



**Cressi-sub**  
Regulators repair and maintenance

## 1st stage AC2



**AC2 INT HZ 780097  
AC2 DIN 200 bar HZ 780096  
AC2 DIN 300 bar HZ 780098**



**Cressi-sub**  
Regulators repair and maintenance

## 1st stage AC2

### WARNING !

- This document is intended for experienced technical personnel who have already attended a Cressi-sub training course on equipment repair and maintenance.
- We decline any responsibility for any maintenance and/or repair operation carried out by unauthorized personnel.
- Avoid carrying out maintenance and repair operations on the equipment without the correct training required.
- Should the information reported in this manual be unclear or not fully understandable, please contact Cressi-sub before carrying out any disassembling or maintenance operation.
- Before carrying out any operation, Cressi-sub recommend to read this manual carefully in order to get to know thoroughly all necessary tools and techniques to carry out a correct maintenance and repair of the equipment.



## WARNING !

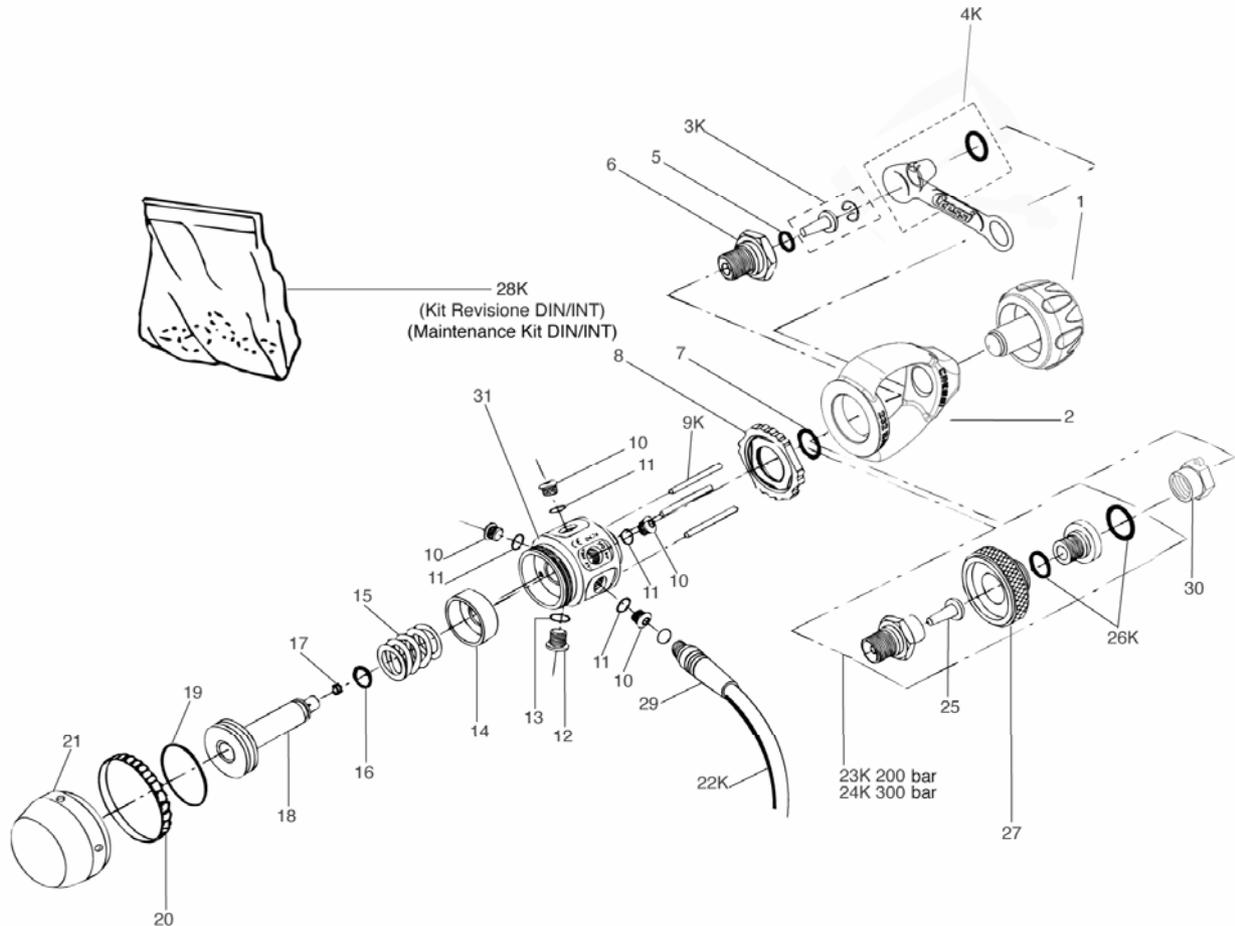
- Before any operation, Cressi-sub recommend to read carefully the present document in order to get to know thoroughly all necessary tools and techniques to carry out a correct maintenance and repair of the equipment.
- Use this document during every phase of the equipment maintenance and repair, in order not to leave out any sequence. On the contrary, bad working or even accidents might occur.
- Pay particular attention to the advices written on the sides of the pictures representing the different phases of maintenance and repair, in order to avoid any possible problem that might cause accidents.
- All operations described in this manual are relating and destined *only* to disassembling, maintenance and assembly of equipments to be used with air (21% oxygen, 79% nitrogen).



# Cressi-sub

Regulators repair and maintenance

## 1st stage AC2: spare parts



POS.	CODICE / CODE
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1	HZ 730027
2	HZ 700089
3K	HZ 730188
4K	HZ 800090
5	HZ 730114
6	HZ 730151
7	HZ 735126
8	HZ 730152
9K	HZ 730153
10	HZ 730106
11	HZ 730108
12	HZ 730127
13	HZ 730132
14	HZ 730154
15	HZ 730105
16	HZ 730104
17	HZ 730155
18	HZ 730156
19	HZ 735108
20	HZ 730157
21	HZ 730158
22K	HZ 730222 Nero
22K	HZ 730225 Giallo
23K	HZ 735158 (DIN 200 bar)
24K	HZ 735157 (DIN 300 bar)
25	HZ 735154
26K	HZ 735195 200 bar
26K	HZ 735196 300 bar
27	HZ 730159
28K	HZ 730150 INT (kit Revisione/Maintenance Kit)
28K	HZ 730148 DIN 200 bar (kit Revisione/Maintenance Kit)
28K	HZ 730149 DIN 300 bar (kit Revisione/Maintenance Kit)
29	HZ 730224
30	HZ 735170 (TAPPO PROTEZIONE DIN)
31	HZ 730160

