



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 !

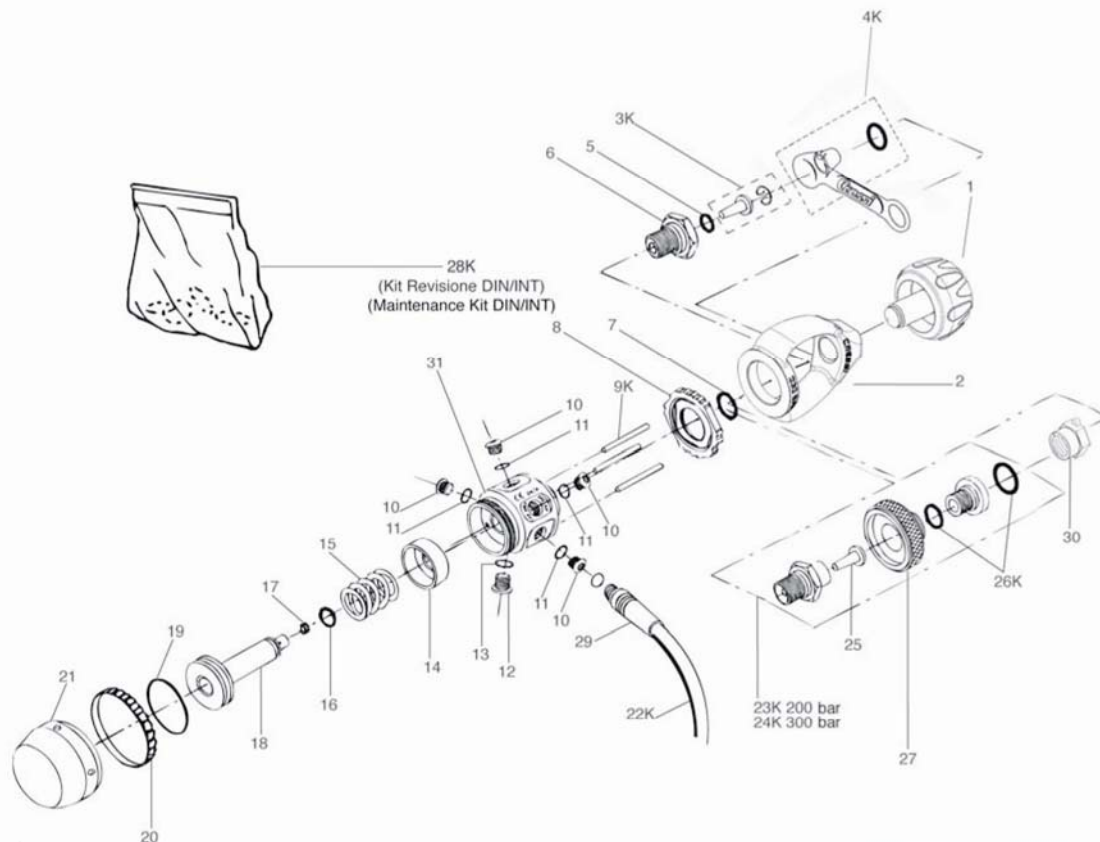
- Before any operation, Cressi-sub recommend to read carefully the present document in order to get to know thoroughly all necessary tools and techniques to carry out a correct maintenance and repair of the equipment.
- Use this document during every phase of the equipment maintenance and repair, in 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).



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Regulators repair and maintenance

1st stage AC2: spare parts



POS.	CODICE / CODE
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
31	HZ 730160

