



Gamela

Enterprise Co., Ltd.



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AUTO AIR CONDITIONING TOOLS

Auto Air Conditioning Tools | Auto Tools | Tube Tools | Pipe Cutter | Pliers | Tube Bender

AUTO TOOLS

Auto Engine Tools | Auto Speciality Tools | Auto Repair Tools

Auto Air Conditioning Tools



Check Gauge



Cork Tape



Auto Air Conditioning Tools

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[Shut-off Valve, Valve Core Remove](#)

[Spring Lock Coupling Tool Set](#)

[Service Tool and Accessories](#)

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[Compressor Clutch & Seal Service Set\(NIPPONDENSO\)](#)

[Seal & Clutch Tool Set \(DIESEL KIKI, SANDEN\)](#)

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[Insulation Tape 50451](#)

| Auto Air Conditioning Tools | Auto Air Conditioning Tools |
|---|--|
|  | <p>Manifold Gauge Set & Hose for Refrigerant</p> <p>Shut off Valve/Charging Unit/Can Tap & Dispenser</p> <p>Quick Coupler/Valve Core Remover Installer Tool</p> <p>Valve Core & Valve Core Tools, 50318</p> <p>Dye Injector/Oil Injector & Flush Kit</p> <p>Compressor Holding Tool/Fin Straightener/Stethoscope</p> <p>Laser Infrared Thermometer/Vacuum Gauge/Digital Refrigerant Scale</p> <p>Programmable Refrigerant Charging Scale 58608-8608Z</p> <p>Electronic Refrigerant Charging Scale 58609-58610</p> <p>Stainless Steel Platform Kitchen Scale 58611</p> <p>UV Light/LED UV Light</p> <p>Halogen Refrigerant Leak Detector</p> <p>REFRIGERANT LEAK DETECTOR 58137</p> |

| Auto Tools | Auto Tools |
|---|---|
|  | <p>Thread Chaser Set</p> <p>Universal Outside Thread Chaser Set</p> <p>Vacuum Testing/Brake Bleeding Kit</p> <p>Magnetic Camber Gauge</p> <p>Multipurpose Bearing & Pulley Puller Set</p> |

| Auto Test & Measurement | Auto Test & Measurement |
|---|---|
|  | <p> AC Clamp-on HVAC Meter Hygro-Thermo Meter Digital Thermometer AC/DC Clamp-on Meter AC Clamp-on Meter Analog Clamp-on Meter Digital Multimeter Temperature Probe 58986,58984,58983-58983T 58982,58979,58964,58929 58930,58998 </p> |

| Tube Tools | Tube Cutter |
|---|---|
|  | <p> Tubing Cutter/Bender Plastic Pipe Cutter Tube/Pipe Cutter 1, 2, 3, 4, 5 Mini Type Tube Cutter 1, 2 </p> |
|  | <p> Pliers Adjustable self locking pliers Coolant pliers Copper-tube pliers Pliers for fixing refrigerant equipment </p> |
|  | <p> Tube Tools Torque Wrench Saw & Blade Flaring Tool 1, 2, 3 Flaring/Cutting Tool Kits 1, 2, 3, 4 Reamers/Cleaning Tool 1, 2 Bending Tool 1, 2 Deburring Tool </p> |
| | <p> Pipe Tool Electric Cordless Flaring Tool 59543 Ratchet Eccentric Cone Type Flaring Tool 59544 45d Eccentric Cone Type Flaring Tools With A Ratchet Wrenches 59545 Cordless Expander Tool 59549 Deburring Tool </p> |

| Tools | CO2 Monitor |
|---|---|
|  | <p data-bbox="826 394 1075 427">CO2 Monitor 58886</p> |

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AUTO AIR CONDITIONING TOOLS



**Orifice Tube
Service Kit**

59003



| | |
|--------------|--|
| 59009 | R12 R134a Spring Lock Coupling Tools These easy to use compact springlock coupling tools are ideal for Routine service on Ford, Jeep, Chrysler and imapot A/C system |
| 58301 | 5/16" Gray |
| 58302 | 3/8" Cyan |
| 58303 | 1/2" Red |
| 58304 | 5/8" Blue |
| 58305 | 3/4" Black |
| 58306 | 7/8" White |



| | |
|--------------|----------------------------------|
| 59005 | Universal A/C Adapter Set |
| 58101 | 1/4" x 1/4" Shut-off |
| 58102 | 1/4" x 3/16" Shut-off |
| 58201 | GM 1991 & later Service Adapter |
| 58016 | 1/4" x 3/16" GM Flex |
| 58017 | 1/4" x 1/8" FORD Flex |
| 58202 | FORD Quick Disconnect |
| 58203 | GM & FORD Quick Disconnect |
| 58204 | GM Large Bore Quick Disconnect |



| | |
|--------------|---------------------------------|
| 59006 | Safety A/C Adapter Set |
| 58101 | 1/4" x 1/4" Shut-off |
| 58102 | 1/4" x 3/16" Shut-off |
| 58201 | GM 1991 & later Service Adapter |
| 58016 | 1/4" x 3/16" GM Flex |
| 58017 | 1/4" x 1/8" FORD Flex |



| 59007 Popular A/C Adapter Set | |
|--------------------------------------|---|
| 58101 | 1/4" x 1/4" Shut-off |
| 58102 | 1/4" x 3/16" Shut-off |
| 58201 | GM 1991 & later Service Adapter |
| 58103 | 1/4" x 1/8" 90° Shut-off (Ford high side) |
| 58104 | 1/4" x 3/16" 90° Shut-off |
| 58202 | FORD Quick Disconnect |
| 58204 | GM Large Bore Quick Disconnect |

| 59010 6pc Disconnect Set For Fuel and Air Conditioning Lines | |
|--|--------------|
| 58307 | 5/16" Yellow |
| 58308 | 3/8" Blue |
| 58309 | 1/2" White |
| 58310 | 5/8" Green |
| 58311 | 3/4" Black |
| 58312 | 7/8" Red |
| 58313 | 6pc Clamp |



| 59011 Fuel & Transmission Line Disconnect Set | |
|--|--|
| 58314 | Use on Ford EFI/CFI fuel lines with hair pin connectors and transmission oil cooler lines: 87 & newer olds. Toronado, Buick Riviera Reatta, Cadillac Eldorado, Seville and Concours, 89' & newer GM 1/2 ton, 3/4 ton and 1 ton pick. Also fits many GM Power Steering lines. |
| 58315 | Ford use on 86 & newer Ford & Mercury Vehicles with AXOD, ADO, or ATX automatic transmissions |
| 58316 | Ford use on 90 & newer Ford Rangers & Explores with 4.0 lites & Cylinder engines |
| 58317 | Separates fittings on fuel lines fuel filters & fuel tank return liner sizes 1/4 |
| 58318 | Separates fittings on fuel lines fuel filters & fuel tank return liner sizes 5/16 |
| 58319 | Separates fittings on fuel lines fuel filters & fuel tank return liner sizes 3/8 |
| 58320 | Separates automatic transmission oil cooler lines on Ford Taurus & Escort with Axod & TAX Transmission |



| 59012 General Motors A6, R4, late DAG, HR-6, V5, POLE R4 Seal Set Includes the tools needed to replace seals on GM compressors from early sixties through the current model year as well as Tecumseh HR-980 | | | |
|---|---------------------------------------|-------|-------------------------------|
| 58401 | Internal Snap Ring Pliers | 58407 | O-Ring Installation Guide |
| 58402 | O-Ring Seal Sleeve Remover | 58408 | Seal Seat Installer |
| 58403 | Seal Seat Remover | 58409 | Seal Protector |
| 58404 | Seal Remover & Installer | 58410 | Ceramic Seal Installer |
| 58405 | Clutch Plate Remover(coarse thread) | 58501 | Universal Clutch Holding Tool |
| 58406 | Clutch Plate Installer(coarse thread) | 58412 | Clutch Plate Removal Arbor |



| | |
|--------------|--|
| 59013 | Special GM DAG Seal Set For carbon type seals used with tools of 59012 |
| 58413 | Seal Remover & Installer |
| 58414 | Shut-off Protector |
| 58415 | Clutch Plate Remover (Metric Thread) |
| 58416 | Clutch Plate Installer (Metric Thread) |
| 58456 | O-Ring & Snap-Ring Installer |
| 58418 | O-Ring Installation Guide |



| | |
|--------------|---|
| 59014 | Special Ford FS6, Chrysler C171, Nippondenso 6P 148A, Tecumseh HR-980 Seal Set All specialized tools needed when replacing seals on the above compressor used with tools of 59012 |
| 58419 | Clutch Plate Installer |
| 58420 | Seal Seat Remover |
| 58421 | Seal Seat Installer |
| 58422 | Clutch Plate Remover |
| 58423 | O-Ring Installation Guide |



| | |
|--------------|--|
| 59015 | Special York/Tecumseh, Chrysler RV-2 (two cylinder) Seal Set All specialized tools needed to replace seals on the above compressor used with tools of 58501 Clutch Holding Tool from 59012 |
| 58424 | Oil Level Dip Stick |
| 58425 | 5/8" Clutch Remover |
| 58426 | 5/8" Clutch Remover |
| 58427 | Seal Remover |
| 58428 | Seal Installer & Plate Alignment Tool |

| | |
|--------------|------------------------------------|
| 59016 | Sanden 507 508 510 Seal Set |
|--------------|------------------------------------|

All the specialized tools needed when replacing Seals on Sanden Model 507, 508 and 510 compressor. Used with tools from 59012.

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|-------|--------------------------|
| 58502 | Clutch End Plate Puller |
| 58411 | Seal Remover & Installer |
| 58429 | Seal Remover |
| 58430 | Clutch Face Installer |




59017 Sanden 505 575 Service Set

Includes all the necessary tools to service shaft seals On Sanden 505 and 575. Used with tools from 59012.

| | |
|-------|---------------------------------------|
| 58431 | York Seal Remover & Installer |
| 58432 | Sanden 505 Seal Seat Remover |
| 58433 | Sanden 505 Bearing & Pulley Installer |
| 58434 | Sanden 505 Seal Protector Sleeve |
| 58435 | Pulley & Clutch Remover Jaws |
| 58436 | Shaft Protector Plot |

59018 Diesel Kiki Service Seal Set

Includes all the tools necessary to service Diesel Kiki DKV-14B, DKS-12B, DKS-15B, 13S, 15S and 17S compressors. Used with tools from 59012 and 59024

| | |
|-------|---|
| 58437 | Diesel Kiki Drive Plate Installer |
| 58438 | Diesel Kiki Plate Remover |
| 58439 | Diesel Kiki Installer |
| 58440 | Diesel Kiki Puller Plot |
| 58441 | Diesel Kiki Seal Remover/Installer |
| 58442 | Diesel Kiki Seal Seat Remover/Installer |


59019 Hitachi & Mitsubishi Seal Set

Includes all the tools necessary to replace Seals on Hitachi MJS 123, 130, 157, 170, MJ 157, SWP 167 and Mitsubishi SA 430, SA439. Used with tools from 59012.

| | |
|-------|--|
| 58330 | Diesel Kiki Remover & Installer |
| 58433 | 505 Bearing & Pulley Installer |
| 58443 | Mitsubishi Seal Seat Remover |
| 58413 | Mitsubishi Seal Remover & Installer |
| 58444 | Mitsubishi Seal Remover Lock |
| 58503 | Hitachi Spanner Plug Remover & Installer |

59020 Nippondenso 10 PA17 Seal Set

Includes all tools necessary to replace seals on Nippondenso. Used with tools from 59012.

| | |
|-------|----------------------------|
| 58445 | Shaft Seal Remover |
| 58446 | Shaft Seal Installer |
| 58447 | Shaft Protector |
| 58448 | Internal Snap Ring Remover |


59021 Chrysler 6 C17 Seal Set

Includes all tools necessary to replace seals on Chrysler compressors. Used with tools from 59012.

| | |
|-------|------------------------|
| 58449 | Shaft Protector |
| 58450 | Seal Remover/Installer |
| 58451 | Hub Remover |
| 58452 | Hub Holder |

| | |
|--------------|--|
| 59022 | FORD FX-15/FS-10 Service Seal Set |
|--------------|--|

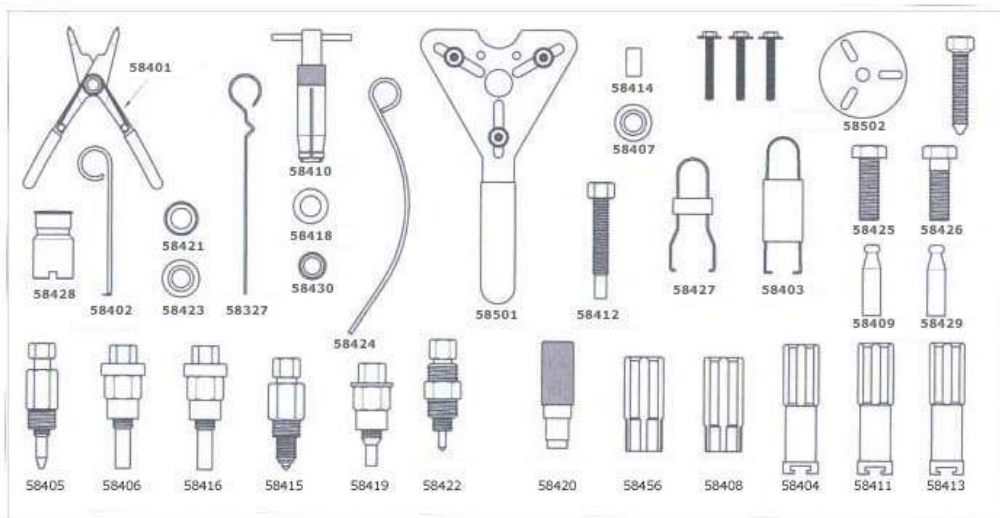
This set consists of special tools needed to replace the seals on the FX-15/FS-10 compressor

| | |
|-------|----------------------------|
| 58453 | Shaft Seal Remover |
| 58455 | Shaft Seal Installer |
| 58454 | Seal Protector (16 spline) |
| 58448 | Internal Snap Ring Remover |



| | |
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| 59023 | Master Seal Service Tool Set |
|--------------|-------------------------------------|

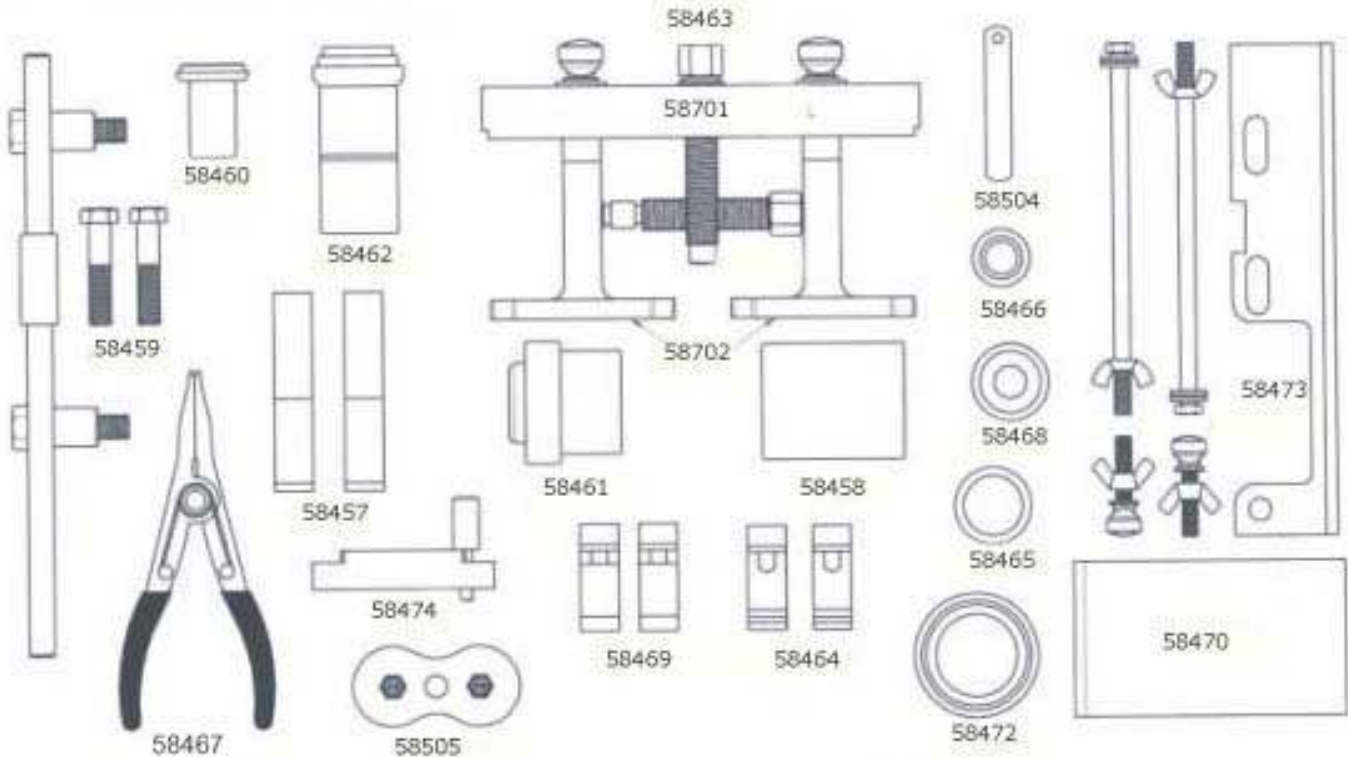
The set includes all the tools from 59012, 59013, 59014, 59015 and 59016 in a rugged metal tool box. Easy to understand instruction manual will show you step-by-step how to serve all the popular Compressors.



| | | | |
|-------|---------------------------------------|-------|------------------------------|
| 58401 | Internal Snap Ring Pliers | 58502 | Clutch Plate Puller |
| 58402 | O-Ring Sleeve Remover | 58411 | Seal Remover & Installer |
| 58403 | Seal Seat Remover | 58429 | Seal Protector Sleeve |
| 58404 | Seal Remover & Installer | 58430 | Clutch Plate Installer |
| 58424 | York & Tecumseh oil Level Dipstick | 58419 | Clutch Plate Installer |
| 58327 | Chrysler Oil Level Dipstick | 58420 | Seal Seat Remover |
| 58425 | 5/8" Clutch Remover | 58421 | Seal Seat Installer |
| 58426 | 5/8" SAE Clutch Remover | 58422 | Clutch Plate Remover |
| 58405 | Clutch Plate Remover | 58601 | A/C Service Manual |
| 58406 | Clutch Plate Installer | 58412 | Clutch Plate Remover Arbor |
| 58407 | O-Ring Installation Guide | 58423 | O-Ring Installation Guide |
| 58408 | Seal Seat Installer | 58413 | Seal Remover & Installer |
| 58427 | Seal Remover | 58414 | Shaft-off Protector |
| 58428 | Seal Installer & Plate Alignment | 58415 | Clutch Plate Remover |
| 58409 | Seal Protector | 58416 | Clutch Plate Installer |
| 58410 | Ceramic Seal Seat Remover & Installer | 58456 | O-Ring & Snap-Ring Installer |
| 58501 | Universal Clutch Holding Tool | 58418 | O-Ring Installation Guide |

59024 Master Clutch Service Tool Set

The Set Contains all the tools needed to service clutches on the following compressors: General Motors, A6, R4, and DA6; 6 Pole R4, V5 and HR-6; Ford FS6; Chrysler C171; Nippondenso 6p 148a; Sanden 507, 508 and 510 and Pitts and Warner clutches.

