

## P.A. - S.p.A. - EQUIPAGGIAMENTI TECNICI DEL LAVAGGIO

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# **RL51** – Spray gun 250 bar – 25 MPa

Technical manual: **E 133** 

Guns suitable for use up to 250 bar - 25 MPa rated pressure pumps.

No fluid passage upon trigger release.

New mechanical device with double connecting rods to guarantee less strain when opening and holding

# **DN10**



- 30.4100.10 RL51 G3/8 G1/4 FF
  - Covered by shockproof plastic semi-housings.
  - Sst seat and ball.
  - Internal structure in brass and Sst.
  - Ergonomic construction.
  - Minimum fatigue for trigger opening and use
  - New mechanical opening device with double connecting rods
  - New trigger design, rotating on a fixed pin to guarantee better mobility and steadiness

#### **TECHNICAL SPECIFICATIONS**

| P/N        | RATED<br>PRESSURE<br>bar - MPa | PERMISSIBLE<br>PRESSURE<br>bar - MPa | MAX FLOW<br>RATE<br>I/min | (1) MAX<br>TEMPERATURE<br>℃ | INLET<br>OUTLET | WEIGHT<br>gr |
|------------|--------------------------------|--------------------------------------|---------------------------|-----------------------------|-----------------|--------------|
| 30.4100.10 | 250 - 25                       | 280 - 28                             | 50                        | 160                         | G3/8 G1/4 FF    | 660          |

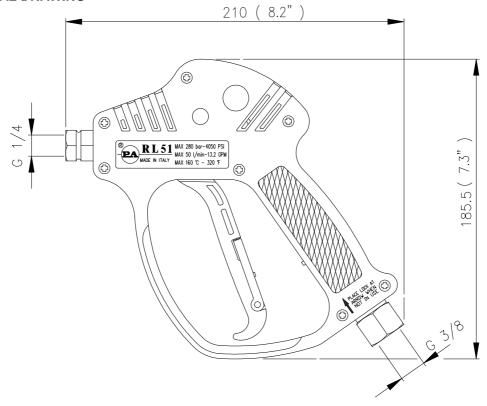
(1) The gun has been designed for continuous use, at a water temperature of  $90^{\circ}$ C (195°F). It can resist a t the max temperature of  $160^{\circ}$ C (320°F) for short periods only , as, when the gun shuts off, the heater continues to transmit the heat to the water, thus increasing both temperature and pressure up to high, dangerous values.

Using the gun at a water temperature higher than  $60^{\circ}$ C involves for the operator the use of adequate sa fety devices, such as gloves, glasses, etc.

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| Instruction manual, maintenance, installation, spare parts.      | n 12 0122 00  |
|--|---------------|
| For a correct utilization, follow the directions of this manual  | n. 12.9133.00 |
| Re-print them on the Use and Maintenance booklet of the machine. |               |

### **DIMENSIONAL DRAWING**



#### **INSTRUCTIONS**

This product is to be utilized with clean fresh water, even slightly additivated with normal detergents. For use involving different or corrosive liquids, contact the PA Technical department. Appropriate filtration should be installed when using unclean liquids. Choose the gun in line with the data of nominal running (system rated pressure, max flow and max temperature). In any case, the pressure of the machine should not exceed the permissible pressure rate imprinted on the gun.

## INSTALLATION

This gun was designed to operate with <u>hot water</u> (in compliance with the technical specs). Provide the plant generating <u>hot water</u> with an equipment limiting the incidental increase of the fluid temperature.

Always fit a safety valve to protect the delivery conduct when the latter is under pressure.

Choose a suitable nozzle and ad just the valve mounted in the front of the gun, thus obtaining a constant supply and avoiding unpleasant pressure spike when closing the system.

If the nozzle wears out, the pressure falls. When you install a new nozzle, adjust the system back to the original pressure.

## **OPERATIONS**

The gun opens and closes a high pressure conduct by means of a piston acting on a seat; the return is controlled by a spring which releases the trigger. Attention: during pump activation always set the gun with its safety latch connected in order to prevent accidental openings WATER HOSE FEED

By high or very unsteady pressure values on delivery, it is necessary to mount a pressure reducer, both to level the flow rate on delivery and to protect the system components.

# PROBLEMS AND SOLUTIONS

| PROBLEMS                  | PROBABLE CAUSES                          | SOLUTIONS  |
|---------------------------|--|--|
| Leakage from the nozzle   | Presence of impurities Gun seat worn out | Clean Replace the seat Fit adequate filters and/or check |
| Leaking seals             | Seals worn out                           | Replace seal   |
| Difficult trigger opening | High pressure inside circuit             | Check the bypass valve and adjust it if necessary        |

## **REGULATIONS**

The design and construction of our products comply with: norm CEI EN 60335-2-79 first edition, published in 1999-03 and its respective variations on the project norm prEN 1829.

