

OPERATING INSTRUCTIONS

SAMWAY P20NMS / P32NMS

CE

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SAMWAY



WUXI SAMWAY CO.LTD
whatsapp +86 138 120 22928
SKYPE : samway.company
Tel: 0086-510 8378 8458
Mobile: 0086 13812022928

SAMWAY

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Translation of the original instructions.

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Keep this manual for future needs.

The machine has been designed for crimping hose fittings. SAMWAY shall not be held liable for any product which has been crimped on the machine. The machine has been designed to operate in room temperature, in dry indoor conditions and in sufficient illumination. Using the machine for any other purpose is not allowed without written consent from the factory.

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GENERAL

SAMWAY crimping machines are electrically operated hydraulic crimping machines for hydraulic hose assemblies. Machines are designed for single piece- and low production. The crimping machine comprises a crimping head, a hydraulic unit which serves as machine frame. SAMWAY crimping machine is normally delivered with a 3-phase electric motor.

TRANSPORT

The packed machine is transported on a pallet, which is easy to move and lift by a fork-lift truck. After unpacking, the machine can be lifted using a hoisting belt.

Size of package: $x = 75$, $y = 60$, $z = 78$ cm.

STORAGE

The manufacturer has protected the machine against corrosion by using the Zerust method. The machined parts have been treated with Axxatec 77C protective agent. A Zerust vapor capsule has been put into the electric box, and the machine has been packed into a bag made of Zerust film.

The protection is effective for months if the package is not opened. After opening it, the protection of the wrapping film ceases. If the machine is not yet brought into use, it must be reprotected against corrosion. The machine is to be stored in dry indoor conditions.

Remove the protective agent according to the instructions enclosed in the package.

MOUNTING

The adjacent picture shows an appropriate way to lift the machine after it has been unpacked.

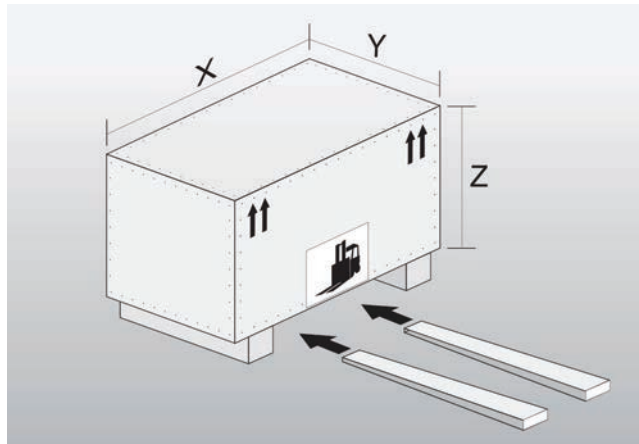
It is recommended to mount the machine on a table. Before mounting, the table must be screwed on the floor with four M12 wedge anchors. Boreholes in the floor: $\varnothing 12$ mm depth 55 mm.

When the machine is mounted on a SAMWAY table, the four shoes and fixing plates under the machine are removed.

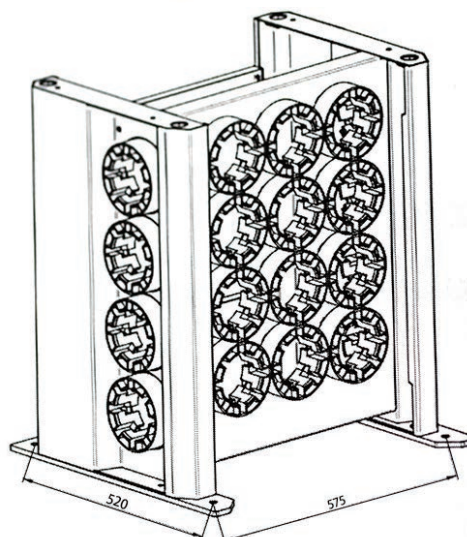
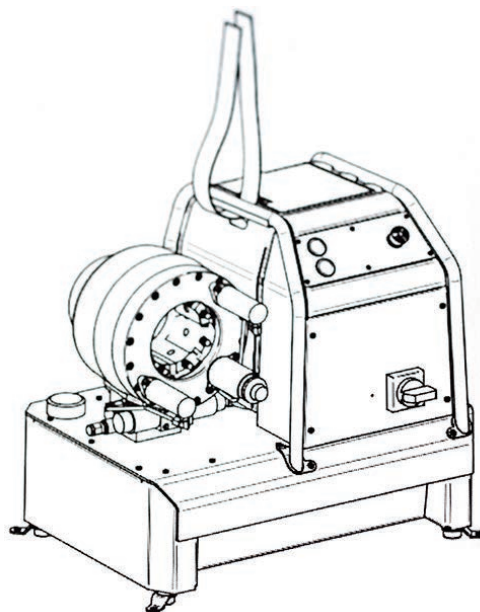
The table with assembly instructions is packed separately.

The Crimper may be installed on some other as well, provided it is sturdy and broad enough or it has been fastened on the floor so that it cannot fall over. Check the machine weight from the type plate. Furthermore there must be a hole in the table to enable emptying the oil tank through the drain plug.

Mount the machine in a location that gives enough working space, 900 mm (3 ft) round the machine. The sufficient lightning in machine surroundings is also needed to ensure safe working.



Pakkaus1.eps



HELP PROTECT OUR ENVIRONMENT

DISPOSAL OF THE PACKING MATERIAL

The transport and protective packing is mostly manufactured from the recycled or recyclable materials. Please check local environmental regulations before disposing of packing materials. Rather than throwing these materials away, please take them to your community recycling center.

DISPOSAL OF YOUR OLD MACHINE

Old machines contain materials which can be recycled. Please contact your recycling center of scrap merchant before discarding the appliance. Handle the waste oil and filters according to law.

