

M200 VALVE 27W 40BAR

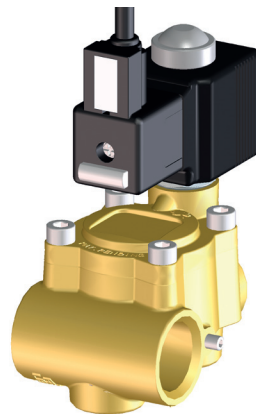
200.1915.1
200.1915.1 ML
200.1915.1 NC
200.1915.1 SS

M200 VALVE 18W 20BAR

200.1915.2
200.1915.2 ML
200.1915.2 NC

M200 VALVE 24VDC 27W 40BAR

200.1915.6



INSTALLATION, USE AND MAINTENANCE

This manual is an integral part of the product and must accompany it in the event of sale or transfer to another user. Keep the manual in good condition for future use. Braglia Srl reserves the right to change the product's technical specifications at any time.



READ THIS MANUAL CAREFULLY BEFORE USE

Compliance with the prescriptions given in this manual is an essential prerequisite to ensure the safety of the operator, to protect the integrity of the product, to preserve the stated performance characteristics and maintain the coverage provided by the general terms of warranty. This device has been designed for installation on sprayer machines and must only be used for the purpose for which it has been built. All other uses other than the intended use are considered to be improper and potentially hazardous. The manufacturer cannot be held liable for any potential damage caused by tampering and/or improper use. The device must be installed by qualified personnel



The device complies with the following directives:

- Directive 2004/108/CE and subsequent amendments - (Electromagnetic compatibility)
- EN ISO 14982 standard - (Agricultural and forestry machinery - Electromagnetic compatibility)

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1 - TECHNICAL FEATURES

CODE	CURRENT CONSUMPTION	MAX. PRESSURE bar (psi)	FLOW RATE l/min at 1 bar (USGal/min at 14.5 psi)	TEMPERATURE	MARKINGS
200.1915.1	2.25 A - 12VDC	40 (580)	80 (21)	-10°C +80°C (-14°F +176°F)	 MADE IN ITALY 12Vdc - 27W ED 100% CL.H - Ta. 80° CE
200.1915.1 ML	2.25 A - 12VDC				
200.1915.1 NC	2.25 A - 12VDC				
200.1915.1 SS	2.25 / 0.8 A - 12VDC				
200.1915.2	1.5 A - 12VDC	20 (290)	80 (21)		 MADE IN ITALY 12Vdc - 10W ED 100% CL.H - Ta. 80° CE
200.1915.2 ML	1.5 A - 12VDC				
200.1915.2 NC	1.5 A - 12VDC				
200.1915.6	1.1 A - 24VDC	40 (580)	80 (21)	ACL ^{ITALY} TYPE 521 24V= 27W ED100% CL.H Ta.80° CE	

2 - INTENDED USE



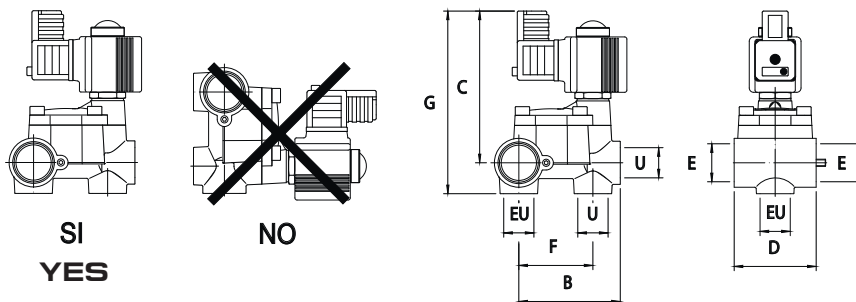
The M200 series valves are normally closed (NC) servo operated diaphragm solenoid valves. They are designed for single and (patented) modular use (using the common inlet manifold). They can be connected in compact assemblies using the accessories available in the Braglia catalog. Wired to agricultural sprayers electrical and computerized control systems they will control sprayers sections and main on/off operations.

3 - INSTALLATION



The M200 series valves, in any configuration, must be connected to the sprayer pressure line.
 The circuit must be provided with:
 - pressure filter (80 mesh minimum) positioned between the pump and the valves;
 - pressure relief valve.

Braglia can not be held liable for direct or indirect damages resulting from the use of M200 valves with agricultural chemicals. The use of chemicals is carried out under the responsibility of the operator who then has the obligation to ensure the safety requirements specified by the manufacturer on the chemical packaging and wear appropriate clothing and personal protective equipment in accordance with the requirements of law. Braglia is not responsible for any damage to persons, animals and things from the improper use of these substances with their products.



