
Service Pressure	400 PSI / 2.7 MPa			400 PSI / 2.7 MPa		400 PSI / 2.7 MPa
Tank Test Pressure	800 PSI / 5.5 MPa			800 PSI / 5.5 MPa		800 PSI / 5.5 MPa
Relief Valve Pressure	600 PSI / 4.1 MPa			600 PSI / 4.1 MPa		600 PSI / 4.1 MPa
Air Tightness Test Pressure	400 PSI / 2.7 MPa			400 PSI / 2.7 MPa		400 PSI / 2.7 MPa
Body Material	HP295			HP295		HP295
Color	yellow/gray			blue		yellow/blue

50 lb.						
Model	63010 without float switch	65010 with float switch	66010 without float switch	66011 with float switch	66012 with float switch & NCG Port	63010-AUS without float switch (Australian standard)
Connection	1/4" FL-M (7/16-20)			1/2" ACME		1/2" ACME
Size (w x h)	12.25" x 18.78"			12.25" x 18.78"		12.25" x 18.78"
Tare Weight	28.71 LB			28.71 LB		28.71 LB
Standard Spec.	DOT - 4BA400			DOT - 4BA400		DOT - 4BA400
Nominal Water Capacity	>47.7 LB / 21.6L			>47.7 LB / 21.6L		>47.7 LB / 21.6L
Service Pressure	400 PSI / 2.7 MPa			400 PSI / 2.7 MPa		400 PSI / 2.7 MPa
Tank Test Pressure	800 PSI / 5.5 MPa			800 PSI / 5.5 MPa		800 PSI / 5.5 MPa
Relief Valve Pressure	600 PSI / 4.1 MPa			600 PSI / 4.1 MPa		600 PSI / 4.1 MPa
Air Tightness Test Pressure	400 PSI / 2.7 MPa			400 PSI / 2.7 MPa		400 PSI / 2.7 MPa
Body Material	HP325 or HP345			HP325 or HP345		HP325 or HP345
Color	yellow/gray			yellow/gray		white



TWIN TURBO

REFRIGERANT RECOVERY MACHINE

69300 115V - 60 HZ 69300-220 220V - 50/60 HZ



Specifications:

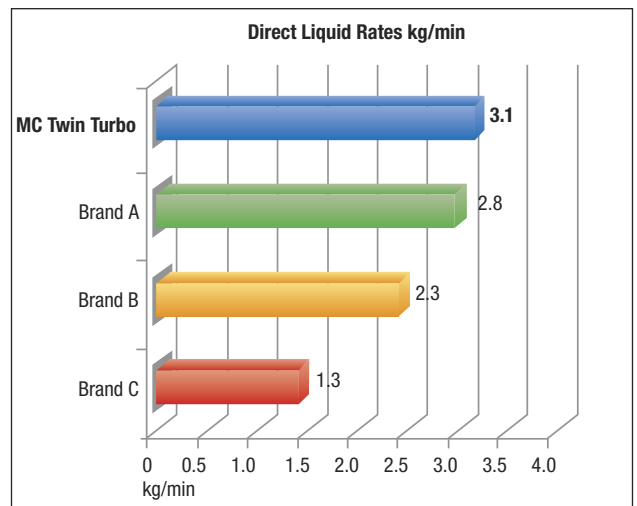
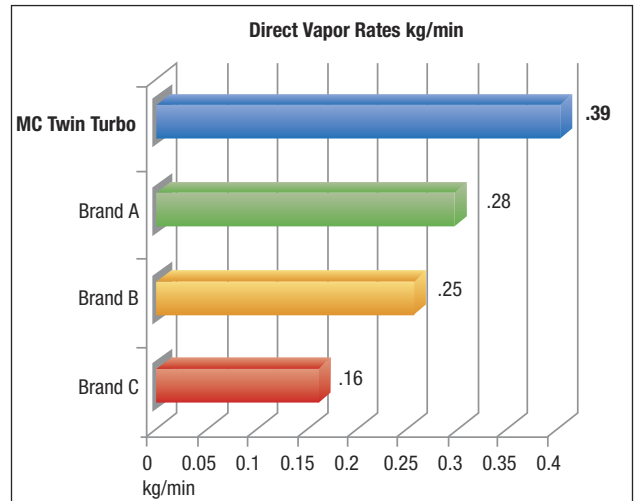
- 1/2 hp oil less compressor
- Recovery rate:
 - Direct vapor up to .39 kg/min
 - Direct liquid up to 3.1 kg/min
 - Push pull up to 8.1 kg/min
- Operating Temperature: 0 to 50°C
- Weight: 11 kg (25 lbs)
- Dimensions: 457mm (l) x 254mm (w) x 356mm (h)
(18" (l) x 10" (w) x 14" (h))
- Case Material is HDPE (High Density Polyethylene).
- Compatible refrigerants: All CFC, HCFC, and HFC's

Mastercool introduces its newest addition to the recovery machine lineup. Taking the reliability of the 69000 series machines, Mastercool has enhanced 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 new 69300 series the most complete solution to your recovery needs!

Features & Benefits:

- Revolutionary double piston oil-less compressor
- Auto low pressure switch for durability of 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
- Large Ergonomically positioned gauges for easy reading
- Front cover has bumper guards built in to reduce damage to the control knobs.

RECOVERY RATE MARKET COMPARISONS



69000 REFRIGERANT RECOVERY SYSTEM

Mastercool's series of professional recovery systems are compact, lightweight and work with all refrigerants. They are ideal for industrial appliance, commercial or residential applications.

The Mastercool 69000 Series offers a state-of-the-art 1/2 hp oil-less compressor with a built-in high volume cooling fan. This new 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 process.

All of the 69000 series offer our newest 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. All of the internal components have been arranged and isolated to ensure a smooth and quiet performance. With all of this protected by a reinforced hard plastic case, Mastercool's recovery systems will meet all your refrigerant needs.