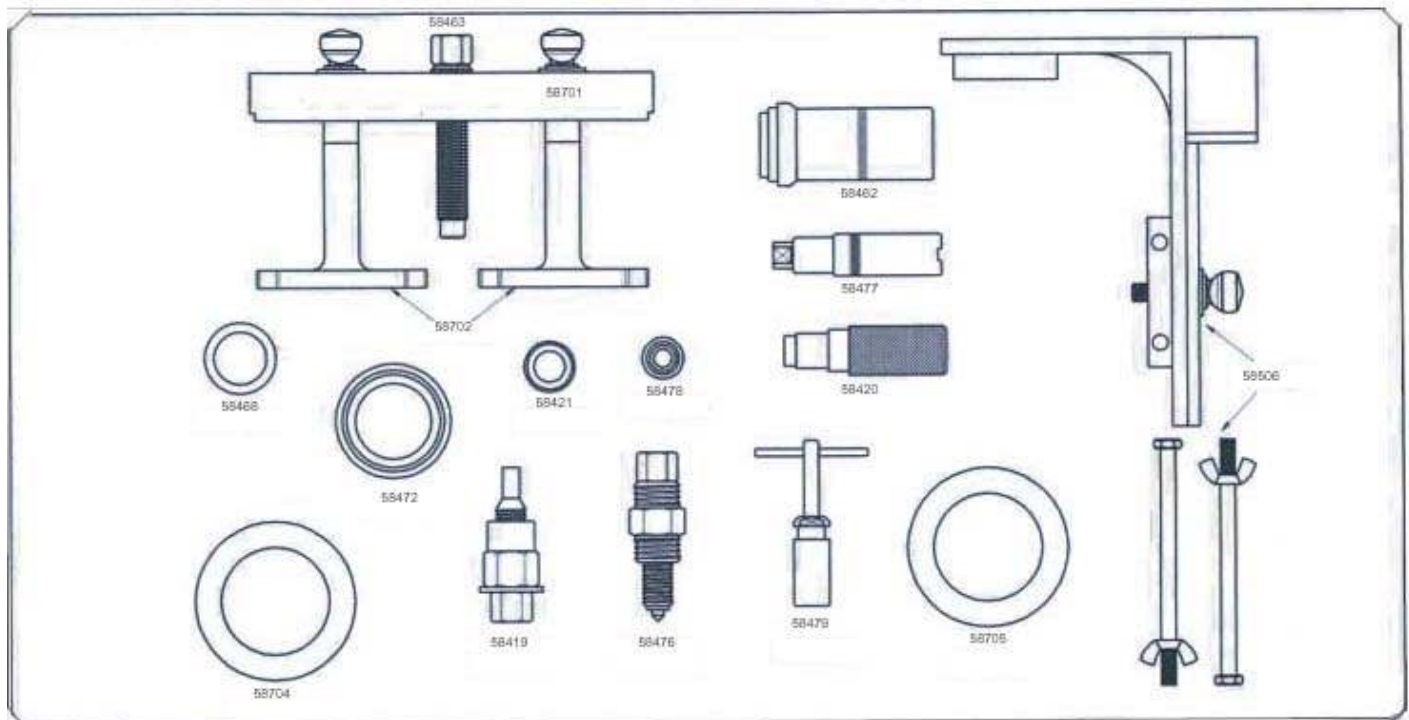


| | | | |
|-------|---------------------------------------|-------|--------------------------------|
| 58457 | Coil Puller Jaws | 58468 | Shaft Protector Pilot |
| 58458 | Coil Installer | 58469 | Rotor & Bearing Puller Jaws |
| 58459 | Compressor Holding Fixture & Hardware | 58470 | Rotor & Bearing Puller Arbor |
| 58460 | Rotor & Bearing Plate | 58702 | Pulley Remover Jaws |
| 58461 | Clutch Assembly Installer | 58472 | Bearing & Pulley Installer |
| 58462 | Pulley Bearing Remover & Driver | 58504 | Feeler Gauge Set |
| 58463 | Pulley Arbor | 58601 | A/C Service Manual |
| 58464 | Pulley Removal Jaws | 58473 | Compressor Holding Fixture Set |
| 58465 | Pulley Removal Pilot | 58505 | GM Compressor Test Plate |
| 58466 | Pulley Hub Removal Pilot | 58703 | Holding Fixture and Hardware |
| 58701 | Puller Body | 58474 | Clutch Bearing Staking Tool |
| 58467 | External Retaining Ring Pliers | | |



59025 Nippondenso Service Set

Contains all the specialized tools required to service Nippondenso type compressors appearing on many Ford, Chrysler and imported vehicles, includes a special holding fixture for cross bolt mount configuration. Complete with tool box and instructions.



| | |
|-------|---------------------------------|
| 58462 | Pulley Bearing Remover & Driver |
| 58463 | Universal Pulley Puller Arbor |
| 58701 | Universal Pulley Body |
| 58476 | Clutch Plate Remover |
| 58468 | Shaft Protector Plot (small) |
| 58419 | Clutch Plate Installer |
| 58702 | Pulley Removal Jaws |
| 58472 | Bearing & Pulley Installer |
| 58420 | Seal Seat Remover |
| 58421 | Seal Seat Installer |
| 58477 | Shaft Key Remover |
| 58478 | Clutch Pulley Support |
| 58704 | Clutch Pulley Support |
| 58705 | Warner Clutch Pulley Support |
| 58506 | Compressor Holding Fixture |
| 58479 | Valve Plate Remover |

For Complete Ford FS-6 Service
This set must be used with:
58467 External Snap-Ring Pilers
58501 Universal Clutch Holding Tool

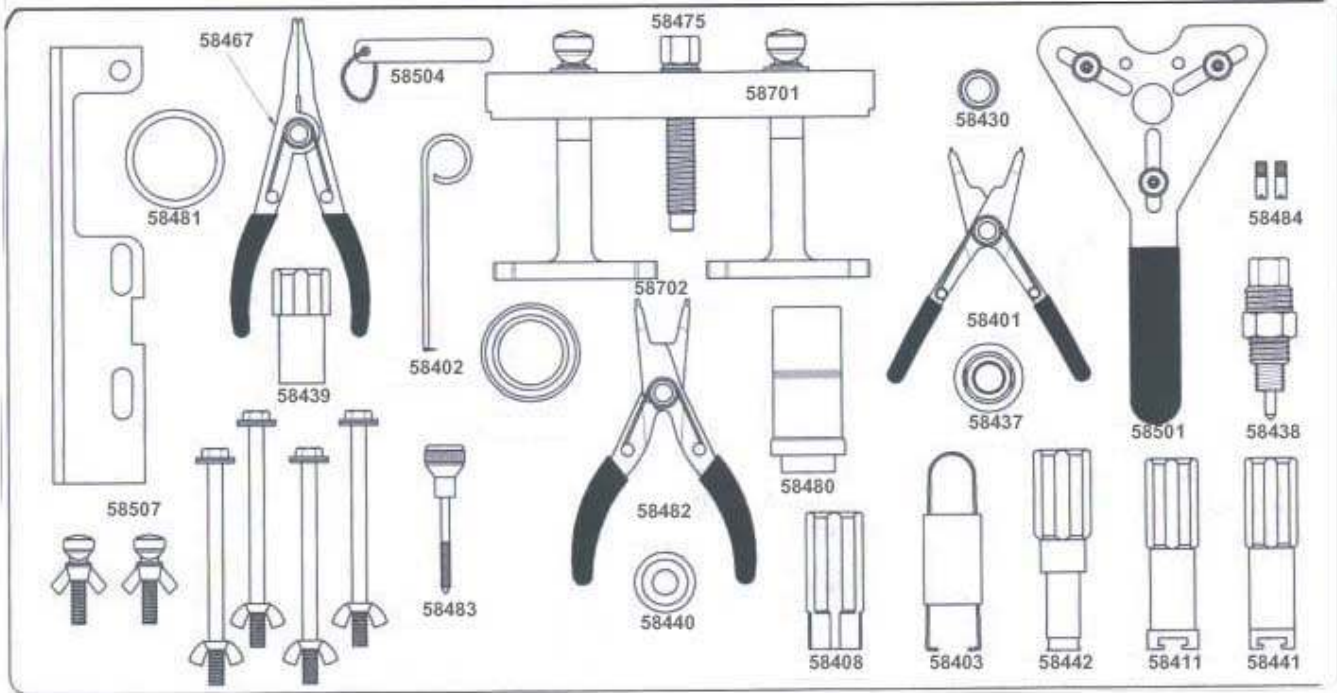
For Complete Ford 10 PA17
Service set 59025 must be used
with set 59020

All tools available individually



59026 Diesel KIKI (Zexel) Seal and Clutch Tool Set

Service standard Diesel Kiki and York compressor model DKS 12 and DK15. Complete with tool box and instruction

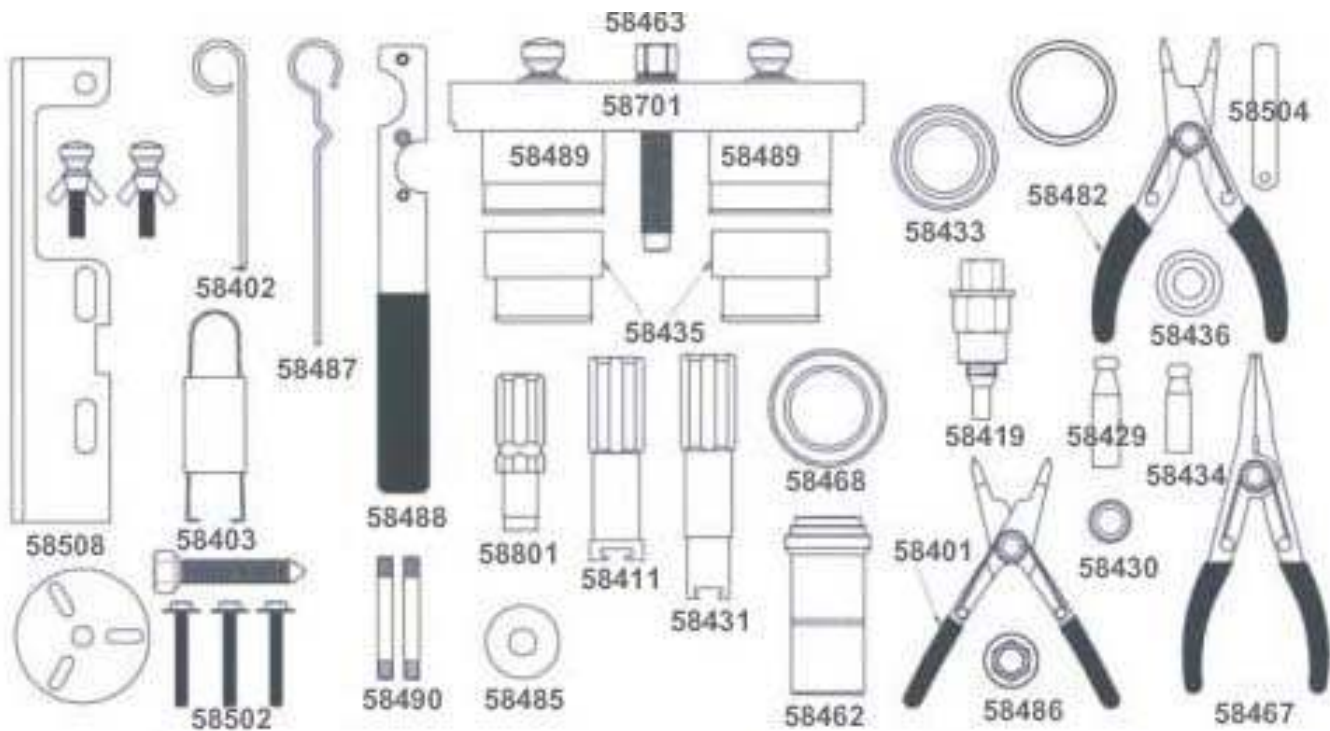


| | | | |
|-------|-------------------------------|-------|-----------------------------------|
| 58401 | Internal Snap-Ring Pliers | 58482 | Internal Snap-Ring Pliers |
| 58507 | Compressor Holding Fixture | 58483 | Valve Plate Remover |
| 58480 | Pulley Bearing Driver | 58437 | Lock Nut Remover & Installer |
| 58481 | 6" Clutch Bearing Installer | 58438 | Clutch Plate Remover |
| 58402 | O-Ring Seal Sleeve Remover | 58702 | Pulley Removal Jaws |
| 58403 | Seal Seat Remover | 58433 | Bearing & Pulley Installer |
| 58463 | Pulley Puller Arbor | 58484 | Thrust Bolt Shim Gauge |
| 58701 | Universal Puller Body | 58439 | Snap-Ring, O-Ring, Felt Installer |
| 58408 | Seal Seat Installer | 58440 | Pulley Puller Pilot |
| 58501 | Universal Clutch Holding Tool | 58441 | Seal Remover & Installer |
| 58467 | External Snap-ring Pliers | 58442 | Seal Remover & Installer |
| 58411 | Seal Remover & Installer | 58504 | Universal Feeler Gauge Set |
| 58430 | Clutch Plate Installer | | |



59027 Master Sanden Compressor Tool Service Set

All specialized tools necessary to service seal, clutch and clutch bearing on Sanden 505, 508, 510 and 575. Complete with tool box and instructions.



Special Sanden 708 and 709 tools (not included)

| | |
|-------|---------------------------------|
| 58441 | Seal Remover and Installer |
| 58442 | Seal Seat Remover and Installer |
| 58509 | Seal Clip Remover and Installer |

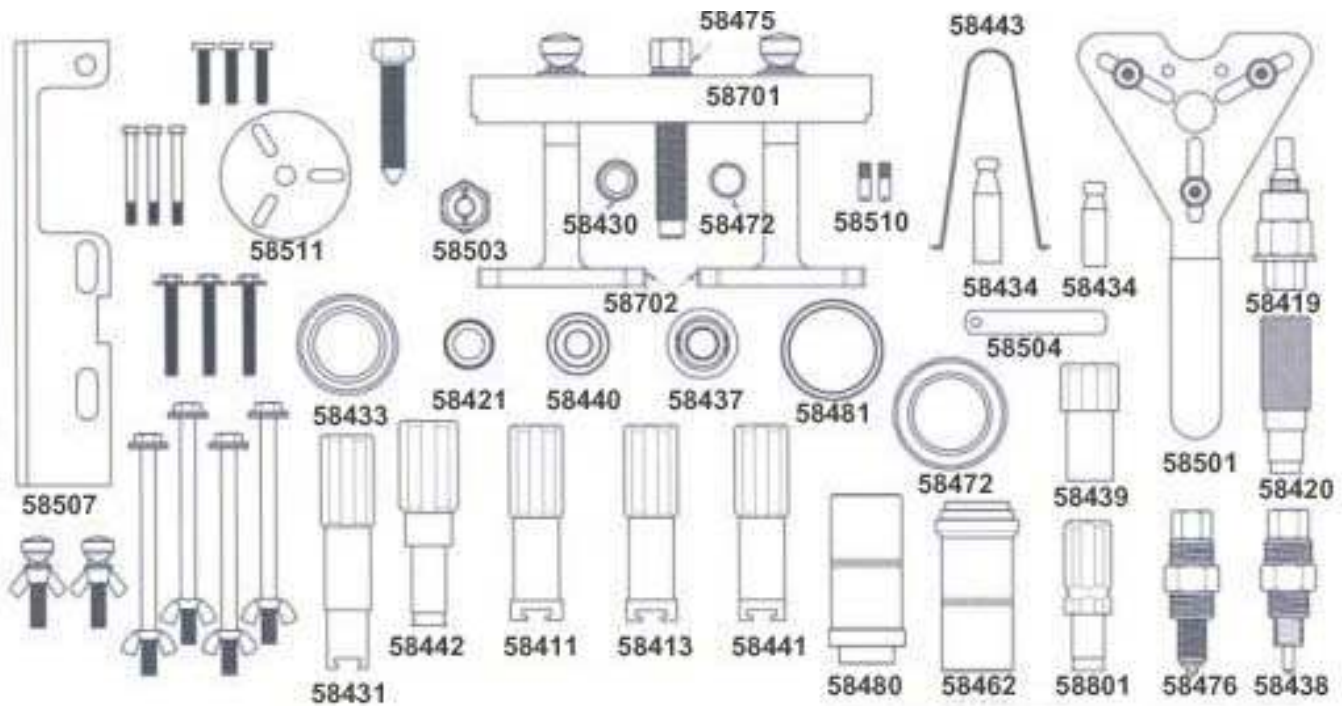


Contains:

| | | | |
|-------|-------------------------------------|-------|---------------------------------------|
| 58508 | Holding Fixture & Hardware | 58430 | Clutch Plate Installer |
| 58401 | Internal Snap Ring Plier | 58487 | Oil Level Checker |
| 58431 | York Seal Remover/Installer | 58489 | Pulley & Clutch Remover Jaws |
| 58402 | O-Ring Seal Sleeve Remover | 58490 | Pilot Studs |
| 58403 | Seal Seat Remover | 58482 | Internal Retaining Ring Plier |
| 58462 | Pulley Bearing Remover/Driver | 58485 | Clutch Installing Pilot |
| 58463 | Pulley Arbor | 58419 | Clutch Plate Installer |
| 58701 | Puller Body | 58472 | Bearing & Pulley Installer |
| 58488 | Clutch Holder | 58801 | Sanden 505 Seal Seat Remover |
| 58502 | Clutch Plate Puller | 58433 | Sanden 505 Bearing & Pulley Installer |
| 58467 | External Retainer Remover/Installer | 58434 | Sanden 505 Seal Protector Sleeve |
| 58486 | Seal Retainer Remover/Installer | 58435 | Pulley & Clutch Remover Jaws |
| 58411 | Seal Remover & Installer | 58436 | Shaft Protector Pilot |
| 58429 | Seal Protector Sleeve | 58504 | Feeler Gauge Set |

59028 Master Import Compressor Clutch Seal and Bearing Service Tool Set

Includes all the tools necessary to replace seals, clutches and clutch bearing on Diesel Kiki (Zexel), Hitachi, Mitsubishi, Nippondenso, Seiko-Seiki and Sanden 505, 508, 510, 575, 708 and 709. Set is packaged in Pre-cut foam pockets and inserted into a heavy metal tool box. Set includes instruction manual.

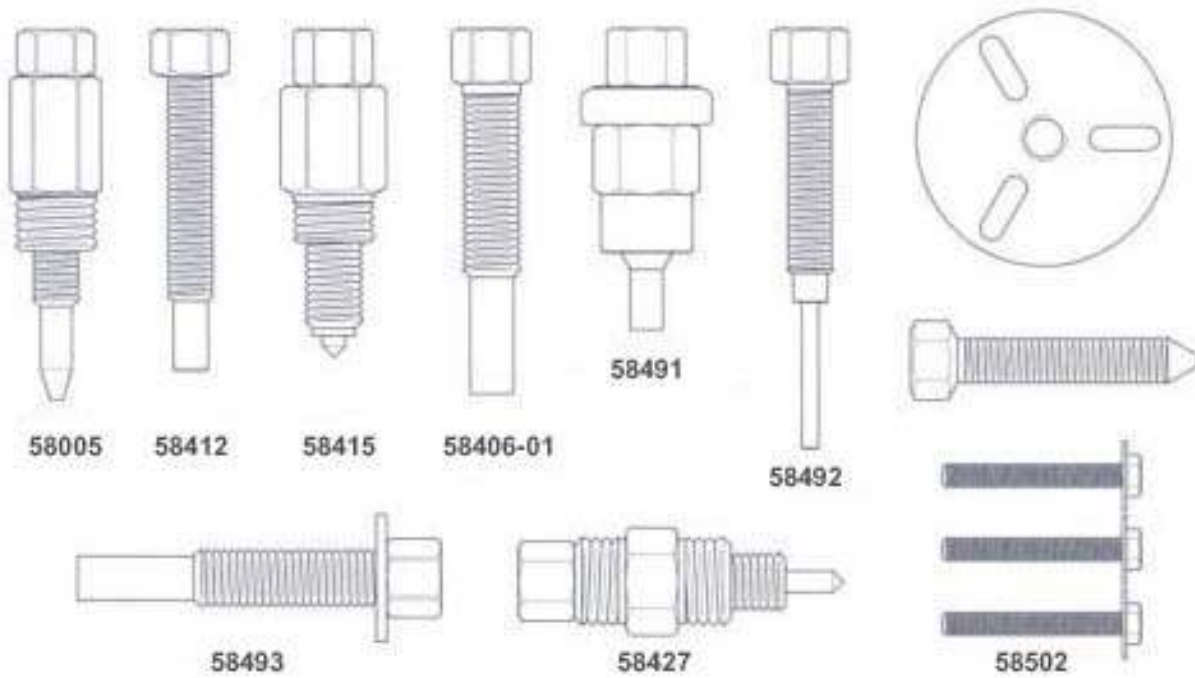


| | | | |
|-------|------------------------------------|-------|---|
| 58431 | York Seal Remover | 58420 | Seal Seat Remover |
| 58507 | Compressor Holding Fixture | 58421 | Seal Seat Installer |
| 58480 | Diesel Kiki Bearing Drive | 58801 | Sanden 505 Seal Seat Remover |
| 58481 | Diesel Kiki Clutch Installer | 58433 | Sanden 505 Bearing & Pulley Installer |
| 58462 | Pulley Bearing Remover & Installer | 58434 | Sanden 505 Seal Protector Sleeve |
| 58475 | Pulley Arbor | 58443 | Mitsubishi Seal Seat Remover |
| 58701 | Puller Body | 58413 | Mitsubishi Seal Remover & Installer |
| 58501 | Universal Clutch Holding Tool | 58510 | Diesel Kiki Clutch Puller Trust Pin |
| 58411 | Seal Remover & Installer | 58439 | Diese Kiki Retainer Ring Installer |
| 58429 | Seal Protector Sleeve | 58511 | Mitsubishi/Sanden Clutch Plate Remover |
| 58430 | Clutch Plate Installer | 58440 | Diesel Kiki Pulley Puller Pilot |
| 58476 | Nippondenso Clutch Plate Remover | 58441 | Diesel Kiki Seal Remover & Installer |
| 58437 | Diesel Kiki Nut Remover | 58442 | Diesel Kiki Seal Seat Remover & Installer |
| 58438 | Diesel Kiki Plate Remover | 58504 | Universal Feeler Gauge Set |
| 58419 | Sanden Plate Installer | 58444 | Mitsubishi Seal Remover Lock Sleeve |
| 58702 | Pulley Removal Jaws | 58601 | Air Conditioning Manual |
| 58472 | Bearing & Pulley Installer | 58503 | Hitachi Spanner Plug Remover & Installer |



59029 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 compressor identification chart and come in a custom molded case.