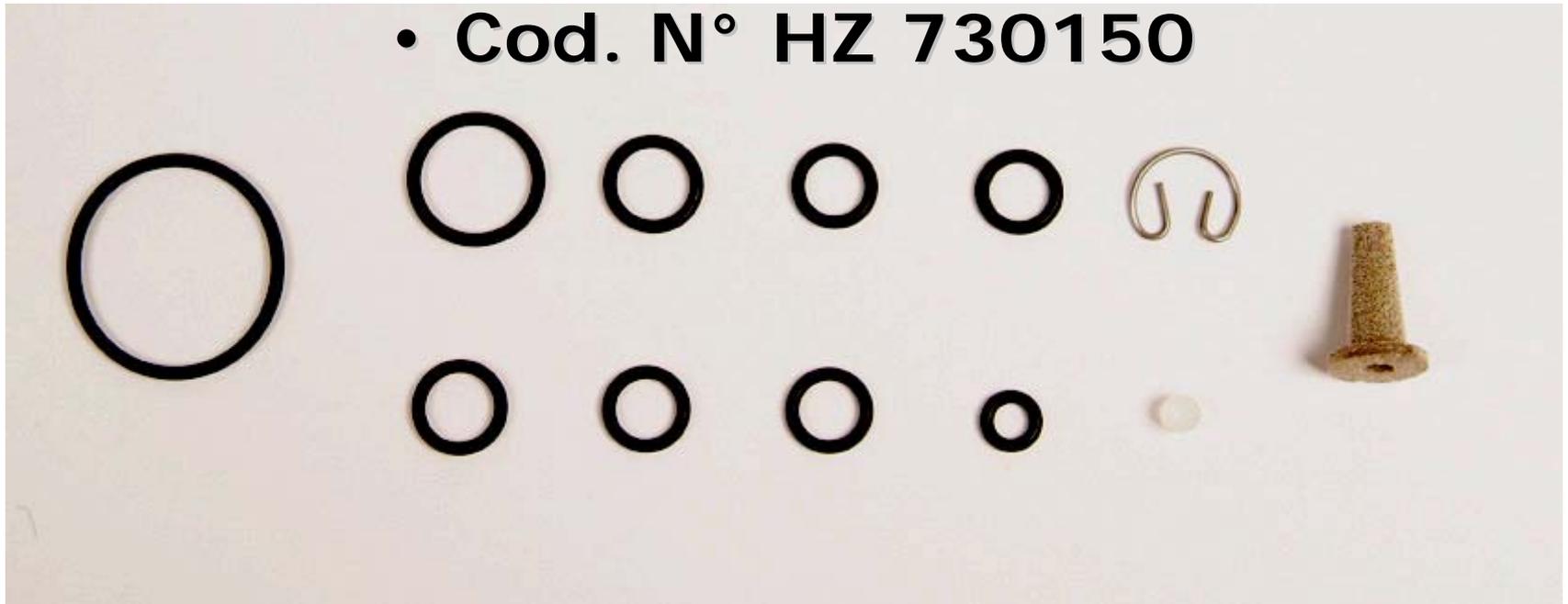
1° Stadio a Pistone non Bilanciato AC2 / Unbalanced Piston 1st Stage AC2

Ed./Issue	AC2/2
A/07	N° Tav./Rev.



- **Kit AC2 Int Yearly maintenance**

- **Cod. N° HZ 730150**

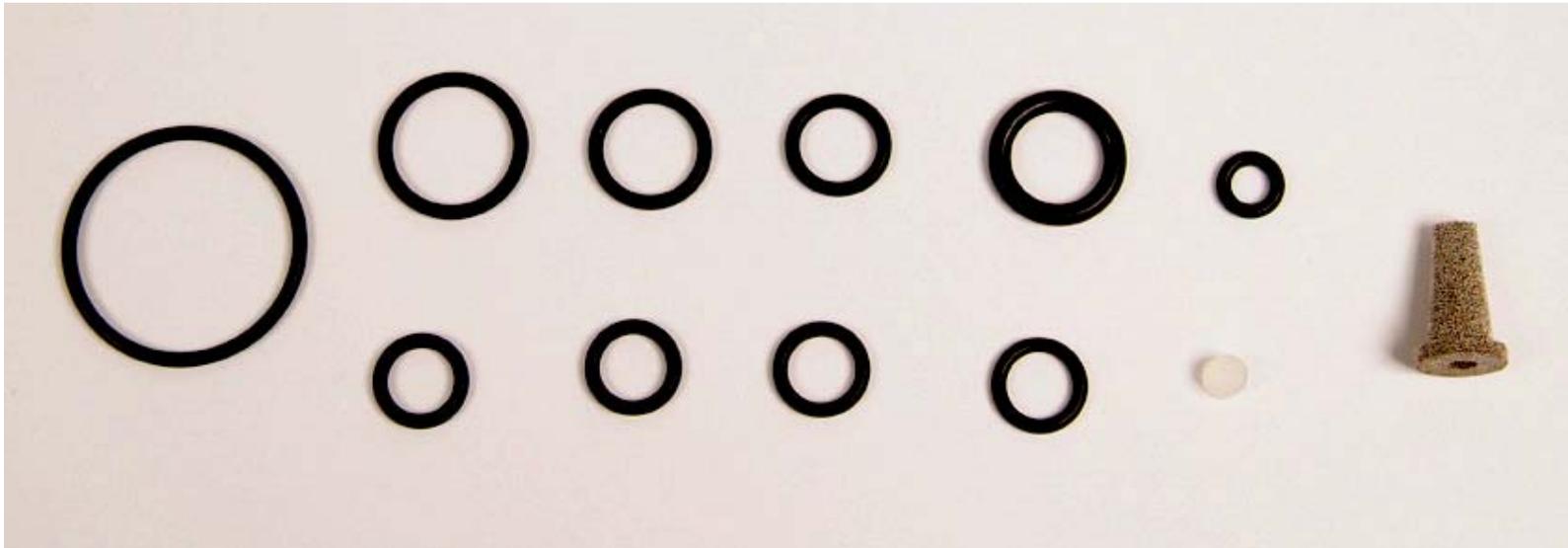


- **Use only original Cressi-sub spare parts**

• **Note: a full maintenance of the regulator at least once a year or more in case of intensive use is recommended.**



- **Kit AC2 DIN (200 – 300 bar)**
  - **Yearly maintenance**
  - **Cod. N° HZ 730148/49**



- **Use only original Cressi-sub spare parts**

• **Note: a full maintenance of the regulator at least once a year or more in case of intensive use is recommended.**



- **Yearly maintenance**

- Before any operation, Cressi-sub recommend to read carefully the present document in order to get to know thoroughly all necessary tools and techniques to carry out a correct maintenance and repair of the equipment.
- The required tools to carry out the maintenance are described in a section of this manual.
- Pay particular attention to the advices written on the sides of the pictures representing the different phases of maintenance and repair, in order to avoid any possible problem that might cause accidents.



