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Manuale d'istruzioni
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Korisnički priručnik

REGULATORS

USER'S MANUAL FOR MARES REGULATORS

⚠ WARNING

Carefully read this instruction manual before use, and keep it for future reference.

INTRODUCTION

Congratulations. You have purchased one of the finest, most dependable regulators available on the market today. Your Mares regulator has been constructed using manufacturing processes and materials which are the result of many years of continuing research and evolution. This sophisticated technology is backed by the guarantee that every component of your regulator has been tested at our modern facility in Rapallo, Italy. All this is synonymous with reliability, a fundamental requirement for any piece of diving equipment, which you will find in EVERY Mares product.

Important

Any critical information or warnings that might affect the performance or result in the injury or death of the technician, regulator owner, or other persons is highlighted with the following symbols:

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

Mares reserves the right to modify any products, processes and manufacturing techniques at any time. It is the technicians' responsibility to acquire the latest information and parts from Mares for service and repairs to be performed.

IMPORTANT

If the instructions provided in the manual are unclear or difficult to understand, please contact Mares before using the regulator or attempting any repairs.

⚠ WARNING

Carefully follow these and all the other instructions concerning your Mares regulator and all other SCUBA equipment. Failure to do so could lead to serious injury or death.

⚠ WARNING

As with all SCUBA equipment, MARES regulators are designed to be used by trained, certified divers only. Failure to fully understand the risks of using such equipment may result in serious injury or death. DO NOT use this regulator or any SCUBA equipment unless you are a trained, certified SCUBA diver.

CE CERTIFICATION

The Mares regulators described in this manual have been tested and certified by Registered Test Centre No. 0426 - Italcert - Viale Sarca 336, Milan - I, in compliance with EC directive 89/686/EEC of 21 December 1989. The test procedures were conducted according to the EN 250: 2000 standard, in conformance with the aforesaid directive, which sets out the conditions for marketing and essential safety requirements for Category III Personal Protective Equipment (PPE).

The CE markings indicate that the product is compliant with the essential health and safety requirements (Att. II DE 89/686/CEE). The suffix 0426 after the letters "CE" indicates the Italcert Registered Test Center in charge of monitoring the production under Art. 11B DE 89/686/EEC.

REFERENCES TO EN 250: 2000 – OBJECT – DEFINITIONS – LIMITS

Object: The requirements and tests provided for in EN 250: 2000 are aimed at providing a minimum safety level for the operating of diving breathing apparatuses at a maximum depth of 50m/162 feet.

Scuba - Definition: Self-contained, open-circuit compressed air underwater breathing apparatus, equipped with an air cylinder.

Scuba - Minimum Equipment (EN 250: 2000):

a) Air tank(s).
b) Regulator.
c) Safety device, e.g. pressure gauge/computer, reserve, or alarm.
d) Carrying frame or holding device, e.g. backpack and/or strap.
e) Facepiece (mouthpiece assembly or full-face mask or diving helmet).
f) Operating instructions.

⚠ WARNING

SCUBA equipment complying with EN 250 is not intended for breathing by more than one user at the same time.

⚠ WARNING

If SCUBA equipment is configured and used by more than one diver at the same time, the cold water and breathing performance may not fulfill the requirements of EN 250. Therefore, the octopus should not be used during dives in cold water. Use of the dual regulator is recommended for cold water diving.

LIMITS (EN 250: 2000)

- **SCUBA - Component units (EN 250: 2000):** The SCUBA equipment may consist of separate component units such as cylinders, regulator and pressure gauge. The Mares regulators described in this manual can be used with other SCUBA unit components certified according to directive EEC/89/686 and EN 250: 2000. The air inside the tanks must conform to the requirements for breathable air set out in EN 12021.

⚠ WARNING

FOR EUROPEAN COUNTRIES ONLY

MARES regulators and octopus are designed and intended for use only with clean, compressed atmospheric air. Do not use this equipment with any other gas or enriched air.

Failure to observe this warning may result in premature wear of the equipment, defective operation or risk of explosion, resulting in potentially serious damage.

