



PI6HPS HAND CRIMPER MANUAL

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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 ENGMATTEC 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.

ENGMATTEC 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 ENGMATTEC 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 ENGMATTEC or an authorized service technician approved by ENGMATTEC. 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. ENGMATTEC is not liable for incorrect or missing parts that are not reported within eight(8) days after delivery.

3.2 Important

P16 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 ENGMATTEC 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. ENGMATTEC 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.

P16HPS



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).

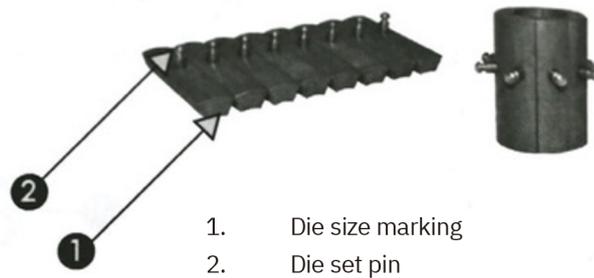
Always select the die set within the correct interval to achieve the best crimping results. Every die is marked with the smallest crimping measurement in the interval.

Note!

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

P16 DIES

Die set	Crimping area
16-10	10-12mm
16-12	12-14mm
16-14	14-16mm
16-16	16-19mm
16-19	19-23mm
16-23	23-27mm
16-27	27-31mm
16-31	31-36mm
Base Die	36-45mm

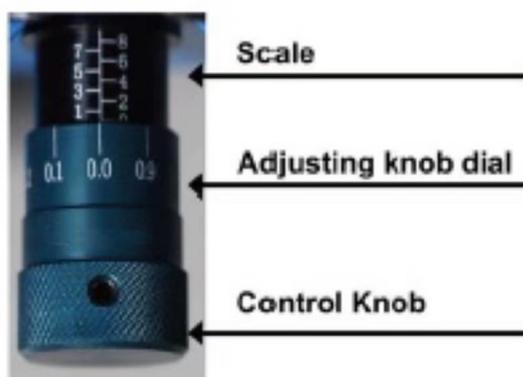


4.3 Setting crimping measurements With the machine is a die set table packed that indicates the correct crimping measurement interval for every die set. Crimping measurements that lie outside of the interval are not recommended.

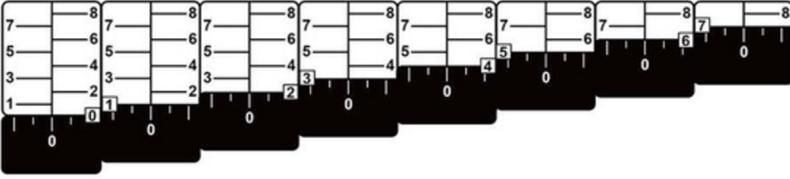
Turn the adjusting knob so that the zero (0) on the dial is lined-up with the zero (0) on the scale. If zero (0) is set, the machine will crimp the smallest diameter provided in the interval. Every revolution of the knob increases the value on the scale with one unit. One turn clock-wise corresponds to 0.1mm on the crimping measurement. The measurement shall be added to the least-specified diameter in the interval.

For example: Crimping 16 mm hose requires die nr 16 with the adjusting knob set to zero (0) and lined up with zero (0) in the window. Crimping 22,2 mm hose recommends die nr 19 with the adjusting knob turned 3 (three) clock-wise rotations until 3 (three) on the scale and the 2 (two) on the dial is lined up with the zero (0) line on the scale.

The set crimping measurement values can differ slightly from the actual crimping measurement because the machine's die expansion and retraction. Compensate this by adjusting the setting.



DIE SET



	0 turn	1 turn	2 turn	3 turn	4 turn	5 turn	6 turn	7 turn		
16-10	10	11	12	USE NEXT SIZE!						
16-12	12	13	14							
16-14	14	15	16							
16-16	16	17	18						19	
16-19	19	20	21						22	23
16-23	23	24	25						26	27
16-27	27	28	29	30	31					
16-31	31	32	33	34	35	36	37	38		
Masterdies	39	40	41	42	43	44	45	46		

4.4 Changing die sets

1. Retract the dies completely by turning the return valve one turn.
2. Remove the die set by turning it in either direction or pulling it straight out (radially)
3. Ensure that the 8-segment die set is clean, undamaged and that all are marked with the same number.
4. With the die marking numbers facing you, insert each die clicking the die pins in their holes in the crimping head.
5. Ensure that all dies are correctly inserted in the machine.

4.5 Crimping

1. When the die set is inserted in the machine and the crimping measurement set, place the hose/pipe application between the dies. Ensure that all dies are correctly inserted in the machine.
2. The crimping diameter is reached when the light in red become light.
3. Make sure that the crimping was correct and make adjustments if necessary.