WARNINGS

GENERAL



Use only original SAMWAY die sets in your SAMWAY crimping machines. Installing and using third party die sets are voiding any warranties, and all liability what so ever nature is rejected. Using third party dies sets will be done solely on users own risk and recourse.



Read the instructions thoroughly to secure safe and correct operation of the machine.

The machine is intended for professional use. It is to be operated only by a trained operator who has understood the dangers involved in the operation. The machine is designed to operate in room temperature, in dry indoor conditions and in sufficient illumination.

Openings between the dies exceed 6 mm, thus being large enough to let fingers go between the dies and get crimped. It is, therefore, **ABSOLUTELY** necessary to follow operating instructions and warnings indicated by the stickers on the machine when changing dies and crimping fittings.

The cover- and protection plates protect the operator from crimping- and other possible hazards.

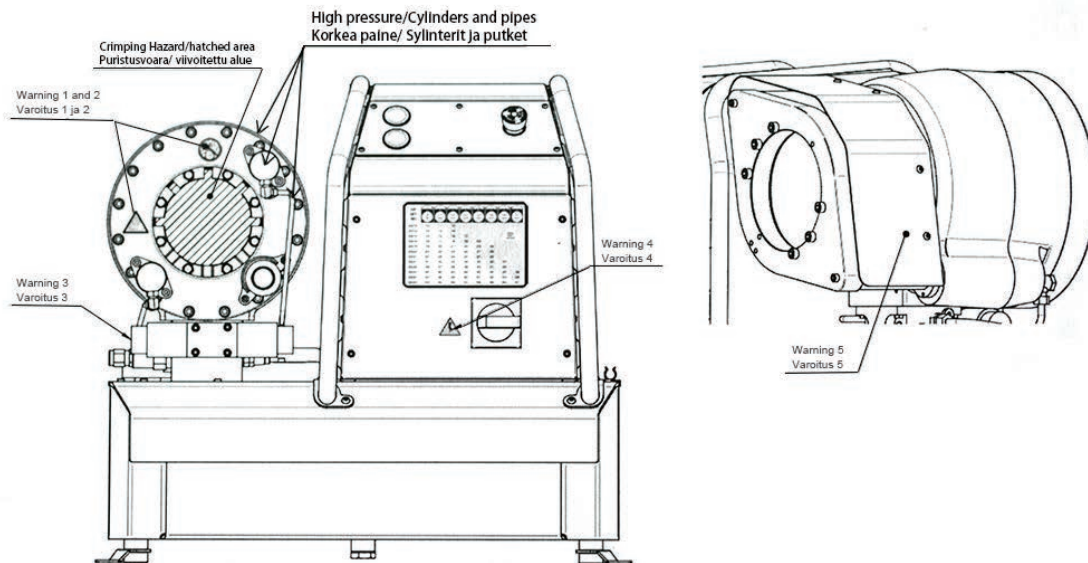
It is recommended to use appropriate protective eyewear, gloves and safety shoes during operation and maintenance.










Test the function of the emergency stop push buttons every day!



DANGER ZONES



LABEL	DEFINITION
	General Warning label. There are items that require attention.
<div><div>WARNINGS 1 AND 2</div><div><div>CAUTION</div><div><p>When crimping a fitting, hold the hose far enough to avoid crimping your hand!</p></div><div><p>Do not put your hands inside the dies while the machine is set on !</p></div></div></div>	<div><div>CAUTION: DANGER OF SQUEEZE</div><div>When crimping a fitting, hold the hose far enough to avoid crimping your hand!</div><div>Do not put your hands inside the dies while the machine is set on!</div></div>
WARNINGS 3	Dies open and close by depressing the hand emergency push-buttons at both ends of the valve. Do not touch these push-buttons during normal operation!
<div><div>WARNINGS 4</div><div><div><div><div>WARNING</div><div>Disconnect the machine from the mains before opening.</div><div>AVERTISSEMENT</div><div>Débrancher la machine du secteur avant de l'ouvrir.</div></div></div></div></div>	<div><div>WARNING: HIGH VOLTAGE</div><div>The electric box is to opened only by a professional electrician!</div><div>Disconnect the machine from the mains before opening.</div></div>
WARNINGS 5(P32 model)	<div><div>CAUTION: DANGER OF SQUEEZE</div><div>The rear of the crimping head is covered by a housing protecting the operator from the crimping hazard under the housing between Do not remove this housing!</div></div>

COMMISSIONING

OIL FILL

Fill the oil tank to centre line of the indicators in the dipstick with hydraulic oil like Shell Tellus T46 or equivalent. Volume of the tank is 30 litres.

It is recommended to pump the oil into the tank through a 20 μ filter, because new oil in drums is not pure.

If any oil has run out on the floor, wipe it away.

ELECTRICAL CONNECTION



CAUTION! Check that the machine voltage (see type plate) is equal to your supply voltage. For proper installation to local code, consult a licensed contractor.

Bring the supply cable through the hole on the rear of the machine and guide it through the hole on the rear of the electric box. Secure the cable with a stress relief plug. The minimum size for the cable:

SAMWAY 20		SAMWAY 32	
Voltage	Cable	Voltage	Cable
400 V / 460 V	2.5 mm ² (AWG 13)	400 V / 460 V	4 mm ² (AWG 12)
230 V / 240 V	4 mm ² (AWG 12)	230 V / 240 V	6 mm ² (AWG 10)

3-phase: Connect the phase conductors to the respective L1, L2 and L3 terminals in the supply disconnecting device. Connect the earth connection to the ground terminal on the fixing plate. Check the connection against the wiring diagram enclosed in the spare parts list.

Check that the motor rotation is parallel with the arrow close to the motor. In case the motor rotates in wrong direction, two phase conductors in the supply disconnecting device must be interchanged.