DIMENSIONS (mm)

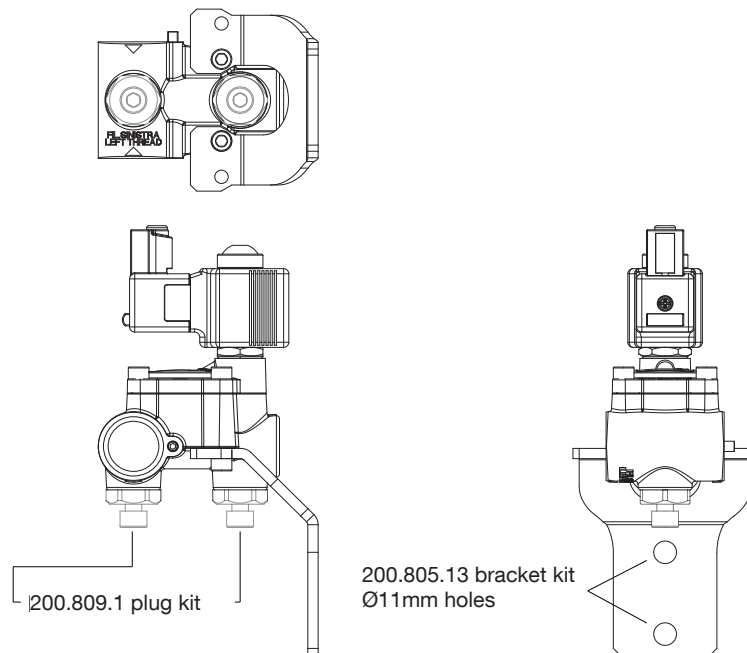
U - EU	B	C	D	E	F	G
G1/2F. - 1/2" BSPF.	70	104	57	G3/4F. - 3/4" BSPF.	51.5	127

M200 valve sets are configured and assembled using the components in the Braglia catalog. Connections: **E** and **EU** inlets, **U** and **EU** outlets. The **EU** connection may be used as inlet (as an alternative to **E**) or outlet to manage a pressure line directly fed from the pump (eg ball valve for spray gun).



THE VALVES MUST BE POSITIONED IN HORIZONTAL POSITION. ANY OTHER POSITIONING IS INCORRECT.

Bracket kit 200.805.13 and plug kit 200.809.1 are available to assemble the valves on sprayers frame.



- Do not install the valves inside the tractor cab;
- Install a pressure relief valve set at 40 bar (580 psi) on pump pressure line;
- The accessories and piping used on pump pressure line must be dimensioned to ensure pressure resistance and dimensioned for the required flow rate;
- No objects must get into the valve during handling and installation (burrs of metal/plastic material, dirt, pieces of PTFE tape, adhesives etc ..);
- Allow adequate handling space for maintenance and replacement of worn or damaged parts;
- The valve installation must be performed by qualified personnel. Braglia is not liable for damages to equipments, people, animals or property caused by improper installation.



- For valves proper operation, when connected to control devices (M200 control Kits), refer to the wiring diagram of the control device;
- Valve wiring must be performed by qualified personnel;
- Braglia is not liable for damages to equipments, people, animals or property caused by improper installation;
- Use only original wiring supplied with Braglia control devices;
- Do not damage, stretch or replace the wiring provided with Braglia control devices;
- Use the indicated power supply voltage (12 VDC);
- Install the valves well away from heat sources. Install them to help solenoid heat dispersion;
- Do not activate the electromagnet before having assembled it to the valve body;
- Solenoid can be rotated and oriented in the best position by loosening and tightening the 200.301.33 fixing nut. Be careful not to drop loose the O-Ring 166.602.78. Solenoid heating during operation is a normal condition. If you see smoke and feel acrid smell, immediately turn off the power supply.

4 - PRELIMINARY OPERATIONS

All preliminary operations must be performed without power supply and **USING CLEAR WATER**. Power supply voltage is clearly indicated on solenoid.

Check the hydraulic connections seal and the correct connection of power supply cables and control device wiring.

