

Assembly Instructions

Hand Dosing Device

Article Number:

WDVHP-02-HG

Dosing volume 0,010 – 0,200 cm³

WDVHP-03-HG

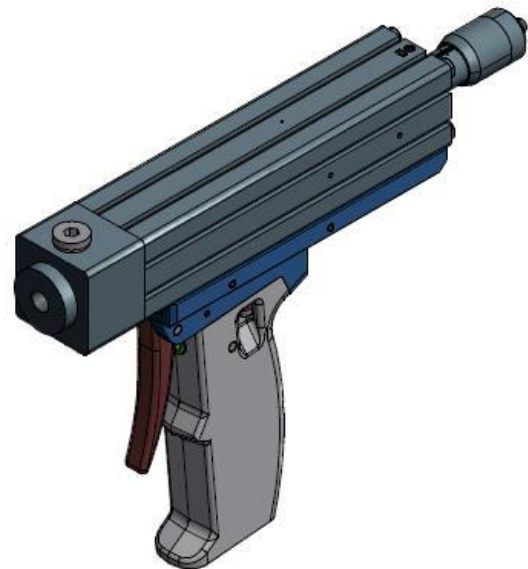
Dosing volume 0,100 – 2,000 cm³

WDVHP-04-HG

Dosing volume 1,000 – 6,000 cm³



WDVHP-02-HG



WDVHP-03-HG / WDVHP-04-HG



NOTE

Please read these Assembly Instructions carefully before first using the device and strictly adhere to the instructions!

This device may only be worked with and worked on by persons who are familiar with the Assembly Instructions and the current regulations for industrial safety and accident prevention.

**Always keep this translation of the “Original Assembly Instructions” at the device!
The manual has to be available anytime!**

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EC Declaration of Incorporation

in accordance with EU Machinery Directive 2006/42/EU, dated 17 May 2006, Appendix II B

We herewith confirm that the below mentioned incomplete device meets the basic requirements for safety and health as stated in EU Machinery Directive 2006/42/EU for its design and construction as well as for the configuration released by us on the market. This machine component will not be operated before it has been determined that the incomplete system where the machine component will be installed also meets the requirements of the Directive (2006/42/EG).

Manufacturer

Walther Systemtechnik GmbH
Hockenheimer Straße 3
D- 76726 Germersheim

Description

Hand Dosing Device,
Article No. WDVHP-02-HG
 WDVHP-03-HG
 WDVHP-04-HG

We also declare the conformity with other, product-relevant directives/guidelines:

Mach. Direct. 2006/42/EU App. I, Clause: 1.1.2, 1.1.3, 1.1.5, 1.1.6, 1.3.2, 1.3.3,
1.3.4, 1.5.9
EMC- Directive 2014/30/EU, dated 26. February 2014

Applied harmonized standards, in particular:

DIN EN ISO 12100 Safety of Machinery – General Design Principles –
 Risk Assessment and Risk Reduction (ISO
 12100:2010)

In addition, we also confirm that the special documentation according to Appendix VII Part B has been prepared.

The manufacturer, respectively his authorized representative obligates himself to submit this documentation to the market surveillance authorities, if requested.


This EC Declaration of Incorporation becomes invalid if the incomplete device will be altered or changed without consent of Walther Systemtechnik GmbH.

Authorized representative for Technical Documentation:

Stefan Hirl, Hockenheimer Straße 3, D- 76726 Germersheim

Germersheim, 19 April 2016

(Place, Date)


(Stefan Hirl, Management)

1 Introduction

1.1 Target Group of the Assembly Instructions

- Operating Personnel
- Maintenance Personnel

1.2 List of Signs and Symbols

Symbols are used to identify hazards and certain practices. Symbols are also used in the assembly instructions. The below symbols for hazards and information describe circumstances which can result in damages to persons, objects and environment if not observed.

The following terms and symbols are used in the assembly instructions to identify hazards:



DANGER

Describes a potentially dangerous situation.
Death, grievous bodily harm or severe material damage **WILL** occur if the respective measures of precaution have not been taken.



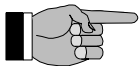
WARNING

Describes a potentially dangerous situation.
Death, grievous bodily harm or severe material damage **MAY** occur if the respective measures of precaution have not been taken.



CAUTION

Describes a potentially dangerous situation.
Slight injuries **CAN** occur if the respective measures of precaution have not been taken.
This signal word is also used to describe possible property damages.



IMPORTANT

Indicates tips for usage and other particularly useful information.
No dangerous situation.

2 Safety

2.1 General Information

The construction of this incomplete device is according to the latest technology and is absolutely reliable. The individual components as well as the complete device are continuously checked by our quality management.

