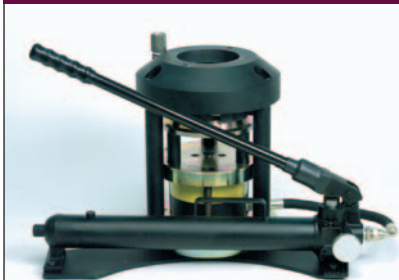


RA20/RA20HP 1.1/4" VERTICAL CRIMPERS



PAGE 346

MAX. HOSE SIZE:
1.1/4 INCH
POWER OPTIONS:
HAND PUMP, AIR/
HYDRAULIC PUMP
**CRIMP DIAMETER
SETTING:**
COLOUR WHEEL
OPERATION:
MANUAL STOP

R20M 1.1/4" HORIZONTAL CRIMPERS



PAGE 348

MAX. HOSE SIZE:
1.1/4 INCH
POWER OPTIONS:
SINGLE OR THREE
PHASE
**CRIMP DIAMETER
SETTING:**
VERNIER DIAL
OPERATION:
AUTOMATIC STOP

R16HP 1" HORIZONTAL CRIMPER



PAGE 347

MAX. HOSE SIZE:
1 INCH
POWER OPTIONS:
HAND PUMP
**CRIMP DIAMETER
SETTING:**
VERNIER DIAL
OPERATION:
MANUAL STOP

R32M/R32NC 2" HORIZONTAL CRIMPERS



PAGE 349

MAX. HOSE SIZE:
2 INCH
POWER OPTIONS:
12 VOLT, 24 VOLT,
SINGLE OR THREE
PHASE
**CRIMP DIAMETER
SETTING:**
VERNIER DIAL OR
COMPUTER CONTROL
OPERATION:
AUTOMATIC STOP

R20HP/R20M-12V/R20M-24V 1.1/4" CRIMPERS



PAGE 347

MAX. HOSE SIZE:
1.1/4 INCH
POWER OPTIONS:
HAND PUMP,
12 VOLT OR 24 VOLT
R20HP:
SCALE PIN,
MANUAL STOP
**R20M-12V &
R20M-24V:**
VERNIER DIAL,
AUTOMATIC STOP

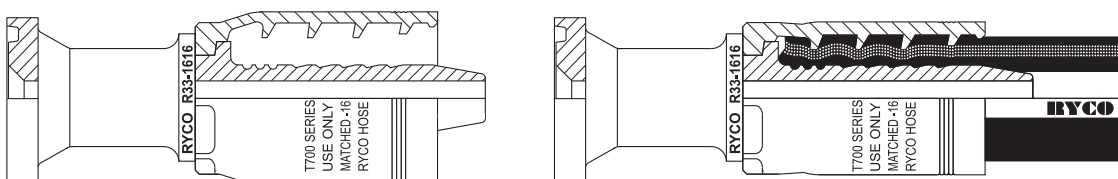
CS10/CS14 HOSE CUT-OFF SAWS



PAGE 350

CS10-2-240:
10 INCH,
SINGLE PHASE
CS10-12V:
10 INCH, 12 VOLT
CS10-24V:
10 INCH, 24 VOLT
CS14-4HP-415:
14 INCH,
THREE PHASE

Hydraulic Hose Crimpers (also known as Swagers or Swaging Presses) are used to permanently assemble Crimp Couplings onto Hydraulic Hose.



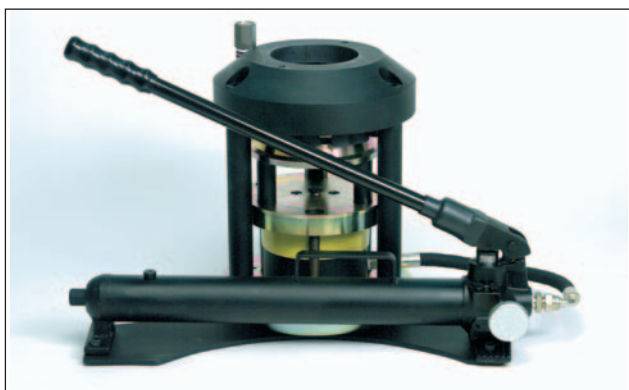
Shown on the next five pages are RYCO Hydraulics' extensive range of Hydraulic Hose Crimpers.

