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## Ultraflow 501 Bandmask & Helmet

The Ultraflow Bandmasks & Helmets incorporate the Divex designed Ultraflow 501 Balanced Regulator onto a Kirby Morgan base unit.

The regulator is retrofittable with minor modification to the Kirby Morgan mask or helmet.

### HEAD OFFICE

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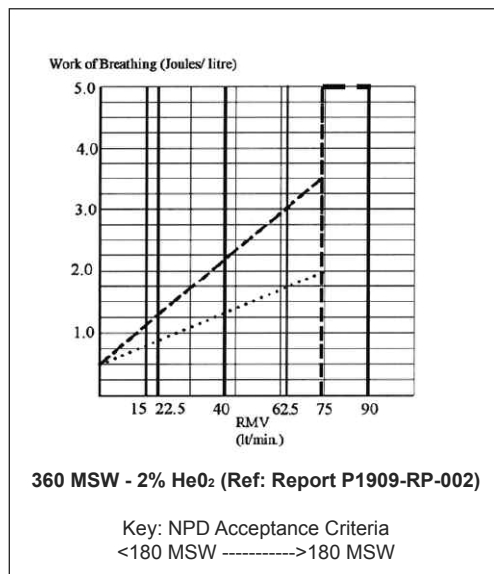
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The Ultraflow 501 ensures gas flow meets demand within the HSE/NPD Guidelines for Breathing Performance down to depths of 450msw. The performance is exceptional and is shown within the graph below.

The Ultraflow 501 Demand Kit, part no. B10390, comprises mainly a special bent tube assembly, balanced inlet valve assembly, tuned flow verified demand regulator body and a bias spring together with other unique peripheral components which make up the complete retrofit kit.

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The balanced demand regulator incorporates a specially designed and unique seat material that is robust, self-compensating, and avoids 'stiction' thereby enabling the valve to smoothly unseat at the start of inhalation.

The components of the inlet valve consist of a 316 stainless steel housing (inlet cap and adaptor), a brass seat retainer incorporating a specially developed valve seat material and the brass inlet valve stem which connects to the lever. In the closed position the supply pressure acts on both the valve area and the connecting balance piston.

The cylinder for the balance piston forms part of the seat retainer and the pressure is equalised via a small hole in the valve stem thus sensing the pressure in the regulator body.

The balance piston is slightly smaller in diameter than the valve and this tends to keep the valve firmly closed by supply pressure alone. As the diver inhales, this reduces the pressure in the regulator body which in turn reduces the closing balance force enabling the diaphragm acting on the roller lever to easily lift the valve off its seat.

Breathing trials have proven that no other regulator can regularly match its performance under 'real' conditions. Whereas this regulator was originally set up for heliox use, it has proven itself also in the air range.

At the end of the inhale cycle, the 'dial-a-breath' springs will reseat the valve and restore the seated configuration with supply pressure again holding the valve closed.

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**Note:** The 'dial-a-breath' adjustment is crucial to easy breathing. If it is over tightened, a large force will be required to lift the inlet valve, resulting in considerable effort on the part of the diver during inhalation. Similarly, if there are large gas supply pressure changes, the pre-load set by the 'dial-a-breath' must be altered.

Thus, changes in gas supply pressure over bottom, produced by either a change in the actual gas supply pressure or a change in the diver's depth, will require 'dial-a-breath' adjustment.

As the regulator inlet valve is balanced, the 'dial-a-breath' movement is minimal for small pressure changes compared to a standard DSI regulator.

Diving Depth MSW	Surface Supply Pressure (Bar)	
	300ft Umbilical	600ft Umbilical
10	10	10
20	10	10
30	10	10
40	11	12
50	13	14

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**Ultraflow 501 18B Bandmask Complete**

Order Code A10330

**Ultraflow 501 17B Helmet Complete**

Order Code A10320

**Ultraflow 501 17C Helmet Complete**

Order Code A10350

**Ultraflow Regulator Complete**

Order Code B10422

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