

Description

Background

The present invention relates to an improved connection for a blanking plug and bonnet to be used in being secured to a choke body so that they will not be a hazard while being removed from the choke body or when subjected to corrosive fluids.

Prior to the present invention chokes designed for use with corrosive fluids such as hydrogen sulphide have had threaded connections for connecting the blanking plug and the bonnet to the choke body. As these threads are subjected to the corrosive action of the fluids passing through the choke, the corrosive fluids have been found to attack the threaded connections between the body and each of the blanking plug and the bonnet.

Additionally, chokes have had a blanking plug connected into the choke body by the use of a securing ring or nut and have included a tapered sealing shoulder for engaging the tapered seat within the choke body. This structure is illustrated in the drawings (fig. 5) and described in the specification. The disadvantage of such structure is that if the securing ring or nut is unthreaded while there is pressure in the choke body, the blanking plug will be forcibly ejected from within the choke body.

The U. S. Patent No. 4,133,560 discloses a plug for connecting into a pressure container and the plug includes an outer flange and inner opposed projections which pass through recesses in the hole in the pressure container so that when the plug is rotated the projections and the flange engage opposite sides of the wall of the pressure contained. This structure is designed to protect the plug from releasing from the wall if the weld securing the plug to the container fails.

U.S. Patent No. 3,574,359 discloses a conduit coupling including a socket and a plug with the plug being fully inserted into the socket and detents in the socket held in place by a sleeve threaded to the exterior of the socket to retain the plug in its desired connected position.

U.S. Patent No. 4,249,670 discloses a cap for connection to a pressure tank and having a pressure venting means which allows tank pressure to be vented prior to unlocking and removing the cap. The cap assembly includes an internal tubular member threaded onto a tube connecting to the pressure tank and a cap surrounding the tubular member and having a J slot and pin type of connection therebetween. The cap is biased in a direction to maintain its connection to the tubular and at a position in which there is a seal between the exterior of the tubular member and the interior of the cap. The cap includes an inner groove which when opposite the seal allows venting of the pressure from the interior of the tubular member.

Some companies have in the past provided fit-

tings and joints which involve the inclusion of a plug held within the passage by a gland nut and a vent port which allows the venting of any fluid under pressure to which the plug is exposed prior to the completion of the unthreading of the gland nut.

An object of the present invention is to provide an improved connection for securing a body to a structure containing corrosive fluids under pressure in which the connection can allow vent of trapped pressure but without releasing the plug even when the nut holding the plug is released.

This object is achieved according to the present invention with an apparatus for connecting into the opening of a tubular member as claimed in claim 1.

The present invention is directed to an improved connection to a choke body or other type of valve body which protects the connection against release even when subjected to severely corrosive fluids. The connection is secured into an opening in a choke body and includes the element which is to be secured to the body, a nut which is threaded to the exterior of the body around the opening into the body, external flange on the element to be engaged by the nut, sealing means between the inner exterior of the element and the interior of the body opening, a plurality of pins and a slotted rib providing a safety connection between the element and the body and means for controlling the relative rotary positioning of the element within the body opening to assist in the proper positioning of the pins and slotted rib safety connection.

The invention will be described now by way of example only, with particular reference to the accompanying drawings. In the drawings:

FIGURE 1 is a sectional view of a portion of the body of a choke adapted to use a flow bean for its flow restriction and illustrating the improved connection of a blanking plug into the choke body.

FIGURE 2 is a view of the blanking plug shown in FIGURE 1 with a portion of the plug being shown in section and the other portion being shown in elevation.

FIGURE 3 is a sectional view taken along line 3-3 in FIGURE 1 to show the relative position of the choke body and the blanking plug which form the improved connection of the present invention.

FIGURE 4 is a sectional view similar to FIGURE 1 but with the blanking plug moved to its pressure relieving position.

FIGURE 5 is a sectional view of a prior art choke having a flow bean mounted in one of its body passages and a blanking plug secured in another of its body passages.

