

Fastening Systems

Instruction Manual

(For Lock Bolt)



Thank you for chosen our products 。 Please carefully read this guide before be used.It helps you to safe and correct using.

Note: Carefully read the important safety information before be used.

Warning: 1) Earth leakage protective device must be installed at the pump station power supply side. 2) In addition to replace parts or flaw inspection, the complete disassemble is strictly prohibited. 3) Recommended: Continue to use the 35000 cycles installation tool for flaw inspection and be check period less than 1 year. Exceed 70000 cycles be continuous used or Exceed 5 years be intermittent used should be replaced with new installation tools, in order to avoid serious injury.

Warning: Low-pressure isolation valve be non-adjustabled.

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1 Safety Guidelines

- 1) Only Installation Equipment should be used to install LockBolt.
- 2) Only persons that have received training approved should use installation equipment.
- 3) All Hydraulic Hoses should be renewed every five years.
- 4) Visually check all hydraulic hoses, electrical cables, hand tools is of the correct type suitable for installing the faster being used.
- 5) Hearing protection must be worn.
- 6) It is recommended that that eye protection, safety glasses should be worn by the operator.
- 7) Never look directly at the front or rear of the installation tool.
- 8) The collar must always be towards the nose assembly. Not against the work piece.
- 9) Do not connect any equipment to primary power supplies or attempt to use any equipment, that shows signs of damage or leakage.
- 10) Never hold the installation tool around the nose assembly.
- 11) Keep hands/fingers clear of any moving parts and also apertures in nose assemblies.

- 12) Fasteners should only ever be installed in the actual workpiece to prevent possible high velocity ejection from the nose assembly due to tensile forces induced during pintail fracture.
- 13) Do not look directly at the head or blind side of fasteners during the installation cycle.
- 14) Cleanout the hands of tool. Once per one hundred installation cycles.
- 15) In the event of any difficulty while installing a fastener, releasing the tool trigger at any time during the installation cycle will immediately put the tool into reverse.
- 16) Avoid kinking of hoses or dragging of hoses and electrical cables over sharp objects.
- 17) Replace the fluid every 12 months.

2 Description

The Fastening Systems is designed to be used in conjunction with Hydraulic Installation Tools, in a normal factory environment and should be placed on a level floor/base.