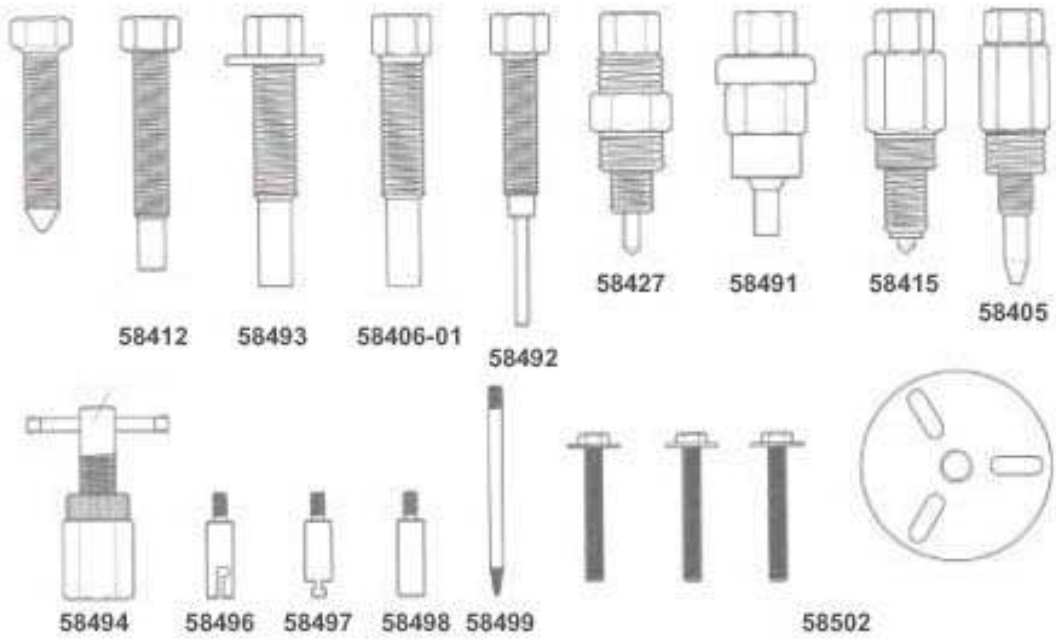


| | |
|----------|------------------------------|
| 58415 | Clutch Plate Installer |
| 58405 | Clutch Plate Remover |
| 58412 | Clutch Plate Remover Arbor |
| 58491 | Clutch Plate Installer |
| 58427 | Clutch Plate Remover |
| 58492 | Clutch Plate Remover Arbor |
| 58406-01 | Clutch Plate Installer Arbor |
| 58493 | Clutch Plate Remover Arbor |
| 58502 | Clutch Plate Puller |



59030 Deluxe Clutch Hub Puller/Installer & Orifice Tub Service Kit

Kit contains a complete offering of A/C compressor clutch hub Pullers and Installers Orifice tube remover/installer For GM, Ford, Chrysler and imports. Includes a compressor identification chart and come in a custom molded case.

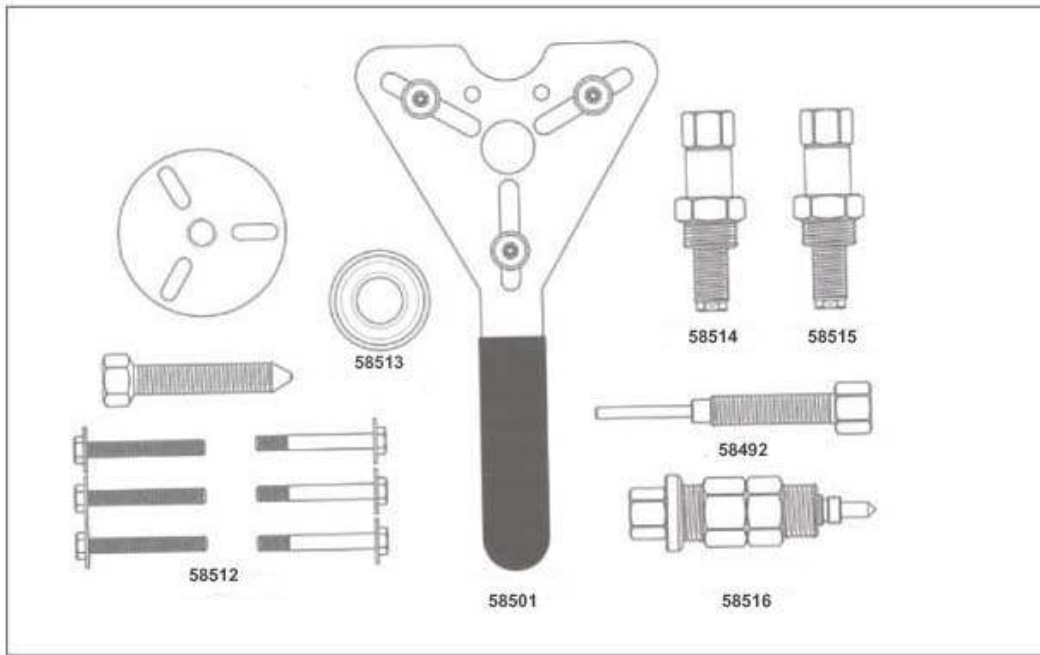


| | | | |
|----------|------------------------------|-------|---------------------|
| 58415 | Clutch Plate Installer | 58502 | Clutch Plate Puller |
| 58405 | Clutch Plate Remover | 58494 | Nut |
| 58412 | Clutch Plate Remover Arbor | 58495 | Arbor |
| 58491 | Clutch Plate Installer | 58496 | Puller |
| 58427 | Clutch Plate Remover | 58497 | GM Puller |
| 58492 | Clutch Plate Remover Arbor | 58498 | Externaler |
| 58406-01 | Clutch Plate Installer Arbor | 58499 | Auger Paint Shaft |
| 58493 | Clutch Plate Remover Arbor | | |



59031 Clutch Hub Tool Kit

Air Conditioning Compressor/Clutch Service Manual



| | |
|-------|--|
| 58501 | Universal Clutch Holding Tool |
| 58512 | Sanden SD 5 & 7 Clutch and Plate Remover |
| 58513 | Bearing |
| 58514 | Metric Clutch Plate Remover/Installer |
| 58515 | Fractional Clutch Plate Remover/Installer Chrysler C171/Ford S 61 Hitachi-MI/Tecumseh Hr-9801 |
| 58516 | Nippondenso GP/109 Remover/Installer |
| 58492 | Clutch Plate Remover Arbor |

**58514 Metric Clutch Plate Remover and Installer****58515 Fractional Clutch Plate Remover and Installer****59032 GM Clutch Plate Remover and Installer**

Tools remove and install clutches on GM air conditioning compressors. Remove clutch plate without removing retaining ring and install clutch plate with compressor on car. Use it on all A-6 and pre-1980 R-4 compressors. Tool will not work on metric threads.



| | |
|-------|------------------------|
| 58405 | Clutch Plate Installer |
| 58406 | Clutch Plate Installer |

59038 Universal Clutch Pulley Puller

| | |
|-------|-------------------------|
| 58460 | Rotor and Bearing Plate |
| 58701 | Universal Puller Body |
| 58328 | Universal Puller Arbor |
| 58702 | Universal Remover Jaws |

59039 Universal Pulley Puller Set

| | |
|-------|---------------------------------|
| 58475 | Puller Arbor |
| 58464 | Pulley Removal Jaws |
| 58329 | Set of Thumb Screws and Washers |
| 58465 | GM Pulley Removal Pilot |
| 58466 | Pulley Hub Removal Pilot |
| 58701 | Puller Body |

**59542 A/C Compressor Clutch Remover Kit****59201 Clutch Hub Puller Installer Kit****59202 Clutch Hub Puller Installer Kit****59203 Clutch Hub Puller Installer Kit****59204 Car air-condition Repairing pepeline tool box****59546 Hose Crimper**

Clutch Remover

72749T



Clutch Remover-Small

Compressor Tool, Clutch Rmover, small, leg distance 21mm, remove 71800 (Hub)

72749T-M



Clutch Remover-Medium

Compressor Tool, Clutch Rmover, medium, leg distance 23.50mm

72749T-B



Clutch Remover-Big

Compressor Tool, Clutch Rmover, Big, leg distance 48mm

72749TK



Clutch Remover Kit

Medium (23.5mm), Small (21mm)

59095**Disconnect Tools**

1. Anodized aluminum
2. Separates fittings on fuel lines, fuel fitters & fuel tank return lines-sizes 1/4", 5/16", 3/8"

Oil Cooler Line Disconnect Tool

1. Anodized aluminum
2. Separates automatic transmission oil cooler lines on Ford Taurus and Escort with AXOD and ATX transmission -Size: 1/2"

59096**Fuel & Transmission Line Disconnect Set**

Instructions for Disconnect Tools:

1. Choose the appropriate disconnect tool for the desired job. Make sure that you have chosen the tool for the correct pressure line diameter.
2. Position the tool as per the illustration.
3. Apply slight pressure toward the connector fitting pressing strong enough to depress the "connector fingers" that maintain the connection.
4. Remove the pressure line
5. To replace: place the pressure line fitting onto the desired fitting destination and apply pressure. A click sound signifies the re-connection of the pressure line.

59093**Full Coverage Disconnect Coupling Set**

All the tools required for disconnecting heater hoses, transmission oil cooler pipes, air conditioning pipes and fuel lines used on today's later model vehicles.

58210**Fuel Line Disconnect Tool, Yellow (3/8")**

1987 & newer Ford vehicles with spring lock connectors.

58211

Fuel Line Disconnect Tool, Green (1/2")
1987 & newer Ford vehicles with spring lock connectors.

59047

THREAD CHASERS Size: S.A.E

New design for both internal and external front wheel drive spindle thread repair. Use with a deep socket or the tommy bar supplied.

Individual Sizes:

- * 5/8" UNF Thread Chaser
- * 3/4" UNF Thread Chaser
- * 7/8" UNF Thread Chaser
- * 1" UNF Thread Chaser
- * 1-1/16" UNF Thread Chaser
- * Tommy Bar

59048

THREAD CHASERS Size: m/m

New design for both internal and external front wheel drive spindle thread repair. Use with a deep socket or the tommy bar supplied.

Individual Sizes:

- * M14 x 1.5 Thread Chaser
- * M16 x 1.5 Thread Chaser
- * M18 x 1.5 Thread Chaser
- * M20 x 1.5 Thread Chaser
- * M22 x 1.5 Thread Chaser
- * M24 x 1.5 Thread Chaser
- * M27 x 2.0 Thread Chaser
- * M28 x 1.5 Thread Chaser
- * Tommy Bar

58001

Universal Adjustable Spanner Wrench

Adjustable three-stud design for GM R-4 compressors. A has application on some GM. Warner pitts and Oqura clutches.

58802

**Oil Cooler Line Remover**

Application: Used to disconnect transmission oil cooler lines on the following vehicles: 2003 and 2004 Ford Explorer (V8), 2004 Ford F150, 2003 and 2004 Cadillac CTS.

58110

**Condenser Fin Comb**

Cleans and straightens condenser and evaporator fins.

* Six side head fir 8, 9, 10, 12, 14, and 15 fins per inch applications.

* Six side head fir 10.5, 11, 13, 18, 20, and 22 fins per inch applications.

58004

**Fin Straightener**

8-9-10-12-14-15

51011

**Ratchet Wrench-Stander Type**

Cover 4 Size 9/16", 1/2" Hex, 1/4" & 3/16" Square Ratchet.

51012

**Ratchet Wrench-Stander Type**

Cover 4 Size 1/4", 3/8", 3/16" & 5/16" Square Ratchet.

59102



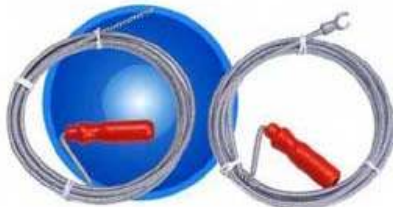
Air & Water Cleaner for Condenser, Radiator Use

59103



Air & Water Cleaner for Condenser, Radiator Use

GM103C-GM107C



DRAIN CLEANERS

Made from galvanized high carbon wire with wooden or plastic crank handle. Available for alloy head(A) or spiral(B). Available for red or black plastic handle.

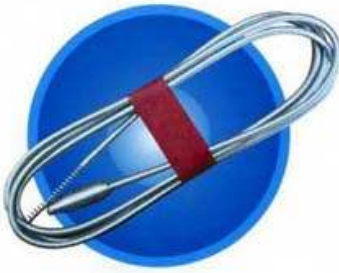
| Item No. | Dia. | Length | Head | Head | Std. Pack |
|----------|-------|--------|------|--------------------|-----------------|
| GM0103C | 5mm | 3m | B | Wooden GS approved | 10/inner 40/Ctn |
| GM0104A | 5.5mm | 3m | A | Wooden GS approved | 10/inner 40/Ctn |
| GM0104B | 5.5mm | 3m | B | Optional | 10/inner 40/Ctn |
| GM0105C | 5mm | 5m | B | Optional | 10/inner 40/Ctn |
| GM0107C | 5mm | 7m | B | Optional | 6/inner 24/Ctn |

GM0106S-GM0350S



DRAIN AUGERS

| Item No. | Dia. | Length | Std. Pack |
|----------|------------|--------|-----------|
| GM0106S | 1/4"(6mm) | 6Ft | 24/Ctn |
| GM0108S | 1/4"(6mm) | 8Ft | 24/Ctn |
| GM0110S | 1/4"(6mm) | 10Ft | 24/Ctn |
| GM0115S | 1/4"(6mm) | 15Ft | 24/Ctn |
| GM0125S | 1/4"(6mm) | 25Ft | 12/Ctn |
| GM0225S | 3/8"(9mm) | 25Ft | 6/Ctn |
| GM0250S | 3/8"(9mm) | 50Ft | 5/Ctn |
| GM0325S | 1/2"(12mm) | 25Ft | 3/Ctn |
| GM0350S | 1/2"(12mm) | 50Ft | 3/Ctn |

GM0118**SINK CLEANER**

Made from galvanized high carbon steel wire. Spring bulb handle for easy operation. For kitchen sink and drains. Packed on a sliding card.

| Item No. | Dia. | Length | Std. Pack |
|----------|-------|-----------|-----------|
| GM0118 | 5.2mm | 6Ft(1.8m) | 48/ctn |

GM0203-GM0210**DRAIN CLEANERS**

Made from galvanized high carbon wire. With wooden or plastic crank handle. Available for red or black plastic handle. Available for PE shrinkwrap.

| Item No. | Dia. | Length | Head | Std. Pack |
|----------|------|--------|--------------------|-----------|
| GM0203 | 9mm | 3m | Optional | 10/Ctn |
| GM0204 | 9mm | 4m | Optional | 10/Ctn |
| GM0205 | 9mm | 5m | Wooden GS approved | 10/Ctn |
| GM0207 | 9mm | 7m | Optional | 6/Ctn |
| GM0210 | 9mm | 10m | Wooden GS approved | 5/Ctn |

GM0301A**TOILET AUGER**

A standard model for toilet auger. Equipped with smooth plastic and rubber bowel guard. A ring for attaching spring when not in use. Turning rod and tube are Zinc-plated. Available with a card.

| Item No. | Dia. | Length | Tube(ø) | Std. Pack |
|----------|------|--------|---------|-----------|
| GN0301A | 3/8" | 3Ft | 3/4" | 24/Ctn |

GM0301B, GM0301BP, GM0301**TOILET AUGER**

Light duty tool for toilet cleaning. Smooth handle with vinyl grip on tube makes cleaning easily. Wire could be galvanized. Head is bulb-shaped. Available with a card or a pouch.

GM1402**Drain Sweep**

The Drain Sweep is the safest and easiest way to unclog any sink or pipe without using harmful chemicals. Its easy-to-use trigger, patented Flex-Clean System and flexible 4 foot tubing make unclogg any drain or pipe, a sweep!

| Item No. | Dia. | Length | Std. Pack |
|----------|------|--------|-------------------------------|
| GM1402 | 6mm | 4Ft | Blister pack 6/display box |

GM3025, GM3050**FLAT DRAIN CLEANER**

Handy economy model. Flat wire made from spring steel wire with heat treatment. Spring head go through curves.



| Item No. | Size | Length | Std. Pack |
|----------|--------------|--------------|-----------|
| GM3025 | 1/4"x 0.028" | 25 Ft (7.5m) | 24/Ctn |
| GM3050 | 1/4"x 0.028" | 50 Ft (15m) | 24/Ctn |

58524**Shaft Seal Protectors Kit, including Blue, White, Orange, Yellow, Green, Purple each 5pcs**

58524B Blue
58524W White
58524O Orange
58524Y Yellow
58524G Green
58524P Purple

58949

Refrigerant Checking Tube with filter
42x220mm N.W.420g

Specification: Pmax.25bar Tmax. 50°C

Product information

*protects from harmful substances and contamination in the refrigeration cycle due to flush.

*Improves the cooling performance and provides protection for all components of A/C system, especially compressors.

*Does not require dismantling of the system.

*Anti vibration o-ring and protect tube double safety.

59070



A/C Couplings Release Tool set (VAG group)

1) Releasing the quick-release connectors on the a/c lines.

2) Suitable for VAG group (VW, Audi, Skoda, Seat) :

Audi - A3 2004> ; A4 2001> ; 2008> ; A5 2008> ; Q5 2008> ;

TT 2007>Seat - Ibiza / Cordoba 93 ; Ibiza / Cordoba 99 ;

Ibiza 02 /Cordoba 03 ; Ibiza 2008 ; Leon 2006 ; Leon 2009 ;

Toledo / Leon 99Toledo 2005 ; Alhambra ; Alhambra 2011 ;

Altea 2005 ;Altea 2009 ; AlteaXL 2007 ; AlteaXL 2009 ;

AlteaFreetrack 2007AlteaFreetrack 2009 ; Exeo 2009 ; Arosa ; Inca

Spring Lock Tool for Toyota



Spring Lock Tool High Side

For disconnecting Spring-Lock connections
in Toyota cars, High Side

58197



Spring Lock Tool Low Side

For disconnecting Spring-Lock connections
in Toyota cars, Low side

58198



Spring Lock Tool High Side

For install Spring-Lock connections
in Toyota cars, High side

58199



Spring Lock Tool Low Side

For install Spring-Lock connections
in Toyota cars, Low side

58200



Spring Lock Coupler Tool

Disconnect Tool for Toyota

59125

Mercedes-Benz A/C Low Side Coupler Remover --- For Mercedes Benz
W221 / W211 / W204 / W219

59563



CHECK GAUGE



| | |
|------------------|--|
| Item No. : | 58995 |
| Product Name : | Refrigerant 134a Gauge |
| Specifications : | <ul style="list-style-type: none"> *Dial Diameter:2 inch *Pressure Range:0~200psi *Housing:Black-Painted Steel *Ring:Chrome-Painted Steel *Lens:Acrylic *Stem with Release Button *Rubber Protector |
| Packing Detail : | Q'TY: 60 PCS N.W: 17.10 KGS G.W: 19.50 KGS CUFT: 4.39 Slide card |

58945



R1234yf check gauge, 0~13.8 bar or 0~200psi

Packing Detail:

Q'TY: 60 PCS
N.W: 17.10 KGS
G.W: 19.50 KGS
CUFT: 4.39
Slide card

CHECK GAUGE



| | |
|------------------|---|
| Item No. : | 58996 |
| Product Name : | 2 in 1 Gauge |
| Specifications : | <ul style="list-style-type: none"> *Dial Diameter:2 inch *Pressure Range: 0~160psi (for Tire Pressure)0~200psi(for R134a) *Housing:Black-Painted Steel *Ring:Chrome-Painted Steel *Lens:Acrylic *Stem with Release Button *Rubber Protector *45 degree stem for measuring tire pressure *R 134a stem for measuring R 134 a *Braided SS Hose for hard to reach *Extension Stem for hard to reach *Pouch for storing all the 5 components |
| Packing Detail : | <ul style="list-style-type: none"> Q'TY: 24 PCS N.W: 13.5 KGS G.W: 18.5 KGS CUFT: 1.65 Blister Card |

CHECK GAUGE



58994

Measures The Level Of R-134a,R-12
Or R-12 Refrigerant In Or Air Conditioners.
Calibrated And Color
Coded For Easy Use. Includes Detailed
Instructions For Testing Pressure And Adding
Accurate Amount Of Refrigerant



58999

Check Gauge, R134a, plastic housing, 45 d

CORK TAPE 50450

TECHNICAL SPECIFICATION

CORK INSULATION TAPE

Cork Insulation Tape is suitable for use in the thermal insulation of cold pipes to prevent condensation of moisture. The compound is flexible, black in colour.