Description of the Preferred Embodiment

Choke C of the prior art as illustrated in FIGURE 5 includes the body B having passages P1, P2 and P3. Flow bean FB is threaded into passage P1 and

blanking plug BP is positioned in passage P2. Tapered seat S1 is provided near the inner end of passage P2 and blanking plug BP includes seal S on its tapered inner shoulder S2 which sealingly engages tapered seat S1. Threaded securing ring or nut N engages external threads T on the exterior of body B surrounding passage P2 to retain blanking plug BP within passage P2. Nut N is held in position around blanking plug BP between snap ring SR and outer flange OF on blanking plug BP. If nut N is unthreaded while there is pressure within choke body B, the pressure may forcibly eject blanking plug BP out of passage P2. Nut N includes the provision of an opening or port O through which some bleeding of the pressure may occur during the unthreading after seal S disengages from tapered seat S1.

In the improved structure of the present invention, choke body 10 is partially shown in Figures 1 and 4 and includes internal passages 12, 14 and 16 which all intersect within body 10 as shown. Passage 16 is closed by blanking plug 18 which is used for this function in those chokes in which the flow restriction is provided by a flow bean (not shown) or other restriction mounted in one of the other passages 12 or 14. In the event that a variable choke is to be provided then a bonnet (not shown) which would carry the movable plug or needle which coacts with a seat to restrict flow through the passages is secured to body 10 and extends into passage 16 in the same manner as blanking plug 18. In such structure the bonnet would be constructed similarly to blanking plug 18 to embody the improved connection of the present invention for its connection into the choke body 10.

Passage 16 includes annular sealing surface 20 extending from the intersection of passage 16 with passage 14 and annular recess 22 extending from the outer end of surface 20 to inwardly directed lip 24. Three slots 26 are provided in lip 24 as best seen in FIGURE 3 for the purpose hereinafter explained.

Blanking plug 18 includes body 28 having bore 30 extending therethrough from its inner end 32 and ending in counterbore 34 which is threaded to receive threaded sealing plug 36. Groove 38 extends around the exterior of body 28 near its inner end 32 and receives seal ring 40 which seals against sealing surface 20 when plug is in its sealing position as shown in FIGURE 1. A plurality of pins 42 are secured to body 28 in a position spaced around body 28 as can be seen in FIGURES 2 and 3. Orienting pin 44 is secure in body 28 at a position to engage within orienting slot 46 as shown in FIGURE 3. Flange 48 extends outwardly from plug body 28 at a position slightly outward or away from inner end 32. Securing ring 50 is supported around the exterior of plug body 28 between the outer side of flange 48 and the inner side of split ring 52 which is positioned in groove 54 around body 28 near outer end 56 of body 28. Securing ring 50 includes inwardly extending flange 58 which is secured

between flange 48 and split ring 52 and inner threads 60 engage and coact with external threads 62 on body 10 surrounding the outer end of passage 16.

Blanking plug 18 is initially provided with securing ring 50 and when it is secured in place by split ring 52, plug 18 is inserted into passage 16 with pins 42 positioned to pass through slots 26 and thereafter plug 28 is rotated to position orienting pin 44 for entry into orienting slot 46 in lip 24. This rotation moves pins 42 out of alignment with slots 26. With plug 18 position as described, securing ring 50 is threaded inward to move pins 42 against shoulder 64 at the inner end of recess 22 and flange 48 against the exterior of body 10 surrounding the outer end of passage 16.

With the improved present invention installed as shown it will hold pressure within choke body 10 and in the event it is to be removed it can be released by unthreading securing ring 50 until seal ring 40 is within recess 22 and no longer in sealing engagement with sealing surface 20. This is the position illustrated in FIGURE 4 and in this position of blanking plug 18, pressure is vented from the interior of choke body 10 without any danger that plug 18 will be ejected by the pressure contained in choke body 10. The pressure fluid is exhausted from the interior of securing ring 50 through port 66 which extends through securing ring 50. When the pressure fluid has been completely exhausted, securing ring 50 can be further unthreaded to allow plug 18 to be completely withdrawn from the interior of passage 16.

