



HVAC/R Service Products

ED35

Acknowledged globally

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REFMESH

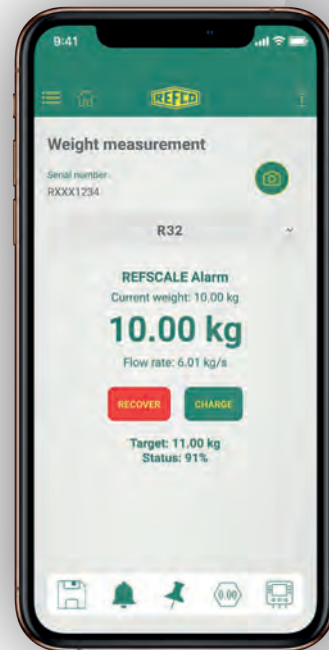
DIGITAL REPORTING

Connected devices ensure fast and easy digital reporting.

Provide evidence of your professional service – the REF MESH

The REF MESH App provides a comprehensive report of all measured parameters. The REFVAC-RC measures the vacuum, the REFSCALE provides the recovered and filled quantities of refrigerants, while the REF MATE takes the system temperature and pressure, and consolidates and stores all measured data as center of communication.

Unique to all is the real-time display of measured values on the device itself, the REF MATE and the REF MESH.



REF MESH App
Free download



Visit our website
for further information.



REFMATE

Digital Manifold

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REFVAC-RC

Digital vacuum gauge

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REFSCALE

Electronic charging scale

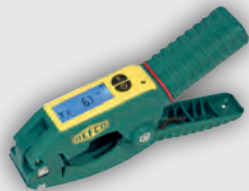
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**WIRELESS-CLAMP
WTC**

Temperature clamp

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TRITECTOR

Leak detector

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Vacuum Pumps

Features for all RL-Vacuum Pumps

- Built specifically for the AC/R Industry
- Latest technology allows extremely compact size
- High-end materials result in low weight but top quality
- Compact, practical, long lifetime
- Sturdy ergonomic handle stays cool to the touch
- Large, easily accessible oil fill port to prevent spillage when filling
- Sight glass for easy viewing of the oil level
- Two-stage rotary vane pump in state of the art design for greater efficiency
- Easy to start, compact motor operates efficiently
- Internal oil pump with unique device to prevent any oil back suction
- Built-in on/off switch to prevent breakage or accidental shut off
- Gas ballast valve feature to help keep the oil clean and to reduce water vapor in the oil compartment
- Easily field replaceable one piece cartridge allows for rebuild without special tooling
- Special designed oil exhaust filter to reduce oil mist
- Quiet operation
- Swiss Quality product manufactured under ISO 9001

RL-2 1.35 cfm

- Includes DV-44 vacuum pump oil (0.5 pt. / 250 ml)

RL-8 6.4 cfm

- Large oil drain valve located at the front bottom of oil pan to allow for fast and easy oil change
- Modern metal, rugged pump design with high-tech plastic housing to absorb shocks
- Ergonomical design for even easier handling
- Lower point of gravity for higher stability
- Both ¼" and ⅜" SAE inlet connections allow for flexibility of connections
- Integrated blank off ball-valve to isolate pump from system
- Includes DV-45 vacuum pump oil (1 pt. / 500 ml)



RL-2

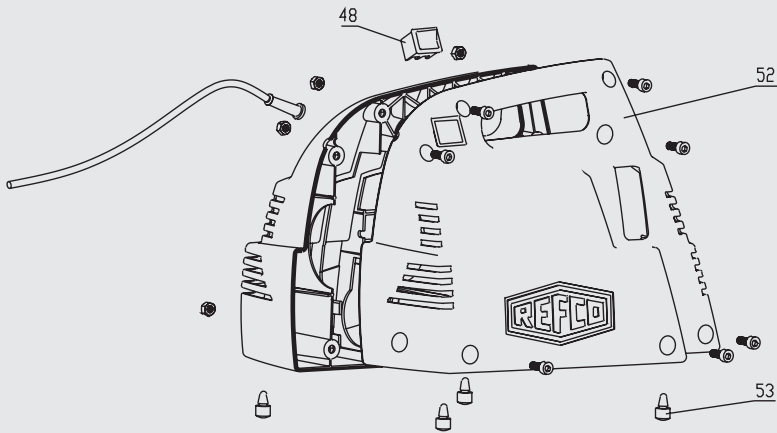


RL-8

Technical Data	RL-2	RL-8
Free air displacement:	1.35 cfm	6.4 cfm
Number of stages:	2	2
Microns:	15	15
Intake threads:	¼" SAE Flare	¼" and ⅜" SAE Flare with integrated ball valve
Motor:	⅓ horsepower, 2700 rpm	½ horsepower, 3300 rpm
Voltage:	115 Volt, 60 Hz	115 Volt, 60 Hz
Power Cord Length:	78"	78"
Oil Capacity:	0.25 pt.	1 pt.
Recommended oil change:	Every 20 working hours	Every 20 working hours
Dimensions:	10.5 x 6.5 x 7.5 inch	14 x 8.6 x 9.8 inch
Weight:	8.3 lbs	26 lbs
Part No.	4661601	4507356

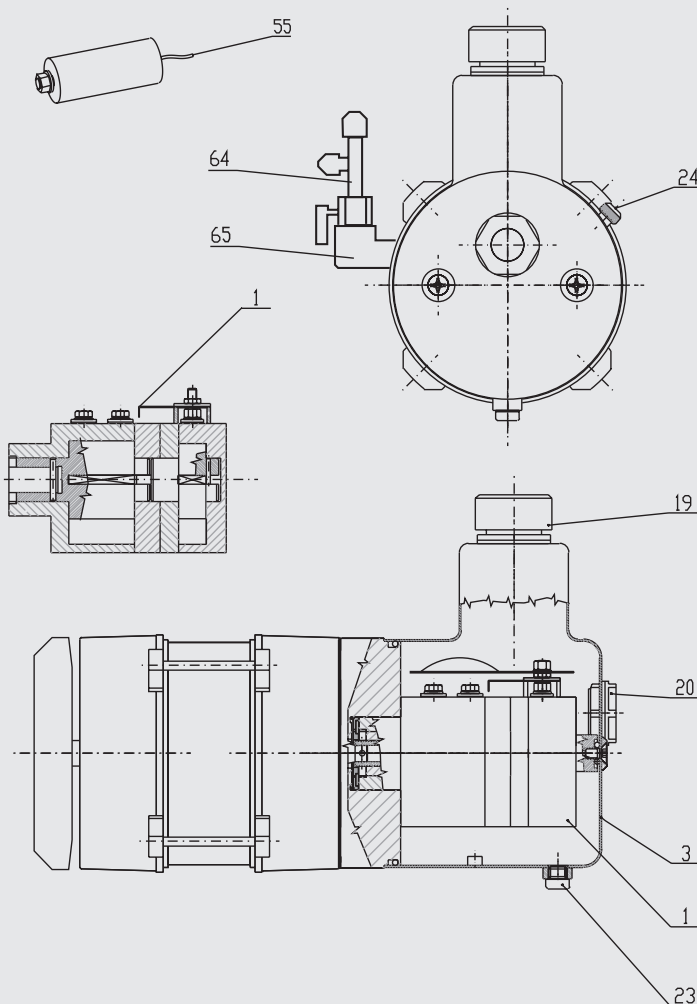


Spare Parts for RL-2, RL-4 and RL-8



Spare Parts for RL-2

Pos.	Designation	Description	Part No.
20	RL-2-3011	Oil sight glass with gasket + counter nut	4661597
24	RL-2/4-3060	Gas ballast valve complete	4661423
55	RL-2-406	Capacitor	4661040
48	RL-2/4/8-415	Switch	4496770
52	RL-2-4000	Housing complete	4661538
64	RL-2-64	Intake port w/cap	4668028



Spare Parts for RL-4

Pos.	Designation	Description	Part No.
23	RL-4/8-310	Oil drain plug with gasket	4496761
24	RL-2/4-3060	Gas ballast valve complete	4661423
55	RL-4-406	Capacitor	4505051
48	RL-2/4/8-415	Switch	4496770

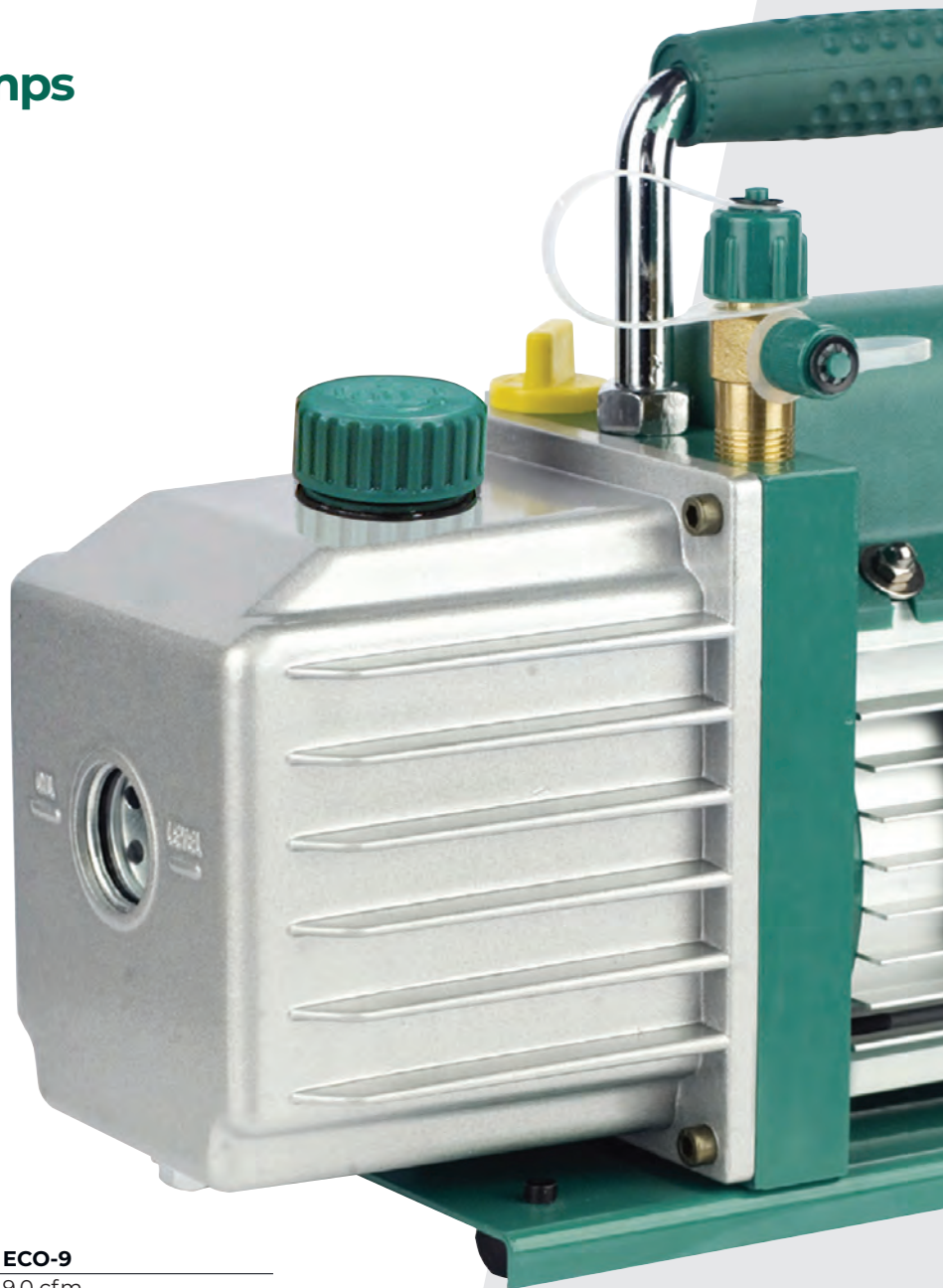
Spare Parts for RL-8

Pos.	Designation	Description	Part No.
3	RL-8-3000	Oil basin complete with gasket	4507607
20	RL-8-3011	Oil sight glass with gasket + counter nut	4507615
23	RL-4/8-310	Oil drain plug with gasket	4496761
24	RL-8-3060	Gas ballast valve complete	4507623
53	RL-8-4071	Rubber pad set (4 pieces)	4507631
55	RL-8-426	Capacitor	4508203
48	RL-2/4/8-415	Switch	4496770
1	RL-8-2A	Vacuum stage complete	4507658
64	RL-8-64	Intake port w/cap	4668045

Vacuum Pumps

ECO Series Vacuum Pumps

- Designed specifically for HVAC/R Service
- Two stage rotary vane pump design
- Compact design with aluminum housing and easy to grip carrying handle
- Very quiet operation
- High pumping capacity reduces evacuation time
- Carrying handle stays cool to the touch
- Easy to start
- Both 1/4" and 3/8" SAE flare inlet connections allow for flexibility of connections
- Vacuum pump oil included
- Value priced but still manufactured to the highest quality and performance specifications



ECO-5

Technical Data	ECO-5	ECO-9
Free air displacement:	5.0 cfm	9.0 cfm
Number of stages:	2	2
Microns:	15	15
Intake threads:	1/4" and 3/8" SAE Flare	1/4" and 3/8" SAE Flare
Motor:	1/2 horsepower	1 horsepower
Voltage:	115 Volt, 60 Hz	115 Volt, 60 Hz
Power cord length:	78"	78"
Oil capacity:	9.5 oz / 0.6 pt.	20 oz / 1.25 pt.
Dimensions:	14 x 5 x 10 inch	16 x 6 x 11 inch
Weight:	24 lbs	37 lbs
Part No.	4667685	4669661





Spare Parts for ECO Series

Pos.	Designation	Description	Part No.
1	ECO-3/5/9-1	Rubber feet	4667757
2	ECO-3/5/9-3	Oil drain plug	4667774
3	ECO-3/5/9-4	Handle	4667782
4	ECO-3/5/9-5	Oil fill cap (yellow)	4667790
5	ECO-3/5/9-8	Protection cap	4667820
5	ECO-3/5-20N	Exhaust cap for ECO-3/5	4684580
5	ECO-9-20	Exhaust cap for ECO-9	4684604
6	NFT5-4-K-Green	Seal flare cap ¼" for ECO-3/5/9	4676110
7	NFT5-6-K-Green	Seal flare cap ⅜" for ECO-5/9	4676128
8	ECO-3-9	On/Off switch	4678911
8	ECO-5-9	On/Off switch	4678929
8	ECO-9-9	On/Off switch	4678937
9	ECO-3-10	Fan cover for ECO-3	4678946
9	ECO-5-10	Fan cover for ECO-5	4678954
9	ECO-9-10	Fan cover for ECO-9	4678962
10	ECO-3-11	Fan blades for ECO-3	4678970
10	ECO-5-11	Fan blades for ECO-5	4678988
10	ECO-9-11	Fan blades for ECO-9	4678996



DV-44/45/46

Vacuum Pump Oil for RL-2, RL-4, RL-8, ECO Series

- REFCO Vacuum pump oil is specifically manufactured to allow your vacuum pump to operate efficiently in different types of operating conditions

Designation	Description	Part No.
DV-44	0.5 pint (250 ml) Vacuum pump oil	4495340
DV-45	1 pint (500 ml) Vacuum pump oil	4495358
DV-46	1 quart (1000 ml) Vacuum pump oil	4495366

Recovery

ENVIRO

This state of the art, one-knob operation recovery machine allows for recovery of all popular CFC, HCFC and HFC refrigerants including R410A. The oil-less, aircooled compressor assures efficient and fast operation, making irritating oil changes unnecessary.

In comparison to other compressors, this unit runs extremely quiet and without vibrations. The compact and ergonomic design as well as the rugged construction provide maximum protection during transport and usage. The ENVIRO is equipped with a self-purging mode as well as a built in filter which is easy to clean and replace.

Technical Data:

- Compressor: 3/4 hp, oil-less, maintenance free
- Power supply: 115 V, 60 Hz
- Gauge: Oil-filled
- Weight: 32 lbs
- Dimensions: 16 x 10 x 14 in
- Certified to AHRI 740

Recovery Rate:

- Vapor rate: up to max. 0.80 lbs/min
- Liquid rate: up to 5 lbs/min
- Push-pull up to max. 14 lbs/min

Part No. 4684593



ENVIRO



ENVIRO DUO

This high performance, state of the art, one-knob operation recovery machine allows for maximum recovery of all popular CFC, HCFC and HFC refrigerants including R410A. The oil-less, air-cooled, 2-piston compressor makes an impact due to its impressive performance.

Even in close proximity, the noise level during operation is low in comparison to common compressors. The compact and ergonomic design as well as the rugged construction provide maximum protection from transport and usage. The ENVIRO-DUO is equipped with an 80% overfill-protection. Additionally the unit is equipped with a self-cleaning mode as well as a built in filter which is easy to clean and replace.

**Two Piston
Recovery
Machine**

Technical Data:

- Compressor: 1 hp, oil-less, maintenance free
- Power supply: 115 V, 60 Hz
- Gauge: Oil-filled
- Weight: 35 lbs
- Dimensions: 16 x 10 x 14 in
- Certified to AHRI 740

Recovery Rate:

- Vapor rate: up to max. 1.2 lbs/min
- Liquid rate: up to max. 7.7 lbs/min
- Push-pull rate: up to max. 21 lbs/min

Part No. 4684605



ENVIRO DUO

Pressure Gauges

Principle of REFCO Gauges



Bellow Type Gauge Class 1.0



The metal-bellow-type gauges are very sensitive and therefore absolutely accurate (class 1).

The hardened steel spring **A** includes the brazed metal-bellow **S** and is slightly bent under a load (see drawing).

This combination set is tied up with the system-holder **R**, which is mounted on the gauge-housing **a - b**.

The working fork **F** is connected with the gauge-mechanism.

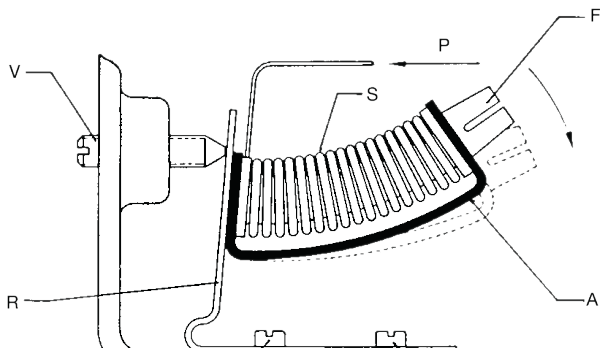
If pressure **P** is applied to the gauge the metal-bellow **S** will activate the working fork **F** and the pointer will show correct reading on the scale.

Metal-bellow-type gauges are extremely over-pressure resistant and made according to accuracy class 1.

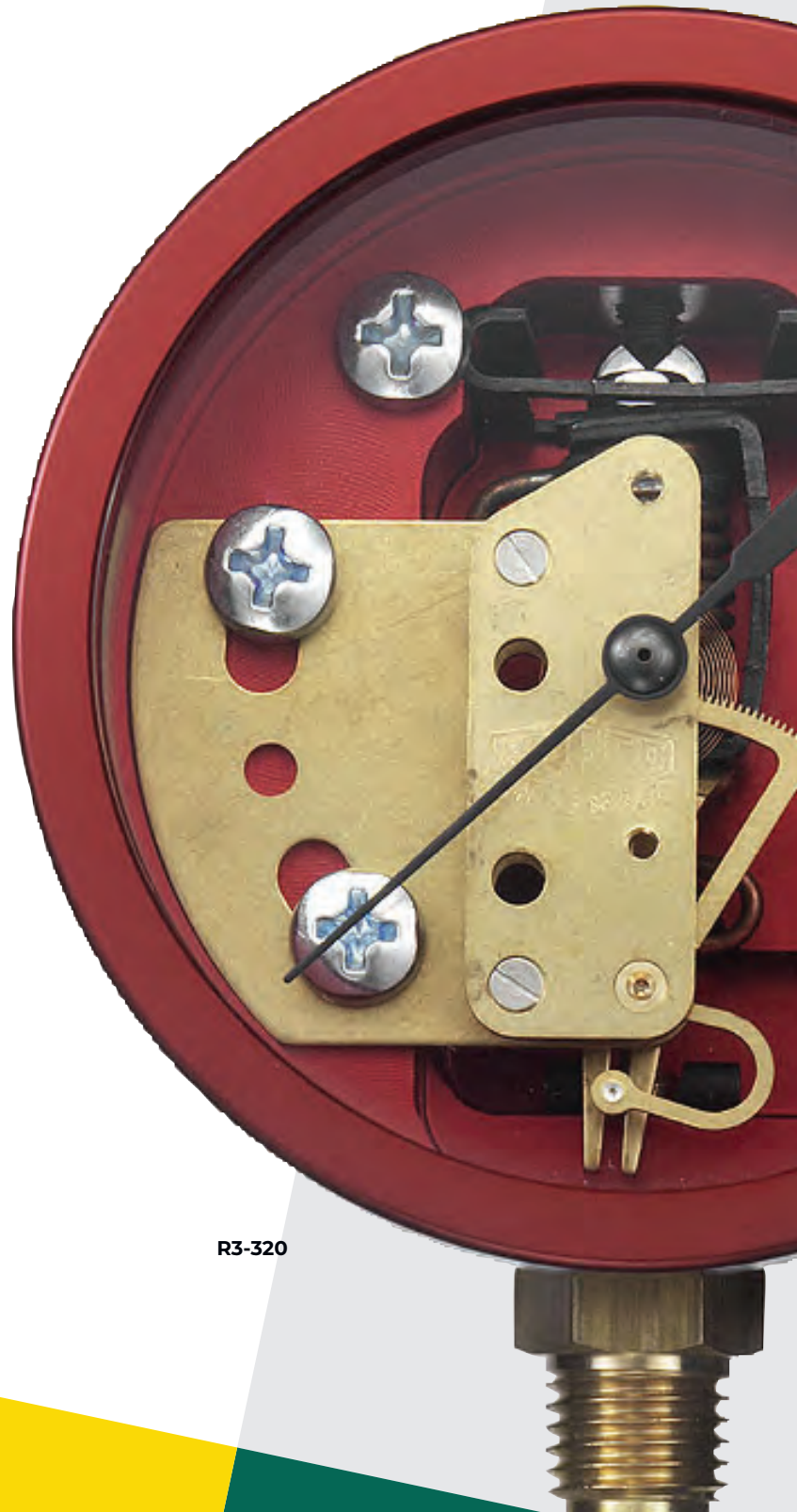
If for instance to a compound gauge with a range from $-30 + 140$ psi an overpressure 350 psi is applied, the pointer will turn around $2 \frac{1}{2}$ times.