PRODUCT SPECIFICATION

Appearance: Black
Principal Composition: Butyl rubber and Bitumen
Specific Gravity: 1.1 ± 0.1

PROPERTIES:

Adhesion: Good adhesion onto metal surface
Heat resistance: Good
Elongation: 100%
Resistance: Excellent resistance to water, water vapor, oxidation and weathering.
Odor: None or very slight
Services Temperature: - 2



Insulation Tape 50451



50451 1/8" x 2" x 30' NBR

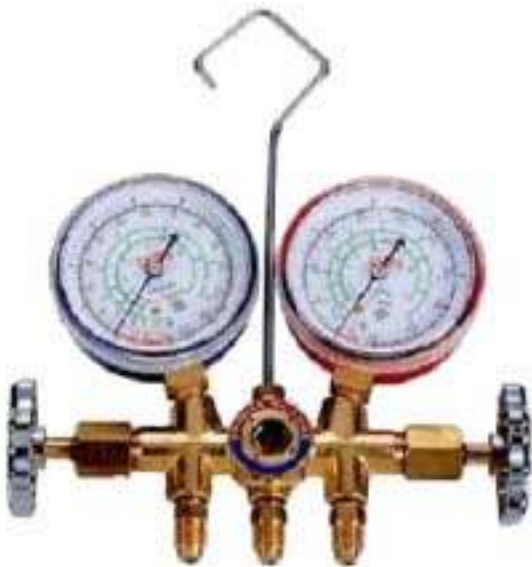
50451PE 1/8" x 2" x 20M PE

**50106**

2 WAY Aluminum Sight Glass Manifold Gauge Set With 63mm(2 1/2")Anti-Flutter Gauge, Piston Type Valve 1/2"ACME Fitting & Quick Coupler Holder & T Adapter W/core

**50107**

2 WAY Aluminum Sight Glass Manifold Gauge Set With 63mm(2 1/2")Anti-Flutter Gauge, Diaphragm Type Valve 1/2"ACME Fitting & Quick Coupler Holder & T Adapter W/core

**50108**

2 WAY Brass Sight Glass Manifold Gauge Set With 63mm (2 1/2")Anti-Flutter Gauge 1/4"SAE Fitting

**50109**

2 WAY Brass Manifold Gauge Set With 63mm (2 1/2")Anti-Flutter Gauge 1/4"SAE Fitting



| | |
|--|---|
| 50120 | 50122 |
| 2 WAY Aluminum Sight Glass Manifold Gauge Set With 80mm(3 1/8")Anti-Flutter Gauge, Diaphragm Type Valve, 1/4" SAE Fitting | 4 WAY Aluminum Sight Glass Manifold Gauge Set With 80mm(3 1/8")Anti-Flutter Gauge, Piston Type Valve, 1/4" SAE Fitting |



| | | |
|--|---|--|
| 50123 | 50124 | 50125 |
| 2 WAY Aluminum Sight Glass Manifold Block Only With 1/4"SAE Fitting, Diaphragm Type Valve | 2 WAY Aluminum Sight Glass Manifold Block Only With 1/4"SAE Fitting and T Adapter W/core, Diaphragm Type Valve | 4 WAY Aluminum Sight Glass Manifold Block Only With 1/4"SAE Fitting and 5/16" Vacuum Fitting, Piston Type Valve |



| | |
|---|---|
| 50116 | 50110 |
| 2 WAY Brass Manifold Gauge Set With 63mm (2 1/2") Gauge, 1/2"ACME Fitting & Quick Coupler Holder | 1 WAY Brass Manifold Gauge Set With 63mm (2 1/2") Gauge or 80mm(3 1/8") Gauge, 1/4"SAE Fitting |



| | |
|---|---|
| 50111 Refrigerant Pressure Gauge - 63mm(2 1/2"), Metal Housing, Anti-Flutter, 50111-H-----High Side 50111-L -----Low Side *The Pressure Unit & Temperature Unit & Refrigerant Can Be What You Need | 50113 Refrigerant Pressure Gauge - 80mm(3 1/8"), Metal Housing, Anti-Flutter, 50113-H----- High Side 50113-L ----- Low Side *The Pressure Unit & Temperature Unit & Refrigerant Can Be What You Need |
|---|---|



R12 Charging Hose
Working Pressure : 500psi
Burst Pressure : 2500psi
Hose Connection: 1/4"SAE Female
On Both Ends For RYB Hose



R134a Charging Hose
Working Pressure : 600psi
Burst Pressure : 3000psi
Hose Connection:
Yellow-1/2"ACME Female x 1/2"ACME Female
Red-1/2"ACME Female x 14mm-1.5Male
Blue-1/2"ACME Female x 14mm-1.5Male

| Length Color | 36" 90cm | 60" 150cm | 72' 180cm | 96" 240cm | Length Color | 36" 90cm | 60" 150cm | 72' 180cm | 96" 240cm |
|-----------------|-------------|--------------|--------------|--------------|-----------------|-------------|--------------|--------------|--------------|
| Red | 58336R | 58337R | 58338R | 58339R | Red | 58366R | 58367R | 58368R | 58369R |
| Yellow | 58336Y | 58337Y | 58338Y | 58339Y | Yellow | 58366Y | 58367Y | 58368Y | 58369Y |
| Blue | 58336B | 58337B | 58338B | 58339B | Blue | 58366B | 58367B | 58368B | 58369B |
| RYB3pcs/set | 58336 | 58337 | 58338 | 58339 | RYB3pcs/set | 58366 | 58367 | 58368 | 58369 |

***The Connection Fitting Can Be What You Need.**



R410A Charging Hose

Working Pressure : 800psi

Burst Pressure : 4000psi

Hose Connection : 1/4" SAE Female x 5/16" SAE Female For RYB

| Length Color | 36" 90cm | 60" 150cm | 72' 180cm | 96" 240cm |
|--------------------|---------------|---------------|---------------|---------------|
| Red | 58376R | 58377R | 58378R | 58379R |
| Yellow | 58376Y | 58377Y | 58378Y | 58379Y |
| Blue | 58376B | 58377B | 58378B | 58379B |
| RYB3pcs/set | 58376 | 58377 | 58378 | 58379 |

***The Connection Fitting Can Be What You Need.**



50128

Vacuum Gauge

80mm W/indicator, Metal Housing



| | |
|--------------|----------------------------------|
| 50101 | 90° Manual Shut-off Valve |
| 58012 | Blue Hose 1/4" x 1/4" |
| 58013 | Yellow Hose 1/4" x 1/4" |
| 58014 | Red Hose 1/4" x 1/4" |

Shut off Valve
58007 – A, B, C

Charging Unit
58008



Cylinder Charging Stand Set
(including 1 stand #58712 and 2 charging hose #58713)+Adapter 1/4" M X 5/16" Swivel F
59539

Auto Air-Conditioner
R134a Recharge Kit
59041 5804

3 in 1 Side Can Tap
58021 Nylon



Can Dispenser & Quick Coupler
0



R134a Can Tap
Piercing & Dispensing Valve
58332

Auto-Can Tap-Valve
58333
5833

Steel Body Clamp
Can Tap Valve
4

Can Tap
58020



Thread Chaser
58022

Hose for Audi
1/2" ACME female x 1/4" SAE male
5 9536

Charging Unit
plastic, angle
58121

Charging Unit
plastic, straight W/Gauge
58122



Charging unit, plastic, 90 d W/Gauge
58135



Charging unit, plastic, straight W/Gauge
58136



**Shut off Valve
Charging Unit**
58130



**Plastic quick coupler
for Charging Unit**
58126



**Refrigerant Checking Tube with filter,
Sight Glass Tube W/Ball Valve in two side**
58949



**Refrigerant Checking Tube with filter,
1/4" Fitting male in two side**
58949F

CHARGING KIT

| 58161 | 58162 |
|---|---|
|  |  |
| <p>Trigger Dispenser W/O Gauge W/90 d brass quick coupler no anti-flow back</p> | <p>Trigger Dispenser W/Back connection Gauge W/90 d brass quick coupler no anti-flow back</p> |
| 58163 | 58164 |
|  |  |
| <p>Charge unit with gauge, 20" hose</p> | <p>Charge unit with gauge, 20" hose</p> |

58021B



3 in 1 Side Can Tap , black color

Quick Coupler



| | | |
|---|---|--|
|  |  |  |
| <p>50201</p> | <p>50202</p> | <p>50203 90 d 14mm X 1.5 Female</p> |

| | |
|---|--|
|  |  |
| <p>50204 90 d 1/4" SAE Male</p> | <p>50205 Straight 1/4" SAE Male</p> |

| | | |
|---|--|---|
|  |  |  |
| <p>50206N For R4123yf use</p> | <p>50206NT For R1234yf use</p> | <p>50301S R134a Manual Adjustable Quick Coupler set Protection Device, Anti-over turning</p> |

| | | | |
|---|--|--|---|
|  |  |  |  |
| <p>50299NSA R1234YF Manual Quick Coupler set H&L, 90d Female M12 x 1.5mm W/Protection Device, Anti-over turning Color Sleeve</p> | <p>50299SA R134a Manual Quick Coupler set H&L, 90d Female M14 x 1.5mm Color Sleeve W/Protection Device and Anti Over Tuning</p> | <p>50257 Quick Coupler for BMW (High Side) 50257 with 50208 Adapter</p> | <p>50230 Quick Coupler for BMW with 50208 Adapter</p> |

Valve Core Remover/Installer Tool

| | |
|---|--|
|  |  |
| <p>50314 W/Adapter 1/4", 5/16" For Standard Valve Core use</p> | <p>50315 W/H, L Quick Coupler for STD Valve Core use</p> |







| | | |
|---|---|---|
|  |  |  |
| <p>50302 for STD Valve Core use</p> | <p>50303 W/H, L Quick Coupler</p> | <p>50311 W/ 1/4" SAE Connector for STD Valve Core use</p> |

| |
|--|
|  |
| <p>50322 Valve Core Tool With Torque Setting with torque setting, 0.4Nm</p> |

12 & R134a Valve Core

| | | | | | | | | |
|---|---|--|--|--|--|---|---|--|
| <p>51000</p>  | <p>Standard 51001</p>  | <p>Late Model GM High Flow 51002</p>  | <p>JRA High Flow 51003</p>  | <p>JRA Hyundai and Kia 51003-H</p>  | <p>Volvo 51004</p>  | <p>8mm Low Side 51005</p>  | <p>10mm High Side 51006</p>  | <p>Renault 51007</p>  |
|---|---|--|--|--|--|---|---|--|

| | | | |
|---|--|---|--|
|  |  |  |  |
| <p>Valve Core Tool 50301-1 pull type For Valve Core 51001, 51003</p> | <p>Valve Core Tool 50301-3 big size For Valve Core 51003, 51004, 51005, 51006</p> | <p>Valve Core Tool 50301-6 For Valve Core 51001, 51003</p> | <p>Valve Core Tool 50301-7 For Valve Core 51001, 51003, 51004, 51005, 51006</p> |

| | | | | | |
|---|---|---|---|---|---|
|  |  |  |  |  |  |
| <p>Valve Core Tool 50301-8 For Valve Core 51003, 51004, 51005, 51006</p> | <p>Valve Core Tool 50301-9 For Valve Core 51001, 51002, 51003, 51004 51005</p> | <p>Valve Core Tool 50301-10 For Valve Core 51001, 51002, 51003, 51004, 51005</p> | <p>Valve Core Tool 50301-11 Valve core tool, Easy snap valve core from deep hole for STD JRA . Standard Type for 51001, 51002, 51003, 51004, 51004, 51005 (similar to 50301-9)</p> | <p>Valve Core Tool 50301-12 Valve core tool, w/ STD valve core 51001 5pcs bottle container</p> | <p>Valve Core Tool 50301-13 Valve core tool, similar as 50301-5 for 51001, 51003, 51004, 51005</p> |



Universal Valve Core Remover/ Installer R134a/R12 Kit
Model 50318

| | |
|-------|-----------------|
| RI-A | valve assembly |
| RIQCH | R134a high side |



**Flush Kit
Top Type**
50401



**Flush Kit
Bottom Type**
50402



**Dye Injector
Hand Turn, 2 Ounce**
1/4" SAE Female Adapter W/Shut off Valve
50604



Dye Injector
1/4 Ounce
13mm Quick Coupler
50601



Dye Injector
1/4 Ounce
1/4" SAE Female Adapter
50602



Dye Injector
Hand Turn, 1/2 Ounce
1/4" SAE Adapter
50603



Oil Injector
2 Ounce
1/4" SAE Female Adapter
50701



Oil Injector
2 Ounce
1/2" ACME Adapter
50702



Oil Injector
2oz flow through
1/4" SAE Adapter
50703



Oil Injector
2oz flow through
1/2" ACME Adapter
13mm Quick Coupler
50704



Oil Injector
2 Ounce, 1/4" SAE Adapter
50707



Oil Injector
2 Ounce, 1/2" ACME Adapter
50708



Oil Injector
1/2" ACME Adapter
50709



Dye & Oil Cartridge

(240ML/80oz)

10912

| | | |
|---|--|---|
|  |  |  |
| <p>A/C Flushing Adapter Kits 58082</p> | <p>A/C flushing adapter kits 58082A</p> | <p>Flush Kit (with release valve) 50407</p> |

| |
|---|
|  |
| <p>A/C Flushing Adapter Kits 58142</p> |



**R134a 8 Sided Service
Port Socket**
58002 low side
58003 high side



O'Ring Pick
58019



Mechanics Stethoscope
58023



Mechanics Stethoscope
58024



Stethoscope
58005



| | |
|--|--|
| 58990 | 58969 |
| Laser Infrared Thermometer Temp. Range : -20 to 500°C -4 to 930°F D : S = 8 : 1 Accuracy : ±2°C or ±2% Emissivity : 0.95 Fixed Resolution : 0.2°C/0.2°F | Infrared Thermometer W/Function Select Temp. Range : -55 to 220°C -67 to 428°F D : S = 1 : 1 Accuracy : ±2°C or ±2% Resolution : 0.1°C/0.1°F |



| |
|----------------------------------|
| 58936 |
| Solar Digital Thermometer |

● 58878 Infrared Thermometer



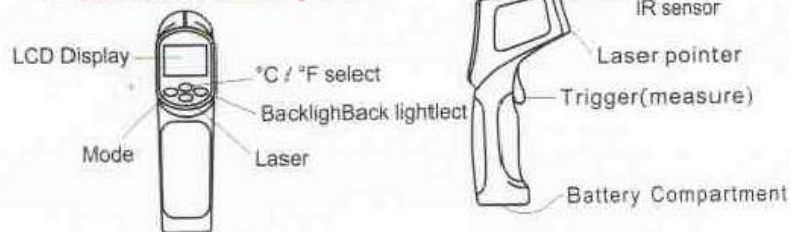
Main Functions:

- ▶ Laser indicator.
- ▶ Changeable between °C and °F.
- ▶ Temperature range: -20 ~ 500°C
- ▶ Operating temperature: 0 ~ 50°C
- ▶ Relative humidity: 10% ~ 95% RH not condensing
operating humidity: max.80% RH storage.

Technical Specification:

- ▶ Resolution: 0.1°C (0.1°F)
- ▶ Storage temperature: -20 ~ 50°C
- ▶ Response time: 0.8 second
- ▶ Precision: +/- 2.5% or +/- 3°C
- ▶ Distance to spot ratio: 10:1
- ▶ Power supply: 9V battery
- ▶ Laser classification: output<5mW Class IIIa
output<1mW Class II or 2

Front Panel Description:





| | |
|--|--|
| 58905 | 58901 |
| Thermometer 1" Dial, 5" Stem | Digital Thermometer 1-1/4" Dial, 5" Stem -50°C to 200°C |



| | |
|--|---|
| 58011N | 50259 |
| Digital Refrigerant Scale 80 kgs/10 gram | Blanket Heater 300W 50259-220 220V/50HZ 50259-110 110V/60HZ |

Programmable Refrigerant Charging Scale



Introduction

The refrigerant anywhere Critical measure The programmed

58608 utilize the most technologically advanced and precise meter available today with features that can not be found else. It is ideal for HVAC and refrigeration service, including Charging of small refrigeration systems. With the 58608 you can weight in both metric and English units.

58608 is programmable, and has a built-in alarm to indicate a threshold has been exceeded.

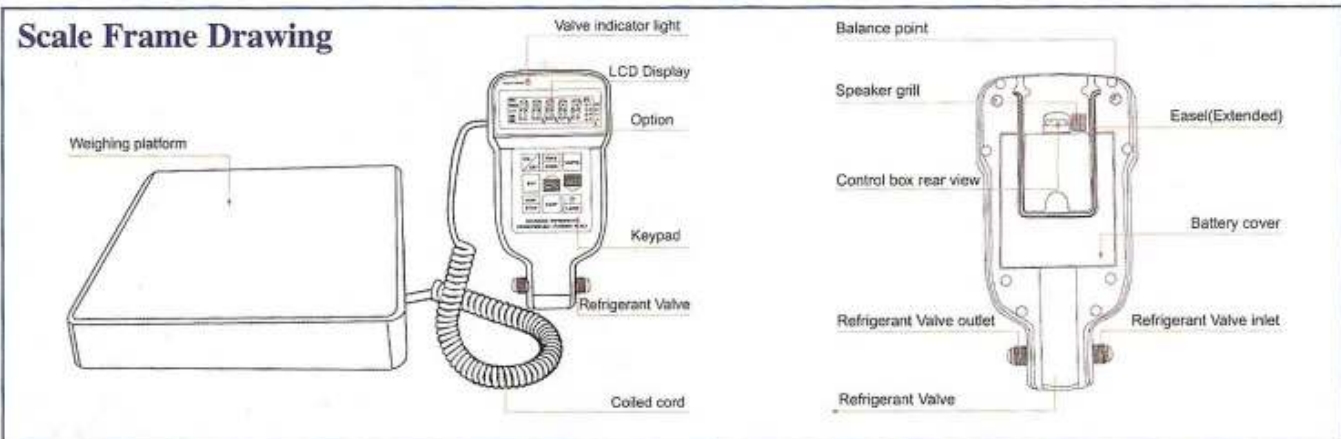
58608/58608Z

Features

- High visibility LCD display
- 58608 measures weight in kgs and lbs.
- 58608Z measures weight in kgs, lbs, oz.
- Built-in memory remembers all previous settings.
- Built-in alarm function.
- Long battery life reach 100 hours.
- High accuracy and resolution(100kgs/5g).
- Programmable
- Can be calibrated in the field with inexpensive reference weight.







---- Battery Power Low




OL Scale Overload



Keypad



-  Press to power on. Press to power off
-  Press to "TARE/ZERO" current reading on display
-  Shift metric/imperial/ounce measurements
-  Press "SET" to start program amount
-  Press to increase setting charging amount or pause when charging
-  Press to reduce setting charging amount

-  Press to shift FAST/SLOW setting amount. Use '5g' setting when you need to increase/reduce within 1kg. Use '100g' setting when you need to increase/reduce beyond 1kg.
-  Activates/Deactivates stored program. Check if electromagnetic valve work naturally.
-  LCD background lamp.

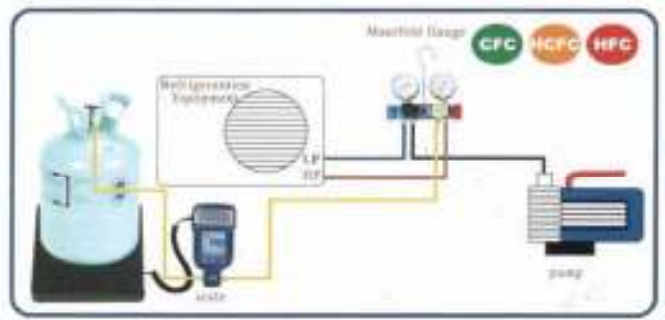
NOTE: To prevent damage, never exceed the rated capacity of the 58608/50608Z.



Charging for auto A/C system



Charging for A/C system



Automatic Charging Refrigerant

Basic Weighing Operation

1. Place the weighing platform on a firm, level surface.
2. Connect one end of charging hose to "INLET" and the other end to refrigerant tank. take another hose and connect one end to "OUTLET", the other end to A/C system or manifold.
3. Press "ON/OFF" to turn on the scale.
4. Place refrigerant tank on centre of platform and open refrigerant tank valve, weight display on screen.

5. Press **ON/OFF** to set weight

(1) If set weight within 1kg, press **ON/OFF** and or **ON/OFF** repeatedly.

Press **ON/OFF** to start charging work.

(2) If set weight beyond 1kg, press **ON/OFF** and press **ON/OFF** or **ON/OFF** repeatedly, press **ON/OFF** to start charging work.



58608



58608Z

| ITEM | 58608 | 58608Z |
|-----------------------|-------------------------------------|-------------------------------------|
| CAPACITY | 100KGS / 220 LB | 100 KGS / 220LB/ 220LB.00.0OZ |
| UNITS | KGS/LBS | LBS.OZ/OZ/LBS/ KG.G |
| ACCURACT | ±0.5% OF READING +/-1 LEAST | ±0.5% OF READING +/-1LEAST |
| RESOLUTION | 0.01 IB /5G | 2G / 5G |
| PLATFORM SIZE | 8-3/4"x8-3/4" 223x223mm | 8-3/4" x 8-3/4" 223x223mm |
| POWER | 5×1.5V ALKALINE BATTERY (7.5VDC) | 5×1.5V ALKALINE BATTERY (7.5VDC) |
| BATTERY LIFE | 60 HOURS CONTINUOUS USE | 60 HOURS CONTINUOUS USE |
| OPERATION TEMPERATURE | 10°C-50°C (50F-122F) | 10°C-50°C (50F-122F) |
| WEIGHT | 2.74KG (6.03 IBS) | 2.74KG (6.03 IBS) |

Electronic Refrigerant Charging Scale



systems.
cap
High-visib
Flexible

Introduction

RCS series refrigerant charging scales used for refrigerant charging, recovery & weighing of commercial A/C, auto A/C, refrigeratory

Portable carrying case with 223cm x 223cm platform. High accuracy up to 100kgs(220lbs). High accuracy of +/-5g(0.01lb).

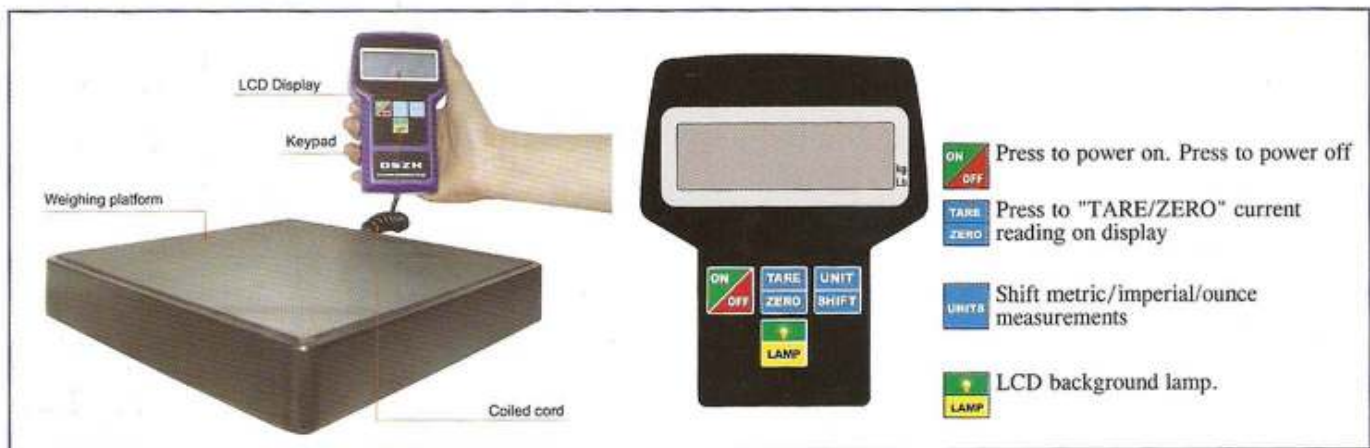
Highly visibility LCD display 66mm x20mm & 67mm x 23mm optional. 6 inches (1.83m) coil design. Long life 9V batteries.