⚠ WARNING

FOR NON-EUROPEAN COUNTRIES ONLY

Mares regulators, alternative second stages, and components of the gas delivery system are compatible with and EXCLUSIVELY designed for use with open-circuit SCUBA equipment that uses compressed air or oxygen-rich mixtures (Nitrox) with oxygen content not greater than 40%. These limitations are compliant with the DAN convention on nitrox of November 2000. Failure to observe this warning may result in serious or fatal injury to the user caused by fires, explosions, or deterioration or breakage of the equipment.

- Maximum depth: 50 m / 162 feet.
- Pressure max 230 bar (international YOKE EN 12209-1 adapter) (ex YOKE CGA 850) (Fig. 1).
- Pressure max 230 bar (EN 12209-2 screw) (ex DIN 477/13) (Fig. 2).
- Pressure max 300 bar (EN 12209-2 screw) (ex DIN 477/50) (Fig. 2).
- Warm water regulators - water temperature over or equal to +10°C (50°F).
- Cold water regulators – water temperature below +10°C (50°F).

In accordance with standard EN 250: 2000, cold water is that at temperatures below 10°C.

For Mares regulators intended for use in extremely cold water, Mares suggests using the CWD (Cold Water Diving) Kit. THE CWD KIT SHOULD ONLY BE INSTALLED BY AN AUTHORIZED MARES SERVICE CENTER.

⚠ WARNING

Attempting to dive in cold water conditions (10°C or less) without adequate training may result in serious injury. Before diving in cold water, it is advisable to take a special training course under the supervision of a certified diving instructor. Because no regulator can be completely guaranteed against second stage freezing under all conditions, even Mares regulators fitted with the CWD DRY kit may be subject to "icing" phenomena. In this event, regulators may not function properly. This may result in serious injury. Therefore, to minimize the potential hazards, it is essential to be adequately trained in the prevention and handling of the problems which may arise from a regulator subject to "icing" phenomena.

Particularly in these situations, the following precautions should be observed:

1) Avoid breathing from the regulator outside the water.
2) Only press the purge valve underwater, and even then very gently and for brief periods.

⚠ WARNING

For safety reasons, it is not advisable to use an Octopus second stage that is not a certified Mares Octopus. The manufacturer declines responsibility for damage to persons or property resulting from the use of different Octopus second stages. The Mares Octopus second stages have been designed and tested for use on first stage low pressure ports other than the preferential port used for the primary second stage. An Octopus second stage MAY NOT be substituted for a primary second stage, and must in no circumstances be connected to the preferential low pressure port intended for the primary second stage.

⚠ WARNING

For safety reasons, the submersible pressure gauge / high pressure safety device to be assembled on the regulator must comply with the standard EN 250: 2000. According to this regulation, with an upstream pressure of 100 bar, the maximum permitted airflow through the connector toward the first stage must not exceed 100 liters/min. If you have a submersible pressure gauge / high pressure safety device that complies with the EN 250: 1993 standard or a different specification, check whether the instruction manual indicates the value of the maximum airflow. The use of submersible pressure gauges / safety devices that do not comply with the EN 250: 2000 standard, or which do not have an indication of the maximum permitted airflow through the first stage connector, may result in serious accidents.

GENERAL WORKING PRINCIPLE

Regulators reduce cylinder pressure, referred to as inlet pressure, to a pressure suitable for breathing. Modern regulators do this using two elements, or stages, connected by a hose. The first stage provides pressure to the second stage; this reduced pressure remains constant despite the sizeable changes undergone by the cylinder inlet pressure during the dive (dropping from 3000/4350 to few hundred psi). The second stage brings pressure down to ambient pressure and delivers air only when the diver inhales. Each stage of the regulator contains an internal valve. When the diver inhales, the pressure inside the case is lowered and a pressure differential (imbalance) is created across the diaphragm (beginning of inhalation). The response of the diaphragm is to bend inward, contact the lever and open the second stage valve. Air continues to flow into the case until the pressure balance is regained (end of inhalation).

