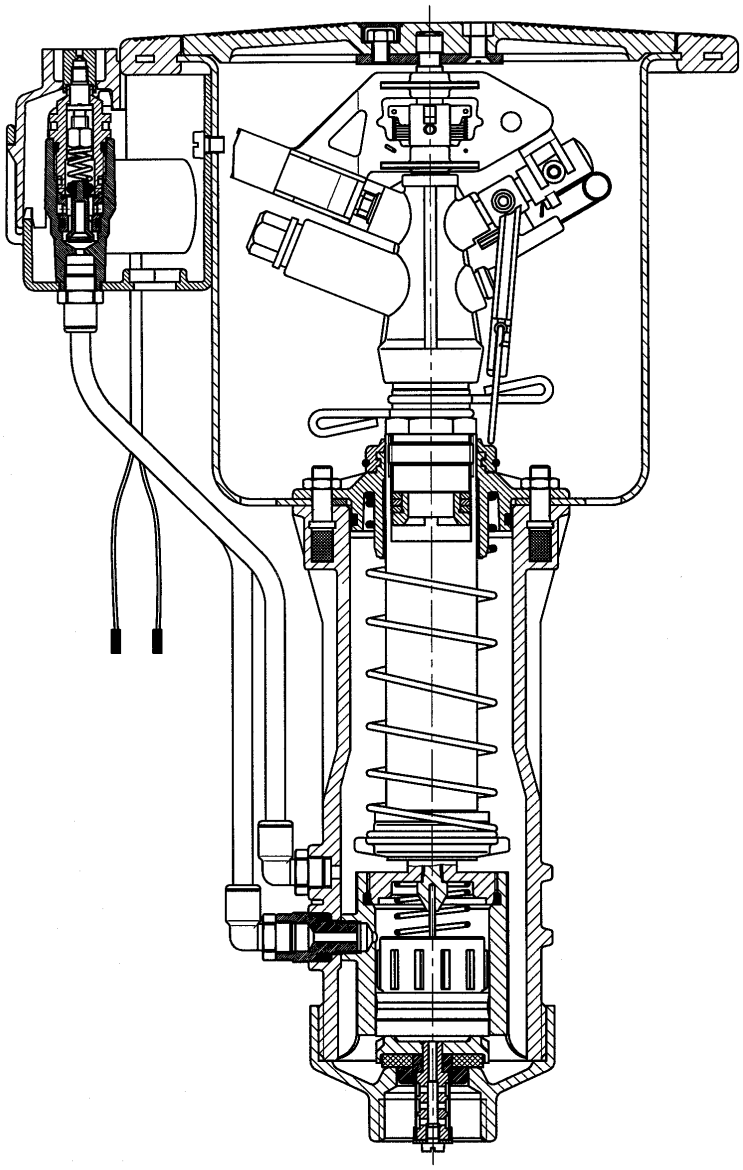
Maintenance and Operating Instructions
PERROT
Pop-up sprinkler with integrated valve

LVZE 22-1 VAC
LVZE 22-1 WVAC
LVZE 22-1 WDVAC



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Contents

1. General

We presume, that you are experienced in the field of irrigation. Therefore we have kept this instruction as brief as possible, and have included such information only, which you must have for the use of this product.

A guarantee can be accepted only, if the sprinkler has been operated in accordance with these instructions, and if the defect occurs within the guarantee period.

1.1. Application

The sprinkler is used for the uniform distribution of the water. The water should be pre-cleaned, and free of coarse and fibrous impurities.
Max. water temperature will be 50 degree C.
Max. ambient temperature will be 75 degree C.

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2. Safety

These operation and safety instructions include basic remarks and hints for the assembly, installation, operation, maintenance, inspection and repair. For this reason these instructions must be read by the fitter, as well as by the customers authorised staff, prior to the installation and commissioning.

Apart from the general safety instructions of this paragraph the special safety instructions included in other paragraphs of these operating instructions have to be observed also.

2.1. Symbols of hints given in these operating instructions

The non-observance of the safety instructions mentioned in these operating instructions can endanger persons, are

marked with the general danger symbol  especially.

Safety instructions which can endanger the sprinkler and its function, if not observed, are specially marked and the word

ATTENTION has been inserted.

2.2. Dangers if the safety instructions are not observed

Non-observance of the safety instructions can endanger persons as well as the environment and the sprinkler. Non-observance of the safety instructions can result in a loss of all claims for indemnity.

