FIREFIGHTING EQUIPMENT

User Manual

TURBOKADOR 500

Selectable gallonage - 500 l/min

MOP_LAM_01289_EN RevA - 18/08/2014

POK SAS - ZI Les Guignons - 10400 Nogent-sur-Seine - FRANCE
Tel : +33 (0)3 25 39 84 78 - Fax : +33 (0)3 25 39 84 90 - Email : france@pok.fr - Web : www.pok.fr

FIELD	VALUE
Type of product	Fire nozzle
Product	• Turbokador 500 - Selectable gallonage fire nozzle - 500 l/min
Product referenced	Ref. : 27691, 25217 Images created with reference : 27691
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Summary

IDENTIFICATION 2
SUMMARY 3
INFORMATION 4
- Introduction 4
- Dismantling and warranty 4
- Usage 5
- Usage limits 5

INFORMATION 5
PRESENTATION 6
MAIN VIEW 6
CHARACTERISTICS 7
- Construction 7
- Hydraulic Characteristics 7
- Mechanical Characteristics 7

COMPLIANCE WITH STANDARD EN 15182-2 8
1 - General data 8
2 - Flow chart 8
3 - Mechanical System 8
4 - Prescriptions 9
OVERALL DIMENSIONS 10
USE 11
- Before placing under pressure 11
- Operating and handling 11

MAINTENANCE 12
- Checkings and maintenance procedure 12
- The inlet coupling leaks or does not swivel freely 12
- The shutoff leaks or does not swivel freely 12
- The flow pattern ring doesn’t turn 12
- The spinning teeth is broken or doesn’t turn 13
- The flow pattern ring doesn’t turn 13
- Spare parts 13
- Storage conditions 13
- Cleaning 13

EXPLODED VIEW 14
BILL OF MATERIALS 15
NOTES 16

• Introduction

Please read this manual before using the equipment.

Use, maintenance, or any other operation of the equipment must be done by staff trained for the use of this equipment and aware of any safety rules.

While using the fire nozzle (use, maintenance, installation, ...) it is important to wear personal protective equipment.

• Dismantling and warranty

This equipment has a warranty of 1 year for any fabrication default, except where covered by special written agreement.

The exploded view and bill of materials are not a dismantling manual.

Any dismantling or maintenance operation of the device must be done with water supply turned off.

Dismantling and/or modification of the equipment outside POK SAS factory is allowed only in compliance with procedures described in this manual, and therefore does not affect the warranty.

If the equipment is repaired, the spare parts must be supplied by POK SAS. If not, technical characteristics listed in this document won't be valid, the warranty will void and POK SAS responsibility will not apply.

If maintenance operation damage parts, the warranty may not apply if the procedure has not been carried out properly in accordance with this manual.

Although this is not explicitly stated in instructions, use and wear of protective equipment are obligatory during maintenance operation. POK SAS cannot be responsible of any damage or accident which may occur during the dismantling. If this obligation is not met, please refer to the tools instructions guides for more details.

Only POK SAS can ensure proper and safe functioning of the equipment. Therefore POK SAS will not be liable for any damage or accident caused by dismantling of the equipment outside its workshop.

Do not modify the equipment, it may not be working or be dangerous for use. Any modification not approved by POK will void the warranty.

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• Usage

Please respect the technical limits of the equipment.

The apparatus can not be used if any part is missing or damaged.

Disrespect of safety instructions and use of the fire nozzle over the recommended pressure can be dangerous and even cause death.

It is important to be informed of the any safety regulations relating to your environment before using the equipment.

In case of fire that occurs near or caused by electrical installations, it is imperative to:

1) Cut of power supply as soon as possible
2) Maintain a safety distance as far as possible.
3) To use a spray with a minimum 30° angle.

Before placing the nozzle in service, check :

1) No part is damaged, broken or missing.
2) That the couplings are properly connected to the hose.
3) The swivel inlet rotates freely.
4) That the nozzle handle opens and closes.
5) That the flow rate selector works properly.
6) That the flow pattern selector works properly.