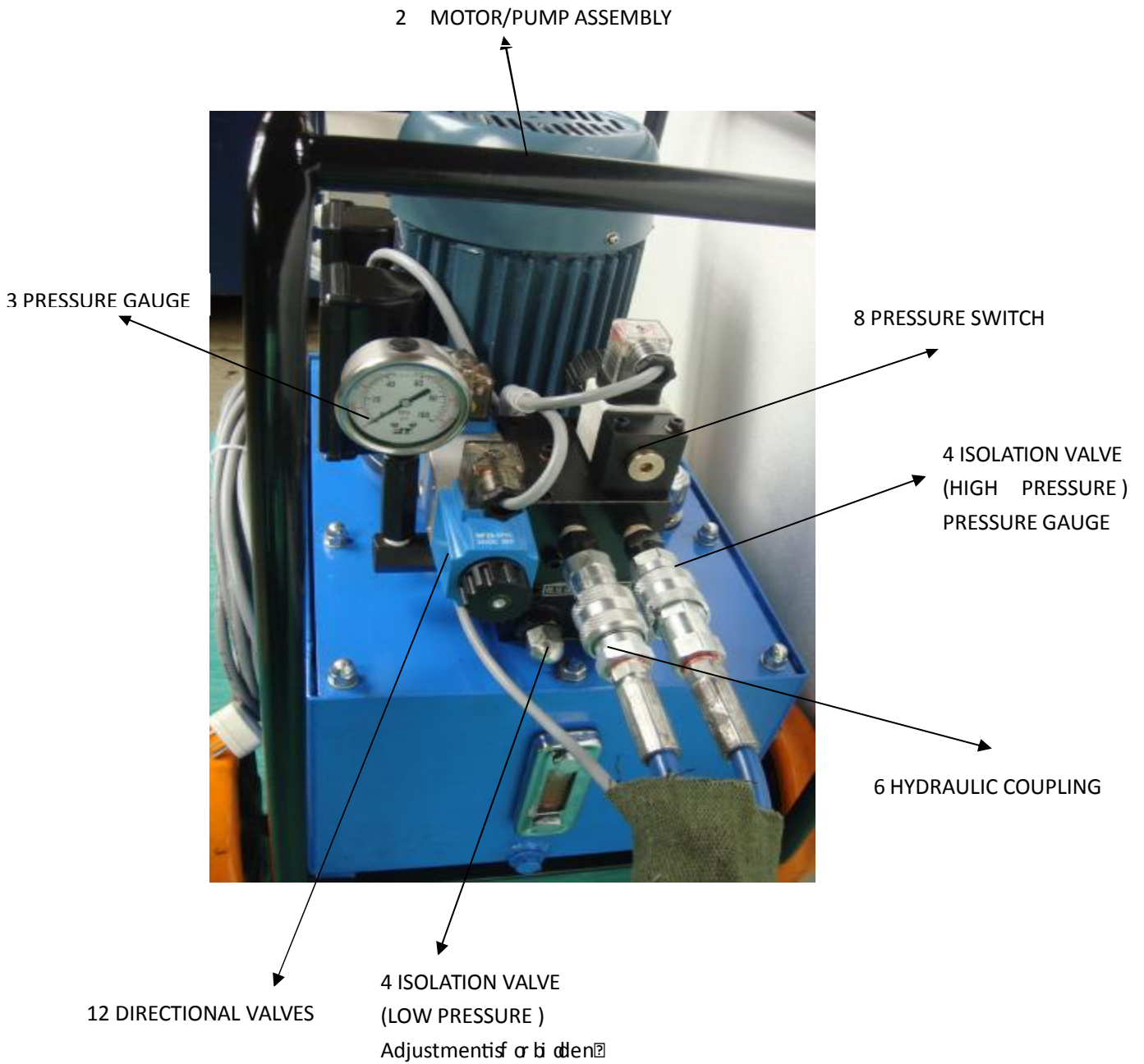
Parameters:

Flow:	1.98 l/min (63MPa)+3.95l/min
Pull Pressure Max:	63 MPa
Return Pressure Max:	35 MPa
Power Supply:	380V ± 10% 50Hz 2KW
Motor:	1.5KW 1420rpm
Amps normal:	6 A
Peak Amps on startup:	12 A
Control Circuit:	24 VDC
Hydraulic Pump:	80 MPa
Reservoir Capacity Max:	20 l
Dimension	510mm × 390mm × 770mm
Weight	60 kg