FEATURES & BENEFITS

- High performance oil-less compressor
- High volume cooling fan design
- Automatic low pressure Cut-Off Switch
- Liquid compatible head-valve system
- Safety high pressure Cut-Off Switch
- Fully reinforced hard plastic casing
- Made in USA

SPECIFICATIONS

- 69000 115V-60Hz
- 69000-220 ... 220V-50/60Hz
- 1/2 HP oil-less compressor
- Recovery rate
 - direct vapor up to..... 3/4 lb/m34 kg/m
 - direct liquid up to..... 2 1/2 lb/m1.13 kg/m
 - push-pull up to 12 lb/m 5.5 kg/m
- Operating temp range: 32 to 122°F / 0 to 50°C
- Weight: 38 lbs
- Dimensions: 17"L x 10"W x 12"H
432mm L x 254mm W x 305mm H
- Refrigerants: All

**69500 RECOVERYMATE****FEATURES & BENEFITS**

- Lightweight and easy to carry
- 4-Way Ball Valve Manifold controls the flow smoothly and quickly with only a 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 15" (38cm)
- Width 4" (10cm)
- Height 17" (43cm)
- Weight 12.25 lbs (5.5kg)



Mastercool®
"World Class Quality"



Platform Level Eye



Adjustable Leveling Feet

98210-A ACCU-CHARGE II ELECTRONIC REFRIGERANT SCALE

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 (Using the 98230 Charging Solenoid Module):

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:

Allows user to charge previously stored amount.

SPECIFICATIONS:

- Capacity: 240 lbs (110 kg)
- Accuracy: ± 0.01 kg
 ± 0.16 oz
 ± 0.01 lb } or 0.1% of reading
 (whichever is greater)
- Resolution: 0.02 lb / 0.01 kg
- Auto Off Function: 3 hrs
- Operating Temperature: 32 to 120°F (0 to 49°C)
- Battery Life: approximately 40 hrs
- 9 x 9" (22 x 22 cm) Platform



98230 CHARGING SOLENOID MODULE

The 98230 Charging Solenoid Module turns the 98210-A ACCU-CHARGE II or the 98211 CERTIFIED REFRIGERANT SCALE into an Automatic Programmable Scale!

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

98211-A ACCU-CHARGE III CERTIFIED REFRIGERANT SCALE

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 (Using the 98230 Charging Solenoid Module):

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: Allows user to charge previously stored amount.

SPECIFICATIONS:

- Capacity: 110 lbs (50kg)
- Operating Temperature: 32 to 120°F, (0 to 49°C)
- Accuracy: 0.1% of reading or ± 50 g (± 0.01 kg) (whichever is greater)
- Battery Life: Approximately 40 hrs
- Resolution: 0.10 lbs (0.05kg)
- 9 x 9" (22 x 22cm) Platform
- 3 hrs AUTO OFF Function



98300 SMART-CHARGE™

The new "Smart-Charge" scale does it all! Program and automatically transfer refrigerant to and from the A/C system. The capacity of over 700 models of cars from around the world is contained in the scale's memory. With the easy to use keypad, you can retrieve almost any refrigerant capacity from automobiles made from 1989-UP.

FEATURES:

LANGUAGES:

The scale will display operating commands in seven languages: English, Spanish, Portuguese, Italian, German, French & Swedish.

MEMORY:

The scale will retain 3 weights in it's memory: TARE WEIGHT (weight of the empty cylinder), NET WEIGHT (weight of the refrigerant) and GROSS WEIGHT (tare weight + net weight). At any time, the user can recall these three weights to determine the status of refrigerant.

CHARGING:

1. Unit can be programmed manually or by selecting one of over 700 vehicle refrigerant capacities stored in the memory.
2. Once programmed, the unit will automatically stop the flow of refrigerant when the charge is complete.
3. The unit will also let you know if there is not enough refrigerant in the cylinder to supply the current charge.
4. If the same amount of charge is required, the "REPEAT" key can be used.

RECOVERY:

1. The unit will automatically monitor the amount of refrigerant that has been recovered.
2. If the cylinder is full, the unit will notify the user.

VACUUM:

1. Plug vacuum pump into the convenient outlet on the scale and program in your vacuum time.
2. Once the program time has ended the vacuum pump will shut off and the display will notify the user.



SPECIFICATIONS:

- Capacity: 110 Lb (50kg) or 176 Lb (80kg)
- Accuracy: $\pm 1\%$ of reading
- Resolution: .02 Lb (10gr) at 110 Lb Capacity or .04 Lb (20gr) at 176 Lb Capacity
- Weight: 12 Lb
- Size: 17 x 12 x 4"
- Power: 115V or 220V



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55200 "INSPECTOR" 2 IN 1 ELECTRONIC/UV LEAK DETECTOR



POPULAR

This revolutionary patented 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 1/10 oz (3gr) 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**

SPECIFICATIONS:

- Ultra bright UV/Blue LED light
- UV Enhancing Safety Glasses
- 6 Levels of Sensitivity (15 Levels of Detection)
- Tricolored Visual Leak Level Indicator
- Mute Function
- Detects Leaks as small as 1/10 oz (3gr) per year
- Includes a Custom Molded Carrying Case
- Detects all refrigerants (CFC's, HCFC's, HFC's)
- Meets and exceeds SAE J1627

- 53515-B LED Bulb for 55200
 55100-SEN Replacement Sensor for 55100 & 55200



55100 ELECTRONIC LEAK DETECTOR

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

SPECIFICATIONS:

- 3 Levels of Sensitivity (5 Levels of Detection)
- Visual Leak Level Indicator
- Detects Leaks as small as 1/10 oz per year
- Includes a Custom Molded Carrying Case
- Detects all refrigerants (CFC's, HCFC's, HFC's)
- Meets and exceeds SAE J1627



55300

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.