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3. Description

Recommended operating pressure	5 to 6 bar
Permissible operating pressure	3 to 8 bar

ATTENTION The pressure at the sprinkler must not exceed 10 bar.

For further data please refer to the separate data leaflet.

4. Assembly

ATTENTION

- ☆ Flush pipe work thoroughly before assembling
- ☆ Threaded connection on the sprinkler is 1“ female thread.
- ☆ For sealing the thread, hemp and a jointing compound has to be used e.g. Fermit special
- ☆ Installation of the sprinkler should occur according to the “Installation layout for PERROT pop-up sprinkler LVZE 22 VAC“ (see next side).
  To avoid burden pressure on the conduit pipe use in any rate a sprinkler swing joint.
- ☆ It is recommended to assemble a gravel package, as shown in the installation layout.
- ☆ The connection of the control cables is only allowed with approved watertight connections.
- ☆ To screw the sprinkler on the swing joint hold on to the housing border or use a strap wrench.

ATTENTION Do not pinch control pipe of the sprinkler with pipe wrench.

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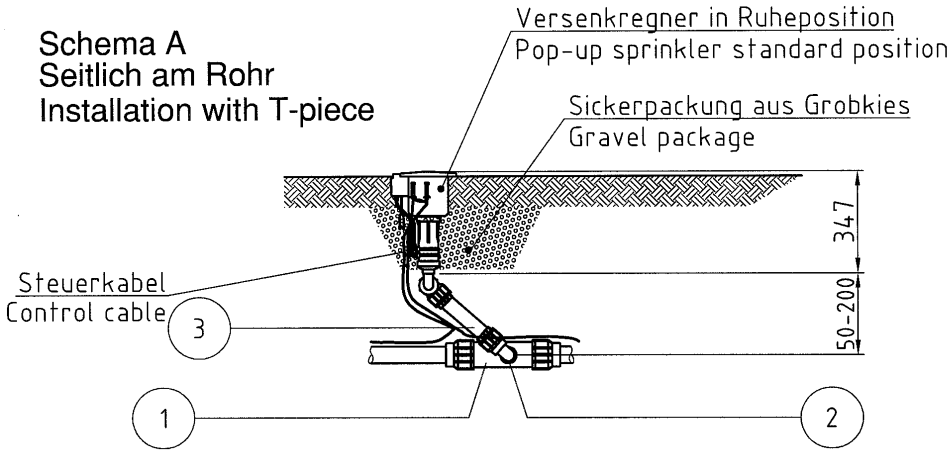
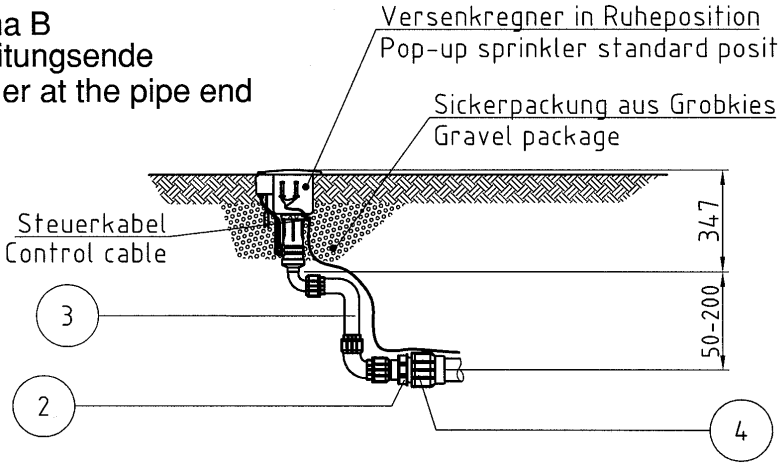
Einbauschema für Versenkregner
Installation layout for pop-up sprinkler
PERROT LVZE 22 (W/VAC)