5 - USE

M200 VALVES WITH M200 CONTROL KIT AND SMARTSPRAY

M200 control kits are 12 VDC valve remote control devices. SmartSpray is a modular control system for agricultural spraying aimed to vineyard and plant protection. Wired to section valves (12VDC models only) and to M202 pressure adjusting valve (**SmartSpray can only use 202.1510.10 and 202.1510.10SC pressure regulators**), they controls all ON/OFF operations on sprayers sections, main ON/OFF valve and pressure adjusting valve (when applicable). These devices must be used on agricultural sprayers and are in accordance with the following directives:

- 2004/108/CE and subsequent amendments - (Electromagnetic compatibility)
- EN ISO 14982 - (Agricultural and forestry machinery - Electromagnetic compatibility - Test methods and acceptance criteria)

M200 CONTROL KIT FEATURES



CODE	SECTIONS	MAIN ON/OFF	PRESSURE ADJUSTING
200.302.47	2	NO	NO
200.302.48	2	YES	YES
200.302.49	4	YES	YES



- Max. 12VDC power supply;
- Before performing any operation, switch off power supply;
- Never direct water blasts towards the device;
- Never use solvents or petrol to clean the device.




MAIN ON/OFF SWITCH (CONTROL KIT 200.302.48 and 200.302.49 ONLY)

- In  the control kit power is ON (LED is lit up). The main ON/OFF valve (if fitted) is shut off. The pressure is on. This position will open the section valves (if switched in ON position);
- In  the control kit power is ON (LED is lit up). The main ON/OFF valve opens. The pressure goes down to zero. In the same time all open section valves (if switched in ON position) will shut off;
- The switch lever in central (neutral) position will switch off power to control kit (LED is shut off). **WARNING:** at every spraying session end, **ALWAYS** switch lever in this position to avoid tractor battery draining.



SECTION VALVES

- Upward lever (ON): valve opens (LED is lit up);
- Downward lever: valve is shut-off (LED is shut off)

WARNING: with control kits 200.302.48 and 200.302.49, section valves will work only if the main ON/OFF switch is ON at  position.



PRESSURE ADJUSTING (CONTROL KIT 200.302.48 and 200.302.49 ONLY)

The lever is normally in middle position.

Pressing toward **+** pressure build-up gradually to reach the required working pressure;

Pressing toward **-** pressure gradually decreases to zero.

Using SmartSpray computer these valves can be operated in manual or automatic modes depending on the configuration, the options chosen for the machine set-up and the spraying parameters. For the M200 valves use with SmartSpray please read the specific technical documentation.

6 - MAINTENANCE



- Switch off power supply before performing any maintenance operation;
- Always wear the necessary personal protective equipment;
- Never direct water blasts towards the device;
- Never use solvents or petrol to clean the device.

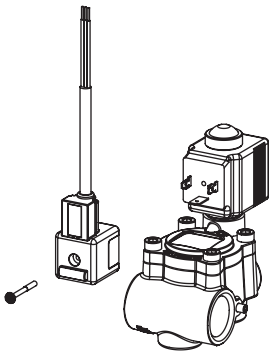


WARNING

Perform maintenance at the end of each working day washing carefully the complete sprayer circuit with clean water. Any chemical residue must be carefully collected and disposed appropriately. If spraying was done using aggressive chemicals, perform **COMPLETE MAINTENANCE** every 100 hours of spraying and **ALWAYS** at agricultural season end.

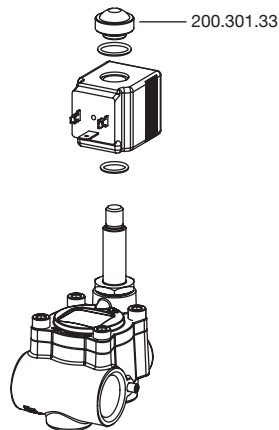
COMPLETE MAINTENANCE

1



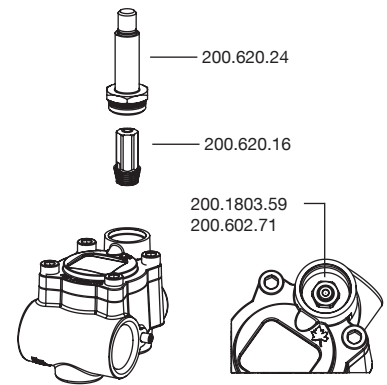
- Switch off power supply;
- Unscrew the valve connector.

2



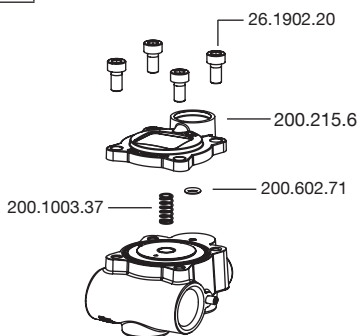
- Remove the solenoid and the O-Rings unscrewing the 200.301.33 cap.