1-phase: Connect the phase and the neutral to the respective terminals in the supply disconnecting device. Connect the earth connection to the ground terminal on the fixing plate. Check the connection against the wiring diagram enclosed in the spare parts list.

RUNNING-IN

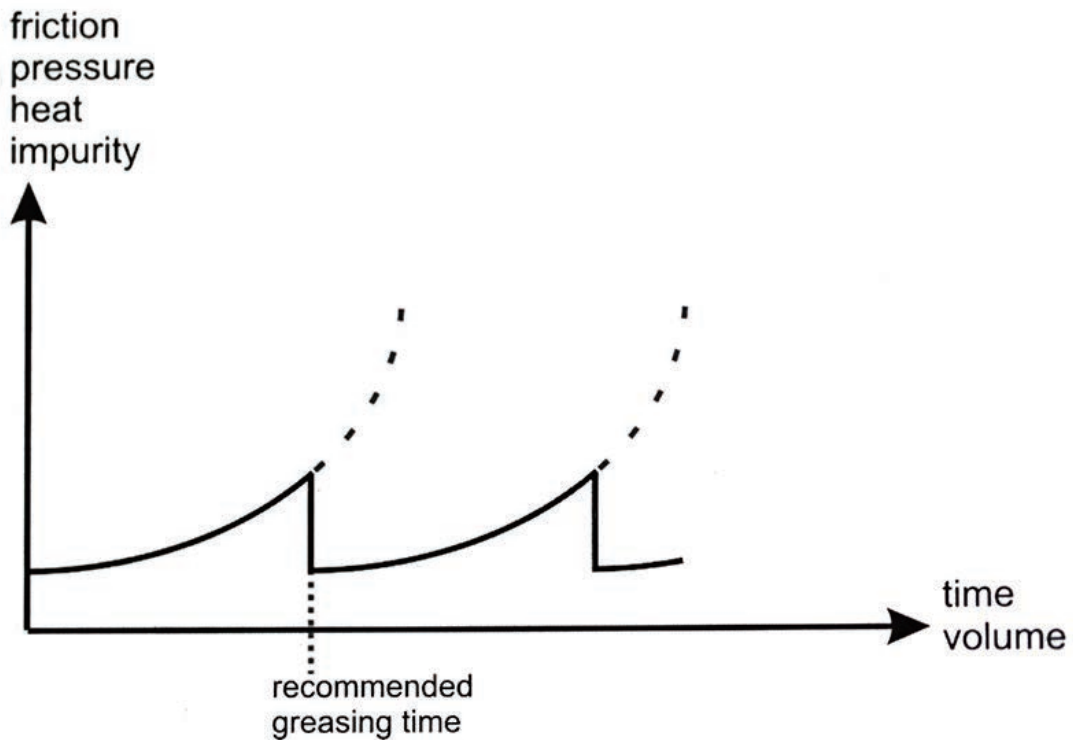
Recommended running in period for a new machine is 50 000 crimps. It will be enough if the greasing cycle is halved during the running in period. The purpose of frequent greasing is to ensure that there is always grease enough between the sliding surfaces. Due to the surface pressure the grease sinks in to the metal pores ensuring good sliding properties for the machine's lifetime. During the running in period grease the machine after every 1000 crimps.

GREASING

The master dies of the machine has been greased at the factory after the final testing. However, the grease may have dried during the transportation and storing and therefore the machine should be greased according to the operating instructions before commissioning.

Greasing of the master dies is an important maintenance procedure which should be made regularly. The adverse working environment and crimping volume have a special effect on the need for maintenance.

Preventive maintenance and proper use help to ensure trouble-free operation of the machine. It is recommended to grease the machine after every 2000 crimps, except during the running in period when the greasing should be done after every 1000 crimps.



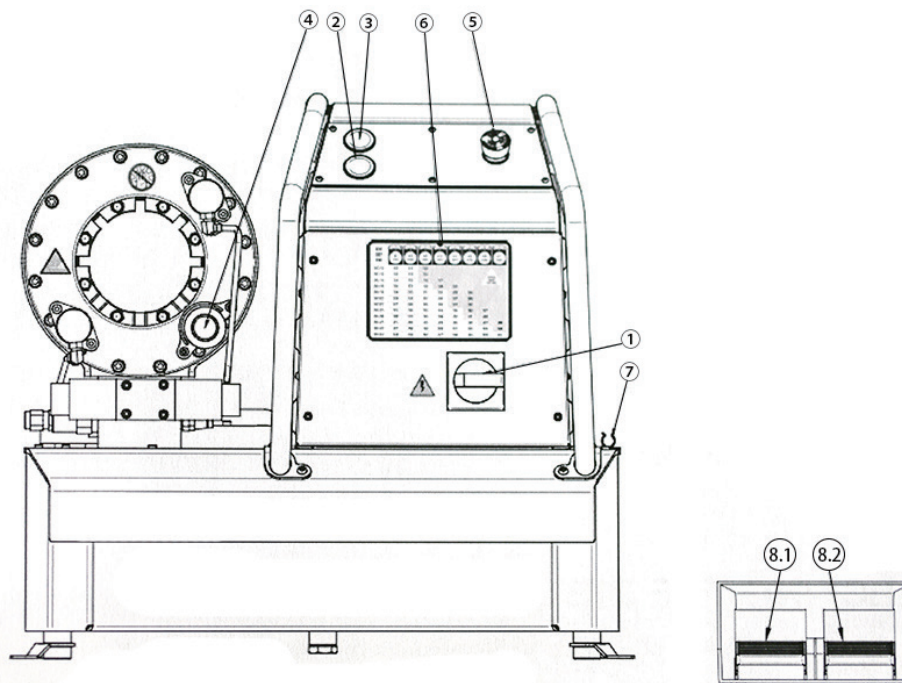
QUICK FIX-PACKAGE

Included with the machine, there is a Quick Fix-package which has some basic parts for this machine model.