2.2 Dangers from Residual Energies

Please instruct the operating personnel on the respective measures to be taken against the occurrence of mechanical, hydraulic, pneumatic and electric / electronic residual energies.

2.3 Warranty and Liability

According to the conditions laid down by the German Engineering Federation (VDMA), Walther Systemtechnik GmbH has a guarantee of 12 months under normal European operating conditions on its own parts (spare parts are excluded); or according to the conditions of the manufacturer.

This guarantee can only be granted by Walther Systemtechnik GmbH, if:

- the user has thorough knowledge of the content of these assembly instructions;
- the user follows the instructions and notes contained in these assembly instructions;
- the user does not rebuild or make changes on parts of the (incomplete) device without prior consent of WST Systemtechnik GmbH.

2.4 Correct Use

This device will not be operated under other than the described conditions.

It has solely been designed for the dosing of media in accordance with the detailed information of this operating manual.

Any other type of use or beyond is considered as not intended. The manufacturer cannot be made liable for damages resulting from such incorrect use.

Correct use of the device also includes:

- Observing and adhering to all operating instructions stated in this manual.
- Adherence to inspection and maintenance tasks.

2.5 Incorrect Use

The manufacturer cannot be made liable for damages resulting from such incorrect use; incorrect use includes among others:

- Processing aggressive media (such as acids, alkaline, cleaning agents, chemicals etc.) or media which have not been approved in writing by the manufacturer;
- Using corrosive and / or curable materials;
- Operating the device with insufficient knowledge about the operation, maintenance and care of the device.
- Making changes, extensions or alterations on the device that may hamper its safety without the prior consent of Walther Systemtechnik GmbH.
- Operating the device with defective safety installations or not properly attached or malfunctioning safety devices.
- Handling the device while energized

2.6 Qualification of Personnel

Only trained and instructed personnel may conduct work on the equipment.

The responsibilities of the personnel for assembly work, operation, repair work or maintenance work must be clearly assigned to individuals!

Persons in training may work with the equipment only under supervision of an experienced person.

Task	Personnel	Instructed Personnel	Personnel with Technical Qualification	Specialist	Supervisor
Packaging, Transport		X	-	-	-
Commissioning			X	X	-
Operation		X			-
Troubleshooting, general			X	X	-
Troubleshooting mechanical		-	X	-	-
Troubleshooting electrical		-	-	X	-
Setting up		-	X	-	-
Maintenance		-	X	-	-
Repair		-	X	X	-
Taking out of service, Storage		-	X	X	-

3 Transport

3.1 Packaging

The type of packaging depends on the individual mode of shipping. If not separately contracted, the packaging is in accordance with the rules and regulations of Walther Systemtechnik GmbH. This rule is in accordance with the Federal Association for Packaging HPE.

3.2 Tasks before Transport

The following has to be done before transport:

- Disconnect all power lines.

The actual transport of the device and its individual parts requires special care in order to prevent damages from external forceful impact or careless on- and off-loading. Depending on the mode of transportation, suitable transport and load securing has to be selected. The device will be aligned and leveled by appropriate fastening elements.

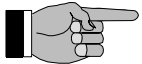
4 Description of Function

4.1 Designated Use of Incomplete Device

The special construction enables the supply of a specific lubricant in a specific amount at a specific time and location. The Dosing Valves are also suitable for use with oil.

4.2 Type Label of Incomplete Device

The Dosing Valve is marked on the side of the housing by an engraving that contains the manufacturing date and the article number.



IMPORTANT

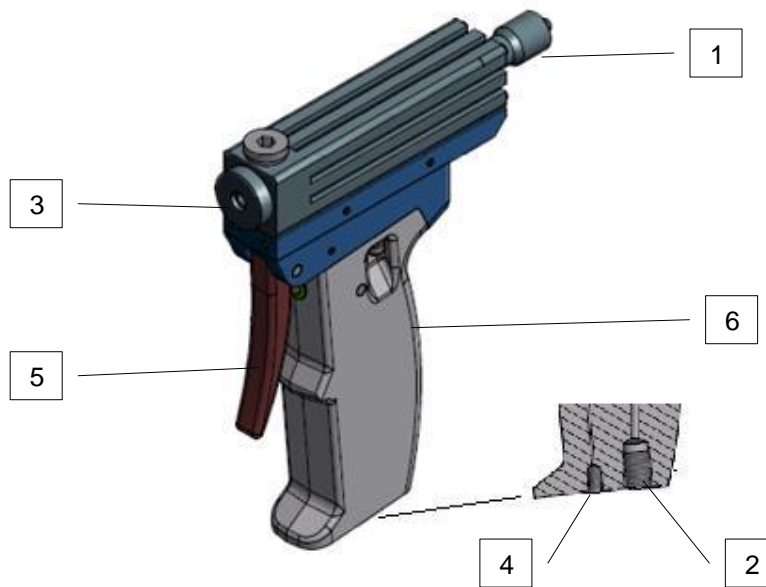
Always indicate the engraved data and the information from the type label for spare part orders or technical support from WST.