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

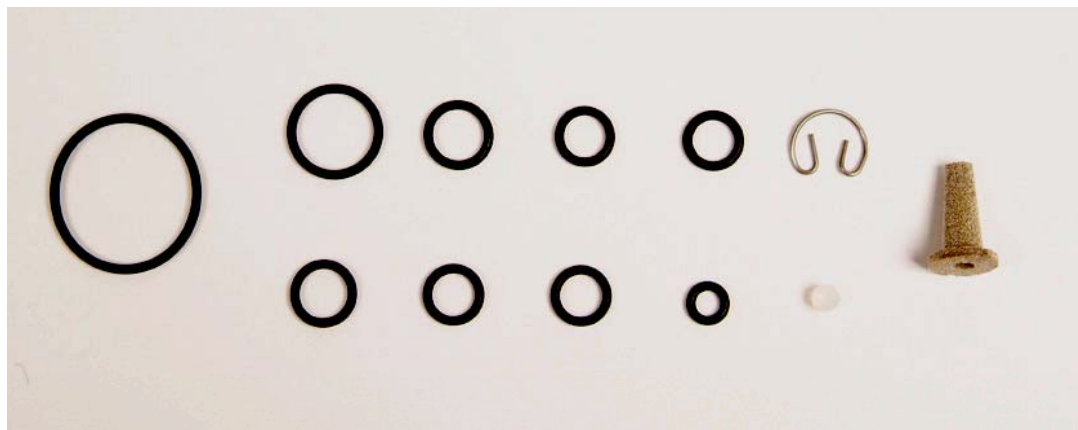
Ed./Issue	AC2/2
A/07	N° Tav./Rev.

AC2 INT 1ST STAGE HZ 730150
ANNUAL REPLACEMENT KIT CHART (Real Size)

AC2 DIN 1ST STAGE HZ 730148/49
ANNUAL REPLACEMENT KIT CHART (Real Size)









- **Kit AC2 Int Yearly maintenance - Cod. N° HZ 730150**



(Real Size)

AC2 INT 1st STAGE (HZ 730150) ANNUAL REPLACEMENT KIT CHART

O-RING Reference Table					
					
HZ 735108	HZ 735126	HZ 730114	HZ 730132	HZ 730108	HZ 730104
SPARE PARTS Reference Table			1 HP Seat	1 Sintered Conic Filter	1 Circlip
			HZ 730155	HZ 730188	HZ 730188

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- **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.**

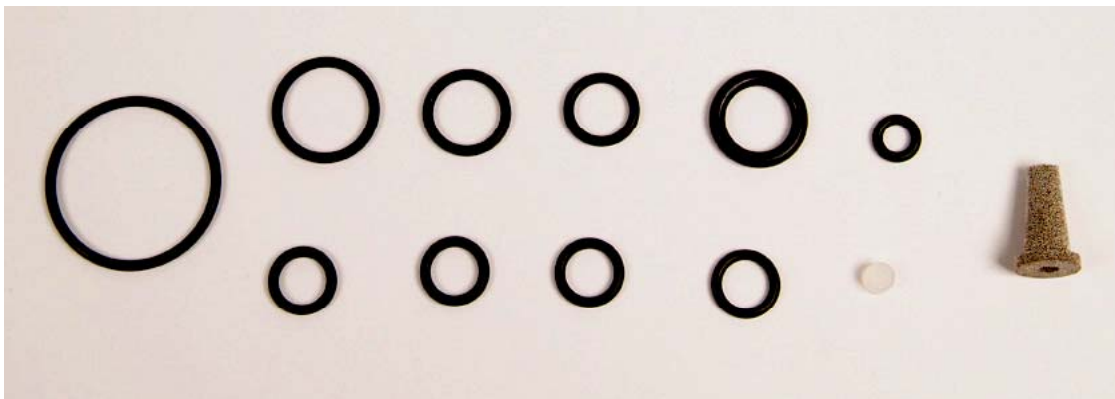


Cressi-sub

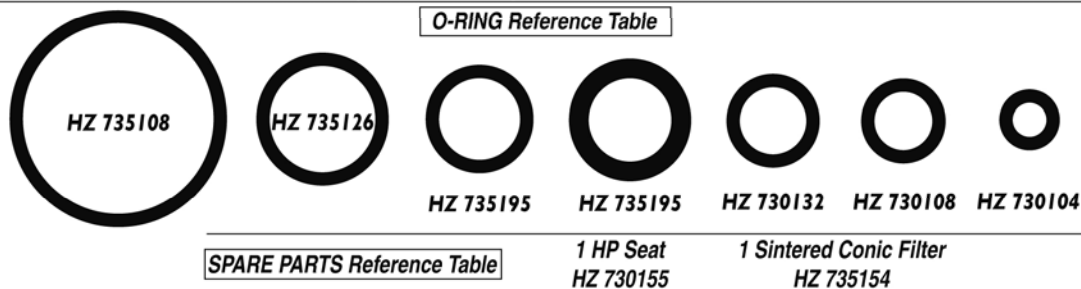
Regulators repair and maintenance

1st stage AC2

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



(Real Size) AC2 DIN 1st STAGE (HZ 730148/49) ANNUAL REPLACEMENT KIT CHART



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- **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.