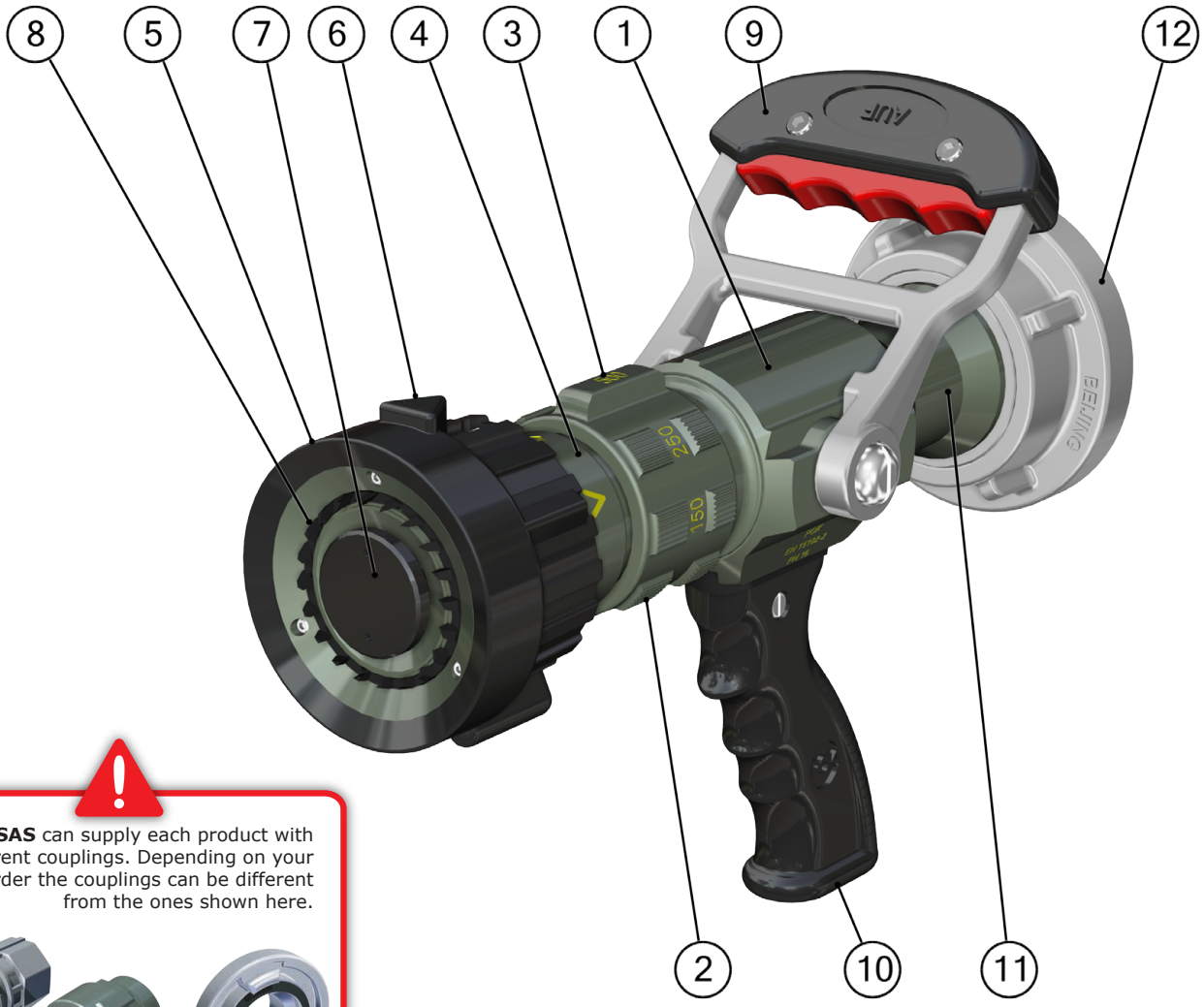
POK SAS can not be held responsible for any accidents involving the use of the equipment if safety and usage instructions are not followed.