After release of the pressure the gauge is still in perfect condition and the pointer should only be slightly re-calibrated with the zero-screw **V**.

A Bourdon-type gauge would never stand such an over-pressure and would be destroyed.



- A - Steel spring
- S - Metal-Bellow
- R - System holder
- F - Working fork
- V - Zero-Screw
- P - Pressure inlet



R3-320

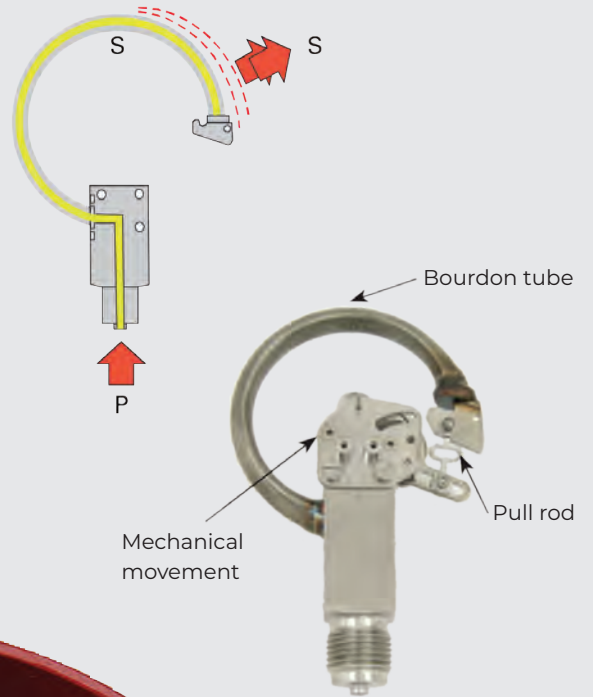


Bourdon Type Gauge Class 1.0 and 1.6

SWISS movement

Conversion of a pressure p into a way s

Under pressure the flattened, hollow tube is trying to reach it's circular perfect condition.
The movement of the tube end is carried forward over the pull rod to an internal mechanical movement and is converted into a rotation of the gauge needle.



M2-500

Pressure Gauges

REFCO Gauges General Information

Class 1 vs. Class 1.6 vs. Class 2 accuracy gauges

Class 1 gauges are accurate within ± 1 percent reading all the way around the gauge dial. These gauges are the most accurate offered by REFCO.

Class 1.6 gauges are accurate within ± 1.6 percent reading all the way around the gauge dial. These gauges are also very accurate and are the standard accuracy gauge offered by REFCO.

Class 2.0 gauges are accurate within ± 2 percent over the first $\frac{1}{3}$ of the gauge dial, ± 3 percent over the next $\frac{1}{3}$ of the gauge dial and then ± 2 percent over the last $\frac{1}{3}$ of the gauge dial. This is commonly called 2-3-2 accuracy. These gauges are least accurate where most of the readings are taken.

REFCO uses as standard on manifolds Class 1.6 accuracy gauges and on higher end manifolds Class 1.0 accuracy gauges. Most competitors use as standard the Class 2 or 2-3-2 accuracy gauges. This makes REFCO manifolds more accurate. REFCO DOES NOT USE ANY CLASS 2 or 2-3-2 accuracy GAUGES ON ITS MANIFOLDS. Unlike many service tool suppliers REFCO manufactures their own gauges.

Standard Refrigerant

Temperature Scales:

R12	= R12/R22/R502
R22	= R22/R134a/R404A
R32	= R32/R410A
R134a	= R134a/R404A/R507
R410A	= R410A
R410A-FG	= R410A/R404A/R22

Standard Pressure Scales:

R12, R22 and R134a gauges:
Low side 30" vacuum up to 120 psi, retard protection to 350 psi
High side 0 psi up to 500 psi
R410A gauges:
Low side 30" vacuum up to 500 psi
High side 0 psi up to 800 psi

Standard Features of REFCO KM2 and M2 Series Class 1.6

Bourdon Tube Gauges are:

- Class 1.6 accuracy
- 2 $\frac{3}{4}$ " or 68 mm outside diameter
- Zero point adjustable
- Pulse free
- Color-coded for pressure and compound
- Standard $\frac{1}{8}$ " NPT bottom connection
- All brass internal parts, no plastic

Standard Features of REFCO GR Series, Glycerine, Class 1.6

Bourdon Tube Gauges are:

- Class 1.6 accuracy
- 2 $\frac{3}{4}$ " or 68 mm outside diameter
- Glycerine-filled
- Standard $\frac{1}{8}$ " NPT bottom connection
- All brass internal parts, no plastic

Same features for GR Series but with:

- Zero point adjustable
- Color-coded for pressure and compound

Color-coded for easy high and low side identification

Temperature units of the vapor pressure table

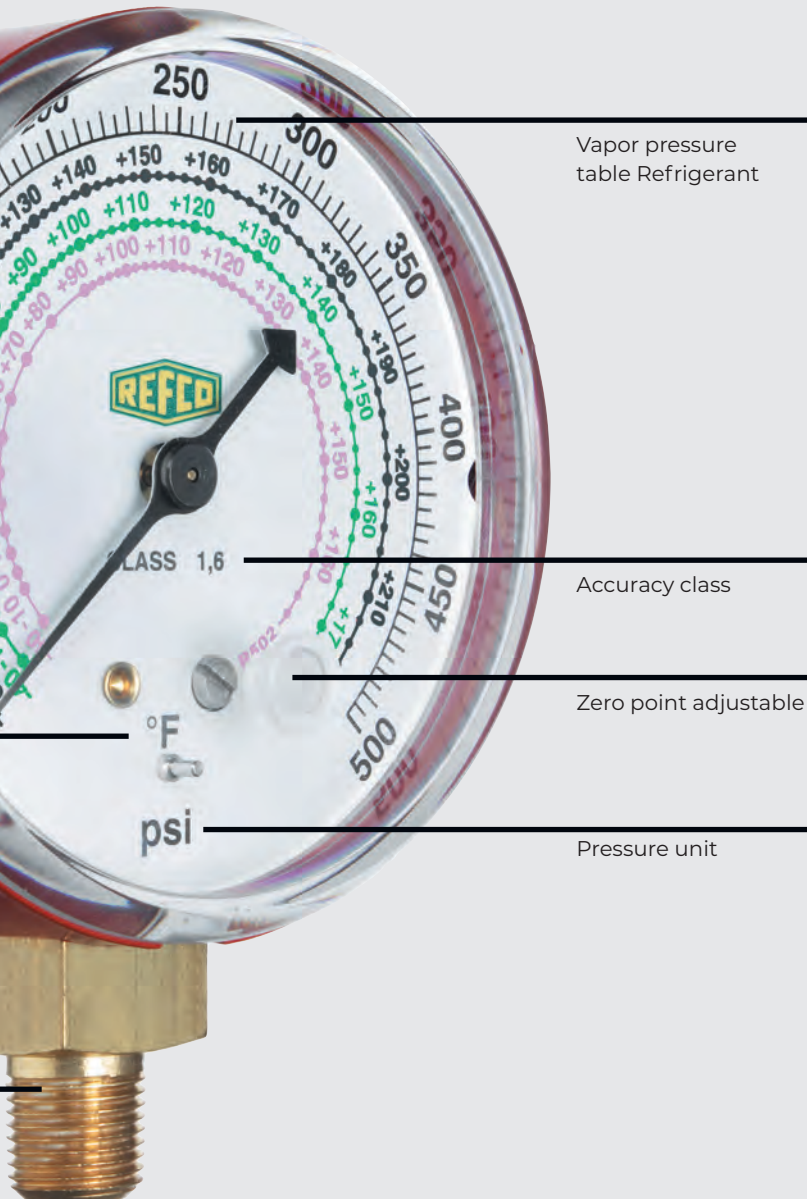
Standard $\frac{1}{8}$ " NPT connection



Standard Features of REFCO M5 Series Class 1.0

Bourdon Tube Gauges are:

- Class 1 accuracy
- 3 ¼" or 80 mm outside diameter
- Easy to read
- Retard protection
- Zero point adjustable
- Pulse free
- All brass internal parts, no plastic



Vapor pressure table Refrigerant

Accuracy class

Zero point adjustable

Pressure unit

Standard Features of REFCO R3 and R5 Class 1.0

Bellow Gauges are:

- Bellow type gauges are extremely over-pressure resistant.
- A bellow type gauge can withstand up to 2.5 times over-pressurization of the printed pressure scale without damage to the gauge. A bourdon tube gauge cannot withstand this type of over-pressurization
- Class 1.0 accuracy
- Available in 2 ¾" (68 mm) or 3 ¼" (80 mm), both large and easy to read. PM series only available in 3" (76 mm)
- Zero point adjustable
- Silicone oil-filled, except PM series
- Aluminum anodized body for R3 and R5 series
- PM series is made with a fiberglass body
- Hermetically sealed, no oil fill plug on the top of the gauge to allow seepage or leakage for R3 and R5 series
- Color-coded for pressure and compound
- Standard ½" NPT bottom connection
- All brass or steel internal parts, no plastic
- Relief device on back of gauge in case of extreme over-pressurization for R3 and R5 series

Pressure and Vacuum Gauges

General Information:

Standard threaded connection – ½" NPT

F = pressure scale on gauge in psi and temperature scale in degrees F

Temperature scales:

R12	= R12/R22/R502
R22	= R22/R134a/R404A
R32	= R32/R410A
R134a	= R134a/R404A/R507
R410A	= R410A
R410A-FG	= R410A/R404A/R22

Pressure scales:

R12, R22, R134a gauges:

Low side 30" vacuum up to 120 psi, retard to 350 psi

High side 0 psi up to 500 psi

R410A:

Low side 30" vacuum up to 500 psi

High side 0 psi up to 800 psi

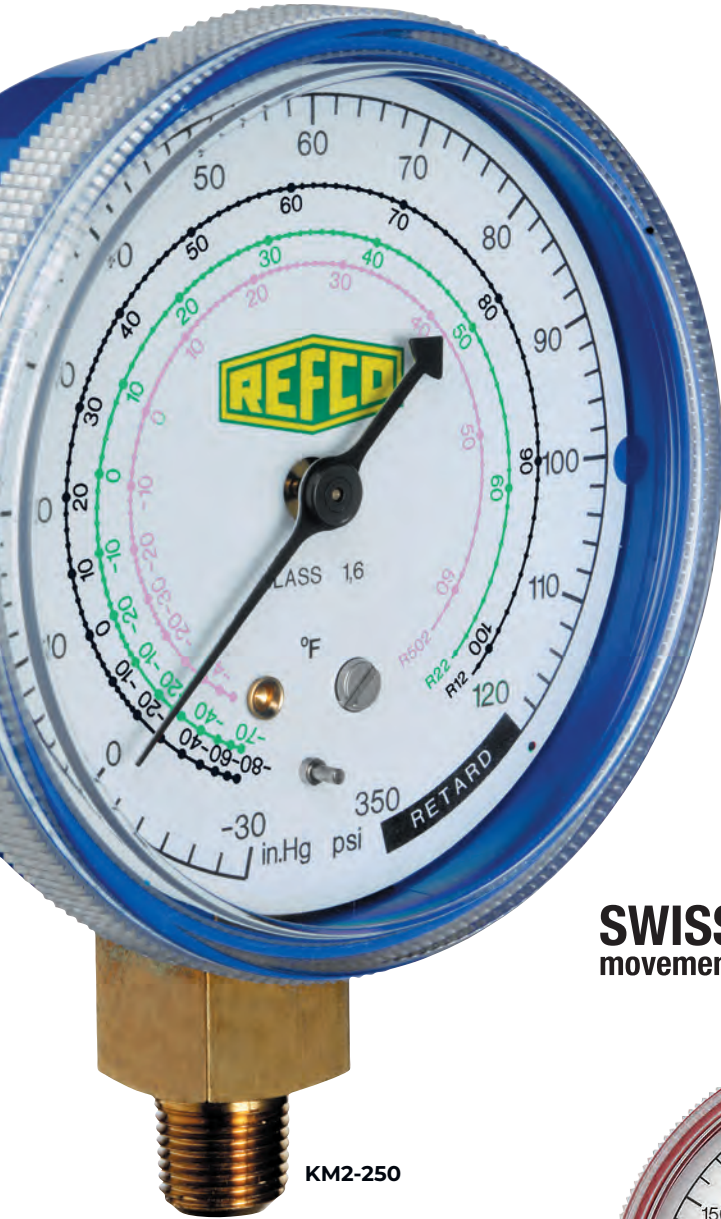
Pressure Gauges

Standard Bourdon Tube Pressure Gauges



KM2 standard series

- Class 1.6 accuracy, bourdon tube design
- 2 3/4" (68 mm) outside diameter, easy to read
- Zero point adjustable
- Pulse free
- Color coded for easy high and low side identification
- Composite housing
- Standard 1/8" NPT connection
- Gauge internals are all brass, no plastic pieces



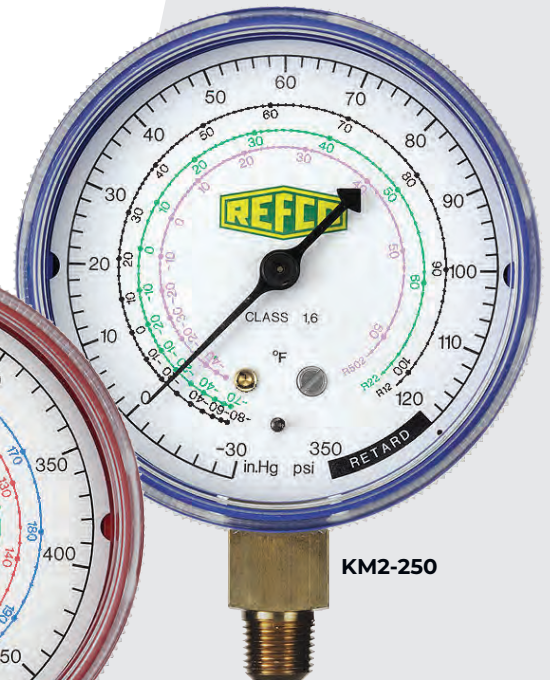
KM2-250

SWISS
movement

Designation	Description	Part No.
KM2-250-F-R12	R12/R22/R502 scales, compound	4530152
KM2-500-F-R12	R12/R22/R502 scales, pressure	4530161
KM2-250-F-R22	R22/R134a/R404A scales, compound	4505417
KM2-500-F-R22	R22/R134a/R404A scales, pressure	4505425
KM2-250-F-R134a	R134a/R404A/R507 scales, compound	4530179
KM2-500-F-R134a	R134a/R404A/R507 scales, pressure	4530187
KM2-001	Replacement lens cover	4503350



KM2-500

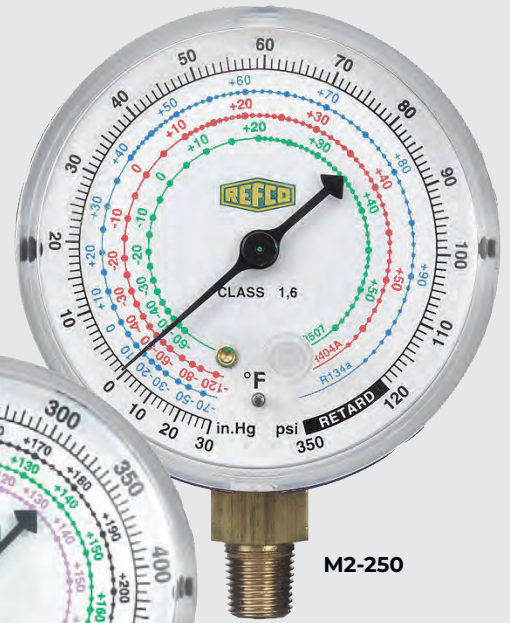


KM2-250





M2-500



M2-250



M2-500

SWISS
movement

M2 Premium Series

- Standard all metal housing and easy to read through lens cover
- Class 1.6 accuracy, bourdon tube design
- 2 3/4" (68 mm) outside diameter, easy to read
- Zero point adjustable
- Pulse free
- Color-coded for easy high and low side identification
- Standard 1/8" NPT connections
- Gauge internals are all brass, no plastic pieces

Designation	Description	Part No.
M2-250-F-R12	R12/R22/R502 scales, compound	7829168
M2-500-F-R12	R12/R22/R502 scales, pressure	7829567
M2-250-F-R22	R22/R134a/R404A scales, compound	7635083
M2-500-F-R22	R22/R134a/R404A scales, pressure	7635147
M2-250-F-R410A	R410A scale, compound	7829982
M2-500-F-R410A	R410A scale, pressure	7830000
M2-250-F-R32	R410/R32 scales, compound	4687453
M2-500-F-R32	R410A/R32 scales, pressure	4687454
M2-250-F-R410A-FG	R410A/R404A/R22 scales, compound	7218188
M2-500-F-R410A-FG	R410A/R404A/R22 scales, pressure	7218358
M2-001	Replacement lens cover	1212648
M2-GS	Gauge protector set	4677451



M2-GS



Zero point adjustment

Pressure Gauges

Bourdon Tube Gauges Glycerin Filled and dry Execution



GR-320



GR-220

**SWISS
movement**

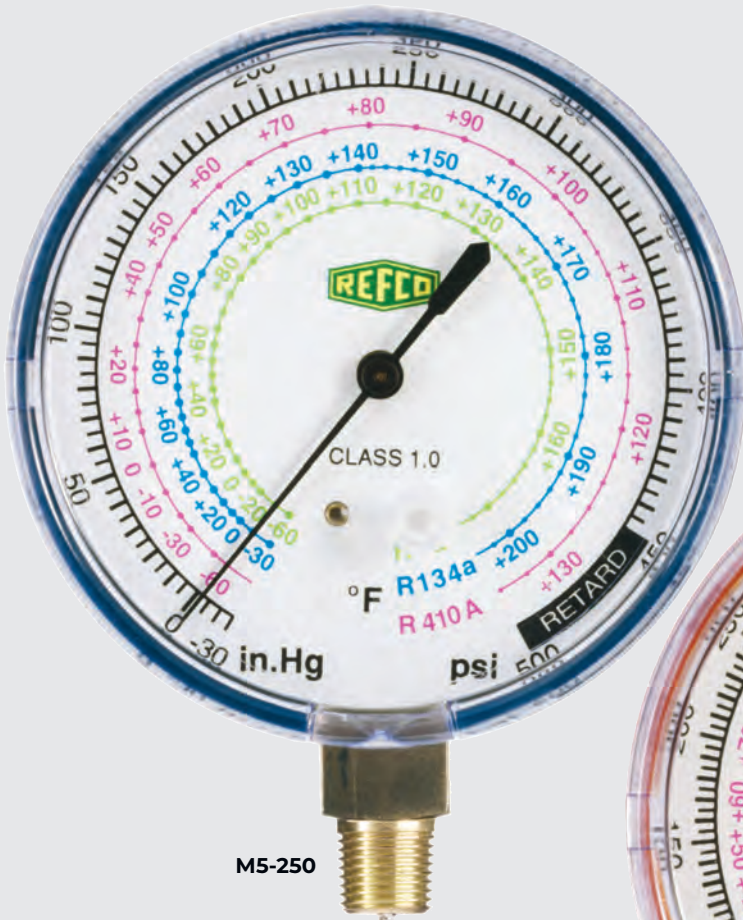
GR Series

Glycerin Filled Gauges

- Class 1.6, glycerin filled, bourdon tube gauge
- Zero point adjustable
- Color-coded for easy high and low side identification
- 2 3/4" (68 mm) outside diameter, easy to read
- Pulse free
- Standard 1/8" NPT connection

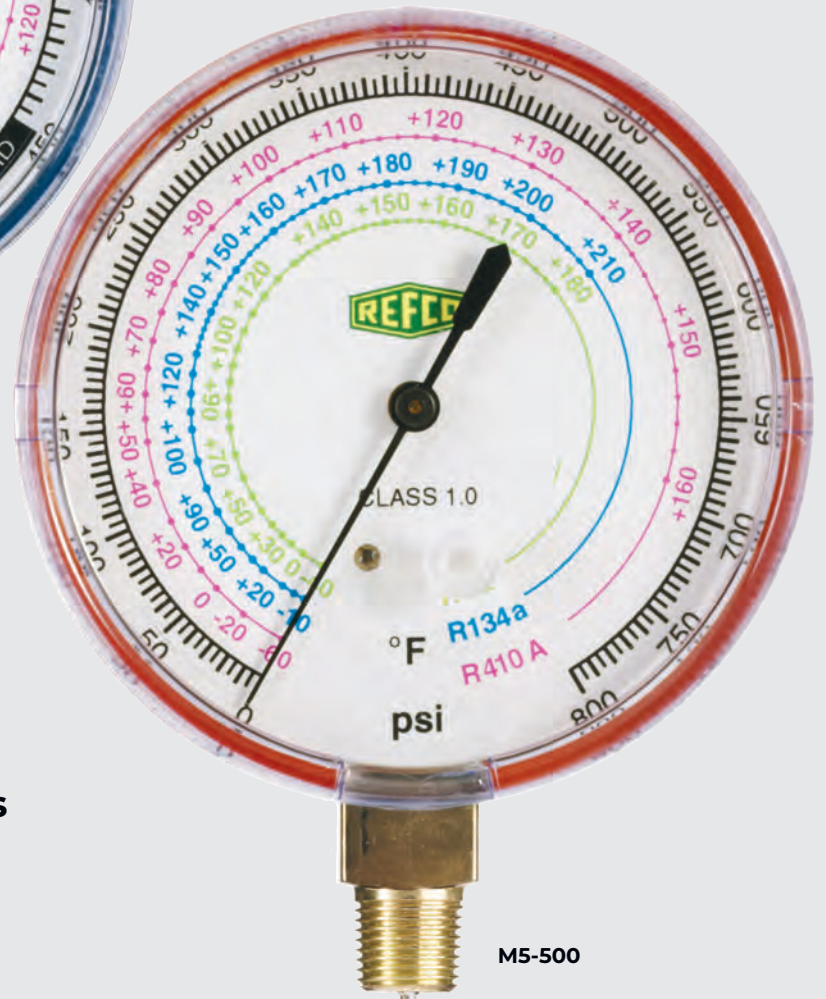
Designation	Description	Part No.
GR-220-F-R12	R12/R22/R502 scales, glycerin-filled, compound	7714013
GR-320-F-R12	R12/R22/R502 scales, glycerin-filled, pressure	7714098
GR-220-F-R134a	R134a/R404A/R507 scales, glycerin-filled, compound	7714064
GR-320-F-R134a	R134a/R404A/R507 scales, glycerin-filled, pressure	7714102





M5-250

SWISS
movement



M5-500

M5 Series Large Bourdon Tube Gauges

- 3 ¼" (80 mm) outside diameter, easy to read
- Bourdon tube, Class 1.0 accuracy
- Retard protection
- Zero point adjustable
- Metal housing
- Pulse free

Designation	Description	Part No.
M5-250-F-R410A-FG	R410A/R134a/R22 scales, compound	4675288
M5-500-F-R410A-FG	R410A/R134a/R22 scales, pressure	4675296

Pressure Gauges

Bellow Type, Class 1.0 Gauges, Oil Filled and Dry Execution

Fundamentals of a Bellow Gauge – The best gauge you'll ever have.