3



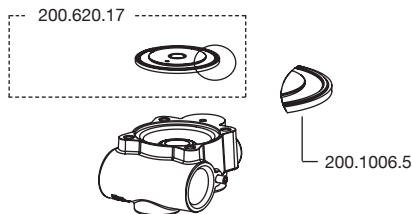
- Unscrew 200.620.24 with hex. 22 wrench, then remove 200.620.16;
- Clean the 200.620.24 inside;
- Check the FKM seal of 200.620.16;
- Clean the 200.620.16 surfaces or replace 200.620.16 if worn or completely dirt;
- Clean 200.1803.59 or replace it if worn. Use hex. 10 wrench to replace it along with 200.602.71 O-Ring.

4



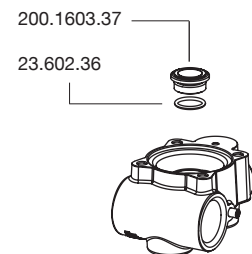
- Unscrewing four 26.1902.20, remove 200.215.6, 200.602.71 and 200.1003.37

5



- If required, replace 200.1006.5 diaphragm.
- WARNING: keep the mounting position side of the 200.1006.5 diaphragm as shown in the drawing detail;**
- Check 300.601.32 gasket inside 200.620.17 assembly. Replace 300.601.32 if needed.

6




- Check 200.1603.37 seat. Clean it or replace it if worn using hex. 12 wrench;
- Replace also 23.602.36 O-Ring.



To assemble the valve, reverse all steps.

WARNING - STEP 3: to ensure 40 bar (580 psi) valve opening, 200.620.24 must be assembled with **MINIMUM** torque of 20 Nm (15 lbf ft). Check the valve opening at 40 bar (580 psi) and apply more torque until valve opens at required pressure.

7 - TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
No water comes out from valve	The wiring is not connected to the valve	Check wiring.
	Solenoid is not working	
	Control kit fuse burned	Replace fuse.
	Opened main ON/OFF valve	Check the main ON/OFF switch position on control kit. 
	Pressure filter is dirt	Clean filter.
200.620.24 is dirt or oxidated	1. Clean water circuit with clean water; 2. Do complete maintenance; 3. Send valve or valve assembly to maintenance center.	
200.620.24 and 200.620.16 are stuck or dirt		
The valve do not close	200.620.24 is dirt or oxidated	1. Clean water circuit with clean water; 2. Do complete maintenance; 3. Send valve or valve assembly to maintenance center.
	200.620.24 and 200.620.16 are dirt	
	200.1803.59 worn	
	200.1006.5 diaphragm and 300.601.32 gasket of 200.620.17 are worn	
Fumes and smells from solenoid	Damaged solenoid	1. Stop spraying immediately and replace the solenoid; 2. Send valve or valve assembly to maintenance center.

8 - DECOMMISSIONING

The product must be disposed off in compliance with the laws in force in the Country where this operation is performed.

9 - WARRANTY TERMS

Braglia Srl guarantees this product for two years from the date of sales to the customer (the date of the delivery note applies).

Parts that are acknowledged as being faulty due to the use of faulty material or errors of workmanship (at the indisputable discretion of Braglia srl) will be repaired or replaced free of charge at the nearest Service Centre.

The warranty does not cover charges for disassembly, reassembly and transport to the Service Centre.

The warranty does not cover:

- Damage caused by transport;
- Damage arising out of improper installation or faults caused by inadequate electrical equipment or by climatic/environmental conditions that differ from those indicated;
- Damage arising out of the use of chemicals that are incompatible with the materials employed;
- Damage arising out of use of the instrument for purposes that are not those envisaged;
- Faults caused by insufficient routine and extra-duty maintenance, neglect, unauthorised tampering or modification, improper training of the user, repair work performed by unauthorised or untrained persons;
- Improper installation or adjustment;
- Faults arising out of normal wear and tear.

The Service Centre will perform repair work in a manner that is compatible with its organisation.

- The warranty does not cover assemblies or components that have not been washed and cleaned to remove residues.
- Parts repaired or replaced under warranty conditions are guaranteed for two years (620 days) from the date on which they were replaced or repaired.

Braglia Srl does not offer warranties other than those indicated.