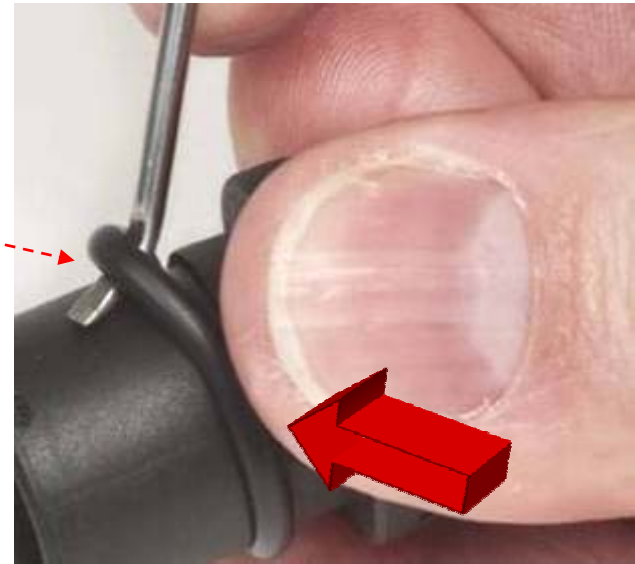
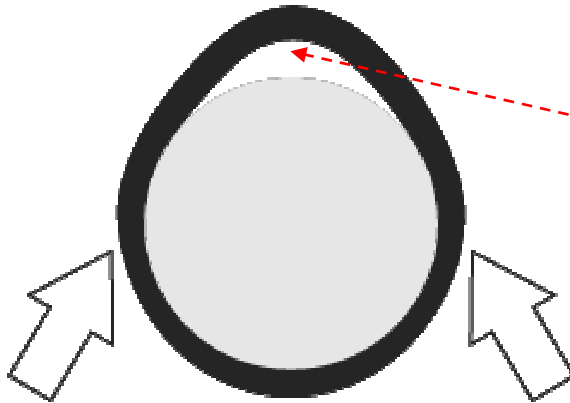
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Regulators repair and maintenance