Schema A
Seitlich am Rohr
Installation with T-piece



Schema B
Am Leitungsende
Sprinkler at the pipe end



Pos.	Benennung / Description	ØPE-Hauptleitung / dia Main Pipe Schema A ø40	ø50	ø63	ø75	Schema B ø40	ø50	ø63	ø75
①	T-Stück PE 40 x 1"IG x 40 T-Piece PE 40 x 1"IG x 40	1							
	T-Stück PE 50 x 1½"IG x 50 T-Piece PE 50 x 1½"IG x 50		1						
	T-Stück PE 63 x 1½" IG x 63 T-Piece PE 63 x 1½"IG x 63			1					
	T-Stück PE 75 x 2½" IG x 75 T-Piece PE 75 x 2½"IG x 75				1				
②	Red. Nippel Nr. 241 1½"×1" Redcution Socket No. 241 1½"×1"		1	1			1	1	
	Red. Nippel Nr. 241 2½"×1" Redcution Socket No. 241 2½"×1"				1				1
③	Regnergelenk 1" Swing Joint 1"	1	1	1	1	1	1	1	1
④	Anschlussverschraubung 40 × 1"IG Clamp Connection 40 x 1"					1			
	Anschlussverschraubung 50 × 1½"IG Clamp Connection 50 x 1½"IG						1		
	Anschlussverschraubung 63 × 1½"IG Clamp Connection 63 x 1½"							1	
	Anschlussverschraubung 75 × 2½"IG Clamp Connection 75 x 2½"								1
		D40A	D50A	D63A	D75A	D40B	D50B	D63B	D75B

Wir behalten uns Änderungen nach dem Stand der Technik auch ohne besondere Ankündigung vor.

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Einbau-schema Nr.	5
Erstellt	21.12.2000
Rev.	Datum
a	
b	
c	
d	
e	
f	

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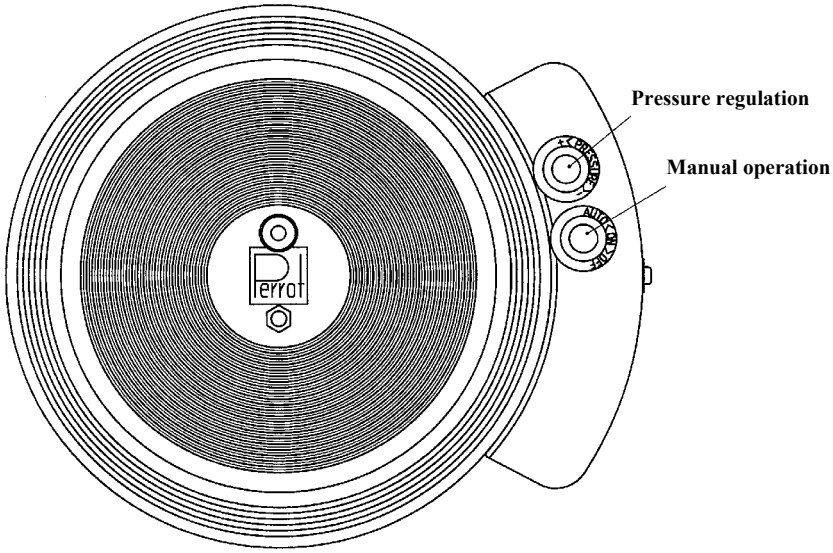
5. Commissioning / Winterise

5.1 Commissioning

a) Check of electrical function :
Before the water supply to the valve is opened, the coil has to be triggered through a control unit. Through an acoustic “click” on the coil, the correct electrical function can be determined. (The click arise through attracting the relay armature.)

b) Make sure that the manual operation stands on AUTO or OFF (Turn screw totally in or out). In both positions it is warrant that the valve closes after the water supply.

c) Open water supply to the sprinkler slowly. Probably the valve opens for a short time, but after 30 sec. it should close on its own.



picture 1

d) After opening the water supply and after the max. working / operation pressure is reached, every seal has to be checked / examined.

e) Check valves and sprinkler for perfect function, when opening the valve manual.
That can be executed by turning the manual operation to the right, until the sprinkler head pops up. So that the water jet do not hit the operator, the manual operation should be opened carefully. You can see the spray direction of the sprinkler on the out gushing water and so the operator can see where he has to stay for not getting wet.

f) The desired pressure on the sprinkler nozzle, can be adjusted on the pressure regulation screw while the sprinkler is working.
⇨ If on the sprinkler nozzle the min. pressure is adjusted, there is appr. 3 bar pressure on the nozzle.

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⇨ When turning the screw 360° once in direction (+) the pressure always raises up 1 bar.
⇨The perfect / ideal working pressure is appr. 6 bar.

g) While operation of the sprinkler, there is the possibility to adjust the desired irrigation sector on the spring stop [18].

h) After the complete ventilation of the sprinkler the manual operating must be set on position „AUTO“ , than the sprinkler have to close.

i) Check electrical function by turning on and off the sprinkler with help of a control unit.