OPERATION

The crimping machine is switched on by turning the supply disconnecting device. However, the motor won't run until the crimping- or retraction -push button is pressed. The motor stops automatically and the indicator light starts flash, if the machine is not used in 6 seconds. The motor springs to life when the crimping- or retraction -button is repressed.

CONTROL IDENTIFICATION



1. **Supply disconnecting device** for starting and stopping the motor. The device is used to separate the machine from power supply. However, the machine can be made only by disconnecting the plug or supply from the mains.
2. As long as the **crimping push-button** is depressed, the dies will close until the button is released or the preset crimping diameter is reached.
3. **Retraction button**. When depressed and held down, the dies will open until the button is released or the maximum mechanical retraction is reached.
4. **Crimping diameter dial**.
5. **Emergency stop**.
6. **Die chart** with crimping diameter range for each die set and corresponding dial adjustment values is delivered together with the machine.
7. **Holder** for die change tool.
8. **Foot pedal** (option). Crimping pedal 8.1 and retraction pedal 8.2. See page 15.

The main operating area of the machine is in front of the controls.

TEST RUN

- Start the machine.
- Set the crimping diameter dial to 0.0.
- During the first crimping cycles air in the cylinders may make the piston/dies move irregularly and at high speed. Cycle the press a few times till the motion becomes even.
- To avoid accidents, make sure that there are no foreign objects between the dies.
- In case the dies do not move in either direction, the motor rotates in wrong direction. Correct by interchanging two phase conductors in the supply disconnecting device.

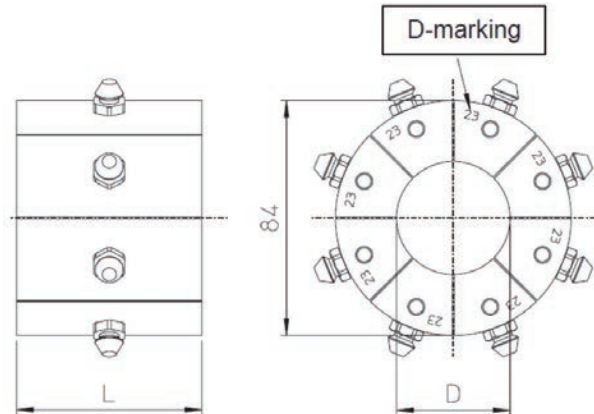
SELECTING THE DIE SET, P20 MODEL

Use only original SAMWAY die sets in SAMWAY crimping machines.

Refer to the fitting manufacturer's specifications for proper crimping diameter for the fitting. Each die set has its own crimping range. Follow it to assure the roundest possible crimping result. The minimum crimping diameter **D** is marked on each die set.

Example: with die set No 18013/10 the minimum crimping diameter is 10 mm.

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.

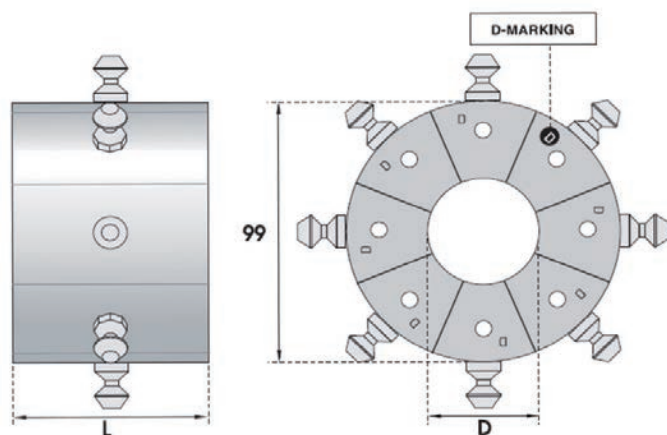
SELECTING THE DIE SET, P32 MODEL

Use only original SAMWAY die sets in SAMWAY crimping machines

Refer to the fitting manufacturer's specifications for proper crimping diameter for the fitting. Each die set has its own crimping range. Follow it to assure the roundest possible crimping result. The minimum crimping diameter **D** is marked on each die set.

Example: with die set No 18506/10 the minimum crimping diameter is 10 mm.

D	L	Die set No	Crimping range
10	55	18506/10	10 ... 12 mm
12	55	18506/12	12 ... 14 mm
14	55	18506/14	14 ... 16 mm
16	55	18506/16	16 ... 19 mm
19	55	18506/19	19 ... 22 mm
22	70	18506/22	22 ... 26 mm
26	70	18506/26	26 ... 30 mm
30	70	18506/30	30 ... 34 mm
34	75	18506/34	34 ... 39 mm
39	75	18506/39	39 ... 45 mm
45	90	18506/45	45 ... 51 mm
51	90	18506/51	51 ... 57 mm
57	100	18506/57	57 ... 63 mm
63	110	18506/63	63 ... 69 mm
69	110	18506/69	69 ... 75 mm
74	110	18506/74	74 ... 80 mm
78	110	18506/78	78 ... 87 mm



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

INSTALLING THE DIE SET

QUICK CHANGE (OPTION)

An optional QC Tool Base enables storing die sets under the machine. The whole die set can be installed into the master dies with a quick change tool at one time.

- Before installing dies, make sure that the master dies are clean.



OPEN THE SUPPLY DISCONNECTING DEVICE PRIOR TO CLEANING DIES.

- Set the crimping diameter dial at 0.0 and open the dies to the maximum retraction.
- Insert the pins of the tool into the die set in the die table, turn the tool clockwise and pull the whole set out (Fig. 1, next page).
- Hold the handle of the quick change tool as shown in figures 1 and 2, and make sure your hand will not get between the dies.
- Mount the die set between the master dies (Fig. 2) and start closing the dies.