4.3 Function

The pneumatic part of the dosing valve is controlled by a 5/2-way valve which is integrated in the handgrip. This initiates the grease dosing. The dosing pressure depends on the lubricant feed pressure (medium).

Air and grease chamber are separated.

4.4 Total View / Description



Legend	
Position	Description
1	Regulating sleeve
2	Connection Medium G1/8
3	Outlet Medium M6
4	Connection Control Air M5
5	Trigger / Release
6	Handgrip

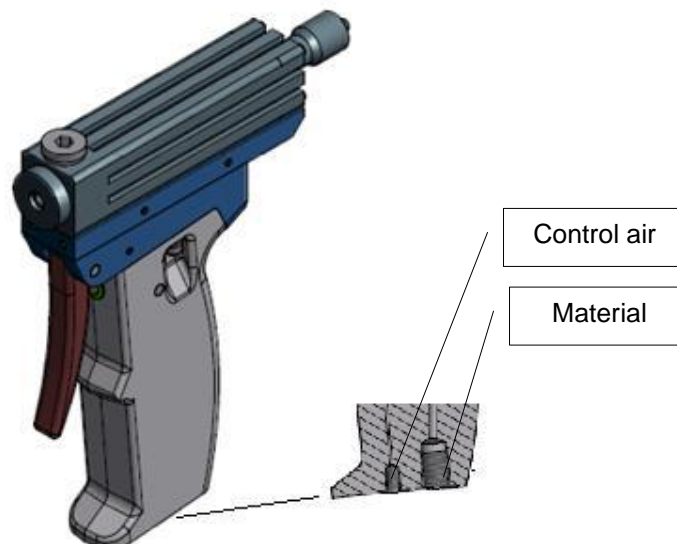
4.5 Connections



IMPORTANT

We recommend a maintenance unit for the control air.

The special construction allows choosing between bottom or grip of the device for the connection of grease and air. If not used, the connections will be sealed by screws



4.6 Technical Data

Article Number	WDVHP-02-HG
Dosing range [cm ³] / [mm ³]	0.010 – 0.200 10 – 200
Material inlet [mm]	Internal thread G 1/8
Material outlet [mm]	Internal thread M6 ¹
Compressed air supply [mm]	Internal thread M 5
min. / max. material inlet pressure [bar]	20 / 200
min. / max. pneumatic operating pressure [bar]	5 / 7
Dimensions [mm]	ca.133x23x155

¹ Do not exceed the max. screw-in depth!

Article Number	WDVHP-03-HG	WDVHP-04-HG
Dosing range [cm ³] / [mm ³]	0,100 – 2,000 100 – 2000	1,000 – 6,000 1000 – 6000
Material inlet [mm]	Internal thread G 1/8	
Material outlet [mm]	Internal thread M6 ¹	
Compressed air supply [mm]	Internal thread M 5	
min. / max. material inlet pressure [bar]	20 / 160	
min. / max. pneumatic operating pressure [bar]	5 / 7	
Dimensions [mm]	ca.246x37x166	

Article Number	WDV-DS
Version [mm]	2.9 x 16.8 x 4.5
Switching outlet	PNP
Switching function	Make contact (NO)
Electrical design	DC, direct voltage
Rated operating voltage [V DC]	24
Rated operational current [mA]	100
Ambient temperature min. [C°]	-25
Ambient temperature max. [C°]	+85
Connection	Cable with plug-in connection
Protection type according to DIN 40050	IP 67
Material of housing	PA 12

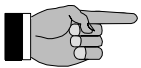
5 Initial Start-up

5.1 Mounting and Installation

**IMPORTANT**

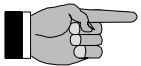
We recommend adding a maintenance unit to the control air.

5.2 Adjusting the Incomplete Device

**IMPORTANT**

Check if the air pressure for the control air is at approx. 6 bar. This will guarantee an optimum function of the valves.

The supply material pressure to the valve should not rise above 200 bar. Check the pressure ratio of the supply pump. A pressure reducing valve will help you control the supply pressure easily (a pressure reduction valve is an advantage but not mandatory as long 200 bar will not be exceeded).

**IMPORTANT**

All dosing valves will be thoroughly checked before leaving our factory. It is therefore possible that some residues of the test medium remain in the valve.