5.2 Winterise

☆ Before beginning of the frost period the sprinkler has to be totally drained off.
Therefore there must be connected a powerful compressor on the network / main circuit.
Open the valve on the sprinkler until only air is coming out of the nozzle.
☆ After the blowing out the magnetising coil has to be triggered electrically several times.

6. Maintenance

☆ Clean interior space of the sprinkler with a industrial type vacuum cleaner or a similar device.

☆ Clean / Relieve sprinkler housing from overgrown grass. This work should be done conveniently before commissioning in spring.

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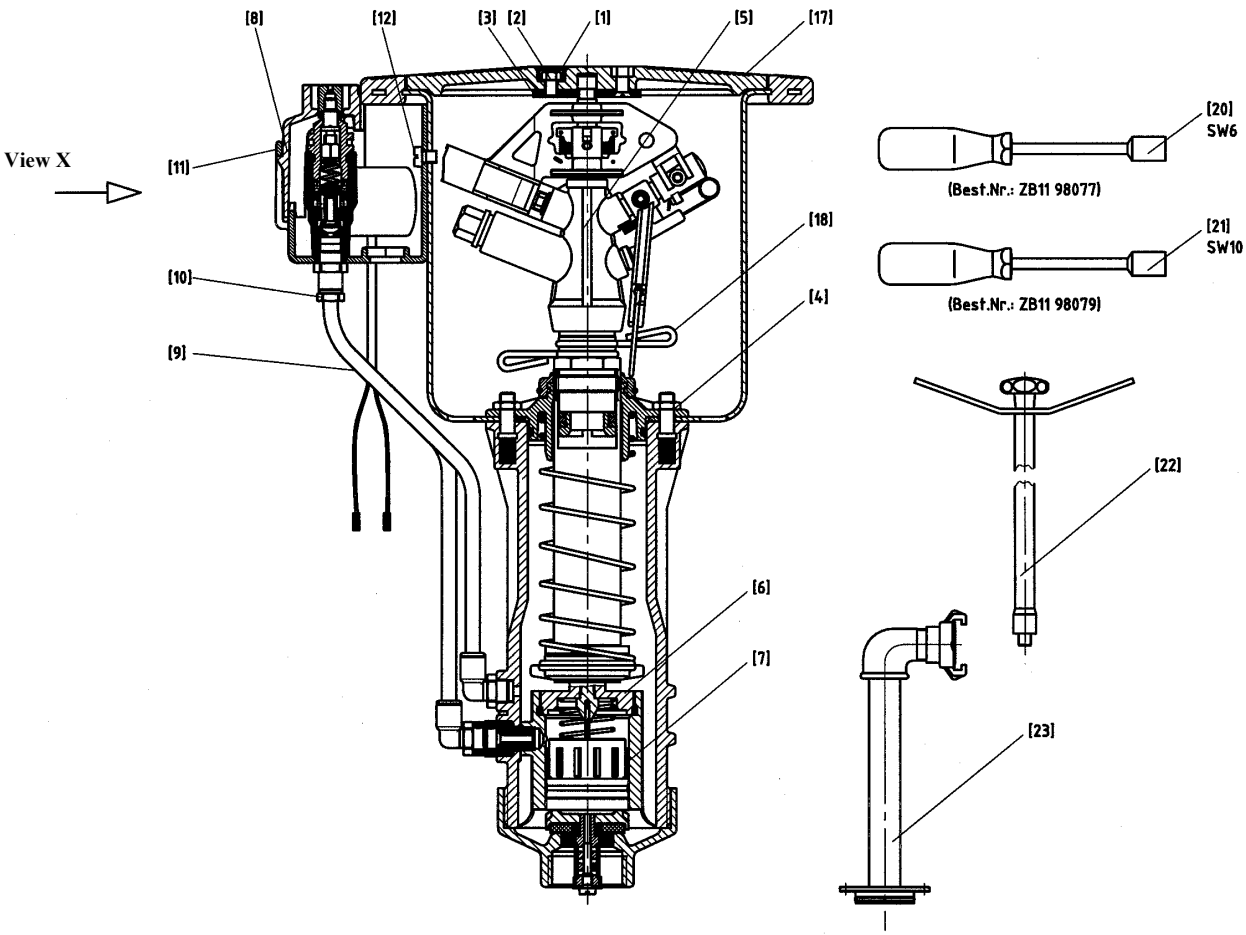