• Usage limits

Our nozzles are guaranteed for a maximum operating pressure of PN 16. Our nozzles are guaranteed to resist a maximum of 25.5 bar in a closed position. Apart from a special written approval from POK, out guarantee does not cover pressure rates above those listed.

Presentation

Main view



MARK	DESIGNATION
1	Body in aluminium alloy
2	Flow rate selection ring
3	Tactile indicator for flow rate setting
4	Stream pattern selection ring
5	Polyurethane bumper guard
6	Tactile indicators for stream pattern
7	Stem
8	Spinning teeth
9	Shutoff handle
10	Pistol grip handle
11	Swivel inlet pipe section
12	Inlet coupling Storz DN 65 Beijing **Note :** A different coupling is available upon request. See our catalogue for more information on couplings.

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• Construction

DESIGNATION	VALUE
Body	• Aluminium alloy with hard anodisation
Coupling	• Aluminium alloy
Head bumper guard, handles cover	• Polyurethane.
Axis and screws	• Stainless steel.

• Hydraulic Characteristics

DESIGNATION	VALUE
Flow rate	• 150 l/min @ 6 bar (40 GPM @ 87 PSI) - position 1 • 250 l/min @ 6 bar (66 GPM @ 87 PSI) - position 2 • 500 l/min @ 6 bar (132 GPM @ 87 PSI) - position 3 • FLUSH - position 4
Working pressure	• 16 bar (232 PSI)
Test pressure	• 25,5 bar (362 PSI)
Type of diffusion	• Hollow cone diffusion
Stream pattern selection	• By head ring rotation - 3 Positions : Straight stream, narrow spray (35°), full fog diffusion (130°)
Valve	• Ball valve