TO AVOID DAMAGING MASTER DIES, MAKE SURE THAT ALL DIE SET PINS HIT IN THEIR HOLES.

- Close the master dies completely until the pins are locked in their places (Fig. 3). Remove the tool. The dies are now ready for use (Fig. 4).
- The die set is removed from the master dies in reverse order: close the dies, insert the tool into the die set, open the master dies and place the set back in to the die table.

Fig. 1

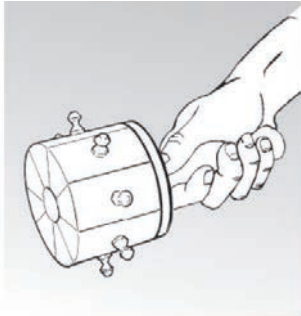


Fig. 2

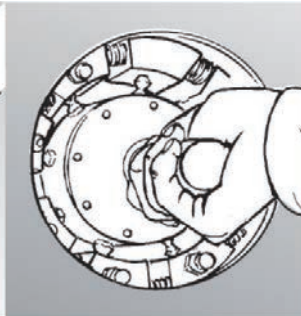


Fig. 3

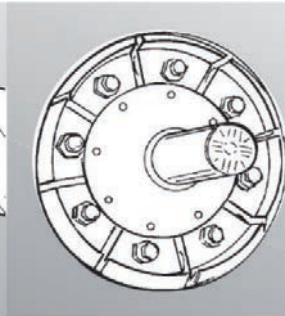


Fig. 4



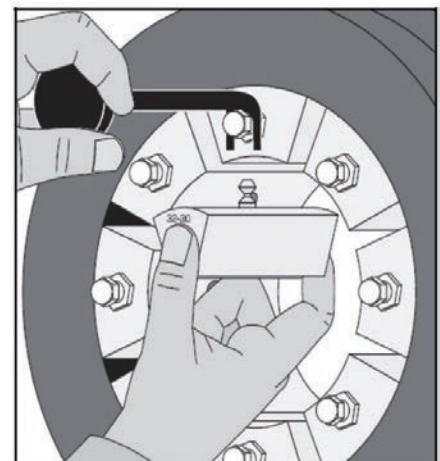
CHANGE OF A SINGLE DIE

- 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.



Setting the crimping diameter

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 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

DIE SET No	0 min	+1 mm	+2 mm	+3 mm	+4 mm	+5 mm	+6 mm	+7 mm	+8 mm	+9 mm
32-10	10	11	12	13						
32-12	12	13	14	15						
32-14	14	15	16	17						
32-16	16	17	18	19	20					
32-19	19	20	21	22	23					
32-22	22	23	24	25	26	27				
32-26	26	27	28	29	30	31				
32-30	30	31	32	33	34	35				
32-34	34	35	36	37	38	39	40			
32-39	39	40	41	42	43	44	45	46		
32-45	45	46	47	48	49	50	51	52		
32-51	51	52	53	54	55	56	57	58		
32-57	57	58	59	60	61	62	63	64		
32-63	63	64	65	66	67	68	69	70		
32-69	69	70	71	72	73	74	75	76		
32-74	74	75	76	77	78	79	80	81		
32-78	78	79	80	81	82	83	84	85	86	87

The crimping diameter chart P32

EXAMPLE:

Manufacturer has specified a crimping diameter of 20.6 mm for the fitting. Select die set No 20-19 (min crimping diameter 19 mm) according to the die chart. Turn the dial to position 1.60 (upper scale 1, lower 60). This setting will give the crimping diameter 20.6 mm (19 + 1.6 mm).

The machine has been calibrated at the factory with 40 bar pressure. This means that when you are crimping a fitting requiring 40 bar pressure, the measuring scale of the crimping diameter dial provides an accuracy of +/- 0.1 mm (possible elastic

recovery of the fitting not regarded).

When fittings requiring higher pressure are crimped, the crimping diameter may become larger than the value on the scale due to machine deflections. Then the crimping diameter has to be corrected by changing the scale value.

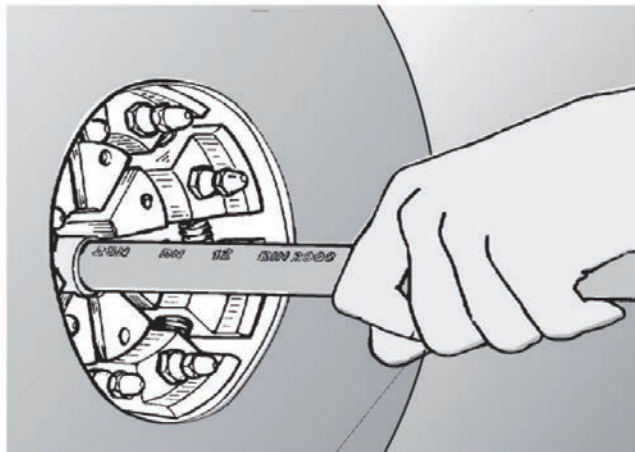
CRIMPING



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.



