



TRI-MATERIAL VALVE

Patented technology, conceived and created to optimize performance, safety, and reliability. This brass valve is covered with a hard PU then the head is layered molecularly with a soft PU. Tri-material (brass, soft polyurethane, and "heavy duty" polyurethane) reaches a new level of durability.



DFC - DYNAMIC FLOW CONTROL

DFC system minimizes the intermediate pressure drop during inhalation, making it possible to use a simpler and more reliable second stage. Any type of manual adjustment is not necessary, thanks to the consistency derived from first stages that guarantees a stable flow of air, even under extreme conditions.



MESH-GRID

The patented mesh design of the second stage cover reduces the pressure of water flowing onto the second stage diaphragm and minimizes free-flow. Even in strong currents it eliminates the need for a knob to 'de-tune' your air delivery system to stop free flowing: Advanced technology through basic physics.



NTT - NANO THERMOCONDUCTIVE TECHNOLOGY

A new exclusive patented technopolymer charged, through nanotechnology, with materials featuring thermo-conductive properties. Second stages manufactured in NTT are lightweight in mass like a plastic housing, while granting performance similar to metal regulators.



NBS - NATURAL BREATHING SYSTEM

A special corrosion resistant spiral-shaped insert in the by-pass tube automatically adjusts for changing demands to airflow making breathing more natural in any conditions.



ALL METAL TECHNOLOGY

Metal second stages have superior performance than plastic second stages, especially in cold water, thanks to the high thermal conductivity that limits the freezing effect. Additional benefits are the improved durability, the longer working life and the less dry mouth breathing.



VAD - VORTEX ASSISTED DESIGN

All Mares second stages offer the unique patented VAD system. The air bypass tube conveys air to the mouthpiece creating a swirling vortex with a low pressure area in center that keeps the diaphragm down during inhalation, for very sensitive and easy breathing at all depths.



EXTREME COLD WATER

Regulators conceived to guarantee unbeatable performance and reliability in extremely cold water, even ice diving: the CWD kit is equipped on the first stage and the All Metal second stage is entirely coated with fluoropolymer resin finish, even on all key components.



FLUID DYNAMIC DEFLECTOR

This innovative deflector, developed after in-depth study and tests of fluid dynamics, is engineered to receive and properly direct the airflow from the by-pass tube to the mouthpiece. Combined with the VAD it delivers a very natural and effortless breathing.



INPP 100 MT CERTIFICATION

The Notified Body INPP of Marseilles performs the strictest tests on regulators to certify they are compliant with the European Regulation EN250, granting the best and safest performance with binary (Heliox) and tertiary (Trimix) mixtures to a depths of 100 meters.

FIRST STAGE

SECOND STAGE

MR42^T

- Balanced diaphragm design
- 2 HP 7/16" UNF ports
- 4 LP 3/8" UNF ports

Proton Ice Extreme

MR32^T

- Balanced diaphragm design
- 2 HP 7/16" UNF ports
- 1 LP 1/2" UNF port (primary)
- 3 LP 3/8" UNF ports

Proton Metal • Proton Metal She Dives

MR22^T

- Balanced diaphragm design
- 2 HP 7/16" UNF ports
- 1 LP 1/2" UNF port (primary)
- 3 LP 3/8" UNF ports

Abyss

Prestige NTT

MR12^T

- Balanced diaphragm design
- 2 HP 7/16" UNF ports
- 4 LP 3/8" UNF ports

Prestige

R2

- Piston design
- 1 HP 7/16" UNF port
- 4 LP 3/8" UNF ports

Rebel

MR22^T NITROX

- Balanced diaphragm design
- 2 HP 7/16" UNF ports
- 1 LP 1/2" UNF port (primary)
- 3 LP 3/8" UNF ports

Abyss Nitrox

MR12^T NITROX

- Balanced diaphragm design
- 2 HP 7/16" UNF ports
- 4 LP 3/8" UNF ports

Rebel Nitrox

All Mares regulators are certified to meet the EC Mark requirements in compliance with Directive 89/686/EEC reference standard UNI-EN250