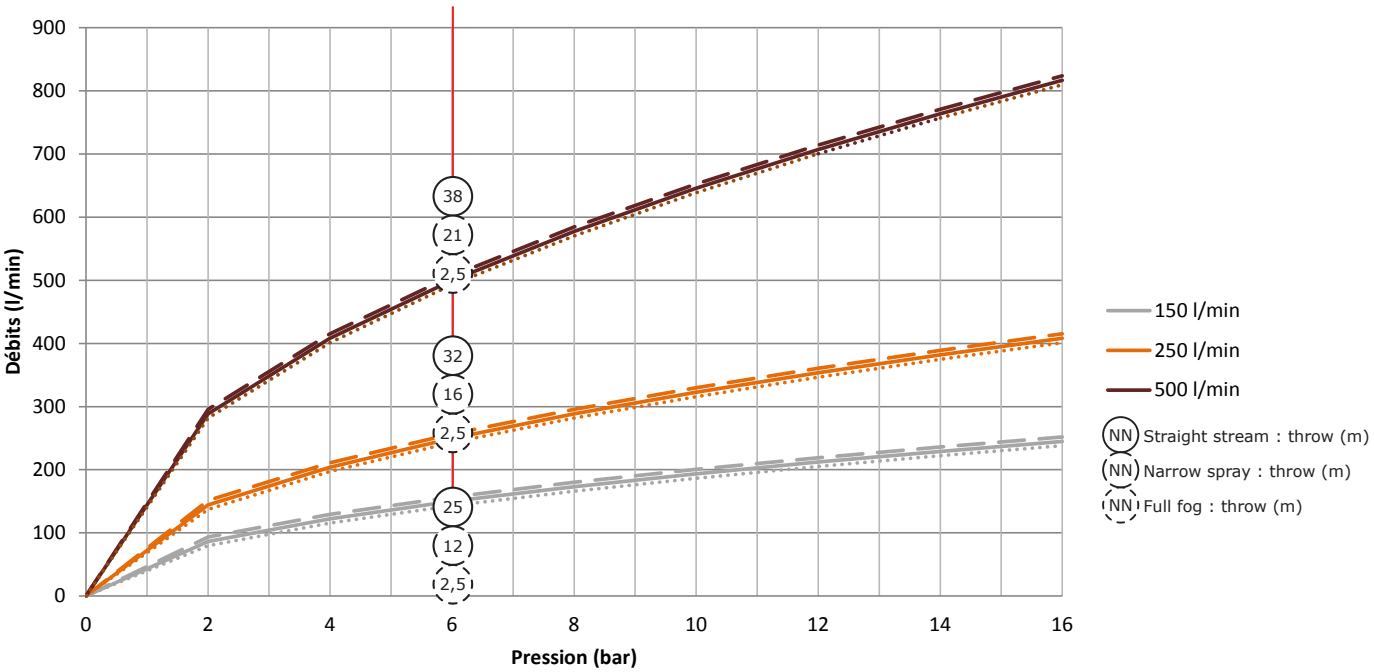
• Mechanical Characteristics

DESIGNATION	VALUE
Inlet	• Inlet coupling Storz DN 65 Beijing **Note :** A different coupling is available upon request. See our catalogue for more information on couplings.
Filter	• Yes, stop particles larger than Ø 5 mm
Flush	• By rotation of the flow rate selection ring

1 - General data

1.1 - Manufacturer	POK
1.2 - Type	Turbokador 500
1.3 - Type as per annex A of EN 15182-2	EN 15182-2, Type 3
1.4 - Flow rate at P_R	500 l/min @ 6 bar (132 GPM @ 87 PSI)
1.5 - Flow rate settings	150 - 250 - 500
1.6 - Type of pattern	Hollow cone diffusion

2 - Flow chart



3 - Mechanical System

3.1 - Coupling system	Full time swivel
3.2 - Gripping device	Pistol grip
3.3 - Shutoff system	Ball valve
3.4 - Straight stream / Fog stream	Rotation
3.5 - Flow rate adjustment system	Rotation

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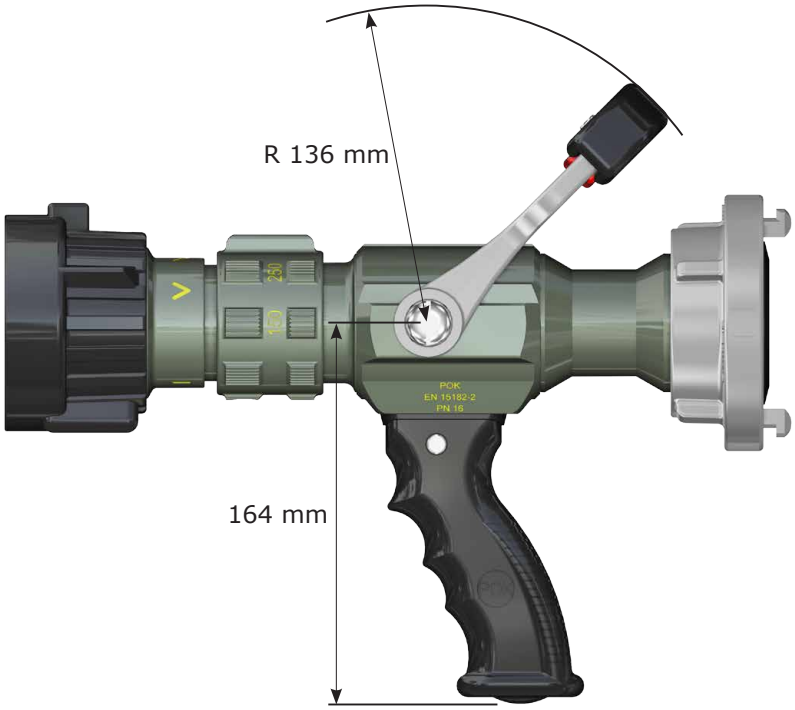
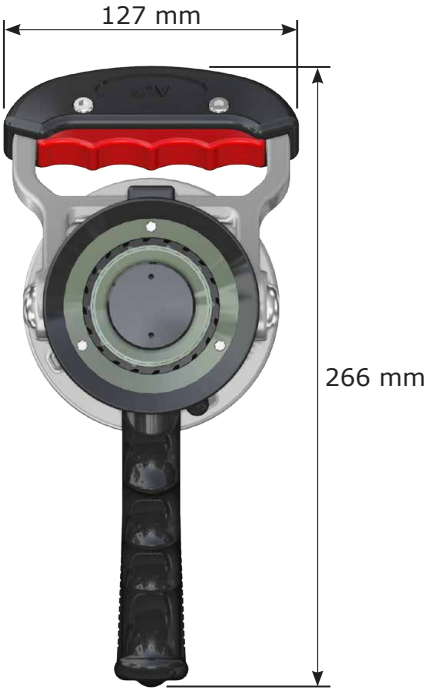
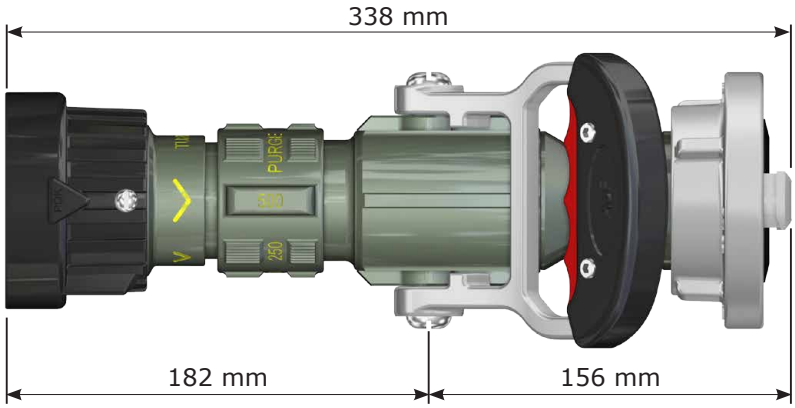
4 - Prescriptions

