ORIGINAL OPERATING MANUAL

HS NOZZLE

HS NOZZLE
HS12 . HS16 . HS20

Shut-off nozzle for the discharge of extinguishing water in the form of a full jet and a spray jet.

FOREWORD

Applicable standards and regulations

The design and construction of the AWG HS nozzles was carried out in accordance with the relevant provisions laid down by these directives and harmonised standards:

- DIN EN 15182-3:2019-11
  Portable equipment for projecting extinguishing agents supplied by firefighting pumps – Hand-held branchpipes for fire service use – Part 3: Smooth bore jet and/or one fixed spray jet angle branchpipes PN 16

Conversions and modifications

Unauthorised conversions or modifications to the HS nozzles are prohibited without written consent from the manufacturer.

AWG Fittings GmbH accepts no liability for damage caused by conversions or modifications, improper handling by the customer or by third parties commissioned by the customer or caused by non-compliance with these instructions.

Other relevant documents

Apart from this manual, no other applicable documents are required for the safe handling of the AWG HS nozzles.

The data sheet for these devices can be downloaded for information purposes from the Internet: www.awg-fittings.com

Copyright

This operating manual is valid for the following AWG HS nozzles:
HS12 / HS16 / HS20

These instructions and the other applicable documents are not subject to any automatic change service. The latest version can be obtained from the manufacturer.

CONTENTS

1 INTRODUCTION

This manual contains important information regarding your personal safety. This manual must be read and understood by all persons who handle or use the device during any phase of its life cycle.

The manual must be close at hand at the place of use throughout the device's life cycle. All persons handling the device must be able to consult the manual at any time. The manual must be handed over along with the device when the device is sold.

1.1 Key to the symbols

✓ This check mark indicates a prerequisite that must be fulfilled before a task can be carried out.

1. These numbered items list all the steps making up a task.

1.1.1 Safety information

DANGER

Red signal bar and the signal word DANGER
Hazard with a high degree of risk, resulting in death or serious injury if not avoided.

WARNING

Orange signal bar and the signal word WARNING
Hazard with a high degree of risk that may result in death or serious injury if not avoided.

CAUTION

Yellow signal bar and the signal word CAUTION
Hazard with a low degree of risk that may result in minor injuries if not avoided.

1.1.2 General information

IMPORTANT

Blue signal bar and the signal word IMPORTANT

Instructions on how to avoid damage to property. These instructions are not related to potential physical injuries.

INFORMATION

This info box contains general information and tips for using the device.

1.2 Figures

The illustrations in this manual are given by way of example. Differences between a technical illustration and the actual state of affairs are therefore possible.

The text contains a reference to an illustration with the item number in brackets: (Fig. 2/**4**) refers to Item **4** in Figure 2.

Representation

The devices are shown in the illustrations with a Storz adapter. Devices without adapters or with other adapters will deviate from the illustrations.

2 SAFETY INFORMATION

The AWG HS nozzles described here are in line with the state of the art as well as the recognised safety regulations. The safety and health protection requirements have been met. Nevertheless, its use may give rise to hazards for the user or third parties or cause damage to the device itself or other material assets.

2.1 General safety instructions

- The device may only be operated in accordance with these instructions and in perfect condition.
- The operators must have received the necessary training to be able to handle the device properly.
- Unauthorized modifications or the installation of additional components not approved by the manufacturer endanger the proper functioning of the device.
  - Modifications to the device are prohibited
  - Only use accessories approved by the manufacturer
- The operator is responsible for safety in the vicinity of the device, in particular for compliance with the general safety regulations. This includes ensuring, before using the device, that all protective devices are fully in place and functional.

2.2 Safety during operation

- Observe all safety rules and protective measures applicable for use at the place of use.
- Make sure the device does not get damaged during transport, installation, commissioning, operation or maintenance.
- The safety regulations laid down in the country-specific service regulations for firefighters (for example in Germany the Feuerwehrdienstvorschrift FwDV) or the corresponding internal company regulations must be observed.