Claims

1. An apparatus for connecting into the passage (16) of a tubular member (10) in the form of a choke body or other type of valve body having external threads (62) around a portion of the exterior of said member (10), an internal sealing surface (20) and a recess (22) terminating at the outer end of the passage in a slotted inwardly extending lip (24), said apparatus comprising:
 - a body (18,28) adapted to fit within said passage (16) of said member (10),
 - a securing ring (50) positioned to engage said body (18) and said tubular member (10), and operable to move said body (28) into its secured position within said passage (16), and means (40) for sealing between the exterior of said body and the internal sealing surface (20) when said body (28) is positioned in said passage with said sealing means (40) engaging between the exterior of said body and the internal sealing surface (20) of said passage so that the body (18) and said sealing means (40) close and seal said passage (10), and characterised by, means (42, 24, 26) for allowing limited outward movement of said body (18) when said securing ring (50) relaxes its



blanking plug BP is positioned in passage P2. Tapered seat S1 is provided near the inner end of passage P2 and blanking plug BP includes seal S on its tapered inner shoulder S2 which sealingly engages tapered seat S1. Threaded securing ring or nut N engages external threads T on the exterior of body B surrounding passage P2 to retain blanking plug BP within passage P2. Nut N is held in position around blanking plug BP between snap ring SR and outer flange OF on blanking plug BP. If nut N is unthreaded while there is pressure within choke body B, the pressure may forcibly eject blanking plug BP out of passage P2. Nut N includes the provision of an opening or port O through which some bleeding of the pressure may occur during the unthreading after seal S disengages from tapered seat S1.

In the improved structure of the present invention, choke body 10 is partially shown in Figures 1 and 4 and includes internal passages 12, 14 and 16 which all intersect within body 10 as shown. Passage 16 is closed by blanking plug 18 which is used for this function in those chokes in which the flow restriction is provided by a flow bean (not shown) or other restriction mounted in one of the other passages 12 or 14. In the event that a variable choke is to be provided then a bonnet (not shown) which would carry the movable plug or needle which coacts with a seat to restrict flow through the passages is secured to body 10 and extends into passage 16 in the same manner as blanking plug 18. In such structure the bonnet would be constructed similarly to blanking plug 18 to embody the improved connection of the present invention for its connection into the choke body 10.

Passage 16 includes annular sealing surface 20 extending from the intersection of passage 16 with passage 14 and annular recess 22 extending from the outer end of surface 20 to inwardly directed lip 24. Three slots 26 are provided in lip 24 as best seen in FIGURE 3 for the purpose hereinafter explained.

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between flange 48 and split ring 52 and inner threads 60 engage and coact with external threads 62 on body 10 surrounding the outer end of passage 16.

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With the improved present invention installed as shown it will hold pressure within choke body 10 and in the event it is to be removed it can be released by unthreading securing ring 50 until seal ring 40 is within recess 22 and no longer in sealing engagement with sealing surface 20. This is the position illustrated in FIGURE 4 and in this position of blanking plug 18, pressure is vented from the interior of choke body 10 without any danger that plug 18 will be ejected by the pressure contained in choke body 10. The pressure fluid is exhausted from the interior of securing ring 50 through port 66 which extends through securing ring 50. When the pressure fluid has been completely exhausted, securing ring 50 can be further unthreaded to allow plug 18 to be completely withdrawn from the interior of passage 16.