A metal bellow type gauge is very sensitive and therefore much more accurate than a standard bourdon tube gauge. The main benefit of a bellow type gauge is that it is extremely accurate and highly over-pressure resistant. The bellow gauge is accurate within 1% around the gauge face and can withstand up to 2.5 times over-pressurization without damage to the gauge. A bourdon tube gauge would never withstand this type of over-pressurization.



R3-320



R3 Series Oil Filled Bellow Type Gauges

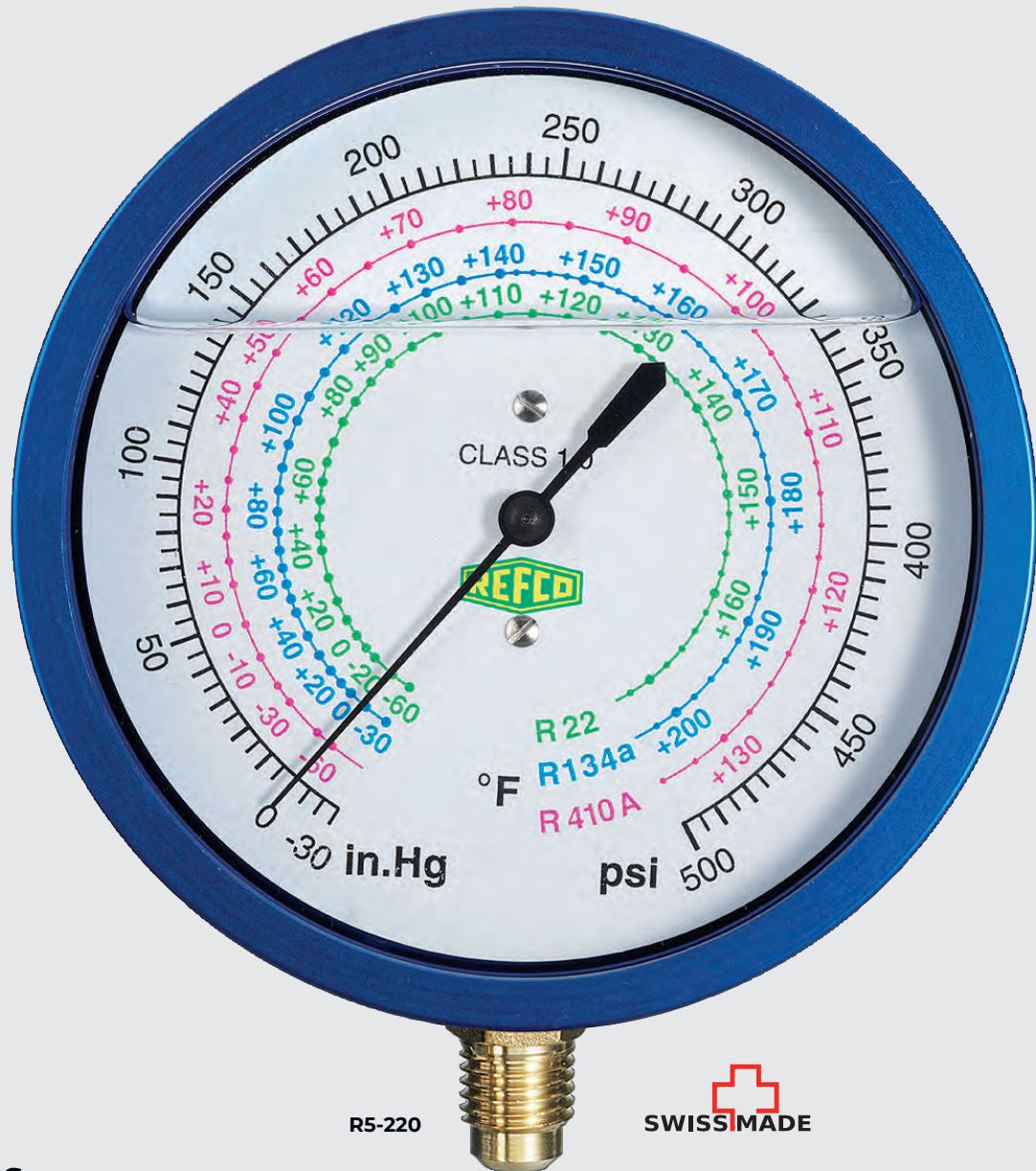
- Bellow type, Class 1.0 accuracy, oil filled gauge
- Hermetically sealed, no oil fill plug on the top of gauge to allow leakage
- Highly over-pressure resistant, can withstand up to 2.5 times the printed scale
- Zero point adjustable
- All anodized aluminum body, no plastic
- Color-coded for easy identification of high and low side
- 2 3/4" (68 mm) outside diameter, easy to read
- Pulse free

Designation	Description	Part No.
R3-220-F-R12	R12/R22/R502 scales, oil-filled, compound	9884479
R3-320-F-R12	R12/R22/R502 scales, oil-filled, pressure	9884480
R3-220-F-R22	R22/R134a/R404A scales, oil-filled, compound	4667472
R3-320-F-R22	R22/R134a/R404A scales, oil-filled, pressure	4667480
R3-220-F-R134a	R134a/R404A/R507 scales, oil-filled, compound	9884481
R3-320-F-R134a	R134a/R404A/R507 scales, oil-filled, pressure	9884482
R3-220-F-R410A-FG	R410A/R404A/R22 scales, oil-filled, compound	4662399
R3-320-F-R410A-FG	R410A/R404A/R22 scales, oil-filled, pressure	4662403



Zero point adjustment





R5-220

SWISSMADE

R5 Series

Oil Filled Bellow Type Gauges

- All of the R3 features except it has a larger outside diameter
- 3 ¼" (80 mm) for an extra easy to read gauge face

Designation	Description	Part No.
R5-220-F-R12	R12/R22/R502 scales, oil-filled, compound	4493916
R5-320-F-R12	R12/R22/R502 scales, oil-filled, pressure	4493924
R5-220-F-R410A-FG	R410A/R404A/R22 scales, oil-filled, compound	4675300
R5-320-F-R410A-FG	R410A/R404A/R22 scales, oil-filled, pressure	4675318



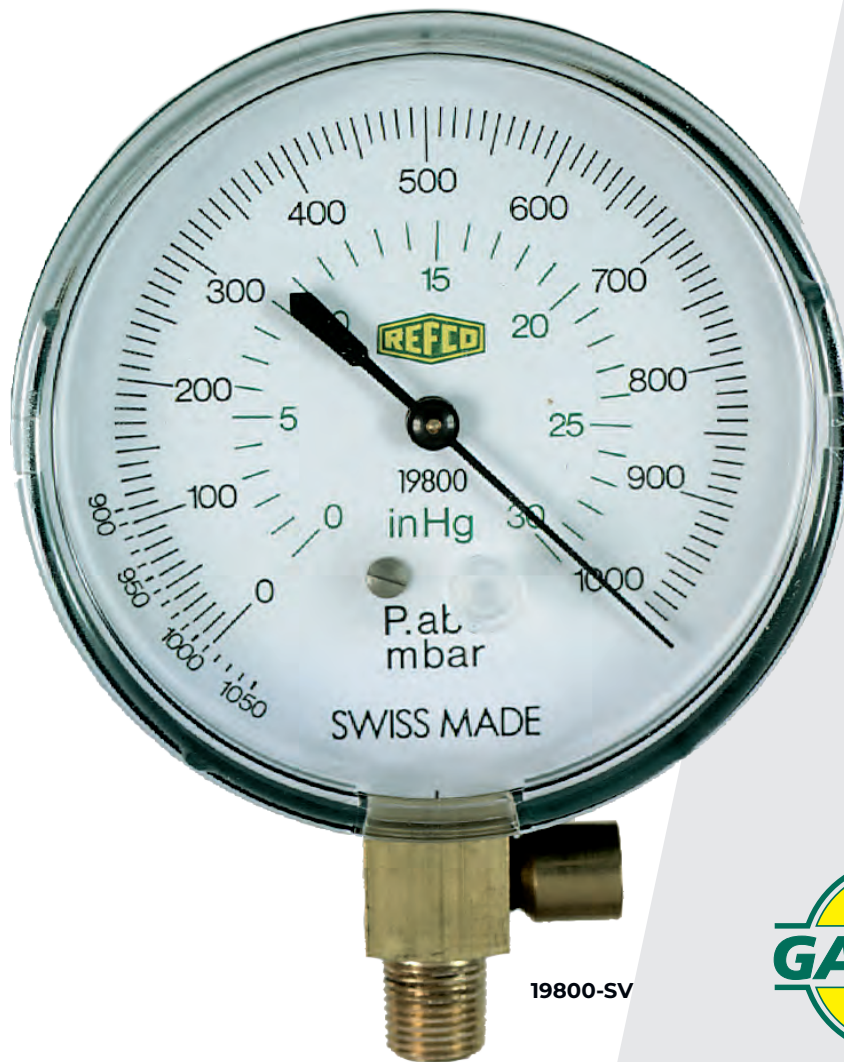
Vacuum Gauges

Mechanical Vacuum Gauges

19800-SV

- Full range Mechanical Vacuum gauge
- Complete with replaceable safety relief device if positive pressure is introduced into gauge
- 3 ¼" outside diameter for easy to read, more accurate reading than a compound gauge
- ½" NPT bottom connection
- Zero point adjustable
- Scales in 1000 - 0 mbar and 30" - 0 Hg

Designation	Description	Part No.
19800-SV	Mechanical Vacuum gauge with replaceable safety relief device	9882473



19800-SV



Electronic Vacuum Gauge

REFVAC-RC

The digital vacuum gauge REFVAC-RC is the optimal device for checking the evacuation process on the construction site or in the laboratory. Unique is the possibility to read the numerical value from atmospheric pressure directly on the device. Operation has never been so easy: the entire navigation is done with only three buttons and is self-explanatory. In addition, the device scores with its high accuracy and communicates wirelessly with the REF MESH App and the REF MATE, so that long-term measurements are possible with it. With the help of the REF MESH, all measured values are compiled in a detailed report.

Sensor Type:	Micro-Pirani Sensor
Pressure Type:	Absolute pressure
Pressure Range:	atm – 0 micron
Accuracy:	±5% of the reading or ±10 micron: From 10 to 10'000 micron ±10% of reading: From 10'000 to 30'000 micron
Units:	mbar / Pa / Torr / inHg / mTorr / micron / psi
Indication:	From 30'000 micron to atm
Resolution:	0.1 micron: 149.9 micron; 1 micron: 150 – 1'499 micron; 10 micron: 1'500 – 7'490 micron; 100 micron: 7'500 – 19'900 micron; 10'000 micron: 20'000 – 760'000 micron
Working Pressure:	435 psi
Temperature Range:	68 °F – 122 °F
Gas Connection:	¼" SAE
Battery-lifetime:	100 hours
IP Protection:	IP42
Material:	Brass / ABS / FR-4 / PC
Standards:	CE / FCC / IC / RCM / RoHS / REACH
Scope of Supply:	Batteries / Pouch / Calibration Certificate / Quick Guide / Filter (inserted)

Part No. 4688541

Designation	Description	Part No.
REFVAC-FILTER/5	Spare Sinter filter, 5 pcs.	4688566
VCL-60-3/8"SAE X 1/4" SAE	High performance vacuum hose for the efficient evacuation of refrigeration systems. Length: 5 feet Hose inner Ø: 3/8" Connections: 3/8" SAE x 1/4" SAE	4688477
SWIVEL-ARM-1/4"SAE-N	Swivel arm 1/4" SAE	4687631
REF-VAC-T	Forged female flare branch tee 3 x 1/4" SAE, with O-ring	4687845



REF-VAC

- Integrated display
- Display of differential pressure and pressure change
- High precision
- High resolution in low vacuum
- Wireless communication
- Signal range: 328 feet
- Intuitive handling
- Replacement Sinter filter prevents pollution of the sensor
- Flexible power supply with USB



REFVAC-FILTER/5



VCL-60-3/8"SAE X 1/4" SAE



SWIVEL-ARM



REF-VAC-T











Digital Manifolds

REFMATE

REFMATE – Simply better measurements

The REFMATE is the Digital Manifold for the professional refrigeration engineer. It communicates wirelessly with temperature clamps, pressure gauges, and the scale, and documents all measured values in the device during long-term measurements. All data can be interpreted and displayed via the App REF MESH™. The latest refrigerant and firmware updates can be easily installed via PC.

Features and Benefits

-  Patented analog display with pointers
-  High precision thanks to accuracy class 0,5
-  Large 4.3-inch TFT color display
-  Flexible power source (AA batteries or USB)
-  Superheat and subcool indicator
-  Wireless communication with App and other devices
-  Intuitive control via buttons
-  Lockable for long-term measurements
-  Connection with (wireless) Temperature clamps
-  Delivered with 5 charging hoses, Swiss Made



REFMATE-2

REFMATE-4





WELL-STRUCTURED

The large color display shows measured values in either analog or digital format. The pointers react sensitively and in real time.



COMMUNICATIVE

The REF MATE connects different peripheral and measuring devices with the REF MESH™ App.



RECEPTIVE

Long-term data logging and maintenance activities are automatically stored in the REF MATE and documented in the REF MESH™ App.



QUICK

Access the most relevant refrigerants by setting favorites.



UP-TO-DATE

Refrigerant and software updates can be carried out independently and free of charge.



PRECISE

The sensor's high level of accuracy is complemented by the compensation of the temperature measurement errors on the tube.



ADAPTABLE

The display's screen settings can be easily adjusted depending on the light conditions and environmental factors.

Digital Manifolds

Technical Data

Property	Value
Pressure sensors:	
Pressure range:	-14 to 870 psi
Max. working pressure:	870 psi
Max. overpressure:	1160 psi
Accuracy:	±0.5% (class 0.5)
Units:	psi / bar / kPa / MPa / kg/cm ²
Resolution:	0.5 psi / 0.001 bar / 1 kPa / 0.0001 MPa / 0.01 kg/cm ²
External temperature sensors:	
Temperature range:	-40 °F to +257 °F / -40 °C to +125 °C
Connector:	K-type
Temperature accuracy:	±1K
Temperature units:	°F / °C
Resolution:	0.1 °F / 0.1 °C
Temperature clamps:	
Temperature range:	-40 °F to +257 °F / -40 °C to +125 °C
Connector:	K-type
Temperature accuracy:	±1K
Temperature units:	°F / °C
Resolution:	0.1 °F / 0.1 °C
Tube diameters:	¼" to 1 ½" / 6 mm to 38 mm
Tube dia. wireless temp.:	¼" to 1 ⅝" / 6 mm to 42 mm
Charging hoses:	3 charging hoses ¼" SAE (blue, red, yellow / 60"), with or without CA valves. REFMATE-4: special vacuum hose ⅜", 60"
Ambient temperature:	-4 °F to +122 °F / -20 °C to +50 °C
Storage temperature:	-4 °F to +140 °F / -20 °C to +60 °C
Display:	4.3" TFT color display
Ingression Protection:	42
Power source:	4 x 1.5 V AA / Mignon / LR6 or via USB
Operating hours:	50 h at low operation
Signal range:	328 ft (100 m)
Connectors:	REFMATE-2: 2 x ¼", ¼" vacuum REFMATE-4: 3 x ¼", ⅜" vacuum
Material:	Glass fibre-reinforced ABS, TPE, aluminium, brass
Dimensions of sturdy plastic case (H x W x D):	4.2" x 13.9" x 20.7" / 107 x 353 x 526 mm
Device dimensions (H x W x D):	REFMATE-2: 7.7" x 7.7" x 3.1" / 195 x 195 x 78 mm REFMATE-4: 7.7" x 8.9" x 3.2" / 195 x 227 x 81 mm
Weight:	REFMATE-2: 2.3 lbs / REFMATE-4: 3.1 lbs
Refrigerants and firmware:	Over 80 in basic version. Easy update by means of free REF MESH™ App and computer
Conformity:	CE / FCC / IC / RCM / RoHS / REACH

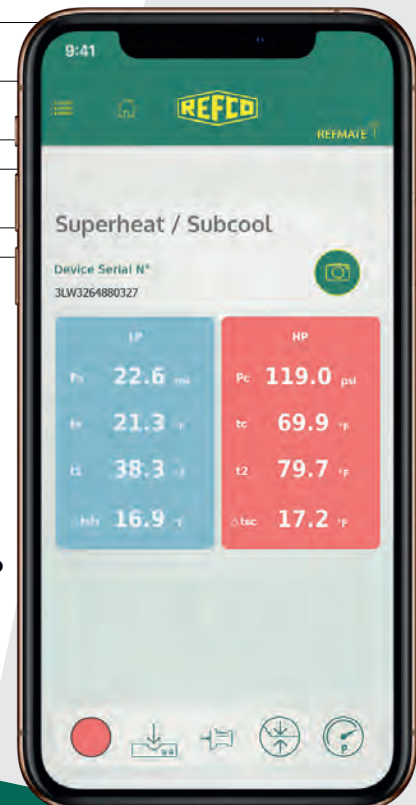


REFMESH™

FULLY CONNECTED The REF MESH™ App – an IoT platform

Because everything is connected to everything, we've developed a new App called REF MESH™. As an IoT platform, the software connects a large number of peripheral devices with the REF MATE.

Data can be stored in the REF MATE, in the App and in the cloud, and can be made available in various formats to other users or customers.

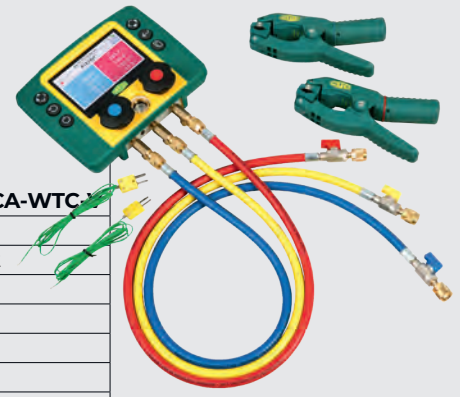


REF MESH™ App



REFMATE-2

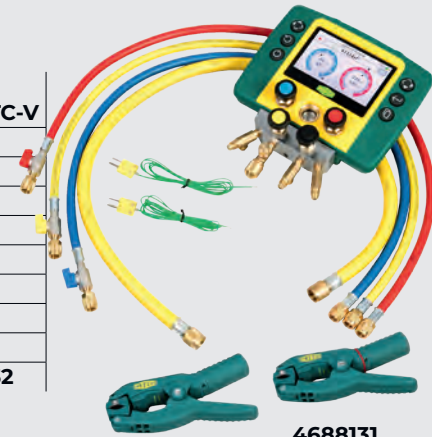
Components	BASIC	Standard	CA	CA-TC	CA-WTC	CA-WTC-V
Sturdy plastic case	1	1	1	1	1	1
K-type temperature sensors	2	2	2	2	2	2
3-piece hose set		1				
3-piece hose set with CA valves			1	1	1	1
Special vacuum hose 3/8"						
Temperature clamps				2		
Wireless temperature clamps					2	2
Digital vacuum gauge						1
	4688297	4688124	4688125	4688126	4688127	4688128



4688127

REFMATE-4

Components	BASIC	Standard	CA	CA-TC	CA-WTC	CA-WTC-V
Sturdy plastic case	1	1	1	1	1	1
K-type temperature sensors	2	2	2	2	2	2
3-piece hose set		1				
3-piece hose set with CA valves			1	1	1	1
Special vacuum hose 3/8"		1	1	1	1	1
Temperature clamps				2		
Wireless temperature clamps					2	2
Digital vacuum gauge						1
	4688298	4688129	4688100	4688130	4688131	4688132



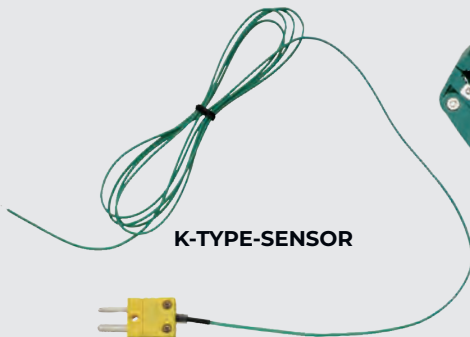
4688131

Refrigerant(s)

R11 | R113 | R114 | R123 | R124 | R13 | R13B1 | R134a | R14 | R22 | R23 | R32 | R41 | R125 | R142b | R152A | R161 | R170 | R227ea | R236ea | R236fa | R245fa | R290 | R401A | R401B | R401C | R402A | R402B | R403B | R404A | R406A | R407A | R407B | R407C | R407D | R407F | R407H | R408A | R409A | R410A | R411A | R412A | R413A | R414B | R416A | R417A | R420A | R421A | R422A | R422B | R422C | R422D | R424A | R426A | R427A | R434A | R437A | R438A | R442A | R444A | R445A | R448A | R449A | R450A | R452A | R452B | R453A | R454A | R454B | R454C | R455A | R470A | R470B | R500 | R502 | R503 | R507 | R507A | R508A | R508B | R513A | R600 | R600a | R744 | R1270 | R1234yf | R1233zd | R1234ze

Spare Parts

Designation	Description	Part No.
REFMATE-CASE	Protection case for REFMATE	4688082
K-TYPE-CLAMP TC	Temperature clamp for REFMATE	4681466
WIRELESS-CLAMP WTC	Wireless temperature clamp for REFMATE and TAP	4687785
K-TYPE-SENSOR	External temperature sensor K-type for REFMATE	4681394



K-TYPE-SENSOR



K-TYPE-CLAMP TC



WIRELESS-CLAMP WTC

Digital Manifolds














TAP

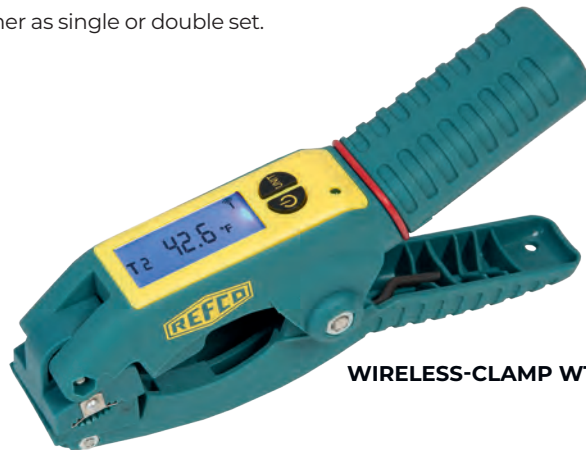
Wireless Temperature and Pressure Gauge Set

The new wireless digital pressure and temperature gauge set TAP is a user friendly measuring instrument to measure temperature and pressure from the low and high sides of air conditioning and refrigeration systems.