FIRST STAGE (FIG. 3)

For the second stage to work properly, the first stage must deliver air at a correct and - most importantly - constant intermediate pressure. This characteristic, provided by all Mares first stages, is essential for obtaining optimal adjustment of the second stage and ensuring top performance for the entire duration of the dive, regardless of tank pressure. All Mares first stages are available with the following types of tank valve fittings: international YOKE EN 12209-1 adapter (max pressure 230 bar), or EN 12209-2 connector (max pressure 230/300 bar), in accordance with the standard EN 250: 2000.

SECOND STAGE

The purpose of the second stage is to deliver air at ambient pressure, only during the inhalation phase. The diagram of a second stage shown in Fig. 5 illustrates its operation. When the diver inhales, the pressure inside the second stage decreases, creating a pressure difference (imbalance) between the two sides of the diaphragm. This pulls the flexible diaphragm inward, pressing the demand lever and unseating the second stage valve. This opening allows air to flow in through the second stage and to the diver, until the diver stops inhaling. At this point the internal second stage pressure increases, pushing the diaphragm back in the opposite direction, causing the valve to return to its seat and shutting off the airflow.

TECHNICAL SPECIFICATIONS OF THE REGULATORS

TRI-MATERIAL VALVE

The "Tri-material" Valve is a patented innovation, designed and built to optimize performance, safety, and reliability over time for Mares MR first stages.

During operation, the high-pressure valve is subjected to various stresses. In traditional valves, these stresses, associated with extreme usage conditions, can cause premature wear of the valve, with a consequent drop in reliability, performance, and safety.

After careful study of the forces involved, the pressures that act on the surfaces of the valve, and the usage conditions to which it is subjected, Mares has created the new "Tri-material" valve (brass, soft polyurethane, and "high resistance" polyurethane), found today on all Mares MR version first stages. This innovative technical solution guarantees that Mares first stages offer maximum performance, safety, and durability.

CARBON TECHNOLOGY (Mares patent)

Mares is the only manufacturer in the world that offers a complete line of regulators with carbon second stages, using the cutting-edge SMC technology, in which the primary feature is incredibly light weight, weighing 65% less than metal second stages. What's more, in cold water, the thermal conductivity of the carbon second stages is approximately 10% higher than metal second stages, and vastly superior to those made of traditional plastic materials, ensuring a marked decrease in the freezing effect. In fact, when inhaling, the compressed air from the first stage expands inside the second stage and creates an abrupt drop in the temperature of the air itself, which in cold water can drop to a few degrees below freezing. This phenomenon, along with the natural humidity found in the second stage, can cause ice crystals to form, and these can cause slight air loss that can in turn trigger free-flow phenomena. Carbon is an excellent conductor of heat, and makes the water surrounding the second stage act as a heating element for the air inside, helping prevent

free-flow. Strange as it may seem, even at temperatures very close to the freezing point, the water is still warmer than the air expanding inside the second stage.
Additional benefits of the Mares carbon technology second stages:

- better resistance to extreme conditions, resistance to high temperatures, and to corrosive agents
- mechanical characteristics 100% superior to previous versions in technopolymer
- longer product working life
- less "dry" breathing, since humidity from exhalation condenses on the internal walls of the carbon second stage, keeping the breathing environment moist

ALL METAL TECHNOLOGY

Mares is the only manufacturer in the world to offer a complete range of regulators with a second stage case produced entirely in metal: anti-corrosion nickel- and chrome-plated brass. In cold water, metal second stages have superior performance and are safer than second stages manufactured in traditional plastic materials, thanks to the high thermal conductivity that limits the freezing effect.
In fact, when inhaling, the compressed air from the first stage expands inside the second stage and creates an abrupt drop in the temperature of the air itself, which in cold water can drop to a few degrees below freezing. This phenomenon, along with the natural humidity found in the second stage, can cause ice crystals to form, and these can cause slight air loss that can in turn trigger free-flow phenomena.
Metal is a good conductor of heat, and makes the water surrounding the second stage act as a heating element for the air inside, helping prevent free-flow.
Strange as it may seem, even at temperatures very close to the freezing point, the water is still warmer than the air expanding inside the second stage.
Additional benefits of Mares "all-metal" second stages:

- greater resistance to extreme conditions, intensive use, and abrasion
- longer product working life
- less "dry" breathing, since humidity from exhalation condenses on the internal walls of the metal second stage, keeping the breathing environment moist

DFC - DYNAMIC FLOW CONTROL

Mares first stages feature the exclusive DFC system, which makes it possible to minimize the intermediate pressure drop during inhalation (Fig. 4), thus clearly improving the performance of the regulator in any situation, even under extreme conditions. This means that it's always easy to breathe using the regulator, especially when you have greater demand for air.
The DFC system ensures a more constant intermediate pressure, which makes it possible to use simpler and more reliable second stages.
The DFC is the only system on the market that can guarantee the amount of air that corresponds to the diver's actual demand!
Therefore, Mares regulators do not require any type of manual adjustment of the second stage, thanks to the safety provided by first stages that guarantee a constant flow of air, even under extreme conditions.

NCC - NATURAL CONVECTION CHANNEL

Natural Convection Channel increases performance in cold water, creating a flow of water through the first stage. The flow is guided by the change in the density of the water as the temperature changes.
Following a thorough study of the surfaces and components that affect performance during cold water dives, we have created a channel with the ideal shape and size to ensure the maximum heat exchange and performance.

VAD / VORTEX ASSISTED DESIGN

All Mares second stages offer the unique, patented VAD system (Vortex Assisted Design).
This system makes breathing easy at any depth, and has no peer on today's market. The working principle is very simple.
The air from the hose moves through the second stage and the by-pass tube channels it directly into the mouthpiece (Fig. 5). A "vortex" motion is created in the air flow in the mouthpiece, and a low-pressure area is created in the middle.
This low pressure helps keep the second stage diaphragm down during inhalation, thus increasing the regulator's sensitivity and minimizing breathing effort. Regulators with the VAD system therefore offer improved performance and allow for very natural and comfortable breathing. One of the main causes of ice forming in the regulator is the expansion of air inside the second stage case, which causes an abrupt drop in temperature. With the VAD system, the air expands inside the by-pass tube and mouthpiece, reducing the likelihood of icing.

MESH-GRID

The mesh design of the second stage cover reduces the pressure of the water flowing over the diaphragm and minimizes the possibility of free-flow, even in strong currents (patented).

CWD KIT (COLD WATER DIVING)

Mares diaphragm first stages are ideal for cold water diving, because the diaphragm shields the moving parts from contact with the water. For diving in especially cold water, Mares first stages can also be fitted with the CWD Kit (Cold Water Diving), a device that fully insulates all parts of the first stage from direct contact with the water.
The main spring is completely immersed in silicone oil, so in addition to being isolated from the outside environment, it is also protected against the formation of ice crystals.
The CWD Kit diaphragm is produced using specially selected materials in order to convey changes in ambient pressure resulting from changes in depth to the main diaphragm, through the oil.

KIT CWD DRY (COLD WATER DIVING DRY)

The CWD Dry kit, differently from the CWD kit, works dry, with air only and absolutely no oil. The external pressure is conveyed to the main diaphragm by a metal piston.
As one of the best insulators, air offers excellent thermal protection to the internal components of the first stage. The absence of oil makes maintenance simpler and faster.

ULTRALIGHT BI-COMPONENT TECHNOLOGY

The body of the second stage, made of technopolymer, is overmoulded with a special material that is designed specifically to give the product superior resistance to abrasion.

ULTRALIGHT TECHNOPOLYMER TECHNOLOGY

The use of exclusive technopolymers offers a lightweight but incredibly sturdy second stage.

NANO-THERMOCONDUCTIVE TECHNOLOGY (NTT) (Mares Patent)

The use of thermo-conductive technopolymers makes it possible to replace the metal when producing regulator second stages for use in cold water.
Thanks to their elevated thermal conductivity, these innovative materials make it possible to avoid the freezing effect, by providing an efficient thermal exchange between the inside of the second stage, at a lower temperature, and the outside, in contact with the water, which is normally at a higher temperature.
In fact, when inhaling, the compressed air from the first stage expands inside the second stage and creates an abrupt drop in the temperature of the air itself, which in cold water can drop to a few degrees below freezing. This phenomenon, along with the natural humidity found in the second stage, can cause ice crystals to form, and these can cause slight air loss that can in turn trigger free-flow phenomena.

