WHAT IS CLAIMED IS:

1. A valve useable in an undersea arrangement configured to generate force for closing a blowout preventer (BOP) based on a pressure difference between a low pressure recipient and ambient pressure, the valve comprising:

a valve body enclosing a chamber with an input port selectively connectable to an output port; and

a chamber separating assembly configured to separate the chamber from a region of different pressure, the assembly including:

a backup plate having a first portion of a first diameter towards the chamber and a second portion of a second diameter larger than the first diameter, towards the region; and

an upper seat located between the first portion of the backup plate and the valve body.

2. The valve of claim 1, further comprising a first additional seal located between the upper seat and the backup plate.

3. The valve of claim 1, further comprising a second additional seal between the backup plate and the valve body.

4. The valve of claim 1, wherein the input port is connected to a low pressure recipient storing fluid at a low pressure substantially smaller than an ambient pressure outside the chamber.

5. The valve of claim 3, wherein the low pressure is about 1 atm.

6. The valve of claim 1, wherein the backup plate is made of metallic material.

7. The valve of claim 1, wherein the upper seat is made of a plastic or pliable material.

8. An apparatus for generating a force for closing a blowup preventer (BOP) undersea, the force being generated due to a pressure difference between a hydrostatic pressure and a low pressure, the apparatus comprising:

a cylinder separated in two chambers by a piston connected to a rod configured to transmit the force generated due to a pressure imbalance between the two chambers, to the BOP;

a low pressure recipient; and

a valve configured to selectively enable a fluid communication between the low pressure recipient and one of the chambers of the cylinder, the valve having a valve body enclosing a chamber with an input port selectively connectable to an output port; and

a separating assembly configured to separate the chamber from a region of different pressure, the assembly including:

a backup plate having a first portion of a first diameter towards the chamber and a second portion of a second diameter larger than the first diameter, towards the region; and

an upper seat located between the first portion of the backup plate and the valve body.

9. The apparatus of claim 8, wherein the valve further comprises a first additional seal located between the upper seat and the backup plate.

10. The apparatus of claim 8, further comprising a second additional seal between the backup plate and the valve body.

11. The apparatus of claim 8, wherein the input port is connected to a low pressure recipient storing fluid at a low pressure substantially smaller than an ambient pressure outside the chamber.

12. The apparatus of claim 11, wherein the low pressure is about 1 atm.

13. The apparatus of claim 8, wherein the backup plate is made of metallic material.

14. The apparatus of claim 8, wherein the upper seat is made of a plastic or pliable material.

15. A method of retrofitting a sub plate mounted (SPM) valve to become capable to withstand a big pressure difference between a low pressure inside the valve and a hydrostatic pressure outside thereof, the method comprising;

removing a chamber separating assembly configured to separate a chamber inside a valve body, from a region of different pressure; and

mounting a new separating assembly configured to separate the chamber inside the valve body, from the region of different pressure, the new separating assembly including

a backup plate having a first portion of a first diameter towards the chamber and a second portion of a second diameter larger than the first diameter, towards the region; and

an upper seat located between the first portion of the backup plate and the valve body.

16. The method of claim 15, further comprising:

mounting a first additional seal located between the upper seat and the backup plate.

17. The method of claim 15, further comprising:

mounting a second additional seal between the backup plate and the valve body.

18. The method of claim 15, wherein a volume of the new chamber separating assembly is substantially equal to a volume of the chamber separating assembly that is removed.

19. The method of claim 15, wherein the backup plate is made of metallic material.

20. The method of claim 15, wherein the upper seat is made of plastic or pliable material.

CLAIMS

1. A valve useable in an undersea arrangement configured to generate force for closing a blowout preventer (BOP) based on a pressure difference between a low pressure recipient and ambient pressure, the valve comprising:

a valve body enclosing a chamber with an input port selectively connectable to an output port; and

a chamber separating assembly that defines a pressure barrier between the chamber and a region of different pressure, the assembly including:

a backup plate having a first portion disposed adjacent the chamber and a second portion having a diameter larger than a diameter of the first portion and that is disposed adjacent the region and on a side distal from the chamber; and

an annual upper seat circumscribing the first portion of the backup plate and circumscribed by the valve body.

2. The valve of claim 1, further comprising a first seal and a first additional seal located between the upper seat and the backup plate and a second seal and a second additional seal between the backup plate and the valve body.

3. The valve of claim 1, wherein the input port is connected to a low pressure recipient storing fluid at a low pressure substantially smaller than an ambient pressure outside the chamber.

4. The valve of claim 3, wherein the low pressure is about 1 atm.

5. The valve of claim 1, wherein the backup plate is made of metallic material.

6. The valve of claim 1, wherein the upper seat is made of a plastic or pliable material.

7. An apparatus for generating a force for closing a blowup preventer (BOP) undersea, the force being generated due to a pressure difference between a hydrostatic pressure and a low pressure, the apparatus comprising:

a cylinder separated in two chambers by a piston connected to a rod configured to transmit the force generated due to a pressure imbalance between the two chambers, to the BOP;

a low pressure recipient; and

a valve configured to selectively enable a fluid communication between the low pressure recipient and one of the chambers of the cylinder, the valve having a valve body enclosing a chamber with an input port selectively connectable to an output port; and

a separating assembly configured to separate the chamber from a region of different pressure, the assembly including:

a backup plate having a first portion facing the chamber and a second portion having a diameter larger than a diameter of the first portion, and facing towards the region; and

an annular upper seat circumscribing the first portion of the backup plate and circumscribed by the valve body.

8. The apparatus of claim 7, further comprising a first seal and a first additional seal located between the upper seat and the backup plate and a second seal and a second additional seal between the backup plate and the valve body.

9. The apparatus of claim 7, wherein the input port is connected to a low pressure recipient storing fluid at a low pressure substantially smaller than an ambient pressure outside the chamber.

10. The apparatus of claim 9, wherein the low pressure is about 1 atm.

11. The apparatus of claim 7, wherein the backup plate is made of metallic material.

12. The apparatus of claim 7, wherein the upper seat is made of a plastic or pliable material.