

Operation Book



P20D

Read Before Operation

USER MANUAL

www.samway.com

SAMWAY

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Caution

All Die Sets Required to be installed Clockwise 1 2 3 4 5 6 7 8 if you look in front of the crimping machine. Die number 1 could install to any master die, but the following die number 2 should be beside the die number 1 and clockwise. Especially for the die number under 16 mm. This is important to keep the ferrule crimped with good roundness.

1. INTRODUCTION

Do not unpack or operate the crimping machine until you have thoroughly read this manual.

All who operate the crimping machine must read this manual.

This manual provides necessary information for safe use of this machine.

This manual is the result of continual development, testing and technical evaluations that are registered and verified by SAMWAY according to 2006:42/EG, 2004:108/EG, 2006:95/EG, EN614-2, 97/23/EG.

This information is intended only for specialized operators who can operate the machine without risk to themselves, other persons, property, the machine, or the environment. The operator should have fundamental knowledge in trouble-shooting methods, perform machine inspections and simple maintenance according to the information provided in this manual and according to local legislation for protection of health and safety.

This manual does not explain disassembly or comprehensive maintenance in detail. These may only be performed by an authorized service technician.

It is necessary to store the manual and keep it in good condition for future use. Contact your closest authorized supplier for a replacement manual or additional information if necessary.

This manual should be preserved and stored for the length of the machine's lifetime or at least ten(10) years in a well-known, easily accessible location together with other machine documentation.

SAMWAY is not liable for injury/damage to persons/machine or property as a result of improper use, having made prohibited modifications to the machine or misinterpreting this manual's safety instructions.

2. SAFETY RULES

Always ensure that the minimum standards for safety, installation and operation are complied with before operating the machine. Observe the surrounding environmental conditions such as temperature, humidity, lighting, vibrations, dust and other conditions at the machine operation site. Never remove the machine's information or warning plates. Ensure that they remain clearly readable. Contact an authorized service workshop for replacement plates if they become unreadable.

The use of any spare parts that deviate from this manual's specifications, any other changes/manipulations (however insignificant) made to your machine releases SAMWAY from any liability for consequences that arise due to the machine's performance, level safety for nearby persons and / or personal property.

Disassembling or side-stepping safety devices or rules is extremely hazardous and absolutely prohibited. Refusal to follow these requirements puts others at severe risk of injury!

Always dispose of operation waste according to current local laws and regulations.

Note!

All maintenance not described in this manual must be performed by an authorized service technician.

3. EQUIPMENT

The machine consists of a chassis, crimping head and is delivered ready to use, packed in a wooden box on a pallet.

Note!

Always dispose of operation waste according to current local laws and regulations.

3.1 Warranty

The warranty lasts one(1) year from purchase and only under the strict condition that the manual instructions have been followed. The warranty covers defected material/parts and flawed workmanship, replacing defected parts cost.

The warranty dose not cover improper use or normal wear. Travel costs, time for repair and shipping costs are not covered by the warranty. Repairs under the warranty are to be made only by SAMWAY or an authorized service technician approved by SAMWAY. Lost income or extra costs that may arise for any reason are not covered by the warranty.

Note!

Ensure that the machine is undamaged and that the all of the described items are present upon arrival or shortly after. SAMWAY is not liable for incorrect or missing parts that are not reported within eight(8) days after delivery.