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**



**1st stage AC2:
disassembling phases**

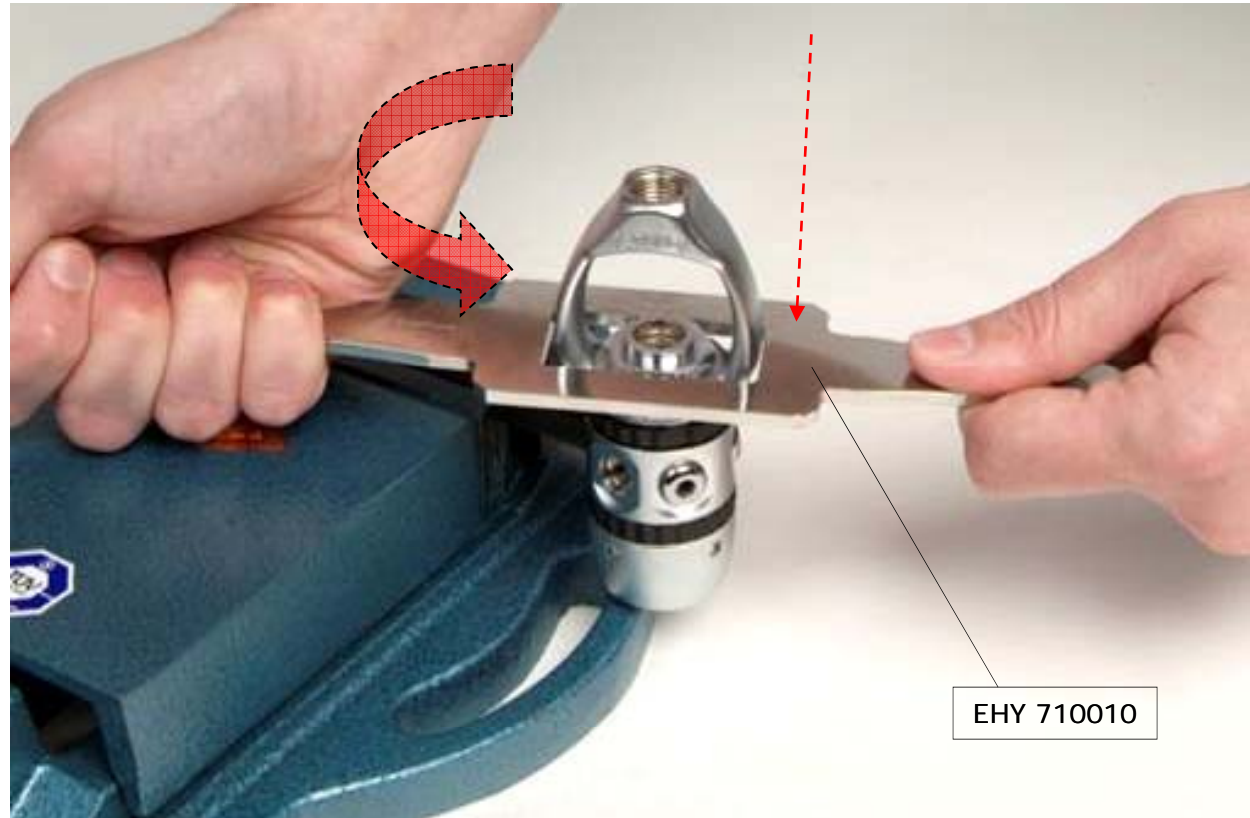


- Remove and replace all O-rings;
- Use a plastic tool or a round pointed metal one in order not to damage the O-ring seat;
- To replace the O-ring correctly, press its sides to create a bulge inside which to insert the round pointed tool, as shown in the pictures;
- ***Attention: USE ONLY ORIGINAL CRESSI-SUB SPARE PARTS***



**1st stage AC2:
disassembling phases**

- Disassemble the bracket using the threaded tool in one of the regulator ports. Tighten the bar in a vice and unscrew the bracket lock nut using the special tool.

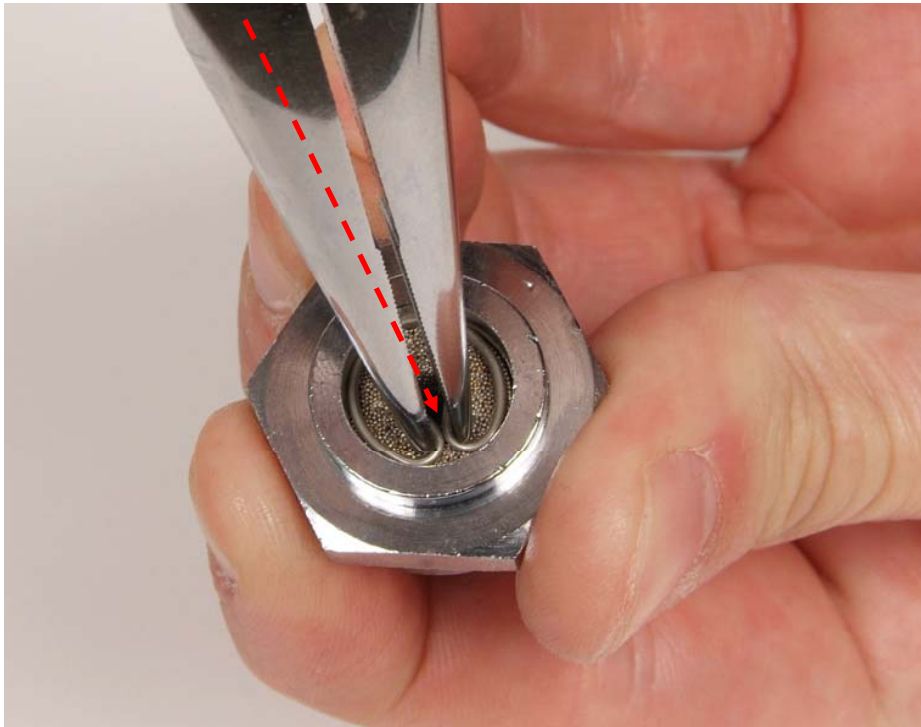




- Remove the nut and the bracket.