- Quick and easy connection to pressure source and temperature measuring point.
- The wireless K-type temperature clamp, equipped with digital display, is applicable for pipe diameters from 3/4" to 1 1/8".
- Measurements and calculation of superheat or subcooling can be shown on pressure gauge display and / or on your mobile device.
- Up to 6 TAP devices can be monitored on your mobile device.
- Create report on mobile phone and send by e-mail to your office.
- Use of common AAA batteries.
- TAP is delivered in a handy case either as single or double set.

Features and Benefits

-  Display on pressure gauge
-  Display on temperature clamp
-  Wireless no cable needed
-  No smart device needed
-  IOS compatible
-  Android compatible
-  Synchronized with App
-  Calculate superheat and subcooling
-  Reports stored on smart device and E-mailed
-  Library of over 50 refrigerants stored
-  Connect up to 6 pressure gauges and temperature clamps
-  Pressure Gauge and Temperature Clamp stand alone
-  Refrigerant updates available via Micro USB connection



WIRELESS-CLAMP WTC

TAP



TAP-DOUBLE-SET



Technical Data

TAP Pressure Gauge

Refrigerant:	More than 50 refrigerant tables included
Pressure range:	Up to 870 psi
Accuracy:	≤ 1.0% FS
Resolution:	0.1 psi
Units:	psi / bar / kPa / MPa
Backlit LCD display:	1-9/16" x 1-3/16"
Automatic power save mode:	Configurable: 10 min / 20 min / Off
Low battery indication:	When battery level is less 30 %
Power:	Battery 4 x AAA
Battery life:	40 h
Interface:	Micro USB
Connection fitting:	1/4" SAE
Including adapters:	1/4" SAE female/female
Size:	5" x 2-1/4" x 1-11/32"
Weight:	7 oz

TAP Temperature Clamp

Type:	K-Type
Temperature range:	-40 °F to +257 °F
Accuracy:	± 1.8 °F
Resolution:	0.2 °F
Temperature units:	°F / °C
Backlit LCD display:	1-3/8" x 1 9/32"
Power:	Battery 3 x AAA
Battery life:	50 h
Jaw range:	1/4" to 1 5/8"
Size:	6-3/8" x 1-9/16" x 3-9/64"
Weight:	6 oz

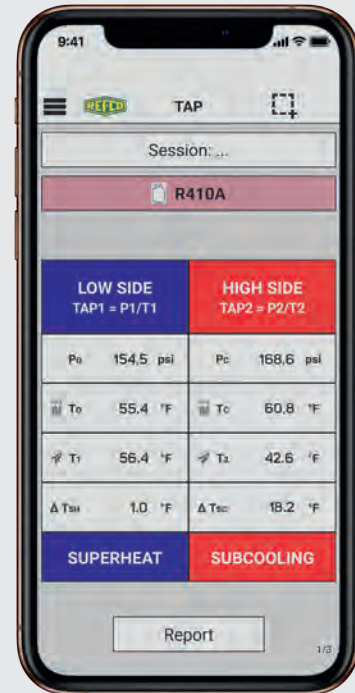
Designation	Description	Part No.
TAP-SET	1 TAP Pressure Gauge 1 TAP Temperature Clamp 1 SAE 1/4" female/female adapter 1 USB Cable 7 Batteries 1 Manual 1 Case	4687788
TAP-DOUBLE-SET	2 TAP Pressure Gauges 2 TAP Temperature Clamps 2 SAE 1/4" female/female adapter 1 USB Cable 14 Batteries 1 Manual 1 Case	4687789
TAP	Pressure Gauge	4687787
WIRELESS-CLAMP WTC	Wireless temperature clamp for REFMATE and TAP	4687785

App Requirements

iOS: Version 8.0 or higher

Android: Version 4.4 or higher

Get the App for iPhone, iPad on App Store™, for Android on Play Store



Further available accessories (optional)

SWIVEL-ARM-1/4"SAE-N	Swivel arm 1/4" SAE	4687631
QC-S410A/2	Adapter with core depressor, 1/4" SAE x 5/16" SAE, 2 pcs	4687095
QC-S4A-1/4"SAE/2	Quick coupler straight 1/4" SAE x 1/4" SAE, 2 pcs.	4687823
QC-S4A-5/16"SAE/2	Quick coupler straight 1/4" SAE x 5/16" SAE, 2 pcs.	4687824
TAP-MARKING-RING-SET	Marking rings for TAP 4x5 pcs. per size	4687793
TAP-SET-CASE	Case for TAP-SET	4687860
TAP-DOUBLE-SET-CASE	Case for TAP-DOUBLE-SET	4687859



Analog Manifolds

REFCO Manifolds General Information



F- pressure scale in psi and temperature scale in degrees F

Temperature scales:

- R12 = R12/R22/R502
- R22 = R22/R134a/R404A
- R32 = R32/R410A
- R134a = R134a/R404A/R507
- R410A = R410A
- R410A-FG = R410A/R404A/R22



APEX Manifolds

Standard Two-Way Brass Manifold

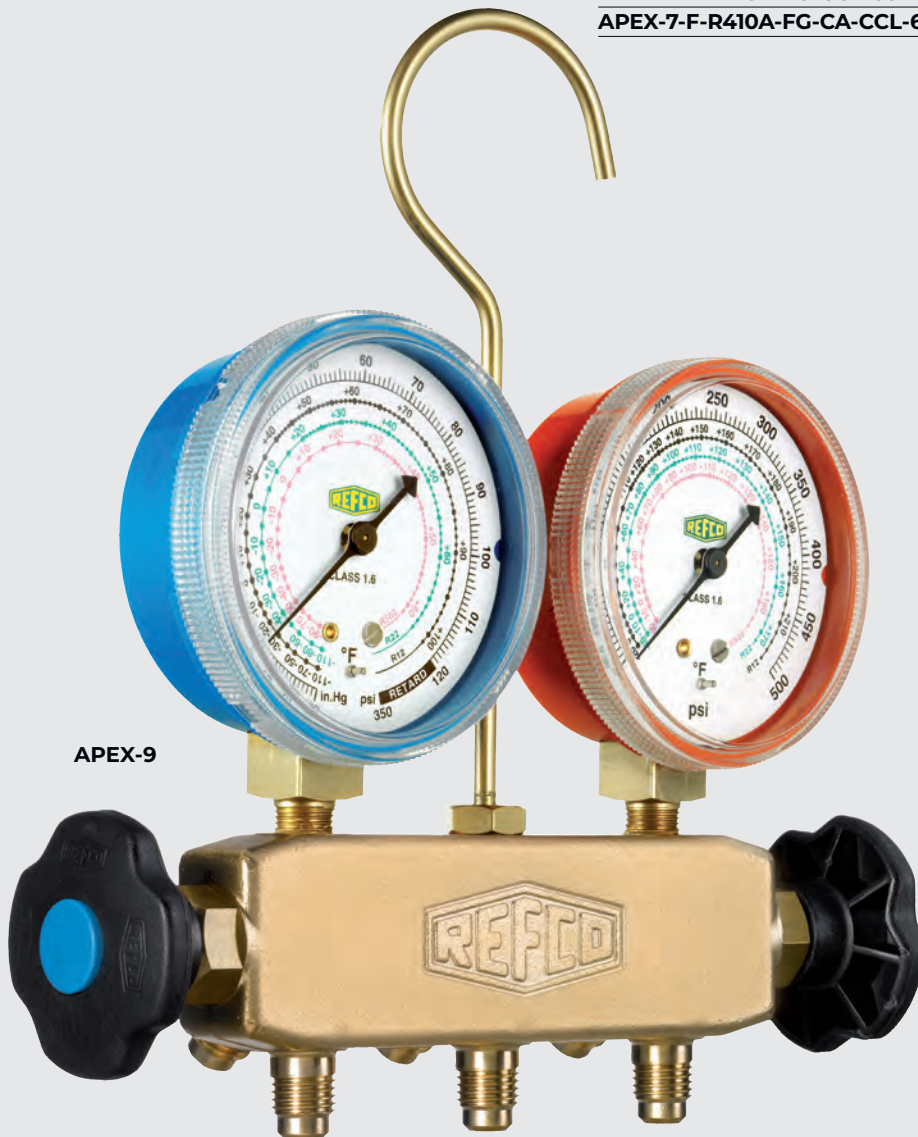
- Class 1.6 bourdon tube gauges (KM), easy to read, zero point adjustable, pulse free and color-coded
- Two piece, O-ring seal piston style valve, repairable
- Swivel hook and 45° hose anchors
- Color-coded handwheels
- High quality brass body
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure



R410A Manifold

- Same features but with all metal housing gauges (M2)
- R410A manifold with refrigerant scales R22/R404A/R410A

Designation	Hoses	Description	Part No.
APEX-9-F-R12	none	blister package	4675458
APEX-9-F-R22	none	blister package	4675466
APEX-9-F-R134a	none	blister package	4675475
APEX-7-F-R12	3' set	blister package	4675377
APEX-7-F-R22	3' set	blister package	4675386
APEX-7-F-R134a	3' set	blister package	4675394
APEX-7-F-R12-CCL-60	5' set	blister package	4675416
APEX-7-F-R22-CCL-60	5' set	blister package	4675424
APEX-7-F-R134a-CCL-60	5' set	blister package	4675432
APEX-7-F-R32-CCL-60	5' set	blister package	4687455
APEX-9-F-R410A-FG	none	blister package	4675483
APEX-7-F-R410A-FG	3' set	blister package	4675407
APEX-7-F-R410A-FG-CCL-60	5' set	blister package	4675440
APEX-7-F-R410A-FG-CA-CCL-60	5' set	blister package	4686280



APEX-9



APEX-9



APEX-9

Analog Manifolds

BM Series Manifolds

Premium Two-Way Manifold

- All metal housing Class 1.6 bourdon tube gauges (M2), easy to read, zero point adjustable, pulse free and color coded
- Two-piece, O-ring seal piston style valve
- Extra large sight glass to view refrigerant movement
- Swivel hook and 45° hose anchors
- Anodized high quality aluminum body
- Color coded handwheels
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure

Designation	Hoses	Description	Part No.
BM2-8-F-R22	none	cardboard box	4506490
BM2-8-F-R134a	none	cardboard box	9884439
BM2-6-F-R22	3' set	cardboard box	4506502
BM2-6-F-R22-CCL-60	5' set	cardboard box	4506520
BM2-6-F-R22-CCL-72	6' set	cardboard box	4506554
BM2-3-F-R22	3' set	plastic case	4506562



BM2-8



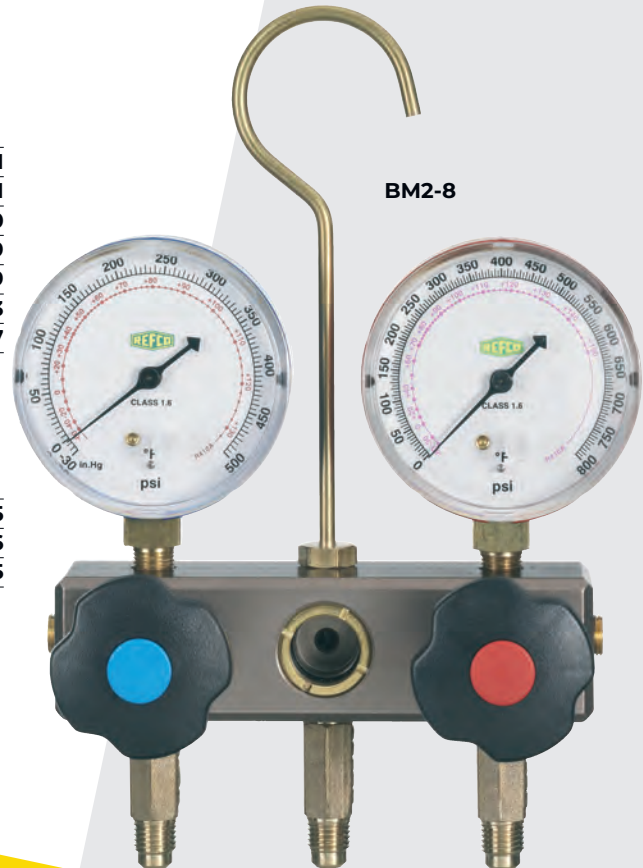
R410A Manifold – Two-Way BM Series

- All the same features as the standard BM series manifolds except higher pressure gauges (M2). Low side gauge pressure to 500 psi and high side gauge pressure to 800 psi
- Comes standard with ¼" SAE charging hoses

Designation	Hoses	Description	Part No.
BM2-8-F-R410A	none	cardboard box	4506571
BM2-6-F-R410A	3' set	cardboard box	4503261
BM2-6-F-R410A-CCL-60	5' set	cardboard box	4505710
BM2-6-F-R410A-CCL-72	6' set	cardboard box	4506589
BM2-3-F-R410A	3' set	plastic case	4505239
BM2-3-F-R410A-CCL-60	5' set	plastic case	4505433
BM2-3-F-R410A-CCL-72	6' set	plastic case	4506597

- R410A Manifold with refrigerant scales R410A/R404A/R22

Designation	Hoses	Description	Part No.
BM2-8-F-R410A-FG	none	cardboard box	4662535
BM2-6-F-R410A-FG-CCL-60	5' set	cardboard box	4662526
BM2-6-F-R410A-FG-CA-CCL-60	5' set	cardboard box w/ball valve	4665305



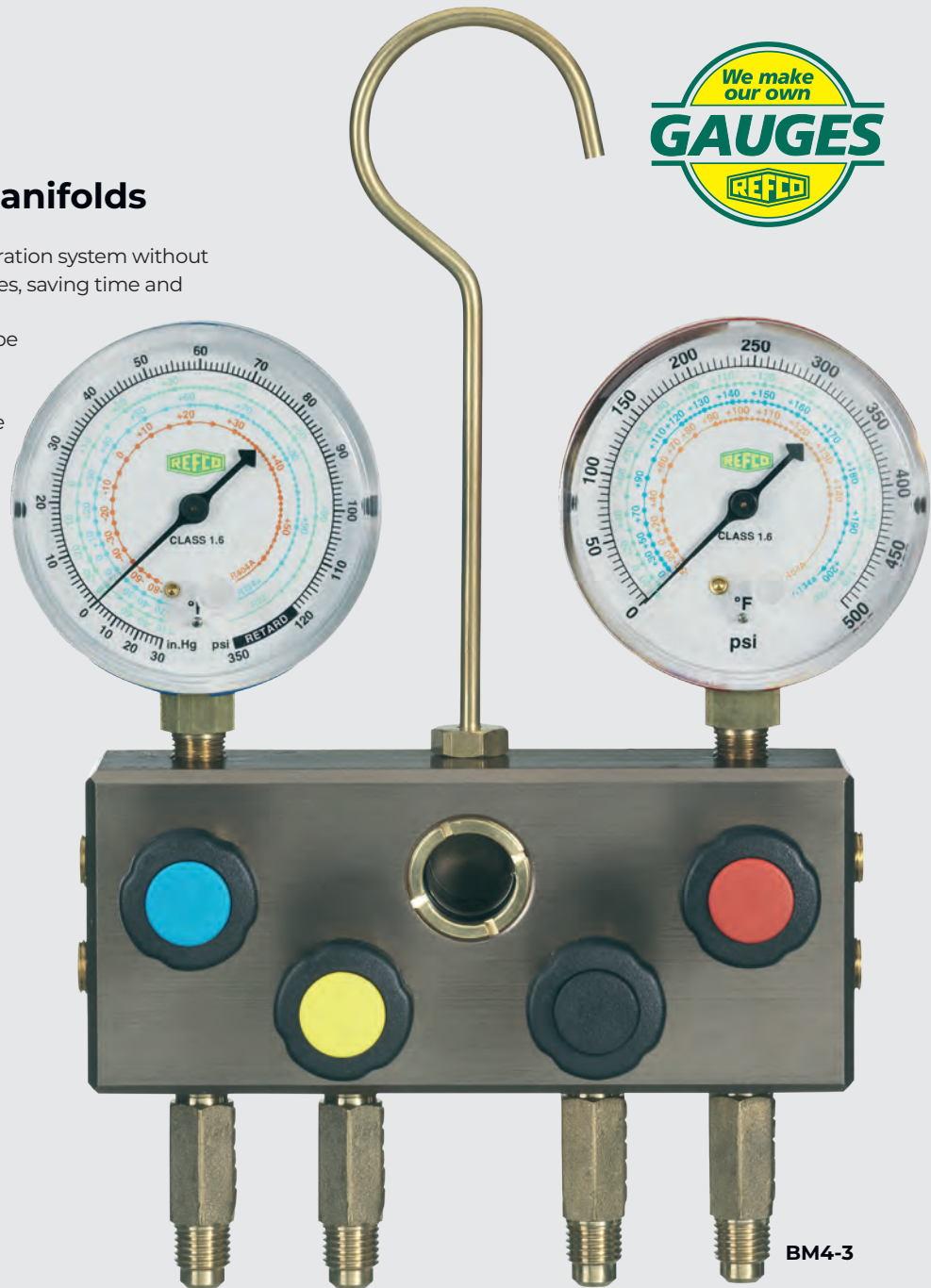
BM2-8





Premium Four-Way Manifolds

- Charge and evacuate an A/C or refrigeration system without having to connect and disconnect hoses, saving time and money
- All metal housing Class 1.6 bourdon tube gauges (M2), easy to read, zero point adjustable, pulse free and color-coded
- Two piece, O-ring seal piston style valve
- Extra large sight glass to view refrigerant movement
- Swivel hook and 45° hose anchors
- Anodized high quality aluminum body
- Color coded handwheels
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure



BM4-3

Designation	Hoses	Description	Part No.
BM4-3-F-R12	3' set	plastic case	4506627
BM4-3-F-R22	3' set	plastic case	4506643
BM4-3-F-R410A-FG-CCL-60	5' set	plastic case	4675335

Designation	Description	Part No.
M2-GS	Rubber protection for gauges Ø 68 mm	4677451



M2-GS

Analog Manifolds

GM Series Manifolds



Glycerin Filled

Two-Way Manifold Set

- Class 1.6 Glycerin filled bourdon tube gauges (GR), easy to read, zero point adjustable, color coded
- Two-piece, O-ring seal piston style valve
- Extra large sight glass to view refrigerant movement
- Swivel hook and 45° hose anchors
- Anodized high quality aluminum body
- Color coded handwheels
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure



Designation	Hoses	Description	Part No.
GM2-8-F-R12	none	cardboard box	4507061
GM2-8-F-R134a	none	cardboard box	4507071
GM2-6-F-R12-CCL-60	5' set	cardboard box	4507100





BM2-3-Auto-Set-RC

Automotive Manifold Set

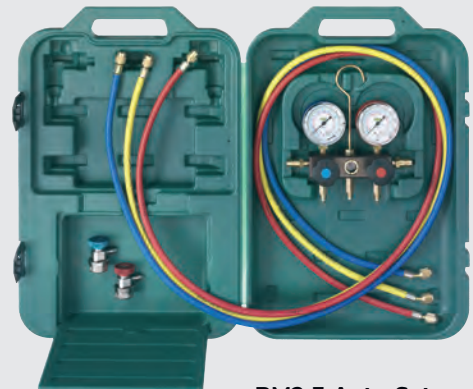
- All the same features as the standard BM series manifold except the manifold comes with high and low pressure automotive valve couplers.

