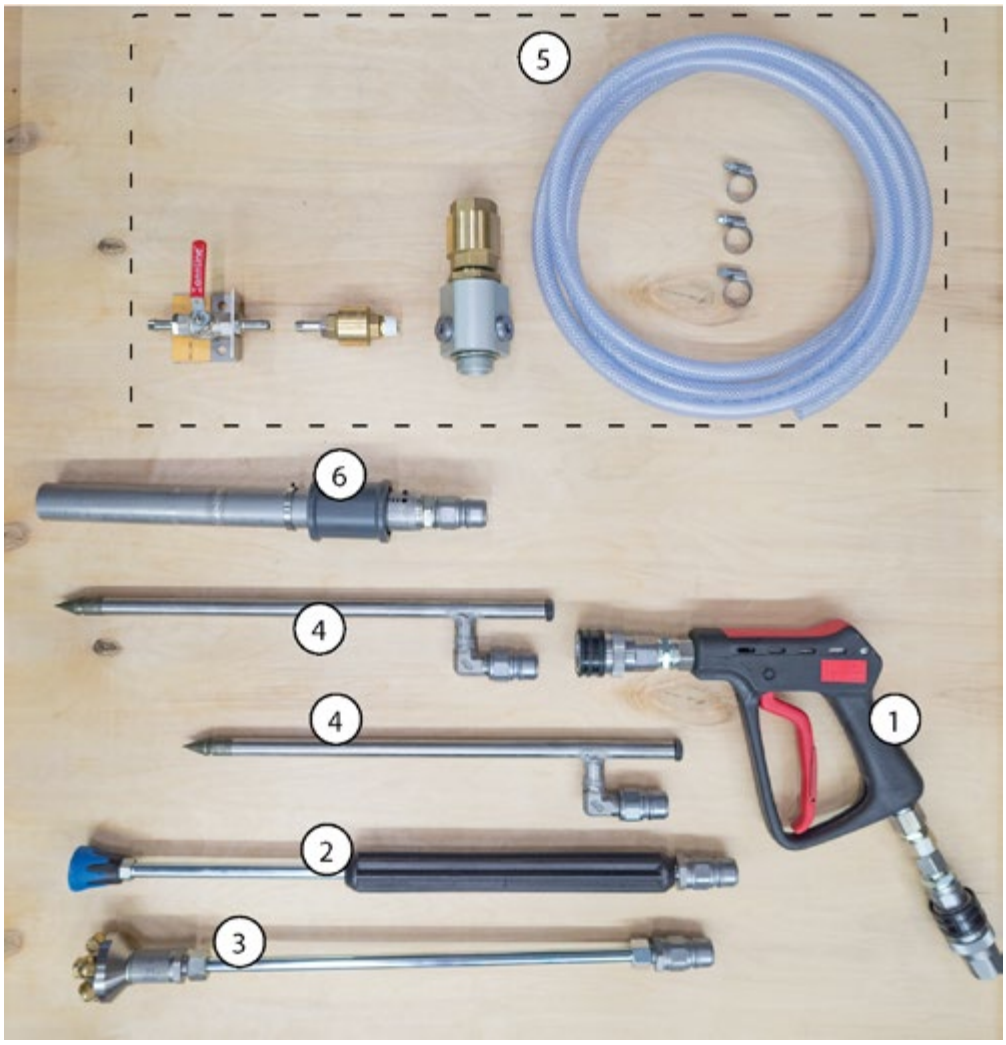
DYNASET

POWERED BY HYDRAULICS



USER GUIDE

FIREFIGHTING PISTOL KIT
FOAMING AGENT INJECTOR

10/20
rev 1.3

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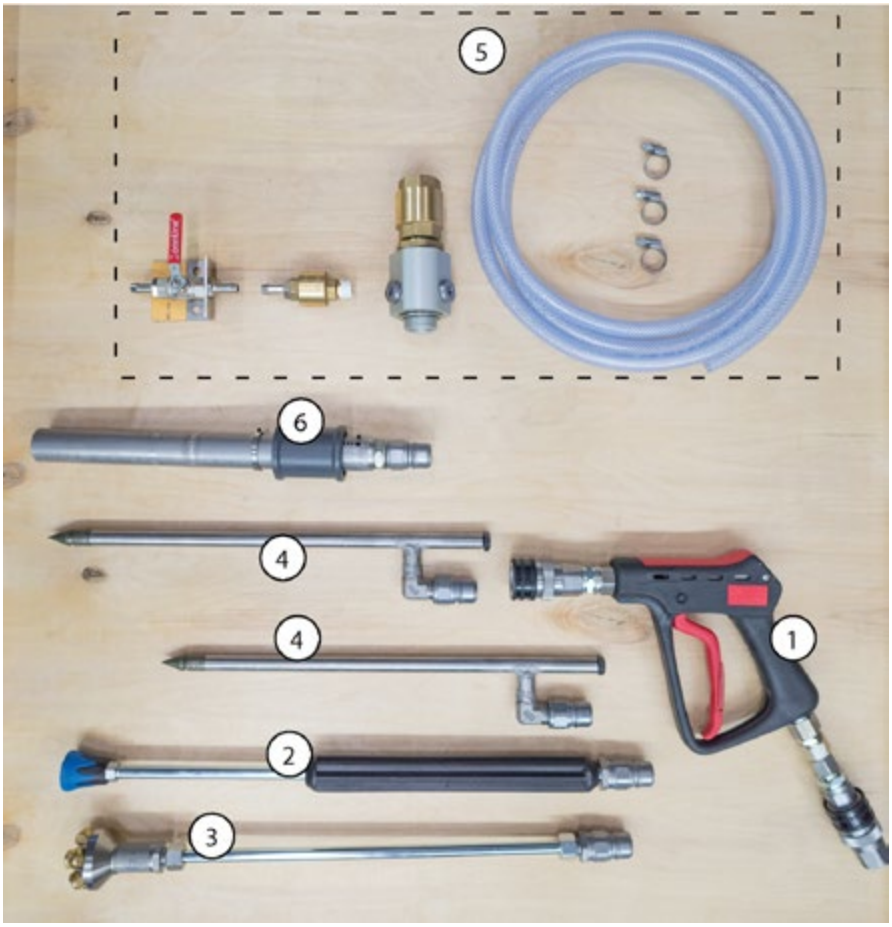
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1. GENERAL

Firefighting pistol with quick coupling exchangeable fog, piercing, point and foam nozzle. All nozzles are equipped with quick coupling enable fast and easy attachment to handle. Attach applicable nozzle to the handle depending on the firefighting task.



FIREFIGHTING KIT INCLUDES FOLLOWING COMPONENTS:

1. Spray pistol handle, attachable quick coupling tool.
2. Point nozzle.
3. Fog Nozzle. Thick high pressure fog blanket for extinguishing large areas in flames. Lowers burn temperature efficiently.
4. Piercing nozzles 60° and 170° degree fan. Rapid piercing through wall with instant extinguishing mode. Prevents extra oxygen access to strengthen flames.
5. Foaming agent injector kit. Adjustable foam content 0 - 18 %. Attach to the HPW pump water inlet. Sucks agent from foam reservoir.
6. Foam nozzle. Sliding shutter allows to adjust air quantity being injected into a water/foaming agent mix.

2. SAFETY

2.1. SAFETY PRECAUTIONS

⚠ ATTENTION!

Operators and maintenance personnel must always comply with local safety regulations and precautions in order to close out the possibility of damages and accidents.

The pressure in the water circuits of Firefighting Pistol Kit is considerably high. Keep the condition of your equipment under constant observation.

Never aim high pressure water at a person.

⚠ WARNING

HIGH PRESSURE WATER!

Never aim high pressure water at a person.
This can cause severe injuries.



Prevent nozzles, water circuit and pipeline from freezing. After use draining and air flushing of the water circuit have to be performed before ambient temperature reaches 0°C or lower.