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Regulators repair and maintenance

## 1st stage AC2

- **Yearly maintenance**

- Grease all new OR with a thin silicone film: this will reduce to the minimum the risk of damage during the assembly phases.
- You may grease the first two turns of the metal threads.
- All operations described in this manual are relating and destined *only* to disassembling, maintenance and assembly of equipments to be used with air (21% oxygen, 79% nitrogen).

- **Use only original Cressi-sub spare parts**



- Remove the bracket, after inserting the threaded tool in one of the regulator's ports. Tighten the bar in a vice and unscrew the nut using a big adjustable spanner.





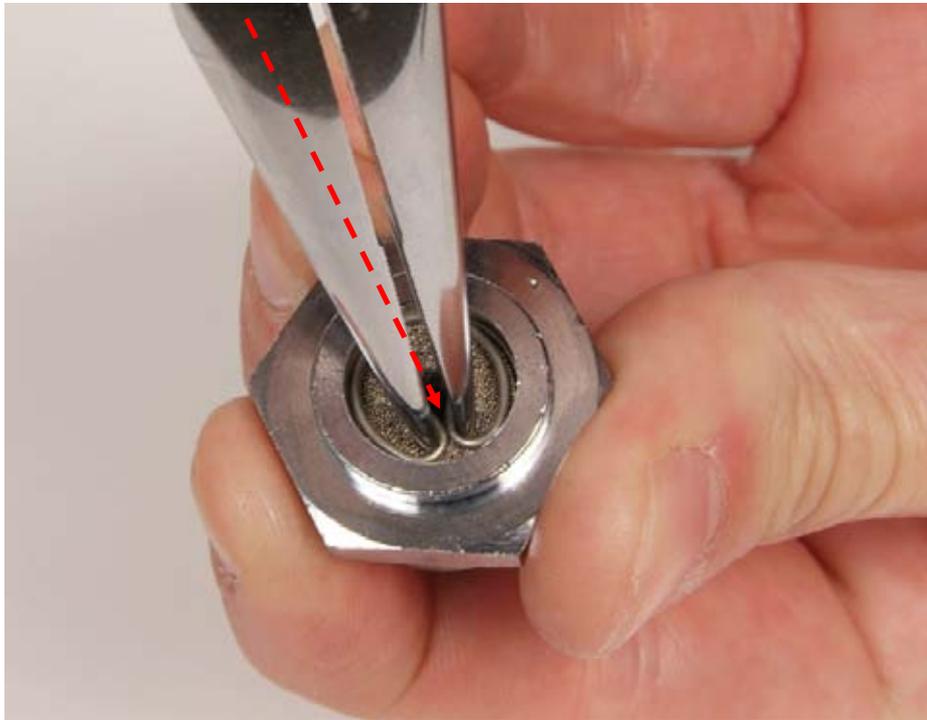
**1st stage AC2:  
disassembling phases**



- Remove the nut and the bracket.



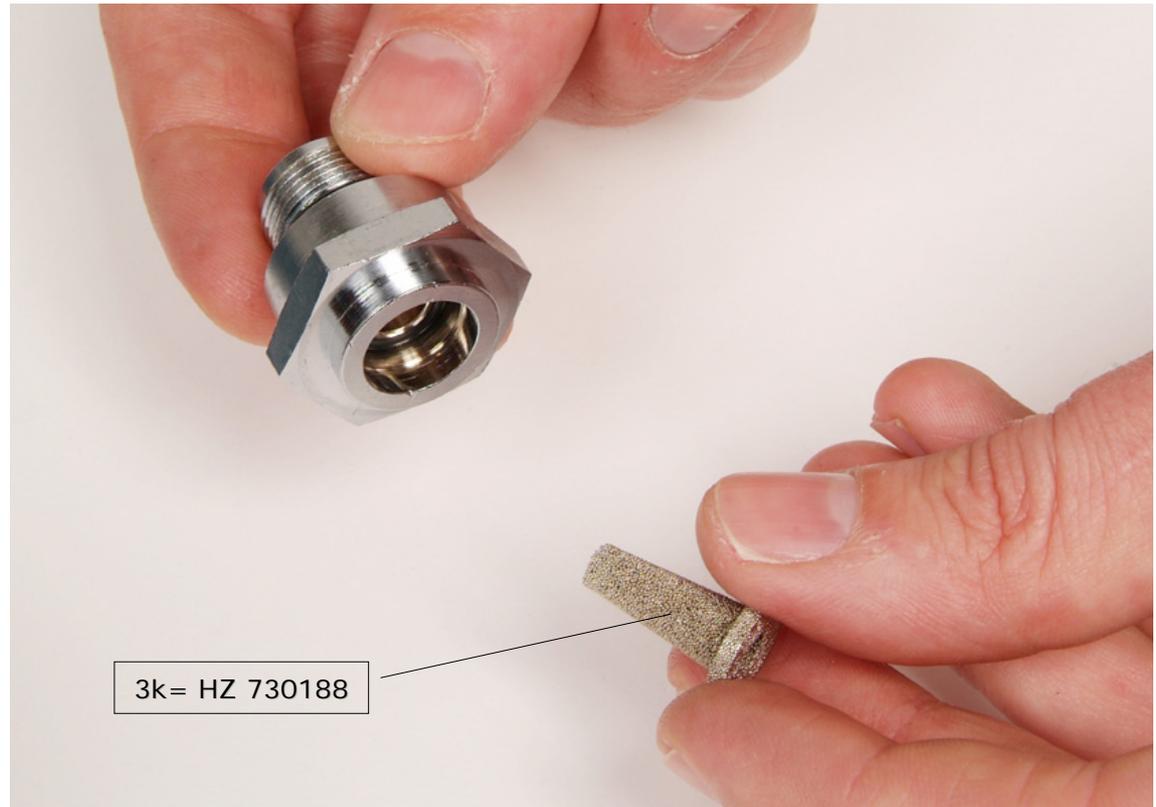
**1st stage AC2:  
disassembling phases**



- Remove the filter inox clip using thin pliers.