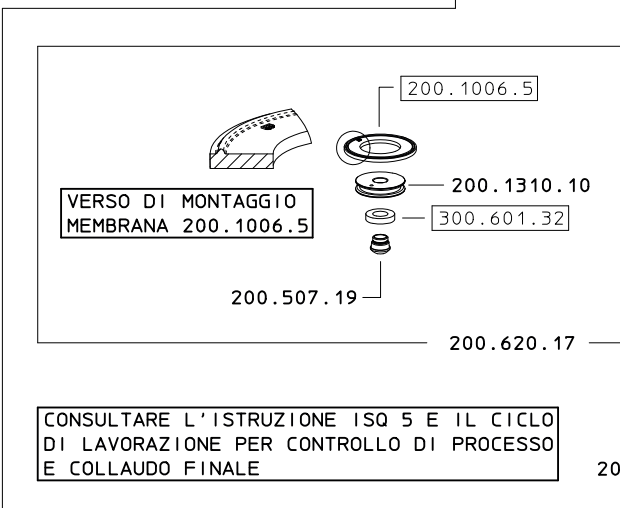
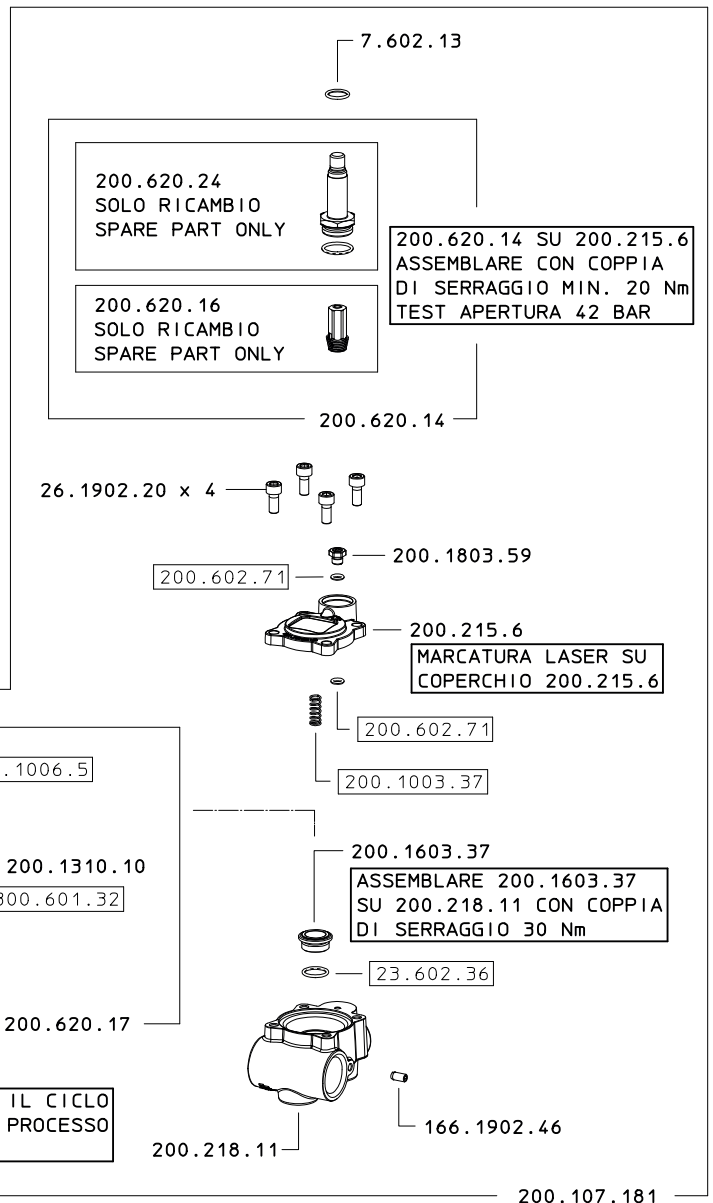
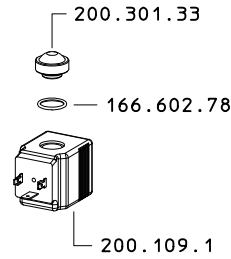
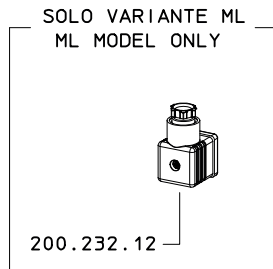
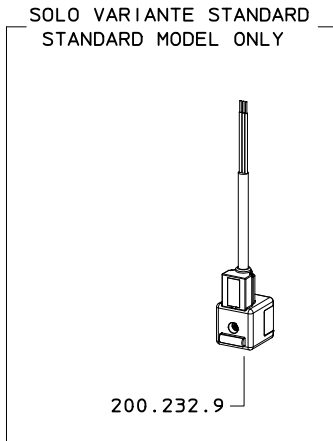
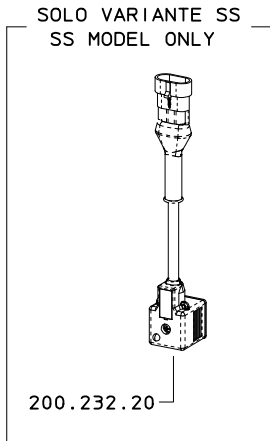
- No manufacturers, agents, distributors or dealers are authorised to take charge of responsibilities concerning Braglia srl products.
- Warranty terms acknowledged by the law, including commercial warranties and provisions for special purposes, are limited to the validity indicated.
- The warranty provided by Braglia Srl does not apply to or compensate for loss of profit or any resulting direct or consequential damage.