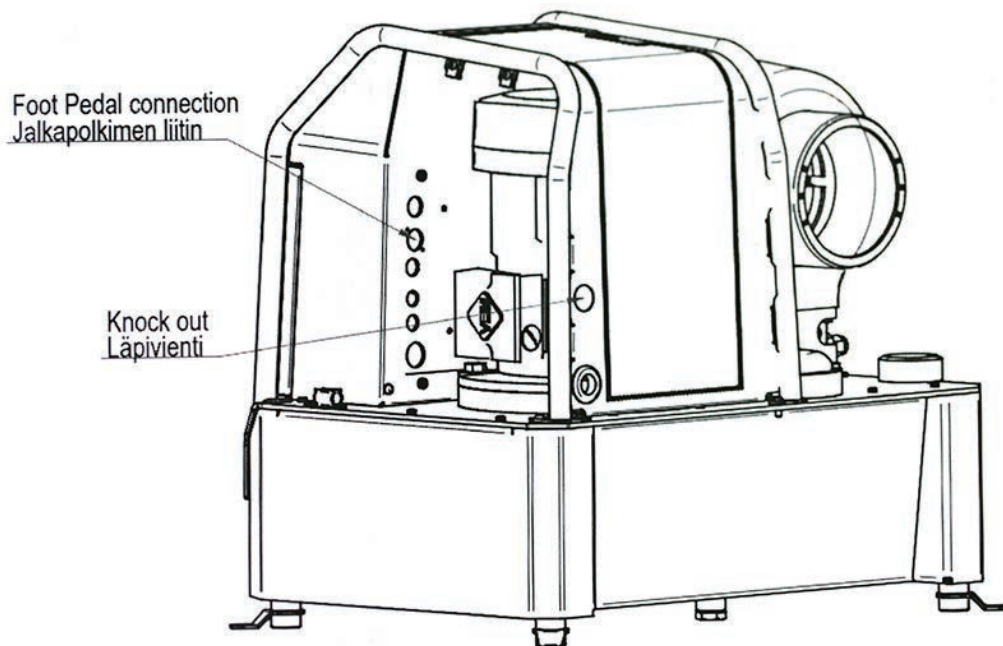
FOOT PEDAL

(OPTION)

As an alternative, a foot pedal can be installed in the foot pedal connection, e.g. when large fittings are crimped. The foot pedal enables holding the hose assembly with both hands.

NOTE! The foot pedal is double pedal. One pedal for crimping and the other one for opening.

1. Remove cover plate and remove the knock out from rear cover plate.
2. Connect the foot pedal to the plug in the rear side of the electric box. Install cover plate.
3. When the foot pedal is connected, dies will move as long as the foot pedal is pressed or till the set crimping diameter has been reached. The crimping movement can be interrupted by lifting the foot from the pedal. After reaching the crimping diameter dies are opened by using the other pedal. Dies can be also opened by using retraction button.



IF THE MACHING 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. If the problem is not disappearing, contact the service.

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 dies are not already in close- or retraction position.

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 the above measures do not help or machine with other problems, contact your service representative.

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.

PREVENTIVE MAINTENANCE

- The following maintenance operations can be performed by the operator according to the instructions below. However, electrical works and repairs like changing seals or the pump must only be carried out by a qualified specialist.



PRIOR TO ANY SERVICING OPERATION, TURN THE SUPPLY DISCONNECTING DEVICE TO POSITION '0' AND LOCK THE DEVICE.



BEFORE CHANGING THE MOTOR CIRCUIT BREAKER OR UNDERVOLTAGE TRIP, DISCONNECT THE PLUG OR SUPPLY CABLE FROM THE MAINS!

- Open the dies to the maximum retraction before servicing.

CLEANING

Keep the machine always clean from extra particles. Clean the machine ensures nice and safe operation. Wipe the machine with dry cloth or with soft paper. Do not use water, solvents or abrasives. Keep the machine always well-greased.



Fig. 1



Fig. 2

The inner side of the crimping head can be cleaned with a small brush (Fig. 1 and 2.)



NEVER USE COMPRESSED AIR FOR CLEANING!

GREASING



- Lubricate the inner surface of the conical flanges daily with SAMWAY grease : order n:o 019302
- Apply the grease to the conical surfaces at the front and back of the die with a small brush.
- Lubricate often with a small amount of grease rather than seldom with much grease.
- Do not grease the piston rod.

CYLINDER PROTECTION INSERTS

The machine has four cylinder protection inserts between the lowest dies in the crimping head. These inserts protect the cylinder from dirt and falling parts.

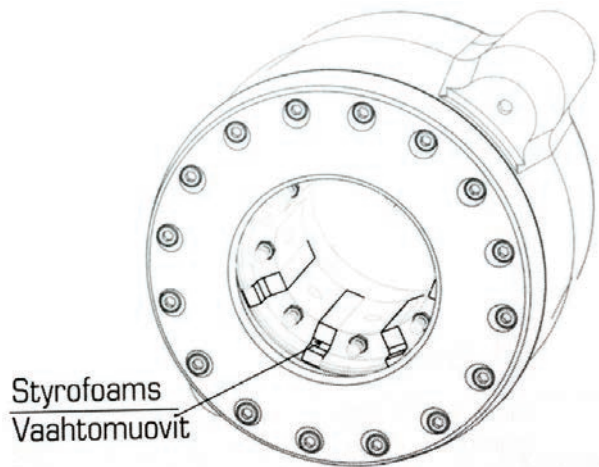
NOTE! Protection inserts have to be interposed always between the lowest dies. Because the master dies try to rotate during the operation, the inserts have to be moved into correct places every now and then.

Replace the inserts if they lose their resilience or if they don't stay still in their places or if they don't fill in their space properly.