USE AND MAINTENANCE

⚠ WARNING

DO NOT attempt to use your regulator unless you have performed all of these pre-dive operating procedures. Failure to do so may lead to serious injury or death if the regulator malfunctions.

CONNECTING ACCESSORIES TO THE FIRST STAGE

The hoses and accessories should be connected in such a way as to avoid damaging the O-ring. Use a suitable wrench to remove the plug from the LP or HP first stage port, and screw the terminal fitting of the hose firmly but gently into the first stage port.

⚠ WARNING

The regulator in and of itself is not a complete SCUBA unit, but only one of its components.
Under the EN 250: 2000 standard, a complete SCUBA unit must include at least the following Minimum Equipment:

a) Air tank(s).
b) Regulator.
c) Safety device, e.g. pressure gauge/computer, reserve, or alarm.
d) Carrying frame or holding device, e.g. backpack and/or strap.
e) Facepiece (mouthpiece assembly or full-face mask or diving helmet).
f) Operating instructions.

Your Mares regulator has been designed for use in conjunction with other SCUBA unit components conforming to the EEC/89/686 directive and certified with the EC mark. The air inside the tanks must conform to the requirements for breathable air set out in EN 12021.

BEFORE ASSEMBLING THE COMPONENTS OF YOUR SCUBA UNIT, CAREFULLY READ ALL THE USER INSTRUCTIONS AND ANY WARNINGS WHICH THEY CONTAIN.

PRE-DIVE CHECKLIST

- Ensure that all the hoses have been correctly assembled onto the 1st stage, and check them for cuts, signs of wear or other damage. If the hoses are loose enough to be unscrewed manually, they must be tightened with a wrench before they are pressurized.
- Make sure that the first and second stages do not show signs of damage.
- Position the tank control valve so that the valve opening is directed towards the diver.
- Remove the dust cap from the regulator yoke and position the A-clamp or DIN fitting so that it is centered on the tank valve opening.
- The first stage should be oriented in such a way that the hose leading to the second stage is routed over the diver's right shoulder.
- Tighten the yoke nut, or DIN connector, finger tight only, being careful not to damage the O-Ring on the tank valve in the case of a yoke connector.
- Check the submersible pressure gauge, making sure that the pressure reading is zero.
- Very slowly open the tank valve, allowing air to enter the regulator gradually.
- Do not turn the first stage connected to the tank when the system is pressurized!

⚠ WARNING

When opening the air valve, press the purge valve of the second stage. This helps to reduce the impact on the valve (Fig. 6). DO NOT PERFORM THIS OPERATION AT AMBIENT TEMPERATURES BELOW 10°C (50°F).

- Check the pressure gauge to ensure that it indicates the proper cylinder pressure for your planned dive.
- Check the cylinder and regulator connection for leakage. If you detect a leak, it may be that the regulator is not mounted properly on the valve, or there may be a damaged cylinder valve O-ring.
- To confirm that the regulator delivers air properly, first exhale through the mouthpiece to blow any foreign matter from the second stage, then inhale. A few breathing cycles should indicate if there are any obvious problems that cannot be discovered by actually breathing from the regulator while underwater.

DURING THE DIVE

- If you are using a second stage as an Octopus regulator, the dust cap should be used to prevent foreign matter from entering the second stage through the mouthpiece.
- When the regulator is out of the diver's mouth, free flowing of air may occur. This problem can be easily avoided by turning the regulator as shown in figure 7, which allows it to fill with water. Should free flow continue, abort the dive immediately.