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.



55400

REPLACEMENT DYES for 55300

- 53825 Universal Dye Cartridge - Ester (POE) Oil Base (2 oz)



REPLACEMENT DYES for 55400

- 53625 Universal Dye - Ester (POE) Oil Base (2 oz)
 92708 R12/22/502 Universal Standard Dye - Ester (POE) Oil Base (8 oz)
 92732 R12/22/502 Universal Standard Dye - Ester (POE) Oil Base (32 oz)

55500 ELECTRONIC LEAK DETECTOR W/HEATED SENSOR AND 110V BATTERY CHARGER

Mastercool offers the next generation in Electronic Leak Detection! The HEATED SENSOR technology delivers fast and accurate results while eliminating non-refrigerant false alarms. **Patent #6,647,761**

SPECIFICATIONS:

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

FEATURES:

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

53515-B
55500-SEN

LED Bulb for 55500
Replacement Sensor

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

Mastercool introduces its new hand-held combustible gas leak detectors. 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 newest rechargeable Ni-MH battery (nearly double the power of existing Ni-Cad batteries) and come in a custom molded case. **Patent #6,647,761**

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, Sulfur Dioxide and Trichloroethane.

SPECIFICATIONS:

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

FEATURES:

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



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RECHARGEABLE UV LIGHT KIT W/REFILLABLE DYE INJECTOR

53450 50 Watt UV Light w/110V Battery Charger

53450-220 50 Watt UV Light w/220V Battery Charger

Kit includes: High Intensity Rechargeable Cordless Light, Refillable 2 oz Dye Injector, 2 oz Universal Dye, 4 oz dye remover, 25 service information labels and UV glasses



RECHARGEABLE UV LIGHT KIT W/ "CARTRIDGE TYPE" DYE INJECTOR

53450-C 50 Watt UV Light w/110V Battery Charger

53450-C-220 50 Watt UV Light w/220V Battery Charger

Kit includes: High Intensity Rechargeable Cordless Light, "Cartridge Type" 2 oz Dye Injector, 2 oz Universal Dye, 4 oz dye remover, 25 service information labels and UV glasses



RECHARGEABLE UV LIGHT KIT

53400 50 Watt UV Light w/110V Battery Charger

53400-220 50 Watt UV Light w/220V Battery Charger

- This unique cordless light offers convenience and portability
- The powerful battery gives 30 minutes of use before charging
- Light Kit includes High Intensity Light, UV Enhancing Glasses & Rechargeable Battery Pack & Battery



53515 MACH IV COMPACT UV LIGHT KIT

- Flexible Wand Gets Into Tight Areas
- Bright LED Technology
- Rugged Ergonomic Grip
- Includes UV Enhancing Safety Glasses

Patent #6,647,761



53413 RECHARGEABLE BATTERY

- 12 Volt Rechargeable Battery
- This powerful rechargeable battery holds a charge equal to 30 minutes of continuous use.



BATTERY CHARGER

53414 110 Volt Battery Charger

53414-220 220 Volt Battery Charger



53223 "CARTRIDGE TYPE" UNIVERSAL DYE/OIL INJECTOR

Replaceable Cartridge with 2 ounces of Universal Dye that is compatible with R12/22/502 and R134a Systems. The injector hose comes complete with R134a Coupler (Auto A/C Systems) and Auto Shut-off Valve Adapter for 1/4" FL Systems.



included



53123 REFILLABLE UNIVERSAL DYE/OIL INJECTOR

Refillable Universal Dye/Oil Injector with 2 oz Bottle of Concentrated A/C Dye that is compatible with R12/22/502 and R134a Systems. The injector hose comes complete with R134a Coupler (Auto A/C Systems) and Auto Shut-off Valve Adapter for 1/4" FL Systems.



included

.....
53123-A without Concentrated A/C Dye



53322 REFILLABLE UNIVERSAL DYE INJECTOR

Refillable Universal Dye Injector with 1/4" Auto Shut-Off Valve Connection & 2 oz Bottle of Concentrated A/C Dye.



included

.....
53322-A without Concentrated A/C Dye



92376 ON-LINE DYE INJECTOR

Refillable On-Line Dye Injector with 1/4" Auto Shut-Off Valve Connection



ULTRAVIOLET DYES

used with 53223 Injector

CONCENTRATED (2 oz Replaceable Cartridge)

53825	Universal Dye Cartridge Ester (POE) Oil Base
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ULTRAVIOLET DYES

used with 53123, 53322, 92376 Injectors

STANDARD (1/4 oz Pack)

92699	Universal Standard Dye Six 1/4 oz Packs (6 pcs)
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STANDARD (8 oz Bottle)

92708	Universal Standard Dye 8 oz Ester (POE) Oil Base
-------	---

STANDARD (32 oz Bottle)

92732	Universal Standard Dye 32 oz Ester (POE) Oil Base
-------	--

CONCENTRATED (2 oz Bottle)

53625	Universal Dye - Ester (POE) Oil Base
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ACCESSORIES

DYE REMOVER

53314	4 oz Bottle
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SERVICE LABELS

53315	25 Per Pack – Bright Yellow Label indicating system has been charged.
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UV ENHANCING SAFETY GLASSES

92398	This is a must for protection against ultraviolet light during leak detection.
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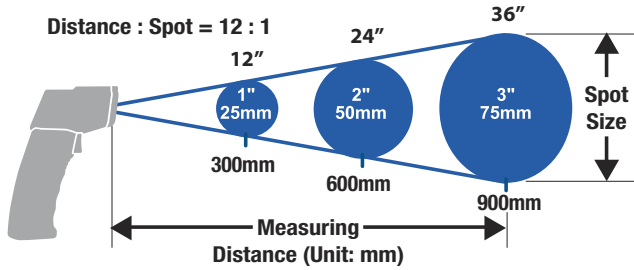