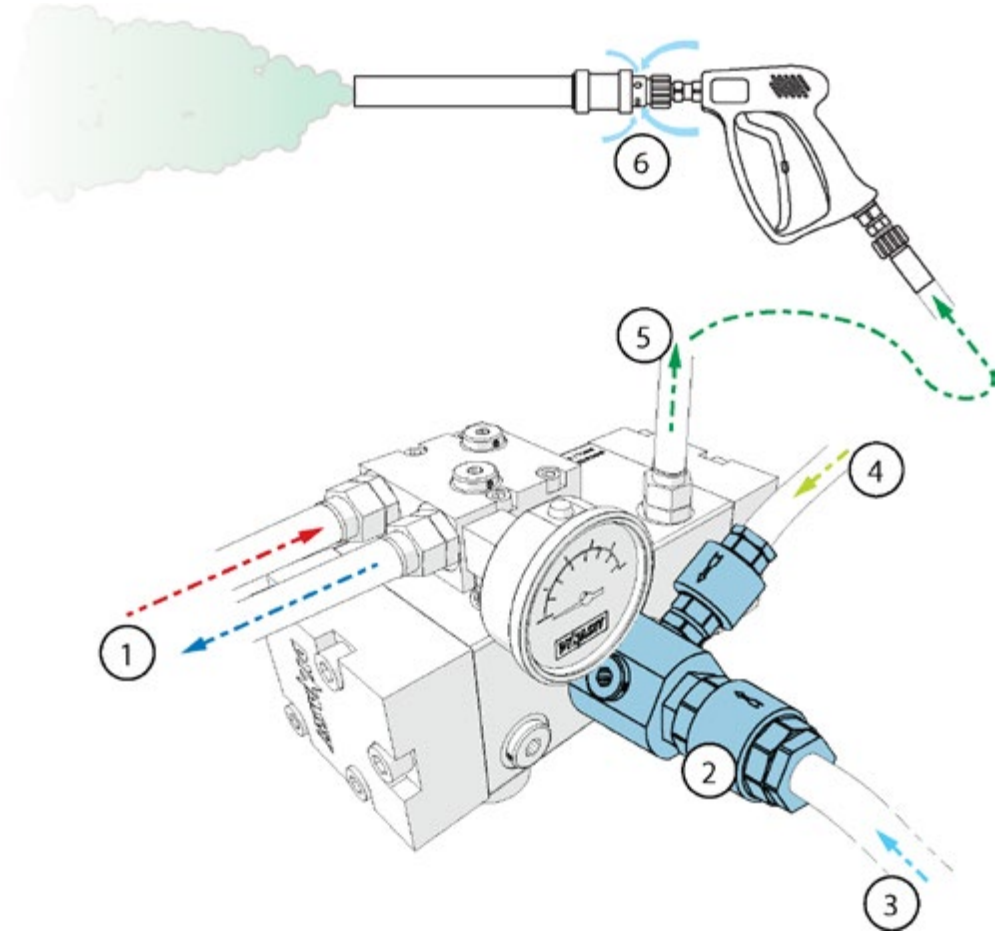
2.2. SAFETY EQUIPMENT

Always wear appropriate clothing and safety equipment such as safety goggles, safety shoes and ear protection when operating the Firefighting Kit.



3. OPERATING PRINCIPLES

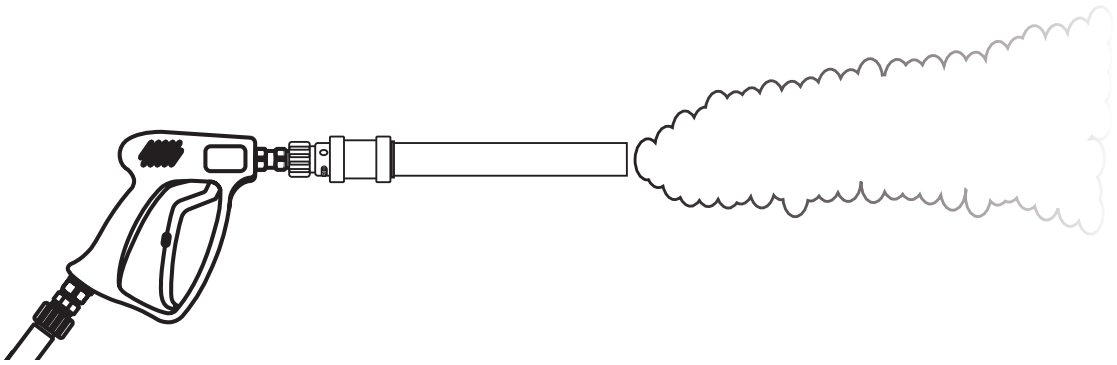
3.1. FOAMING AGENT INJECTOR



1. Hydraulic flow from base machines hydraulic line (1) runs the HPW-pump.
2. Foam injector (2) in HPW-pump's water input port mixes water (3) and foaming agent (4)
3. High pressure mixture (5) is pumped to spray pistol where special foam nozzle mixes air (6) to the mixture and generates foam.