**1st stage AC2:
disassembling phases**



- Remove the filter inox clip using thin pliers.



- Remove the conical filter out of its seat.



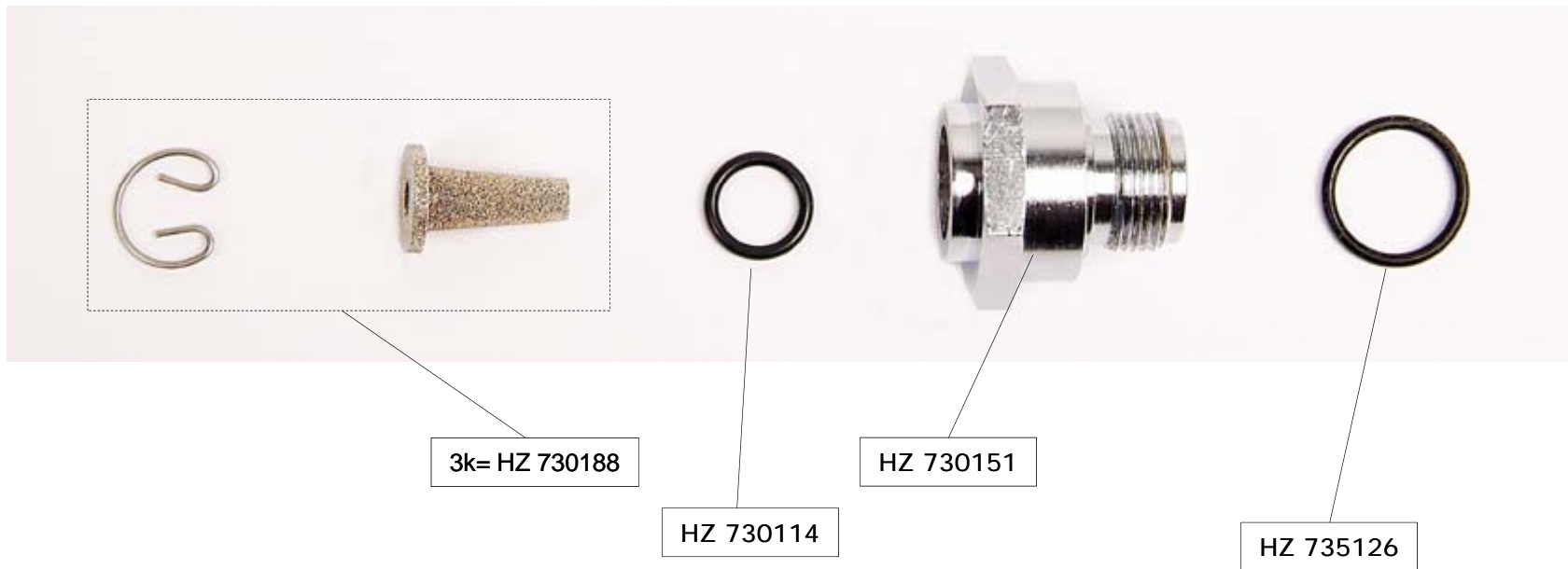


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Regulators repair and maintenance

1st stage AC2



Remove the nut' s OR



The bracket nut in all its parts



**1st stage AC2:
disassembling phases**

- 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
- ***Note: we advise to cover the tool edge with adhesive tape, in order not to damage the regulator chrome plating***





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Regulators repair and maintenance