- 1) Make sure that the lubricant feed hose is filled with lubricant and all air is removed. Then connect feed hose and air connectors according to drawing.
- 2) For first operation, set valve to maximum dosage (i.e. turn adjustment screw to outmost position).
- 3) If the adjustment screw cannot be turned, change position of change-over-valve. The adjustment screw should now be unlocked.
- 4) Execute a first shot of lubricant. Then set the adjustment screw to the desired grease quantity.
- 5) Keep the distance short between the dosing valve and the greasing point. This allows for improved metering precision and repeatability.
- 6) The cycle time depends on the viscosity of the lubricant, as well as on the lubricant feed pressure.

6 Operation

6.1 General Information

The incomplete device will only be operated if the safety-related equipment is permanently effective and not suspended during operation or altered in its intended purpose/function.

6.2 Operation Instructions / Operating Conditions

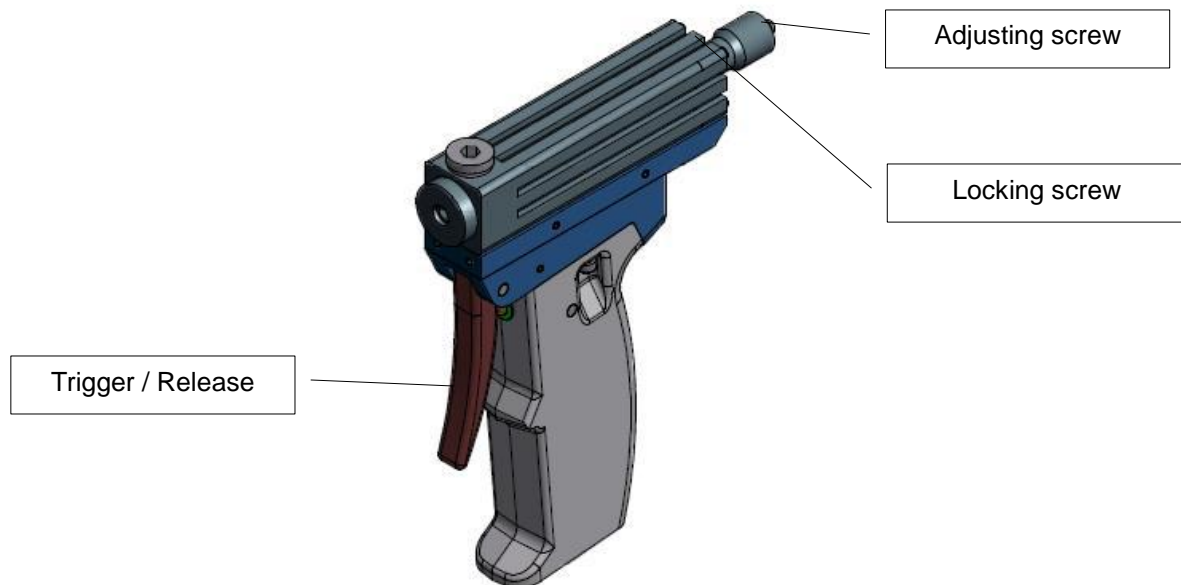
**CAUTION**

Do not point the jet at people. We highly recommend wearing eye protection. The spraying process can be accompanied by noise depending on the atomizing pressure and material pressure! If necessary, also wear ear protection.

**WARNING**

Danger from flammable sprayable medium with adverse health effects. Please observe the security advice on the material containers and also the safety data sheet.

6.3 Operating Elements



7 Taking out of Service

7.1 Short Interruption

A short interruption (15 min or more) has to be followed by a fine spraying.



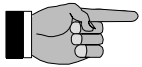
IMPORTANT

Please follow the maintenance instructions!

7.2 Long-term Interruption

The following has to be observed for a long-term interruption of the device:

- No pressure shall be left in system (check displays).
-



IMPORTANT

Please follow the maintenance instructions!

7.3 Shutdown of Device

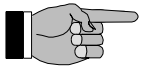
The following has to be observed for a final shutdown of the device:

- Disconnect the main power plug.
 - No pressure shall be left in the system (check displays).
 - Dispose properly of grease/oil.
 - Clean dosing valve with special thinner
-



WARNING

Danger of accidents and environmental pollution. Do not spill grease / oil. Dispose properly of grease / oil (hazardous waste).



IMPORTANT

Please follow the maintenance instructions!

8 Maintenance and Repair

8.1 General Information

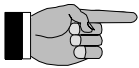
The **dosing valve** is a high-quality precision device which will not fail if treated correctly and will operate almost maintenance-free. Always keep clean and observe minimum instructions to maintain a long life of the valve. Always use clean and filtered material only. The control air must also be clean and should be slightly oiled, if necessary. Maintenance also depends on the individual operating conditions and the type of media used.



CAUTION

Before starting any maintenance or repair work, ensure that all air-operated tools are depressurized and disconnected from the air supply. Disconnect the main power plug.