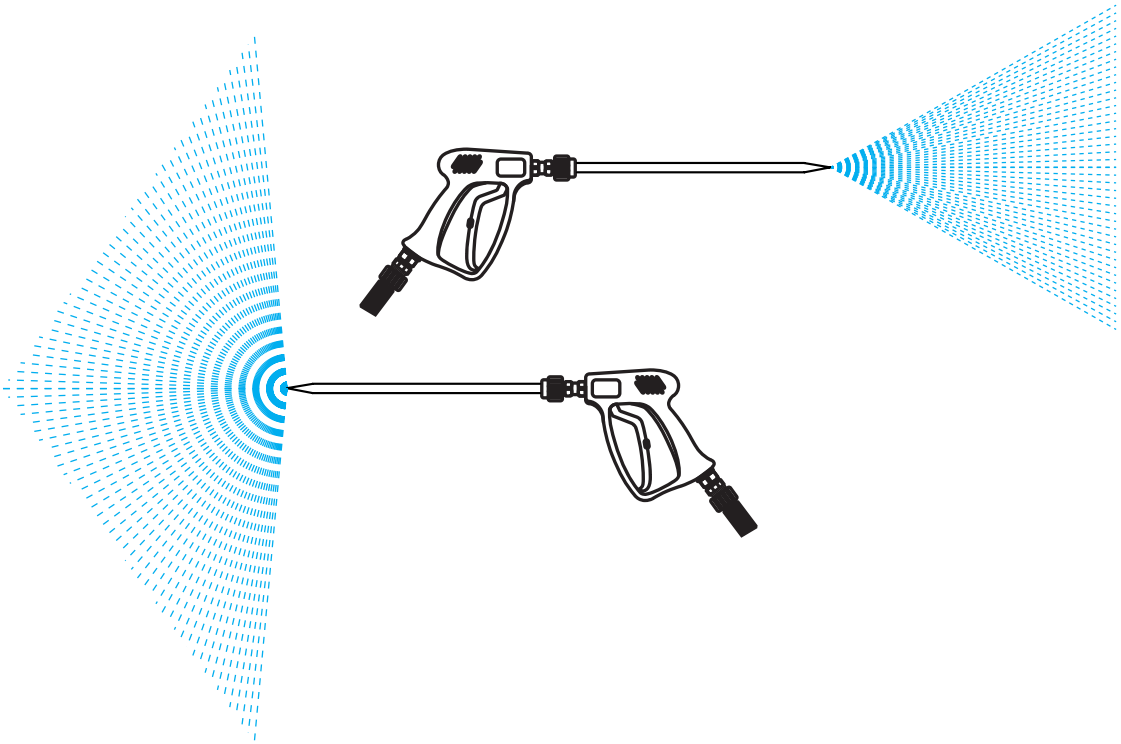
3.2. FOAM NOZZLE

The foam nozzle shoots a thick mixture of foaming agent, water and air.



