NITROGEN GAS CYLINDERS MAINTENANCE INSTRUCTIONS

ML 1000 B ÷ ML 12000 B
* included in the maintenance kit

The complete assembled kit along with this step-by-step service manual is result of Special Springs research for the most useful maintenance operation for Special Springs nitrogen gas cylinders. Few minutes and the Special Springs nitrogen gas cylinders are regenerated as new one.

Special Springs along with its own global network are pleased to help you anytime for the best result of your work.

Before starting any maintenance work, carefully check if the rod or the body of the cylinder are damage or wear. If yes, it is recommended to replace the cylinder immediately and do not proceed with the maintenance operation.

Before starting any maintenance work carefully check if the cylinder is not self-contained version. If yes, it is recommended to use the not self-contained version plug that is included in the mainenance kit.

The complete assembled kit along with this step-by-step service manual is result of Special Springs research for the most useful maintenance operation for Special Springs nitrogen gas cylinders. Few minutes and the Special Springs nitrogen gas cylinders are regenerated as new one.

Before starting any maintenance work, carefully check if the rod or the body of the cylinder are damage or wear. If yes, it is recommended to replace the cylinder immediately and do not proceed with the maintenance operation.

Before starting any maintenance work carefully check this step-by-step manual to correspond to the model of cylinder for which is required.

Instructions and pictures of this step-by-step manual could slightly differ from practise.

EYE PROTECTION

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I. DISCHARGING + VALVE REMOVAL for self-contained cylinders.

1. Remove the protective screw cap from the charging hole by using the special gas detector.
2. Thread DDS discharging device on the charging port from the side. The threads must be completely in thread from the operator for maximum safety.
3. Be sure the pressure is completely released. Remove the bottom plate. Then, remove the O-ring on the bottom plate. If the bottom plate show any wear or scratch do not use it again.
4. Hang and release the device. Remove the O-ring on the bottom plate. Carefully check and clean the O-ring. If the O-ring shows any damage, replace it with a new one.
5. Rotate and release the one way valve from the hole by using the special gas detector.

II. DISCHARGING non self-contained cylinders.

A. To release pressure of fixed cylinders, open the discharging valve on the control panel.
B. Be sure the pressure is completely released. Remove the O-ring on the cylinder body.
C. Position and thread the oneway valve into the cylinder body in order to insert completely. Lubricate all the installed components with the Special Springs grease.
D. Remove, from the cylinder body, the piston rod and guiding elements.
E. With the manual press, press down the piston rod. Then, unthread the discharging device from the discharging tube.
F. Cut off of cylinder to see the right position of the seals and guiding elements.
G. It is always recommended to check holes on the upper side of the cylinder after the maintenance work and replace them with new ones if necessary.

III. RETAINING RING REMOVAL.

A. Insert the positioning tube in control panel for direct charging.
B. With the manual press, press down the piston rod. Then, unthread the discharging device from the discharging tube.
C. Be sure the pressure is completely released from the holes by using the manual press. Then, unthread the discharging device from the discharging tube.
D. Hang and release the one way valve from the hole by using the manual press. Then, unthread the discharging device from the discharging tube. Be sure the O-ring is in the quantity as indicated for each cylinder model.
E. Rotate and thread the one way valve into the hole by using the digital force tester.

IV. PISTON ROD BOTTOM PLATE REMOVAL.

A. Rotate and release the cylinder into a self-centering chuck or a wise.
B. Position the and screwy device for M6 charging port. Then, by the manual press, press down the piston rod. Then, unthread the discharging device from the discharging tube.
C. Position and thread the O-ring on the bottom plate as shown on the picture.
D. Remove, from the cylinder body, the piston rod and guiding elements.
E. Carefully check and check the bushing. If the bushing shows any damage, replace it with a new one.

V. CLEANSING AND INSPECTION.

A. Rotate and release the cylinder into a self-centering chuck or a wise.
B. Carefully check and check the bushing. If the bushing shows any damage, replace it with a new one.
C. With the manual press, press down the piston rod. Then, unthread the discharging device from the discharging tube.
D. Remove, from the cylinder body, the piston rod and guiding elements.
E. Lubricate all the disassembled components into the cylinder body with the Special Springs grease.

VI. SEALS REASSEMBLY.

A. Assemble the bushing into the core of guiding elements. It is always recommended to check the bushing after the maintenance work and replace it with a new one if necessary.
B. Assembling the bushings into the cylinder body to be the correct position of the seals and guiding elements.
C. Lubricate all the disassembled components into the cylinder body with the Special Springs grease.

VII. REASSEMBLY.

A. Lubricate all the disassembled components into the cylinder body to be the correct position of the seals and guiding elements.
B. Manually insert the piston rod into the O-ring on the bottom plate, as shown on the picture.
C. Manually rotate the O-ring on the bottom plate, as shown on the picture.
D. With the manual press, press down the piston rod. Then, the piston rod is in the correct side.
E. Set the positioning tube on the upper end of the cylinder only. Then, manually insert the bottom plate into the cylinder body in order to clean it completely.
F. Adjust the internal pressure on the regulation valve on the bottle. The gauge on the right will indicate the maximum allowed pressure to change the cylinder.
G. DO NOT exceed the maximum pressure indicated for a specific cylinder.
H. After positioning and fixing the cylinder, proceed through the quick reg. valve and regulator to the gas tap. For an easy and safety work carefully follow the instructions supplied with the charging unit.
I. Digital force tester

VIII. CHARGING AND FORCE TEST for self-contained cylinders.

A. Check the correct assembly of the pressure regulator valve on the gas bottle. Then, open the main tap. The gauge on the left will indicate the pressure, allowed pressure is 290 bar, pressure regulation value.
B. Select and assemble the desired charging adapter and thread it in the charging port. For an easy and safety work carefully follow the instructions supplied with the charging unit.
C. Adjust the required maximum pressure through the regulation valve. This gauge on the right will indicate the maximum allowed pressure to charge the cylinder.
D. Hang and release the one way valve from the hole by using the special gas detector.
E. With the manual press, press down the piston rod. Then, unthread the discharging device from the discharging tube.
F. Be sure the pressure is completely removed. Then, unthread the discharging device from the discharging tube.
G. Hang and release the device. Be sure the O-ring is in the quantity as indicated for each cylinder model.
H. Adjust the required maximum pressure through the regulation valve. This gauge on the right will indicate the maximum allowed pressure to charge the cylinder.

IX. CHARGING AND FORCE TEST for non self-contained cylinders.

A. Adjust the required maximum pressure through the regulation valve. This gauge on the right will indicate the maximum allowed pressure to charge the cylinder.
B. Adjust the required pressure on the regulation valve on the bottle. The gauge on the right will indicate the maximum allowed pressure to charge the cylinder.
C. Adjust the required pressure on the regulation valve on the bottle. The gauge on the right will indicate the maximum allowed pressure to charge the cylinder.
D. After positioning and fixing the cylinder, proceed through the quick reg. valve and regulator to the gas tap. For an easy and safety work carefully follow the instructions supplied with the charging unit.
E. It is always recommended to check holes on the upper side of the cylinder after the maintenance work and replace them with new ones if necessary.
F. DO NOT exceed the maximum pressure indicated for a specific cylinder.
G. Adjust the required pressure on the regulation valve on the bottle. The gauge on the right will indicate the maximum allowed pressure to charge the cylinder.
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