A number of factors need to be considered when choosing a Crimper; and RYCO Hydraulics Customer Service staff are pleased to assist in identifying the best model to suit your budget and needs.

Factors Include:

- 1. HOSE SIZES TO BE CRIMPED**
Generally, Crimpers are in either 1", 1.1/4" or 2" Hose Size capacity.
- 2. POWERING OPTIONS**
Options are; Hand Pump, Auxiliary Pump (eg. air/oil), 12 Volt, 24 Volt, Single Phase, Three Phase.
- 3. VERTICAL OR HORIZONTAL HOSE FEEDING INTO CRIMPER**
- 4. CRIMP DIAMETER SETTING**
Options are; scale pin, colour wheel, vernier dial, computer controlled.
- 5. METHOD OF OPERATION**
Manual or automatic stop when crimping diameter is reached.

RA20/RA20HP 1.1/4" VERTICAL CRIMPERS



RA20HP model incorporates a Hand Pump.



RA20 model must be powered by an auxiliary pump unit such as **R13Y** Air/Hydraulic pump (below).

RYCO RA20 and RA20HP Series are compact and portable heavy duty swaging presses, featuring simple and rugged construction. They are ideally suited to applications where small numbers of hose assemblies are required.

Both models will crimp RYCO BITELOK One-Piece Hose Couplings as follows:

T200 Series: 1/4" to 1.1/4"

T700 Series: 1/4" to 1" (1.1/4" may be crimped using a three step procedure)

T900 Series: 3/4"

Contact RYCO Hydraulics Technical Department for capability to crimp each RYCO Coupling Series and size, and ability to accommodate Compact Elbow and Tube Bend couplings. Additional Die Sets can be purchased to crimp smaller hose sizes.

Hose is fed vertically into the machine from the top.

Retraction of dies is by springs.

Crimp Diameter is set by means of a numbered Colour Wheel and sliding Indicator Rod.

Manual stop when Crimp Diameter is reached.

Maximum Input Pressure for **RA20** and **RA20HP** is 700 bar (10,000 psi)

DIMENSIONS

	RA20	RA20HP
Length:	280 mm (11.1")	700 mm (27.6")
Width:	280 mm (11.1")	375 mm (15.0")
Height:	350 mm (13.8")	350 mm (13.8")
Weight: (without oil)	80 kg (176 lb)	85 kg (187 lb)

R13Y AIR/HYDRAULIC PUMP

RYCO R13Y Air/Hydraulic Pump is an economical power pump, providing oil at pressures up to 700 bar (10,000 psi). It operates with compressed air, supplied at pressures between by 4 bar (60 psi) and 8 bar (120 psi). The three position treadle provides for advance, hold, and retract operation.

RYCO R13Y supplies 700 bar (10,000 psi) oil pressure, and is **only** suitable for use with **RYCO RA20** crimper.

RYCO R13Y-9000 supplies 620 bar (9,000 psi) oil pressure, and is **only** suitable for use with **RYCO R16HP** crimper.

To connect the **RYCO R13Y-9000** to **RYCO R16HP** crimper, the following Hose Assembly should be used:

TJ24D*(750*2)*LENGTH*T271-0418*T202N-0404+S27N-0604



TECHNICAL DATA

Usable Oil Capacity: 0,586 litres

Input Air Requirements: between 4 bar (60 psi) and 8 bar (120 psi) compressed air

Air Consumption: 255 litres per minute

Air Input Port: 1/4" NPT female at front of pump

Oil Outlet Port: 3/8" NPT female at side of pump

DIMENSIONS

	R13Y & R13Y-9000
Length:	375 mm (14.7")
Width:	142 mm (5.6")
Height:	145 mm (5.7")
Weight:	5,4 kg (11.9 lb)