Purchase numbers:

20 model: 702933

32 model: 702932

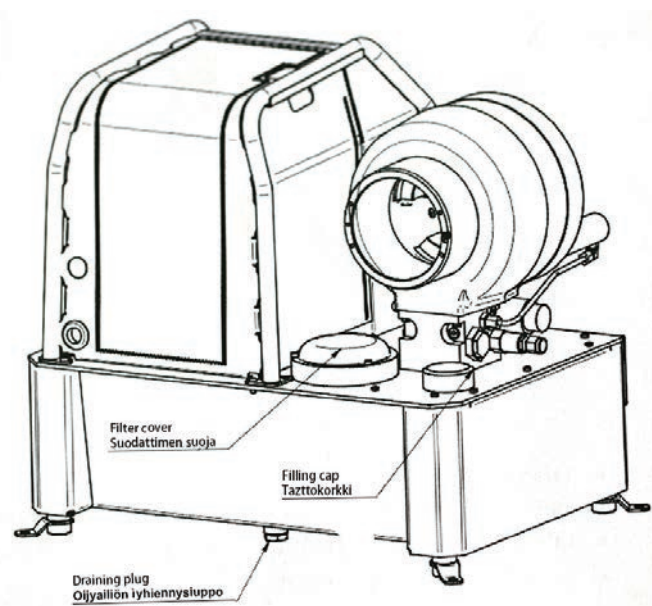


OIL CHANGE

- Change hydraulic oil after the first 500 hours of operation and every 1000 hours or once a year thereafter.
- Oil tank volume: 27 litres.
- Recommended oil: Shell Tellus T46 or equivalent.
- Empty the tank of oil through the draining plug behind the tank.
- Handle the waste oil according to law.
- Fill the tank to centre line of the indicators in the dipstick of the filling cap.
- It is recommended to pump the oil into the tank through a 20 μ filter, because new oil in drums is not pure.
- If any oil has run out on the floor, wipe it away.

FILTER CHANGE

- Filter insert must be changed together with oil.
- Open the filter cover, unscrew the filter insert and remove it.
- Handle the old filter according to the law.
- Lubricate the seal of the new filter insert with hydraulic oil.
- Screw the filter insert on.
- Install the filter cover.
- Purchase number: **710424**.



MASTER DIE SPRING CHANGE

Master die springs are wearing parts and therefore has to be replace after every 200 000 crimps. To replace the springs a special tools and -craftsmanship are needed. In order to get the master die springs replaced contact your SAMWAY representative.



Warning: Do not use the machine if there are broken or twist springs in the machine. Broken or twist spring can damage the machine or cause personal injuries.

PRESSURE PIPES

Return cylinders on both sides of the crimping head produce the piston movement backwards and simultaneous retraction of dies.

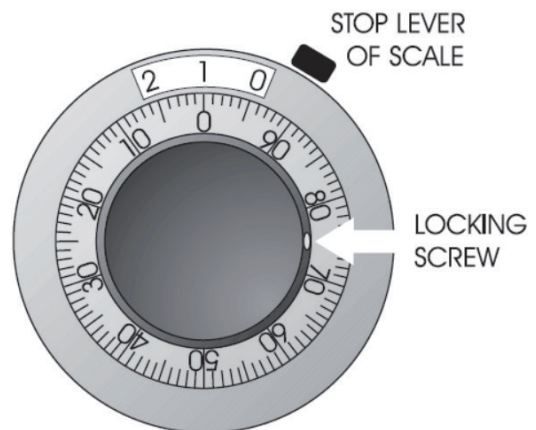
Hydraulic pipes to the two cylinders are high-pressure pipes (275 bar). To prevent leakage, be careful not to damage these pipes and their connectors.

In case you notice leakage in a connector, make sure it is properly tightened. Leaking pipes must be replaced immediately. **DO NOT REPAIR PIPES!**

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.



GUARANTEE

The machines produced by SAMWAY are guaranteed against defects in material and manufacture. Within the limits of the guarantee, the defective part will be replaced with a new one, or when possible, repaired free of charge.

The guarantee is valid for 12 months after commissioning, yet for a period not exceeding 18 months after delivery ex works SAMWAY, China.

The guarantee does not compensate for damage due to improper use, overload, neglect, or normal wear. Working and travelling costs as well as freight charges caused by guarantee repairs are not covered by the guarantee.

Guarantee repairs shall be carried out at SAMWAY, or by an authorized SAMWAY service. In case guarantee repair is demanded, the customer has to prove that the machine is under guarantee.

SAMWAY DO NOT WARRANT FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS, DAMAGE OR EXPENSE OF ANY KIND, INCLUDING LOSS OF PROFITS.