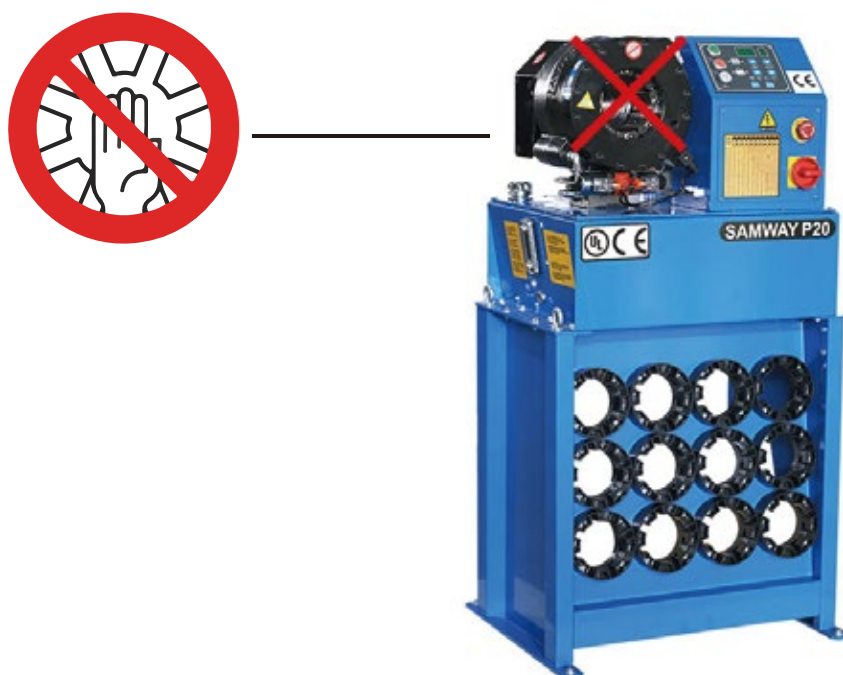
3.2 Important

P20 is designed manufactured and made safe for crimping hydraulic hose in dimensions 3/16"-1". Any other use of this machine is considered improper and SAMWAY is not liable for injury or damage to persons, property or the machine. The machine shall only be used for crimping hydraulic hose according to specification. SAMWAY instructions for operating conditions and limitations for use/operation as well as health and safety regulations must be complied with.

Warning!

Pinch point!

Keep hands and all other body parts away from the red-indicated area while crimping.



3.3 Identification

The machine can be identified by the CE-label with the following information located on its backside:

Manufacturer
Serial number
Manufactured year
Weight

Note!

It is absolutely prohibited to remove or damage the identification plate. Contact an authorized service workshop for new plates if they become damaged and unreadable.

Always provide the following information and technical explanation of the machine's problem when contacting the authorized service workshop.

P20D



4. START-UP

4.1 Machine placement

Place the machine on a stable and flat surface.

4.2 Selecting dies

Determine the crimping dimensions for the current operation and select the die set with the correct interval that corresponds to the crimping measurement.

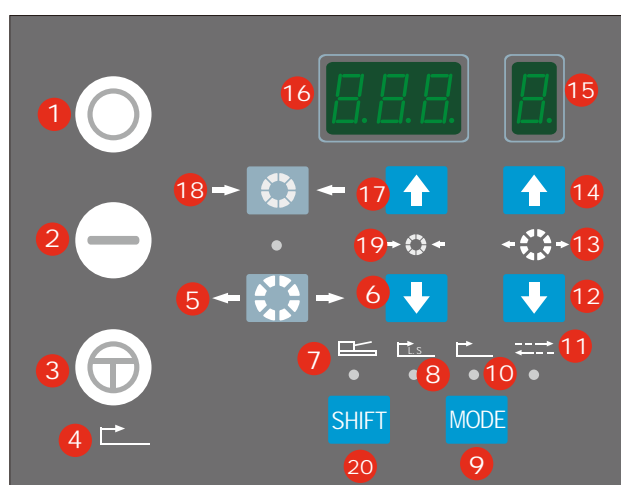
For example: A crimping measurement of 17mm requires the die size nr 16 (since it covers the 16-19 mm interval).

Always select the die set within the correct interval to achieve the best crimping results. Every die is marked with the smallest crimping measurement in the interval.

Note!

Crimping any measurements outside the table crimping measurement interval is not recommended. Using dies that are too small risk the ferrule becoming oval.