52224-A INFRARED THERMOMETER WITH LASER



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

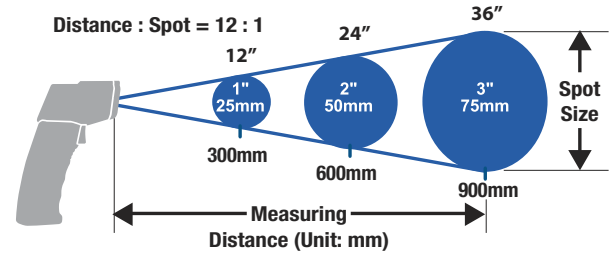
Temperature Range: -58°F to 932°F (-50°C to 500°C)
Field of View: 12 : 1



52224-C INFRARED THERMOMETER WITH DUAL LASER



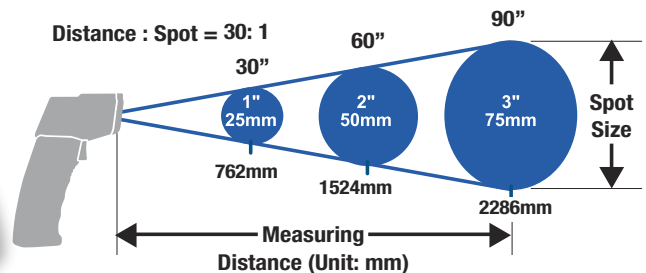
Features both infrared and dual laser technologies.
Temperature Range: -58 to 932°F (-50 to 500°C)
Field Of View: 12 : 1



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.

Non-Contact Temperature Range: -76 to 1400°F (-60 to 760°C)
Field of View: 30 : 1



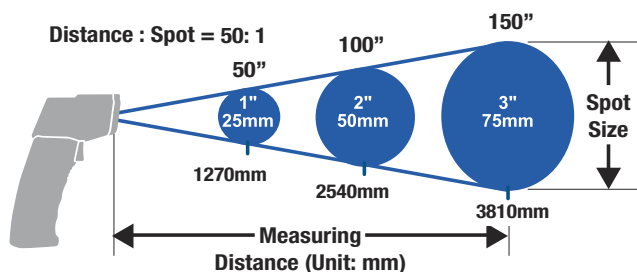
3 ft. (1m) Wire Thermocouple Included

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.

Non-Contact Temperature Range: -76 to 1832°F (-60 to 1000°C)

Field of View: 50 : 1



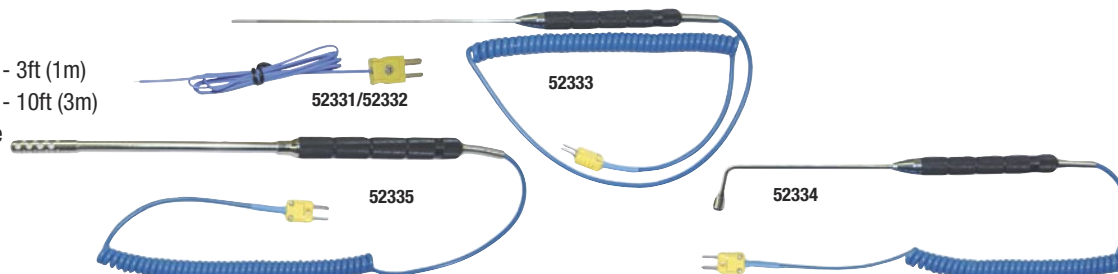
SPECIFICATIONS:



	52224-A	52224-C	52225-A	52225-B
Non-Contact Temp. Range:	-58 to 932°F (-50 to 500°C)	-50 to 500°C (-58 to 932°F)	-76 to 1400°F (-60 to 760°C)	-76 to 1832°F (-60 to 1000°C)
Thermocouple Temp. Range:			-83 to 1999°F (-64 to 1400°C)	-83 to 1999°F (-64 to 1400°C)
Field of View:	12 : 1	12 : 1	30 : 1	50 : 1
Display Illumination:	Backlit LCD display	Backlit LCD display	Backlit LCD display	Backlit LCD display
Target Indicator:	Single Laser Spot	Dual Laser Spot	Single Laser Spot	Dual Laser Spot
Emissivity:	0.98	0.98	0.10 (10E) to 1.0 (100E)	0.95
Resolution:	0.5°F / 0.5°C	0.5°F / 0.5°C	0.1°F / 0.1°C	0.1°C / 0.1°F
Modes:			MIN, MAX, DIFF & AVG	MIN, MAX, DIFF & AVG
Accuracy:	4°F (±2°C) or ±2% of reading	±2°C (4°F) or ±2% of reading	±2% of reading	±2% of reading
Response Time:	0.5 seconds	0.5 seconds	1 second	1 second
Power Off:	Automatic after 15 seconds	Automatic after 15 seconds	Automatic after 60 seconds	Automatic after 60 seconds
Battery Life:	Approx. 180 hrs.	Approx. 180 hrs.	Approx. 180 hrs.	Approx. 180 hrs.
Included Accessories:	2 AAA batteries, instruction manual, plastic molded carrying case	2 AAA batteries, instruction manual, plastic molded carrying case	2 AAA batteries, 3 ft thermocouple probe, instruction manual, plastic molded carrying case	2 AAA batteries, instruction manual, plastic molded carrying case
Optional Accessories:			10ft Wire Thermocouple Probe, Piercing Penetration Probe, Surface Probe, Air Probe	3ft, 10ft Wire Thermocouple Probes, Piercing Penetration Probe, Surface Probe, Air Probe, Removable Magnetic Base

OPTIONAL PROBES

- 52331** Wire Thermocouple Probe - 3ft (1m)
- 52332** Wire Thermocouple Probe - 10ft (3m)
- 52333** Piercing Penetration Probe
- 52334** Surface Probe
- 52335** Air Probe



Mastercool®
"World Class Quality"

All thermometers include pocket holder and clip.