TECHNICAL DATA

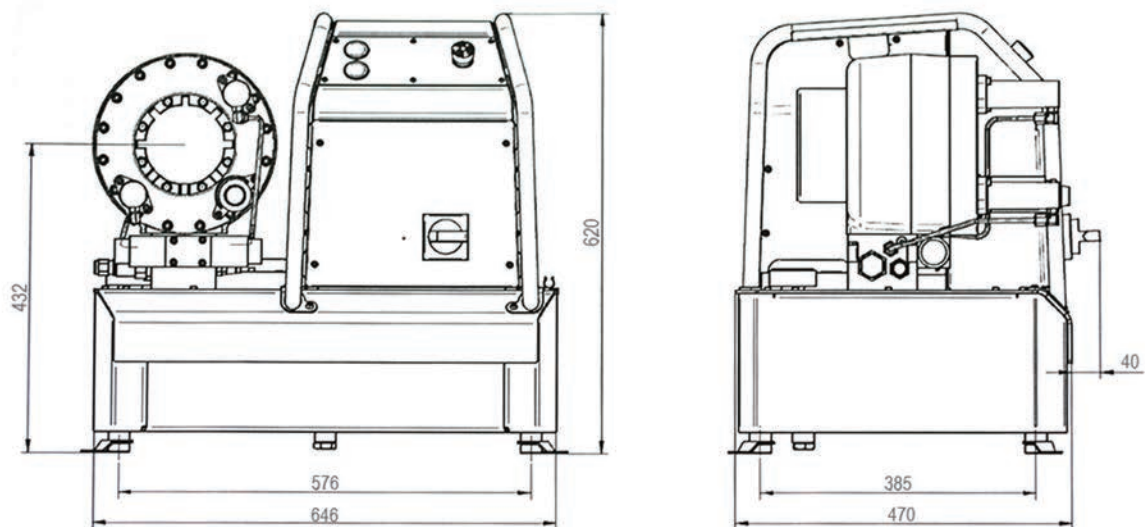
TECHNICAL DATA P20NMS

		3-phase	1-phase
Capacity	in	1½	1½
Crimping diameter range *)	Ø (mm)	10...61	10...61
Max opening	mm	25	25
Pump	l/min	8.6	2.8
Max pressure	bar	275	275
Crimping force	kN	1370	1370
Theoretical production capacity **)	per hour	850	250
Sound pressure level	dB(A)	71	71
Enclosure class		IP 54	IP 54
Closing speed of master dies	mm/s	2.9	1
Frequency 50 Hz			
Motor power	kW	3	1.5
Voltage V / Current A / Fuse A		□ 200 / 16	□ 230 / 12.6
		□ 230 / 11.7	□ / /
		□ 400 / 6.7	
		□ / /	
Frequency 60 Hz			
Motor power	kW / hp	3.6 / 4.9	1.5 / 2.0
Voltage V / Current A / Fuse A		□ 210 / 15.6	□ 230 / 12.5
		□ 230 / 10.8	□ / /
		□ 400 / 6.2	
		□ / /	

*) Special diameters and profiles to customer's specifications.

**) 10 mm die travel.

Overall dimensions:



Weight 140 kg, excluding oil.



READ THE INSTRUCTIONS THOROUGHLY TO SECURE SAFE AND CORRECT OPERATION OF THE MACHINE.

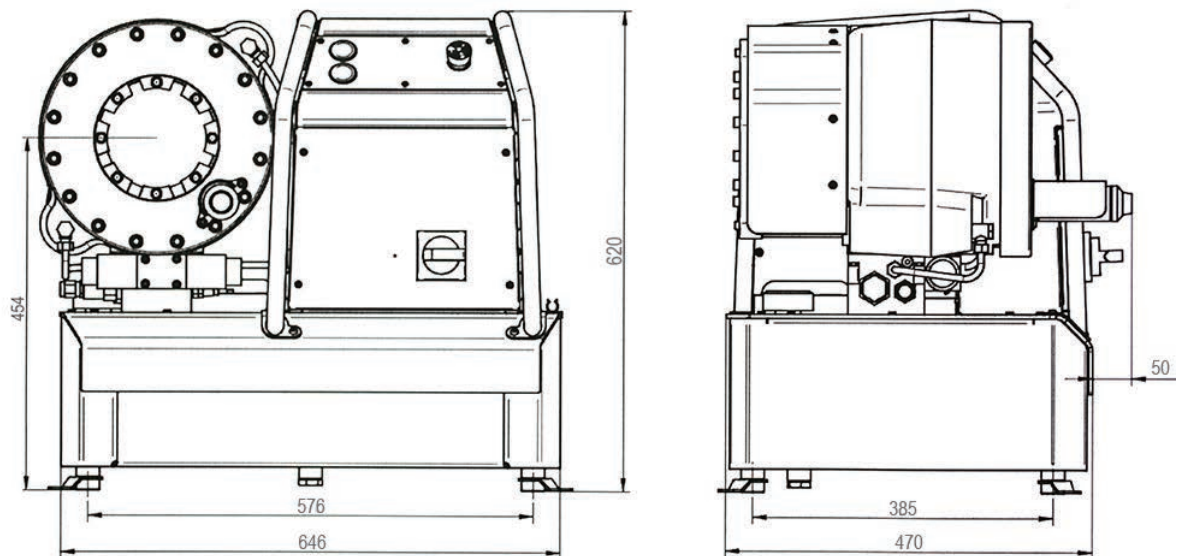
TECHNICAL DATA P32NMS

		3-phase	1-phase
Capacity	in	2	2
Crimping diameter range *)	Ø (mm)	10...87	10...87
Max opening	mm	33	33
Pump	l/min	11.4	2.8
Max pressure	bar	275	275
Crimping force	kN	2000	2000
Theoretical production capacity **)	per hour	850	200
Sound pressure level	dB(A)	71	71
Enclosure class		IP 54	IP 54
Closing speed of master dies	mm/s	2.6	0.6
Frequency 50 Hz			
Motor power	kW	4	1.5
Voltage V / Current A / Fuse A		<input type="checkbox"/> 200 / 20.5	<input type="checkbox"/> 230 / 12.6
		<input type="checkbox"/> 230 / 15.5	<input type="checkbox"/> / /
		<input type="checkbox"/> 400 / 8.6	
		<input type="checkbox"/> / /	
Frequency 60 Hz			
Motor power	kW / hp	4.8 / 6.5	1.5 / 2.0
Voltage V / Current A / Fuse A		<input type="checkbox"/> 210 / 20.2	<input type="checkbox"/> 230 / 12.5
		<input type="checkbox"/> 230 / 15.2	<input type="checkbox"/> / /
		<input type="checkbox"/> 400 / 8.2	
		<input type="checkbox"/> / /	

*) Special diameters and profiles to customer's specifications.

**) 10 mm die travel.

Overall dimensions:



Weight 190 kg, excluding oil.



READ THE INSTRUCTIONS THOROUGHLY TO SECURE SAFE AND CORRECT OPERATION OF THE MACHINE.

Type of machine: Koneen tyyppi:	Serial n:o: Sarjanumero:
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Date / pvm:	ok
1.General visual inspection for external damages / Ulkoisten vahinkojen tarkistus	
2.Check of mechanics and crimping head / Koneen ja puristusyksilön tarkistus	
3.Check of hydraulics / hydrauliiikan tarkistus	
4.Lubrication of crimping head / Puristusyksikön tarkistus	
5.Oil change / Öljynvaihto	
6.Filter change / Suodattimen vaihto	

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