Make sure the pneumatic / hydraulic system is pressure-less.



IMPORTANT

This chapter does not tell you how to repair the device after damage. Repair work should only be performed by a specialized technician or the maintenance team or the manufacturer.

8.2 Routine Tasks

The maintenance intervals below refer to a single-shift operation. If the device is run in a multi-shift operation or is operated very often, the maintenance intervals become shorter. Also, additional factors such as cleanliness or work surroundings have to be taken into account.

WHEN	WHAT	HOW	WHO
Weekly	Check dosing valve for tightness	visual	Specialists
Weekly	Check all screw and fitting connections for tightness	visual	Specialists
Monthly	Check conductors for damages	visual	Specialists

8.3 Spare Parts

IMPORTANT



Only use original spare parts from the manufacturer!

Wrong or defective spare parts from other manufacturers can damage the device. If other than original spare parts of the manufacturer will be used, all obligations from the manufacturer or his sales partners, such as guarantees, service contracts etc will be **forfeited** without further notice.

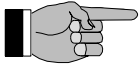
8.4 Customer Service / Support

Walther Systemtechnik GmbH
Hockenheimer Straße 3
D-76726 Germersheim
Germany

Phone ++49(0)7274-7022-0
Fax ++49(0)7274-7022-91
Email info@walther-2000.de
Internet www.walther-2000.de

9 Troubleshooting

9.1 General Information



IMPORTANT

First check all supply lines for proper connection and serviceability.

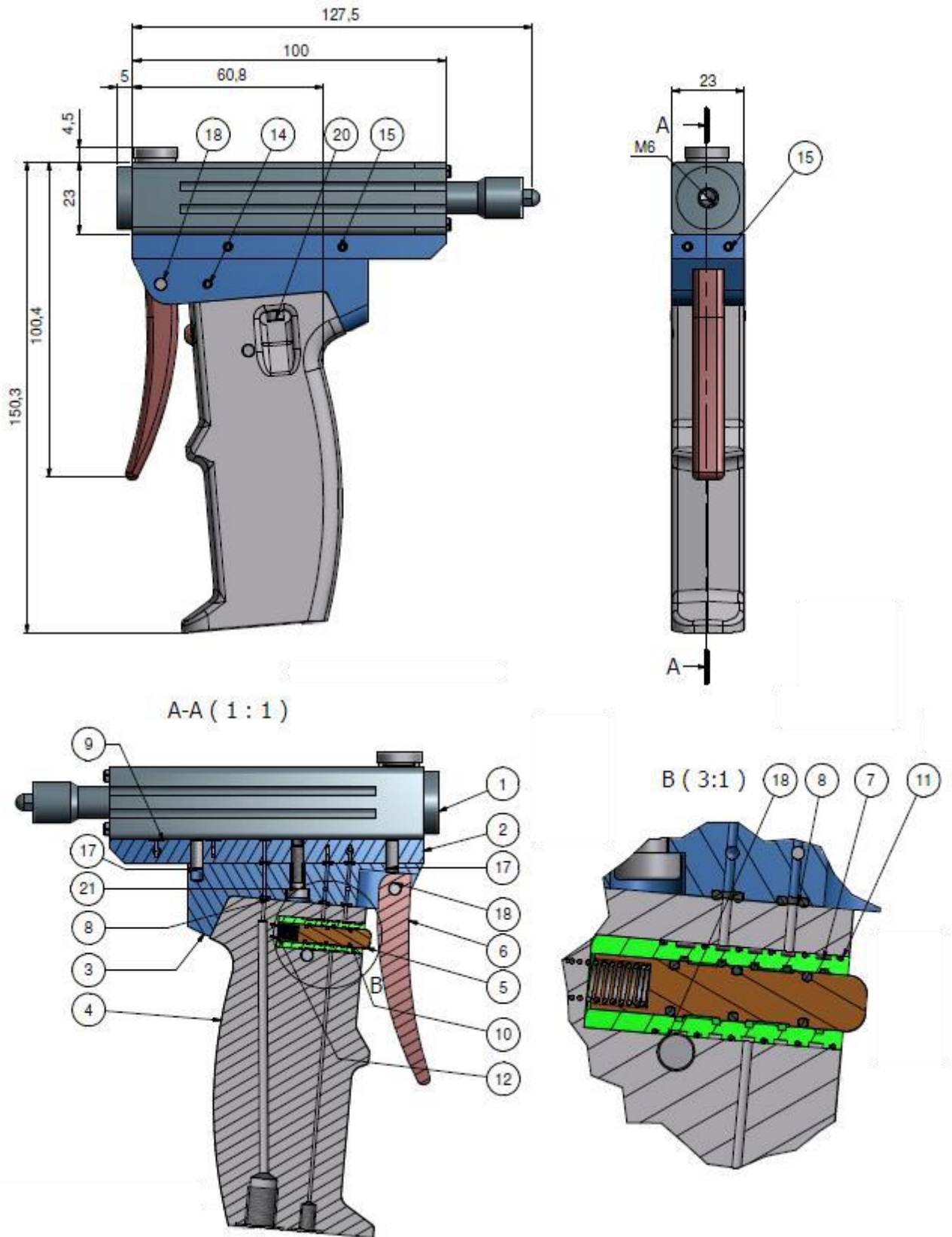
In case of serious problems that cannot be resolved, please contact the Walther Systemtechnik GmbH customer service.