POCKET ANALOG DESIGNS

Item#	Dial Size	Temperature Scale
52220	1"	0 to 220°F
52161	1 3/8"	-40 to 160°F
91120	1 3/4"	0 to 220°F

POCKET DIGITAL DESIGN

Item#	Dial Size	Temperature Scale
52223-A	1"	-58 to 302°F

Battery operated (1.5V, life of 5000 hours), on/off and auto shut-off after 10 minutes.




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
- Lithium Battery





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

52228 DIGITAL DIFFERENTIAL THERMOMETER

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

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



52245 DIGITAL PRESSURE/TEMPERATURE CHART

The Mastercool 52245 is a compact Digital Pressure Temperature Chart. This pocket sized device offers fast and accurate temperature references on a large easy to read LCD display. The automatic power down feature shuts the unit OFF five minutes after the last command to insure extended battery life.

Temperature/Pressure Range: -40 to 200°F

Includes 61 refrigerants: R11, R12, R13, R21, R22, R23, R32, R113, R114, R115, R116, R123, R124, R125, R134, R134a, R141b, R142b, R143, R143a, R152a, R218, R290, R176, R401a, R401b, R401c, R402a, R402b, R403a, R403b, R404a, R405a, R406a, R407a, R407b, R407c, R407d, R408a, R409a, R410a, R410b, R411a, R411b, R412a, R413a, R414a, R414b, R501, R502, R503, R504, R507, R508b, R509a, R600, R600a, R601, R601a, R717, R744

Pressure readings are available in PSI, BAR and MPa. Temperature readings are available in Fahrenheit or Celsius. Battery is included.



- Fast & Easy to Use
- Compact Pocket Size
- Large LCD Display
- Auto Shut-Off



52230 PEN TYPE HYGROMETER

- Rotating cap to protect sensor
- LCD digital display
- Temperature and humidity in °F or °C
- Max/Min record function
- Data Hold to capture readings
- Auto-off function

SPECIFICATIONS:

Size: 6.8" x 1.6" x 0.6"
 Sensor: Electronic Capacitance Polymer Film
 Temp. Range: -4 to 140°F (-20 to 60°C)
 RH Range: 0 to 100%
 Accuracy: ±3% from 10 to 95% RH at 77°F (25°C)
 ±1% from other RH range
 Resolution: 0.1°F / 0.1°C / 0.1%
 Storage Temp.: 14 to 140°F (-10 to 60°C) / Storage RH%: <95%
 Battery: (1) CR2032 (Lithium Coin Cell) / Battery Life: 100 hrs.

52233 DIGITAL PSYCHROMETER

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

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)
 Power: (2) 1.5V AAA battery



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

SPECIFICATIONS:

TEMPERATURE: -4 to 140°F (-20 to 60°C)
 RELATIVE HUMIDITY: 0 to 100% RH
 DEW POINT: -90 to 158°F (-68 to 70°C)
 WET BULB TEMPERATURE: -7.6 to 158°F (-22 to 70°C)
 AIR VELOCITY: 0.3 to 35 m/s (1 to 114 ft/s)
 AIR VOLUME: 0 to 99999 m3/s (0 to 99999 cfm)

52237 DATA LOGGER CD & USB CABLE

for use with 52236 AirFlow + Psychrometer



52733



52775



52231 PROBE probe for 52233

52733 SALT SOLUTION BOTTLE 33% (dark brown bottle)

52775 SALT SOLUTION BOTTLE 75% (blue bottle)

for calibrating 52230 Pen Type Hygrometer and 52233 Digital Psychrometer

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 & sign display

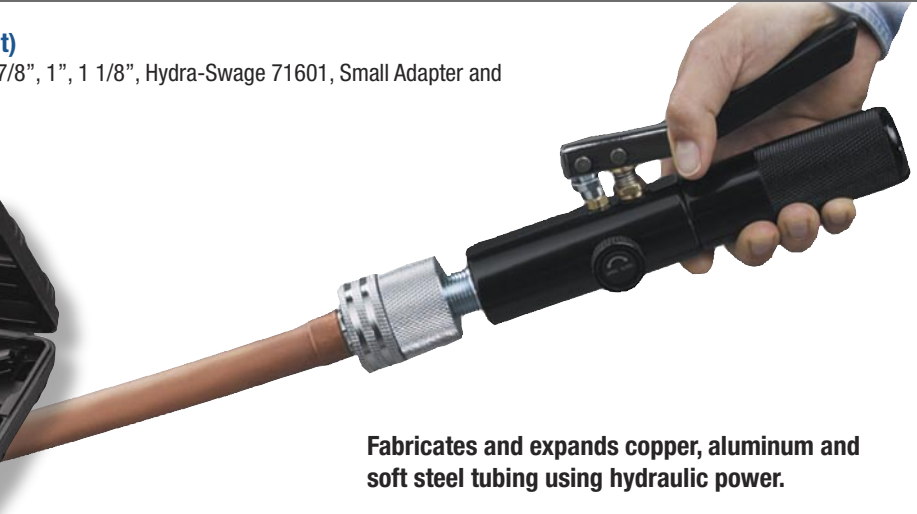


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71600 TUBE EXPANDING TOOL KIT (7 Head Kit)

Kit consists of expander heads 3/8", 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", Hydra-Swage 71601, Small Adapter and Inner-Outer Reamer. Patent No. 6,619,099



Fabricates and expands copper, aluminum and soft steel tubing using hydraulic power.

71650 TUBE EXPANDING TOOL KIT (10 Head Kit)

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", 2 1/8", Hydra-Swage 71601, Large Adapter and Inner-Outer Reamer.