	Sections of the standard EN 15182	DESCRIPTION	Test results
CONTROL and HANDLING	- 2 / § 4.2.1	**Dimensions (mm)**	338 x 266 x 127
	- 2 / § 4.2.1	**Weight (kg)**	2,80
	- 2 / § 4.2.2.1	**Torques** needed for moving operating elements (N.m)	
	- 2 / § 4.2.2.1	Lever	non applicable
	- 2 / § 4.2.2.1	Shutoff handle	8
	- 2 / § 4.2.2.1	Selective flow rate ring	4,5
	- 2 / § 4.2.2.1	Selective flow pattern ring	3
	- 2 / § 4.2.2.1	Inlet swivel coupling	2
	- 2 / § 4.2.3	**Flow rate selection** Rotation from minimum to maximum	90°
	- 2 / § 4.2.4	**Jet adjustment** Rotation from straight stream to full fog with a minimum spray angle of 100°	155°
PERFORMANCES	- 2 / § 4.3.3	**Effective throw (m)**	38
		Spray	
	- 2 / § 4.3.4	Full fog : angle	130°
	- 2 / § 4.3.5	Narrow spray : angle	35°
PHYSICS	- 1 / § 7.2.2	**Cold resistance (°C)**	-17°C
	- 1 / § 7.2.1	**Heat resistance (°C)**	+80°C
	- 1 / § 6.3.1	**Non-obstruction test (mm)**	6
	- 2 / § 4.3.5	**Brusting pressure (bar)**	>60







Weight : 2,8 Kg

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• Before placing under pressure

- 1 - Check that no parts are damaged or missing.
- 2 - Check that the fire nozzle is correctly connected to a water supply.