9.2 Malfunctions

Problem	Possible cause	Action
The valve works but no lubricating medium is ejected	Does the supply pump transport lubricant?	If pump does not work anymore, refer to operating manual of pump. Check the ventilating screws in the supply pump (see operating manual of pump).
	Leakage	Check dosing valve
Leakage at control boring	Defective sealing	Exchange sealing
Permanent signal from sensor	Defective sensor	Exchange sensor
	Dosing volume too low	Check dosing valve; check setting for dosing volume and if necessary, increase; check position of sensors
	Supply pressure for grease too high	Reduce pump pressure to max. operating pressure; if necessary, insert a material pressure controller
No signal from sensor	Cable breach	Exchange cable
	Defective sensor	Exchange sensor
	Dosing piston in start position	Check pump pressure; check boring for grease supply for contamination
Air in system	Air pockets in grease container. Air pockets in hoses.	Disconnect supply hoses from dosing valve, let grease emerge, then re-connect hoses again. Re-start with max. dosing quantity.

10 Appendix

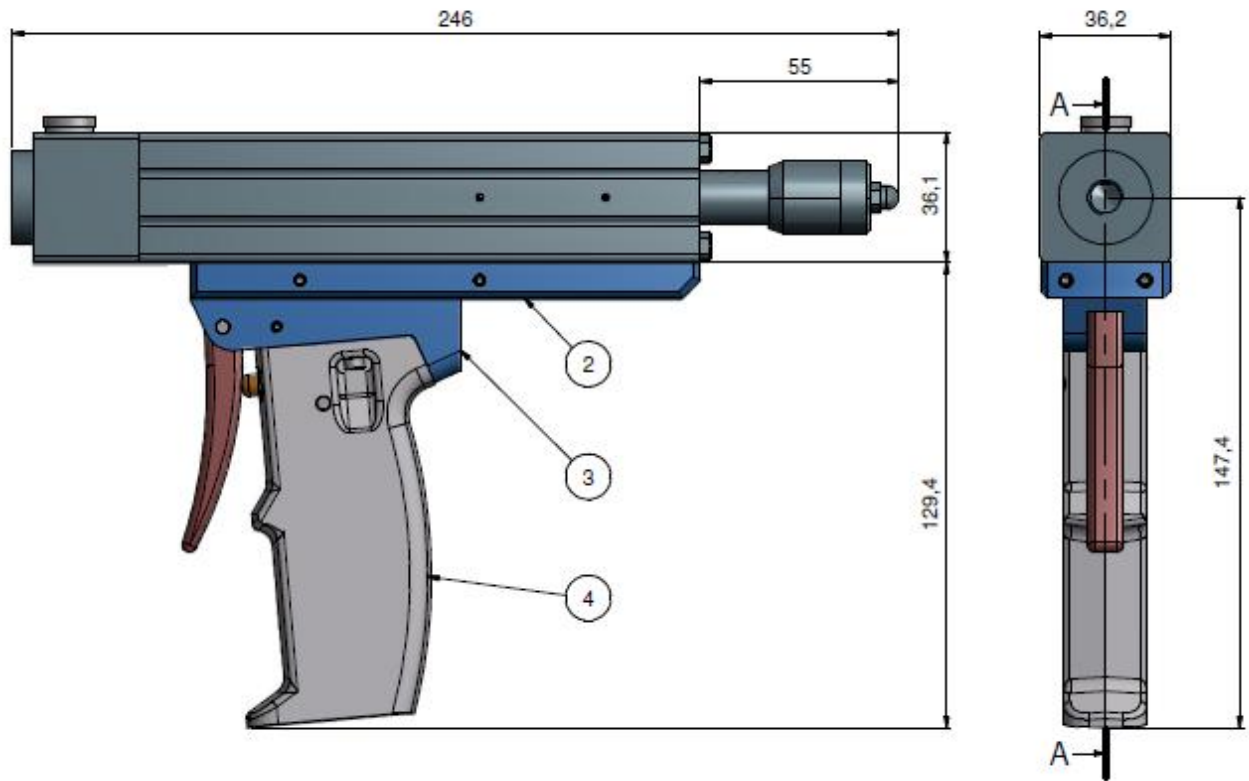
10.1 Dimensioned and Spare Part Drawing – Dosing Valve WDVHP-02-HG