4.3 P20D control panel illustration

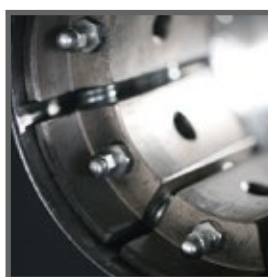


1	Motor Stop
2	Motor Start
3	Semi-Automatic Control
4	Semi-Automatic Control Symbol
5	Manual Opening Button
6	Crimping data adjustment
7	Foot Pedal Control Mode
8	Back Stop Control Mode
9	Mode Selection
10	Semi-Automatic Mode
11	Manual Control Mode
12	Opening data adjustment
13	Opening Symbol
14	Opening Data Adjustment
15	Opening Data Digit Display
16	Crimping Data Display
17	Crimping Data Display
18	Manual Crimping Button
19	Crimping Symbol
20	digit position input

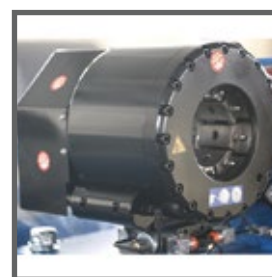


Emergency Stop

Main Power Switch



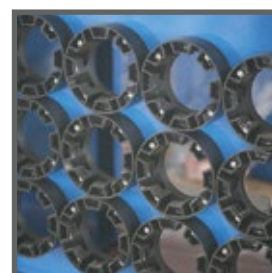
Die base



Crimping Head



Oil Cap



Die Rack

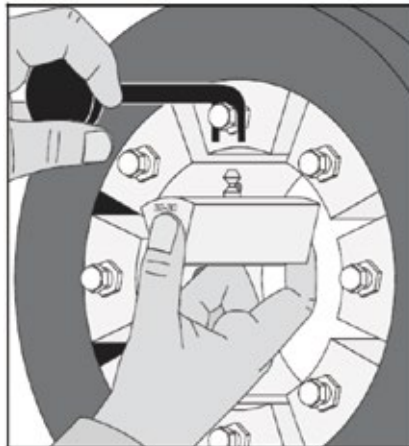
4.4 Change of a single die

- Open the dies to the maximum retraction. Open the supply disconnecting device.



CAUTION! SUPPLY DISCONNECTING DEVICE SHALL ALWAYS BE OPENED DURING THE INSTALLATION OF THE DIES.

- Prior to installing the dies, clean the contact surface of both the die set and master dies properly to avoid damaging the surfaces
- Pull the pull pin in the master die with the tool delivered together with the machine (see figure).
- Insert the die with the retaining pin into the master die, die number always towards you. Release the pull pin.
- After installing all the dies, make sure they are straight and properly seated in the master dies.



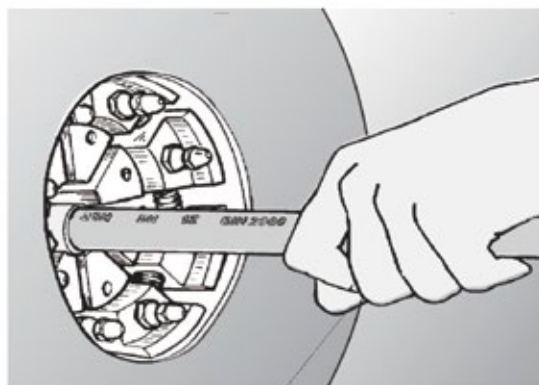
4.5 Crimping



WHEN CRIMPING A FITTING, HOLD THE HOSE FAR ENOUGH TO AVOID CRIMPING YOUR HAND! DO NOT CRIMP THE EDGE OF THE DIE!

The machine can be operated manually by using the crimping- and the opening - push buttons or with semi-automatism.

1. Adjust the recommended crimping diameter.
2. Press the crimping button until the dies hold the fitting lightly.
3. Press the crimping button until the dies stop.
4. Open the dies and remove the fitting.
5. Check the crimping diameter.



5. SELECTING THE DIE SET, 20 MODEL

From the crimping diameter chart, delivered together with the machine, you can see the die set numbers and the corresponding crimping ranges. The upper section of the chart shows the corresponding dial position for each crimping diameter in the columns.