- Remove the conical filter out of its seat.





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Regulators repair and maintenance

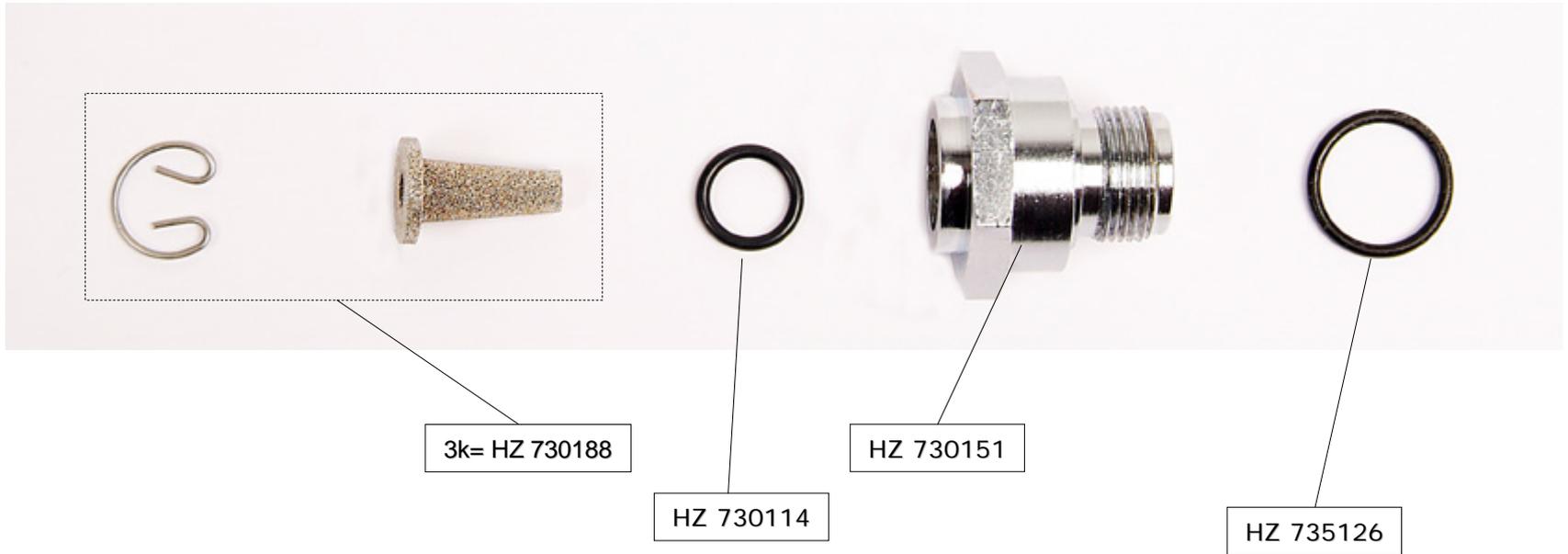
## 1st stage AC2



Remove the nut' s OR



**1st stage AC2**



The bracket nut in all its parts



- After screwing the special tool in one of the ports, tighten the threaded bar in a vice and remove the cap using the special spanner





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Regulators repair and maintenance

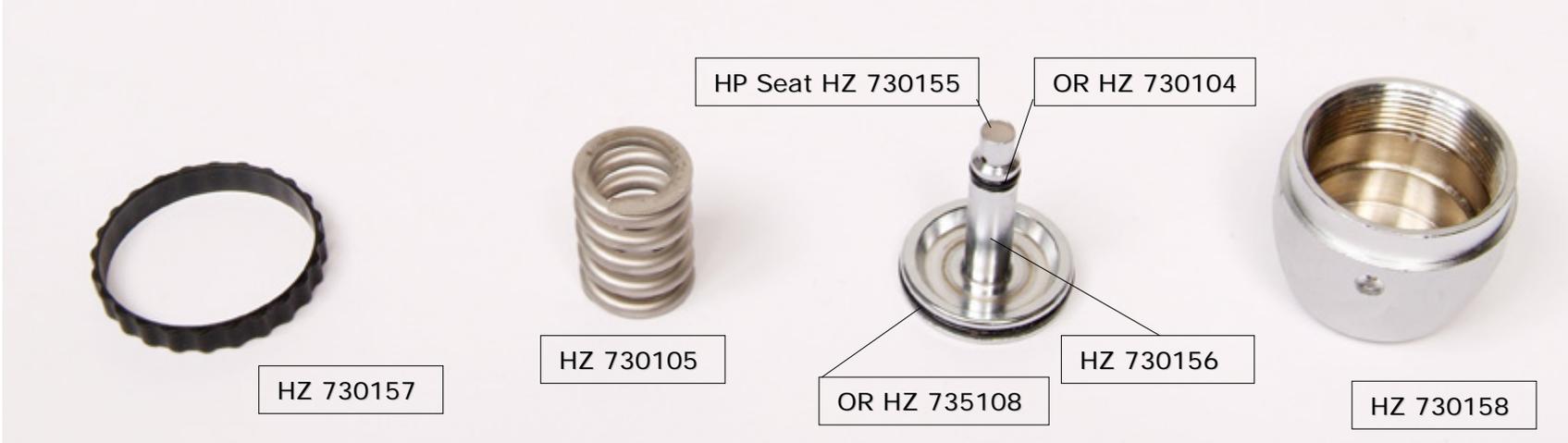
## 1st stage AC2



**Particular of the cap with piston, spring and the rest**



**1st stage AC2:  
disassembling phases**



- Remove, one after the other, the safety bush, the setting spring and the piston including its HP pad, as shown in the picture.



HZ 730104



HZ 735108

- Remove the piston' s OR



- Remove the HP pad out of its seat using high-pressure air. Place the end of a high-pressure air gun on the pad seat's back and let the air flow softly, in order to get the pad out of its seat. Protect yourself during this operation.
- **WARNING:** do not stay along the pad's exit path, since the high-pressure might get it fly out at a very high speed!





HZ 730152

- Remove the setting adjustment ring using the special tool



- Remove the spring holder ring.