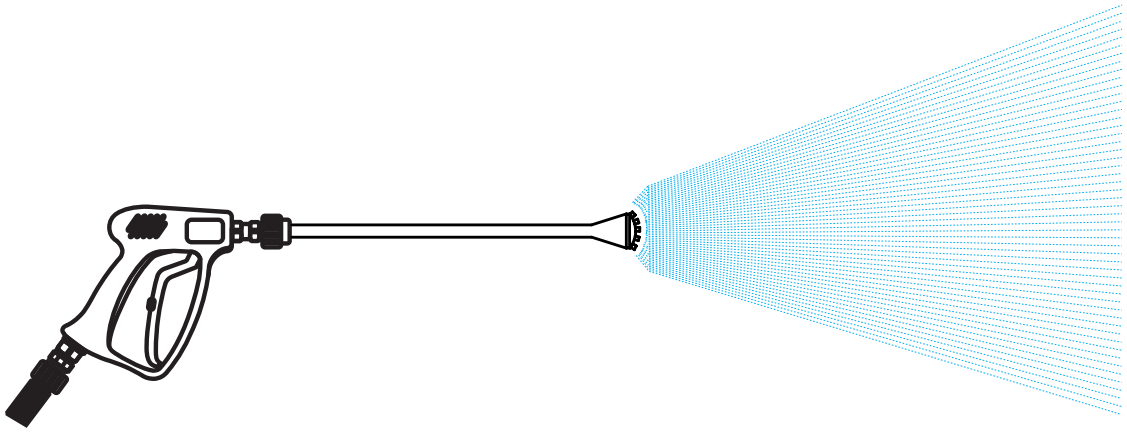
3.3. PIERCING NOZZLES 60° AND 170°

Piercing nozzles 60° and 170° degree fan. Rapid piercing through wall with instant extinguishing mode. Prevents extra oxygen access from strengthening flames.



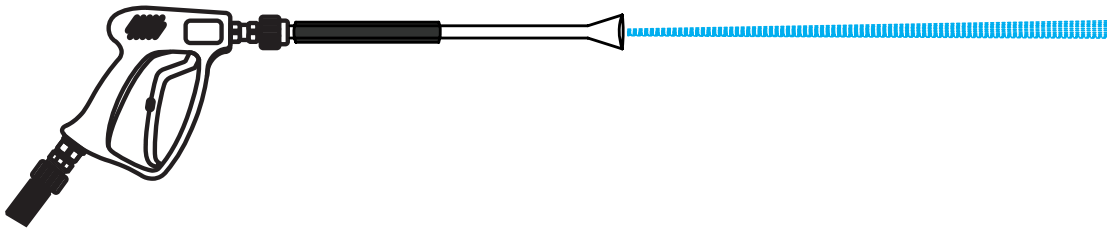
3.4. FOG NOZZLE

Thick high pressure fog blanket for extinguishing large areas in flames. Lowers burn temperature efficiently.



3.5. POINT NOZZLE

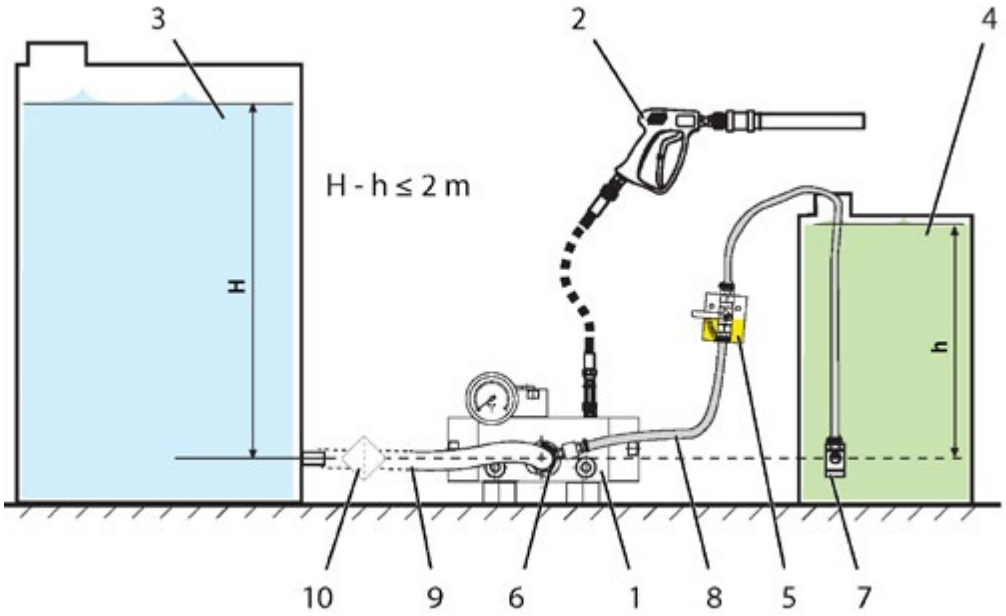
The point nozzle shoots a straight stream of water. Efficient for extinguishing flames.



4. INSTALLATION

4.1. FOAMING AGENT INJECTOR KIT

Foaming agent injector kit is installed into HPW-pump's water intake port with Foaming agent / water injector.