POST-DIVE CARE AND PERIODIC MAINTENANCE

Ideally, your regulator should be rinsed with fresh water while pressurized. This allows the second stage to be rinsed internally without introducing contaminants into critical sealing areas. Rinse the first stage and also run water into the mouthpiece of the second stage and out of the exhaust tees to remove foreign matter. If the regulator is not pressurized, do not depress the purge button while rinsing. Actuation of the purge function may allow particles to contaminate the valve seat and cause leakage. In order to avoid filter and first stage contamination, prevent water from entering the first stage air inlet. Cover the first stage filter with the special dust cup (Fig. 1 / Fig. 2). Allow the regulator to dry thoroughly before putting it away. If the regulator is exposed for prolonged periods to direct sunlight, or left in greasy or dusty environments, some of its components may be damaged. No lubricants are required; in fact, they should not be used during the routine maintenance procedures normally performed by the user.

⚠ WARNING

The correct functioning of the regulator is dependent upon proper maintenance. Therefore, your regulator should be submitted to a Mares authorized service center for inspection at least once a year. It is also recommended that the first stage valve be replaced every two years or every 200 diving hours.

WARRANTY

Regarding the terms and conditions of the warranty, we invite you to consult the warranty certificate found in the package of your regulator.

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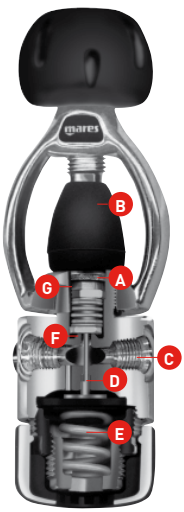
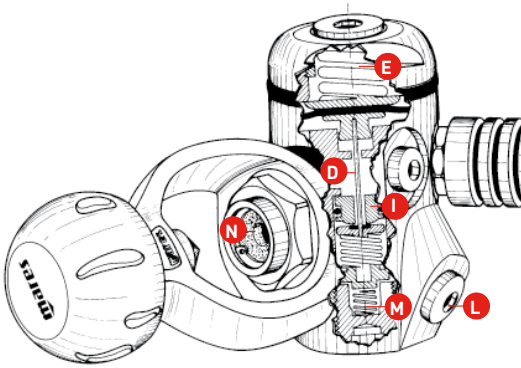


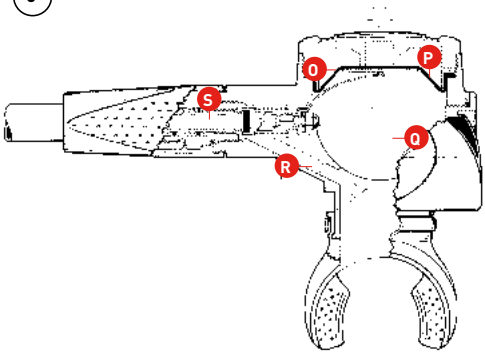


4

Primo stadio tradizionale
Traditional first stage
Herkömmliche erste Stufe
Premier étage traditionnel
Primera etapa tradicional
Primeiro estágio tradicional
Traditionele eerste trap
Traditionellt förstasteg
Κλασικό πρώτο στάδιο
Perinteinen paineenalennin
Tradycyjny pierwszy stopień
Hagyományos első lépcső
Классическая первая ступень
Klasična prva stopnja
Geleneksel birinci kademe
Klasický první stupeň
Uobičajeni prvi stupanj

Primo stadio con DFC
First stage with DFC
Erste Stufe mit DFC
Premier étage DFC
Primera etapa con DFC
Primeiro estágio com DFC
Eerste trap met DFC
Förstasteg med DFC-system
Πρώτο στάδιο με DFC
DFC -paineenalennin
Pierwszy stopień DFC
DFC Dinamikus áramlásszabályozóval felszerelt első lépcső
Первая ступень с системой DFC
Prva stopnja DFC
DFC'li birinci kademe
První stupeň s DFC
Prvi stupanj s DFC

5



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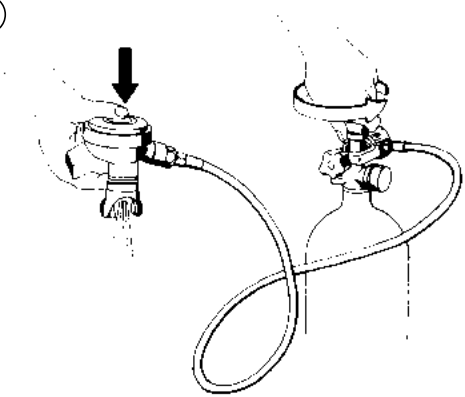