PART NO.	DESCRIPTION	TUBE O.D.	PART NO.	DESCRIPTION	TUBE O.D.
71600-03	Expander Head	3/8"	71600-11	Expander Head	1 3/8"
71600-04	Expander Head	1/2"	71600-13	Expander Head	1 5/8"
71600-05	Expander Head	5/8"	71600-17	Expander Head	2 1/8"
71600-06	Expander Head	3/4"	71601	Hydra-Swage	3/8" to 1 1/8"
71600-07	Expander Head	7/8"	71601-D	Adapter for 71601	3/8" to 1 1/8"
71600-08	Expander Head	1"	71685	Inner-Outer Reamer	-
71600-09	Expander Head	1 1/8"	71600-PB	Molded Box for 71600 & 71650	-

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 No. 5,782,128

Part No.	Description	Part No.	Description
71700-A	Flaring & Swaging Pump	71700-14	7/8" Swaging Adapter
71700-B	Yoke Assembly	71685	Inner-Outer Reamer
71700-01	45° Flaring Cone	70087	Steel Brush Thread Cleaner
71700-PB	Plastic Box	71700-104	1/4" Die Set
71700-04	1/4" Swaging Adapter	71700-105	5/16" Die Set
71700-05	5/16" Swaging Adapter	71700-106	3/8" Die Set
71700-06	3/8" Swaging Adapter	71700-108	1/2" Die Set
71700-08	1/2" Swaging Adapter	71700-110	5/8" Die Set
71700-10	5/8" Swaging Adapter	71700-112	3/4" Die Set
71700-12	3/4" Swaging Adapter	71700-114	7/8" Die Set



70070 "Ratchet Style" TUBE BENDER KIT

- Hand-operated ratchet design bends tubes easily
- Bends: 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



NEW!

70080 "Ratchet Style" TUBE BENDER KIT

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.

BENDS
6 sizes up to 1 1/8"



LEVER STYLE TUBE BENDERS

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.



70069-A 4-IN-1 LEVER STYLE 180° TUBE BENDER

All metal multi-purpose 180° Tube Bender for 3/16", 1/4", 5/16" and 3/8" O.D. tubing.



MODEL NO.	OUTSIDE DIAMETER OF TUBING	NOMINAL SIZE	RADIUS TO CENTER OF TUBE
70061	1/4"	1/8"	9/16"
70062	5/16"	–	11/16"
70063	3/8"	1/4"	15/16"
70064	1/2"	3/8"	1 1/2"
70065	5/8"	1/2"	2 1/4"
70066	3/4"	5/8"	3"
70067	7/8"	3/4"	3"



70076 SPRING STYLE TUBE BENDERS

Set of 5 spring benders for 1/4", 5/16", 3/8", 1/2" and 5/8" 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 NO.	SIZE	LENGTH	MODEL NO.	SIZE	LENGTH
70071	1/4"	10"	70074	1/2"	12"
70072	5/16"	10"	70075	5/8"	14"
70073	3/8"	10"	70077	3/4"	14"



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BALL BEARING CUTTERS

Mastercool's New EZ Tube Cutters offer the latest "Reduced Friction" technology! Our new 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 new "Reduced Friction" design is sure to save time and reduce fatigue!

72029 "Reduced Friction" Tube Cutter for 1/8 to 1 1/8" (3-28mm)

72035 "Reduced Friction" Tube Cutter for 1/4 to 1 1/2" (6-38mm)

72030 Replacement Cutting Wheel for 72029

72034 Replacement Cutting Wheel for 72035



Mastercool tube cutters are lightweight yet durable. Carbide steel cutting wheels work with hard & soft copper, aluminum, brass, thin wall steel and stainless steel.

70027 MINI TUBE CUTTER
Heavy duty mini cutter designed to work in tight quarters. Excellent for limited working space. Highly polished, chrome plating is corrosion resistant. Carbide wheel cuts hard and soft copper, aluminum, brass, thin wall steel and stainless steel. For 1/8" to 5/8" O.D. tubing (1/8" to 1/2" Nominal).

70029 MISTI TUBE CUTTER
Triple chrome plated. Larger knob than 70027 mini tube cutter for easier tightening. Larger cutting wheel cuts faster. Carbide wheel cuts hard and soft copper, aluminum, brass, thin wall steel and stainless steel. For 3/8" to 1 1/8" O.D. tubing (1/4" to 1" Nominal).

70025 CAPILLARY TUBE CUTTER
Cuts all sizes of capillary tubes without collapsing the tube.

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

HEAVY DUTY TUBE CUTTERS

Extremely smooth driving action gets blade to tube quickly. Well balanced design works effortlessly. Highly polished, triple chrome plating for corrosion resistance. Cutter includes retractable reamer/file and spare carbide cutting wheel. Carbide wheel cuts hard and soft copper, aluminum, brass, thin wall steel and stainless steel.

- 70033 Heavy Duty Tube Cutter**
for 1/8" to 1 1/8" O.D. tubing (1/4" to 1" Nominal)
- 70035 Heavy Duty Tube Cutter**
for 1/4" to 1 5/8" O.D. tubing (1/4" to 1 1/2" Nominal)



SLIDING RATCHETED CUTTERS

Sliding, ratcheted cutters are ideal for oversize tubing. Carbide cutting wheel cuts hard and soft copper, aluminum, brass, thin wall steel and stainless steel. PVC wheel cuts plastic tubing and pipe including PVC and ABS.