2.3 Qualifications of the operators

Persons handling or using the HS nozzle must be technically qualified and trained. They must be aware of all risks involved in handling the device.

The HS nozzle may only be used by persons who have been trained and instructed in the operation of the device in accordance with the country-specific fire service regulation (in Germany: FwDV) or corresponding internal company regulations.

Different qualifications are required for personnel performing the different types of activity.

Instructed personnel:
Transport / use / cleaning as well as "Basic" functional testing

Technical personnel:
Maintenance as well as "Standard" and "Advanced" functional testing

2.4 Personal protective equipment

When using the AWG HS nozzles, personal protective equipment must be worn in accordance with the country-specific fire service regulation (e.g. in Germany: FwDV) or with internal company regulations.

3 DESCRIPTION

3.1 Function

The AWG HS nozzle can produce a spray jet of 120° and a full jet at a variable flow rate.

Turning the nozzle head (jet form sleeve) counter-clockwise changes the jet mode from OFF (closed) to full jet and further to spray jet.

OFF — In this end position, the HS nozzle is completely closed.

Full jet — If the jet pipe head is in the full jet position, a focused jet with a long throwing distance and corresponding mechanical penetration force of the water flow is achieved.

Spray jet — When the nozzle head is in the spray jet position, it creates an atomised spray jet covering an area.

The fixed toothed ring in the protection ring ensures a filled spray cone by reflecting the water droplets.

3.2 Intended use

- Firefighting with both full jet and spray jet
- When used with foam agent: fighting fires involving non-polar liquids (petrol, oil)

Only use the device in technically sound condition and in accordance with the intended purpose and with safety and potential dangers in mind.

3.3 Foreseeable misuse

- Conversion or modification
- Operation in technically unsound condition
- Operation outside the approved characteristic values
- Fitting of spare parts or accessories that are not approved or not suitable for the operating conditions

- Placing the nozzle in direct fire, embers or on hot surfaces
- Use as a barrier for performing pressure tests on hoses