R16HP 1" HORIZONTAL CRIMPER

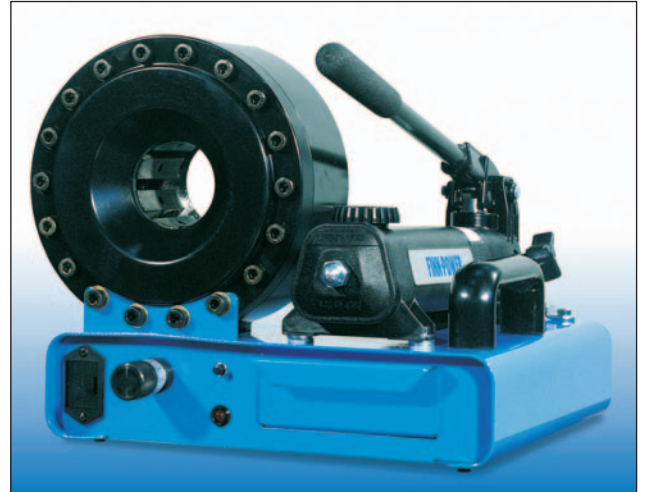
RYCO R16HP is a truly portable crimper; light weight (only 25 kg/55 lb) and compact in dimensions, but robust in construction. It is operated by a hydraulic hand pump, but can also be supplied with **R13Y-9000** Air/Hydraulic Pump, see page 346.

RYCO R16HP is ideally suited for manufacture of, small numbers of hose assemblies in repair workshops, mobile service vans and areas where electrical power is not available. It can be carried to the job site using the built in handle. A built in drawer (5 compartments) holds Die Sets. Crimping Die Sets clip into Master Dies, and are released with a twist. Hose Couplings from 1/4" up to maximum hose size 1" can be crimped.

Contact RYCO Hydraulics Technical Department for capability to crimp each RYCO Coupling Series and size, and ability to accommodate Compact Elbow and Tube Bend couplings. Additional Die Sets can be purchased to crimp smaller hose sizes.

Hose is fed horizontally into the machine from the front only. Retraction of dies is by springs. Crimp Diameter is easily set by accurate Vernier Scale. When the preset Crimp Diameter is reached, an Indicator Lamp is lit, and operation of the pump must be manually stopped.

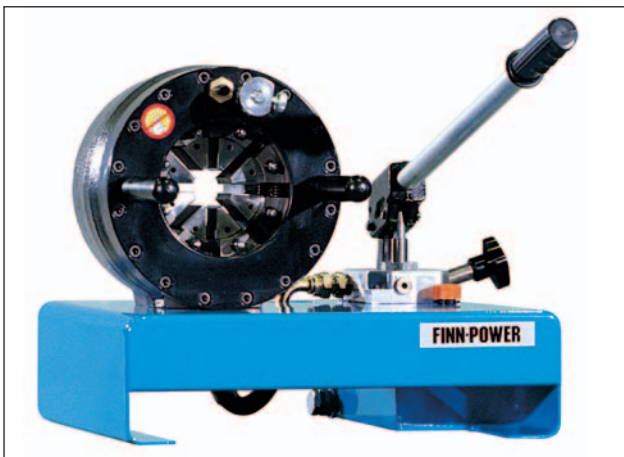
Maximum Input Pressure for **R16HP** is 620 bar (9,000 psi).



DIMENSIONS

	R16HP	
Length:	331 mm	(13.0")
Width:	386 mm	(15.2")
Height:	271 mm	(10.7")
Weight:	25 kg	(55 lb)
	(without oil or dies)	

R20HP/R20M-12V/R20M-24V 1.1/4" HORIZONTAL CRIMPERS



RYCO R20HP is portable, and can be carried to the job site. It is ideally suited for use in rugged terrain, or areas where electric power is not available or cannot be used for safety reasons. Crimp Diameter is set by a Control Plate on Scale Pin. Manual Stop when Crimp Diameter is reached.

Maximum Input Pressure for **R20HP** is 275 bar (4,000 psi).

Note: DO NOT use **R13Y** Air/Hydraulic Pump with **R20HP**. Contact RYCO Hydraulics Technical department for suitable Air/Hydraulic Pump options.