58609L/58609H

58610L/58610H

| ITEM | 58609L | 58609H |
|-----------------|--|---|
| Range Of Weight | 0.000-70.000kg or 0.000-154.000 lbs | 0.000-100.000 kg or 0.000-220.00 lbs |
| Accuracy | ±0.5% of reading | ±0.5% of reading |
| Resolution | 5g/0.01 IB | 5g/0.01 IB |
| Unit | KG/LB | KG/LB |
| Power Supply | 9VDC | 9VDC |
| Operating Temp | 32F To 113F (0°C To 45°C) | 32F To 113F (0°C To 45°C) |
| Platform Size | 8-3/4" x 8-3/4" 223x223mm | 8-3/4" x 8-3/4" 223x223mm |
| Batter Life | 30 Hours Continuous Use | 30 Hours Continuous Use |
| Weight | 2.485KG (5.47 OZ) | 2.485KG (5.47 OZ) |

Scale Frame Drawing



58609L/58609H

-888.88

Unit Shift: KG/LB
Lcd Size: 66mm x 20mm
5 Digits Display




58610L/58610H

-888.88.88

Unit Shift: KG/LB/OZ
Lcd Size: 67mm x 23mm
7 Digits Display

Operation Instructions

1. Remove scale from case and place on a smooth flat surface.
2. Press the **ON/OFF** key to power the scale. The LCD should display 0.00/0.000.
3. Use the **UNIT/SHIFT** key to choose between Kilograms (Kg) or Pounds (Lbs)
4. When charging refrigerant, place cylinder in the center of scale (do not place a cylinder over largest weight which scale can measure as damage may occur to the scale!) Attach your charging hose according to generally accepted HVAC practices, bleed air from your hose, and hit the TARE key to zero out the scale. Refrigerant charge will be displayed in negative numbers.
5. When recovering refrigerant. place tank in the center of the scale. Scale will display gross weight of tank and recovered

 Battery Power Low

 Scale Overload



Charging for A/C System



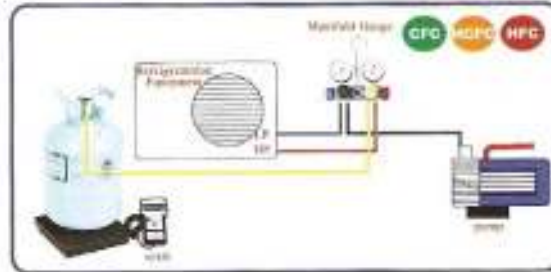
Charging for Auto Refrigeration System



Recovery



Removable Platform



Charging Refrigerant

NOTE: To prevent damage, never exceed the rated capacity of the 58609/58610.

| ITEM | 58610L | 58610H |
|-----------------|---|--|
| Range Of Weight | 0.000-30.000kg or 0.000-66.000 lbs or 0 IB .00.00oz – 66 IB 00.00oz | 0.000-100.000kg or 0.000-220.000 lbs or 0 IB .00.00 oz-220 IB 00.00 oz |
| Accuracy | ±0.1% of reading | ±0.5% of reading |
| Resolution | 1 g / 0.003 IB / 0.04 OZ | 5 g / 0.010 IB /0.25 OZ |
| Unit | Kg/Lb/OZ | Kg/Lb/OZ |
| Power Supply | 9VDC | 9VDC |
| Operating Temp | 32F To 113F (0°C To 45°C) | 32F To 113F (0°C To 45°C) |
| Platform Size | 8-3/4" x 8-3/4" 223x223mm | 8-3/4" x 8-3/4" 223x223mm |
| Batter Life | 30 Hours Continuous Use | 30 Hours Continuous Use |
| Weight | 2.485KG (5.47 OZ) | 2.485KG (5.47 OZ) |

58611 Stainless Steel Platform Kitchen Scale

Key Features

Stainless Steel Platform

- Stylish and compact design, ONLY 2 cm Height
- Elegant Style Match with most popular kitchenware
- Big Size platform (200 mm x 175 mm)
- Durable and Easy Cleaning Stainless Steel Surface

Hidden Hanger - Rear of Scale

- Hidden Hanger at the rear of scale which the Scale can be hanged on Anywhere to Save Space in Kitchen.



Product Specifications

Capacity: 5 kg

Graduation: 5KG/1g

Units: gram / oz. convertible

Batteries (included): 2 x CR2032 Lithium Batteries (China Made)

Other Functions: Tare Function, Auto Power Off, Overload Indicator, Low Battery Indicator.

Dimension of scale: 19.2cm (L) x cm 26.7(W) x 5.0cm (H)

Gross weight of scale: 550 gram

Packaging

Packaging materials: Brown Inner Cardboard

Gift box measurement: 24.5cm (L) x cm 21.0(W) x 4.0cm (H)

Gross weight per unit: 730g (with gift box, and inner cardboard)

Packing quantity: 12 pcs per export carton

Export carton measurement: 40.8cm (L) x 32.8cm (W) x 45cm (H)

Gross weight / Net weight per carton: 9.4kg / 8.8kg

Certificate or Approval

China Form A Available

Country of Origin Certificate Available

CE Certificate Available

RoHS Complied



Hidden Hanger



UV Lighter
 Adjustable head
 50502



Fluorescent Leak Detection Dyes
 1/4 oz single application
 R12, R134a
 10405



UV Lighter
50W
 50503



UV Lighter
100W
 50504



LED UV Lighter Set
W/50505, Goggle, Case
 59052



LED UV Lighter
Flexible type, 3 LED
 50507



LED UV Lighter
Pen Type, white,
gray, red color
 50509W/G/R



LED UV Lighter
15mm LED
 50508V



Rechargeable Work Light
27+6 LED UV
 50512



UV Lighter, 5M Cable
W/goggle 58039 (Adjustable Head)
 50510

Adjustable Focus, LED UV Lighter, 3W, High Power

50515





Goggle

58010



Goggle

58708



Goggle

58709



Goggle

58039



Goggle

58710



Intelligent Halogen Leak Detector, LED displaying
58006



Digital Refrigerant Leak Detector
58009



Refrigerant Leak Detector
58025



Halogen Leak Detector
Microprocessor Control
58026



Halogen Leak Detector
Microprocessor Control
58027



Halogen Leak Detector
Microprocessor Control
58028



Halogen Leak Detector
Microprocessor Control
58029



Halogen Leak Detector
Microprocessor Control
58030



Halogen Leak Detector
Microprocessor Control
58031

58137 REFRIGERANT LEAK DETECTOR

Features:

- Microprocessor Control with advanced digital signal processing.
- Multi color visual display.
- High-Low leak sensitivity selector.(58138)
- High-Med-Low sensitivity selector.(58137)
- Low battery indication.
- Semiconductor gas sensor.
- Detection of R-134a, R-410A, R-407C, R22... Freon gas.
- Carrying case included.
- 15.5" (40 CM) flexible stainless probe.
- Reference Leak source included.
- Ambient concentration reset.
- Long life, DC brushless fan. (58137)
- Variable intensity audible and visual dlarnis. (58137)

FEATURES

Air Sucking System for faster response and higher sensitivity.(58137)

Refrigerant Leakage-Detector is the perfect tool for maintaining the air-condition or a cooling system with compressor and Refrigerant.

This unit used newly developed semi-conductor sensor which is extremely sensitive to variety of general used Refrigerant.

Microprocessor Control with advanced digital signal processing.

SPECIFICATIONS

- Heated Semiconductor Gas Sensor.
- High-Low Leak Sensitivity Selector.(58138)
- 3 Levels Of Sensitivity.(58137)
- 7 LED Tn-colored Visual Leak Level Indicator.
- Variable Intensity Audible Alarm.
- Ambient Concentration Reset.
- 15.5"(40CM) Flexible Stainless Probe.
- Detection of R-134a, R-404A, R-410A, R-407C, R-22, R-502, R-600A...Refrigerants Gas.
- Sensitivity As Small 6grlyear(58138); 3grlyear(58137).
- Accordance With SAE J1627, CE Design.
- Low Battery Indication.
- Reference Leak Source Included.
- Hard Carrying case Included.
- Warm-up Time: 45 Seconds.(58137)
- Operating Temperature: 0 to 40°C (32 to 104°F)
- Size: 21.7 x 6.6 x 5.6cm
- Weight: 400g(with batteries)
- Power Source: 4AA Size Alkaline Batteries.
- Battery Life: Appro. 40hrs(58138)
- AC Adapter: @3.3V 0.5A(58137)



The specifications and other Information In this catalogue are subject to change without prior notice

GAMELA 58156

Carbon Monoxide(CO) Meter



FEATURES:

- Large LCD dual displays for CO and TEMP measurement.
- Backlight for easy screen viewing under dim lighting conditions.
- Adjustable alarm limits.
- CO level beeper can be silenced if desired.
- Automatic Zero point adjustment.
- Max Hold function.
- Data Hold function.
- Auto Power Off.
- Easy to replace battery.
- Replaceable co sensor extends tool life.

CE

Gamela 58156 Carbon Monoxide (CO) METER

FEATURES

- Large LCD dual displays for CO and TEMP measurement. Backlight
- for easy screen viewing under dim lighting conditions. Adjustable
- alarm limits.
- CO level beeper can be silenced if desired.
- Automatic Zero point adjustment.
- MAX Hold function.
- Data Hold function.
- Auto Power Off.
- Easy to replace battery.
- Replaceable CO sensor extends tool life.

SPECIFICATIONS

Meas. Range: CO: 0 to 1000 ppm; Temp: -20 to 70°C, -4 to 158°F
Resolution: 1 ppm, 0.1°C, 0.1°F
Accuracy: 5% or 5 ppm, ±0.8°C, ±1.5°F
Sensor Type: Stabilized electrochemical CO specific sensor;

Thermistor temp sensor.

Alarm limits: Adjustable.

Sensor life: 3 years (typical).

Power: 4 AA size battery.

Battery life: 200 hours (typical)

Dimensions: 204 x 65 x 45 mm

Weight: 235 g



LED Back Light



APPLICATIONS

- Ambient air safety checks on residential appliance.
- HVAC service on furnaces and hot water heaters.
- Home inspections.
- Industrial environments where the accumulation of CO is possible.



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Web: <http://www.gamela.com.tw>

Gamela 58157

IR REFRIGERANT LEAK DETECTOR

FEATURES



Refrigerant Leakage Detector is the perfect tool for maintaining the air-condition or a cooling system with compressor and Refrigerant. This unit uses a newly developed infrared gas sensor which is extremely sensitive to variety of general used Refrigerant.



DC 5V Jack

SPECIFICATIONS

- Microprocessor Control with advanced digital signal processing.
- Multi color visual display.
- High-median-Low leak sensitivity selector.
- Low battery indication.
- Infrared gas sensor.
- Detection of R-134a, R-410A, R-407C, R22, R32, R1234yf... Freon gas.
- Carrying case included.
- 15.5" (40 CM) flexible stainless probe.
- Ambient concentration reset.
- Peak function – find leaks in noisy environments.
- Mute function.
- Auto-matic zero and background compensation.
- Warm-up Time: 45 Seconds.
- Operating Temperature: 0 to 40°C(32 to 104°F)
- Dimension: 254 x 71 x 54 mm
- Weight: 416g(with batteries)
- Power Usage: 3.7vdc rechargeable lithium Batteries.
- Battery Life: Appro. 10hrs
- AC Adapter: @5V 1A



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Gamela

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Web: <http://www.gamela.com.tw>

Gamela 58158 Hydrogen (H₂) Gas Leak Detector

GAMELA 58158 Track Gas Leak Detector can detect **mixture 5% Hydrogen (H₂) + 95% Nitrogen(N)** with extremely sensitivity. The unit is built in newly developed heated semi-conductor sensor and microprocessor control to provide reliable digital signal processing. Adjustable leak sensitivity level and 7 LED visual indicators also offer the users the ease and convenience of operations. **It can detect less than 5 ppm Hydrogen concentration.**

KEY SPECIFICATIONS/SPECIAL FEATURES

- **Detectable Gases:**
mixture 5% Hydrogen (H₂) + 95% Nitrogen(N).
- **Sensitivity:** Less than 5 ppm ; 2g/year
- **Sensor life:** approx. 1 year
- **Response Time:** Instantaneous
- **Warm up time:** 45 seconds
- **DC brushless fan.**
- **High-median-Low leak sensitivity selector.**
- **15.5" (40 CM) flexible stainless probe.**
- **Ambient concentration reset.**
- **Automatic zero and background compensation.**
- **Carrying case included.**
- **Operating Temperature & Humidity:** 0 ~40 °C, < 80% RH
- **Dimension / Weight:**
173 x 66 x 56 mm (approx. 400g)
- **Power Source:**
4 AA (6V DC) size Alkaline Batteries
- **Battery Life:** Approx.7 hours normal use.



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CE Accordance With EN35422
and EN14624, CE Design



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Web: <http://www.gamela.com.tw>

Distributed by:

Corona Leak detector 58889



Features

- ◆ Detect all the refrigerants containing halogen.
- ◆ The detector can adjust sensitivity anytime to reach the best detection status automatically.
- ◆ imported chip to dispose signals, with accurate detecting result
- ◆ Internal high precision and stabilivolt IC, ultra-low power consumption circuit design, more stable operation, longer service life of batteries.
- ◆ Power voltage indication in bi-color.
- ◆ Exclusive designed sensor, more accuracy and longer life.

Technical parameters

- ◆ Operating temperature: 0℃~52℃
- ◆ Detection mode: continuous, unlimited
- ◆ MAX sensibility: 5g/yr
- ◆ Battery life: about 20h in normal use
- ◆ Power supply: 4 AAA batteries (6VDC)
- ◆ Conform to SAE_J1627 and EN14624 standards
- ◆ Conform to ROHS
- ◆ Response time: instant
- ◆ Reset time: 2-10s
- ◆ Warm-up time: about 6s

Specifications

- ◆ Overall size: 53* 50 * 175 mm
- ◆ Probing rod length: 20 cm
- ◆ Weight: 150 g

Leak detector, semiconductor type 58890 & 58891



58890

Features

Light nixie tube display

Human engineering design, more comfortable in operation

Flexible stainless steel probing rod can detect hard-to-reach places

The detector responds to all halogenated refrigerants (including Chlorine and Fluorine), which include but not limited to:

CFCs e.g. R12, R11, R500, R503 etc.

HCFCs e.g. R22, R123, R124, R502 etc.

HFCs e.g. R134a, R404a, R401a, R407c, R32 etc.

HCs e.g. R600a, R290 etc.

HFOs e.g. R1234 etc.

With getter pump, response time and alarm clear time is reduced.

Replaceable probe

Technical parameters

6-level sensitivity regulation

Max leak detection: 3g/yr (58891: 7 level)

Response time: < 3s

Warm-up time: about 60s

Recovery time: <10s (It depends on the detection environment)

Power supply: 3 AA batteries

(58891: rechargeable lithium battery)

Battery life: 4h

Conform to ROHS

Conform to SAE_J1627 and EN14624 standards

Specifications

Overall size: 256*53*58 mm

Probing rod length: 417 mm

Infrared leak detector, 3-level sensitivity 58892



Application

Detected refrigerant: CFC, HFC, mixed HCFC, R1234yf

Technical parameters

- ◆ Sensitivity Levels: Per SAE J2791:
- ◆ High: 0.1 oz./year (4 g/year) and higher
- ◆ Medium: 0.25 oz./year (7 g/year) and higher
- ◆ Low: 0.50 oz./year (14 g/year) and higher
- ◆ Response Time: Less than 1 second
- ◆ Warm-Up Time: 30 seconds; automatic calibration
- ◆ Operating Temperature Range: 0° C to 50° C at 75% RH
- ◆ Run Time: 8 hours on full battery charge, typical; with 10 minute auto-off
- ◆ Approvals: SAE J1627, SAE J2791, SAE J2913; CE (pending); EN 14624

Specifications

- ◆ Overall size: 95.2 * 44.6 * 190.5 mm
- ◆ Probing rod length: 393.7 cm

AUTO TOOLS



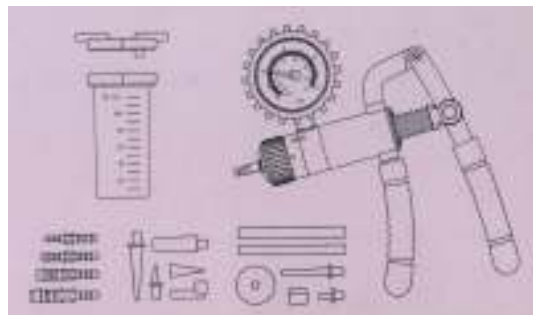
Thread Chaser Set
 UNF
 5/8-18UNF, 3/4-16UNF
 7/8-14UNF, 1-14UNF
 1 1/16-14UNF
 59047



Thread Chaser Set
 METRIC
 M14 x 1.5, M16 x 1.5, M18 x 1.5
 M20 x 1.5, M22 x 1.5, M24 x 1.5
 M27 x 2, M28 x 1.5
 59048



Universal Outside Thread Chaser Set
 59053



Vacuum Testing/Brake Bleeding Kit
 59051



Magnetic Camber Gauge
59054



Multipurpose Bearing & Pulley Puller Set
59055

TUBE TOOLS



Eccentric Cone Type Flaring Tool
Chrome Plated w/zinc in/out Deburrer
59501



Sliding Die Block Flaring Tool
3/16" - 5/8"
59502



Adjustable Opening and Holding Flaring Tool
3/16"-5/8"
59503



Tube Cleaner for 1/2", 3/4"
59504



**AC Clamp-on HVAC Meter
With Temperature Display**
[58986](#)



Temperature Probe
 58987 (TP-03)



Hygro-Thermo Meter
 58984



**Digital Thermometer
K/J Type Single Channel**
 58983



**Digital Thermometer
K/J Type Dual Channel**
 58983T



Digital Thermometer
 58982



AC/DC Clamp-on Meter
58979



AC/DC Clamp-on Meter
58964



Hygro-Thermo Meter
58995



Clamp-on Meter
58994

Clamp-on Meters

58986 AC Clamp-on HVAC Meter

is designed and built for use in an environment of pollution degree 2 according to IEC 61010-1(2001) CAT III and IEC 61010-2-032(2002) CAT III 600V.



FUNCTIONS

- Auto range, Auto power off.
- Function keys: Select, Data Hold, Range Hold.
- Test ranges: AC μ A, DC μ A, ACA, DCV ACV, Ω , Continuity, Capacitance, Temperature.
- The maximum conductor size is 30mm
- Continuity test is designed buzzer sound when impedance in objective's circuit below 25 Ω .
- Back light display for easy reading in the dark.

ACCESSORIES

- User's manual
- Test leads
- 1.5V battery x 2pcs
- Plug adapter with banana pins
- TP-03 temperature bead probe
- Test lead rubber holder


POWER SUPPLY

- Battery type: R03 (AB)/SIZE AAA 1.5V/UM4 battery x 2pcs.
- Battery life: 100 hours approx. (alkaline battery recommended)

DIMENSION

- Size: 205 x 64 x 39mm (L x W x H)
- Weight: About 280g (including battery)

DISPLAY

- 3 $\frac{3}{4}$ digits LCD with maximum reading 3999, Plus decimal point, unit symbol indication, back light
- Polarity indication: Automatic polarity, "-" display for negative input.
- Overload indication: LCD will show "OL" in the up left position.
- Low battery indication: Replace battery as LCD display "  ".

SAMPLING SPEED

- Sampling rate: 2 times per second for digital display.

SPECIFICATIONS

Accuracy: \pm (.....%rdg.....dgt) at 23°C \pm 5°C, below 80% RH.

| | Range | Resolution | Accuracy | Input impedance | Overload protection |
|----------------------|-------|------------|----------------|-----------------|---------------------|
| ACV (Auto/Manual) | 4V | 1mV | \pm (1.0%+3) | 11M Ω | 660V rms |
| | 40V | 10mV | | | |
| | 400V | 100mV | | 10M Ω | |
| | 600V | 1V | \pm (1.2%+3) | | |


| | Range | Resolution | Accuracy 50Hz~500Hz | Burden voltage |
|-----------------------------|--------------|-------------|---------------------|----------------------|
| AC μ A (Auto/Manual) | 400 μ A | 0.1 μ A | \pm (1.2%+3) | 500 μ V/ μ A |
| | 4000 μ A | 1 μ A | | |

| | Range | Resolution | Accuracy 50Hz~60Hz | Overload protection |
|----------------------|-------|------------|--------------------|--------------------------|
| ACA (Auto/Manual) | 40A | 0.01A | \pm (2.0%+10) | 600A rms (60 seconds) |
| | 400A | 0.1A | | |

| | Range | Resolution | Accuracy | Input impedance | Overload protection |
|----------------------|-------|------------|----------------|-----------------|---------------------|
| DCV (Auto/Manual) | 4V | 1mV | \pm (0.8%+2) | 11M Ω | 660V rms |
| | 40V | 10mV | | | |
| | 400V | 100mV | | 10M Ω | |
| | 600V | 1V | \pm (1.2%+2) | | |

| | Range | Resolution | Accuracy | Burden voltage |
|-----------------------------|--------------|-------------|----------------|----------------------|
| DC μ A (Auto/Manual) | 400 μ A | 0.1 μ A | \pm (1.0%+2) | 500 μ V/ μ A |
| | 4000 μ A | 1 μ A | | |

| | Range | Resolution | Accuracy | Open-circuit voltage | Overload protection |
|------------|---------------|---------------|----------------|----------------------|---------------------|
| Resistance | 400 Ω | 100m Ω | \pm (0.8%+5) | >0.4V | 600V rms |
| | 4K Ω | 1 Ω | | | |
| | 40K Ω | 10 Ω | \pm (0.8%+2) | | |
| | 400K Ω | 100 Ω | | | |
| | 4M Ω | 1K Ω | | | |
| | 40M Ω | 10K Ω | | | |

| | Range | Buzzer | Max.open voltage | Overload protection |
|------------|---|-------------------|------------------|---------------------|
| Continuity |  | Below 25 Ω | About -1.5Vdc | 600V rms |

| | Range | Resolution | Accuracy | Test voltage | Overload protection |
|-------------|--------------|------------|-----------------|--------------|---------------------|
| Capacitance | 40nF | 10pF | \pm (3.0%+10) | >3.3V | 600V rms |
| | 400nF | 100pF | | | |
| | 4 μ F | 1nF | | | |
| | 40 μ F | 10nF | | | |
| | 400 μ F | 100nF | | | |
| | 4000 μ F | 1 μ F | | | |
| | 4mF | 10 μ F | | | |

Temperature : optional temp. probe: K (CA) type.

| | Range | Resolution | Accuracy |
|-------------|--------------|------------------------------------|----------------|
| Temperature | $^{\circ}$ C | -50 $^{\circ}$ C~1300 $^{\circ}$ C | 1 $^{\circ}$ C |
| | $^{\circ}$ F | -58 $^{\circ}$ F~1999 $^{\circ}$ F | 1 $^{\circ}$ F |

The tolerance of temp. probe excluded

* Max. input voltage for thermocouple: DC60V, AC24V.