5. Maintenance

5.1 Lubrication

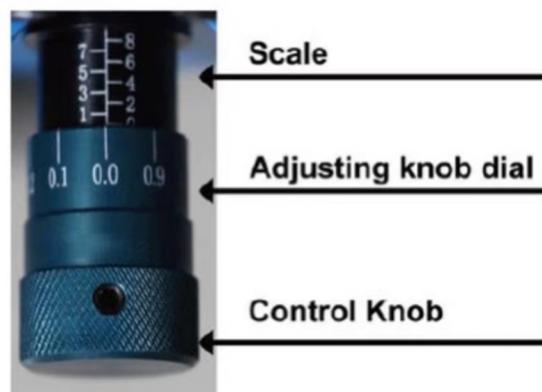
The machine should be cleaned and lubricated every eight (8) operation hours. Retract the dies to lubricate. Use a small brush to lubricate the cone shaped surfaces in the cylinder.

Better to lubricate sparingly and more often than seldom and excessively. Without lubrication, the machine loses power and you will damage the sliding surfaces.

5.2 Calibration

If the actual crimping measurement differs too much from the set crimping measurements then calibrate the machine.

1. Contract (press) the dies together completely.
2. Set the dial to - 0.2.
3. Loosen the side covers.
4. Loosen the locking nut (nr 1).
5. Turn the adjustment dial (nr 2) so that the end surface of the set screw (A) align with the face of the ring.
6. Tighten the locking nut (nr 1).
7. Calibration is complete.
8. Check Repeat the procedure if the actual crimping measurement differs from the set crimping measurement.



6. 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.

1: Products shipped by the sea will have the oil and battery included for the products, so they are ready to use once arrived. 2:

Products shipped by air or otherwise stated, battery and oil will be removed for the safety reasons (Regulation for the air shipping, DHL, UPS, FEDEX, TNT etc.) So you need to insert the battery and fill the oil before the machine can be operated normal.

Illustrations:



DIMENSIONS

Depth/Width/Height330x400x280 mm
 Weight P16 25 kg

DESIGNTION:

P16 9028-00-19
 Handpump P16, 650 Bar 9028-02-08

DIES:

P 16-10 9070-16-10
 P 16-12 9070-16-12
 P 16-14 9070-16-14
 P 16-16 9070-16-16
 P 16-19 9070-16-19
 P 16-23 9070-16-23
 P 16-27 9070-16-27
 P 16-31 9070-16-31

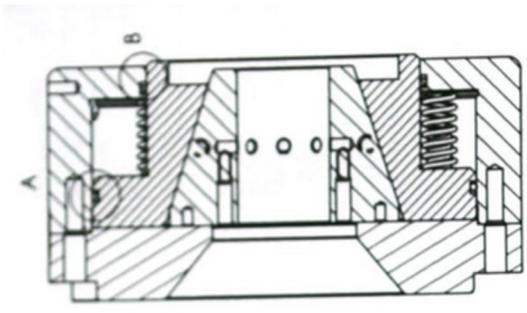
TECHNICAL DATA

Crimping range in mm 4 - 45
 Crimping range in inch 0,39 - 1,77
 Crimping force in metric tons 95,5
 Crimping force in KN 955
 Maximum hose size in inches 3/16" - 1"
 Die set H 16
 Maximun travel of dies in mm 20 mm
 Master die Diam. /Length in mm 39 / 64
 Master die Diam. /Length in inch 1,54 / 2,52
 Machine control Manual
 Max pressure 650 bar
 Color Black / Blue