Designation	Hoses	Description	Part No.
BM2-3-F-Auto-Set-R134a-RC	6' set	plastic case	4506601



- Replacement Auto Set Service Couplers

Designation	Description	Part No.
RC01-B	Blue automotive service-valve, 1/4" SAE Auto Connection	9884949
RC01-R	Red automotive service-valve, 1/4" SAE Auto Connection	9884948



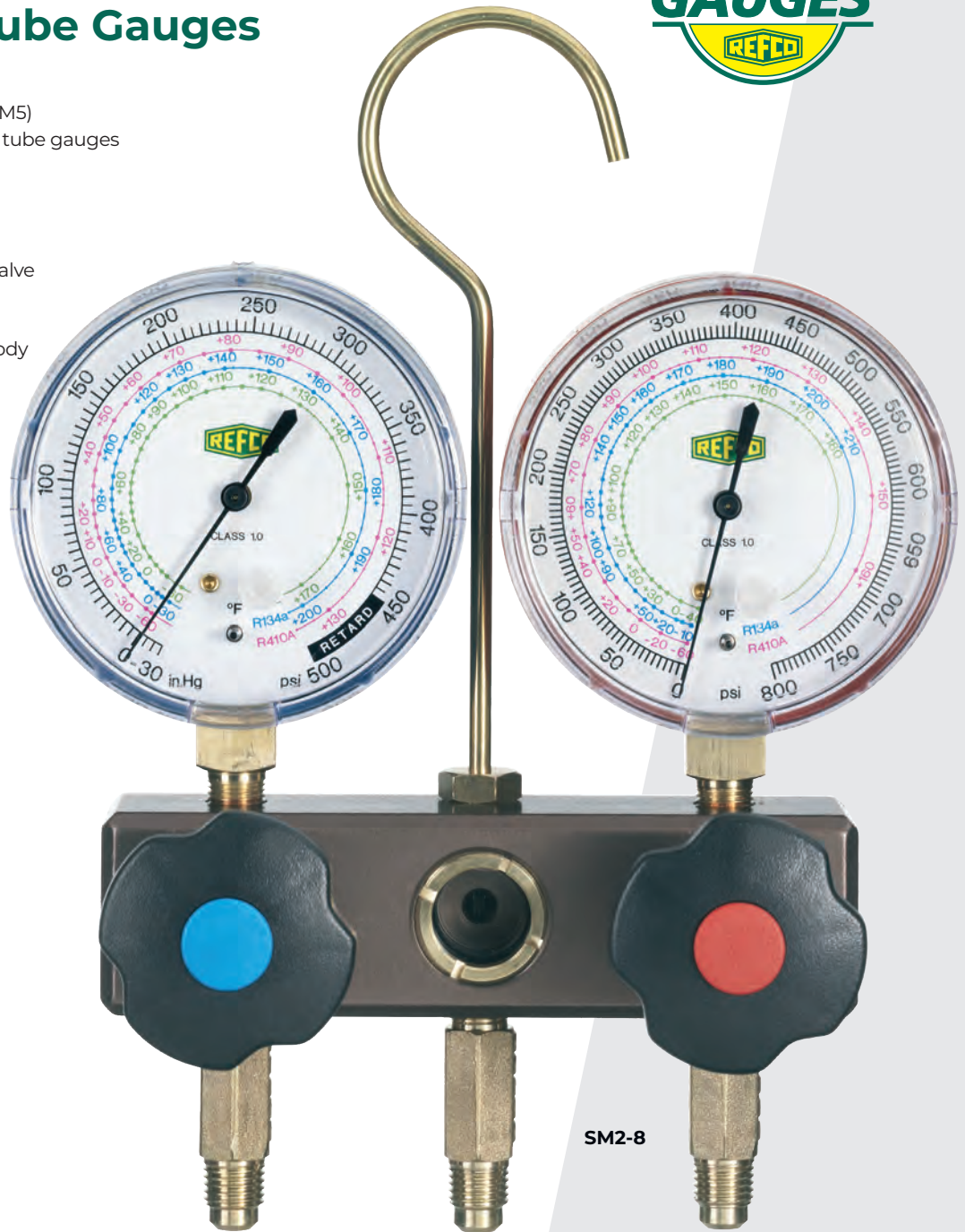
BM2-3-Auto-Set

Analog Manifolds

Manifolds with large, easy to read Bourdon Tube Gauges



- Easy to read 3 3/4" (80 mm) gauges (M5)
- All metal housing Class 1.0 bourdon tube gauges
- Retard protection
- Color-coded for high and low side
- Pulse/vibration free
- Zero point adjustable
- Two-piece, O-ring seal piston style valve
- Extra large sight glass
- Swivel hook and 45° hose anchors
- Anodized high quality aluminum body
- Color-coded handwheels
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure



Designation	Hoses	Description	Part No.
SM2-8-F-R410A-FG	none	cardboard box	4675343
SM2-6-F-R410A-FG-CCL-60	5' set	cardboard box	4675351
SM2-3-F-R410A-FG-CCL-60	5' set	plastic case	4675369



Manifolds with Bellow Type Oil Filled Gauges

Bellow type gauges are the most accurate found in the industry today. Bellow type gauges are accurate within 1% all the way around the gauge dial, extremely over pressure resistant and pulse free. There is no oil or glycerin fill nipple on these gauges to have weepage, seepage or leakage from.



DELUXE Two-Way Oil Filled Manifolds Bellow Type

- Oil-filled, bellow type, Class 1.0 accuracy gauges (R3). Gauges are accurate within 1% all the way around the gauge face
- Made from anodized aluminum
- No plastic
- No fill nipple on the top of the gauge to allow leakage
- Pulse/vibration free
- Extremely over-pressure resistant. Gauge will withstand 2 ½ times over-pressurization
- Zero point adjustable
- Easy to read 2 ¾" gauges (R3)
- Color-coded for high and low side
- Two-piece, O-ring seal piston style valve
- Extra large sight glass to view refrigerant movement
- Swivel hook and 45° hose anchors
- Anodized high quality aluminum body
- Color-coded handwheels
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure



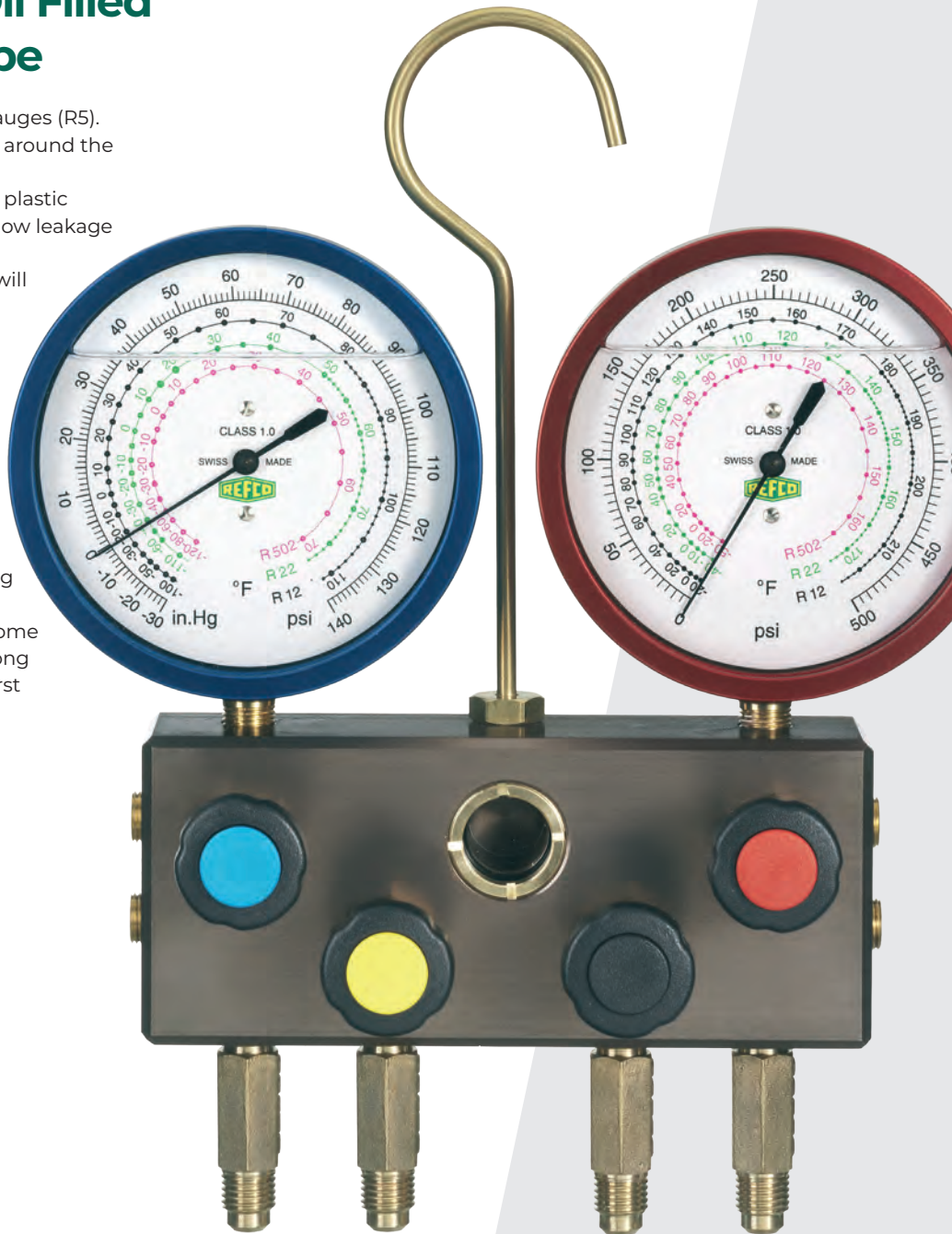
M2-8-DELUXE

Designation	Hoses	Description	Part No.
M2-8-DELUXE-F-R12	none	cardboard box	4505817
M2-8-DELUXE-F-R22	none	plastic case	4667498
M2-8-DELUXE-F-R410A-FG	none	plastic case	4675491
M2-3-DELUXE-F-R12-CCL-60	5' set	plastic case	4505809
M2-3-DELUXE-F-R22-CCL-60	5' set	plastic case	4667510
M2-3-DELUXE-F-R134a-CCL-60	5' set	plastic case	4506759
M2-3-DELUXE-F-R410A-FG-CCL-60	5' set	plastic case	4662543
M2-3-DELUXE-F-R410A-FG-CA-CCL-60	5' set w/ball valve	plastic case	4663727

Analog Manifolds

DELUXE Four-Way Oil Filled Manifolds Bellow Type

- Oil-filled, bellow type, Class 1.0 accuracy gauges (R5).
Gauges are accurate within 1 % all the way around the gauge face
- Gauge housing is anodized aluminum. No plastic
- No fill nipple on the top of the gauge to allow leakage
- Pulse/vibration free
- Extremely over-pressure resistant. Gauge will withstand 2 ½ times over-pressurization
- Zero point adjustable
- Extra large, easy to read 3 ¼" gauges (R5)
- Color-coded high and low side gauges
- Two-piece, O-ring seal piston style valve
- Extra large sight glass to view refrigerant movement
- Swivel hook and 45° hose anchors
- Anodized high quality aluminum body
- Color-coded handwheels
- All hoses are high pressure, 870 psi working pressure, 3600 psi burst pressure
- Manifolds that come with hose sets also come with one ¾" SAE yellow vacuum line 60" long with a working pressure of 465 psi and burst pressure of 2250 psi



Designation	Hoses	Description	Part No.
M4-3-DELUXE-F-R12-CCL-60	5' set	plastic case	4505477
M4-3-DELUXE-F-R410A-FG-CCL-60	5' set	plastic case	4669997

M4-8-DELUXE



JUMBO-STAR

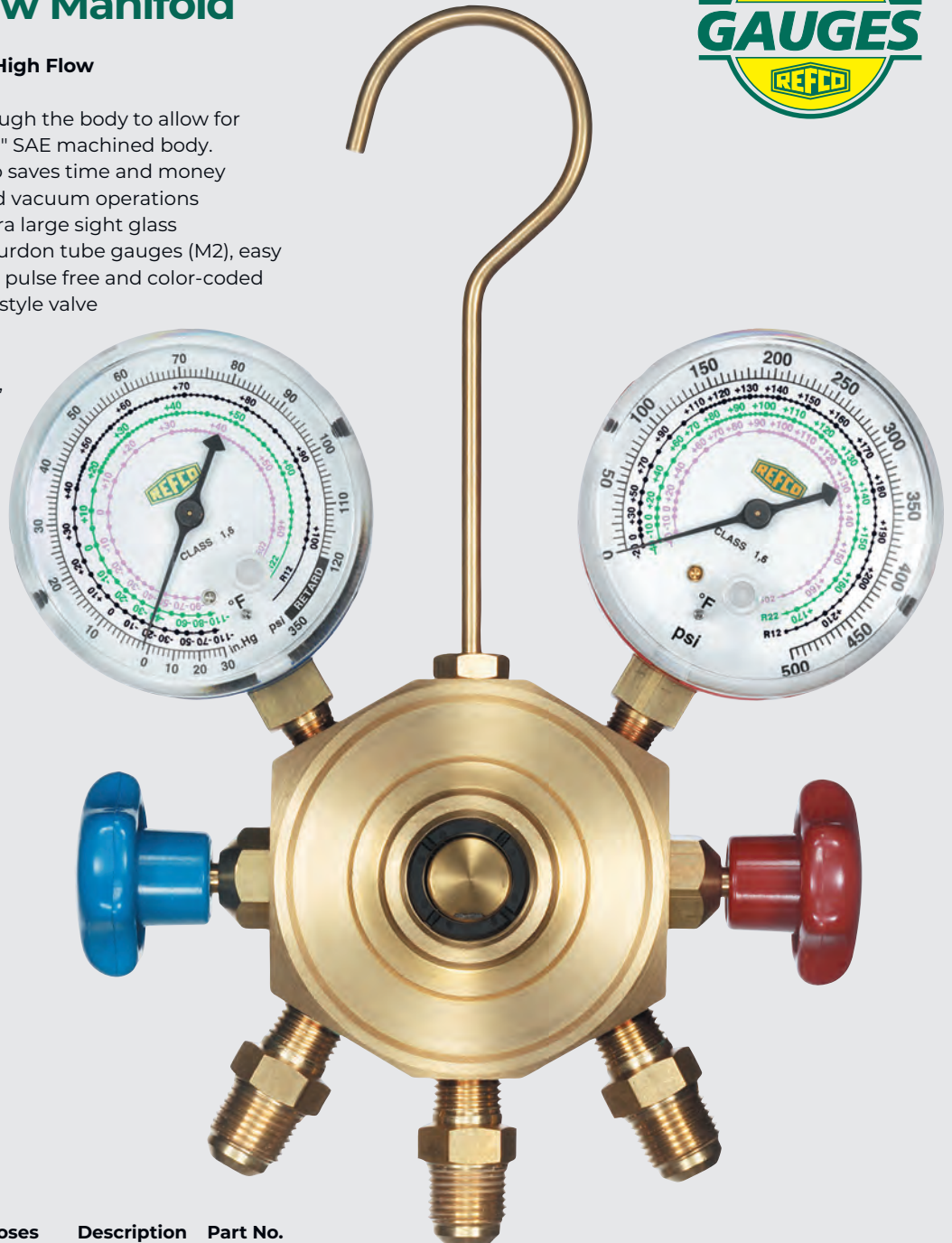
3/8" Bores and Connections

Super High Flow Manifold



Standard Two-Way Manifold - High Flow

- 3/8" SAE bores all the way through the body to allow for increased flow over normal 1/4" SAE machined body.
- Standard 3/8" connections also saves time and money during charging, recovery and vacuum operations
- Compact brass body with extra large sight glass
- All metal housing Class 1.6 bourdon tube gauges (M2), easy to read, zero point adjustable, pulse free and color-coded
- Two-piece, O-ring seal piston style valve
- Swivel hook 45° hose anchors
- Color-coded handwheels
- All hoses 3/8" SAE connections, 465 psi working pressure, 2250 psi burst pressure



JUMBO-STAR

Designation	Hoses	Description	Part No.
JUMBO-STAR-2-3-F-R12	3/8" 3' set	plastic case	4668109
JUMBO-STAR-2-3-F-R134a	3/8" 3' set	plastic case	4668117
JUMBO-STAR 2-3-F-R410A-FG	3/8" 3' set	plastic case	4686417

Analog Manifolds

CO2-Manifold

M2-3-DELUXE-F-R744-TC

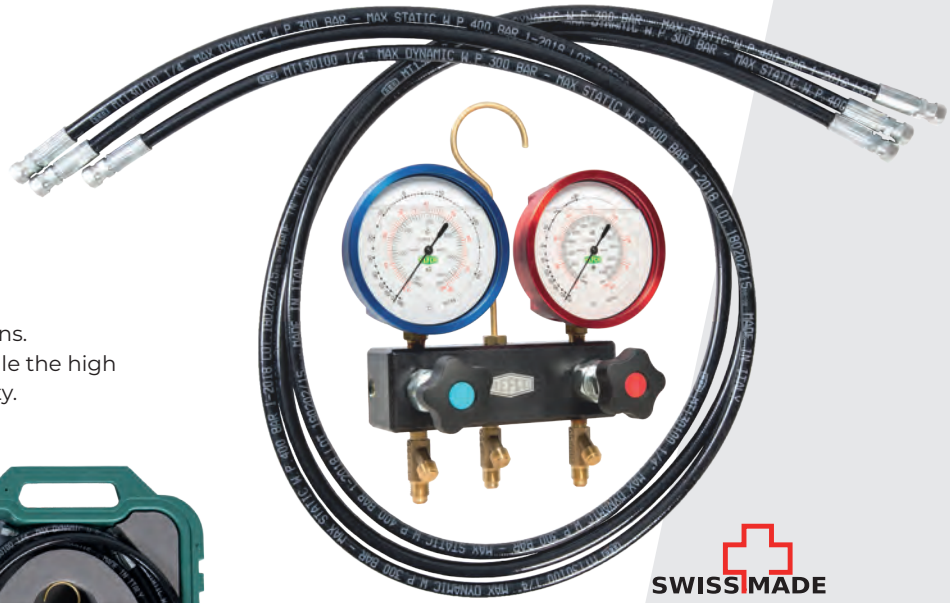
2-way-manifold with oil filled bellow type gauges, 3 charging hoses ¼" SAE, 72 inches, 1160/2320 psi, packed in a sturdy plastic case

Part No. 4688060

This manifold is suitable for transcritical applications. Metal sealed needle valves are being used to handle the high pressures. This allows for a very precise adjustability.



M2-3-DELUXE-F-R744-TC



CCL-72-DN6-R744-TC

Pressure hose DN6, transcritical, 2320 psi
Connection at both ends ¼" SAE
Length: 72 inches, 3 pcs.

Part No. 4687906



CCL-72-DN6-R744-TC

Spare Parts

Designation	Description	Part No.
M2-10-350BAR/2	Valve for R744-TC Manifold, 2 pcs.	4687917
M2-6-N-SET	Handle set for R744 Manifold	4687918
M4-6-14-R744-TC	Case complete with inlay and lettering	4687928



M2-10-350BAR/2



Manifold Spare Parts

Spare Handwheels for Two-Way Manifold Series:

Designation	Description	Part No.
M2-6-09-B+R	Blue, Red handwheel	4687080
M2-7-SET-B+R	Blue, Red handwheel	4687079

Spare Handwheels for Four-Way Manifold Series:

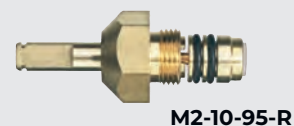
Designation	Description	Part No.
M4-6-09-B	Blue handwheel	4490976
M4-6-09-N	Black handwheel	4490984
M4-7-SET-B+N+R+Y	Blue, Black, Red, Yellow handwheel	4687094

Hook for all manifolds apart from the DIGIMON:

Designation	Description	Part No.
M4-6-10	Hook for manifold	9882584

Complete Manifold Valve Replacement Kit:

Designation	Description	Part No.
M2-10-95-R/2	Package of 2 replacement valves	4687104
M2-10-95-R/4	Package of 4 replacement valves	4687105



Replacement Valve Seat Assembly:

Designation	Description	Part No.
M4-6-04-R/4	Package of 4 valve seat assemblies	4687093
M4-6-04-R/10	Package of 10 valve seat assemblies	4662624
M4-6-04-JUMBO	Single valve seat assembly for JUMBO-STAR	4666726

Sight Glass Replacement Parts:

Designation	Description	Part No.
M4-6-11	Sight glass w/O-ring and brass threaded ring for R410A manifolds	4491018
M4-6-11-T	Special sight glass threaded ring installation tool	4493169

Hose holder for REFCO manifolds:

Designation	Description	Part No.
A-31452-Y	Y-plug hose holder for manifolds	4665118

Plastic Carrying Multi-Case:

Designation	Description	Part No.
M4-6-15	Carrying case with storage compartment for 2- and 4-way REFCO manifolds made of sturdy plastic	4666106

Rubber protection for gauges:

Designation	Description	Part No.
M2-GS	Rubber protection for gauges Ø 68 mm, set of 1 red and 1 blue	4677451

Charging Hoses

Charging and Testing Hoses

Features of REFCO Charging hoses include:

- Standard 870 psi working pressure, 3600 psi burst pressure making the REFCO charging hoses good for all refrigerants including R410A
- Eight sided crimp ensures maximum hose life
- Neoprene seals
- Knurled brass nut for easy finger tightening
- Multiple lengths available
- Color coded for convenience
- Available in packs of 3 (one red, one yellow and one blue hose) or individually



Individual Charging Hoses

Premium REFCO Charging Hoses with 1/4" SAE Fittings

Designation	Description	Part No.
CL-36-Y	36" Yellow hose	9881271
CL-36-R	36" Red hose	9881262
CL-36-B	36" Blue hose	9881253
CL-48-Y	48" Yellow hose	9881270
CL-48-R	48" Red hose	9881261
CL-48-B	48" Blue hose	9881252
CL-60-Y	60" Yellow hose	9881269
CL-60-R	60" Red hose	9881260
CL-60-B	60" Blue hose	9881251
CL-72-Y	72" Yellow hose	9881268
CL-72-R	72" Red hose	9881259
CL-72-B	72" Blue hose	9881250