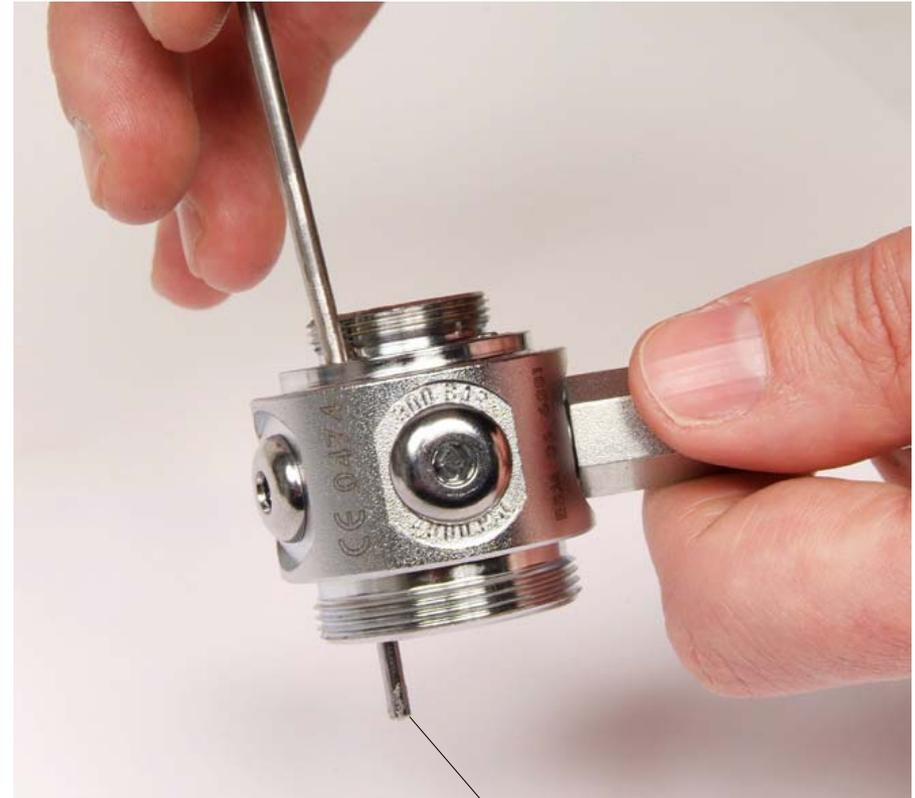


HZ 730154



**1st stage AC2:  
disassembling phases**

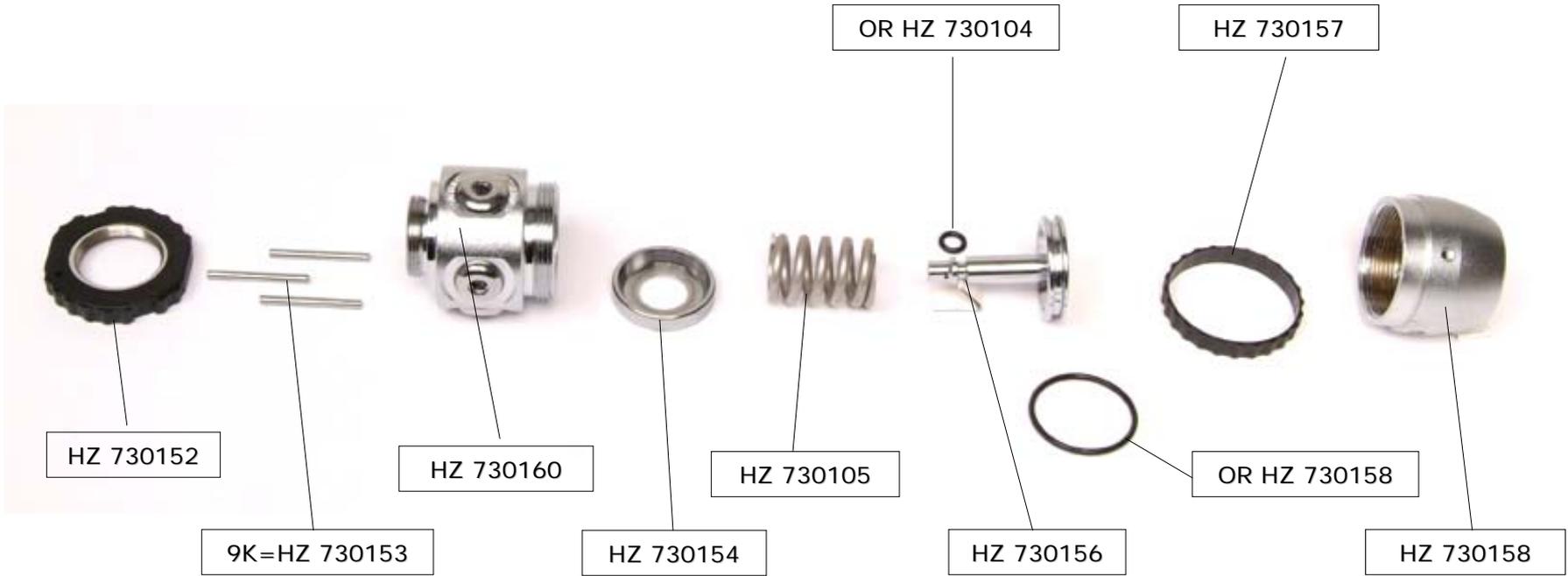
- Remove the three setting adjustment arms out of their working seats, using a proper tool as shown in the picture.