3.4 Characteristic values

Maximum operating pressure: 16 bar

Operating temperature: -20°C* to +60°C

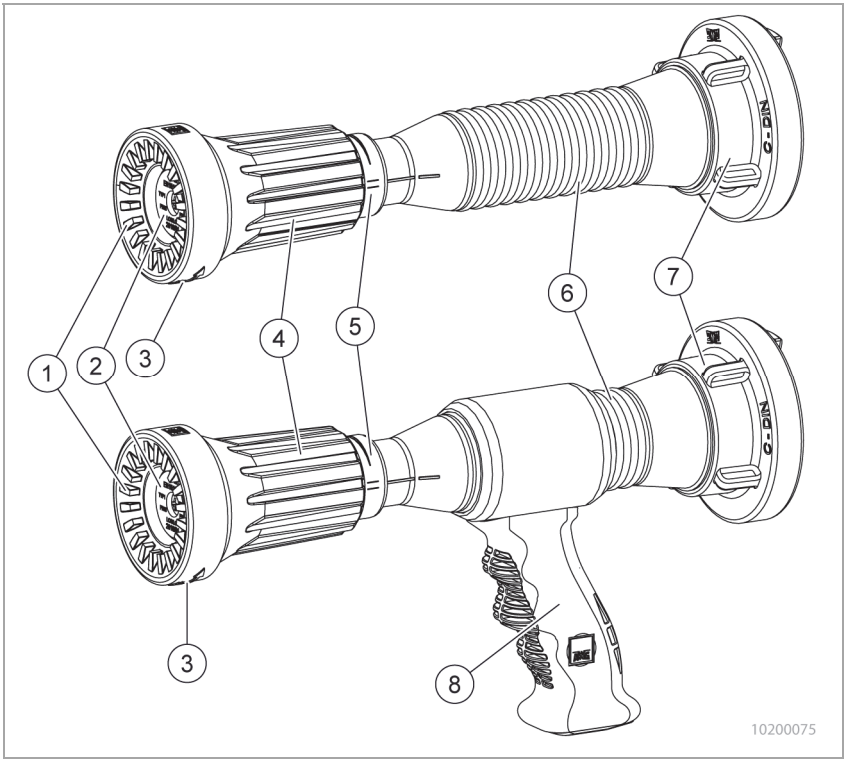
* with running water

ID No.	Type	Receipt	Dimensions [mm]			Weight
			L	W	H	[kg]
60426397	HS12	Storz 52 (C)	347	98	98	1.1
30377697	HS12	BSP G2" AG **	307	75	75	0.8
60425997	HS16	Storz 52 (C)	347	98	98	1.1
30377797	HS16	BSP G2" AG **	310	75	75	0.8
60426197	HS20	Storz 52 (C)	347	98	98	1.1
30377897	HS20	BSP G2" AG **	310	75	75	0.8

** Versions with no coupling are marked as BSP (British Standard Pipe thread) connections. These components are equipped with a pipe thread in accordance with ISO 228 that can be used to mount further coupling systems.

Type	Reference pressure [bar]	Flow rate [l/min] at 6 bar	
		Full jet	Spray jet
HS12	6	230	460
HS16	6	330	470
HS20	6	380	470

3.5 Overview



1	Fixed toothed ring	**5**	Jet form sleeve scale
2	Valve plate	**6**	Pipe body
3	"ON – OFF" marking	**7**	Fixed coupling
4	Protection ring	**8**	Handle (option)

Fig. 1 Overview of HS nozzle

Test certificates
Certificates of conformity for the HS nozzles from an independent testing institute are available.

4 DELIVERY, TRANSPORT, STORAGE

4.1 Delivery

The HS nozzle has been carefully packaged at AWG Fittings GmbH.

- After unpacking, check the delivery for damage and verify completeness.
- Any damage must be immediately reported to the carrier.
- If parts are missing, immediately inform the responsible specialist dealer or AWG Fittings GmbH.
- The packaging material is recyclable, please dispose of it in an environmentally-friendly manner.

HS nozzles with a mounted coupling are ready for connection and immediate use. For HS nozzles with a threaded connection, a suitable coupling must be fitted by the dealer or customer before commissioning.

4.2 Transport in a vehicle, storage

✓ The HS nozzle has been emptied.

The HS nozzle can be transported and stored in any position.

Especially during transport in a vehicle, the HS nozzle must not move around. If necessary, secure the HS nozzle with a belt. During transport, the HS nozzle must not be damaged by other heavy equipment.

To ensure proper functioning, the HS nozzle may only be stored in a clean condition. The HS nozzle must not be stored constantly pressurised with water.

If there is a risk of frost, empty the nozzle.

We recommend open storage so that any residual water can drain off and the seal between the jet form sleeve and the pipe is relieved.

5 USE

5.1 Notes

WARNING

Hazards during use

The handling of foam agents can be hazardous to health.
The strength of the water jet can be dangerous.

– Wear personal protective equipment in accordance with country-specific fire service regulations.
– Always wear eye protection.
– Do not point it at people or animals.

CAUTION

Attach adapters correctly

Danger of injury due to loosening of adapter connections.

– Always insert the adapters up to the stop and couple them fully.

CAUTION

Recoil forces

Depending on the inlet pressure, recoil forces may occur during operation.

– Safe handling must be ensured. If necessary, the nozzle must be held by several persons (see country-specific fire service regulations).

IMPORTANT

Product information for foam concentrates

Observe the information on health hazards and potential environmental hazards (e.g. water hazard class) provided in the safety data sheet and other product information for the foam concentrates used.