Digital Thermometers

58984 Hygro-Thermo Meter

is designed and built according to EN 50081-1 and EN 50082-1 pass the European emissions standard and Generic European Immunity standard.



ACCESSORIES

- User's manual
- Carrying case
- Sensor probe
- TP-03 temperature probe x 1pc
- 9V battery x 1pc

OPERATION CONDITION

- Operational temperature: 0°C~50°C (32°F~122°F)
- Operational humidity : 0%~90% RH.
- Storage temperature: -10°C~60°C (10°F~140°F)
- Thermocouple maximum input voltage: DC 60V, AC 24V.


POWER SUPPLY

- AC adapter, DC 9V 100mA.
- Battery type: 9V NEDA 1604 IEC 6F22 JIS 006P x 1pc.
- Battery life: About 200 hours.

DIMENSION

- Size: 205 x 98 x 40mm (L x W x H)
- Weight: About 310g (including battery)
- Sensor probe: 180mm long x 24mm diameter about 110g.

DISPLAY

- 3 1/2 digits LCD with maximum reading 1999, plus decimal point, unit symbol indication.
- Automatic polarity "-" display
- Overload indication show "OL" when humidity is above 95% RH
- Low battery indication: Replace battery immediately when LCD displays " ".

FUNCTIONS

- Test Ranges: T2: K type -50°C~1300°C (-58°F~1999°F)
T1: 0°C~ 60°C (32°F~140°F)
Humidity: 10%~95% RH
- Function keys: Data Hold, T1, T2, MAX, °C/°F, POWER, 1°, 0.1°.
- Measurement for high & low temperature separately
- Alternative measuring by °C or °F
- With AC adapter jack DC 9V 100mA for long-lasting test
- With precision thin capacitive sensor instead of ventilation to measure humidity.
- Suitable for electric engineering, freezing, air conditioning, food processing fields as well as surface temperature, metal, steel, electricity, chemical, ship building, synthetic resin process and metal heat process or other temperature control/management fields.

SAMPLING SPEED

- Sampling rate: 2.5 times per second.

SPECIFICATIONS

Accuracy: \pm (.....%rdg +.....°C) at 25°C, below 90% RH.

| Type | Measure range | Solution | Accuracy | |
|------|---------------|--------------|----------|-------------------------------------|
| T1 | °C | 0°C~60°C | 0.1°C | 0°C~60°C: \pm (0.5%+1°C) |
| | | | 1°C | 0°C~60°C: \pm (0.5%+1°C) |
| T1 | °F | 32°F~140°F | 0.1°F | 32°F~140°F: \pm (0.3%+2°F) |
| | | | 1°F | 32°F~140°F: \pm (0.3%+2°F) |
| T2 | °C | -50°C~1300°C | 0.1°C | -50°C~199.9°C: \pm (0.5%+1°C) |
| | | | 1°C | -50°C~1300°C: \pm (0.5%+1°C) |
| T2 | °F | -58°F~1999°F | 0.1°F | -58°F~199.9°F: \pm (0.3%+2°F) |
| | | | 1°F | -58°F~1999°F: \pm (0.3%+2°F) |
| RH | AT25°C | 10%~95% | 0.1%RH | 10%~70%RH: \pm 3%RH |
| | | | | 70%~95%RH: \pm (3% reading +1%RH) |

Temperature probe specification

| Probe model | TP-01 | TP-02 | TP-03 | TP-04 |
|-----------------------|---------------------------------------|------------------------|----------------------------------|--------------------------------------|
| Probe | K (CA) NiCr/NiAl thermocouple | | | |
| Temperature interface | Insulation | Grounding | Exposed | Grounding |
| Precision | JIS C1602 0.75 CLASS | | | |
| Dimension | 3.2Ø x150mm | 10Ø (climax) x150mm | Ball shape | 15Ø x100mm |
| Max. temperature | 1832°F/1000°C | 1832°F/1000°C | 392°F/200°C | 752°F/400°C |
| Min. temperature | -58°F/-50°C | | | |
| Backup wire | (-20~90°C) about 1M | | About 1M | (-20~90°C) about 1M |
| Handle | Heat resistance 150°C size 12Ø x100mm | | | Heat resistance 150°C size 12Ø x90mm |
| Sensor | K (CA) NiCr/NiAl alloy thermocouple | | | |
| Precision | JIS C1602 0.75 CLASS or \pm 2.2°C | | | |
| Usage | For liquid or semi-solid | Board or metal board | For a complicate & restrict area | For the temperature of still surface |
| Shape | Fig. (1) | Fig. (2) | Fig. (3) | Fig. (4) |

* TP-03 is a K type thermocouple temperature probe with insulation (TFL). Its maximum insulation temperature is 260°C with the accuracy of \pm 2.2°C or \pm 0.75°C (0°C to 220°C).

Digital Thermometers

58983/58983T K/J type Single/ Dual Channel Thermometer

are designed and built according to EN 61326-1.




58983



58983T

DISPLAY

- 5 digits LCD, Triple display (58983T)
- Pole index: Positive pole will not appear while negative pole display with "-" mark.
- Overloading indication: Positive temperature show "OL". Negative temperature show "-OL".
- Low battery indication: Replace battery immediately when LCD displays "  ".

FUNCTIONS

- Single input 58983 , Dual input 58983T
- Auto power off (20 minutes)
- Function keys: MAX./MIN. Hold, REL, T1-T2

SPECIFICATIONS

Accuracy: \pm (.....%rdg +..... $^{\circ}$ C) at 23° C \pm 5° C, below 80% RH.

| | |
|--------------------|--|
| Temperature unit | $^{\circ}$ C or $^{\circ}$ F optional |
| Temperature range | K type : -200° C to 1370° C (-328° F to 2498° F) J type : -200° C to 1050° C (-328° F to 1922° F) |
| Display resolution | 0.1 $^{\circ}$ C (0.2 $^{\circ}$ F) |
| Accuracy | \pm (0.05% \pm reading +0.7 $^{\circ}$ C) \pm (0.05% \pm reading +1.4 $^{\circ}$ F) |
| Input protection | Maximum voltage of temperature input is 24 DC or AC |

Temperature Coefficient:

0.01% of reading+0.03 $^{\circ}$ C per $^{\circ}$ C (0.01% of reading+0.06 $^{\circ}$ F per $^{\circ}$ F) when circumstance outside the specified range of $+18^{\circ}$ C to $+28^{\circ}$ C ($+64^{\circ}$ F to $+82^{\circ}$ F)

ACCESSORIES

- User's manual
- TP-03 temperature couple 58983 x 1pc , 58983Tx 2pcs
- Belt buckle (optional)
- 9V battery x 1pc

POWER SUPPLY

- Battery type: 9V Alkaline battery NEDA 1604, IEC 6F22, JIS 006P x 1pc.
- Battery life: 200 hours approx.

OPERATION CONDITION

- Operation temperature & humidity: 0° C~ 50° C (32° F~ 122° F), below 80% RH.
- Storage temperature & humidity: 0° C~ 50° C (32° F~ 122° F), below 80% RH.

DIMENSION

- Size: 130 x 56 x 38mm (L x W x H)
- Weight: About 170g (including battery)

Digital Thermometers

58982 Digital Thermometer

is designed and built according to EN 50081-1 and EN 50082-1 pass the European emissions standard and Generic European immunity standard.



ACCESSORIES

- User's manual
- Carrying case
- TP-03 thermocouple
- 9V Battery x 1pc

POWER SUPPLY

- Battery type: 9V NEDA 1604 IEC 6F22 JIS 006P x 1pc.
- Battery life: About 200 hours.

OPERATION CONDITION

- Operation temperature & humidity: 0°C~50°C (32°F~122°F), below 80% RH.
- Storage temperature & humidity: -10°C~60°C (10°F~140°F), below 80% RH.

DIMENSION

- Size : 143 x 74 x 34mm (L x W x H)
- Weight: About 226g (including battery)

DISPLAY

- 3 1/2 digits LCD with maximum reading 1999, plus decimal point, unit symbol indication.
- Low battery indication: Replace battery immediately when LCD displays "OL".
- Polarity indication: Automatic polarity, "-" display for negative input.

FUNCTIONS

- K type thermocouple with high accuracy range of -50°C~1300°C (-58°F~1999°F)
- Alternative measuring by °C or °F
- Function keys: ON/OFF, Data Hold, °C, °F, 0.1°, 1.0°.
- Semiconductor automatic cold joint compensation.
- Suitable for electric engineering, freezing, air conditioning, food processing fields as well as surface temperature, metal, steel, electricity, chemical, ship building, synthetic resin process and metal heat process or other temperature control/management fields.

SAMPLING SPEED

- Sampling rate: 2.5 times per second.

SPECIFICATIONS

Accuracy: \pm (.....%rdg +.....°C) at 23°C \pm 5°C, below 80% RH.

| Test Range | | Resolution | Accuracy |
|------------|--------------|------------|---------------------------------|
| °C | -50°C~1300°C | 0.1°C | -50°C~0°C: \pm (0.5%+1°C) |
| | | | 0°C~199.9°C: \pm (0.3%+1°C) |
| | | 1°C | -50°C~300°C: \pm (0.5%+1°C) |
| | | | 301°C~1000°C: \pm (0.3%+1°C) |
| °F | -58°F~1999°F | 0.1°F | 1001°C~1300°C: \pm (0.5%+1°C) |
| | | 1°F | -58°F~1999°F: \pm (0.3%+2°F) |
| | | | -58°F~1999°F: \pm (0.3%+2°F) |

The tolerance of temp. probe excluded

* Max. input voltage for thermocouple: DC60V, AC24V.

Specification of temperature excluded

| ITEM | TYPE | TP-01 | TP-02 | TP-03 | TP-04 |
|-------------------------|------|--|------------------------------|--|--|
| Thermocouple material | | K (CA) NiCr/NiAl alloyed thermocouple | | | |
| Contact type | | Insulation type | Ground type | Exposed type | Ground type |
| Accuracy classification | | JIS C1602 classification 0.75 | | | |
| Size | | 3.2Ø x 150mm | 10Ø (top) x150mm | Bead | 15Ø x1 00mm |
| Max. temperature | | 1832°F/1000°C | 1832°F/1000°C | 392°F/200°C | 1832°F/750°C |
| Min. temperature | | -58°F/-50°C | -58°F/-50°C | -58°F/-50°C | -58°F/-50°C |
| Compensating lead-wire | | (-20 to 90°C) 1m approx. | | 1m approx. | (-20 to 90°C) 1m approx. |
| Handhold | | Max. allowable Heat:150°C Size:12Ø x100mm | | | Max. allowable Heat:150°C Size:12Ø x 90mm |
| Sensor | | K (CA) NiCr/NiAl alloyed thermocouple | | | |
| Application | | Available for liquid or gel | Available for front or plate | Available for complex or any place hard to enter | Available for precise surface |

* TP-03 is a K type thermocouple isolated by TEFLON. Max. insulation temp. is 260°C, Accuracy is \pm 2.2°C or \pm 0.75% (0°C to 200°C).

Clamp-on Meters

58979 AC/DC Clamp-on Meter

is designed and built for use in an environment of pollution degree 2 according to IEC 1010-1 CAT III 1000V Double and Reinforce Insulation.



FUNCTIONS

- Auto power off
- Auto zero
- Function keys: Min./Max. Hold.
- Test ranges: ACV, ACA, DCV, DCA, Ω , Capacitance, Frequency, Diode, Continuity.
- The maximum conductor size is 52mm

ACCESSORIES

- User's manual
- Test leads
- 9V battery x 1pc
- Carrying case

POWER SUPPLY

- Battery type: 9V NEDA 1604 IEC 6F22
- JIS 006P battery x 1pc.
- Battery life: about 100 hours.

DIMENSION

- Size: 221 x 62 x 35mm (L x W x H)
- Weight: About 500g (including battery)

DISPLAY

- 3 3/4 digits LCD with maximum reading 3999, plus decimal point, unit symbol indication.
- Overload indication: LCD will show "4" or "-4" flash in the upper position accompany with continuous buzzer.
- Automatic polarity, "-" display for negative input.
- Low battery indication: Replace battery immediately when LCD displays " batt ".

SAMPLING SPEED

- Sampling rate: 2 times per second.

SPECIFICATIONS

Accuracy: \pm (.....%rdg,.....dgt) at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$, below 80% RH.

| | Range | Resolution | Accuracy | Input impedance | Overload protection |
|------------|-------|------------|----------------|-----------------|-------------------------|
| ACV (Auto) | 4V | 1mV | \pm (1.2%+3) | 11M Ω | DC 1000V AC 750V rms |
| | 40V | 10mV | | | |
| | 400V | 100mV | | 10M Ω | |
| | 750V | 1V | \pm (1.5%+5) | | |

| | Range | Resolution | Accuracy 50Hz-60Hz | Overload protection |
|-----|-------|------------|--------------------|-----------------------|
| ACA | 400A | 0.1A | \pm (2.0%+5) | 1200A (60 seconds) |
| | 1200A | 1A | | |

| | Range | Resolution | Accuracy | Input impedance | Overload protection |
|------------|-------|------------|----------------|-----------------|-------------------------|
| DCV (Auto) | 400mV | 0.1mV | \pm (0.5%+3) | 100M Ω | DC 1000V AC 750V rms |
| | 4V | 1mV | | 11M Ω | |
| | 40V | 10mV | | 10M Ω | |
| | 400V | 100mV | | | |
| | 1000V | 1V | \pm (0.8%+3) | | |

| | Range | Resolution | Accuracy | Overload protection |
|-----|-------|------------|----------------|---------------------|
| DCA | 400A | 0.1A | \pm (1.5%+5) | 1200A rms |
| | 1200A | 1A | \pm (2.0%+5) | (60 seconds) |

| | Range | Resolution | Accuracy | Max. open voltage | Overload protection |
|------------|---------------|---------------|--------------|-------------------|---------------------|
| Resistance | 400 Ω | 100m Ω | \pm (1%+3) | 0.4V | DCAC 500V rms |
| | 4K Ω | 1 Ω | | | |
| | 40K Ω | 10 Ω | | | |
| | 400K Ω | 100 Ω | | | |
| | 4M Ω | 1K Ω | | | |
| | 40M Ω | 10K Ω | \pm (3%+5) | | |

| | Range | Resolution | Accuracy | Max. sensitivity | Overload protection |
|--------------------------|--------|------------|----------------|------------------|---------------------|
| Frequency (Auto Ranging) | 100Hz | 0.01Hz | \pm (0.5%+1) | 5V rms | AC/DC 500V rms |
| | 1KHz | 0.1Hz | | | |
| | 10KHz | 1Hz | | | |
| | 100KHz | 10Hz | | | |
| | 500KHz | 100Hz | | | |

| | Range | Resolution | Test voltage | Measuring current | Open voltage | Overload protection |
|------------|---------------|------------|----------------|-------------------|--------------|---------------------|
| Diode test | \rightarrow | 1mV | \pm (2.0%+1) | 0.7mA | 3V | AC/DC 500V rms |

| | Range | Resolution | Sound level | Max. open voltage | Overload protection |
|------------|----------|--------------|-------------------|-------------------|---------------------|
| Continuity | \equiv | 0.1 Ω | Below 40 Ω | <0.4V | AC/DC 500V rms |

| | Range | Resolution | Accuracy | Test voltage | Overload protection |
|-------------------------|------------|------------|---------------|--------------|---------------------|
| Capacitance test (Auto) | 4nF | 1pF | \pm (3%+10) | 1V | AC/DC 500V rms |
| | 40nF | 10pF | | | |
| | 400nF | 100pF | | | |
| | 4 μ F | 1nF | | | |
| | 30 μ F | 10nF | | | |

Clamp-on Meters

58964 AC/DC Clamp-on Meter

is designed and built for use in an environment of pollution degree 2 according to IEC6 1010-1 and IEC6 1010-2-032 CAT III 600V, also in comply to UL 3111-1, 3111-2-032, C22.2 NO.1010.1-92 optional standard.



DISPLAY

- 3 3/4 digits LCD with maximum reading 3999, Plus decimal point, unit symbol indication.
- Polarity indication: Automatic polarity, "-" display for negative input.
- Overload indication: LCD will show "OL" in the up left position.
- Low battery indication: Replace battery when LCD display "BATT".

FUNCTIONS

- Auto range, Auto power off (30 minutes)
- High speed bargraph
- Function keys: Data Hold, Range Hold, ZERO.
- Test ranges: ACV, ACA, DCA, DCV, Ω , Continuity.
- The maximum conductor size is 30mm
- Continuity test is designed buzzer sound when impedance in objective's circuit below 40 Ω

SAMPLING SPEED

- Sampling Rate: 2 times per second for digital display.
- 20 times per second for analog display

SPECIFICATIONS

Accuracy: \pm (.....%rdg.....dgt) at 23°C \pm 5°C, below 80% RH.

| | Range | Resolution | Accuracy 50Hz~500Hz | Input impedance | Overload protection |
|----------------------|-------|------------|------------------------|--------------------|------------------------|
| ACV (Auto/Manual) | 400mV | 0.1mV | \pm (1.0%+50) | 100M Ω | DC/AC 660V rms |
| | 4V | 1mV | | 11M Ω | |
| | 40V | 10mV | \pm (1.0%+3) | 10M Ω | |
| | 400V | 100mV | | | |
| | 600V | 1V | | | |

| | Range | Resolution | Accuracy 50Hz~60Hz | Overload protection |
|----------------------|-------|------------|-----------------------|------------------------|
| ACA (Auto/Manual) | 40A | 0.01A | \pm (2.0%+10) | 600A rms (60 Seconds) |
| | 400A | 0.1A | | |

| | Range | Resolution | Accuracy | Input impedance | Overload protection |
|----------------------|-------|------------|----------------|--------------------|------------------------|
| DCV (Auto/Manual) | 400mV | 0.1mV | \pm (0.8%+2) | 100M Ω | DC/AC 660V rms |
| | 4V | 1mV | | 11M Ω | |
| | 40V | 10mV | | 10M Ω | |
| | 400V | 100mV | | | |
| | 600V | 1V | \pm (1.0%+2) | | |

| | Range | Resolution | Accuracy | Overload protection |
|----------------------|-------|------------|-----------------|------------------------|
| DCA (Auto/Manual) | 40A | 0.01A | \pm (2.0%+10) | 600A rms (60 Seconds) |
| | 400A | 0.1A | | |

| | Range | Buzzer | Max.open voltage | Overload protection |
|------------|--------|-------------------|------------------|------------------------|
| Continuity | \lll | Below 40 Ω | About -1.5VDC | 600V rms |

| | Range | Resolution | Accuracy | Max. open voltage | Overload protection |
|-----------------------------|---------------|--------------|--------------|----------------------|-----------------------------------|
| Resistance (Auto/Manual) | 400 Ω | 0.1 Ω | \pm (1%+5) | About -1.5Vdc | DC/AC 660V rms (60 Seconds) |
| | 4K Ω | 1 Ω | | | |
| | 40K Ω | 10 Ω | \pm (1%+3) | | |
| | 400K Ω | 100 Ω | | | |
| | 4M Ω | 1K Ω | | | |
| | 40M Ω | 10 Ω | \pm (3%+3) | | |

ACCESSORIES

- User's manual
- Test leads
- 1.5V battery x 2pcs

POWER SUPPLY

- Battery type: R03 (AB)/SIZE AAA 1.5V/UM4 x 2pcs.
- Battery life: 50 hours approx. (alkaline battery recommended)

OPERATION CONDITION

- Operating temperature & humidity: 5°C~40°C, below 80% RH.
- Storage temperature & humidity: -10°C ~ 60°C, below 70% RH.

DIMENSION

- Size: 195 x 64 x 30mm (L x W x H)
- Weight: About 240g (including battery)

58929

400A Autoranging AC/DC Clamp-On Meter



DISPLAY

- 3 3/4 digits LCD with maximum reading 4000 plus decimal point, unit symbol indication.
- Low battery indication : Replace battery when LCD display "LO".

FUNCTIONS

- IEC 61010-1(2001) and IEC 61010-2-032(2002) CAT III 600V.
- Auto range, Auto power off (30 minutes)
- Function keys: Max./Min(for TM-1015), Data Hold, Range Hold, Auto Zero.
- Test ranges: ACV, ACA, DCV, DCA, Ω , Continuity.
- The maximum conductor size is 30mm
- When Impedance in circuit is below 40 Ω , the buzzer will sound.
- Double injection /Back light (for TM-1015).