Proton Ice Extreme

inhal pressure = 11.47 mbar
 inhal pos pressure = 4.39 mbar
 exhale pressure = 6.82 mbar
 ext work of breathing = 0.71 J/l
 inhal work = 0.28 J/l
 pos inhal work = 0.06 J/l
 exhale work = 0.43 J/l

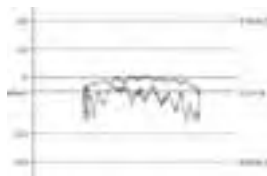
pressure - volume diagram at depth of:
 50.6 msw (166 fsw)



Proton 42 Metal / Proton 42 Metal She Dives

inhal pressure = 10.92 mbar
 inhal pos pressure = 2.87 mbar
 exhale pressure = 6.19 mbar
 ext work of breathing = 0.67 J/l
 inhal work = 0.27 J/l
 pos inhal work = 0.03 J/l
 exhale work = 0.40 J/l

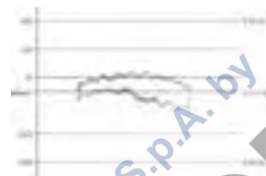
pressure - volume diagram at depth of:
 50.5 msw (166 fsw)



Abyss 42

inhal pressure = 7.64 mbar
 inhal pos pressure = 1.90 mbar
 exhale pressure = 10.56 mbar
 ext work of breathing = 0.90 J/l
 inhal work = 0.26 J/l
 pos inhal work = 0.02 J/l
 exhale work = 0.64 J/l

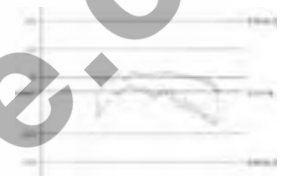
pressure - volume diagram at depth of:
 50.5 msw (166 fsw)



Abyss 22

inhal pressure = 9.85 mbar
 inhal pos pressure = 3.45 mbar
 exhale pressure = 9.06 mbar
 ext work of breathing = 0.92 J/l
 inhal work = 0.27 J/l
 pos inhal work = 0.02 J/l
 exhale work = 0.65 J/l

pressure - volume diagram at depth of:
 50.4 msw (165.5 fsw)



Prestige 32 NTT

inhal pressure = 9.50 mbar
 inhal pos pressure = 0.00 mbar
 exhale pressure = 9.08 mbar
 ext work of breathing = 1.05 J/l
 inhal work = 0.37 J/l
 pos inhal work = 0.00 J/l
 exhale work = 0.68 J/l

pressure - volume diagram at depth of:
 50.0 msw (164.1 fsw)



Prestige 12

inhal pressure = 10.64 mbar
 inhal pos pressure = 0.00 mbar
 exhale pressure = 9.61 mbar
 ext work of breathing = 1.13 J/l
 inhal work = 0.46 J/l
 pos inhal work = 0.00 J/l
 exhale work = 0.67 J/l

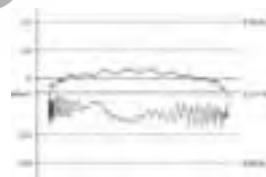
pressure - volume diagram at depth of:
 50.4 msw (165.5 fsw)



Rebel 12

inhal pressure = 11.36 mbar
 inhal pos pressure = 0.00 mbar
 exhale pressure = 8.89 mbar
 ext work of breathing = 1.26 J/l
 inhal work = 0.63 J/l
 pos inhal work = 0.00 J/l
 exhale work = 0.63 J/l

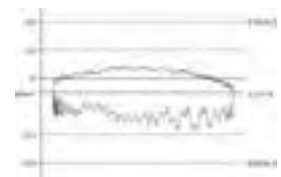
pressure - volume diagram at depth of:
 50.5 msw (166 fsw)



Rebel 2

inhal pressure = 14.23 mbar
 inhal pos pressure = 0.00 mbar
 exhale pressure = 8.40 mbar
 ext work of breathing = 1.44 J/l
 inhal work = 0.84 J/l
 pos inhal work = 0.00 J/l
 exhale work = 0.61 J/l

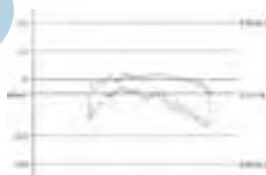
pressure - volume diagram at depth of:
 50.5 msw (166 fsw)