Crimping diameters in the grey zone of the chart are not recommended to be used with the die set in question.

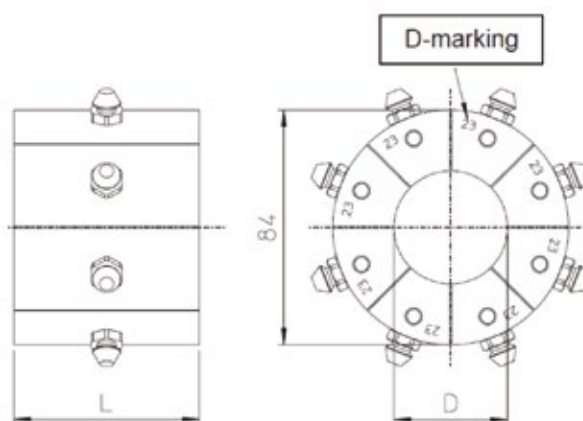
The crimping diameter dial has been calibrated at the factory so that when the dial is set at 0.0, the resulting diameter will be the minimum diameter of the die set installed, i.e. with die set No 20-16 the crimping diameter will be 16 mm, No 20-19 gives a diameter of 19 mm etc. Each full turn clockwise of the adjusting knob of the dial will add 1 mm to the crimping diameter. Each division on the measuring scale corresponds to 1/100 mm.

DIE SET No	0	1	2	3	4	5	6	7
	Ø min	+1 mm	+2 mm	+3 mm	+4 mm	+5 mm	+6 mm	+7 mm
20-10	10	11	12					
20-12	12	13	14					
20-14	14	15	16	17				
20-16	16	17	18	19	20			
20-19	19	20	21	22	23	24		
20-23	23	24	25	26	27	28		
20-27	27	28	29	30	31	32		
20-31	31	32	33	34	35	36	37	
20-36	36	37	38	39	40	41	42	
20-41	41	42	43	44	45	46	47	48
20-47	47	48	49	50	51	52	53	54
20-54	54	55	56	57	58	59	60	61

The crimping diameter chart P20

P20 DIES

D	L	Die set No	Crimping range
10	55	18013/10	10...12 mm
12	55	18013/12	12...14 mm
14	55	18013/14	14...16 mm
16	55	18013/16	16...19 mm
19	55	18013/19	19...23 mm
23	55	18013/23	23...27 mm
27	70	18013/27	27...31 mm
31	70	18013/31	31...36 mm
36	75	18013/36	36...41 mm
41	75	18013/41	41...47 mm
47	85	18013/47	47...54 mm
54	85	18013/54	54...61 mm



In addition to the standard die sets, a wide range of special die sets is available on request.

6. IF THE MACHINE DOES NOT WORK...

If the motor doesn't start up

1. To start up the machine, turn the switch completely to the left (0) and then to the upright position (I).
2. Make sure that the voltage on the machine plate is the same as the power supply. If not, please contact the seller of the machine.
3. Check the power supply to the machine: check the power supply cable, contact plug and wall socket, possible safety or main power switch as well as the fuses outside of the machine.
4. Open the crimping machine's electrical cabinet and check the thermal relay.

If the motor starts up but the dies don't move

1. Check the rotation of the motor.
2. Check the oil level.
3. Check that the measuring device is in its place and the cable is connected.
4. Check that the dies are not already in close- or retraction position.
5. Check that the direction valve gets power (24V). Press the crimping- and retraction buttons, the lights on the valves should light up at the same time.

If the machine leaks oil

1. A new machine might leak a small amount of rust protection oil under the cylinder or under the machine.
2. When the machine has been filled up with oil, some oil might have leaked inside the machine and then slowly under the machine.
3. If the machine is in continuous use, some oil (0,1dl) might pass the seals and leak under the cylinder when the machine is stopped or when changing the die sets.