Note : To obtain optimal performance, respect the following limits:
- Maximum Flow rate : 500 l/min
- Usage Pressure : 6 bar or 87 PSI

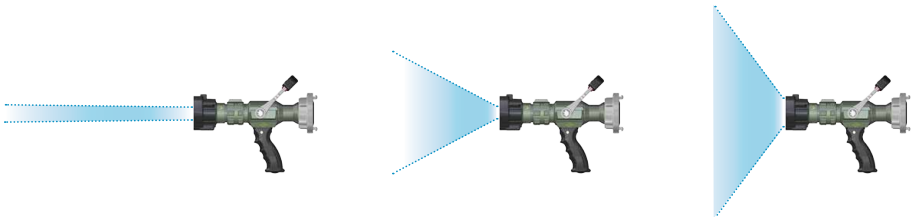
• Operating and handling

Quick ON/OFF shutoff valve. Pull the handle to the rear to obtain the maximum flow rate.

The flow rate and flush is adjusted by rotating the flow rate adjustment ring. The available flow rates are engraved on the flow rate adjustment ring. By rotating the ring to the desired setting, the flow rate will be set to this value at the 6 bar (87psi) reference pressure. A tactile indicator permits the user to know the flow setting even in total darkness and while wearing firefighting gloves (conform to EN 659).
This ring also has a position marked PURGE or FLUSH which permits the removal of particles which could interfere with the proper hydraulic operation of the nozzle.

Selectable stream pattern: a continuous rotation of the head ring allows the user to progress from a straight stream to a narrow spray "Flash Over", to a full fog diffusion cone of 130° forming a wall of water. Tactile and visual indicators permit the user to know the type of stream even in total darkness and while wearing firefighting gloves.

STRAIGHT STREAM **NARROW SPRAY** **FULL FOG DIFFUSION**



• Checkings and maintenance procedure

Before and after each use, check that:

1) No visible damage is found and no part is missing
2) The inlet coupling swivels freely
3) The shutoff operates normally
4) The selective flow ring functions normally
5) The selective flow pattern ring functions normally.

• The inlet coupling leaks or does not swivel freely

- Remove the screw mark 45
- Remove all ball bearings mark 42 while turning the coupling mark 43
- Remove the inlet coupling mark 43 and 46.
- Replace inlet gasket mark 41
- Clean and apply grease (Loctite 8106) to the ball bearing seat mark 1 and 43
- Apply grease on gasket mark 41 (Loctite 8106)
- Install inlet coupling mark 43 on the body mark 1
- Insert all balls mark 42
- Glue (Loctite 243) and screw mark 42
- Ensure that the inlet coupling turns freely

• The shutoff leaks or does not swivel freely

Ensure that no foreign body prevents the shutoff from turning. If there is not any, dismantle the shutoff device as follows:

- Remove the inlet coupling mark 43 and 46 as detailed above
- Remove the screws mark 5
- Remove the ball mark 2
- Remove ball axis mark 3 by pulling inward
- Remove ball gasket mark 18 and gasket mark 19
- Clean and replace if necessary gaskets mark 19 and ball gasket mark 18
- Grease and reassemble gasket mark 19 and ball gasket mark 18
- Replace gaskets mark 4
- Install the handle (pay attention to the mark "OPEN" and "CLOSE")
- Grease and reassemble axis mark 3 and gasket mark 4. The slot guidance for the handle should be horizontal and the handle in "OPEN" position
- Reassemble the ball mark 2
- Replace gasket mark 6
- Grease and reassemble gasket mark 6 (pay attention to not grease the screw mark 5)
- Glue (Locite 243) and screw mark 5
- Reassemble the inlet coupling mark 43 and 46 as detailed above

• The flow pattern ring doesn’t turn

- Remove the index knob mark 31 (pay attention to the spring mark 32 and the ball mark 33)
- Remove the stream index mark 39
- Remove head ring mark 34
- Replace gaskets mark 23
- Clean and grease (Locite 8106) grooves and contact aeras of parts mark 22 and 34
- Reassemble head ring mark 34
- Glue (Locite 243) and screw stream index mark 39 until a slight contact with bore cover mark 22 and untight on a 1/4 revolution.

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- Check the ring turn freely
- Reassemble the spring mark 32 and the ball mark 33 in the index knob mark 31, then glue (Locite 243) and screw all parts on the head ring mark 34 until a slight contact with bore cover mark 22 and untight on a 1/8 revolution.