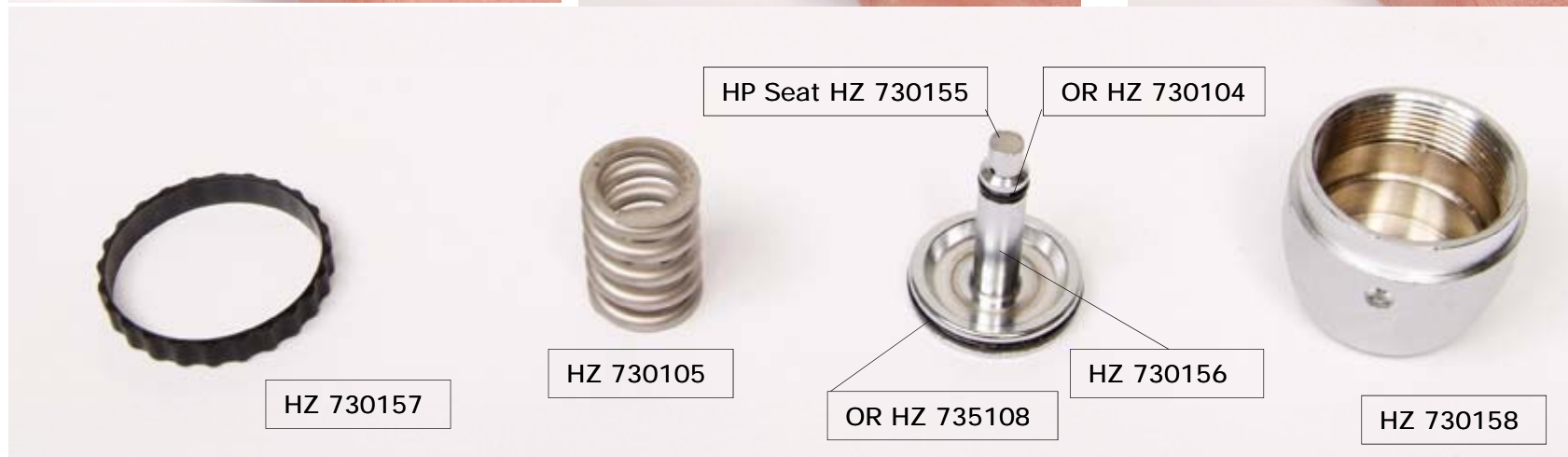
1st stage AC2



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.



**1st stage AC2:
disassembling phases**



HZ 730104



HZ 735108

- Remove the piston' s OR



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1st stage AC2: disassembling phases



Insert the special tool into the piston,
then push hard its head to remove the HP pad as shown in the picture.



**1st stage AC2:
disassembling phases**



HZ 730152



- Remove the setting adjustment ring using the special tool



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1st stage AC2: disassembling phases

- Remove the spring holder ring.