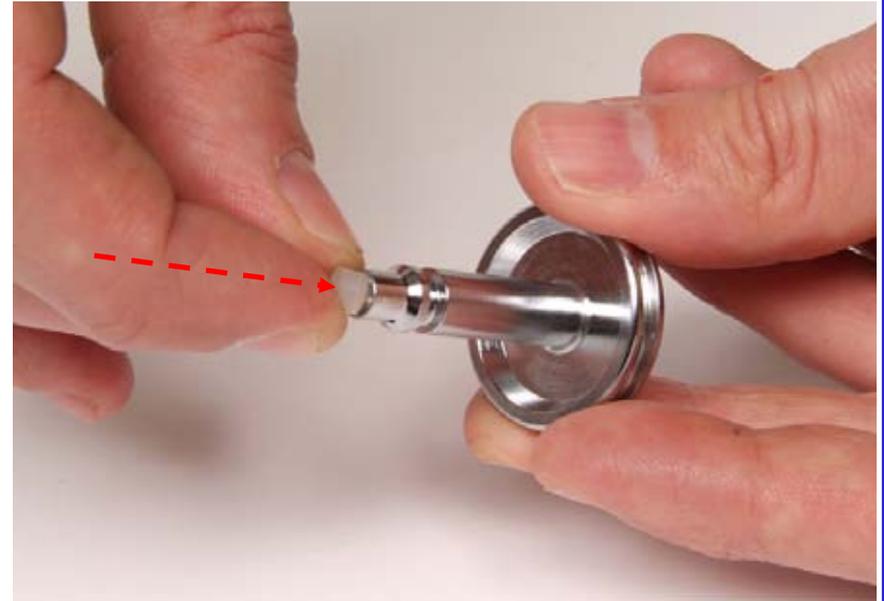


9K =HZ 730153



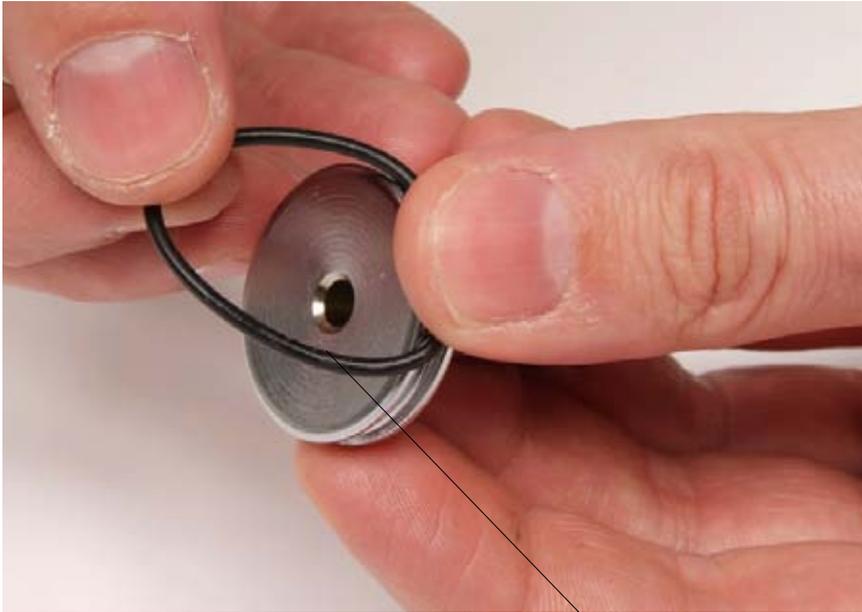
**1st stage AC2**





HZ 730155

- Insert the new HP pad in its seat in the piston and press it down to the bottom



HZ 735108



HZ 730104

- After properly greasing the OR, insert them in their own seats in the piston.



- Insert the safety bush in its seat as shown in the picture



HZ 730157

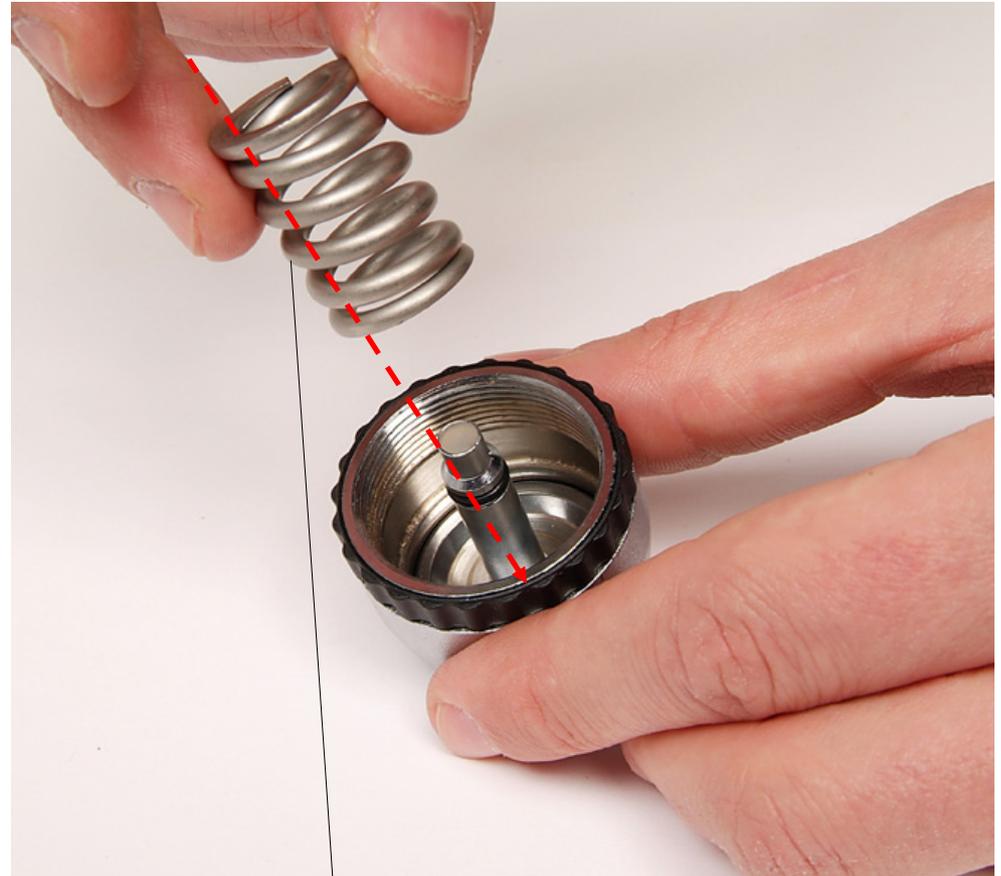


- Insert the piston including its OR and HP pad inside the cap, as shown in the picture. Check there is no impurity or dirt on the wall inside the cap.



**1st stage AC2:  
assembling phases**

Insert the  
setting spring  
as shown in  
the picture



HZ 730105



**1st stage AC2:  
assembling phases**



HZ 730152



- Insert the adjustment ring in its threaded seat and turn it, before the correct final setting

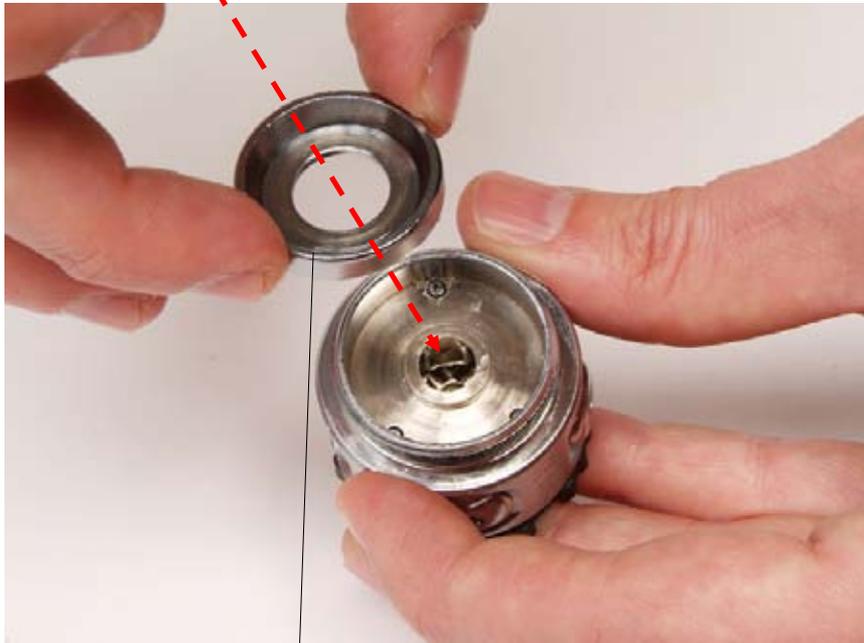


- Overturn the regulator' s body and insert the setting adjustment arms in their seats, after applying on them a thin film of grease