• The spinning teeth is broken or doesn't turn

- Remove 3 screws mark 37
- Remove cone-shaped piece mark 36 and spinning teeth mark 35
- Clean contact aeras between spinning teeth, head ring mark 34 and cone-shaped piece mark 36.
- If some teeth are missing or damaged, replace spinning teeth mark 35
- Reassemble the spinning teeth mark 35 and cone-shaped piece mark 36 without grease.
- Glue (Locite 243) and tight 3 screws mark 37

• The flow pattern ring doesn't turn

- Remove the flow pattern ring as detailed above
- Remove the flow rate index knob mark 30 (pay attention to the spring mark 32 and the ball mark 33)
- Remove the flow rate ring mark 29
- Replace gasket mark 23
- Clean and grease (Locite 8106) grooves and contact aeras of parts mark 22, 29 and 34
- Insert spring mark 32 and ball mark 33 and reassemble flow rate ring mark 29
- Glue (Locite 243) and screw flow rate index mark 30 until a slight contact with bore mark 24 and untight on a 1/4 revolution.
- Ensure that the flow rate ring turns freely
- Reassemble the flow pattern ring as detailed above

• Spare parts

Some parts such as gaskets are likely to be changed more or less often depending on the frequency of use, conditions of use or storage.
Please contact our sales department for the prices and after sales conditions.
Refer to the schedule in this document to identify the replacement parts.

• Storage conditions

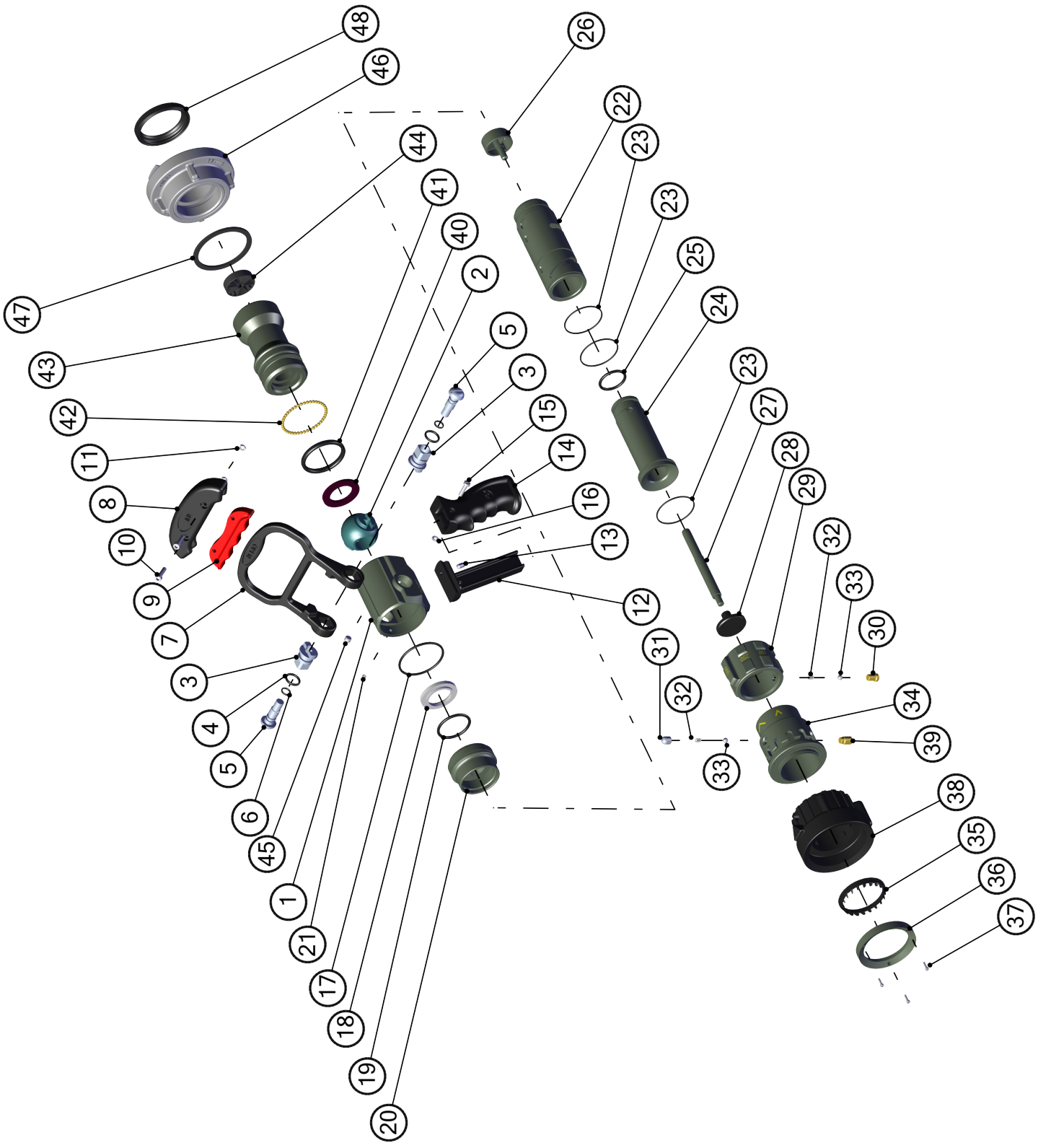
Store the equipment in a clean environment, mud, sand or other element could impede operation of the equipment, and in rare cases damage it.