Read this manual before starting the assembly.

For a correct utilization, follow the directions described in this manual and re-print them on the <u>Use and maintenance</u> manual of the machine.

The present manual is valid for all the guns named RL 51.

#### **SPARES**

Use original PA spares only in order to get both a correct operation and a long lasting, reliable product.

## **MAINTENANCE**

Maintenance has to be carried out by Specialized Technicians.

STANDARD: every 400 working hours (circa 10,000 cycles), check and lubricate the seals with water resistant grease.

SPECIAL: every 800 working hours (circa 20,000 cycles), check the wear of the seals and internal parts and if necessary, replace with original PA parts, taking care during installation to lubricate with water resistant grease.

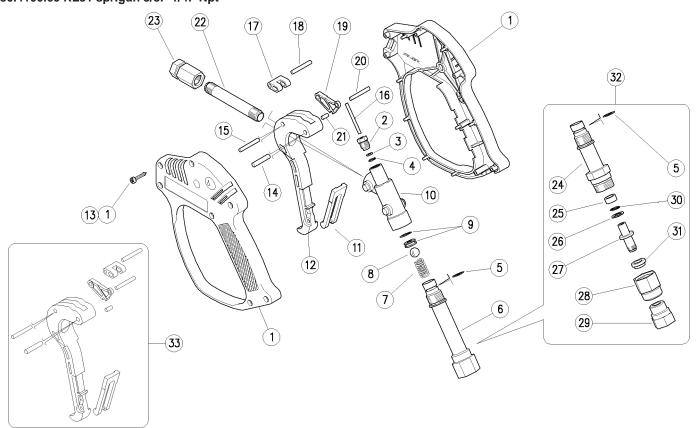
**CAUTION:** re-assemble the gun restoring the original conditions.

The manufacturer is not to be considered responsable for damage as a result from incorrect fitting and maintenance.

Technical data, descriptions and illustrations are indicative and liable to modification without notice