3 Utilisation

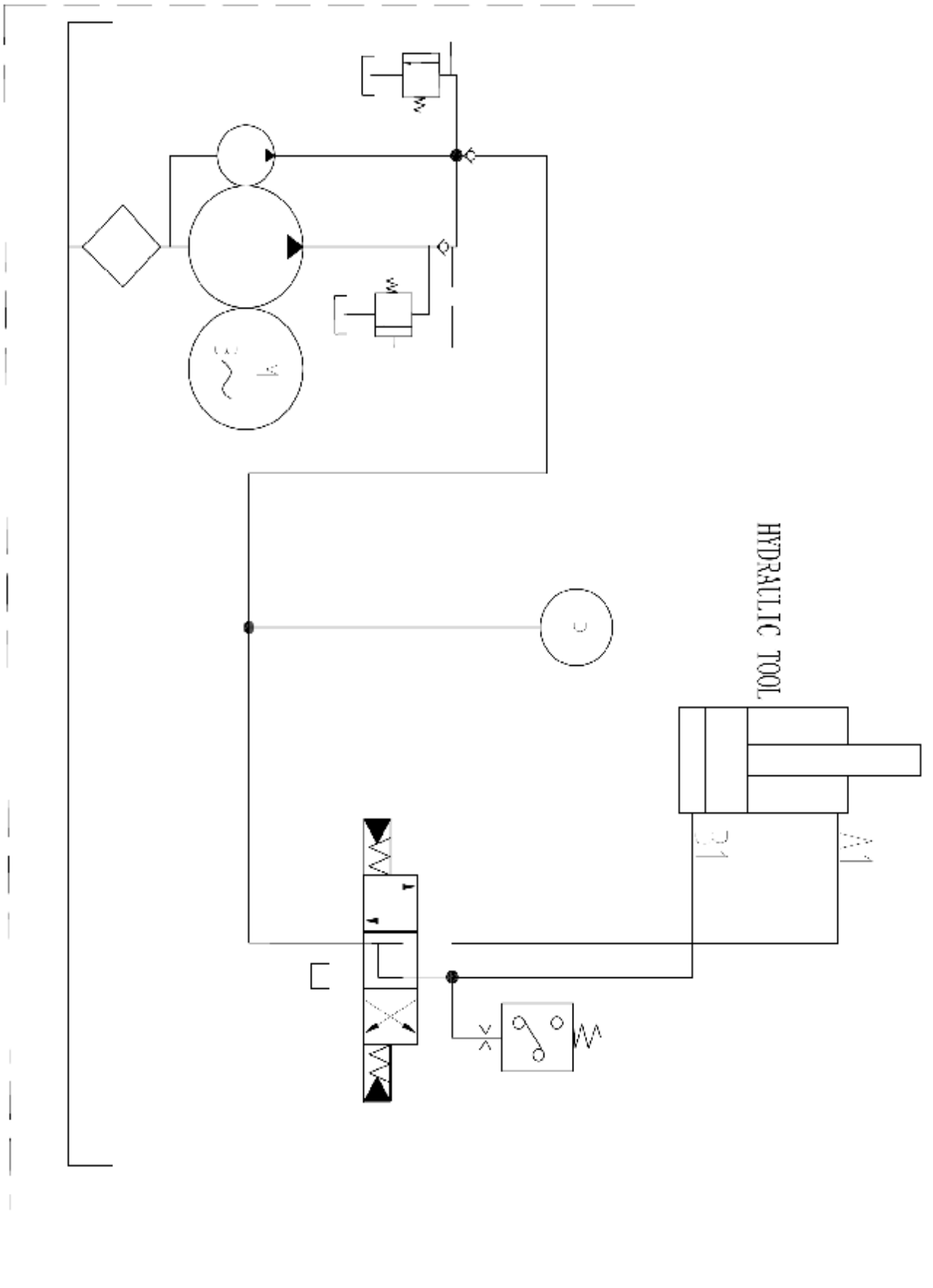
Tools	Max pull pressure	Max return pressure
S16	44MPa	20MPa
S20	40MPa	20MPa
S24	40MPa	20MPa
S28	50MPa	20MPa