Parts replaced under warranty conditions will remain property of Braglia Srl.

All safety information provided in sales literature and regarding the intended use, performance and characteristics of the product must be transferred to the end user upon the responsibility of the purchaser.

Any dispute will be settled by the Law Court of Reggio Emilia.

200.1915.1
200.1915.1 ML
200.1915.1 NC
200.1915.1 SS

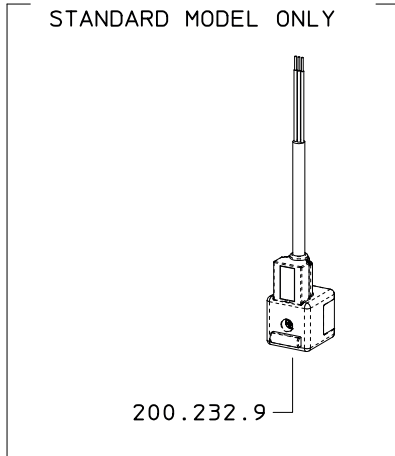


COME SI ORDINA / HOW TO ORDER
Kit ricambio
Spare parts kit **200.302.46**

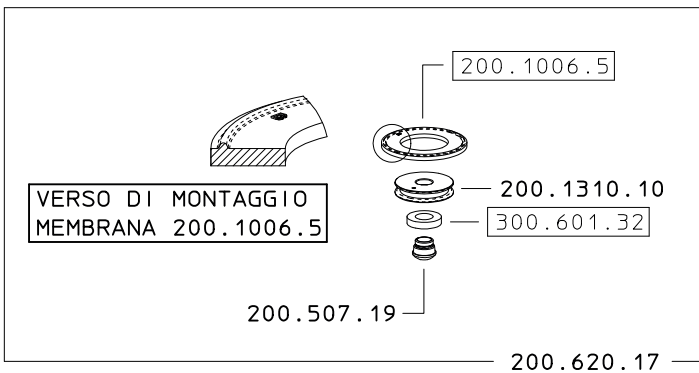
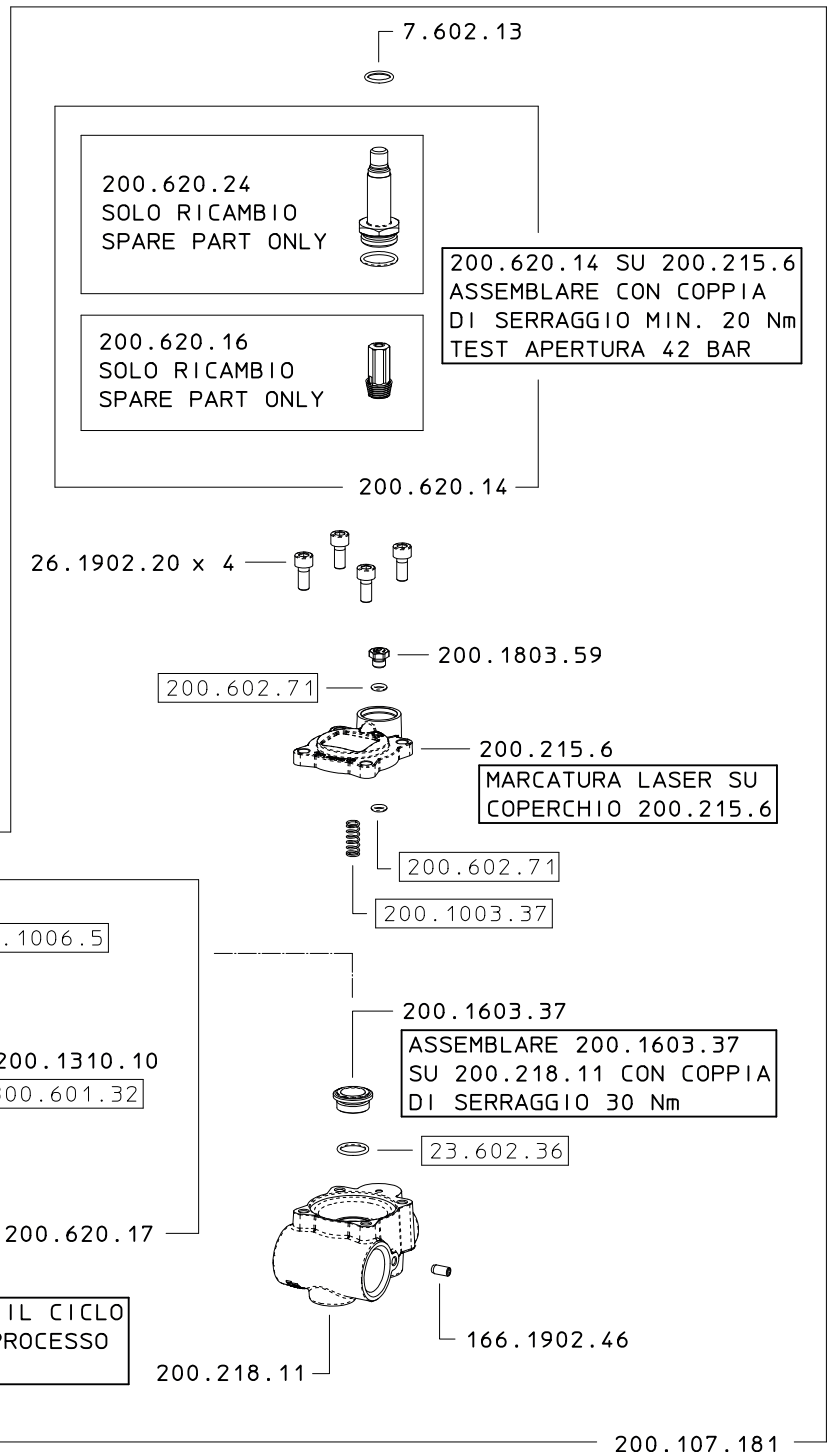
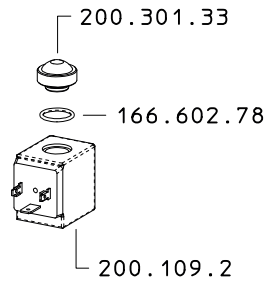
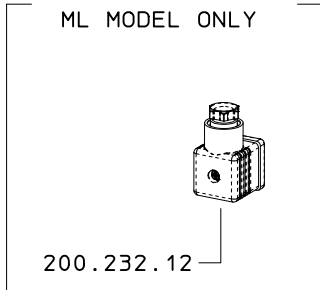
DESCRIZIONE: VALVOLA M200 27W 40BAR		N°revisione 14	Data revisione 31/10/2016
Braglia SRL Tel. +39 0522 340648 Fax. +39 0522 345025 I-42122 REGGIO EMILIA - ITALY - UE Email tecnico@braglia.it	DISEGNATO M.CORRADINI	APPROVATO G.BRAGLIA	Dis.N°/Codice 200.1915.1