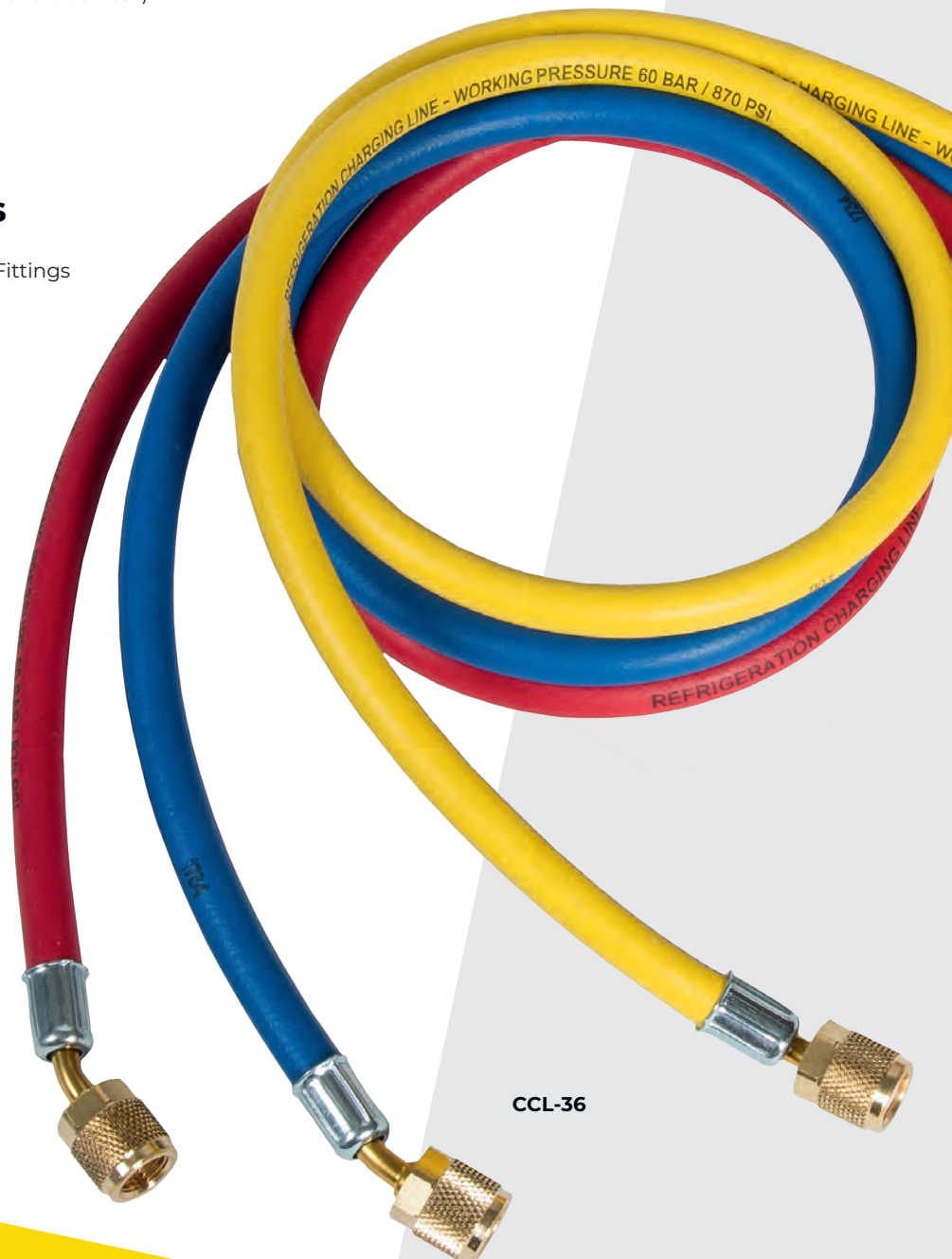


CL-36-Y

Sets of 3

Premium REFCO Charging Hoses with 1/4" SAE Fittings

Designation	Description	Part No.
CCL-36	Set of 3 - 36"	9881278
CCL-60	Set of 3 - 60"	9881276
CCL-72	Set of 3 - 72"	9881275



CCL-36



Environmentally Friendly REFCO Charging Hoses

with Special Barrier Protection

Features include:

- All of the features of the standard charging hose but are made from a special material which prevents virtually any permeation of refrigerant, yet remain flexible and easy to work with
- Meets SAE J2196 for permeation allowance



Sets of 3

Designation	Description	Part No.
CCL-36-J2196	Set of 3 - 36"	9884728
CCL-60-J2196	Set of 3 - 60"	9884729
CCL-72-J2196	Set of 3 - 72"	9884730

Individual Charging Hoses

Designation	Description	Part No.
CL-36-Y-J2196	36" Yellow hose	9884719
CL-36-R-J2196	36" Red hose	9884720
CL-36-B-J2196	36" Blue hose	9884721
CL-60-R-J2196	60" Red hose	9884723
CL-60-B-J2196	60" Blue hose	9884724
CL-72-Y-J2196	72" Yellow hose	9884725
CL-72-R-J2196	72" Red hose	9884726
CL-72-B-J2196	72" Blue hose	9884727

Adapter to take a hose from 1/4" SAE to 5/16" SAE (1/2"-20UNF)

Designation	Description	Part No.
QC-S410A/2	Adapter with core depressor 1/4" SAE male x 5/16" SAE female Packaged 2 per	4687095

Spare Parts for REFCO 1/4" SAE Charging Hoses

Designation	Description	Part No.
P-509/10	Ten neoprene gaskets for 1/4" SAE hoses	9880872
P-509-T/10	Ten Teflon gaskets for 1/4" SAE hoses	9880871
P-513/10	Ten core depressors for Schrader valves	9880869



P-509



P-509-T



P-513

Charging Hoses

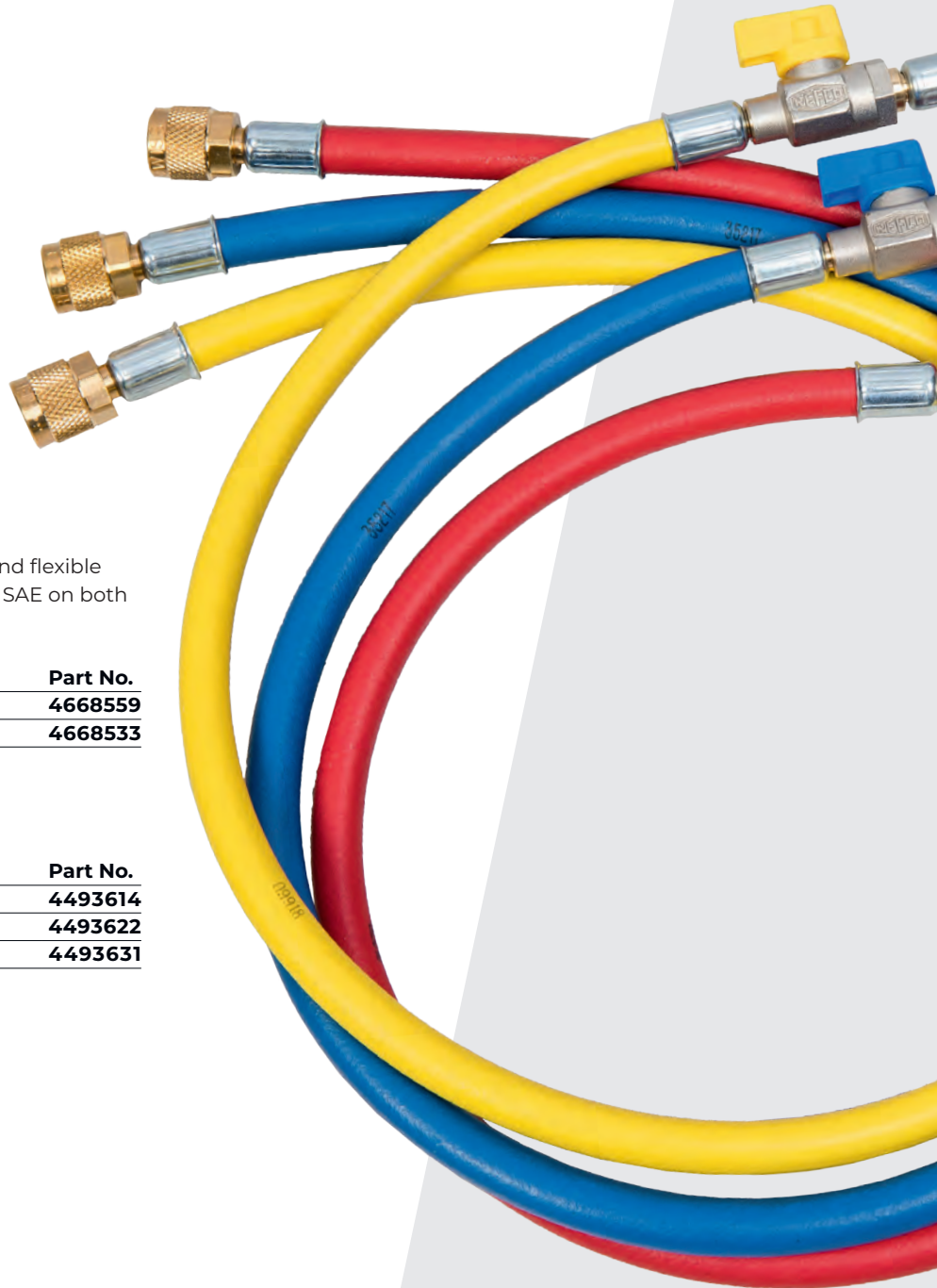
REFCO Premium Charging Hoses with Ball Valves

Features include:

- All of the standard REFCO charging hose features plus a compact, color-coded, chrome plated, full flow ball valve to help eliminate the chance of refrigerant burns or atmospheric releases
- Good for R410A
- Available in sets of 3 or individually



CA-CCL-36



Sets of 3

Premium REFCO charging hose with ball valve and flexible length of hose between ball valve and fitting. 1/4" SAE on both ends.

Designation	Description	Part No.
CCL-36-CA	Set of 3 - 36" w/CA valve	4668559
CCL-60-CA	Set of 3 - 60" w/CA valve	4668533

Premium REFCO charging hose with ball valve

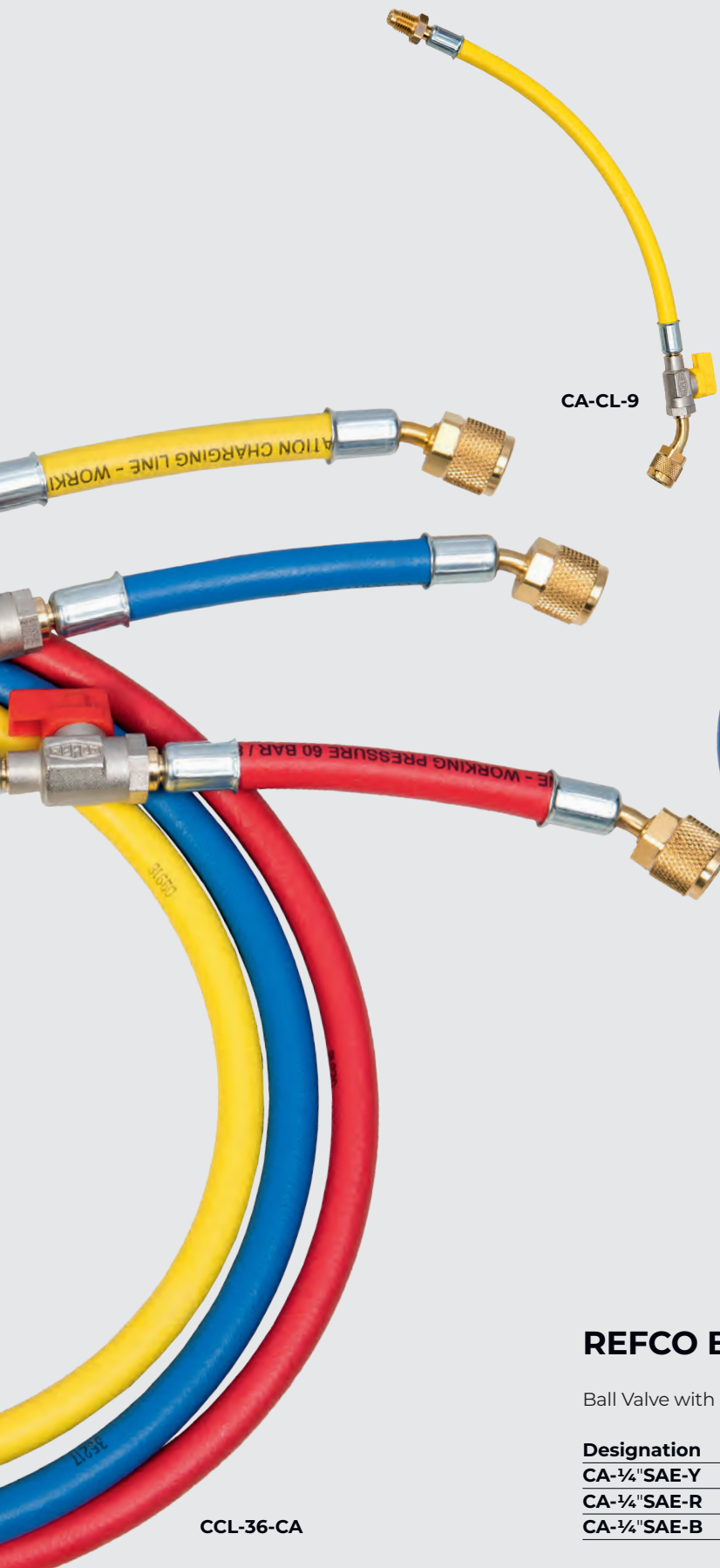
Designation	Description	Part No.
CA-CCL-36	Set of 3 - 36" w/ball valve	4493614
CA-CCL-60	Set of 3 - 60" w/ball valve	4493622
CA-CCL-72	Set of 3 - 72" w/ball valve	4493631



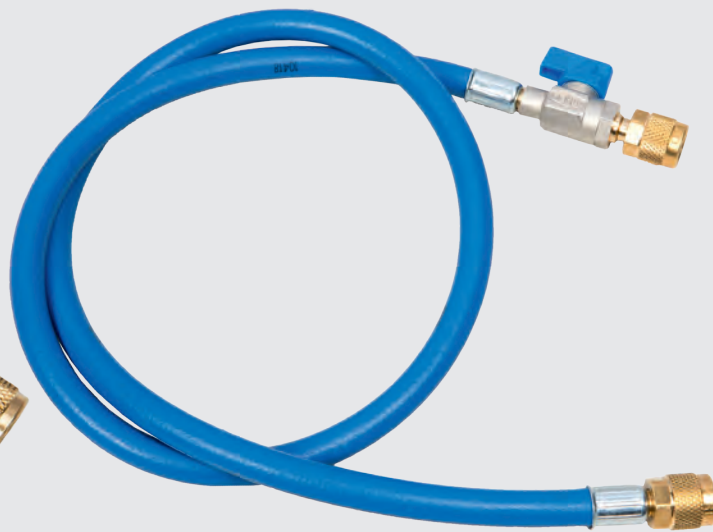
Individual Charging Hoses

Premium REFCO charging hoses with ball valve

Designation	Description	Part No.
CA-CL-9-B-M	9" Blue hose w/ball valve	4682056
CA-CL-9-R-M	9" Red hose w/ball valve	4682047
CA-CL-9-Y-M	9" Yellow hose w/ball valve	4682039
CA-CL-36-Y	36" Yellow hose w/ball valve	4492936
CA-CL-60-Y	60" Yellow hose w/ball valve	4492961
CA-CL-60-R	60" Red hose w/ball valve	4492952
CA-CL-60-B	60" Blue hose w/ball valve	4492944
CA-CL-72-Y	72" Yellow hose w/ball valve	4492995
CA-CL-72-R	72" Red hose w/ball valve	4492987
CA-CL-72-B	72" Blue hose w/ball valve	4492979



CA-CL-9



CA-CL-36



CA-1/4"SAE-Y

REFCO Ball Valves

Ball Valve with 1/4" SAE male and female fittings, core depressor and knurled nut

Designation	Description	Part No.
CA-1/4"SAE-Y	Yellow ball valve with male & female 1/4" fittings	4493738
CA-1/4"SAE-R	Red ball valve with male & female 1/4" fittings	4493533
CA-1/4"SAE-B	Blue ball valve with male & female 1/4" fittings	4493525

CCL-36-CA

Charging Hoses

REFCO Magic Seal Charging Hoses

Magic Seal charging hose features:

- Built in valve automatically closes when disconnecting the charging hose from the system, preventing refrigerant loss and burning of the skin
- One side straight connection, other side 45° bend
- Standard 870 psi working pressure and 3600 psi burst pressure make the hose good for all refrigerants including R410A
- Eight sided crimp ensures maximum life
- Knurled brass nut for easy finger tightening
- Neoprene seals
- Multiple lengths available
- Color-coded for convenience



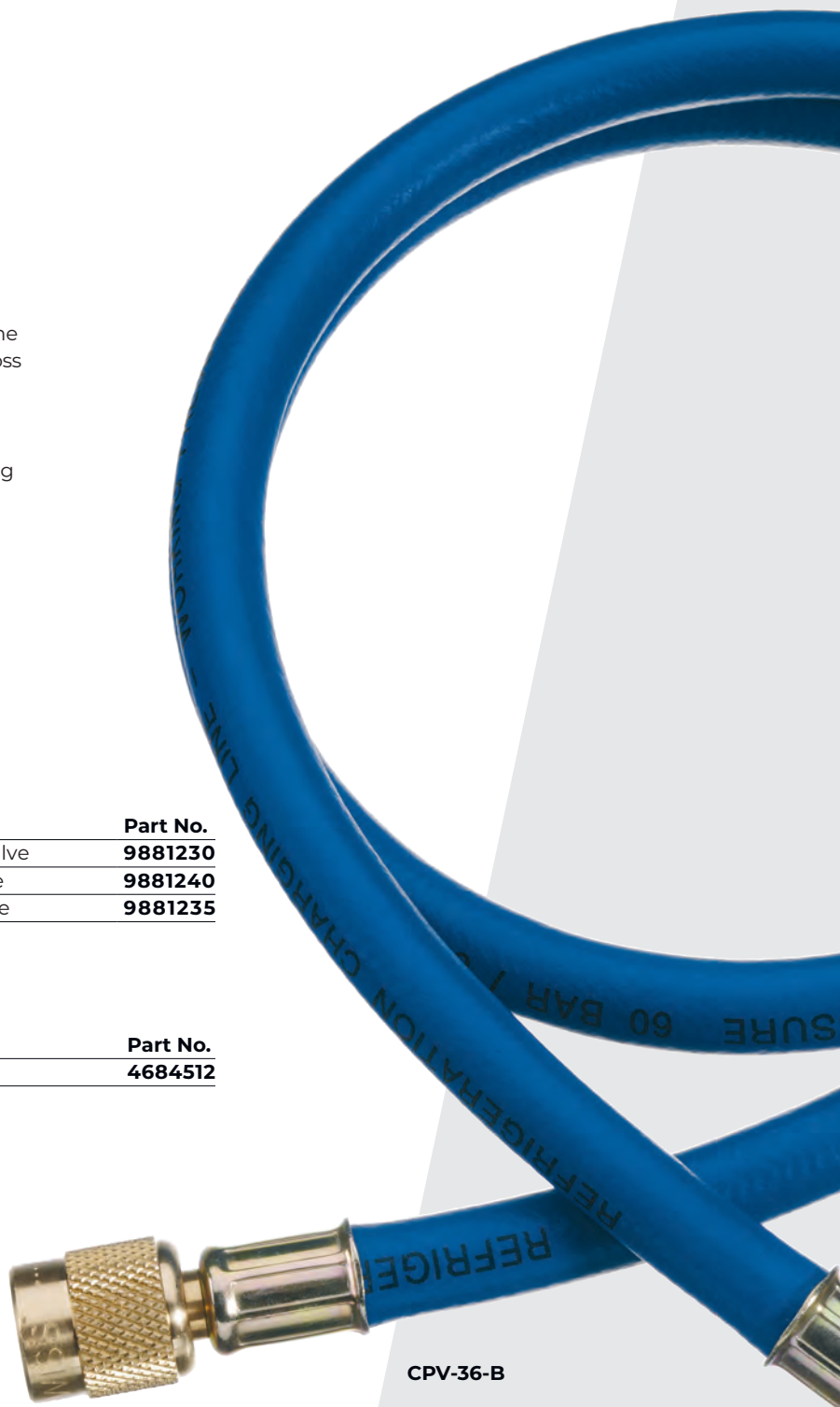
Designation	Description	Part No.
CPV-60-Y	60" Yellow hose w/built in shut off valve	9881230
CPV-60-R	60" Red hose w/built in shut off valve	9881240
CPV-60-B	60" Blue hose w/built in shut off valve	9881235

Designation	Description	Part No.
CPV-DS	Gasket set for CPV hoses	4684512

Sets of 3

Magic Seal charging hose

Designation	Description	Part No.
CPV-CCL-60	Set of 3 - w/built in shut off valve, 60"	4495421



CPV-36-B





REFCO 3/8" SAE Charging Hoses

Features of the 3/8" SAE charging hose are as follows:

- Standard 465 psi working pressure, 2250 psi burst pressure
- Eight sided crimp to ensure maximum hose life
- Knurled brass nut for easy finger tightening
- Multiple hose lengths available
- Color-coded for convenience

Designation	Description	Part No.
HCL6-60-Y	3/8" SAE Yellow hose, 60"	9881313



HCL6-60-Y



A-40513

Spare Parts for REFCO 3/8" SAE Charging Hoses

Designation	Description	Part No.
P-510/10	10 Neoprene O-rings for 3/8" SAE charging hoses Packaged 10 per	9880870
A-40513/10	Core depressor for 3/8" SAE charging hoses Packaged 10 per	9884813







Leak Detection

TRIRECTOR™

The mobile leak detector for specialists

The TRIRECTOR™ is the practical 3-in-1 solution for the professional refrigeration engineer – with easily replaceable sensors, all common refrigerants, combustible gases and tracer gases can be detected with only one device. The adjustable sensitivity levels find even the smallest leaks, and the ambient concentration is continuously compensated automatically or can also be compensated manually. As soon as a leak is detected, the color LCD display gives a visual signal and an optional sound is emitted. As with other REFCO products, either AA batteries or Micro-USB supplies power – making annoying delays caused by dead batteries a thing of the past.