Claims

1. An apparatus for connecting into the passage (16) of a tubular member (10) in the form of a choke body or other type of valve body having external threads (62) around a portion of the exterior of said member (10), an internal sealing surface (20) and a recess (22) terminating at the outer end of the passage in a slotted inwardly extending lip (24), said apparatus comprising:
 - a body (18,28) adapted to fit within said passage (16) of said member (10),
 - a securing ring (50) positioned to engage said body (18) and said tubular member (10), and operable to move said body (28) into its secured position within said passage (16), and means (40) for sealing between the exterior of said body and the internal sealing surface (20) when said body (28) is positioned in said passage with said sealing means (40) engaging between the exterior of said body and the internal sealing surface (20) of said passage so that the body (18) and said sealing means (40) close and seal said passage (10), and characterised by, means (42, 24, 26) for allowing limited outward movement of said body (18) when said securing ring (50) relaxes its



securing of the body (18) within said passage (16) which limited outward movement is sufficient to disengage said sealing means (40, 38), and

orienting means (44, 26) in the form of an interengageable pin and slot (44, 46) cooperating with said movement limiting means (42, 24, 26) to prevent discharge of said body (18) from said passage (16) prior to said limited outward movement of said body (18) disengaging said sealing means (40) from said passage (16).

2. An apparatus according to claim 1 including:

a port (66) extending through said securing ring (50), said port enabling the discharge of pressure fluid from within said passage (16) when said securing ring (50) is relaxed sufficiently to disengage said sealing means (40, 38) without the discharge of said body (18) from said passage (16).

3. An apparatus according to claim 1 or claim 2, wherein said limiting means (42, 24, 26) comprises an inwardly extending lip (24) at the end of said passage (16), said lip (24) having a plurality of slots (26) therethrough, and

a plurality of pins (42) extending radially outward from said body (18) said pins (42) when aligned with said slots (26) being able to pass therethrough, and when said body (18) is rotated, said pins (42) engage said lip (24) and prevent discharge of said body (18) from said passage (16),

said pins (42) being spaced axially inward of said lip (24) when said sealing means (40, 38) is in its sealing position to allow said body (18) a limited amount of movement axially in said passage (16) with the relaxation of said securing ring (50)

4. An apparatus according to claim 3, wherein

each pin (42) has an external diameter which is smaller than the internal diameter of said choke body body recess (22) and is larger than the internal diameter of said choke body lip (24), and said orienting means comprises:

means (44) on said body (18) for coaxing with said tubular member lip (24) to position said body pins (42) out of alignment with said slots (26), the arrangement being such that engagement of said pins (42) with said lip (24) on unthreading of said securing ring (50) sufficient to move said pins (42) into engagement with said lip (24) moves said sealing means (40, 38) out of sealing engagement between said body (18) and said tubular body sealing surface (20) and prevents release of said body (18) until it is positively rotated to align said pins (42) with said slots (26).

5. An apparatus according to claim 4, wherein

means (52, 54) are provided for securing said securing ring (50) in position surrounding said body (18) and allowing rotation of said ring (50) independent of rotation of said body (18),

the distance of said plurality of pins (42) from said lip (24) when installed being greater than the distance of said sealing means (40, 38) from the recess (22) so that partial relaxation of said securing ring (50) allows said body to be moved outward to a position with said pins (42) engaging said lip (24) to vent pressure fluids from said choke body (10) past said sealing means (40, 38) and through said securing ring port (66).

6. An apparatus according to claim 3, wherein said orienting means comprises

a pin (44) extending radially outward from said body (18),

said pin (44) being positioned such that when the securing ring has moved the body to its secured position the pin (44) is located within one of said slots (46) to prevent rotation of said body (18), when said sealing means (40, 18) is engaged, and

said pin (44) is spaced circumferentially to maintain said plurality of pins (42) out of alignment with said slots (26) when said securing ring (50) is released.

Patentansprüche

1. Verbindungsvorrichtung in der Öffnung eines röhrenförmigen Körpers (10) in Form eines Drosselkörpers oder eines anderen Ventiltyps mit einem Außengewinde (62) um einen Außenabschnitt des Körpers (10), einer inneren Dichtungsfläche (20) und einer Ausspannung (22), die am äußeren Ende der Öffnung in einer geschlitzten, nach innen gerichteten Lippe (24) endet, wobei die Vorrichtung gebildet ist durch einen Körper (18, 28), der so angepaßt ist, daß er in die Öffnung (16) des Körpers (10) paßt, einen Sicherungsring (50), der so angeordnet ist, daß er in den Körper (18) und den röhrenförmigen Körper (10) eingreift und nutzbar ist, um den Körper (28) in seine gesicherte Position innerhalb der Öffnung (16) zu bewegen, und einer Einrichtung (40) zur Abdichtung zwischen der Außenfläche des Körpers und der inneren Dichtungsfläche (20), wenn der Körper (28) mit der Dichtungseinrichtung (40) in der Öffnung unter Anliegen zwischen der Außenfläche des Körpers und der inneren Dichtungsfläche (20) der Öffnung angeordnet ist, so daß der Körper (18) und die Dichtungseinrichtung (40) die Öffnung (10) verschließen und abdichten, gekennzeichnet