200.1915.2
200.1915.2 ML
200.1915.2 NC

SOLO VARIANTE STANDARD
STANDARD MODEL ONLY



SOLO VARIANTE ML
ML MODEL ONLY



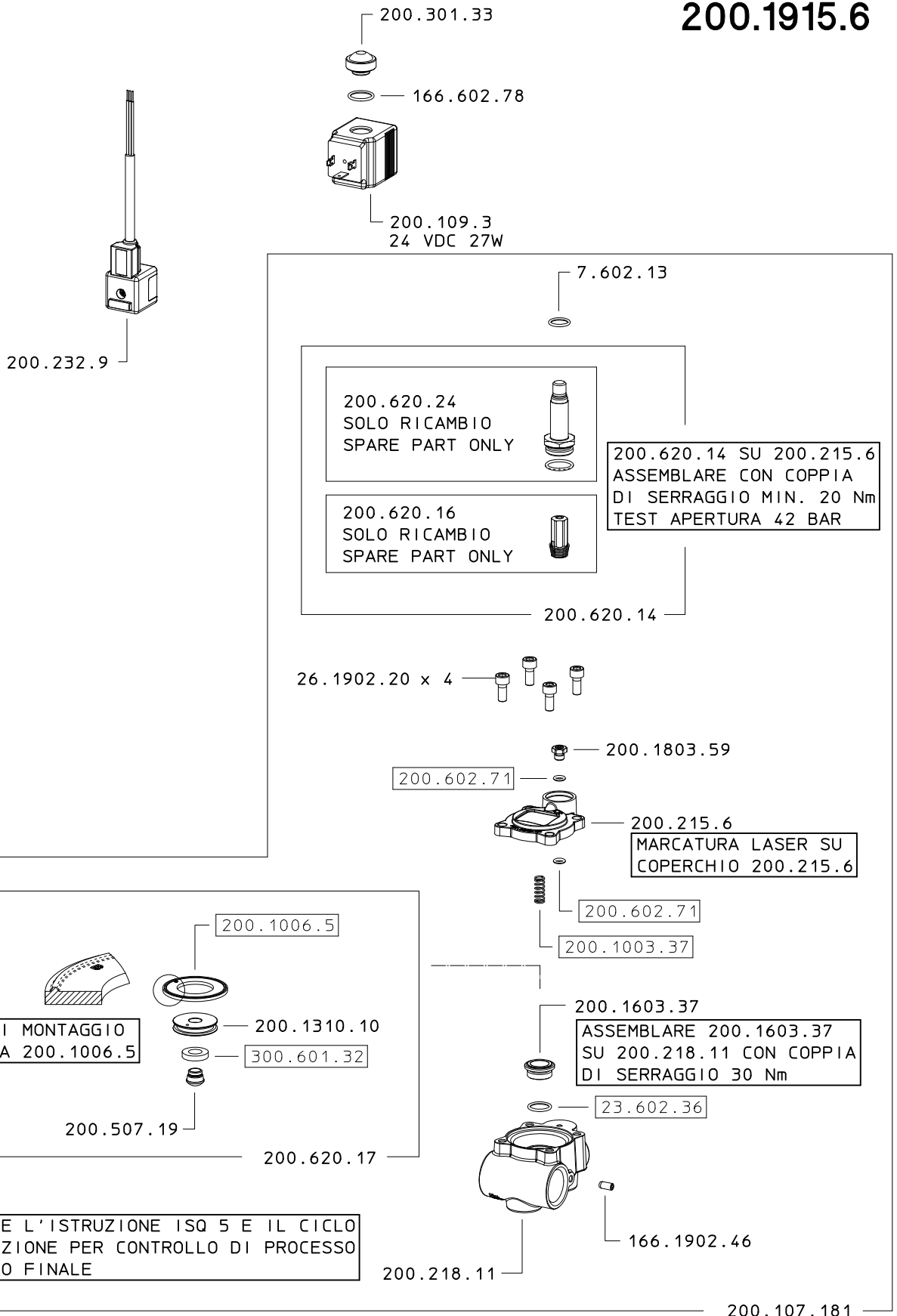
VERSO DI MONTAGGIO
MEMBRANA 200.1006.5

CONSULTARE L'ISTRUZIONE ISQ 05 E IL CICLO
DI LAVORAZIONE PER CONTROLLO DI PROCESSO
E COLLAUDO FINALE

COME SI ORDINA / HOW TO ORDER
Kit ricambio
Spare parts kit **200.302.46**

DESCRIZIONE: VALVOLA M200 18W 20BAR		N°revisione 14	Data revisione 31/10/2016
Braglia SRL Tel. +39 0522 340648 Fax. +39 0522 345025 I-42122 REGGIO EMILIA - ITALY - UE Email tecnico@braglia.it	DISEGNATO M.CORRADINI	APPROVATO G.BRAGLIA	Dis.N°/Codice 200.1915.2

200.1915.6



COME SI ORDINA / HOW TO ORDER
Kit ricambio
Spare parts kit **200.302.46**

DESCRIZIONE: VALVOLA M200 24VDC 27W 40BAR		N°revisione 05	Data revisione 31/10/2016
Braglia SRL Tel. +39 0522 340648 Fax. +39 0522 345025 I-42122 REGGIO EMILIA - ITALY - UE Email tecnico@braglia.it	DISEGNATO M.CORRADINI	APPROVATO G.BRAGLIA	Dis.N°/Codice 200.1915.6

CE DECLARATION OF CONFORMITY

BRAGLIA s.r.l.

Via Lutero, 4
42122 MASONE (RE) - Italy
VAT Id. 00443530357

declares that the following products

Description:		Code no.:	
	M200 27W 40BAR VALVE		200.1915.1
			200.1915.1 ML
			200.1915.1 NC
			200.1915.1 SS
	M200 18W 20BAR VALVE		200.1915.2
			200.1915.2 ML
			200.1915.2 NC
	M200 24VDC 27W 40BAR VALVE		200.1915.6
	M200 VALVE ASSEMBLIES		M200XXXXXXXXXX

fulfill the requirements of the following European Directives:

2004/108/CE and subsequent amendments
(Electromagnetic compatibility)

Reference to the Applicable Standard:

EN ISO 14982
(Agricultural and Forestry Machinery - Electromagnetic compatibility - Test methods and acceptance criteria)

Masone, Reggio Emilia November 3rd, 2016



Vitaliano Braglia

CEO
Legal Representative

Braglia S.r.l.

www.braglia.it

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tel +39.0522.340648 - fax +39.0522.340897 - braglia@braglia.it