Features and Benefits

-  Exchangeable sensors for refrigerants, combustible gases and tracer gases
-  Variable power supply (batteries and USB)
-  Intuitive handling
-  High quality LCD display
-  Automatic and manual reset of the ambient concentration
-  Intelligent electronics that automatically detects the connected sensor





TRITECTOR-RCT

Technical Data:

Sensor Technology:	Semiconductor (heated diode)
Minimum sensitivity:	
Refrigerant (R):	0.04 oz/yr (1 g/yr) R134a
Combustibles (C):	0.04 oz/yr (1 g/yr) R290; <5 ppm methane
Tracer (T):	0.11 oz/yr (3 g/yr)
Sensor life:	Approx 10 years with proper filter changes. Exposing the sensor to a high density of refrigerant (>30,000 ppm) will shorten its lifetime rapidly
Display:	4-colored LCD display
Power supply:	4 x 1.5 V AA batteries Operation time of approx. 12 hours when use continuously
Alternative power supply:	Micro USB
Tube length:	16" / 40 cm
Automatic power save mode:	10 min. without pressing any button
Certifications:	CE/RCM Refrigerant: EN-14624:2012, SAE J1627, SAE J2791, SAE J2913 Combustible gases: BS 7348 Tracer gases: SAE J2970, EN 35422

	R	T	C
Low (L)	0.5 oz/yr (14 g/yr)	0.5 oz/yr (14 g/yr)	N/A
Mid (M)	0.25 oz /yr (7 g/yr)	0.25 oz /yr (7 g/yr)	N/A
High (H)	0.04 oz/yr R134 a (1 g/yr)	0.11 oz/yr (3 g/yr)	0.04 oz/yr R290 (1 g/yr)

R= Refrigerant, T = Tracer gases, C= Combustible gases

Designation		Part No.
TRITECTOR-R	Leak detector including Refrigerant sensor (green), delivered in sturdy protection case	4688375
TRITECTOR-RC	Leak detector including 2 sensors: Refrigerant sensor (green) and Tracer gas sensor (yellow), delivered in sturdy protection case	4688683
TRITECTOR-RCT	Leak detector including 3 sensors: Refrigerant sensor (green), Combustible sensor (red), Tracer gas sensor (yellow), delivered in sturdy protection case	4688374
R-SENSOR	Refrigerant sensor (green)	4688370
C-SENSOR	Combustible gas sensor (red)	4688371
T-SENSOR	Tracer gas sensor (yellow)	4688372
TRITECTOR-FILTER/5	Sensor filter, 5 pcs.	4688367
TRITECTOR-CASE	Protection case	4688364

Leak Detection

TRACE-LOCATOR

Electronic Leak Detector

The leak detector for professional leak detection with trace gas 95/5 (95 % nitrogen, 5 % hydrogen), featuring the latest technology. The 95/5 trace gas is environmentally friendly, non-toxic, nonflammable and non-corrosive. The gas escapes at the leaky spot which then can easily be localized with the TRACE-LOCATOR. In addition, after evacuating the unit, the nitrogen in the trace gas binds with the possible remaining moisture. Additionally, during and after the leak detection, no environmentally harmful refrigerants will leak out. Due to the low density of hydrogen which is lighter than air, even minor leakages can be detected quickly. By means of a colored pie chart, the large LCD display, always shows the latest data. The TRACE-LOCATOR is delivered in a practical, rugged case.



TRACE-LOCATOR





Technical Data:

Sensitivity:	less than 5ppm (N2/H2 tracer gas)
Certifications:	Fulfills the limits of standard EN35422 The tracer gas conforms to article 6, paragraph 3 of the EU directive 2006/40/EG Pending SAE-J2970 certification
Inspection light:	3 white LED's and 3 UV - auto shut off in 5 minutes
Sensor life:	1000 hours
Sensor Technology:	Solid electrolyte semi-conductor
Warm-up time:	approx. 30 seconds
Response time:	instantaneous
Display:	BTN-LCD with 10 segment color "pie graph" showing leak size Backlight included
Sensitivity levels:	3 levels
Mute function:	Silent mode – display shows leak indication visually
Power supply:	4 AA Alkaline or 4 AA NiMH Batteries
Battery life:	4.5 hours
IP-classification:	54
Probe length:	17"
Dimensions:	10 x 3 x 2.5 in
Weight:	1.3 lb

Part No. 4686715

Leak Detection

STARTEK

Electronic Leak Detector for all Halogenated Refrigerants

- Extremely compact design concept similar to a cell phone
- Ergonomical design focused on performance and simplicity of operation
- Microprocessor controlled unit and state of the art microelectronics
- Detects all halogenated refrigerants **incl. R410A**
- Certified to SAE J1627 standard
- Simple one-button operation
- Two sensitivity levels using a double-click computer mouse action
- One touch reset-mode
- High performance true mechanical pump to provide positive airflow through the sensing tip
- Leak indication using both variable frequency audible and visual alarm
- Automatic shut-off after extended period of non-use to preserve battery life
- Battery life indicator
- Prevents incorrect readings by providing visual and audible warning followed by an automating shut-off when battery reaches a critical level
- State of the art sensor technology for higher reliability and longer life time
- Includes a practical belt clip holster that also protects the unit in your tool box
- Specially designed 12" flexible probe for easy reach
- Additional replacement sensor included inside the battery compartment
- **Packed up in a sturdy plastic case**

Technical Data:

Dimensions:	6 x 1.4 x 2.1 inch
Weight:	6.7 oz
Batteries:	2 x AA batteries
Battery lifetime:	40 hours
Sensitivity:	less than 0.1 oz/year
Sensor lifetime:	approx. 30 hours
Operating temperature:	32 °F to 125 °F
Warm up time:	less than 2 seconds
Response time:	instantaneous
Reset time:	instantaneous
Probe length:	12 inches
Warranty:	2 years

Part No. 4507917

Designation	Description	Part No.
ES-02	Replacement sensor (Pack of 2)	4507577
STARTEK-CASE	Replacement carrying case	4664333





STARTEK-C

STARTEK-C

Electronic Leak Detector for Combustible Gases

- This Combustible Gas Leak Detector with its new state of the art design is the most technologically advanced of its kind
- The STARTEK-C's low power requirements, small size and high sensitivity combine to create a tool which is easy to handle and ultra effective at locating even the most difficult-to-find leaks
- The STARTEK-C's long life sensor will detect concentrations of combustible gases as low as 5 ppm
- It is sensitive to all combustible gases
- The STARTEK-C also features a low sensitivity mode, enabling quick and easy location of large combustible gas leaks
- **Packed up in a sturdy plastic case**



Technical Data:

Dimensions:	6 x 1.4 x 2.1 inch
Weight:	6.7 oz
Batteries:	2 x AA batteries
Battery lifetime:	11 hours
Sensitivity:	less than 50 ppm (Propane, Isobutane, Methane, Natural Gas)
Sensor lifetime:	less than 1 year normal use
Operating temperature:	32 °F to 125 °F
Warm up time:	45 seconds (conditioned sensor)
Calibration:	automatic
Response time:	5 seconds
Reset time:	5 seconds or more
	depending on gas concentration
Probe length:	12 inches
Warranty:	2 years

Part No. 4660664

Designation	Description	Part No.
ES-C	Replacement sensor	4660672
STARTEK-C-CASE	Replacement carrying case	4665593


Charging Scales

REFSCALE

New electronic charging scale

The electronic charging scale REFSCALE can be easily connected to the REFIMATE and/or REFIMESH™. It consists of two solid aluminium plates on which large refrigerant cylinders can be safely placed thanks to the octagonal shape. The highly sensitive measuring cell indicates the exact weight even with asymmetrically positioned cylinders. The wireless control box or the App allows the input of a variety of helpful functions.

Features and Benefits

-  Connection with the REFIMATE and/or REFIMESH™
-  High Accuracy and Automatic Resolution
-  Programmable alarm
-  Can be calibrated in the field with reference weights
-  Refrigerant Tank Capacity Indicator
-  Measures weight in kg, lbs and oz
-  Flexible power supply by battery or via USB

Technical Data:

Measuring technology:	Strain gauge	
Power supply:	4x AAA batteries	
Alternative power supply:	Micro USB Type B	
Capacity:	242 lbs	
Accuracy:	0.05% of reading or 0.022 lbs	
Automatic resolution:	0.1 oz / 0.005 lbs	0 to 44 lbs
	0.2 oz / 0.010 lbs	44 to 110 lbs
	0.4 oz / 0.020 lbs	110 to 243 lbs
Units strain:	lb / oz / lb & oz, kg	
Functions:	Set Tare, Alarm, Hold, Mute, Backlight, Tank capacity, Calibration, connecting to REFIMATE and REFIMESH™	

Part No. 4688292

REFSCALE





REFSCALE-CB

Replacement remote control for REFSCALE.

Part No. 4688653

REFSCALE-CB

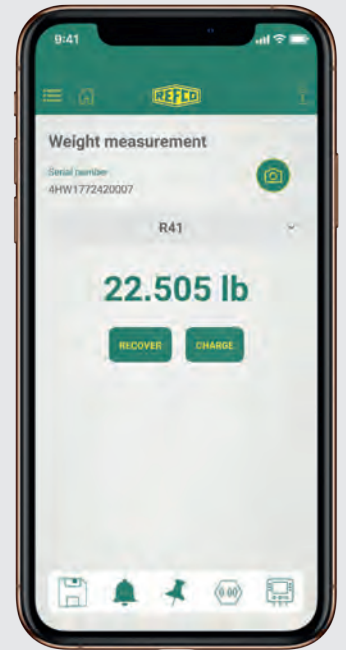


Functions:

- Set Tare
- Units
- Automatic resolution
- Hold
- Mute
- Alarm
- Tank capacity
- Battery Management
- Calibration and Factory calibration

Buttons and navigation:

-  ON / OFF
-  Confirm
-  Zeroing / Tare
-  Units
-  Start / Stop
-  Alarm
-  Hold
-  Up
-  Brightness
-  Down



REFMESH™

FULLY CONNECTED
The REFMESH™ App – an IoT platform

Because everything is connected to everything, we've developed a new App called REFMESH™. As an IoT platform, the software connects a large number of peripheral devices with the REFSCALE.

Data can be stored in the REFSCALE, in the App and in the cloud, and can be made available in various formats to other users or customers.



REFMESH™ App

Test Equipment

GAS PRESSURE TEST KIT

Precision test instrument used to accurately set manifold pressure for Natural and L.P. Gas

- Includes sensitive diaphragm gauge that is calibrated in inches of water column and ounces per square inch for extreme accuracy
- Scale in 0-35" W.C.
- Kit includes brass barb fitting on gauge, rubber tube and nipple for easy connection to system manifold
- High impact carrying case
- Easier to use than a manometer

Designation	Description	Part No.
GPK-35	Gas Pressure Test Kit	4683477

Spare Parts:

GPK-35-01	Gauge with barb fitting for GPK	4680096
GPK-35-02	Hose with nipple fitting for GPK	4680087
GPK-35-03	Rubber nipple for GPK	4680109
GPK-35-04	Barb fitting for GPK	4680079
GPK-35-SIGHT-GLASS	Gauge cover for GPK	4680117



GPK-35



Digital Thermometers

Infrared Non-Contact Thermometer

The LP-88 is a rugged and practical infrared thermometer with a pistol grip, which allows for contact free temperature measurement. Various temperatures can efficiently be measured within a room. The built-in laser pointer simplifies the measurement by marking the measurement area with eight red laser points. This infrared thermometer is delivered in a durable, protective case.



LP-88



MULTITHERM

Technical Data:

Temperature range:	-76 °F to 1000 °F
Operating temperature:	32 °F to 122 °F
Resolution:	0.1 °F
Accuracy:	± 2% of display or 4 °F Depending on which is greater
Battery life:	18 h
Distance spot:	12.1
IP classification:	54
Automatic shut-off:	after 15 seconds of inactivity
Emissivity:	0.95 – adjustable 0,1 to 1 in .01-steps
Weight:	0.4 lbs incl. 2x AAA batteries

Part No. 4686697

MULTITHERM

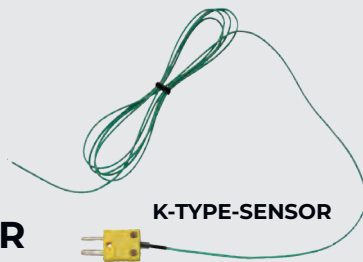
Digital dual probe thermometer with an integrated and an external probe. For temperature measurement at different measuring points. Suitable for different applications.

- Fast response time
- LCD backlight
- Ice water calibration (32 °F) possible
- Alarm function
- Auto Off: Unfold the probe to turn the unit on and fold it in to turn it off
- Magnet as fixing aid

Technical Data:

Temperature resolution:	0.1 °F
Temperature measurement range:	-58 °F to 572 °F
Measurement accuracy:	±2 °F at -4 °F to 302 °F
Auto-off:	Auto shut-off after 10 min. of inactivity if the measured temperature is below 122 °F and the changed temperature is within 2 °C/4 °F
Temperature Units:	°C °F
Battery:	Coin cell battery CR2032

Part No. 4688582



K-TYPE-SENSOR

Universal K-Type sensors for easy temperature measurement in refrigeration systems.

- Direct temperature transfer from pipe to sensor
- Easy to fix with adhesive tape

Part No. 4681394

K-type thermocouple clamp

- Temperature range -40 °F to +257 °F
- Jaw range ¼" - 1 ⅝"
- Resolution 1 °F

Designation	Description	Part No.
K-TYPE-CLAMP TC	K-type thermocouple clamp	4681466



K-TYPE-CLAMP TC

Test Equipment

REF-SCOPE

Video inspection camera

The Inspection Camera REF-SCOPE Insightvision is designed for the visual analysis of unreachable or hard to reach areas. The Inspection camera is crucial for a clear, internal inspection of engines, A/C systems, interior structures of walls and other industrial and similar applications. Optical imaging and illumination is provided by a full color image sensor and 6 LED lamps which are controlled by an on/off rotary switch.

Technical Data:

Display:	3.5" (8.9 cm) TFT digital panel Resolution 320 x 240 pixel
LCD backlight:	LED
Image orientation:	Normal- and mirroring display
Camera Head &	0.39" (10 mm)
Distal tip diameter:	
Shaft length:	42" (107 cm)
Shaft:	water resistant
Video output:	RCA phono jack
Weight:	0.55 lb / 250 g (without batteries)
Power source:	4 Alkaline AA batteries (3 hours full functional operation)
Attachments:	cleaning material, batteries, AV cable, mirror, hook, extra strong magnet

Part No. 4679705





REF-SCOPE



REF-SCOPE-MIRROR



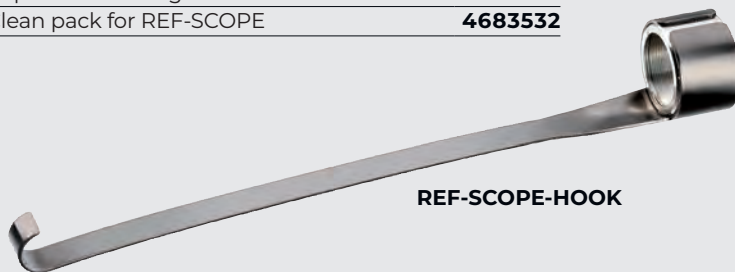
REF-SCOPE-MAGNET



REF-SCOPE-CLEAN

Spare Parts

Designation	Description	Part No.
EF-SCOPE-MIRROR	Replacement mirror for REF-SCOPE	4683507
REF-SCOPE-HOOK	Replacement hook for REF-SCOPE	4683516
REF-SCOPE-MAGNET	Replacement magnet for REF-SCOPE	4683524
REF-SCOPE-CLEAN	Clean pack for REF-SCOPE	4683532



REF-SCOPE-HOOK

Tools

TUBE-CUTTERS

The new, durable telescopic tube cutter accurately cuts copper tubing

- Four roller tracking system keeps tube from threading
- Smooth turning of adjustment knob
- Full-stop feed system prevents wheels and rollers from coming into contact
- Heavy duty
- High quality
- Includes spare cutting wheel



Designation	Description	Part No.
RS-16	Tube cutter 1/8" to 5/8"	4682722
RS-25	Tube cutter 1/8" to 1"	4682730
RS-35	Tube cutter 1/8" to 1 3/8"	4682748
RS-42	Tube cutter 1/8" to 1 5/8"	4682756
RS-67	Tube cutter 1/4" to 2 5/8"	4686904
RS-001/3	Spare cutting wheel for tube cutter Packaged 3 per	

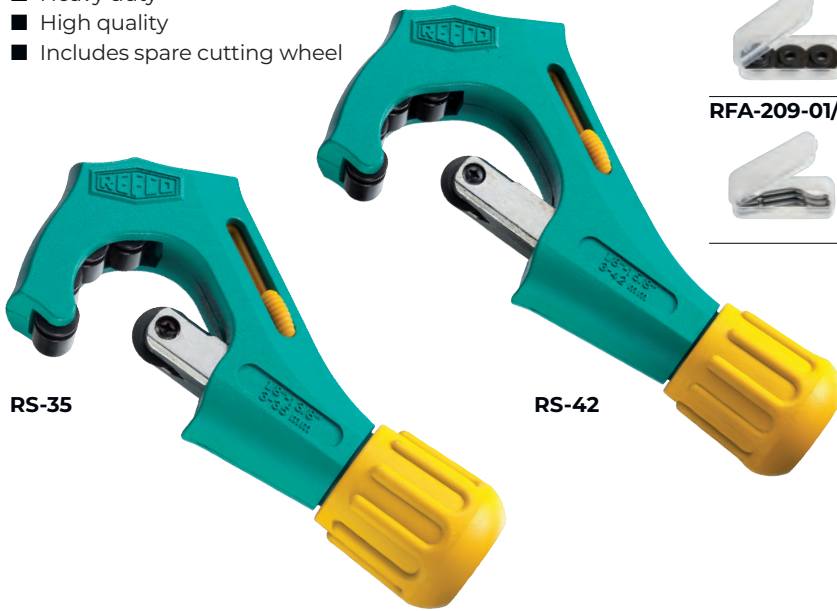


4687097

RFA-209-01/3 Spare blades for RFA-209-STYLO-HD and RS tube cutter series, made of tough long life cobalt (set of 3 pieces)

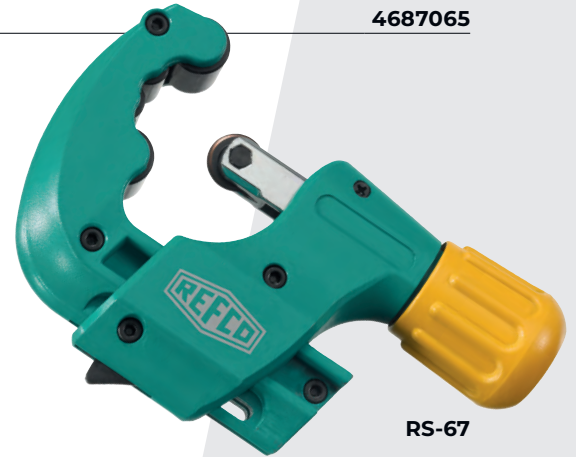


4687065



RS-35

RS-42



RS-67

Pinch Off Tools

Designation	Description	Part No.
14285	Up to 3/8" diameter suction tubes	9881530
RFA-105-FF	Pinch off tools for 1/4", 5/16", 3/8" and 1/2"	9881528
14200	Pinch off pliers up to 3/8" O.D.	9881527
14215	Capillary tube cutter, without swaging the tube	9881087



RFA-105-FF



14215



14285



14200



Recovery-Service Piercing Pliers



BR-4IN1

Designation	Description	Part No.
14210	Piercing pliers with changeable piercing needle and access fitting	9881526
14210-01/10	Package of 10 spare needles	4665550

Designation	Description	Part No.
BR-4IN1	Cleaning brush 4 in 1	4677621



14210



RFA-209



RFA-209-01/3

Tubing Tools

Designation	Description	Part No.
RFA-209	Inner-Outer reamer.	9881649
RFA-209-STYLO	Tube deburring tool, rotate blade.	9883750
RFA-209-STYLO-HD	Heavy duty deburring tool with rotating blade. Removes rough or irregular edges of steel, aluminium, copper and plastic. Replaceable blades made of tough long life cobalt.	4687051
RFA-209-01/3	Spare blades for RFA-209-STYLO-HD and RS tube cutter series, made of tough long life cobalt (set of 3 pieces).	4687065
RFA-313-STYLO-HD	High-quality deburrer in compact pen shape for fast and clean deburring. Easy to use thanks to rotatable head. Deburs rough or irregular edges of steel, aluminium, copper and plastic. Replaceable heads made of robust, durable HSS steel.	4688790
RFA-313-STYLO-HD-HEAD	Replacement head for RFA-313-STYLO-HD and RFA-209-STYLO-HD	4688791
RFA-242-HD	High-quality deburrer with ergonomic handle for quick and clean deburring. Easy to use. Deburs rough or irregular edges of steel, aluminium, copper and plastic. Replaceable three-fluted countersink made of robust, durable HSS steel.	4688781
RFA-242-HD-HEAD	Replacement three-fluted countersink for RFA-242-HD. Also suitable for handle from 14142.	4688792



RFA-209-STYLO

RFA-209-STYLO-HD



RFA-242-HD-HEAD



RFA-313-STYLO-HD



RFA-242-HD

RFA-313-STYLO-HD-HEAD

Tools

45 Degree Flaring Tools

Designation	Description	Part No.
525-F	Flaring and burnishing in one tool. Sizes from $\frac{3}{16}$ " to $\frac{5}{8}$ " O.D.	9881571
RF-888-Z	45° Eccentric flaring tool in inch-sizes. Made of forged high quality steel for tubes with an outside-diameter of: $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ". Supplied in a sturdy plastic case	4506171
RF-275-FS	Flaring and swaging tool for tubes with an outside-diameter of: $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ". Supplied in a plastic case	9881575
RF-175-FS	45° Flaring and swaging tool in inch-sizes. Made of forged high quality steel for tubes with an outside-diameter of: $\frac{1}{8}$ ", $\frac{3}{16}$ ", $\frac{1}{4}$ ", $\frac{5}{16}$ ", $\frac{3}{8}$ ", $\frac{7}{16}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ". Supplied in a sturdy plastic case	4506198