4 Main Components

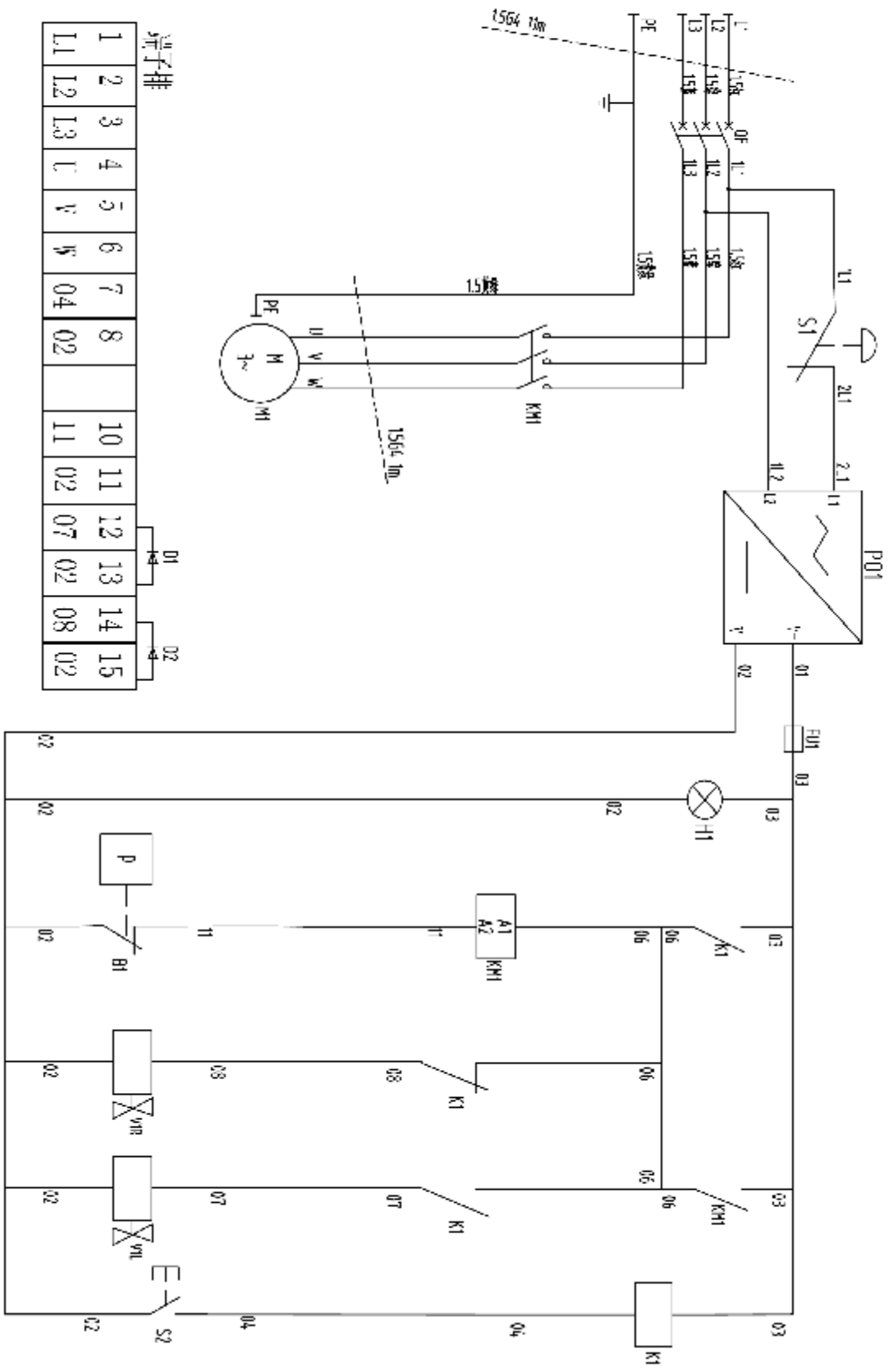


Main Components 1

5Hydraulic/Electrical Schematic Circuit Diagram

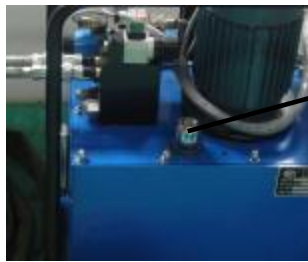


380V/50Hz



6 Preparation for first time Operation

- 1) Read and ensure that you understand the safety guidelines at the front of this manual.
- 2) Remove filler cap from oil reservoir.



Filler cap

Hydraulic Fluids	$t < 0^{\circ}\text{C}$	$0^{\circ}\text{C} < t < 30^{\circ}\text{C}$	$30^{\circ}\text{C} < t$
	HLP32	HLP46	HLP68
ESSO	NUTO H 32	NUTO H 46	
SHELL	TELLUS OIL32	TELLUS OIL46	

- 3) Using a clean container and funnel fitted with a filter, fill the oil reservoir with recommended clean hydraulic fluid. continue filling until the fluid level reaches the top of the sight glass.