# 30.4100.10 RL51 spr.gun 3/8F-1/4F Bsp 30.4100.60 RL51 spr.gun 3/8F-1/4F Npt

# 30.4120.10 RL51 spr.gun +sw 3/8F-1/4F Bsp



| P/N        | Description  | Q.ty   | K1   | K2  | К3  | K4  |  |
|------------|--|--|--|---|---|---|--|
| 30.4129.24 | Casing-kit -RL51 +screws   | 1  |  |   |   |   | 1  |
| 30.4115.31 | Front Plug, M10x1 brass  | 1  |  |   |   |   | 10   |
| 10.4018.00 | Back-up ring, 3,2x7,5x1,2 mm   | 1  | •  | •   |   |   | 10   |
| 10.3165.00 | O-ring, 2,62x2,84 mm Vi 70   | 1  | •  | •   |   |   | 10   |
| 10.3060.01 | O-ring, 1,78x12,42 mm Ni 85  | 1  | •  | •   |   |   | 10   |
| 30.4106.35 | Inlet housing, 3/8F Bsp brass (1)  | 1  |  |   |   |   | 3  |
| 30.4119.35 | Inlet housing, 3/8F Npt brass (2)  | 1  |  |   |   |   | 3  |
| 30.4108.51 | Spring, 1,6x8,8x24 mm Sst.   | 1  |  |   |   |   | 10   |
| 14.7461.00 | Ball, 13/32" Sst.  | 1  | •  | •   |   |   | 10   |
| 30.1002.20 | Seat, 7mm Sst. +O-ring 1,78 mm   | 1  | •  | •   |   |   | 10   |
| 30.4105.35 | Housing -RL51/56, brass  | 1  |  |   |   |   | 3  |
| 30.1514.84 | Safety latch, PA yellow  | 1  |  |   |   |   | 10   |
| 30.4127.84 | Trigger -RL51/56, PA black   | 1  |  |   |   |   | 10   |
| 16.3077.00 | S/tapping screw, DIN7981 3,5x18 mm   | 7  |  |   |   |   | 10   |
| 30.4114.51 | Parallel pin, 5x33 mm Sst.   | 1  |  |   |   |   | 10   |
| 30.4121.51 | Parallel pin, 5x22 mm Sst.   | 1  |  |   |   |   | 10   |
| 30.4109.51 | Piston, 3x37,6 mm Sst.   | 1  | •  | •   |   |   | 10   |
| 30.4104.84 | Connecting rod , PA black  | 1  |  |   |   |   | 10   |
|            | 30.4129.24<br>30.4115.31<br>10.4018.00<br>10.3165.00<br>10.3060.01<br>30.4106.35<br>30.4119.35<br>30.4108.51<br>14.7461.00<br>30.1002.20<br>30.4105.35<br>30.4127.84<br>16.3077.00<br>30.4114.51<br>30.4121.51<br>30.4109.51 | 30.4129.24 Casing-kit -RL51 +screws 30.4115.31 Front Plug, M10x1 brass 10.4018.00 Back-up ring, 3,2x7,5x1,2 mm 10.3165.00 O-ring, 2,62x2,84 mm Vi 70 10.3060.01 O-ring, 1,78x12,42 mm Ni 85 30.4106.35 Inlet housing, 3/8F Bsp brass (1) 30.4119.35 Inlet housing, 3/8F Npt brass (2) 30.4108.51 Spring, 1,6x8,8x24 mm Sst. 14.7461.00 Ball, 13/32" Sst. 30.1002.20 Seat, 7mm Sst. +O-ring 1,78 mm 30.4105.35 Housing -RL51/56, brass 30.1514.84 Safety latch, PA yellow 30.4127.84 Trigger -RL51/56, PA black 16.3077.00 S/tapping screw, DIN7981 3,5x18 mm 30.4114.51 Parallel pin, 5x33 mm Sst. 30.4121.51 Parallel pin, 5x22 mm Sst. | 30.4129.24 Casing-kit -RL51 +screws       1         30.4115.31 Front Plug, M10x1 brass       1         10.4018.00 Back-up ring, 3,2x7,5x1,2 mm       1         10.3165.00 O-ring, 2,62x2,84 mm Vi 70       1         10.3060.01 O-ring, 1,78x12,42 mm Ni 85       1         30.4106.35 Inlet housing, 3/8F Bsp brass (1)       1         30.4119.35 Inlet housing, 3/8F Npt brass (2)       1         30.4108.51 Spring, 1,6x8,8x24 mm Sst.       1         14.7461.00 Ball, 13/32" Sst.       1         30.1002.20 Seat, 7mm Sst. +O-ring 1,78 mm       1         30.4105.35 Housing -RL51/56, brass       1         30.4127.84 Trigger -RL51/56, PA belack       1         16.3077.00 S/tapping screw, DIN7981 3,5x18 mm       7         30.4114.51 Parallel pin, 5x33 mm Sst.       1         30.4127.51 Parallel pin, 5x22 mm Sst.       1         30.4109.51 Piston, 3x37,6 mm Sst.       1 | 30.4129.24 Casing-kit -RL51 +screws 1 30.4115.31 Front Plug, M10x1 brass 1 10.4018.00 Back-up ring, 3,2x7,5x1,2 mm 1 10.3165.00 O-ring, 2,62x2,84 mm Vi 70 1 10.3060.01 O-ring, 1,78x12,42 mm Ni 85 1 30.4106.35 Inlet housing, 3/8F Bsp brass (1) 1 30.4119.35 Inlet housing, 3/8F Npt brass (2) 1 30.4108.51 Spring, 1,6x8,8x24 mm Sst. 1 14.7461.00 Ball, 13/32" Sst. 1 30.1002.20 Seat, 7mm Sst. +O-ring 1,78 mm 1 30.4105.35 Housing -RL51/56, brass 1 30.4127.84 Trigger -RL51/56, PA black 1 16.3077.00 S/tapping screw, DIN7981 3,5x18 mm 7 30.4114.51 Parallel pin, 5x33 mm Sst. 1 30.4121.51 Parallel pin, 5x22 mm Sst. 1 30.4109.51 Piston, 3x37,6 mm Sst. 1 | 30.4129.24 Casing-kit -RL51 +screws 1 30.4115.31 Front Plug, M10x1 brass 1 10.4018.00 Back-up ring, 3,2x7,5x1,2 mm 1 • • 10.3165.00 O-ring, 2,62x2,84 mm Vi 70 1 • • 10.3060.01 O-ring, 1,78x12,42 mm Ni 85 1 • • 30.4106.35 Inlet housing, 3/8F Bsp brass (1) 1 30.4119.35 Inlet housing, 3/8F Npt brass (2) 1 30.4108.51 Spring, 1,6x8,8x24 mm Sst. 1 14.7461.00 Ball, 13/32" Sst. 1 • • 30.1002.20 Seat, 7mm Sst. +O-ring 1,78 mm 1 • • 30.4105.35 Housing -RL51/56, brass 1 30.4127.84 Trigger -RL51/56, PA black 1 16.3077.00 S/tapping screw, DIN7981 3,5x18 mm 7 30.4114.51 Parallel pin, 5x33 mm Sst. 1 30.4121.51 Parallel pin, 5x22 mm Sst. 1 30.4109.51 Piston, 3x37,6 mm Sst. 1 • • | 30.4129.24 Casing-kit -RL51 +screws 1 30.4115.31 Front Plug, M10x1 brass 1 10.4018.00 Back-up ring, 3,2x7,5x1,2 mm 1 10.3165.00 O-ring, 2,62x2,84 mm Vi 70 1 10.3060.01 O-ring, 1,78x12,42 mm Ni 85 1 30.4106.35 Inlet housing, 3/8F Bsp brass (1) 1 30.4119.35 Inlet housing, 3/8F Npt brass (2) 1 30.4108.51 Spring, 1,6x8,8x24 mm Sst. 1 14.7461.00 Ball, 13/32" Sst. 1 30.1002.20 Seat, 7mm Sst. +O-ring 1,78 mm 1 30.4105.35 Housing -RL51/56, brass 1 30.4127.84 Trigger -RL51/56, PA black 1 16.3077.00 S/tapping screw, DIN7981 3,5x18 mm 7 30.4114.51 Parallel pin, 5x33 mm Sst. 1 30.4121.51 Parallel pin, 5x22 mm Sst. 1 30.4109.51 Piston, 3x37,6 mm Sst. 1 5 - • | 30.4129.24 Casing-kit -RL51 +screws  30.4115.31 Front Plug, M10x1 brass  1 |