RF-888-Z



525-F



RF-275-FS



RF-175-FS

Tube Benders

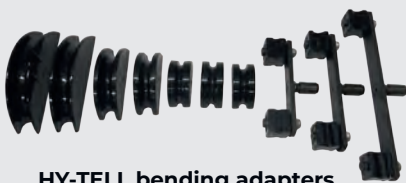
Designation	Description	Part No.
RFA-368-FH	Triple-header tube bender. Bends all tubes with an outside diameter of 1/4", 5/16" and 3/8" to a 90-degree bend	9881657



RFA-368-FH



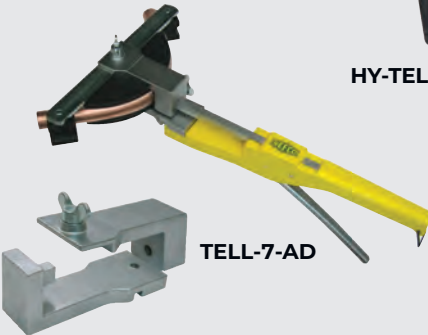
HY-TELL



HY-TELL bending adapters



HY-TELL-ANGLE-MASTER



TELL-7-AD



TELL-7

Designation	Description	Part No.
HY-TELL	The new hydraulic pipe bender is suitable for tube sizes of 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8" diameter and offers the following features: Bending angle assistance Little effort for tube bending Solid position on the desk Easy and quick change of the tools Weight: 60 lbs Supplied in a sturdy plastic case	4688017
HY-TELL-BA-1/4"	Bending adapter 1/4"	4688022
HY-TELL-BA-5/16"	Bending adapter 5/16"	4688023
HY-TELL-BA-3/8"	Bending adapter 3/8"	4688024
HY-TELL-BA-1/2"	Bending adapter 1/2"	4688025
HY-TELL-BA-5/8"	Bending adapter 5/8"	4688026
HY-TELL-BA-3/4"	Bending adapter 3/4"	4688027
HY-TELL-BA-7/8"	Bending adapter 7/8"	4688028
HY-TELL-SB	Cross bar short	4688029
HY-TELL-MB	Cross bar middle	4688030
HY-TELL-LB	Cross bar long	4688031
HY-TELL-ANGLE-MASTER	Angle Master for HY-TELL	4688032

Designation	Description	Part No.
TELL-7	Cross-Bow type tube bender set for easy, ergonomic handling. For following outside diameters: 1/4", 5/16", 3/8", 1/2", 5/8", 3/4", 7/8". Supplied with tube cutter in a sturdy plastic case.	4666076
TELL-7-BA-1/4"	Bending adapter 1/4"	4669432
TELL-7-BA-5/16"	Bending adapter 5/16"	4669440
TELL-7-BA-3/8"	Bending adapter 3/8"	4669458
TELL-7-BA-1/2"	Bending adapter 1/2"	4669466
TELL-7-BA-5/8"	Bending adapter 5/8"	4669475
TELL-7-BA-3/4"	Bending adapter 3/4"	4669483
TELL-7-BA-7/8"	Bending adapter 7/8"	4669491
TELL-7-SB	Short bar	4669416
TELL-7-LB	Long bar	4669407
TELL-7-HANDLE	Handle complete	4669513
TELL-7-AD	Reverse bend adapter	4669679

Tools

HY-EX-6 EXPANDER TOOL SET

New Hydraulic Expander tool kit with 6 expander heads to cover all size tubes of 3/8", 1/2", 5/8", 3/4", 7/8", 1 1/8" diameter. This set includes a sturdy deburring tool and is delivered in a handy plastic case.

Using hydraulic power this lightweight expander makes a perfect expansion of copper and aluminium tubing with only a few pumps.

This tool offers you the following features:

- Easy single hand operation:
Hydraulic mechanism and release button make one-handed swages possible. Simply select the correct laser-engraved expander head, thread it on the tool and make a quality swage.
- Small space capable:
A compact, pistol shape allows it to fit into the smallest and hard to reach spots.
- 120° angle:
Requires less power to pump, provides a natural wrist angle.
- Interchangeable heads:
Fits all common HVAC/R size copper tubing.
- Compatible with REFCO expander systems:
Perfect accessory to upgrade existing manual expander kits.
- Includes deburring tool RFA-209-STYLO-HD:
Allows easy installation for expander heads.

Specifications:

Dimensions:	Length: 10", width: 1.75", height: 5"
Weight:	2.6 lbs
Tube materials:	Soft tubing only: copper, aluminium, brass

Part No. 4687047

Spare heads

Designation	Spare heads	Part No.
HY-EX-1/4"	1/4"	4687344
HY-EX-5/16"	5/16"	4687346
HY-EX-3/8"	3/8"	4687367
HY-EX-1/2"	1/2"	4687366
HY-EX-5/8"	5/8"	4687365
HY-EX-3/4"	3/4"	4687368
HY-EX-7/8"	7/8"	4687369
HY-EX-1"	1"	4687345
HY-EX-1 1/8"	1 1/8"	4687370
HY-EX-1 1/4"	1 1/4"	4687478
HY-EX-1 3/8"	1 3/8"	4687347
HY-EX-1 1/2"	1 1/2"	4687477
HY-EX-1 5/8"	1 5/8"	4687348



HY-EX



HY-OIL

Hydraulic oil for HY-EX, 50 ml
Part No. 4687579



HY-EX-6





14297-RF

EXPANDER TOOL SET

Designation	Description	Part No.
14297-RF	Expander tool set. Complete with expander plier and 6 heads in steel box. Tube sizes $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", $\frac{7}{8}$ " and $1\frac{1}{8}$ " diameter	4677817

Designation	Spare heads	Part No.
14297-RF- $\frac{3}{8}$ "	$\frac{3}{8}$ "	4669709
14297-RF- $\frac{1}{2}$ "	$\frac{1}{2}$ "	4669717
14297-RF- $\frac{5}{8}$ "	$\frac{5}{8}$ "	4669726
14297-RF- $\frac{3}{4}$ "	$\frac{3}{4}$ "	4669734
14297-RF- $\frac{7}{8}$ "	$\frac{7}{8}$ "	4669742
14297-RF-1"	1"	4669750
14297-RF- $1\frac{1}{8}$ "	$1\frac{1}{8}$ "	4669768
14297-RF- $1\frac{3}{8}$ "	$1\frac{3}{8}$ "	4669776
14297-RF- $1\frac{5}{8}$ "	$1\frac{5}{8}$ "	4669785



14165

Process Tube Valve Kit

Designation	Description	Part No.
14165	Process tube valve kit consists of 2 pieces valve model 14575 and 2 sets of gaskets and inserts covering all sizes as $\frac{3}{16}$ ", $\frac{3}{8}$ ", $\frac{5}{16}$ ", and $\frac{3}{8}$ " tube O.D.	9881780

Tools

RATCHET WRENCH

The new, high-quality fine tooth ratchet wrench with 72-teeth gear provide always a perfect working angle. Developed for the demanding HVAC/R service engineer.

SW-127-C

- Requires less work room for ratcheting
- Quick ratcheting action with reverse levers at both ends
- Heat treated chrome forged body for increased durability
- Square: $\frac{3}{4}$ " x $\frac{3}{8}$ "
- Square: $\frac{3}{16}$ " x $\frac{5}{16}$ "

Part No. 4687626



SW-127-C

SW-127-C-BOX/10

- Counter display containing 10 pcs. per box.

Part No. 4687869



SW-127-C-BOX

SW-127-OFFSET

- With 25° angulation
- Requires less work room for ratcheting
- Quick ratcheting action with reverse levers at both ends
- Heat treated chrome forged body for increased durability
- Square: $\frac{3}{4}$ " x $\frac{3}{8}$ "
- Square: $\frac{3}{16}$ " x $\frac{5}{16}$ "

Part No. 4687628



SW-127-OFFSET

SW-127-OFFSET-BOX/10

- Counter display containing 10 pcs. per box.

Part No. 4687868



SW-127-OFFSET-BOX

SW-124-C

- Requires less work room for ratcheting
- Quick ratcheting action with reverse levers at both ends
- Heat treated chrome forged body for increased durability
- $\frac{9}{16}$ " hex for dust cap on valves and for bolts on compressors
- $\frac{1}{2}$ " hex for screws
- $\frac{1}{4}$ " square for valves
- $\frac{3}{16}$ " square for refrigerant cylinders

Part No. 4687627



SW-124-C

RFA-124-C

- Ratchet wrench
- Hex openings $\frac{1}{2}$ " and $\frac{5}{16}$ " on one end and square $\frac{3}{16}$ " and $\frac{1}{4}$ " on the other end

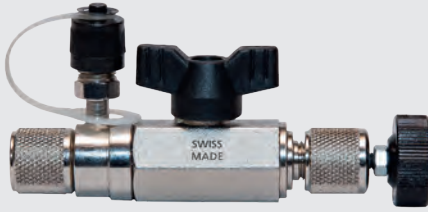
Part No. 9881467



RFA-124-C



VALVE CORE TOOLS 1/4" AND 5/16" SAE



32525

- Used for faster vacuum, charging and recovery
- Designed to remove and replace Schrader valve cores without losing refrigerant charge
- Increases evacuation and charging speeds by creating unrestricted access to the system
- 32525 and 32525-5/16" have a blank off valve and a 360° movable vacuum gauge access port which allows for easy access in tight spaces
- 5/16" is similar to 1/4" valve core tool but for use with R410A systems and mini splits with larger service ports

Valve Core Tools for 1/4" SAE



A-32000

Designation	Description	Part No.
32525	Vacuum/Charging Valve with adjustable vacuum port	4687701
A-32000	Valve core Tool Contains 6 extra cores and 1 extracore remover and tap	9880890



32525-5/16"SAE

Valve Core Tools for 5/16" SAE

Designation	Description	Part No.
32525-5/16" SAE	Vacuum/Charging Valve with adjustable vacuum port	4687740

Tools

Access Valves – 1/4" SAE and 5/16" SAE

Designation	Description	Part No.
A-38010	Access control valve 1/4" SAE x 1/4" SAE	4687957
A-38410	Access control valve 1/4" SAE x 5/16" SAE	4687960
A-38410-5/16"	Access control valve 5/16" SAE x 5/16" SAE	4687989
A-33010	Access control valve 1/4" SAE	4681636
A-33410	Access control valve R410A (5/16" SAE)	4681645
A-31004/10	Extended copper tube, diameter 1/4" Packaged 10 per	9883544
A-31006/10	With swaged tube suitable for 3/8" diameter Packaged 10 per	9884830
NFT5-4/10	Quick seal 1/4" SAE flare cap with gasket Packaged 10 per	9884244
NFT-118/10	Quick seal cap with built-in core remo- ver 1/4" SAE Packaged 10 per	9884961



A-38010



A-38410



A-38410-5/16"



A-33010



A-31004



NFT5-4



NFT-118

Solenoid Valve Operating Magnet

- The quickest and easiest way to operate solenoid valves manually
- Converts electronically operated solenoid valves into hand operated valves in seconds
- Proven design that fits about 90 % of solenoid valves
- Opening is 18 mm or 0.75 inch

Designation	Description	Part No.
SVOM-18	Solenoid valve operating magnet	4660507



SVOM-18



General Tools

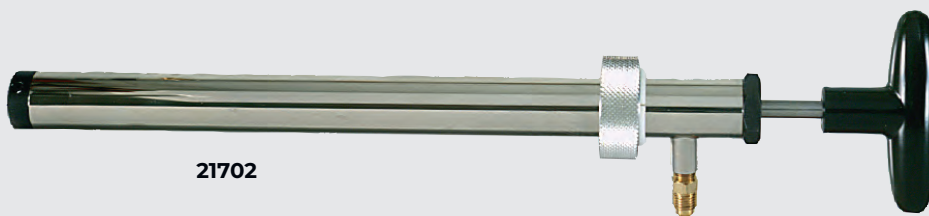
Designation	Description	Part No.
14142	Fin comb, 6 in 1 with sizes marked on the comb. Comes with additional spare head in bag	9881562
14144	Fin comb for cleaning and straightening fins quickly and easily. Adjustable tension	9881561
14225	Circular pocket mirror, telescopic 1 1/2" diameter	9881560
21702	REFCO charging oil pump. Pumps one quart of oil in 20 strokes	9881559
21751	Change oil pump	9881557



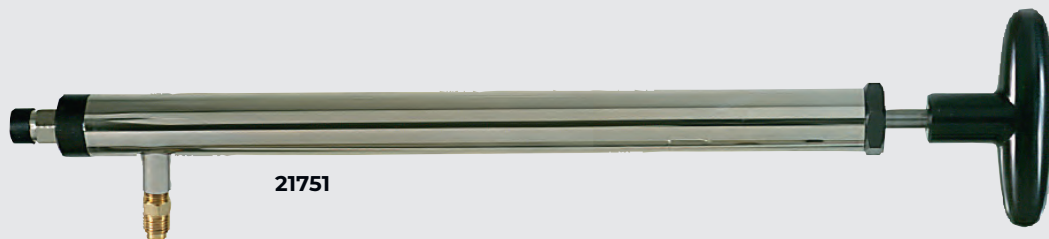
14144



14225



21702



21751

Tools

Punch Type Swaging Tools

Designation	Description	Part No.
T21100	Complete Bar covers all sizes from 1/8" to 1/2" in one tool	9881608



INVERTER CHECK-KIT

The Inverter Check-Kit is an invaluable tool for the analysis of problems with Duct Free Mini Split Systems. The kit is designed to be used in both installation and maintenance of Duct Free Systems.

The Inverter Check-Kit performs two basic functions. First it will tell you if the phase outputs in the inverter are operating correctly. Secondly, the data flow function tells you if there is data flowing in both directions between the indoor and outdoor sections. Since inverters are controlled by solid state boards that do multiple functions, the Inverter Check-Kit will tell you if there is a bad board and help you identify if the indoor, outdoor or both boards are not functioning correctly. The inverter phase checker will indicate whether the Inverter board is faulty and by implication (if the inverter works then the compressor must be faulty) whether the compressor is faulty but it will not work if there are faults on both.

The kit comes complete with the electronic module with a set of leads for testing the serial communication links, as well as a selection of cables and connectors for the power output terminals of the inverter.

Designation	Description	Part No.
INVERTER-CHECK-KIT	3.19 x 2.87 x 1.10 inch	4678571



INVERTER-CHECK-KIT

16868

Ergonomic Piezo igniting head brazing torch for propane and Map Pro gas cylinder.

- Pressure adjustment function
- Safety locking system
- Focused cyclone flame with high temperature
- Removable flame diffuser

Part No. 4684066





EZ-125/12

EZ-125/12

- Leak Lock
- Easy to reopen any connection.
- Perfect sealing of all joints, 12 pcs.

Part No. 4503635

TOOLBAG

Superior quality tool bag designed with the professional trades person in mind. It provides maximum convenience and durability suitable for even the most demanding work environments.

- Large pockets for quick and easy access
- 600 Denier polyester cordura
- Lightweight design
- Reinforced points of wear
- Strong handle

Part No. 4683078



TOOLBAG

REFPACK

Ergonomic tool backpack - the ideal companion for the refrigeration technician. A spacious main compartment, a laptop compartment, two side pockets with lashing straps, as well as various holders for tools offer plenty of storage options.

- Light and durable
- Robust industrial fabric
- Sturdy, waterproof plastic base tray
- Extra reinforced carry handle
- Protected laptop / document compartment
- Flexible tabs on both sides for hoses
- Side reinforcements for stable stand for tool removal

Technical Data:

Volume:	10.3 gallons
Filling weight:	33 lbs
Empty weight:	5 lbs
Delivery without content	

Part No. 4688642

REFPACK





Manfred P. Ulrich
CEO



Steve Secord
Vice President

Refrigeration Service Products and Components

The Swiss enterprise REFCO was founded in 1972 and has successfully developed from a small company to a world wide renown supplier of Refrigeration Service Products and Components. Right from the beginning our aim has been to manufacture products of the highest quality and this is still in force today.

A key event in our progress has been to absorb our customers' specific requirements and, with our technology, provide a product range unequalled for durability and reliability.







CERTIFICATE



This is to certify that the site

Refco Manufacturing Ltd.
Industriestraße 11
6285 Hitzkirch
Switzerland

is part of the certified **Management System** of the organization
WKA Alexander Wiegand SE & Co. KG
with the main certificate registration no. 001830 QM15

according to

ISO 9001 : 2015

Scope:
Development, production and sale of refrigeration and air-conditioning service products and components

Certificate registration no.	460813 QM15
Valid from	2021-07-06
Valid until	2024-07-05
Issuing date	2021-06-30




DQS GmbH



Markus Bleher
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
The validity of this certificate depends on the validity of the main certificate.






CERTIFICATE



This is to certify that the site

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Industriestraße 11
6285 Hitzkirch
Switzerland

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with the main certificate registration no. 001830 UM15

according to

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Certificate registration no.	460813 UM15
Valid from	2021-07-20
Valid until	2024-07-19
Issuing date	2021-07-15




DQS GmbH



Markus Bleher
Managing Director

Accredited Body: DQS GmbH, August-Schanz-Straße 21, 60433 Frankfurt am Main, Germany
The validity of this certificate depends on the validity of the main certificate.



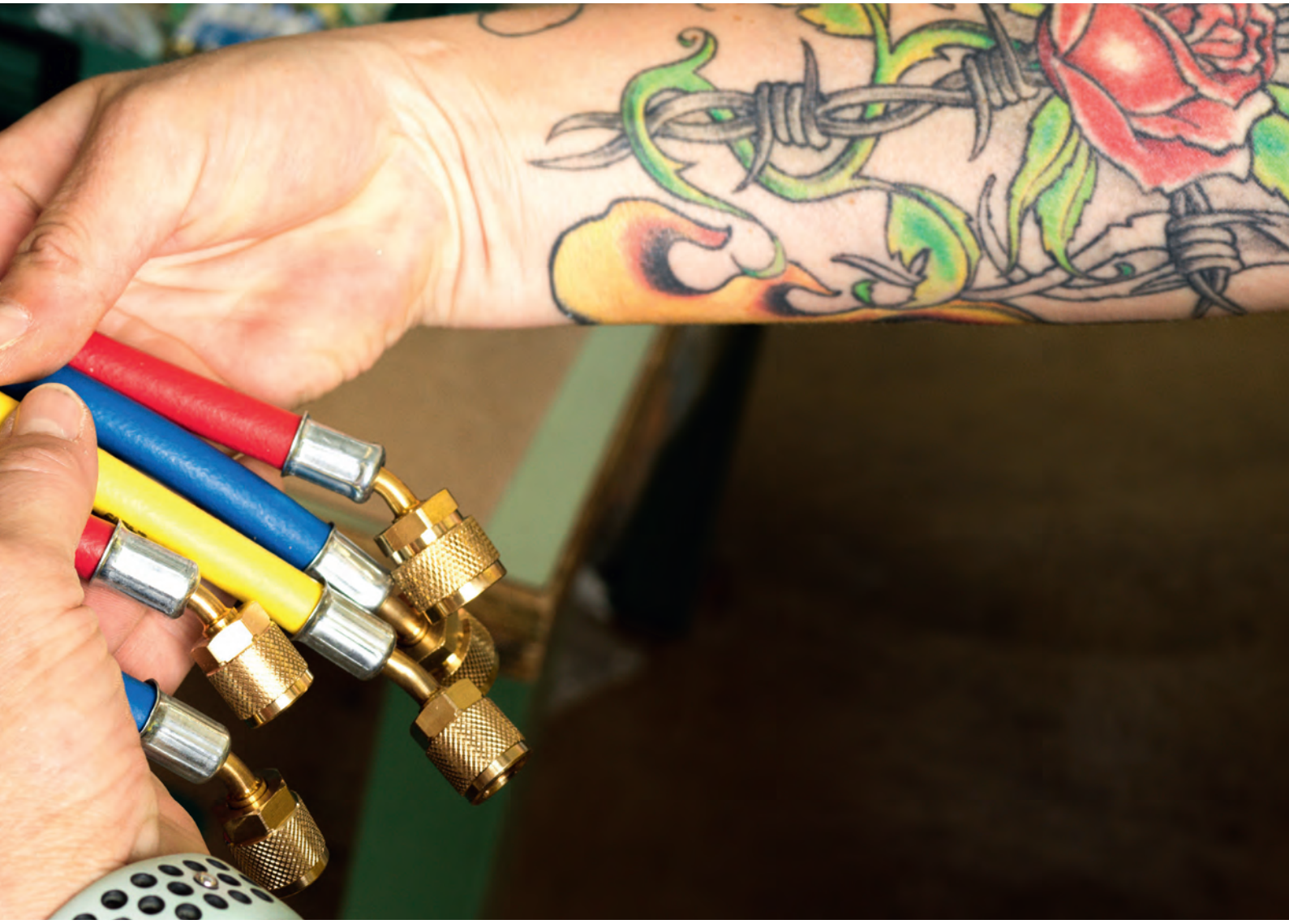
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Production









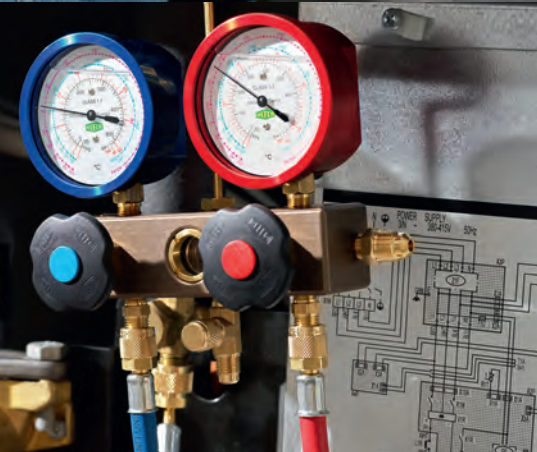
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