If the machine's power is not enough

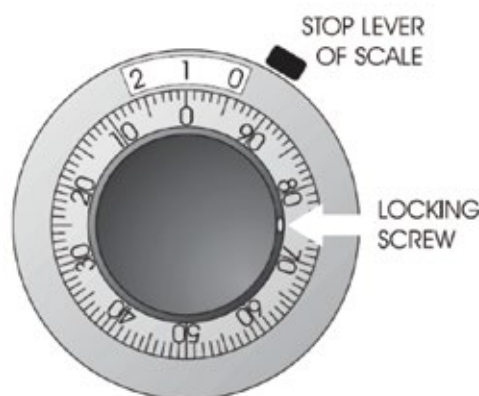
1. The lack of power might be caused by dry sliding surfaces. Grease the machine.
2. Check that the coupling or the piece you are crimping is the size that the machine can crimp. The machine's pressure relief valve opens and the dies stop when the maximum power of the machine has been reached.
3. If the dies open up in normal speed but close slower and the machine is lacking crimping power, there is dirt in the hydraulic system which causes a leak in the valve. The hydraulic system of the machine has to be cleaned and the valves either cleaned or changed.
4. The pressure relief valve of the machine has been adjusted at the factory. Do not open or adjust this valve in any way. If you suspect that the valve is not working properly, contact the seller of the machine.
5. Make sure that there is oil enough in the tank.

If you contact the manufacturer or the distributor about the operating or service-problems, remember to give your crimping machine's serial number and the type of the control.

7. RE-CALIBRATION OF CRIMPING DIAMETER DIAL

NOTE: The crimping diameter dial has been calibrated at the factory during test run.

1. Re-calibrate the crimping diameter with ferrule (seamless steel tube), Ø 25 mm; wall 2 mm, by using the die set No 20-19 (20 model) or the die set 32-19 (32 model).
2. Set the dial at 1.0, so that the crimping diameter will be 20 mm (see the adjacent picture) and lock the dial. Crimp the ferrule and measure the real diameter.
3. Remove the control dial knob (avoid to turn the dial shaft at the same time).
4. Open the dial lock lever and set the real diameter into it (diameter of ferrule) relock it and install back.
5. Turn the dial to right diameter and crimp another ferrule. Now the machine has been calibrated and the real diameter should be the same than the diameter which state on the dial. If not, repeat from point 2 and be more careful when handling the dial.
6. After the adjustment, the crimping result should be the minimum nominal crimping diameter of each die set with the dial at 0.0.



8. TROUBLE SHOOTING

Problem	Reason	Solution
Low crimping force:	1. Insufficient lubrication. 2. Return valve not closed. 3. Leakage. 4. Pump leakage.	Lubricate. Close the valve. Repair Replace seals.
Crimping measurement is inconsistent	2. Insufficient lubrication. 3. Adjusting knob lost its position.	Lubricate. Calibrate.

**Benefit:**

- Digital Precision Control
- Quick Change Tool and Die rack
- Energy Saving and Safety Operation
- TUV CE Approved

SAMWAY P20D

Main Specification	SAMWAY P20D
Max Hydraulic Hose	1 1/2" 4SP
Crimping Range	4-65 mm
Die Type	P20
Master Die Length	80 mm
Max Opening	+26 mm
Motor	3 KW
Crimping Force	1700 KN
Crimpings Per Hour	1800
Control	Digital Control
Foot pedal	Included
Die Rack	Included
Quick Change Tool	Included
Backstop Device	Optional

SAMWAY P20D

Control by Pressure	Optional
Noise Level	65 dBA
Protection Class	IP56
L*W*H	680*600*1400 mm
Weight	270 KG

Order No.

220V, 400V, 415V, 440V, 480V 3 phase	:00001410
110V 60hz single phase	:00001411
220V 50/60hz single phase	:00001412

Standard Die Sets Included:

Die No.	10*	12*	14	16	19	22	26	30	34	39	45	51	57	63	69	74*	78*
Length	60	60	60	60	60	75	75	75	80	80	90	90	100	100	100	110	110

* Special Die sets or dedicated die sets for RYCO PARKER Manuli Eaton hose available upon request

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