| Kit | P/N        | Description                         |   |
|-----|------------|-------------------------------------|---|
| K1  | 30.4118.24 | Spar.kit -RL50-51, 7(6)x1pcs.       | 1 |
| K2  | 30.4123.24 | Spares kit -RL50/1+sw, 11(10)x1pcs. | 1 |
|     |            |                                     |   |

 $(1)\ 30.4100.10 \ \ (2)\ 30.4100.60 \ \ (3)\ 30.4120.10$ 

| Pos. | P/N        | Description                               | Q.ty | K1 | K2 | K3 | K4 | 1  |
|------|------------|---|------|----|----|----|----|----|
| 18   | 30.4113.51 | Parallel pin, 4x29 mm Sst.                | 1    |    |    |    |    | 10 |
| 19   | 30.4124.84 | Connecting rod -RL51/56, PA black         | 1    |    |    |    |    | 10 |
| 20   | 30.4112.51 | Parallel pin, 4x20 mm Sst.                | 1    |    |    |    |    | 10 |
| 21   | 30.4122.51 | Parallel pin, 4x13 mm Sst.                | 1    |    |    |    |    | 10 |
| 22   | 30.4110.56 | Front tube, 1/4Bsp MM 85mm Sst.           | 1    |    |    |    |    | 3  |
| 23   | 30.4111.31 | Outlet coupl., 1/4Bsp FF brass (1)        | 1    |    |    |    |    | 3  |
| 23   | 30.4117.31 | Outlet coupl., 1/4F Bsp-1/4F Npt brs. (2) | 1    |    |    |    |    | 5  |
| 24   | 30.4521.31 | Swivel inlet housing, brass (3)           | 1    |    |    |    |    | 3  |
| 25   | 26.1046.84 | Bushing, 10x14x7 mm Plast. (3)            | 1    |    | •  |    |    | 5  |
| 26   | 10.4010.01 | Back-up ring,10,2x13,9x1,2mm (3)          | 1    |    | •  |    |    | 50 |
| 27   | 26.1041.31 | Pin, M12x1,25 brass (3)                   | 1    |    |    |    |    | 10 |
| 28   | 26.1042.31 | Ring nut, M22x1 brass                     | 1    |    |    |    |    | 10 |
| 29   | 30.4522.31 | Coupl., M12x1,25F-3/8F Bsp brass (3)      | 1    |    |    |    |    | 3  |
| 30   | 10.3109.95 | O-ring, 2,4x9,3 mm Vi 70 (3)              | 1    |    | •  |    |    | 25 |
| 31   | 26.1045.84 | Bushing, 12x20x6 mm Plast. (3)            | 1    |    | •  |    |    | 5  |
| 32   | 30.4125.24 | Tube+swRL51, 3/8F Bsp (3)                 | 1    |    |    |    |    | 3  |
| 33   | 30.4131.24 | Trigger kit -RL50-51, yellow saf.latch    | 1    |    |    |    |    | 1  |