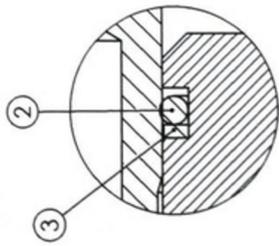
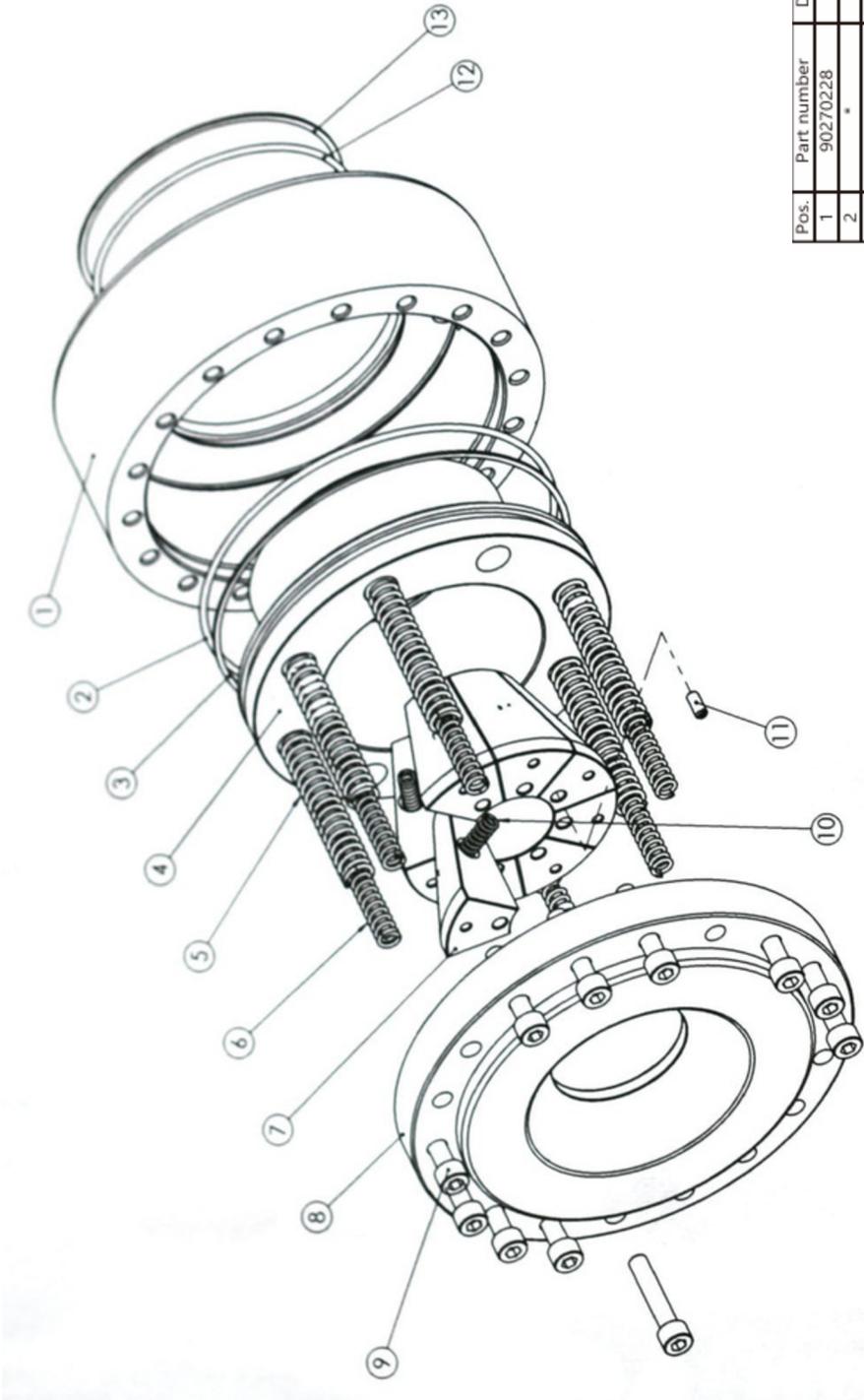
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Revision information

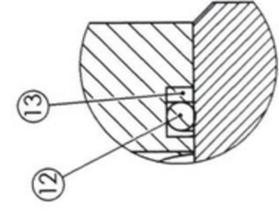
Rev. No.



Section view



A (2 : 1)



B (2 : 1)

Pos.	Part number	Drawing number	Description	Qty
1	90270228	D053040	Cylinder house	1
2	*	T0494	O-ring	1
3	*	T0495	Support ring	4
4	90270031	D053041	Piston	1
5	90270034	T0491	Return spring outer	1
6	90270035	T0492	Return spring inner	1
7	90270032	D053039	Base die, kit	1
8	90270229	D053042	Cylinder gable	1
9	90175325	ISO 4762	Socket head cap screw	1
10	90270033	T0490	Master die spring	4
11	90370037	T0497	Spring screw	1
12	*	T0493	O-ring	1
13	*	T0496	Support ring	2
14	90270036		*Seal kit	2

HYDRAULIC ONLINE



P16HP



P16HPS

Main Specification	P16 HP	P16 HPS NEW
Max Hydraulic Hose	1"3 wire	3/4" 4 wire
Crimping Range mm	4-45	4-45
Die Type	P16	P16
Master Die Length mm	80	80
Max Opening mm	+20	+20
Hand Pump	Enerpac two stage pump 700 bar	Enerpac two stage pump 700 bar
Speed of Crimping	standard	3 time faster compared to P16HP
Crimping Force KN	1000	1000
Control	Micro Dial	Micro Dial
L*M*H mm	330*400*280	330*400*280
Weight KG	25	26

Standard Die Sets Included:

Die No.	10	12	14	16	19	23	27	31
Length	55	55	55	55	55	55	65	65