1. High Pressure Water pump
2. Spray pistol with foam nozzle
3. Water reservoir
4. Foaming agent reservoir
5. Agent mixer valve
6. Foaming agent / water injector
7. Intake piece / filter
8. Agent hose
9. Water hose
10. Water filter

Mixing ratio of injector mixture is steplessly adjustable and affected by means of Agent mixer valve (5).

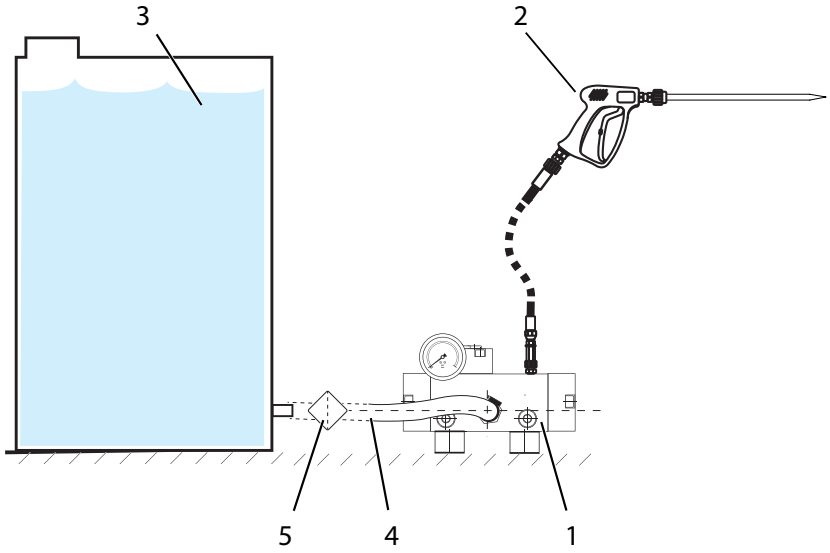
Mixing ratio is subject to foaming agent's viscosity. At viscosity value same as water's corresponding value, content of foaming agent in mixture reaches up to 18 % .

By closing the agent mixer valve (5) completely, any nozzle can be used without detaching the foaming agent injector kit

NOTE!

Installation instructions of the HPW-pump can be found in HPW User manual.

4.2. FIREFIGHTING PISTOL KIT WITHOUT FOAMING AGENT INJECTOR KIT



1. High Pressure Water pump
2. Spray pistol
3. Water reservoir
4. Water hose
5. Water filter

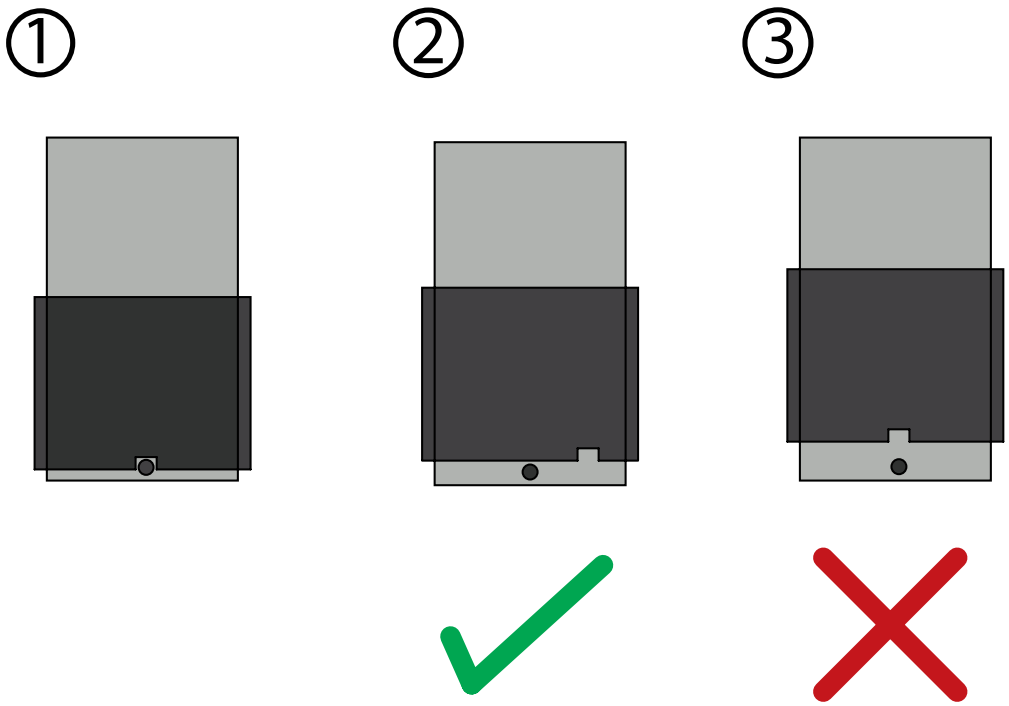
NOTE!