Sight Glass

- 4) Rej

7 Checking&Adjusting Hydraulic Pressures

- 5) Connect the Hydraulic Pressure Station to a suitable electrical supply in accordance with details shown on the machine plate.
- 6) Connect the 24VDC electrical bayonet plug(of Hydraulic Pressure Station,hose set,tool).
- 7) Connect Hydraulic hoses to Hydraulic Pressure Station. Don't Connect Hydraulic hoses to tool. Connect Hydraulic hoses at the other end(Male and Female).
- 8) Ensure the Hydraulic Pressure Station main switch is in the ON position and the emergency stop button is reset.Press the tool trigger, 10 seconds to ensure any air is purged form the Hydraulic Pressure Station.
- 9) Release the tool trigger. Release Hydraulic hoses at the other end(Male and Female).

Pull Pressure and Return Pressure ---Checking and adjustment.

- 10) Choose Pull Pressure and Return Pressure to suit tool.

Tools	Max pull pressure	Max return pressure
YMQ12	44MPa	20MPa
YMQ16	40MPa	20MPa
YMQ22	50MPa	20MPa
YMQ20	40MPa	20MPa

- a) Release the Lock-nut on the HIGH PRESSURE ISOLATION VALVE and the PRESSURE SWITCH.
- b) Press and hold the tool trigger, note the maximum Pull Pressure reading on the gauge and then adjust the HIGH PRESSURE ISOLATION VALVE.

Clockwise	Increase Pressure
Anti-Clockwise	Decrease Pressure

Carry out this operation as quickly as possible to avoid unnecessary stress!

- c) Release the tool trigger.
 - d) Re-check Pull Pressure until suit tools as in step a), b) & c).
- 11) Press(hold 1 second) and release the tool trigger. Note the maximum Return Pressure reading on the gauge and then adjust the PRESSURE SWITCH.

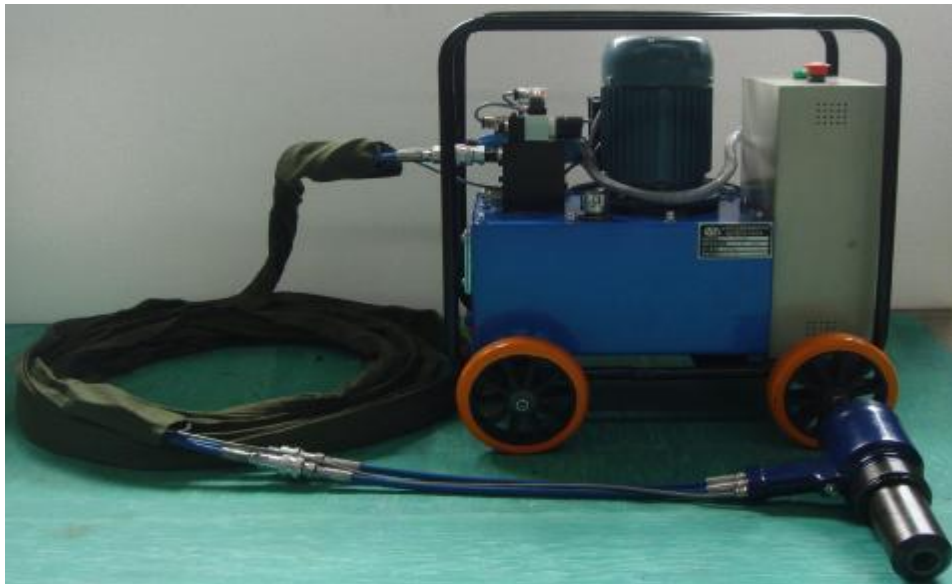
Clockwise	Increase Pressure
Anti-Clockwise	Decrease Pressure

Re-check Return Pressure until suit tool.

- 12) Re-tighten the Lock-nut on the HIGH PRESSURE ISOLATION VALVE and the PRESSURE SWITCH.