- 70037 Sliding Ratcheted Tube Cutter**
1/4" to 2 5/8" O.D. tubing (1/4" to 2 3/4" Nominal)
- 70038 Sliding Ratcheted Tube Cutter**
1/4" to 3 1/2" O.D. tubing (1/4" to 3 1/8" Nominal)



- 70090 TUBE CUTTER KIT** contains:
- 70027 Mini Tube Cutter for 1/8" to 5/8" O.D. Tubing (1/8" to 1/2" Nominal)
 - 70029 Midi Tube Cutter for 3/8" to 1 1/8" O.D. Tubing (1/4" to 1" Nominal)
 - 70033 Heavy Duty Tube Cutter for 1/8" to 1 1/8" O.D. Tubing (1/4" to 1" Nominal)



- 70090-A TUBE CUTTER KIT** contains:
- 70027 Mini Tube Cutter for 1/8" to 5/8" O.D. Tubing (1/8" to 1/2" Nominal)
 - 70029 Midi Tube Cutter for 3/8" to 1 1/8" O.D. Tubing (1/4" to 1" Nominal)
 - 70033 Heavy Duty Tube Cutter for 1/8" to 1 1/8" O.D. Tubing (1/4" to 1" Nominal)
 - 70037 Heavy Duty Tube Cutter for 1/4" to 2 5/8" O.D. Tubing (1/4" to 2 3/4" Nominal)

TUBE CONSTRICTOR WHEEL

70233 Used with 70033 or 70035

REPLACEMENT CUTTER WHEELS

70028 Replacement Cutting Wheels for 70027 (10 pcs.)

70034 Replacement Cutting Wheels for 70029, 70030, 70031, 70033, 70035, 70037 (10 pcs.)

70128 Carbide Cutting Wheel & Screw Set for 70027 includes: 2 spare cutting wheels and one holding screw

70134 Carbide Cutting Wheel & Screw Set for 70029, 70035, 70037 includes: 2 spare cutting wheels and one holding screw

70138 Replacement Cutting Wheel for 70038 (1 per pkg.)

70237 PVC Cutting Wheel for 70037. Cuts PVC and ABS

70238 Oversize PVC Cutting Wheel for 70038. Wheel is 1 5/8" diameter



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70051 STANDARD 45° FLARING TOOL

Durable forged steel slip-on yoke. Flaring bar is hardened, highly polished and nickel chrome plated. Auto centering yoke features bearing driven hardened cone for easy flaring. Flares 7 sizes: 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" and 5/8" O.D. tubing



70052 SLIDING DIE-BLOCK 45° FLARING TOOL

Uniquely designed flaring cone flares and burnishes in one easy operation. Slide-on yoke is simple to use. Hardened multi-size flaring bar speeds flaring time. Flares and burnishes 6 sizes: 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing.



70056 LARGE CAPACITY 45° FLARING TOOL

Flares large tube sizes. Hard chrome plated, swivel flaring cone makes flaring quick and easy. Flaring bar is hardened and nickel chrome plated. Flares 4 sizes: 5/8", 3/4", 7/8" and 1 1/8" O.D. tubing.

ECCENTRIC FLARING TOOLS & KITS

45° Eccentric Flaring Tool offered in metric and inch sizes.



70057 ECCENTRIC FLARING TOOL

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

70058 ECCENTRIC FLARING KIT

Kit includes:

- 70057 Eccentric Flaring Tool
- 71685 Inner-Outer Reamer
- 70033 Heavy Duty Tube Cutter for (1/8 – 1 1/8") 4 to 28mm O.D. Tubing (1/4 to 1" Nominal).



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 plastic carrying case.

45° Flaring & Swaging Tool Set includes:

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



70091 45° FLARING & CUTTING TOOL SET

45° Flaring & Cutting Tool Set includes:

- 70033 Heavy Duty Tube Cutter for 1/8" to 1 1/8"
- 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.



70092 45° FLARING, DOUBLE FLARING & CUTTING TOOL SET

The 70092 Tool Set includes a heavy duty tube cutter for 1/8 to 1 1/8" tubing, 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 and 5 double flaring adapters for 3/16, 1/4, 5/16, 3/8 and 1/2" O.D.



70093 45° SLIDING DIE-BLOCK FLARING & CUTTING TOOL SET

Includes heavy duty tube cutter (70033) and sliding die-block flaring tool (70052.) Uniquely designed flaring cone flares and burnishes in one easy operation. Slide-on yoke is simple to use. Hardened multi-size flaring bar speeds flaring time.

45° Sliding Die-Block Flaring & Cutting Tool Set includes:

- 70052 45° Flaring Tool flares and burnishes 6 sizes: 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing.
- 70033 Heavy Duty Tube Cutter for 1/8" to 1 1/8" O.D. tubing.



70094 WIDE RANGE 45° FLARING & CUTTING TOOL SET

Includes heavy duty tube cutter (70033) and wide range flaring tool (70054) with rugged forged steel slip-on yoke. Flaring bars are hardened, highly polished and nickel chrome plated.

Wide Range 45° Flaring & Cutting Tool Set includes:

- 70054 Flaring Tool flares 9 sizes: 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" and 3/4"
- 70033 Heavy Duty Tube Cutter for 1/8" to 1 1/8" O.D. tubing.
- 70082 Ratchet Wrench for 1/4", 3/8", 3/16" and 5/16" O.D. tubing.



PUNCH TYPE SWAGING TOOLS

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



- 70040 All-In-One Swaging Punch**
Nickel-chrome finish. Swages 1/4", 5/16", 3/8", 1/2" and 5/8".
- 70048 Set of 5 Swaging Punches**
for 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing.
- 70049 Flaring Bar and Set of 5 Punches**
for 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing. Comes in box.

INDIVIDUAL SIZE SWAGING PUNCHES

MODEL NO.	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"

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.



INNER-OUTER REAMERS

- 70085** Designed to remove inner and outer burrs before flaring. Reamer has heavy duty outer shell with steel blades. Capacity 3/16" to 1 1/2" O.D. Tubing.
- 71685** Designed to remove inner burrs easily. Includes one spare tungsten blade for long use.
- 71686-2** Two spare blades for 71685 (2 pcs.)