Abyss 22 Nitrox

inhal pressure = 9.85 mbar
 inhal pos pressure = 3.45 mbar
 exhale pressure = 9.06 mbar
 xt work of breathing = 0.92 J/l
 inhal work = 0.27 J/l
 pos inhal work = 0.02 J/l
 exhale work = 0.65 J/l

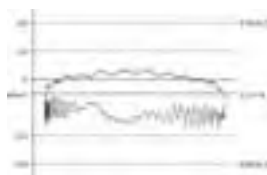
pressure - volume diagram at depth of:
 50.4 msw (165.5 fsw)



Rebel 12 Nitrox

inhal pressure = 11.36 mbar
 inhal pos pressure = 0.00 mbar
 exhale pressure = 8.89 mbar
 ext work of breathing = 1.26 J/l
 inhal work = 0.63 J/l
 pos inhal work = 0.00 J/l
 exhale work = 0.63 J/l

pressure - volume diagram at depth of:
 50.5 msw (166 fsw)



All Mares Nitrox regulators are tested in accordance with European standard EN13949.

All Mares Nitrox regulators are compatible with oxygen mixes up to 100% O₂ and they are equipped with a dedicated connection, in conformity with European standard EN144-3



| | | Proton Ice Extreme | Proton 42 Metal | Proton 42 Metal She Dives | Abyss 42 | Abyss 22 | Prestige 32 NTT | Prestige 12 | Rebel 12 | Rebel 2 |
|---------------------------|-------------------|--------------------|-----------------|---------------------------|----------|----------|-----------------|-------------|----------|---------|
| Code | | 416128 | 416106 | 416104 | 416133 | 416134 | 416142 | 416174 | 416201 | 416202 |
| First Stage | Diaphragm | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| | Piston | | | | | | | | | ▼ |
| Connection | INT | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| | DIN | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| | NX O ₂ | | | | | ▼ | | | | ▼ |
| Tri-material valve | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| All Metal technology | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| DFC | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| VAD | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| Mesh-Grid | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| Extreme Cold Water | | ▼ | | | | | | | | |
| NTT | | | | | | | ▼ | | | |
| Fluid Dynamic Deflector | | | | | | | | ▼ | | |
| NBS | | | | | | | | | | |
| INPP 100 mt Certification | | | | | | | | | | |
| First Stage Weight (gr) | INT | 904 | 646 | 646 | 646 | 1135 | 856 | 686 | 686 | 622 |
| | DIN | 710 | 452 | 452 | 452 | 947 | 656 | 693 | 693 | |
| | NX | | | | | 946 | | | 692 | |
| Second Stage Weight (gr) | | 244 | 243 | 243 | 263 | 263 | 251 | 198 | 200 | 200 |
| Second Stage Dimension | small | ▼ | ▼ | ▼ | | | | | | |
| | medium | | | | | | ▼ | ▼ | | |
| | large | | | | ▼ | ▼ | | | ▼ | ▼ |



| | | Octopus Proton Ice Extreme | Octopus Proton Metal | Octopus Abyss | Octopus Abyss Nitrox | Octopus Prestige | Octopus MV | Octopus Proton | Octopus Rebel | Octopus Rebel Nitrox |
|---------------------------|--------|----------------------------|----------------------|---------------|----------------------|------------------|------------|----------------|---------------|----------------------|
| Code | | 416512 | 416502 | 416504 | 416504NX | 416526 | 416523 | 416513 | 416534 | 416534 NX |
| NX (100% O ₂) | | | | | ▼ | | | | | ▼ |
| All Metal technology | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| VAD | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| Mesh-Grid | | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ | ▼ |
| Extreme Cold Water | | ▼ | | | | | | | | |
| Fluid Dynamic Deflector | | | | | | ▼ | | | | |
| NBS | | | | | | | ▼ | | | |
| Second Stage Weight (gr) | | 244 | 243 | 263 | 263 | 198 | 175 | 176 | 200 | 200 |
| Second Stage Dimension | small | ▼ | ▼ | | | | ▼ | ▼ | | |
| | medium | | | | | ▼ | | | | |
| | large | | | ▼ | ▼ | | | | ▼ | ▼ |