SPECIFICATIONS

Accuracy: \pm (.....%rdg.....dgt) at 23°C \pm 5°C, below 80% RH.

| | Range | Resolution | Accuracy 50Hz~500Hz | Input impedance | Overload protection |
|-----|-------|------------|---------------------------|-----------------|---------------------|
| ACV | 400mV | 0.1mV | \pm (1.0%+50) 40Hz~60Hz | 100M Ω | DC/AC 660V rms |
| | 4V | 1mV | | 11M Ω | |
| | 40V | 10mV | \pm (1.0%+3) | 10M Ω | |
| | 400V | 100mV | | | |
| | 600V | 1V | | | |

| | Range | Resolution | Accuracy 50Hz~60Hz | Overload protection |
|-----|-------|------------|--------------------|-----------------------|
| ACA | 40A | 0.01A | \pm (2.0%+10) | 600A rms (60 Seconds) |
| | 400A | 0.1A | | |

| | Range | Resolution | Accuracy | Input impedance | Overload protection |
|-----|-------|------------|----------------|-----------------|---------------------|
| DCV | 400mV | 0.1mV | \pm (0.8%+2) | 100M Ω | DC/AC 660V rms |
| | 4V | 1mV | | 11M Ω | |
| | 40V | 10mV | | 10M Ω | |
| | 400V | 100mV | | | |
| | 600V | 1V | \pm (1.0%+2) | | |

| | Range | Resolution | Accuracy | Overload protection |
|-----|-------|------------|-----------------|-----------------------|
| DCA | 40A | 0.01A | \pm (2.0%+10) | 600A rms (60 Seconds) |
| | 400A | 0.1A | | |

| | Range | Buzzer | Max. open voltage | Overload protection |
|------------|-------|-------------------|-------------------|---------------------|
| Continuity | • • | Below 40 Ω | About -1.5Vdc | 600V rms |

| | Range | Resolution | Accuracy | Max sensitivity | Overload protection |
|------------|---------------|--------------|--------------|-----------------|-----------------------------------|
| Resistance | 400 Ω | 0.1 Ω | \pm (1%+5) | About -0.45Vdc | DC/AC 660V rms (60 Seconds) |
| | 4K Ω | 1 Ω | | | |
| | 40K Ω | 10 Ω | \pm (1%+3) | | |
| | 400K Ω | 100 Ω | | | |
| | 4M Ω | 1K Ω | | | |
| | 40M Ω | 10K Ω | \pm (3%+3) | | |

ACCESSORIES

- User's manual
- Carrying case
- Test leads & test lead rubber holder
- 1.5V battery x 2pcs

POWER SUPPLY

- Battery type: R03 (AB)/SIZE AAA 1.5V/UM4 battery x 2pcs.
- Battery life: 50 hours approx. (alkaline battery recommended)

DIMENSION

| | TM-1015 |
|--------------|-----------|
| SIZE (L*W*H) | 205*64*39 |
| Weight | 280g |

58930 Hygro-Thermo Meter



DISPLAY

- 3 1/2 digits back light LCD with maximum reading 2000, plus decimal point, unit symbol indication.
- Sampling rate: 2.5 times per second.

FUNCTIONS

- Alternative measuring by °C or °F
- Temperature and Humidity alarm beep sound when temperature display reaches high/low limit.
- Auto power off.
- Real Time with Max Min Recording.
- Hold Function.
- REL (relative) Function.
- Suitable for electric engineering, freezing, air conditioning, food processing fields as well as surface temperature, metal, steel, electricity, chemical, ship building, synthetic resin process and metal heat process or other temperature control/management fields.

SPECIFICATIONS

- Temperature measure ranges: -40°C ~ 60.0°C (-40°F ~ 140°F)
- Humidity measure ranges: 1.0 ~ 99.0 RH.
- Resolution: 0.1°C/ 0.1°F (-40°C/°F ~ 99.9°C/°F); 0.1% RH.
- Accuracy: 0.5°C, 2.5% RH.

DIMENSION

- Size: 200 x 55 x 38mm (L x W x H)
- Weight: About 165g (including battery)

POWER SUPPLY

- Battery type: 9V NEDA 1604 IEC 6F22 JIS 006P x 1pc.
- Battery life: About 200 hours.

ACCESSORIES

- User's manual
- Carrying case
- 9V battery x 1pc

GAMELA PROFESSIONAL INFRARED THERMOMETER

NEW!!

Petrochemical

- ◆ Select operating modes and adjust parameters easily
- ◆ Built-in jack support and K-type TC probe with "mini" style connector
- ◆ With White LED Flashlight (option)
- ◆ Various Measurement Range & DS Ratio for option
- ◆ AAA battery used with longer battery life than traditional 9V battery.



Electronic Power

58998LD(E)
58998LB(E)
58998LC(E)

White LED Flashlight (Option)

Steel-making



| Specifications | | | | |
|---------------------------------------|---|--|--|---|
| Model No | 58998LD(E) | 58998LB(E) | 58998LC(E) | 58998L1(E) |
| Description | IRT + Laser + Thermocouple socket, (E) with LED Flashlight(option) | | IRT + Laser, (E) with LED Flashlight (option) | |
| Measurement Range | -60~625 ° C (-76~1157 ° F) | -60~760 ° C (-76~1400 ° F) | -60~500 ° C (-76~932 ° F) | -60 ~500 ° C (-76~932 ° F) |
| Operating Range | 0~50 ° C(32~122 ° F) | | | |
| Accuracy(Tobj=15-35 ° C, Tamb=25 ° C) | +/-1.0 ° C(+/-1.8 ° F) | | | |
| Full Range Accuracy | Tobj=0~825 ° C: +/-2% of reading or 2 ° C(4 ° F) whichever is greater. Tobj=-60~0 ° C: +/-(-2 ° C+0.05/degree) | Tobj=60~0, +/-(-2+0.05/degC) degC Tobj=0-760: +/-2% of reading or 2 ° C(4 ° F) whichever is greater | (Tobj=-33~500 ° C, Tamb=23+/-3 ° C)+/-2% of reading or 2 ° C(4 ° F) whichever is greater | (Temb=23+/-3 ° C) 0~500 ° C: +/-2% of reading or 2 ° C(4 ° F) whichever is greater -60~0 ° C: +/-(-2 ° C+0.05/degree) |
| Resolution(-9.9~199.9 ° C) | 0.1 ° C/0.1 ° F | | | |
| Response Time(90%) | 0.5~ sec. | | | |
| Distance: Spot | 16:1 | 30:1 | 12:1 | 12:1 |
| Emissivity Range | 0.1~1 Step.01 | | Fixed0.95 | |
| Update Frequency | 1.4Hz | | | |
| Dimension | 46.0x143.0x184.8mm(1.81x5.63x7.28inch) | | | |
| Wave Length | 8um-14um | | 5µm~14µm | |
| Thermocouple Probe | Small Socket, K type, 12minutes auto PowerOff | | — | |
| Measurement Range* | -64~1400 ° C(-83.2~1999 ° F) | | — | |
| Probe Accuracy | +/-1% of reading or 1 ° C (whichever is greater) | | — | |

*Actual Temperature Range Depends on the TC Probe Selected.



Plastic Pipe Cutter
6mm – 63mm O.D.
50906



Plastic Pipe Cutter
6mm – 50mm O.D.
50908



Plastic Pipe Cutter
6mm – 42mm O.D.
50913



Tubing Cutter
Cut flexible plastic & Rubber Tube
Up to 25mm O.D.
50909



Plastic Pipe Cutter
6mm – 42mm O.D.
50925



Plastic Pipe Cutter
6mm – 35mm O.D.
50924



Plastic Pipe Cutter
6mm – 25mm O.D.
50911



Plastic Pipe Cutter
6mm – 35mm O.D.
50912



Plastic Pipe Cutter
6mm – 35mm O.D.
50921



Tube Cutter
Plastic Material
6mm – 25mm O.D.
50995



Plastic Pipe Cutter
6mm – 35mm O.D.
50922



Plastic Pipe Cutter
6mm – 63mm O.D.
50926



Die-Cast Zinc Alloy Tubing Cutter
Cut flexible plastic & Rubber Tube
Up to 25mm O.D.
50910



Die-Cast Zinc Alloy Tubing Cutter
Cut flexible plastic & Rubber Tube
Up to 35mm O.D.
50994



Tubing Cutter
Aluminum Handle
6mm – 37mm O.D.
50914A



Tubing Cutter
6mm – 58mm O.D.
50915



Tubing Cutter
6mm – 80mm O.D.
50916



Tubing Cutter
Plastic Handle
6mm – 37mm O.D.
50914



Capillary Tube Cutter
50920



Tubing Cutter
Die-Cast Aluminum Alloy.
6mm-42mm O.D. (1 1/4" I.D.)
50917



Tubing Cutter
Die-Cast Aluminum Alloy
50mm O.D. (1 5/8" I.D.)
50918



Tubing Cutter
Die-Cast Aluminum Alloy
63mm O.D. (2" I.D.)
50919





50929
IRON PIPE CUTTER
FOR 1/2"- 2" (12mm-50mm) O.D. IRON PIPE



50931B
TUBE CUTTER
For 1/8"-1 1/8" (3mm-28mm) O.D. TUBE



50930A
TUBING CUTTER
FOR 1/8"- 1 1/8" (3mm-28mm) O.D. TUBE.



50932A
TUBING CUTTER
FOR 1/8"- 1 1/8" (3mm-30mm) O.D. TUBE.
INCLUDE A SPARE CUTTER WHEEL.



50930B
TUBING CUTTER
FOR 1/8"- 1 1/8" (3mm-28mm) O.D. TUBE.



50932B
TUBE CUTTER
FOR 1/8"- 1 1/8" (3mm-30mm) O.D. TUBE.
INCLUDE A SPARE CUTTER WHEEL.



50931A
TUBING CUTTER
FOR 1/8"- 1 1/8" (3mm-28mm) O.D. TUBE.



50932G
TUBING CUTTER
FOR 1/8"- 1 1/8" (3mm-30mm) O.D. TUBE.
INCLUDE A SPARE CUTTER WHEEL.



50933
TUBE CUTTER
FOR 1/2" - 1 3/4" (15-45MM) O.D. TUBE
INCLUDE A SPARE CUTTING WHEEL.



50937A
TELESCOPIC TUBE CUTTER
FOR 1/8"-1 1/4" (3mm-32mm) O.D. TUBE
INCLUDE A SPARE CUTTER WHEEL.



50934
TUBING CUTTER
FOR 1/8"- 1 1/2" (3mm-38mm) O.D. TUBE.
QUICK RELEASE REAMER



50937B
TELESCOPIC TUBE CUTTER
FOR 1/8"-1 1/4" (3mm-32mm) O.D. TUBE
INCLUDE A SPARE CUTTER WHEEL.



50901
TELESCOPIC TUBE CUTTER
FOR 1/8"- 1 1/8" (3mm-28mm) O.D. TUBE.
INCLUDE A SPARE CUTTER WHEEL.



50901A



50937C
TELESCOPIC TUBE CUTTER
FOR 1/8"- 1 1/4" (3mm-32mm) O.D. TUBE
INCLUDE A SPARE CUTTER WHEEL.



50936A
TELESCOPIC TUBE CUTTER
FOR 1/4"- 1 5/8" (6mm-42mm) O.D. TUBE.
INCLUDE A SPARE CUTTER WHEEL.



50936C



50938
TUBING CUTTER
FOR 1/8"- 1 1/8" (3mm-28mm) O.D. TUBE.



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50939

TELESCOPIC TUBE CUTTER
FOR 1/4"-1 1/2" (6mm-38mm) O.D. TUBE
WITH A INTEGRATED DEBURRER
INCLUDE A SPARE CUTTER WHEEL



50940

TELESCOPIC TUBE CUTTER
FOR 1/8"-1 5/8" (3mm-42mm) O.D. TUBE
WITH A INTEGRATED DEBURRER
INCLUDE A SPARE CUTTER WHEEL



50941

TUBING CUTTER
FOR 1/8"-1 1/8" (3mm-28mm) O.D. TUBE
WITH REAMER INSIDE THE KNOB



50942

ZIPACTION TUBE CUTTER
FOR 3/16"-1 1/4" (4mm-32mm) O.D. TUBE
WITH A INTEGRATED DEBURRER
INCLUDE A SPARE CUTTER WHEEL



50943

RATCHETING TUBE CUTTER
FOR 1/8"-1/2" (3mm-12mm) O.D. TUBE



50944

RATCHETING TUBE CUTTER
FOR 1/4"-7/8" (6mm-23mm) O.D. TUBE
INCLUDE A SPARE CUTTER WHEEL



50945

RATCHETING TUBE CUTTER
FOR 5/16"-1 1/8" (8mm-29mm) O.D. TUBE
INCLUDE A SPARE CUTTER WHEEL



50946

ZIPACTION TUBE CUTTER
FOR 1/4"-2 1/2" (6mm-64mm) O.D. TUBE
INCLUDE A SPARE CUTTER WHEEL

**50947**

ZIPACTION TUBE CUTTER
 INCLUDE A SPARE CUTTER WHEEL
 FOR 1/4"- 2" (6mm-50mm) O.D. TUBE.

**50950**

ZIPACTION TUBE CUTTER
 WITH A INTEGRATED DEBURRER
 INCLUDE A SPARE CUTTER WHEEL
 FOR 1/4"- 2 5/8" (6mm-67mm) O.D. TUBE.

**50948**

ZIPACTION TUBE CUTTER
 FOR 1/4"- 3" (6mm-76mm) O.D. TUBE.

**50951**

ZIPACTION TUBE CUTTER
 FOR 2"- 5 1/2" (50mm-140mm)
 O.D. PLASTIC PIPE

**50949**

TUBING CUTTER
 FOR 5/8"- 2 1/8" (16mm-53mm) O.D. TUBE.

**50952**

ZIPACTION TUBE CUTTER
 FOR 4"- 6 1/2" (100mm-168mm)
 O.D. PLASTIC PIPE



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50959

MUFFLER AND TAILPIPE CUT-OFF TOOL
CUTS OUT-OF-ROUND PIPES.
CUTS FAST ONLY 1/3 REVOLUTION
CUTS ALL THE WAY AROUND THE PIPE
CAPACITY: 1 3/8" - 2 1/2" (35mm-64mm)



50960

EXHAUST PIPE CUTTER
15 PCS HARDENED ALLOY STEEL
CUTTING WHEELS
ADJUSTABLE SELF LOCKING PLIER TYPE
CAPACITY : 3/4" - 3 1/4" (19mm-83mm)



50957

PVC PIPE CUTTER
FOR 1/8"-1 3/8" (3mm - 35mm)
PLASTIC PIPE



50961

TAIL PIPE CUTTER
FOR 3/4" - 3" DIAMETER
7 CUTTING WHEELS



50958

EXHAUST PIPE CUTTER
15 PCS HARDENED ALLOY STEEL
CUTTER WHEELS.
PVC COVERED HANDLES.
CAPACITY : 3/4" - 3 1/4" (19mm-83mm)



50962

REPLACEMENT CUTTER WHEEL
CHAIN FOR PC-300 & PC-320

**50968B**

MINI TUBE CUTTER
 FOR 1/8"- 7/8" (3mm-22mm) O.D. TUBE

**50968F**

MINI TUBE CUTTER
 FOR 1/8"- 7/8" (3mm-22mm) O.D. TUBE
 WITH A SPARE CUTTER WHEEL

**50968C**

MINI TUBE CUTTER
 FOR 1/8"- 7/8" (3mm-22mm) O.D. TUBE

**50969B**

MINI TUBE CUTTER
 FOR 1/8"- 5/8" (3mm-16mm) O.D. TUBE

**50968D**

MINI TUBE CUTTER
 FOR 1/8"- 7/8" (3mm-22mm) O.D. TUBE
 WITH REAMER INSIDE THE KNOB

**50959C**

MINI TUBE CUTTER
 FOR 1/8"- 5/8" (3mm-16mm) O.D. TUBE

**50968E**

MINI TUBE CUTTER
 FOR 1/8"- 7/8" (3mm-22mm) O.D. TUBE

**50959D**

MINI TUBE CUTTER
 FOR 1/8"- 5/8" (3mm-16mm) O.D. TUBE
 WITH REAMER INSIDE THE KNOB



Garnela

Enterprise Co., Ltd.



50969E

MINI TUBE CUTTER
FOR 1/8"-5/8" (3mm-16mm) O.D. TUBE



50972

MINI TUBE CUTTER
FOR 1/8"-5/8" (3mm-16mm) O.D. TUBE



50969F

MINI TUBE CUTTER
FOR 1/8"-5/8" (3mm-16mm) O.D. TUBE
WITH A SPARE CUTTING WHEEL



50973

MINI TUBE CUTTER
FOR 1/8"-1 1/8" (3mm-28mm) O.D. TUBE



50970

MINI TUBE CUTTER
FOR 1/8"-1 1/8" (3mm-28mm) O.D. TUBE



50974

MINI TUBE CUTTER
FOR 1/8"-1 1/8" (3mm-28mm) O.D. TUBE



50971

MINI TUBE CUTTER
FOR 1/8"-7/8" (3mm-22mm) O.D. TUBE



50902

MINI TUBE CUTTER
FOR 1/8"-5/8" (3mm-16mm) O.D. TUBE

PLIERS



58803
Adjustable Self Locking
Pliers



58804
Coolant Pliers



58805
Copper Tube Pliers



58806
Pliers for Fixing
Refrigerant Equipment

Hose Clips Pliers (Phosphate Coated) 59564



Hose Clips Pliers (Phosphate Coated) 59564

For releasing and re-fitting reusable hose clips, types CLIC and CLIC-R (Caillau/Serflex).

Application: Audi, Citroën, Fiat, Mercedes, Opel/Vauxhall, Peugeot, Renault, VW etc.

Hose Clamp Pliers (Swivel Jaws) 59565



Hose Clamp Pliers (Swivel Jaws) 59565

Clic collar pliers swivel heads

Length : 200 mm

- Open and close easily by turning the pliers by 180°.
- For clamping multi-use CLIC-type hose clamps.
- Swivel jaws - for use in areas with restricted access.
- Suitable for : Audi, Citroën, Fiat, Mercedes, Opel /Vauxhall, Peugeot, Renault, SMART, VW, etc.





5pc Changeable Spanner Torque Wrench
Spanner Size: 17, 22, 24, 27mm

59505



7pc Changeable Spanner Torque Wrench
Spanner Size: 17, 22, 24, 26, 27, 29mm

59506



Changeable Spanner Torque Wrench
19-110Nm Spanner Size: 17, 22, 24, 26, 27, 29mm

59525



8pc Changeable Spanner Torque Wrench
Spanner Size: 17, 19, 22, 24, 26, 27, 29mm

59534



Changeable Spanner Torque Wrench 40-210Nm
Spanner Size: 13, 14, 15, 17, 19, 22, 24, 27, 30mm

59526



Torque Wrench
22mm X 42Nm

59527



Torque Wrench
17mm X 18Nm

59528



Fixed Torque Open Wrench open 59558
17, 22, 24, 26, 27, 29m/m, fix 18, 42, 55, 55, 65, 65NM

59558

NEW



Torque Screwdriver with window scale display range 4-12NM (30-90 INCH-POUNDS), socket 11mm & 12mm (L:50mm), torque: 04-0.6Nm, accuracy: +-4%

59559



Gamela

Enterprise Corp., Ltd.



50963

PVC CABLE SAW
AVAILABLE SIZE 25" & 36"



50964

6" MINI HACKSAW
FOR BRASS, COPPER, PVC,
IRON PIPE, STEEL & WOOD



50964BLD

REPLACEMENT BLADE
FOR HS -100



50965

MINI HACKSAW
FOR BRASS, COPPER, PVC,
IRON PIPE, STEEL & WOOD



50965BLD

REPLACEMENT BLADE
FOR HS-110



**50975**

FLARING TOOL SET
 CAST - IRON YOKE
 FOR 7 SIZES 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"

**50978**

DELUXE FLARING TOOL
 6 IN 1 FOR SIZES 3/16", 1/4", 5/16", 3/8", 1/2" & 5/8"
 6 IN 1 ADAPTER AVAILABLE

**50976**

FLARING TOOL SET
 CAST - IRON YOKE
 E - COATED SCREEN BAR
 FOR 7 SIZES 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"

**50979**

HEAVY DUTY FLARING TOOL SET
 FORGED YOKE, HARDENED SCREEN BAR
 FOR 7 SIZES 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"

**50977**

FLARING TOOL SET
 CAST - IRON YOKE
 FOR 7 SIZES 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"

**50980**

FLARING TOOL SET
 CAST - IRON YOKE
 E - COATED SCREEN BAR
 FOR 7 SIZES 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"

**50981**

FLARING TOOL SET
 FORGED YOKE
 FOR 8 SIZES 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" & 3/4"

50981M

FOR METRIC: 4, 6, 8, 10, 12, 14, 16 & 18mm

**50984**

ECCENTRIC CONE TYPE FLARING TOOL
 FOR 8 SIZES 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8" & 3/4"
 WITH A 3/8" BIT EASY FOR POWER
 TOOL TO OPERATE

50984M

FOR METRIC: 6, 8, 10, 12, 14, 15, 16 & 18mm

**50982**

PUNCH TYPE FLARING TOOL SET
 FOR SIZES 10, 12, 14 & 16mm

**50985A**

DIE-BLOCK FLARING TOOL
 FOR 6 SIZE 3/16", 1/4", 5/16", 3/8", 1/2" & 5/8"

50985M

FOR METRIC : 6, 8, 10, 12, 15 & 16mm

**50983**

PUNCH TYPE FLARING TOOL SET
 FOR SIZES 10, 12, 14, 16, 18,
 20 & 22mm

**59502**

DIE-BLOCK FLARING TOOL
 FOR 6 SIZES 3/16", 1/4", 5/16", 3/8", 1/2" & 5/8"

59502M

FOR METRIC : 6, 8, 10, 12, 15 & 16mm



50987
ADJUSTABLE OPENING AND
HOLDING FLARING TOOL
FOR 3/16"-5/16" (4-16mm) O.D. TUBE.



50953
ADJUSTABLE OPENING AND
HOLDING FLARING TOOL
FOR 3/16"-5/8" (4-16mm) O.D. TUBE.



50989
SWAGING PUNCHES
FOR 1/4", 5/16", 3/8", 1/2" & 5/8"



50990
SWAGING PUNCH
FOR 8, 10, 12, 14 & 16mm



50991
6-IN-1 SWAGING PUNCH
3/16", 1/4", 5/16", 3/8", 1/2" & 5/8"



50992
SINGLE SWAGING PUNCH
AVAILABLE SIZES:
1/4", 5/16", 3/8", 1/2", 5/8", 3/4" & 7/8"



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59507

TUBING CUTTER AND DOUBLE FLARING TOOL KIT
STEEL FORGED YOKE, 9/16" SCREEN BAR,
TC-111 TUBE CUTTER WITH 7 PCS ADAPTERS
FOR 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"
BLOW MOULD CASE PACKED.