DIMENSIONS

	R20HP	R20M-12V, R20M-24V
Length:	487 mm (19.2")	565 mm (22.2")
Width:	441 mm (17.4")	523 mm (20.6")
Height:	389 mm (15.3")	386 mm (15.2")
Weight:	62 kg (136 lb)	81 kg (178 lb)
	(without oil or dies)	



RYCO R20M-12V & R20M-24V models can utilise the DC electrical power source of an industrial machine or service vehicle. Crimp Diameter is set by stepless adjustment of 10-turn Vernier Scale Dial, to accuracy of ± 0.1 mm. Features of these machines are; easy Push Button controls, with automatic stop when preset Crimp Diameter is reached. Please note: photograph shows crimping head on right of motor. Standard supply is for crimping head on left of motor.

RYCO R20HP, R20M-12V & R20M-24V will crimp RYCO Hydraulic Hose Assemblies from low pressure lines, to multi-spiral high pressure assemblies. Hose feeding is horizontal from both front and rear of machine. Rapid Retraction of the dies is assisted by two gas spring units. Hose Couplings from 1/4" up to maximum hose size 1.1/4" can be crimped.

Contact RYCO Hydraulics Technical Department for capability to crimp each RYCO Coupling Series and size, and ability to accommodate Compact Elbow and Tube Bend couplings. Additional Die Sets can be purchased to crimp smaller hose sizes.

R20M-1/R20M-3 1.1/4" HORIZONTAL CRIMPERS



RYCO R20M Series are compact and efficient swaging machines, equally suitable for repair shop applications and high volume production of hose assemblies. They are powered by either a single phase electric motor (**R20M-1**), or a three phase electric motor (**R20M-3**). Crimp Diameter is easily set by an accurate 10-turn Vernier Scale Dial, to accuracy of $\pm 0,1$ mm; operation is by Push Buttons, with automatic stop when crimping is complete. Hose is fed horizontally into the machine from the front or rear. Rapid retraction of dies is powered by the machine's hydraulic system. Crimping Die Sets are easily changed segment by segment using the hooked hand tool, or the whole die set can be changed in one operation using optional Quick Change equipment. Hose Couplings from 1/4" up to maximum hose size 1.1/4" can be crimped. Additional Die Set will allow crimping of T700-24 (1.1/2") couplings. Contact RYCO Hydraulics Technical Department for capability to crimp each RYCO Coupling Series and size, and ability to accommodate Compact Elbow and Tube Bend couplings. Additional Die Sets can be purchased to crimp smaller hose sizes.

DIMENSIONS		
	R20M-1	R20M-3
Length:	597 mm (23.5")	597 mm (23.5")
Width:	475 mm (18.7")	475 mm (18.7")
Height:	609 mm (24.0")	609 mm (24.0")
Weight:	130 kg (286 lb) (without oil or dies)	130 kg (286 lb)

Crimper is shown on **R20QC** Quick Change Base (not included).

QUICK CHANGE BASES AND WALLRACKS

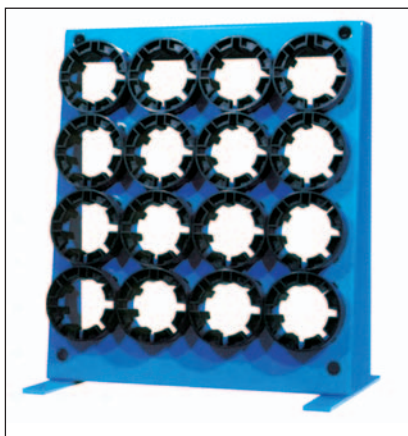


Photo shows **R32QC-WALLRACK**. **R20QC-WALLRACK** is similar except that it has 12 storage sleeves.



RYCO R20M Series* has two options that each facilitate; quick and easy die set changes, and keeping your die sets in order.

R20QC Quick Change Base (see photo above), allows for **RYCO R20M** Series crimpers to be mounted on top, or **R20QC-WALLRACK** can be used free standing or as a wall mounted Quick Change Rack (similar to photo on left).

Each option includes an **R20-MTOOL** hand held die changing tool, allowing a complete die change to be facilitated in just seconds. The pins on the **R20-MTOOL** engage the holes in the Dies. As the swaging head opens or closes, the dies are released from, or secured to, the swage head. The Dies are held together by a magnet in the **R20-MTOOL** until the set is placed back into the Quick Change Base or Wall Rack. This method ensures that the Dies are kept in complete sets at all times and are always used in the same configuration.