Installation instructions of the HPW-pump can be found in HPW User manual.

5. OPERATION

5.1. QUICK COUPLERS

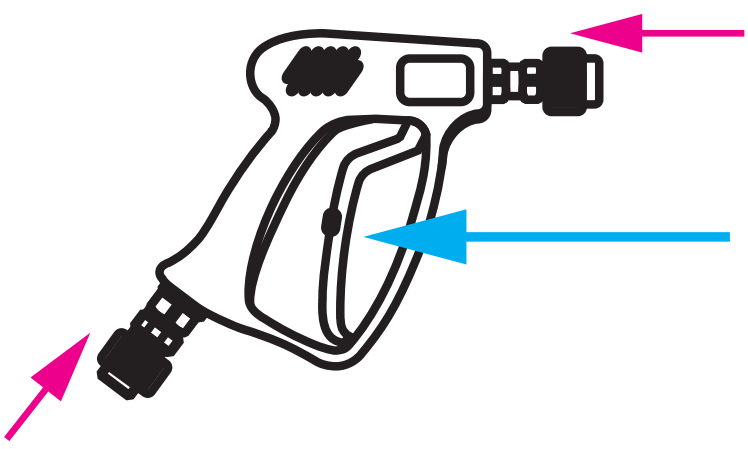
- To release the coupler, use position 1.
- To lock the quick coupler, use position 2 to prevent accidental release.
- Do not leave the coupler locked in position 3. Accidental release may occur.



5.2. SPRAY PISTOL HANDLE

Pull back on the trigger to enable flow and release to stop.

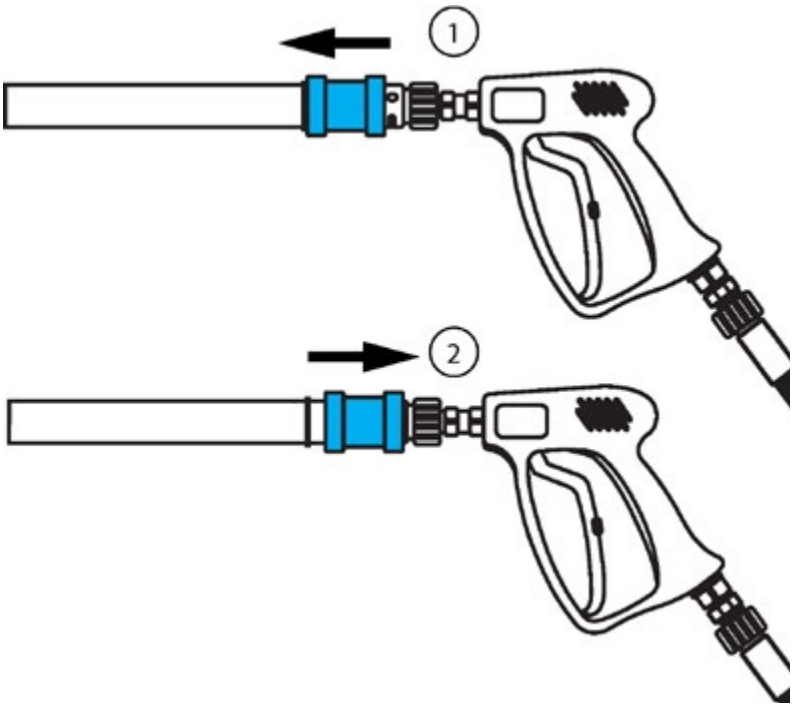
Pull back on the quick couplers to attach or release.



5.3. FOAMING AGENT INJECTOR

The foaming is affected by feeding air into a water/foaming agent mixture which comes to spray pistol's dispensing pipe from a special nozzle.