- durch eine Einrichtung (42, 24, 26), die eine begrenzte, nach außen gerichtete Bewegung des Körpers (18) zuläßt, wenn der Sicherungsring (50) seine Sicherung des Körpers (18) innerhalb der Öffnung (16) lockert, wobei die begrenzte, nach außen gerichtete Bewegung genügt, um die Dichtungseinrichtung (40, 38) zu lösen, und eine Ausrichteinrichtung (40, 26) in Form eines in einen Schlitz (44) eingreifenden Stiftes (46), die mit der die Bewegung begrenzenden Einrichtung (42, 24, 26) zusammenwirkt, um das Entfernen des Körpers (18) von der Öffnung (16) zu verhindern, bevor die begrenzte, nach außen gerichtete Bewegung des Körpers (18) die Dichtungseinrichtung (40) von der Öffnung (16) löst.
2. Vorrichtung nach Anspruch 1, **gekennzeichnet durch** eine Öffnung (66) durch den Sicherungsring (50), die das ausströmen von innerhalb der Öffnung (16) befindlichen Druckfluides ermöglicht, wenn der Sicherungsring (50) genügend gelockert ist, um die Dichtungseinrichtung (40, 38) zu lösen, ohne daß der Körper (18) von der Öffnung (16) entfernt wird.
3. Vorrichtung nach Anspruch 1 oder 2, **gekennzeichnet durch** eine Begrenzungseinrichtung (42, 24, 26), die am Ende der Öffnung (16) eine nach innen gerichtete Lippe (24) aufweist, durch die eine Vielzahl von Schlitzen (26) verläuft, sowie eine Vielzahl von Bolzen (42), die sich vom Körper (18) radial nach außen erstrecken, wobei die Bolzen (42), wenn sie mit den Schlitzen (26) ausgerichtet sind, durch diese hindurchtreten können, und, wenn der Körper (18) gedreht wird, die Bolzen (42) in die Lippe (24) eingreifen und die Entfernung des Körpers (18) von der Öffnung (16) verhindern, wobei die Bolzen (42) axial nach innen von der Lippe (24) beabstandet sind, wenn die Dichtungseinrichtung (40, 38) sich in dichtender Position befindet, um den Körper (18) ein begrenztes Maß axialer Bewegung in der Öffnung (16) mit der Lockerung des Sicherungsringes (50) zu ermöglichen.
4. Vorrichtung nach Anspruch 3, **dadurch gekennzeichnet, daß** jeder Bolzen (42) einen Außendurchmesser aufweist, der kleiner als der Innendurchmesser der Drosselkörperrnut (22) und größer als der Innendurchmesser der Drosselkörperlippe (24) ist, und daß die Führungseinrichtung umfaßt: eine Einrichtung (44) am Körper (18) zum Zusammenwirken mit der Lippe (24) des röhrenförmigen Körpers, um die Körperbolzen (42), die unausgerichtet zu den Schlitzen (26) sind, zu positionieren, wobei die Anordnung so ist, daß der Eingriff der Bolzen (42) in die Lippe (24) bei Lockerung des Sicherungsringes (50) genügt, um die Bolzen (42) in Eingriff mit der Lippe (24) zu bewegen, was die Dichtungseinrichtung (40, 38) aus ihrer Dichtungsstellung zwischen dem Körper (18) und der Dichtungsfläche (20) des röhrenförmigen Körpers verschiebt und die Freigabe des Körpers (18) verhindert, bis dieser sicher verdreht wurde, um die Bolzen (42) mit den Schlitzen (26) auszurichten.
5. Vorrichtung nach Anspruch 4, **dadurch gekennzeichnet, daß** Teile (52, 54) zum Befestigen des Sicherungsringes (50) in einer den Körper (18) umgebenden Position vorgesehen sind, die das Drehen des Ringes (50) unabhängig vom Drehen des Körpers (18) gestatten, wobei der Abstand der Vielzahl von Bolzen (42) von der Lippe (24) beim Einbau größer ist als der Abstand der Dichtungseinrichtung (40, 38) von der Nut (22), so daß die teilweise Lösung des Sicherungsringes (50) es dem Körper ermöglicht, nach außen in eine Position bewegt zu werden, bei der die Bolzen (42) in Eingriff mit der Lippe (24) kommen, um das Druckfluid aus dem Drosselkörper (10) vorbei an der Dichtungseinrichtung (40, 38) und durch die Öffnung (66) des Sicherungsringes ausströmen zu lassen.
6. Vorrichtung nach Anspruch 3, **dadurch gekennzeichnet, daß** die Führungseinrichtung umfaßt: einen Bolzen (44), der aus dem Körper (18) radial nach außen ragt, wobei der Bolzen (44) so positioniert ist, daß, wenn der Sicherungsring den Körper in seine gesicherte Position bewegt hat, der Bolzen (44) sich innerhalb eines der Schlitzes (46) befindet, um eine Drehung des Körpers (18) zu verhindern, wenn die Dichtungseinrichtung (40, 38) sich in Dichtungsstellung befindet und der Bolzen (44) peripher beabstandet angeordnet ist, um die Vielzahl von Bolzen (42) unausgerichtet zu den Schlitzen (26) zu halten, wenn der Sicherungsring (50) freigegeben ist.