**1st stage AC2:  
assembling phases**



HZ 730154

- Insert the spring holder ring, as shown in the picture: the hollow side will enclose an end of the setting spring, while the flat side lies on the adjustment arms.



- Screw the cap including piston and setting spring on the regulator's body





- Screw the cap up to the end of the 1st stage.





- Block the cap on the 1st stage, using the special spanner





HZ 730126



- After greasing the bracket nut' s OR, insert it as shown in the picture.



**1st stage AC2:  
assembling phases**



HZ 730114



- After greasing the conical filter' s OR, insert it as shown in the picture.



**1st stage AC2:  
assembling phases**

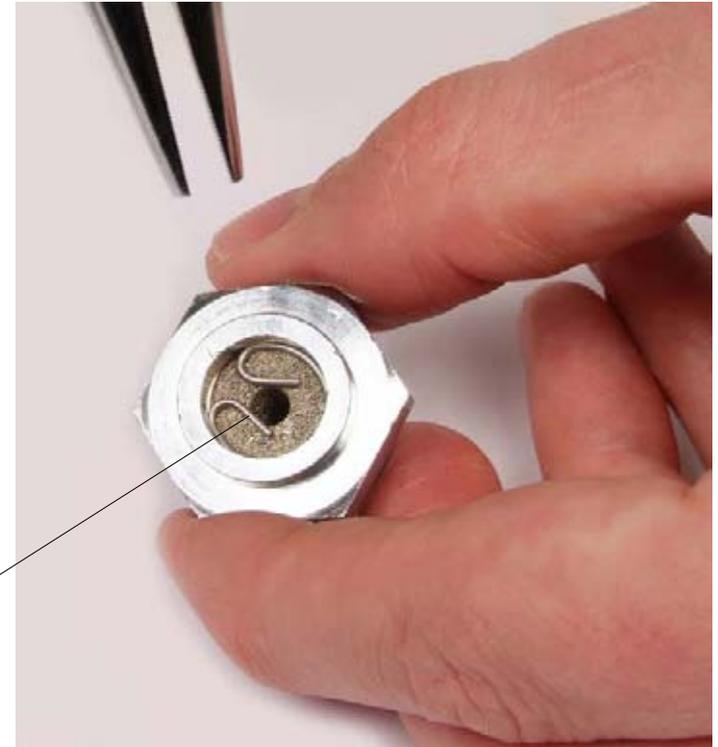
- Insert the conical filter in its seat, as shown in the picture



3K = HZ 730188



**1st stage AC2:  
assembling phases**



3K = HZ 730188

- Insert the filter' s inox clip in its seat as shown in the picture, using thin pliers



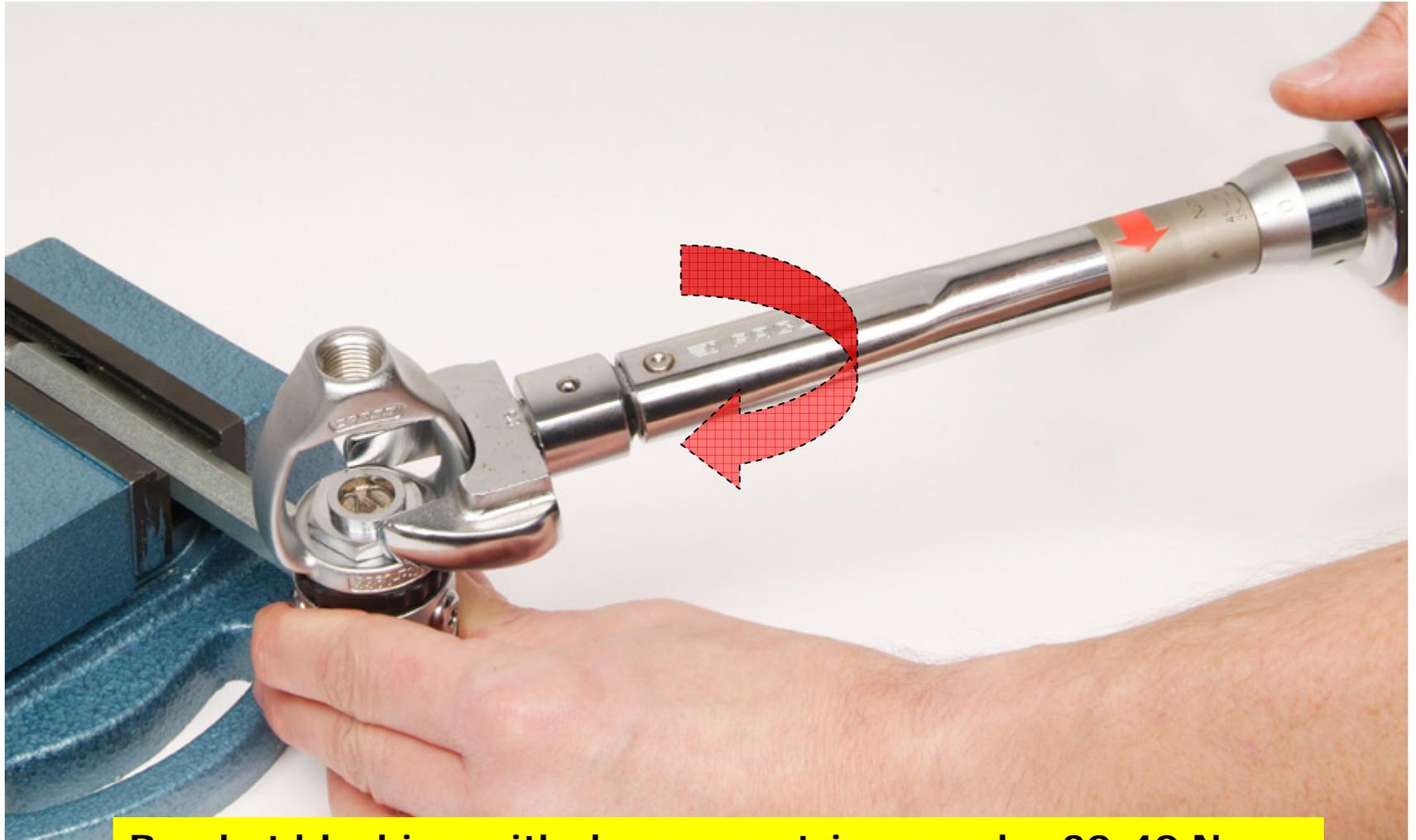
- Assemble the bracket, after inserting the threaded bar in one of the regulator's ports. Tighten the bar in a vice and assemble the bracket, slightly screwing the nut, before the correct dynamometric blocking.