• Cleaning

It is recommended to clean the nozzle with clean water inside and outside after each use (manoeuvres have to be carried under pressure).

It is recommended to dis-assemble the nozzle once a year if the nozzle is used continuously with salt or brackish water. Clean and dry all components, gaskets, O rings and grease them as per POK Procedure provided with the spare parts kit available on order. This service can be provided by our workshop, please contact us for pricing.

Exploded view



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MARK	QTY	DESIGNATION	REF
1	1	Body	08113
2	1	Valve ball Ø 25	14892
3	2	Valve axis	16188
4	2	O'ring N°12	-
5	2	Screw for valve axis	12790
6	2	O'ring N°7	-
7	1	Shutoff handle	25470
8	1	Upper cover for shutoff handle	13669
9	1	Lower cover for shutoff handle	23291
10	2	Screw CHC M5-20	-
11	2	Nut HM M5	-
12	1	Pistol handle body	08111
13	1	Screw STHC M6-12 with tip	-
14	1	Pistol handle cover	24160
15	1	Screw CS M5-20	-
16	1	Nut H M5	-
17	1	Gasket Ø 55 x Ø 3	-
18	1	Ball Ø 25 gasket	14768
19	1	Gasket Ø 36 x Ø 4	-
20	1	Outlet tip	22470
21	1	Screw STHC M5-5 with tip	-
22	1	Bore cover	22472
23	4	Gasket Ø 45 x Ø 2	-
24	1	Bore	22471
25	1	O'ring N°22	-
26	1	Cross piece	22486
27	1	Stem screw	22487
28	1	Stem	22488
29	1	Flow rate ring	22473
30	1	Flow rate index knob	22474
31	1	Index knob	18347
32	1	Index spring	08019

MARK	QTY	DESIGNATION	REF
33	1	Ball Ø 6,35	-
34	1	Head ring	25221
35	1	Spinning teeth	25223
36	1	Cone-shaped piece	25222
37	3	Screw CHC M2,5-10	-
38	1	Head bumper guard	22476
39	1	Stream index	22485
40	1	Flat gasket Ø 48 x Ø 30 x 4	-
41	1	O'ring N°31	-
42	44	Ball Ø 4	-
43	1	Swivel inlet coupling	07118
44	1	Filter	00755
45	1	Screw STHC M8-6 with flat end	-
46	1	Storz DN65 Beijing	14088
47	1	Flat gasket for 2'' thread	-
48	1	Storz DN65 Beijing gasket	-

Notes

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