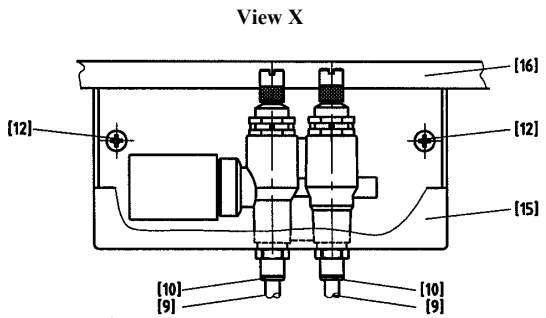

picture 2

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7. Break-down and elimination of the defects

7.1 Dismantling of the sprinkler, valve and pressure control unit

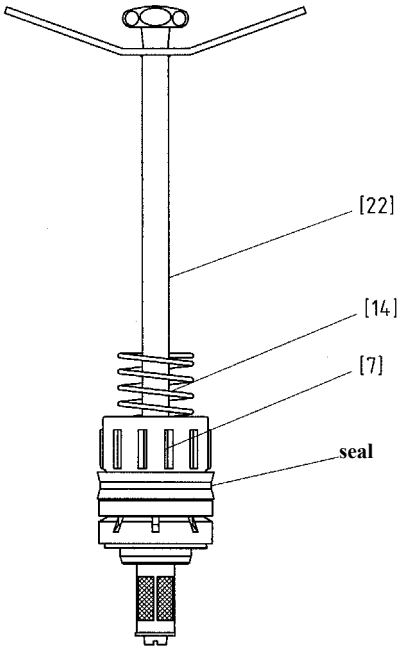
7.1.1 Disassembly of sprinkler insert (picture 2)

⇨Remove blind cap [1] with a sharp pointed object.
⇨Unscrew bolt [2] in the cover with a socket wrench [20].
⇨Pull up cover with sprinkler insert, turn retainer for cover [3],
In that way the cover can be removed.
⇨Unscrew bolt (4x) SW10 [43] with socket wrench [21]
and pull out sprinkler insert [5].

7.1.2 Disassembly valve piston (picture 2+3)

Before the following mentioned work is carried out, it must be sure that the sprinkler is depressurised.

⇨Unscrew valve upper part [6] with ram valve [22]
⇨Pull out valve insert [7] with ram valve.



picture 3

7.1.3 Disassembly pressure regulator unit (picture 2+5)

Before the following mentioned work is carried out, it must be sure that the sprinkler is depressurised.

⇨Remove cover for protection housing [8], by pressing snap fit [11] with help of screw driver in direction outside. (View X)
⇨Pull off downwards control pipe [9], by pressing locking ring [10] upwards. Unscrew screw [12] and remove pressure regulator.

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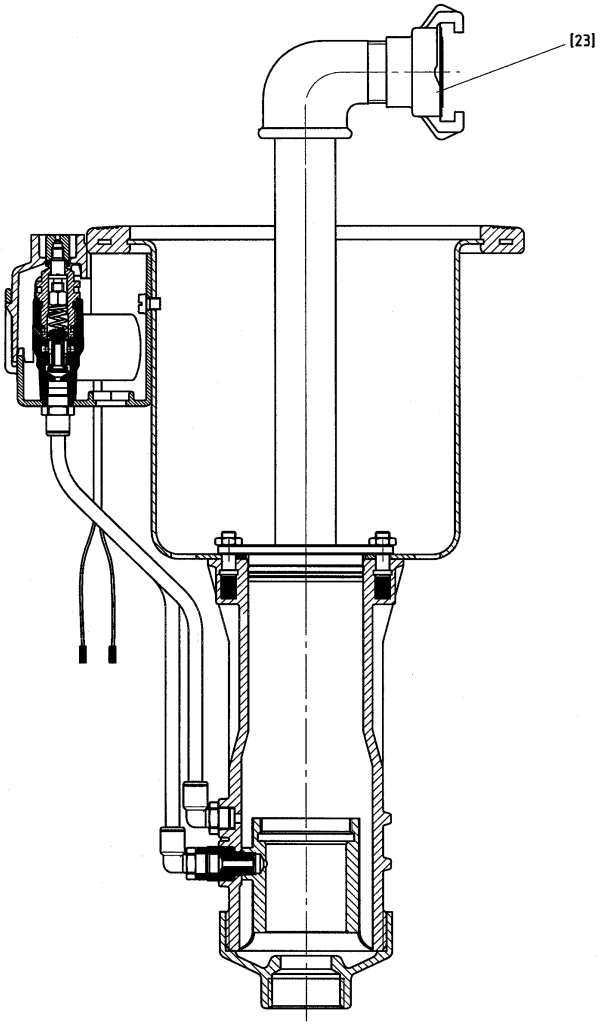
7.2 Assembling of the sprinkler