59510

TUBING CUTTER AND FLARING TOOL KIT
STEEL FORGED YOKE,
SCREEN BAR, 5PCS ADAPTERS AND TUBING CUTTER
CAPACITY : FOR 3/16", 1/4", 5/16", 3/8" & 1/2"



59508

DOUBLE FLARING TOOL
FT-210 WITH 7 PCS ADAPTERS
FOR 3/16", 1/4", 5/16", 3/8", 7/16", 1/2" & 5/8"
PLASTIC BOX PACKED.



59511

DOUBLE FLARING TOOL KIT
1 SET FLARING TOOL
1 PC DEBURRING TOOL
1 PC MINI TUBING CUTTER FOR 1/8"-5/8"
7 PCS ADAPTERS:
3/16", 1/4", 5/16", 3/8", 1/2", 7/16" & 5/8"



59509

DOUBLE FLARING, TUBING
CUTTER & DEBURRING TOOL KIT
BLOW MOULD CASE PACKED



59512A

DOUBLE FLARING TOOL SET
STEEL FORGED YOKE
FOR 3/16", 1/4", 5/16", 3/8", 1/2", 7/16" & 5/8" COPPER
PIPE FLARE

59512C

FOR 4.75, 5, 6, 8, 10mm, 1/4" & 1/2"

**59513A**

DOUBLE FLARING TOOL SET
 STEEL FORGED YOKE
 FOR 3/16", 1/4", 5/16", 3/8" & 1/2" COPPER PIPE FLARE

59513M

FOR : 4.75, 5, 6, 8 & 10mm.

**59516**

FLARING & SWAGING KIT
 FORGED YOKE, SCREEN BAR X2
 FOR 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" & 3/4"
 WITH 6 PCS SWAGING DIES.
 BLOW CASE PACKED.

**59514**

DOUBLE FLARING AND
 CUTTING TOOL SET
 STEEL FORGED YOKE
 FOR 3/16", 1/4", 5/16", 3/8", 1/2",
 7/16" & 5/8" COPPER PIPE FLARE
 5 DOUBLE FLARING ADAPTERS
 FOR 3/16", 1/4", 5/16", 3/8", & 1/2"

**59517**

METRIC BUBBLE FLARE SET
 FOR 4.75mm, 6mm, 8mm & 10mm O.D.
 SOFT WALL TUBING.
 BLOW CASE PACKED.

**59501**

ECCENTRIC CONE TYPE FLARING TOOL
 WITH TUBE CUTTER AND
 INSIDE / OUTSIDE DEBURRER
 FOR : 1/8", 3/16", 1/4", 5/16", 3/8", 1/2", 5/8" & 3/4" OR
 METRIC : 6, 8, 10, 12, 14, 15, 16 & 18mm

59501B

SET WITH INCH AND METRIC BARS.

**59518**

I.S.O. FLARING TOOL
 FORGED YOKE FLARING TOOL
 4 ADAPTERS : 4.75, 6, 8 & 10mm
 INNER REAMER AND WRENCH / GAUGE.
 BLOW CASE PACKED.

59518A

SAME SET, WITHOUT
 INNER REAMER



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59519

FLARING, SWAGING AND TUBE CUTTER SET
FORGED YOKE, SCREEN BAR X2
FOR 1/8", 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8" & 3/4"
WITH 6 PCS SWAGING DIES.
BLOW CASE PACKED.
WITH A TELESCOPIC TUBE CUTTER



59521

FLARING TOOL & TUBE CUTTER SET
DUCTILE IRON YOKE WITH A 1/8"-1 1/8"
STANDARD TUBE CUTTER
BLOW CASE PACKED.



59520

FLARING TOOL & TUBE CUTTER SET
FORGED YOKE,
HARDENED SCREEN BAR WITH A 1/8"-1 1/8"
TELESCOPIC TUBE CUTTER
BLOW CASE PACKED.



59522

FLARING TOOL, TUBE CUTTER & BENDING SPRINGS SET
E-COATED SCREEN BAR WITH A 1/8"-1 1/8"
STANDARD TUBE CUTTER.
4 BENDING SPRING 3/8", 7/16", 1/2" & 5/8"
(OR METRIC 10, 12, 14 & 16mm)



59520B

FLARING TOOL & TUBE CUTTER SET
FORGED YOKE,
HARDENED SCREEN BAR WITH A 1/4"-1 1/4"
TELESCOPIC TUBE CUTTER
METAL BOX PACKED.



59523

SWAGING AND TUBE CUTTER SET
FORGED YOKE, 2 SCREEN BARS
CONTENS 6 PCS SWAGING
DIES & A 1/4"-1 1/2" TELESCOPIC TUBE CUTTER
BARS FOR SIZES 1/8", 3/16", 1/4",
5/16", 3/8", 7/16", 1/2", 5/8" & 3/4"
METAL BOX PACKED.



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59524

SWAGING AND TUBE CUTTER SET
FORGED YOKE, 2 SCREEN BARS,
6 PCS SWAGING DIES & A 1/8"-1 1/4"
TELESCOPIC TUBE
CUTTER BARS FOR SIZES 1/8", 3/16", 1/4",
5/16", 3/8", 7/16", 1/2", 5/8" & 3/4"
METAL BOX PACKED.



**TT50901**

DEBURRING TOOL
 PLASTIC BODY
 BLADE REPLACEABLE



TT50902

TT50902P

TT50902

INSIDE/OUTSIDE DEBURRING TOOL
 METAL BODY, FOR 1/8" - 1 5/8" O.D

TT50902P

INSIDE/OUTSIDE DEBURRING TOOL
 PLASTIC BODY, FOR 3/16" - 1 1/2" O.D

**TT50903**

PEN-TYPE DEBURRING TOOL
 WITH POCKET CLIP

**TT50904**

DEBURRING TOOL
 SUITS FOR TBUIING CUTTER
 TC-150, TC-200, TC-201, TC-220
 AS REPLACEMENT.

**TT50905**

PEN-TYPE DEBURRING TOOL
 WITH POCKET CLIP.
 BLADE REPLACEABLE

**TT50906**

PEN-TYPE DEBURRING TOOL
 WITH POCKET CLIP.
 BLADE REPLACEABLE WITH A SCRAPER

TT50907

PEN-TYPE DEBURRING TOOL
 WITH POCKET CLIP
 BLADE REPLACEABLE WITH A SPARE BLADE

**TT50908**

PEN-TYPE DEBURRING TOOL
 WITH POCKET CLIP
 PLASTIC BODY
 BLADE REPLACEABLE

**TT50909**

CHAMFERING TOOL
 FOR 25-168MM
 WORKING ANGLE 15°



50504
4 IN 1 CLEANING BRUSH
FOR 1/2" & 3/4" I.D. AND O.D.



TT50911
CLEANING BRUSH
FOR 1/2" I.D.



TT50912
CLEANING BRUSH
FOR 3/4" I.D.



TT50913
CLEANING BRUSH
FOR 1/2" O.D.



TT50914
CLEANING BRUSH
FOR 3/4" O.D.



TT50915
CLEANING BRUSH
FOR 1" O.D.



TT50916A
UTILITY BRUSHES, STAINLESS



TT50916B
UTILITY BRUSHES, BRASS

**TT50917**

TWO-HAND BENDER

SIZES: 6mm(1/4"), 8mm(5/16"), 10mm(3/8"),
 12mm (1/2"), 14mm, 15mm & 16mm(5/8")

**TT50918**

BENDING SPRING

AVAILABLE SIZES: 1/4", 5/16", 3/8", 1/2" & 5/8"

**TT50919A**

4PC/SET BENDING SPRING

1/4", 3/8", 1/2", 5/8"

**TT50920A**

90° 3 IN 1 TUBING BENDER

FOR 1/4", 5/16", 3/8"

TT50920M

90° 3 IN 1 TUBE BENDER

METRIC FOR 6, 8 & 10mm

**TT50903A**

180° 3 IN 1 TUBING BENDER

WITH STEEL LINK. FOR 1/4", 5/16", 3/8"

TT50903M

180° 3 IN 1 TUBING BENDER

WITH STEEL LINK. METRIC FOR 6, 8 & 10mm

**TT50922**

HANDY BENDER

FOR 1/8" (3mm), 3/16" (4mm) & 1/4" (6mm)

**TT50923**

HANDY BENDER

FOR 1/2"

**TT50924**

HANDY BENDER

FOR 1/4"



TT50925
BREAKLINE BENDING PLIERS
FOR 3/16"



TT50926
BREAKLINE BENDING PLIERS
FOR 3/16" & 1/4"



TT50927
HEAVY DUTY TUBING BENDER
FOR 3/16", 1/4", 5/16" & 3/8"
COPPER & STEEL TUBING
EASE IN ADAPTING TOOL TO TUBING SIZE.











TT50928
HEAVY DUTY TUBE BENDER
FOR 12, 15 & 22mm COPPER TUBE WITH ALUMINUM GUIDE









Deburring Tool

| | | | |
|--|---|---|---|
| <p>TT50929 Deburring Tool</p> |  | <p>TT50930 Deburring Tool</p> |  |
| <p>*Plastic holder,easy change blade & storage blade design. *With HSS blade(d=3.1mm/863-A),HRc 62.</p> | | <p>*Plastic holder,easy change blade & storage blade design. *With 2pc HSS blade(d=3.0mm/863-A),HRc 62.</p> | |
| <p>TT50931 Deburring Tool</p> |  | <p>TT50932 Deburring Tool</p> |  |
| <p>*Aluminum hex-holder quick-change blade-head design. *With 1pc HSS blade (d=3.1mm/863-E100),HRc 62. *Cuts pipe, tubing, conduit and PVC. *Swivel head for easier cuts. *Quick release button for effortless swapping of blades. *Lightweight aluminum handle.</p> | | <p>*Steel handle,screw fixed blade. *W/2pc HSS blade (d=3.0mm/863-A),HRc 62.</p> | |
| <p>TT50933 Deburring Tool</p> |  | <p>TT50934 Deburring Tool</p> |  |
| <p>*Aluminum hex-handle,w/pocket clip. *With fixed-1pc HSS blade (d=3.0mm/863-A),HRc 62.</p> | | <p>*HSS blade,hardened HRc63-65,black finished,polish edge.</p> | |
| <p>TT50935 Deburring Tool</p> |  | <p>TT50936 Deburring Tool</p> |  |
| <p>*Deburr sheets with single or double straight edges up to 0.56" (14 mm) thick. *Holder can take two blades. *Handguard attached for worker safety.</p> | | <p>*External (HSS blade D = 19mm) *Burr (HSS blade d=3.1mm)</p> | |

Deburring Tool

| | | | |
|---|---|--|---|
| TT50937 Deburring Tool |  | TT50938 Deburring Tool |  |
| *Plastic holder. 1pc:HSS D=10.4mm single-flute rotary countersink. 1pc:HSS burr($\phi=3.0\text{mm}/\text{R}63\text{-A}$),HRc 62. *Easy change & storage blade. | | *Plastic holder. 1pc:HSS D=16mm single-flute rotary countersink. 1pc:HSS burr,3pc-pin guide,3/4/5mm,1pc-hexkey. *Easy change & storage blade. | |
| TT50939 Deburring Tool |  | TT50940 Deburring Tool |  |
| *1-flute H.S.S 12mm countersink head with screw joining extensible rod. | | *2-flute H.S.S countersink,plastic holder. *Countersink head with screw joining extensible rod. | |
| TT50941 Deburring Tool |  | TT50942 Deburring Tool |  |
| *W/ 3pc HSS Blade , $d = \text{O}2.35\text{mm}$ *Plastic holder,w/3-type blade. *Extensible rod,easy change & storage blade design. | | *W/ 3pc HSS BLADE, HRc 62, $d = \text{O}3.1\text{mm}$. *Extensible rod,easy change & storage blade design. *Double-color handle. | |
| TT50943 Deburring Tool |  | TT50944 Deburring Tool |  |
| *W/ 3pc- HSS Blade , $d = \text{O}3.1\text{mm}$ *Plastic holder,w/3-type blade. *Extensible rod,easy change & storage blade design. | | *H.S.S blade,w/cutting corner , plastic holder. *Blade with screw joining extensible rod. | |

Deburring Tool

| | | | |
|---|---|--|---|
| TT50945 Deburring Tool |  | TT50946 Deburring Tool |  |
| *Straight. *Alloy steel blade, hardened HRC 60. *Aluminum holder. | | *Bended 135 degree. *Alloy steel blade, hardened HRC 60. *Aluminum holder. | |
| TT50947 Deburring Tool |  | TT50948 Deburring Tool |  |
| *Bended 90-degree. *Alloy steel blade, hardened HRC 60. *Aluminum holder. | | *3-in-1: straight/bended 135/bended 90, double-end blade *Alloy steel blade, hardened HRC 60. *Aluminum holder, w/adjust vise. | |
| TT50949 Deburring Tool |  | TT50950 Deburring Tool |  |
| *Blade: 30mm SK5, HRC56 *Wooden handle | | *Includes: cleaning, finishing and countersinking Aluminum body and soft-PVC handle Mini-bore Deburring blade RotolDrive countersink: D-3mm Tri-blade scraper. | |

59543 Electric Cordless Flaring Tool

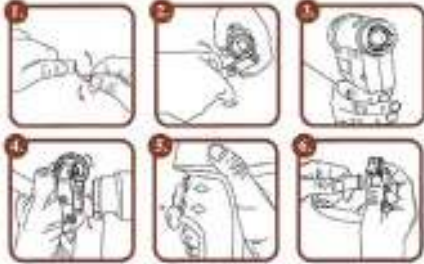
Specifications

Applicable Tube: copper, titanium and aluminum tubing.

Applicable Tube Size: 1/4", 3/8", 1/2", 3/4"

Flare Type: for refrigerant R-410A

Dimensions: 122x67.5x274 with battery



SIX EASY STEPS:

1. deburr inside of tubings.
2. choose flare clip according to fasten the tubings.
3. press ` → 'switch to the end.
4. connect flare clip with flaring tool.
5. press ` ← 'until flare work complete. Press ` → 'to the end.
6. take off flare clip from flaring tool and separate flare clip with tubings.

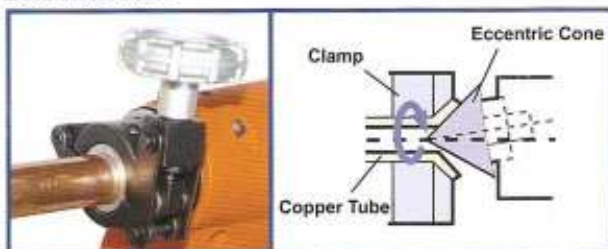
Introduction

The 59543 cordless eccentric cone flaring tool is our new high capability product. Cordless, battery power. This product can be used for 1/4"~3/4" (6mm~19mm) tubing. Special eccentric cone structure make smooth and uniform sizes 45 degree flares.

Eccentric Cone

The eccentric cone moves forward with a rotary motion, to gradually push and expand the inner diameter of the copper tube. The forward movement of the cone is then stopped by the clutch, which activates at a predetermined pressure. The flared surface of the copper tube is given a clean finish by the cone's rotary motion.

Eccentric Cone



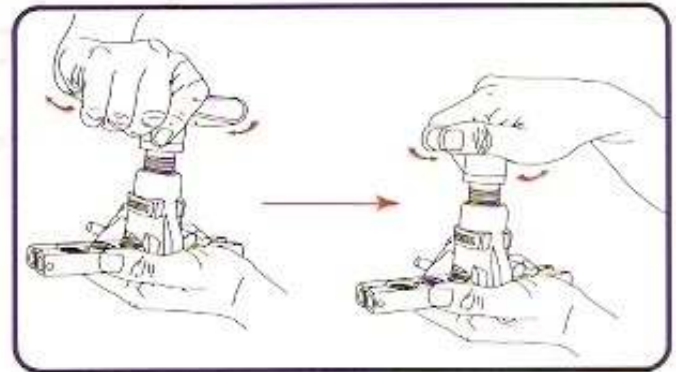
Standard Accessories

59543L/59543M



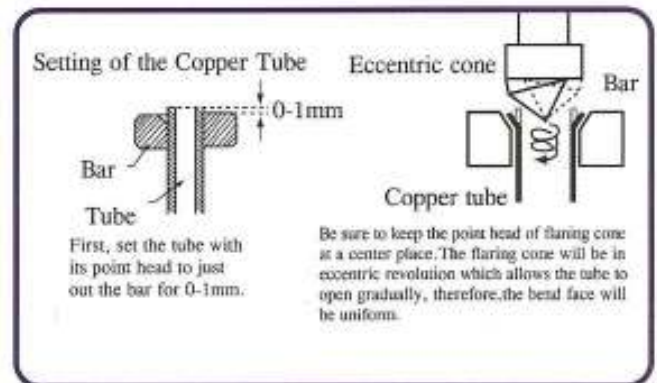
| Item No. | Clamps | Item No. | Clamps |
|-----------|------------------|-----------|-------------------|
| 59543L-01 | For inch : 1/4" | 59543M-01 | For metric : 6mm |
| 59543L-02 | For inch : 5/16" | 59543M-02 | For metric : 8mm |
| 59543L-03 | For inch : 3/8" | 59543M-03 | For metric : 10mm |
| 59543L-04 | For inch : 1/2" | 59543M-04 | For metric : 12mm |
| 59543L-05 | For inch : 5/8" | 59543M-05 | For metric : 16mm |
| 59543L-06 | For inch : 3/4" | 59543M-06 | For metric : 19mm |

59544 Ratchet Eccentric Cone Type Flaring Tool



- ★ this precision tool provides smooth, uniform flares with minimum effort.
- ★ the new ratcheting feed screw handle turns easily and requires less motion and effort than a standard handle, hand need not leave the handle to complete the flare work. more convenient to operate.
- ★ hardened steel flaring cone, eccentrically mounted in needle bearings, produces rolling action for even metal flow, giving uniform flare walls without galling.

59545 45d Eccentric Cone Type Flaring Tools With A Ratchet Wrenches



- ★ Special design for R410A systems
- ★ With a professional grade 3/8"sq. driver ratchet. It's easy to use and require minimal effort.
- ★ The special cone eccentric revolution will be allows the internal opening gradually and form 45° accurate and regular flare without preventing tube slippage downward. Therefore, the flare face will be smooth, uniform without scratching.
- ★ Eccentric cone will be rebound by itself after the work is finished, make the idle top head in revolution again for 1-2 rounds and have the flare face in friction to make it prettier.

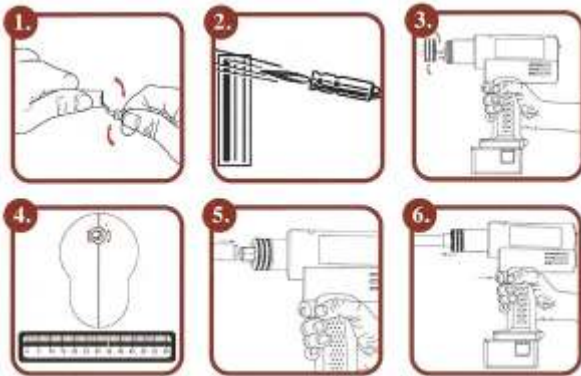
59549 Cordless Expander Tool

Introduction

The 59549L/59549M are high-tech products specially designed flaring tools for HVACR field use. With high capacity charging batteries, they can flare different sizes of brass, aluminum, PVC tubings. Features of auto alarm, auto retract function etc. This new flaring tools can provide convenient, prompt, easy operation service for your work.

Features

- *High capacity provide driving power.
- *Adjustable inside punch for different depth & sizes.
- *Auto retract expander heads with alarm functions.
- *Different sizes of expander heads available.
- *Easy operation, used for 10MM~42MM. Diameter tubing.



Cordless Expander Tool Operation Guide:

1. Deburr inside of tubings.
2. Anneal tubings if necessary (for hard or thick wall tubings).
3. Screw expander head on expander tool.
4. Adjust the length of expander tool punch (rotate clockwise/anti-clockwise to reduce/increase the length)
5. Place the end of tubings on expander head.
6. Press and hold switch until tubing had been expanded. Work complete.



| Spare Expander Heads | | | |
|----------------------|--------|------------|--------------|
| GAMELA NO. | Inch | GAMELA NO. | Metric |
| 59549L-01 | 3/8" | 59549M-01 | 10mm |
| 59549L-02 | 1/2" | 59549M-02 | 12mm |
| 59549L-03 | 5/8" | 59549M-03 | 14mm |
| 59549L-04 | 3/4" | 59549M-04 | 16mm |
| 59549L-05 | 7/8" | 59549M-05 | 18mm |
| 59549L-06 | 1" | 59549M-06 | 22mm |
| 59549L-07 | 1-1/8" | 59549M-07 | 28mm |
| 59549L-08 | 1-1/4" | 59549M-08 | 32mm |
| 59549L-09 | 1-3/8" | 59549M-09 | 35mm(1-3/8") |
| 59549L-10 | 1-1/2" | 59549M-10 | 38mm |
| 59549L-11 | 1-5/8" | 59549M-11 | 42mm(1-5/8") |



CO2 Monitor

3 IN 1 CO2 Monitor

Meas Range : 0~3000 ppm

Resolution : 1 ppm at 0~1000ppm; 5 ppm at 1001~2000ppm; 10 ppm at 2001~3000ppm

Accuracy : Under 25°C

Display : Green

With Temperature & RH, Connect to PC with data log function

VDC from external AC/DC adapter which is included in package.