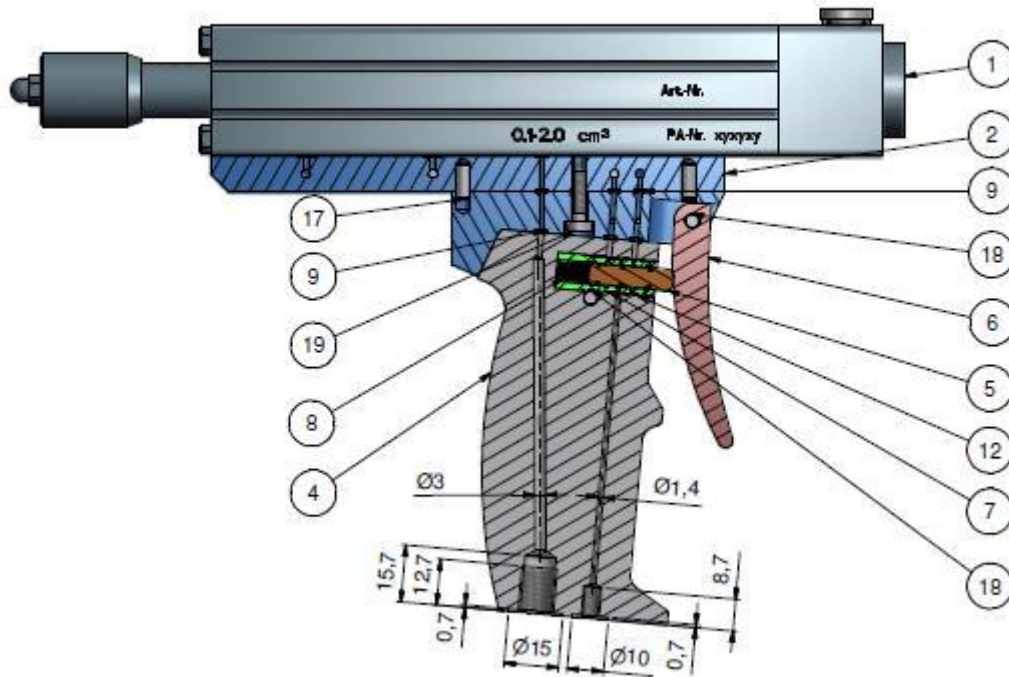
10.1.1 Spare Part List – Dosing Valve WDVHP-02-HG

Pos.	Article Number	Description	Qty
1	WDVHP-02-HG-E000	Dosing valve	1
2	WDVHP-02-HG-E001	Connecting plate	1
3	WDVHP-02-HG-E002	Connecting piece for grip	1
4	WDVHP-02-HG-E003	Handgrip	1
5	WDVHP-02-HG-E005	Control valve	1
6	WDVHP-02-HG-E006	Release	1
7	WDVHP-02-HG-E007	Switching sleeve	1
8	2000089.0000	O-Ring	7
9	LDH0131	O-Ring	2
10	LDH0098	O-Ring	3
11	2000125.0000	O-Ring	6
12	D-078A	Pressure spring	1
13	E-0404	Sintered bronze filter	2
14	DIN913M3x3	Threaded pin	2
15	DIN913M3x6	Threaded pin	6
16	DIN913M5x6	Threaded pin	2
17	DIN6325-4X10A	Cylindrical pin	2
18	ISO8734-4x22A	Cylindrical pin	2
19	DIN912M2,5x10	Cylinder-head screw	4
20	DIN912M3x10	Cylinder-head screw	4
21	DIN7984M4x14	Cylinder-head screw	1
22	970001525	Slot nut for WDV-Dosing Valves	2

10.2 Dimensioned and Spare Part Drawing – Dosing Valve WDVHP-03/04-HG



A-A (1 : 1,2)