Revendications

1. Dispositif à fixation dans le passage (16) d'une pièce tubulaire (10) se présentant sous la forme d'un corps d'étranglement, ou autre type de corps de valve, qui comporte un filetage extérieur (62), s'étendant tout autour d'une partie de la surface extérieure de la pièce (10), une surface intérieure d'étanchéité (20) et un évidement (22) qui se termine à l'extrémité extérieure du passage par une



- nervure (24) à encoches qui s'étend vers l'intérieur, le dispositif comprenant un corps (18, 28), agencé de façon à s'emboîter dans le passage (16) de la pièce (10), une bague de fixation (50), disposée de façon à venir en prise sur le corps (18) et sur la pièce tubulaire (10) et agencée de façon à pouvoir être actionnée en vue de déplacer le corps (28) dans sa position immobilisée à l'intérieur du passage (16), et des moyens (40) permettant d'assurer l'étanchéité entre la surface extérieure du corps et la surface intérieure d'étanchéité (20) lorsque le corps (28) est positionné dans le passage de façon que les moyens d'étanchéité (40) soient en contact entre la surface extérieure du corps et la surface intérieure d'étanchéité (20) du passage, de manière que le corps (18) et les moyens d'étanchéité (40) ferment d'une manière étanche le passage (10),
- caractérisé en ce qu'il comprend des moyens (42, 24, 26) permettant un déplacement limité du corps (18) vers l'extérieur lorsque la bague de fixation (50) relâche son action de fixation du corps (18) dans le passage (16), ce déplacement limité vers l'extérieur étant suffisant pour faire quitter leur contact aux moyens d'étanchéité (40, 38), et des moyens d'orientation (44, 46) se présentant sous la forme d'un ergot et une encoche (44, 46) agencés de façon à pouvoir s'engager l'un dans l'autre et coopérant avec les moyens de limitation de déplacement (42, 24, 26) en vue d'empêcher le corps (18) de sortir du passage (16) avant que ledit déplacement limité du corps (18) vers l'extérieur ait fait quitter aux moyens d'étanchéité (40) le passage (16).
2. Dispositif suivant la revendication 1, comprenant un orifice (66) qui traverse la bague de fixation (50) et qui permet l'évacuation d'un fluide sous pression à partir de l'intérieur du passage (16) lorsque la bague de fixation (50) est desserrée suffisamment pour mettre hors de contact les moyens d'étanchéité (40, 38), sans que le corps (18) soit sorti du passage (16).
 3. Dispositif suivant l'une des revendications 1 et 2, dans lequel les moyens de limitation (42, 24, 26) comprennent une nervure s'étendant vers l'intérieur (24) à l'extrémité du passage (16), la nervure (24) étant traversée par plusieurs encoches (26), et plusieurs ergots (42) s'étendant radialement vers l'extérieur à partir du corps (18), ces ergots (42) pouvant traverser les encoches (26) lorsqu'ils sont dans l'alignement de ces dernières, tandis que, lorsqu'on fait tourner le corps (18), les ergots (42) viennent en prise sur la nervure (24) et empêchent le corps (18) de sortir du passage (16), les ergots (42) étant espacés axialement de la nervure (24) vers l'intérieur lorsque les moyens d'étanchéité (40, 38) sont dans leur position d'étanchéité, de façon à permettre au corps (18) une valeur limitée de déplacement dans le sens axial dans le passage (16) lorsque la bague de fixation (50) est desserrée.