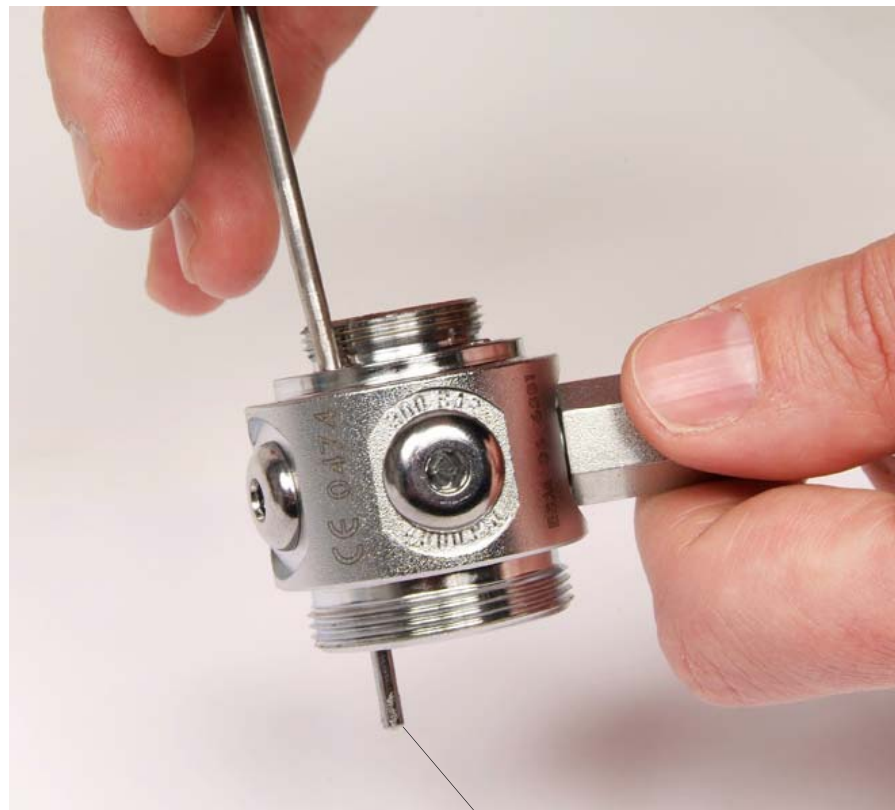


HZ 730154



**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.



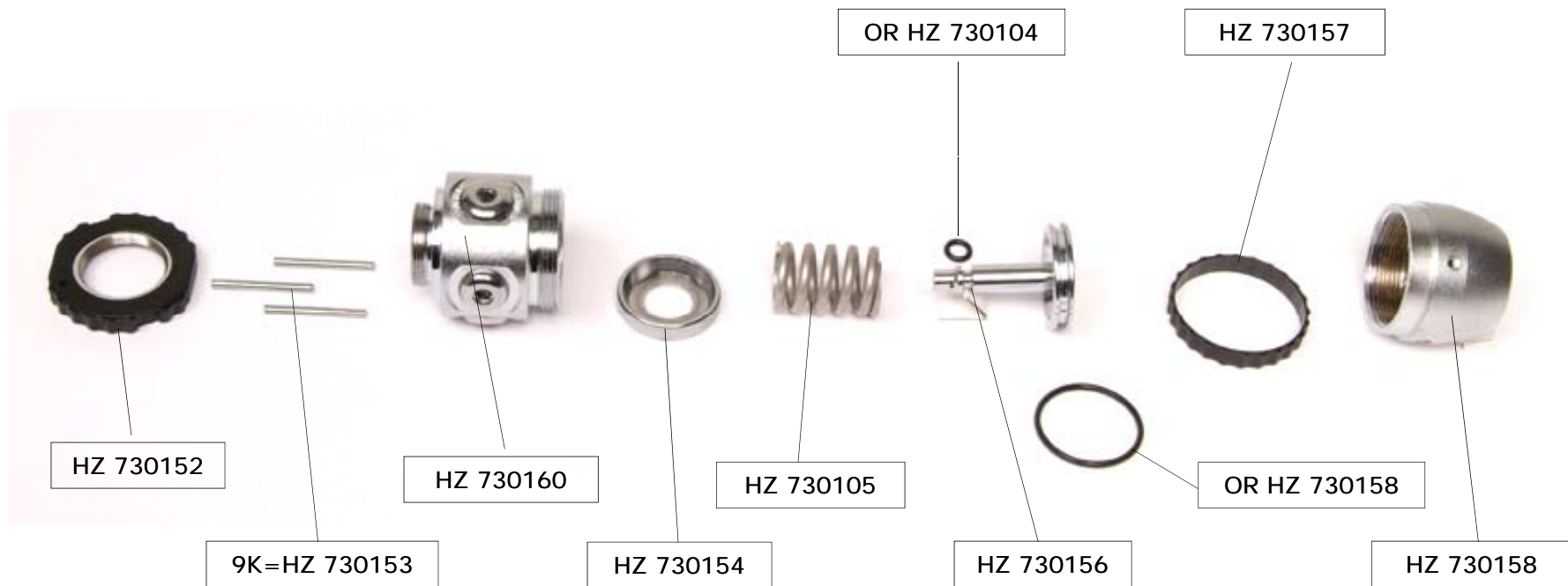
9K =HZ 730153



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Regulators repair and maintenance

1st stage AC2





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Regulators repair and maintenance

1st stage AC2: assembling phases



HZ 730155



- Insert the fresh HP into the piston seat, then push it to place it correctly, as shown in the picture.



**1st stage AC2:
assembling phases**



HZ 735108



HZ 730104

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



**1st stage AC2:
assembling phases**

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



HZ 730157



**1st stage AC2:
assembling phases**



- 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.