***Please note:** **R20M** crimpers manufactured prior to August 1998 require retrofitting of; shorter Die Set Pins in each of the Dies, and different Die Release mechanisms in the crimper head, to allow the Quick Change system to be used. Dies must also have holes to accept the pins of **R20-MTOOL**. Contact RYCO Hydraulics Technical Department for more details.

RYCO R20 Magnetic Tool (Part No **R20-MTOOL**)

This very handy tool, also available on its own, allows for quick removal of Dies when not used with **R20QC** Quick Change Base or **R20QC-WALLRACK**.

R32M-1/R32M-3/R32M-12V/R32M-24V/R32NC-3 2" HORIZONTAL CRIMPERS



Photograph shows **RYCO R32M-1** Crimper on the optional **R32QC** Quick Change Base. **R32M-3** and **R32NC-3** are similar to **R32M-1**, however, **R32NC-3** has the Micro Processor Control Panel shown above right, in place of Push Buttons and Vernier Scale Dial of **R32M-1**.

R32M-12V & R32-24V are similar to **R20M-12V & R20M-24V** shown on page 347.

RYCO R32M Series are compact and efficient swaging machines, equally suitable for repair shop applications and high volume production of hose assemblies.

They are powered by either a single phase electric motor (**R32M-1**), a three phase electric motor (**R32M-3**), 12 Volt DC electrical power source (**R32M-12V**), or 24 Volt DC electrical power source (**R32M-24V**).

Crimp Diameter is easily set by an accurate 10-turn Vernier Scale Dial, to accuracy of $\pm 0,1$ mm; operation is by Push Buttons with automatic stop when crimping is complete. Hose is fed horizontally into the machine from the front or rear. The horizontal attitude of the swage mechanism provides operators with the most ergonomic position for crimping, an important consideration especially when large 2" diameter multi spiral assemblies are required. Rapid retraction of dies is powered by the machine's hydraulic system.

Crimping Die Sets are easily changed segment by segment using the hooked hand tool, or the whole die set can be changed in one operation using optional Quick Change equipment. Hose Couplings from 1/4" up to maximum hose size 2" can be crimped.

Contact RYCO Hydraulics Technical Department for capability to crimp each RYCO Coupling Series and size, and ability to accommodate Compact Elbow and Tube Bend couplings. Additional Die Sets can be purchased to crimp smaller and some larger hose sizes.



R32NC-3
MICRO PROCESSOR
CONTROL PANEL

The **RYCO R32NC-3** is designed for high volume production of hose assemblies.

The **NC** Micro Processor Control is a state-of-the-art, user-friendly control utilising icon symbols and graphics for setting swaging parameters. The NC Control even recommends the appropriate die set for a given diameter from its tool management memory.

The **R32NC-3** has four operation modes:

1. Manual mode, swaging and retraction by pressing manual buttons
2. Automatic mode, swaging and retraction controlled by touch screen
3. Automatic mode, swaging and retraction operated when the fitting touches the automatic backstop supplied with the unit
4. Tool change mode

The **NC** Control can store up to 200 RYCO crimp diameters for various Hose and Coupling Series and size combinations. Each combination can be assigned a 15 digit alphanumeric name for fast and easy user recognition. This ensures that every assembly is manufactured to RYCO specified quality standards, and reduces any possibility of incorrect crimping.

The **NC** Control can also be programmed for die set correction factors, swaging once or twice in each swage cycle, and time delay at the end of the swaging cycle. A swage counter is also included.

The retraction diameter of the dies may also be programmed, and together with quick die retraction powered by the machine's hydraulics and use of automatic backstop to control swage cycle, speed in high volume production is increased.