 4. Dispositif suivant la revendication 3, dans lequel chaque ergot (42) a un diamètre extérieur qui est inférieur au diamètre intérieur de l'évidement (22) du corps d'étranglement et est supérieur au diamètre intérieur de la nervure (24) du corps d'étranglement, tandis que les moyens d'orientation comprennent des moyens (44) disposés sur le corps (18) et destinés à coopérer avec la nervure (24) de la pièce tubulaire en vue de positionner les ergots (42) du corps en dehors de l'alignement des encoches (26), l'agencement étant tel que la venue en contact des ergots (42) avec la nervure (24), lors d'un dévissage de la bague de fixation (50) qui est suffisant pour déplacer les ergots (42) au contact de la nervure (24), fait quitter aux moyens d'étanchéité (40, 38) leur contact d'étanchéité entre le corps (18) et la surface d'étanchéité (20) de la pièce tubulaire et empêche une sortie du corps (18) tant qu'on ne l'a pas fait tourner d'une manière active de façon à placer les ergots (42) dans l'alignement des encoches (26).
 5. Dispositif suivant la revendication 4, dans lequel des moyens (52, 54) sont prévus pour immobiliser la bague de fixation (50) dans une position dans laquelle elle entoure le corps (18) et pour permettre une rotation de cette bague (50) d'une manière indépendante de la rotation du corps (18), la distance séparant les multiples ergots (42) de la nervure (24) lorsque le dispositif est mis en place étant supérieure à la distance séparant les moyens d'étanchéité (40, 38) de l'évidement (22), de sorte qu'un desserrage partiel de la bague de fixation (50) permet au corps d'être déplacé vers l'extérieur jusqu'à une position dans laquelle les ergots (42) sont au contact de la nervure (24), en permettant une mise à l'air du fluide sous pression à partir du corps d'étranglement (10) en passant devant les moyens d'étanchéité (40, 38) et par l'orifice (66) de la bague de fixation.
 6. Dispositif suivant la revendication 3, dans lequel les moyens d'orientation comprennent un ergot (44) qui s'étend radialement vers l'extérieur à partir du corps (18), cet ergot (44) étant positionné de façon telle que, lorsque la bague de fixation a déplacé le corps jusqu'à sa position d'immobilisation, l'ergot (44) est placé dans l'une des encoches (46) de façon à empêcher une rotation du corps (18), lorsque les moyens d'étanchéité (40,

18) sont en contact, tandis que l'ergot (44) est espacé dans le sens circonférentiel de façon à maintenir les multiples ergots (42) hors de l'alignement des encoches (26) lorsque la bague de fixation (50) est desserrée.

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