10.2.1 Spare Part List – Dosing Valve WDVHP-03-HG

Pos.	Artikelnummer	Bezeichnung	Menge
1	WDVHP-03-HG-E001	Dosing valve	1
2	WDVHP-03-HG-E002	Connecting plate	1
3	WDVHP-02-HG-E002	Connecting piece for grip	1
4	WDVHP-02-HG-E003	Handgrip	1
5	WDVHP-02-HG-E005	Control valve	1
6	WDVHP-02-HG-E006	Release	1
7	WDVHP-02-HG-E007	Switching sleeve	1
8	D-078A	Pressure spring	1
9	2000089.0000	O-Ring	7
10	LDH0131	O-Ring	2
11	LDH0098	O-Ring	3
12	2000125.0000	O-Ring	6
13	E-0404	Sintered bronze filter	2
14	DIN913M3x3	Threaded pin	2
15	DIN913M4x6	Threaded pin	6
16	DIN913M5x6	Threaded pin	2
17	DIN6325-4X10	Cylindrical pin	2
18	ISO8734-4x22A	Cylindrical pin	2
19	DIN7984M4x14	Cylinder-head screw	1
20	DIN912M3x10	Cylinder-head screw	4
21	DIN912-M2,5x10	Cylinder-head screw	4
22	970001525	Slot nut for WDV-Dosing Valves	2

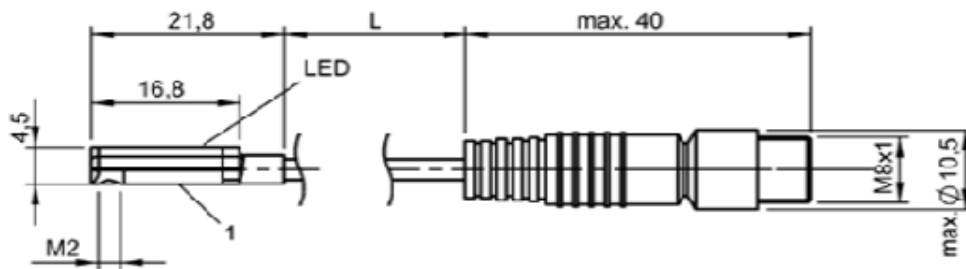
10.2.2 Spare Part List – Dosing Valve WDVHP-04-HG

Pos.	Artikelnummer	Bezeichnung	Menge
1	WDVHP-04-HG-E001	Dosing valve	1
2	WDVHP-03-HG-E002	Connecting plate	1
3	WDVHP-02-HG-E002	Connecting piece for grip	1
4	WDVHP-02-HG-E003	Handgrip	1
5	WDVHP-02-HG-E005	Control valve	1
6	WDVHP-02-HG-E006	Release	1
7	WDVHP-02-HG-E007	Switching sleeve	1
8	D-078A	Pressure spring	1
9	2000089.0000	O-Ring	7
10	LDH0131	O-Ring	2
11	LDH0098	O-Ring	3
12	2000125.0000	O-Ring	6
13	E-0404	Sintered bronze filter	2
14	DIN913M3x3	Threaded pin	2
15	DIN913M4x6	Threaded pin	6
16	DIN913M5x6	Threaded pin	2
17	DIN6325-4X10	Cylindrical pin	2
18	ISO8734-4x22A	Cylindrical pin	2
19	DIN7984M4x14	Cylinder-head screw	1
20	DIN912M3x10	Cylinder-head screw	4
21	DIN912-M2,5x10	Cylinder-head screw	4
22	970001525	Slot nut for WDV-Dosing Valves	2

10.3 Accessories

Picture	Article Number	Description
	WDV-DS	Dosing Piston Sensor (see also Product Catalog DOSING)
	97PA21X-XX	Pressure Sensor (see also Product Catalog „Checking“)

10.3.1 Data Sheet – Dosing Piston Sensor (Article No. WDV-DS)



Electrical Data

Switching outlet	PNP
Switching function	make contact (NO)
Switching frequency (f)	7000 Hz
Voltage drop, static max.	2.5 V
Operating voltage max.	30.0 V
Operating voltage min.	10.0 V
Release delay	0.07 ms
Assessment of switch panel strength	1.2 kA/m
Turn-on delay	0.07 ms
Secured switch panel strength	2 kA/m
Connection	cablE with plug
Output resistance	open drain
Rated operating voltage	24 DC V
Rated operating current	100 mA
Rated insulating voltage	75 DC V
Rated short-circuit current	100 A
Electrical version	DC
Utilization category	DC 13
Load capacity, max. allowed	1 μ F
Idle current max.	8 mA
Residual current	80.0 μ A
Residual ripple max. of Ue	15.0%

Mechanical Data

Ambient temperature max.	85° C
Ambient temperature min.	-25° C
Degree of contamination	3
Material of active surface	PA 12
Material, housing	PA 12
Temperature drift, max.	0.3%

General Data

Short-circuit protection	yes
Protection type IP	IP67
Protected against polarity rev.	yes
Approval	CE, cULus
Function display	yes

Sensor is protected against all options of mix-up.

When overload has been eliminated, the sensor is operational again. EMV: surge voltage resistance; external protective circuitry is required. Document 825345, section 2. Max. cable strain is limited to 10N. Basic standard IEC 60947-5-2

Circuit diagram



Pin configuration