DIMENSIONS		
	R32M-12V, R32M-24V	R32M-1, R32M-3, R32NC-3
Length:	630 mm (24.8")	597 mm (23.5")
Width:	545 mm (21.5")	536 mm (21.1")
Height:	425 mm (16.7")	630 mm (24.8")
Weight:	113 kg (249 lb) (without oil or dies)	178 kg (392 lb)

QUICK CHANGE BASES AND WALLRACKS

RYCO R32M Series and **RYCO R32NC-3** may be mounted on optional **R32QC** Quick Change Base (see photo above), or provided with **R32QC-WALLRACK** free standing or wall mounted Quick Change Rack (see photo page 348). With the included **R32-MTOOL** hand held die changing tool, a complete die change can be facilitated in just seconds. The pins on the **R32-MTOOL** engage the holes in the Dies. As the swaging head opens or closes, the dies are released from, or secured to the swage head. The Dies are held together by a magnet in the **R32-MTOOL** until the set is placed back into the Quick Change Base or Rack.

This method ensures the Dies are kept in complete sets at all times and are always used in the same configuration.

RYCO R32 Magnetic Tool (Part No **R32-MTOOL**)

This very handy tool is also available on its own, this allows for quick removal only of Dies when not used with **R32QC** Quick Change Base or **R32QC-WALLRACK**.



RYCO RP SERIES CRIMPERS

RYCO RP Series crimpers are designed to handle large jobs with speed and efficiency. Models range from **RP20** (1.1/4" capacity), **RP120** (2" capacity), **RP140** (2.1/2" hydraulic hose/4" industrial hose capacity), **RP160/165** (6" capacity), up to the **RP170/RP175** (10" capacity). These full scale production units offer; high speed for increased productivity, large die openings to allow small and large hose assemblies to pass through easily, a wide range of available die sets, and high strength.

These heavy duty units include the Quick Die Change system and inbuilt storage rack for dies as standard features.

RYCO RP Series crimpers incorporate the NC Micro Processor Control, a state of the art, user-friendly control utilising icon symbols and graphics for setting swaging parameters.

The NC Control even recommends the appropriate die set for a given diameter from its tool management memory. The NC Control can store up to 200 RYCO crimp diameters for various Hose and Coupling Series and size combinations. Each combination can be assigned a 15 digit alphanumeric name for fast and easy user recognition. This ensures that every assembly is manufactured to RYCO specified quality standards, and reduces any possibility of incorrect crimping.

The NC Control can also be programmed for die set correction factors, swaging once or twice in each swage cycle, and time delay at the end of the swaging cycle. A swage counter is included.



The retraction diameter of the dies may be programmed, and together with quick die retraction powered by the machine's hydraulics and use of automatic backstop to control swage cycle, speed in high volume production is increased.

CS10/CS14 HOSE CUT-OFF SAWS

RYCO Hose Cut-Off Saws are designed to quickly cut, clean 90° cuts, through textile braided, wire braided and multi-spiral Hydraulic Hoses.

RYCO Hose Cut-Off Saws eliminate ragged, or frayed hose ends, which make hose assembly difficult, and are the cause of some premature hose failures. Adjustable pegs assist in maintaining the correct bend in the hose, to ensure a 90° square cut. A hand lever supports the hose and feeds the hose to the blade, which is enclosed for safety.

Two models are available:

CS10 models will cut up to 2" wire braided, and up to 1.1/4" multi-spiral hoses.

CS14 model will cut up to 2" wire braided, and up to 2" four-spiral hoses.



	PART NO	DESCRIPTION	MOTOR
HEAVY DUTY	CS10-12V	CUT-OFF SAW WITH 250 mm (10") STEEL BLADE	12 Volt DC
	CS10-24V	CUT-OFF SAW WITH 250 mm (10") STEEL BLADE	24 Volt DC
	CS10-2-240	CUT-OFF SAW WITH 250 mm (10") STEEL BLADE	1,5 kW/2 hp Single Phase
SUPER HEAVY DUTY	CS14-4HP-415	CUT-OFF SAW WITH 350 mm (14") STEEL BLADE	3 kW/4 hp Three Phase

RYCO Steel Cut-Off Saw Blades are designed for optimum hose cutting ability, providing safe, efficient cutting of braided and multi-spiral hoses. Matched to the RPM of RYCO Cut-Off Saws they are the only Saw Blades recommended for use with RYCO Cut-Off Saws. They are **not** suitable for use on non-RYCO Cut-Off Saws.

PART NO	BLADE SIZE
CWS10	250 mm (10")
CWS14	350 mm (14")