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**1st stage AC2:  
assembling phases**



**Bracket blocking with dynamometric wrench: 30-40 N x m**



## 1st stage AC2 setting

- Regulator setting: please refer to next slide





- Place the pressure gauge on a LP port of the 1st stage.
- Place the whole regulator (1st + 2nd stage) on a 200 bar pressurized tank or on an equally pressurized test-bed.
- Slowly open the air tap while pressing the 2nd stage air discharge button. Repeat some times.
- Check the pressure on the gauge. The 1st stage AC2 is correctly set at a pressure between 9.5 and 10 bar. Should the value be different, close the air tap and discharge the regulator. Insert the special spanner in the setting screw and *screw clockwise* in order to increase the 1st stage intermediate pressure. When screwing anticlockwise, the pressure will decrease.
- Check the intermediate pressure is quickly reached and remains so, without increasing, after pressing the 2nd stage discharge button several times.



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**1st stage AC2 setting**



**Kit DIN 200 bar**

23K = HZ 735158



**Kit DIN 300 bar**

24K = HZ 735157



**1st stage AC2 DIN**

**Whole kit DIN\_1st stage AC2**

Blocking screw

Ring

Body adapter



**Note:** *the OR of the DIN kit are the same for both 200 bar and 300 bar versions*



- After greasing the DIN adapter's OR, insert it in its seat.



HZ 735126



## 1st stage AC2 DIN

- Screw the DIN adapter on the 1st stage.  
Using a threaded bar, tighten the 1st stage in a vice and screw the DIN adapter using a dynamometric wrench supplied with 22 mm (0,85 in.) hexagonal insert.  
Apply 30 – 40 N x m.





## 1st stage AC2 DIN

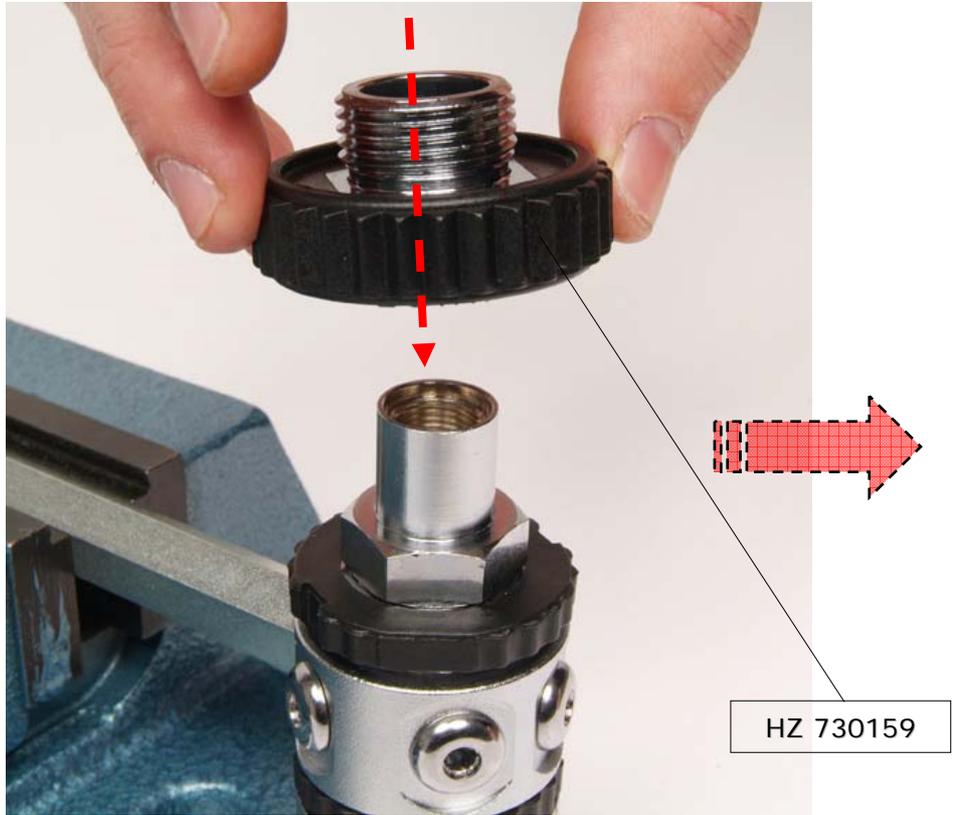
- Insert the DIN kit conical filter in its seat, as shown in the picture
- Note: the DIN kit conical filter is different than the one contained in the bracket nut.



HZ 735154



**1st stage AC2 DIN**



- Insert the DIN connection ring in its adapter.



**1st stage AC2 DIN**



26 K =HZ 735195

- After greasing the DIN kit screw' s OR, insert them in their seats, as shown in the picture.



## 1st stage AC2 DIN

- Screw the DIN steer holder on the correspondent thread of the DIN adapter, using a 6 mm (0,23 in.) Allen wrench.
- Tighten the adapter using a dynamometric wrench supplied with 6 mm (0,23 in.) hexagonal insert, applying 5 – 10 N x m





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## 1st stage AC2: Tools



HZ Kit 1st stage AC2 tools  
Code HZ 739050



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## 1st stage AC2: Tools

- Spanner
- Cod.HZ 739003





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## 1st stage AC2: Tools

- Setting spanner AC2
  - Cod.HZ 739051





- Threaded bar to tighten the regulator in the vice
  - Cod. HZ 709008





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**1st stage AC2: Tools**

6 mm (0,24 in.) Allen wrench  
Cod. HZ 709006





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## 1st stage AC2: Tools

- Pointed tool
- Cod.HZ 709004





Torque wrench  
(Not available)