- 70083 PINCH-OFF PLIER**
Specially designed for refrigeration industry. Pinches off and locks on copper tubing. Size: Throat 7", Depth 1", Jaw Thickness 1/4".



- 70088 1/4" TUBE PIERCING PLIER**
- 70088-TIP** Replacement Tip for 70088

PLUMBERS TYPE MINI CUTTER

Designed for applications with limited working space. Cuts soft copper, aluminum and thin wall steel tubing.

- 80021 Tube Cutter**
for 1/8" to 7/8" O.D. Tubing
- 80121 Spare Cutting Wheel**
for 80021



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35161	10	47396	13	54261	11	70034	37	71700-105	34	90265-60	13	95661	10
35172	10	47601	13	54272	11	70035	37	71700-106	34	90265-72	13	95772	10
35636	10	47602	13	54336	11	70037	37	71700-108	34	90265-R	14	96136	10
35661	10	47603	13	54350	8, 11, 12	70038	37	71700-110	34	90314	16	96161	10
35772	10	47604	13	54361	11	70040	40	71700-112	34	90328	15	96172	10
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37136	10	47963	13	55400	26	70047	40	72029	36	90337	14, 16	96361	8
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37172	10	48010	13	55500-SEN	27	70049	40	72034	36	90339	16	96436	8
37636	10	49262-36	13	55750	27	70051	38, 39	72035	36	90354	16	96461	8
37661	10	49262-60	13	56103	11	70052	38, 39	80011	17	90355	16	96472	8
37772	10	49262-72	13	56136	11	70053	38	80013	17	90356	16	96503	8
40336	13	49263-36	13	56161	11	70054	39	80021	40	90357	16	96536	8
40360	13	49263-60	13	56172	11	70056	38	80034	12, 16	90358	16	96561	8
40372	13	49263-72	13	56236	11	70057	38	80111	17	90365	14	96572	8
40396	13	49264-36	13	56261	11	70058	38	80113	17	90368	16	96636	10
41361	13	49264-60	13	56272	11	70061	35	80121	40	90369	16	96661	10
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41363	13	49265-36	13	56361	11	70063	35	80234	16	90377	15	97136	10
41601	13	49265-60	13	56372	11	70064	35	80296	16	90410	15	97161	10
41602	13	49265-72	13	57103	11	70065	35	82010	12	90411	7, 15	97172	10
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42016	12	52225-B	31	57461	9	70077	35	82934	16, 17	91120	32	98225	9
42016-10	13	52226	32	57472	9	70080	35	82934-E	17	91250	8, 10, 12	98230	24
45336	13	52227	32	57501	8, 9, 12	70081	40	83341	12, 16	91253-E	10, 11, 12	98250	20
45360	13	52228	32	57803	8, 9, 12	70082	39, 40	85200	12	91490	15	98250-220	20
45361	13	52229	32	58103	9	70083	40	85215	10, 11	91490-K	15	98300	25
45362	13	52230	33	58203	9	70085	40	85216	10, 11	91496	15	99103-A	7
45363	13	52231	33	58501	8, 9, 11, 12	70087	34	85510-10	13	91499	15	99332	7
45372	13	52233	33	58803	8, 9, 11, 12	70088	40	85511	12, 16	91500	8, 10, 12	99333	7, 20
45396	13	52236	33	59103	11	70088-TIP	40	85530	17	91503-E	10, 11, 12	99334-110	7, 20
45601	13	52238	33	59136	11	70090	37	86772-PB	8	91553-E	8, 12	99334-220	7, 20
45602	13	52240	33	59161	11	70090-A	37	89772-PB	9	92136	10	99661-A	7
45603	13	52245	33	59172	11	70091	39	90010-6	19	92161	10	99661-AR	7
45721	13	52331	31	59236	11	70092	39	90018-6	19	92172	10	99663-AR	7
45722	13	52332	31	59261	11	70093	39	90024-6	19	92207	12	99663-R	7
45723	13	52333	31	59272	11	70094	39	90032-6	19	92376	29	99772-A	7
45961	13	52334	31	59636	9	70128	37	90034-1	12	92398	29	99772-AR	7
45962	13	52335	31	59661	9	70134	37	90059-R	19	92636	10	99773-AR	7
45963	13	52336	7	59672	9	70138	37	90060	19	92661	10	99773-R	7
46336	13	52337	7	59836	9	70233	37	90062-11-SEAL	19	92699	29	99903	4
46360	13	52733	33	59861	9	70237	37	90062-A	19	92708	26, 29	99961	4
46361	13	52775	33	59872	9	70238	37	90065	19	92732	26, 29	99972	4
46362	13	53123	29	62010	21	71600	34	90066-2V-110	19	92772	10		
46363	13	53123-A	29	62011	21	71600-03	34	90066-A	19	93103	10		
46364	13	53322-A	29	62012	21	71600-04	34	90067	19	93113	10		
46372	13	53223	29	63010	21	71600-05	34	90070-2V-110	19	93136	10		
46396	13	53314	29	63010-AUS	21	71600-06	34	90128-4	19	93161	10		
46601	13	53315	29	64010	21	71600-07	34	90160-R	19	93172	10		
46602	13	53322	29	65010	21	71600-08	34	90165-R	19	93253-E	10, 12		



Mastercool[®] Inc.
"World Class Quality"

One Aspen Drive Randolph, NJ 07869 USA
Phone: (973) 252-9119 / Fax: (973) 252-2455

Europark Noord 14B
9100 Sint Niklaas, Belgium
Telefon: +32 (0) 3 777 28 48 / Telefax: +32 (0) 3 777 40 62

website: www.mastercool.com / email: customerservice@mastercool.com