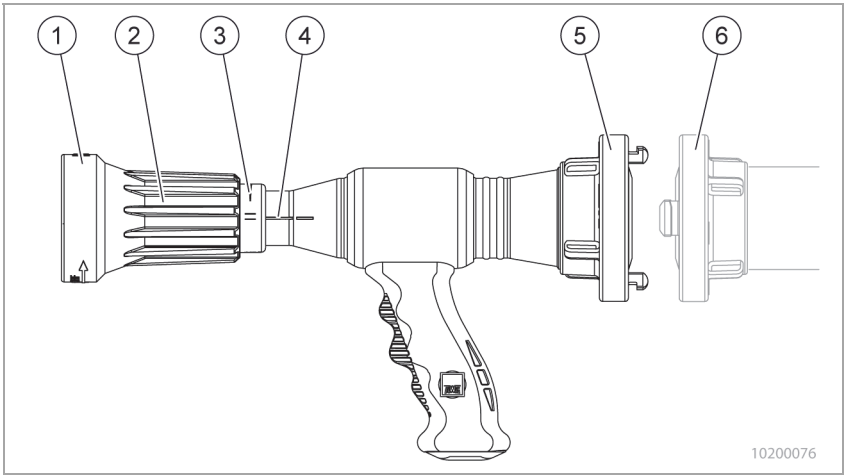
Use of different foam concentrates
Note the compatibility of different foam concentrates.

5.2 Handling

Required inlet pressure
At inlet pressures below the reference pressure of 6 bar, the specified flow rates are not achieved

Ensure a sufficient flow rate and inlet pressure for the respective extinguishing situation.

- ✓ The water hose for connection to the fixed coupling of the HS nozzle is ready at hand.
- ✓ The marker (Fig. 2/**4**) on the nozzle head is in the "OFF" position (Fig. 2/**3**).
- ✓ When used with foam agent: the inductor is fitted.



1 "ON – OFF" marking	**4** Marker
2 Protection ring	**5** Fixed coupling on HS nozzle
3 Jet form sleeve scale	**6** Water hose adapter

Fig. 2 Handling

Coupling the HS nozzle

1. By hand or with the use of a suitable coupling spanner, attach the coupling of the water hose (Fig. 2/**6**) to the coupling on the HS nozzle (Fig. 2/**5**).
2. Open the water supply.

   The HS nozzle is ready for use.

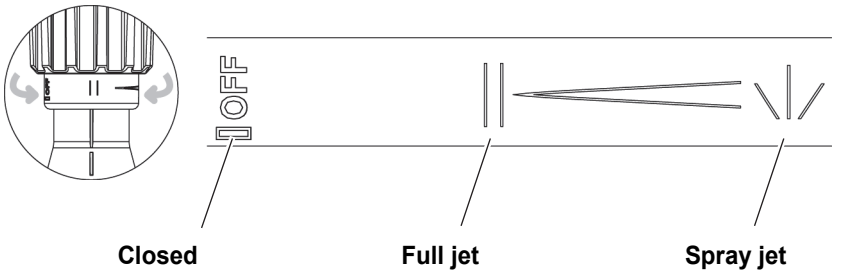
Opening the HS nozzle and starting extinguishing agent discharge

1. Point the HS nozzle at the source of the fire.
2. Open the nozzle head of the HS nozzle.

   The extinguishing agent discharge is started. As soon as the nozzle head of the HS nozzle is moved back into the "OFF" position (Fig. 2/**3**), the extinguishing agent discharge stops.

Varying the spray angle

1. By turning the protection ring (Fig. 2/**2**) you can switch between full and spray jet during use. The position can be read off the scale of the jet form sleeve:



Stopping the extinguishing agent discharge

1. Turn the nozzle head of the HS nozzle to the "OFF" position (Fig. 2/**3**).

Uncoupling the HS nozzle

1. Interrupt the water supply.
2. When using foam concentrates, interrupt their supply.
3. Open the nozzle to reduce the pressure.