7

A
Filtro
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Φίλτρο
Suodatin
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Szűrő
фильтр
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Filtre
Filtr
Filtar

B
Tappo di protezione
Dust cap
Schutzkappe
Capuchon de protection
Tapón antipolvo
Chapéu de bruxa
Stofkap
Dammskydd
Προστατευτικό καπάκι κατά της σκόνης
Pölysuoja
Kapturek ochronny
Porsapka
Защитный колпачок
Zaščitni pokrov
Koruyucu kapak
Protiprašný kryt
Poklopac protiv prašine

C
Uscita LP 3/8" UNF
3/8" UNF LP port
3/8" UNF LP-Anschluss (Mitteldruck)
Sortie LP 3/8" UNF
Puerto de baja presión UNF de 3/8"
Saída 3/8" UNF LP
3/8" UNF lagedrukpoort
3/8" UNF LP-port
Έξοδος LP 3/8" UNF
Matalapaine-ulosotto 3/8" UNF-kierteellä
Port UNF LP 3/8"
3/8" UNF LP port
Порт низкого давления 3/8" UNF
Nizkotlačni priključek 3/8" UNF LP
3/8" UNF LP portu
Nízkotlaký vývod 3/8" UNF
Priključak 3/8" UNF LP

D
Spillo di spinta
Thrust pin
Ventilstift
Pointeau
Pasador de empuje
Pino de rosca
Spindel
Tryckstift
Ωστικός πείρος
Venttiilin neula
Trzpień zaworu
Nyomócsapszeg
Палец упора
Čepek
İtiş pimi
Přítlačný čep
Potisna igla

E
Molla principale
Main spring
Druckfeder Membrane
Ressort principal
Resorte principal
Mola principal
Veer
Huvudfjäder
Κύριο ελατήριο
Pääjousi
Główna sprężyna
Főrugó
Основная пружина
Glavna vzmet
Ana yay
Hlavní pružina
Glavna opruga

F
Sede valvola alta pressione
HP seat connector
Hochdruck- (HP) Ventilsitz
Siège haute pression
Conector del asiento de alta presión
Conector da sede de HP
Hogedrukklepzitting
HP-säteskoppling
Σύνδεσμος βάσης HP
Korkeapaineistukan vastakappale
Złącze gniazda HP
Nagynyomású csatlakozóaljzat
Седло клапана высокого давления
Visokotlačni priključek HP
HP yuva konektörü
Vysokotlaká přípojka
HP priključak sjedišta

G
Camera di compensazione
Compensation chamber
Kompensationskammer
Chambre de compensation
Cámara de compensación
Câmara de compensação
Hogedrukkamer
Kompensationskammare
Θάλαμος αντιστάθμισης
Tasauskammio
Komora kompensacyjna
Kiegyenlítőkamra
Компенсационная камера
Kompenzacijska komora
Dengeleyici oda
Kompenzační komora
Kompenzacijska komora

H
Pistone
Piston
Kolben
Piston
Pistón
Pistão
Piston
Kolv
Έμβολο
Mäntä
Tłok
Dugattyú
Поршень
Bat
Piston
Píst
Ventil

I
Sede valvola alta pressione
HP seat connector
Hochdruck- (HP) Ventilsitz
Siège haute pression
Conector del asiento de alta presión
Conector da sede de HP
Hogedrukklepzitting
HP-säteskoppling
Σύνδεσμος βάσης HP
Korkeapaineistukan vastakappale
Złącze gniazda HP
Nagynyomású csatlakozóaljzat
Седло клапана высокого давления
Visokotlačni priključek HP
HP yuva konektörü
Vysokotlaká přípojka
HP priključak sjedišta