7.2.1 Flush sprinkler

- ☆ In case that the valve contains soil particles, the sprinkler has to be flushed before assembling.
- ☆ Assemble flushing equipment [23] in the sprinkler housing (see picture 4) and open water supply. Connect hose on flushing equipment, so that water can be derived.



picture 4

7.2.2 Assembly valve

- ☆ Take care that all pieces are clean.
- ☆ Screw on valve insert on valve ram, do not forget spring [14] (see picture 3)
- ☆ Grease seal slightly.
- ☆ Feed / introduce valve piston in the housing. Examine facility by slight up and down movements.
- ☆ Unscrew valve ram [22]
- ☆ Screw valve cover [6] on valve ram [22] and screw in tight into housing.

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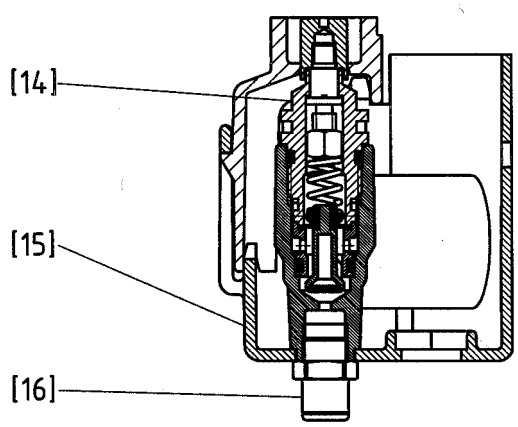
7.2.3 Assembly pressure control unit

- ☆ Assembly pressure regulator [14] in the protection housing [15] according picture 5.
- ☆ Screw in tight both screw connections [16] in protection housing (picture 2)
- ☆ Screw in protection housing [15] on sprinkler housing [16]. (see view X)
- ☆ Plug in control pipe [9] in screw connections [16] (Attention! Take care of the right position). Plug in longest control pipe in the screw connection at the coil side. (Left side, view X)
- ☆ Examine right clamping by drawing control pipe.



picture 5

7.2.4 Sprinkler assembly

- ☆ Plug in sprinkler insert [5] in guide housing
- ☆ Tighten fixing nuts [4] crosswise with socket wrench [21]
- ☆ Pull up sprinkler insert [5] and fix it, by plugging a long screw driver diagonally through impact lever.
- ☆ Plug in cover [17] on impact lever axle and turn retainer for cover [3] in slot.
- ☆ Fasten cover [17] with bolt [2] and press blind cap [3] in screw hole.
- ☆ Pull up sprinkler insert [5] on the cover [17] and take screwdriver away.
- ☆ Let go off the cover – Attention! Bounces because of elastic force back to the housing.

The sprinkler is now completely assembled. Now the function can be checked as described under point 5.1.

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7.3 Break-down and elimination of the defects

Break down	Cause / reason	Elimination
Valve opens / closes only manual not by electrical, Control signal	Coil or coil seat is dirty	Remove coil and clean it, see point 7.1.3
	Supply voltage is to low (24VAC/DC)	Check supply voltage and cable connections
	Coil is broken	Check coil resistance (must be appr. ca. 30Ω)
	Plunger in coil is seated	Change coil
Valve does not open, even not manual	Seal of valve insert is defect	Change valve insert (see point 7.1.2)
	Control water exit on cylinder of the valve is blocked	Disassembly control pipe out off connection and blow through backwards
Valve does not close, even not manual,	Filter for control water is dirty	Disassembly valve insert and clean filter or change it (see point 7.1.3)
	Leakage in the control water path	Check all connections, control pipe and pressure regulators units for leakage's and eliminate them.
The pressure on the sprinkler nozzle is to low.	Pressure regulator is set on min. position.	Turn adjustment screw in direction (+)
	Pressure regulator is dirty	Change pressure regulator
	Valve is blocked	Disassembly valve and flush pipes (see point 7.2.1)

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