   Important Water emerges when opening the nozzle.
4. By hand or with the use of a coupling spanner, release the coupling of the water hose (Fig. 2/**6**) from the fixed coupling on the HS nozzle (Fig. 2/**5**).

   Important Water may emerge when the couplings are released.

5.3 Visual inspection after each use

✓ The HS nozzle is disconnected from the water supply.

1. Check the HS nozzle and, in particular, the toothed ring and the valve plate on the nozzle head for visible damage.

   Important Do not continue to use damaged components!
   If you discover any damage, this must be reported to the person or department responsible.
2. Check that the nozzle head can be operated (unpressurised).

6 FUNCTIONAL TEST

6.1 Prerequisites

All functional testing of the AWG HS nozzle must be carried out in accordance with the manufacturer's technical documentation and must be documented if necessary.

The following inspections are defined for the HS nozzle:

- Mandatory BASIC Inspection after each use
- Optional ADVANCED Inspection every 12 months

The ADVANCED inspection may only be carried out by qualified personnel who have been trained for these inspections:

- Firefighters who have received training as firefighting equipment maintenance technicians or persons with equivalent qualifications
- or, if desired, directly by the manufacturer

Inspection by the manufacturer

AWG Fittings GmbH offers an inspection as part of its service offering. Send us the HS nozzle and you will receive the inspected device back by the agreed date. You will find a return delivery form on our website www.awg-fittings.com. If required, a rental device can also be provided.

Documenting the inspection result

To meet the requirements for occupational safety and accident prevention, the test results for each test must be documented. Please observe the country-specific regulations. For Germany you will find a test chart in accordance with the DGUV (German statutory accident insurance) requirements as download from www.awg-fittings.com

- Keep the documented test result as proof.

6.2 Performing the inspection

CAUTION

Performing the inspection safely

Some inspection steps are performed with pressurised systems.

– Observe the safety regulations.
– Wear personal protective equipment.
– Do not put other persons in danger.

6.2.1 BASIC Inspection after each use

1. Inspect the HS nozzle for visible damage.
2. Check the toothed ring and valve plate on the nozzle head for contamination and damage.
3. Check that the nozzle head can be operated.

6.2.2 ADVANCED Inspection every 12 months

1. Functional test under dynamic load at 10 bar inlet pressure.
2. Leak test at 10 bar inlet pressure (nozzle head of the HS nozzle in "OFF" position).
3. Check the toothed ring and valve plate on the nozzle head for damage.

› Check the coupling torque of the Storz adapter:
Threshold value Storz 52 (C): 1.5 Nm

If the coupling torque is below the applicable threshold value, the adapter must be replaced.

› Threaded version: Check the thread for heavy wear and tear. Replace device if worn.

7 MAINTENANCE

7.1 Inspection and maintenance

Apart from the visual inspection and cleaning of the AWG HS nozzle, no regular maintenance work is required.

7.2 Repair

Any repair work on the AWG HS nozzles may only be performed by the AWG Fittings GmbH customer service or by an authorised specialist workshop.

If you need technical support, please contact our Service Centre:

AWG Fittings GmbH
Service Centre
D-89177 Ballendorf
Telephone: +49 (0) 73 40 / 91 88 98 880
Email: awg-service@idexcorp.com

We will accept devices in need of repair or maintenance, discuss with you the quickest and cheapest solution, create cost estimates, take care of the execution of the repair work and are at your disposal for any questions.

7.3 Disposal

Observe the local regulations regarding proper waste recycling or disposal.

Materials

Nozzle body:	Nickel-plated brass
Coupling:	Anodised aluminium, brass or aluminium
Handle:	PA
Seals:	NBR
Protection ring:	NBR

Anyone who saves lives and protects material assets every day must be able to rely on their tools. Many of you choose products from AWG and Alco.

Two brands that together offer one of the widest ranges of premium equipment for rescue services. An overview can be found on our website.

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