8 Preparation for regular use

- 1) Visually check the Hydraulic Pressure Station. Hydraulic hoses and electrical cables for damage and leakage. Replace or rectify as necessary.
- 2) Regularly check hydraulic fluid level and add fluid if necessary as shown in preparation for first time operation.
- 3) Check that electrical connectors and hydraulic couplings of tool and hose kits are properly attached.

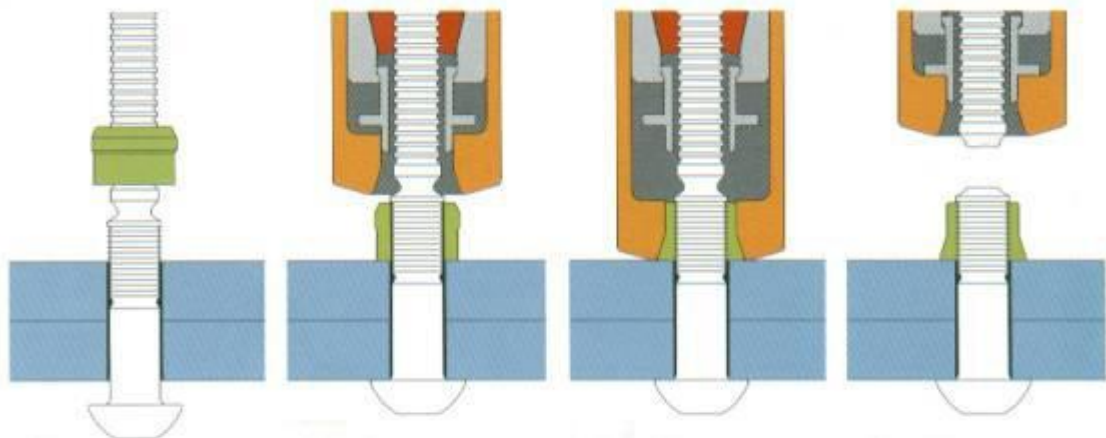
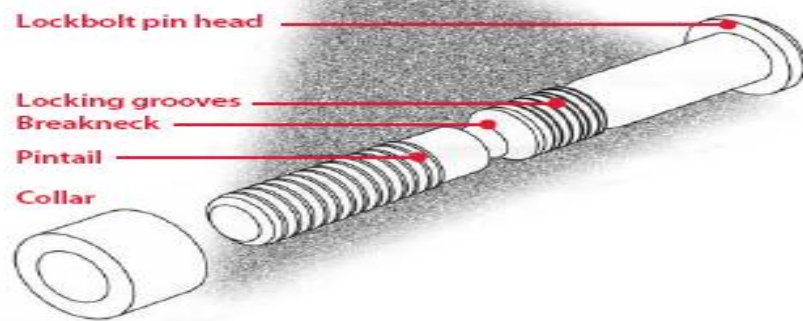


NOTE: If different types of tools are being used, always check that the Pull Pressure and Return Pressure.

9 Operating for regular use

- 1) Connect the Hydraulic Pressure Station to a suitable electrical supply in accordance with details shown on the machine plate.

- 2) Connect the 24VDC electrical bayonet plug(of Hydraulic Pressure Station, hose set, tool).
- 3) Connect Hydraulic hoses to Hydraulic Pressure Station. Connect Hydraulic hoses to tool.
- 4) Ensure the Hydraulic Pressure Station main switch is in the ON position and the emergency stop button is reset.
- 5) Riveting Process



- a)After the pin is inserted from one side of the work surface through a prepared hole, a collar is placed over the pintail.The nose assembly, fitted to

an installation tool, is placed over the pintail.

b)The chuck jaws in the nose assembly grip the pintail grooves. When the tool's trigger is pressed the chuck jaws move rearward, pulling on the pintail, seating the head, and eliminating any gap between work surfaces. The swage die in the outer sleeve of the nose assembly moves forward, swaging the collar material into the pin's locking grooves, providing a permanent lock between the pin and collar.

c)When collar swaging is complete, the tool continues to pull until, at a predetermined force, the pintail separates in tension at the breakneck. Releasing the trigger pushes the tool off the installed fastener.