L
Uscita LP 7/16" UNF
7/16" UNF LP port
7/16" UNF LP-Anschluss (Mitteldruck)
Sortie MP 7/16" UNF
Salida LP 7/16" UNF
Saída 7/16" UNF LP
7/16" UNF lagedrukpoort
7/16" UNF LP-port
Έξοδος LP 7/16" UNF
Matalapaine-ulosotto 7/16" UNF-kierteellä
Port UNF LP 7/16"
7/16" UNF LP csatlakozó
Порт низкого давления 7/16" UNF
Nizkotlačni priključek 7/16" UNF LP
7/16" UNF LP portu
Nízkotlaký vývod 7/16" UNF
Priključak 7/16" UNF LP

M
Camera bilanciamento
Balancing chamber
Hochdruckkammer
Chambre d'équilibrage
Cámara de equilibrado
Câmara de balanceamento
Gebalanceerde kamer
Balanskammare
Θάλαμος εξισορρόπησης
Tasapainotuskammio
Komora równoważąca
Kiegyenlítőkamra
Балансировочная камера
Balansirna komora
Dengeleme odası
Vyvažovací komora
Komora balansa

N
Filtro conico
Tapered filter
Sinterfilter (konisch)
Filtre conique
Filtro cónico
Filtro cônico
Sinterfilter
Avsmalnat filter
Διαβαθμισμένο φίλτρο
Kartiomallinen suodatin
Filtr stożkowy
Kúpos szűrő
Конический фильтр
Koničast filter
Konik filtre
Kuželový filtr
Konusni filtar

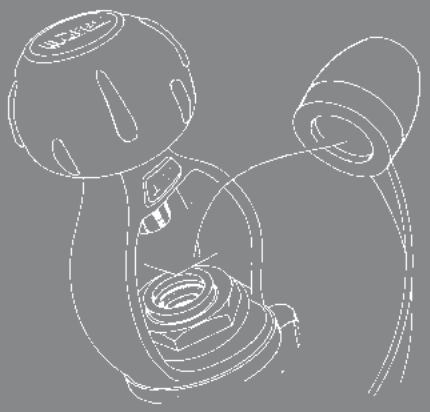
O
Membrana
Diaphragm
Membran
Membrane
Membrana
Diafragma
Membraan
Membran
Διάφραγμα
Kalvo
Membrana
Membrán
Мембрана
Membrana
Diyafram
Membrána
Membrana

P
Pressione dell'acqua
Water pressure
Umgebungsdruck
Pression de l'eau
Presión del agua
Pressão de água
Waterdruk
Vattentryck
Πίεση νερού
Veden paine
Ciśnienie wody
Víznyomás
Давление воды
Vodni tlak
Su basıncı
Tlak vody
Tlak vode

Q
Bassa pressione
Low pressure area
Niederdruckbereich
Basse pression
Zona de baja presión
Área de baixa pressão
Lage druk
Lågtrycksområde
Περιοχή χαμηλής πίεσης
Matalapainealue
Strefa niskiego ciśnienia
Kisnyomású zóna
Область низкого давления
Območje nizkega tlaka
Düşük basınç alanı
Nízkotlaká oblast
Področje niskog tlaka

R
Flusso dell'aria
Air flow
Luftstrom
Flux d'air
Flujo de aire
Fluxo de ar
Luchtstroom
Luftström
Ροή αέρα
Ilmavirta
Przepływ powietrza
Légáramlás
Воздушный поток
Pretok zraka
Hava akışı
Průtok vzduchu
Protok zraka

S
Pressione intermedia
Intermediate pressure
Mitteldruck
Pression intermédiaire
Presión intermedia
Pressão intermédia
Middendruk
Medeltryck
Ενδιάμεση πίεση
Välipaine
Średnie ciśnienie
Középnyomás
Промежуточное давление
Vmesni tlak
Ara basınç
Středotlak
Srednji tlak



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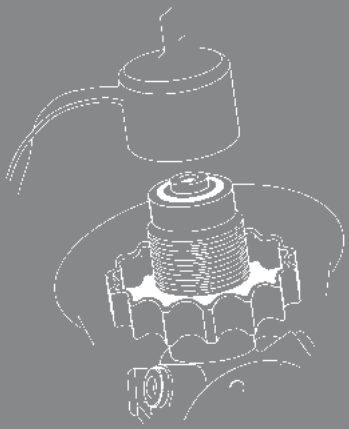

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PICTURES

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