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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



**1st stage AC2:
assembling phases**

- 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.



**1st stage AC2:
assembling phases**

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





**1st stage AC2:
assembling phases**

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





**1st stage AC2:
assembling phases**

- Block the cap on the 1st stage, using the special spanner
- ***Note: we advise to cover the tool edge with adhesive tape, in order not to damage the regulator chrome plating***





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1st stage AC2: assembling phases



HZ 730126



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



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1st stage AC2: assembling phases



HZ 730114



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



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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



**1st stage AC2:
assembling phases**

- 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 N x m



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1st stage AC2 setting

- Regulator setting: please refer to next slide





1st stage AC2 setting

- 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.
- Note: remember to unload the regulator before setting the intermediate pressure, in order to avoid incorrect readings of the gauge.
- 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



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1st stage AC2 DIN

Whole kit DIN_1st stage AC2

Blocking screw

Ring

Body adapter

26K = HZ 735195

HZ 735126

Note: DIN kit O-rings are the same in both 200 and 300 bars models.



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1st stage AC2 DIN

- 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 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.

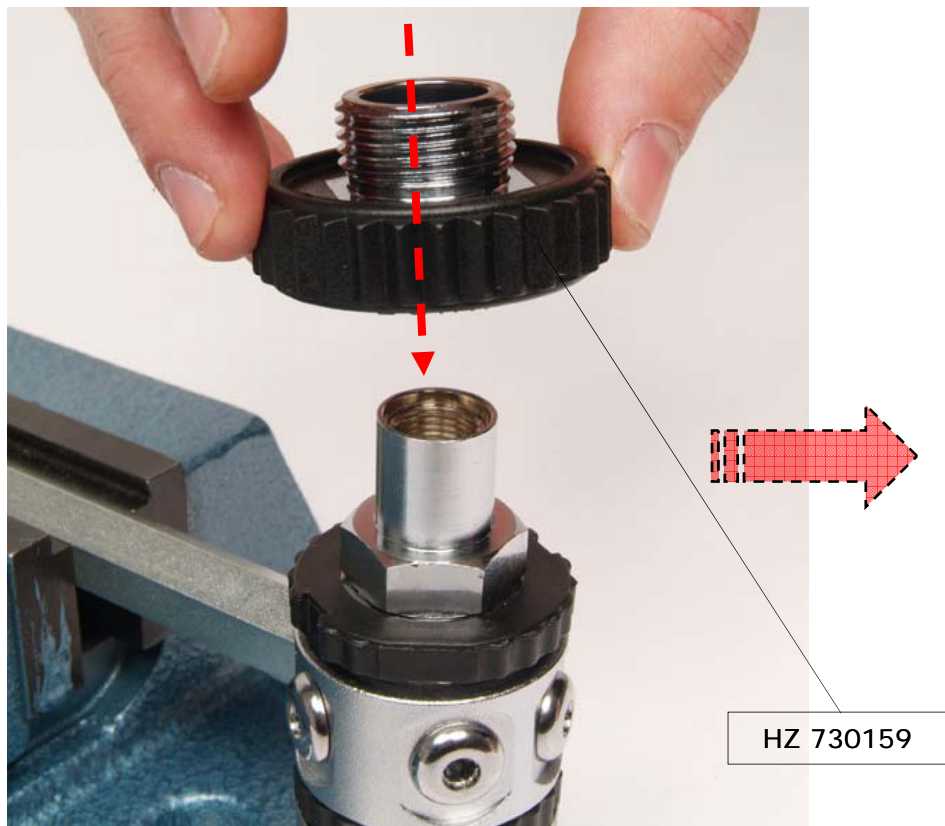


HZ 735154



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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 10 N x m





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1st stage AC2: Tools



HZ Kit 1st stage AC2 tools
Code HZ 739050



- HP pad removal tool
- Cod. EHY 710009





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1st stage AC2: Tools

- Universal tool to remove Cressi Sub bracket
 - Cod. EHY 710010





- Regulator first stage check gauge
 - Cod. HZ 710010





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1st stage AC2: Tools

- Spanner
- Cod.HZ 739003





- 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





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1st stage AC2

Torque wrench
(Not available)