NOTE: Press the tool trigger until LockBolt is Pulled off.

10 HYDRAULIC INSTALLATION TOOLS

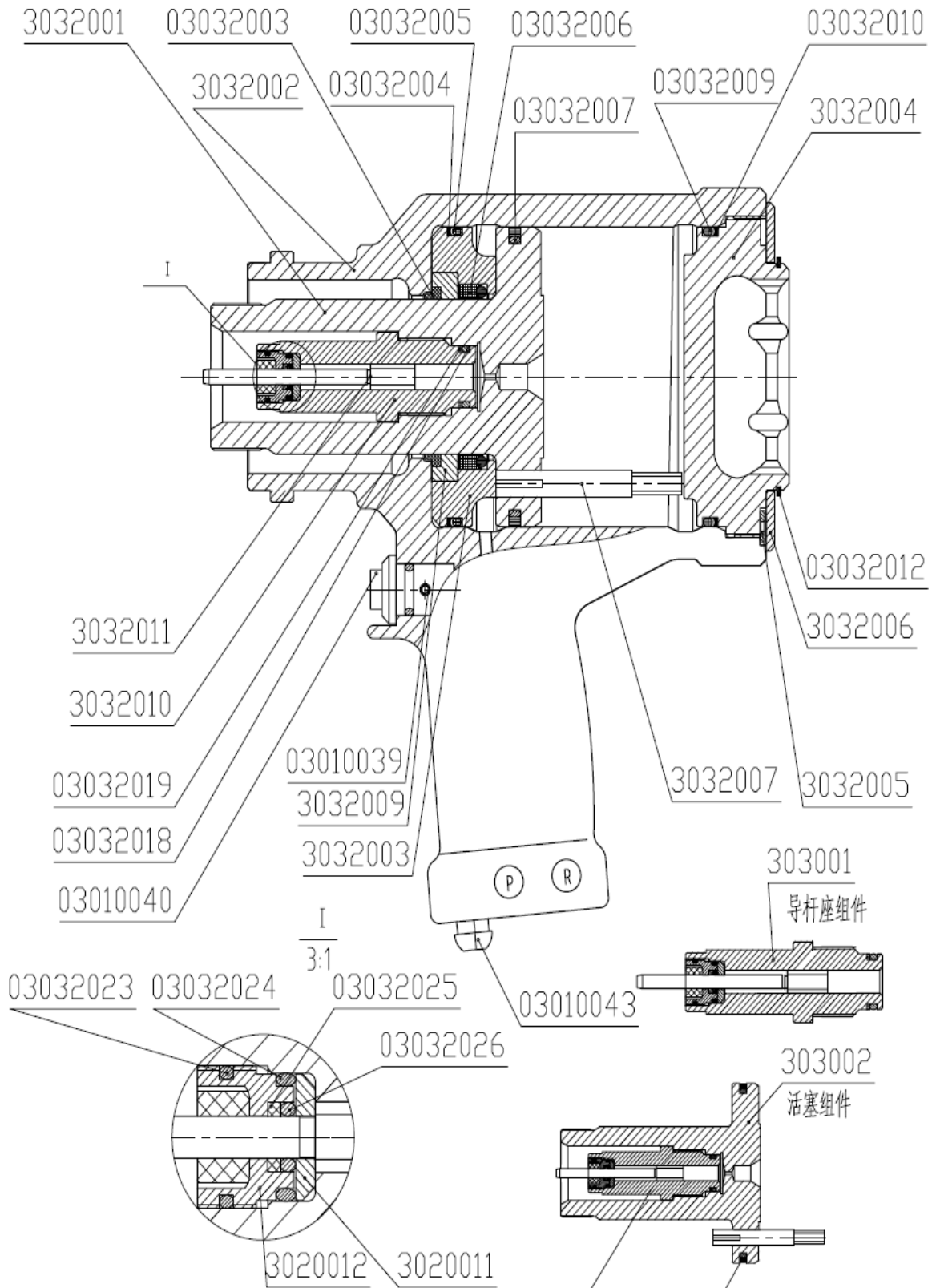
1)Description

Tool Type : S16/S20/S24/S28

LockBolt Type: 12mm/16mm/24mm/28 mm

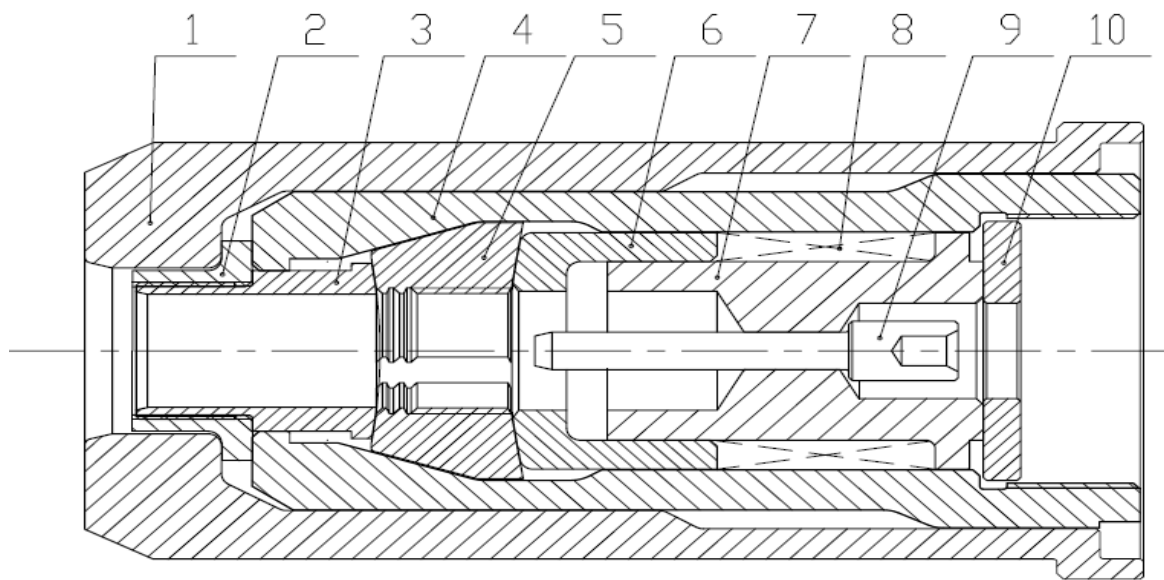
Max Pressure: 45Mpa/40Mpa/50Mpa/50 MPa

2)Schematic Circuit Diagram



因密封件及结构的改进，此件与哈克活塞不可互用
 为防止拆卸过程损坏此密封件以便再次使用，此密封件无开口，安装比较困难，

1	Piston	3032001	10	Cover Plate	3032006
2	Cylinder Assembly	3032002	11	Retaining Ring	03032012
3	Wiper Seal	03032003	12	Locking Disc	3032005
4	Wiper Housing	3032009	13	Dump Valve	3032007
5	Back-up Ring	03032004	14	Strain Relief or Air Fitting	03010043
6	O-ring	03032005	15	Trigger Switch Assembly	03010040
7	Polyseal	03032006	16	Ejector Gland Assembly	303001
8	GLYD Ring Assembly	03032007	17	Pintail Ejector	3032011
9	End Cap	3032004			



10	YMQ20-1.10	WASHER	1	5	YMQ20-1.05	CHUCK JAWS	1
9	YMQ20-1.09	MANDREL	1	4	YMQ20-1.04	COLLET	1
8	YMQ20-1.08	SPRING	1	3	YMQ20-1.03	RELEASE	1
7	YMQ20-1.07	GUIDE SHAFT	1	2	YMQ20-1.02	ELECTOR	1
6	YMQ20-1.06	FOLLOWER	1	1	YMQ20-1.01	ANVIL	1