Spray pistol is provided with a sliding shutter which allows to adjust air quantity being injected into the water/foaming agent mix.



1. Sliding to forward position
   - More air in foam
   - Thicker foam
   - Shorter range

2. Sliding to rear position
   - Less of air in foam
   - Thinner foam
   - Longer range



The amount of foaming agent can be controlled with Agent mixer valve.

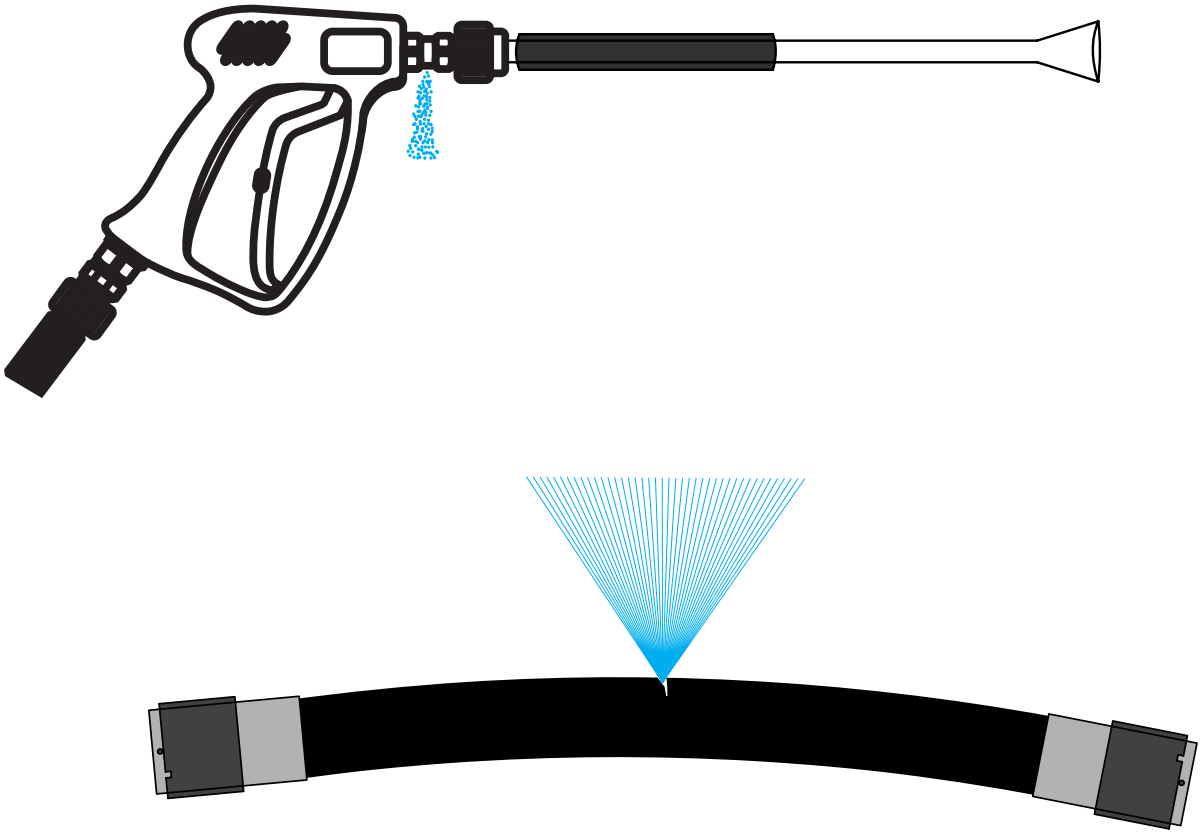
To achieve best results in outdoor use consider following factors when using an injector:

- Wind's strength and direction
- Air-to-fluid mixing ratio
- Density of foaming agent
- Water flow (max. 30 l/min for HPW 200/30-45)

Installation

6. MAINTENANCE

Check the components and hoses before every use for worn parts, cracks, leaks and breakages.



7. MANUFACTURER'S LIMITED WARRANTY

1. Warranty coverage
All hydraulic accessories manufactured by DYNASET OY are subject to the terms and conditions of this limited warranty. Products are warranted to the original purchaser to be free from defects in materials or workmanship. Exclusions from warranty are explained in item Exclusions from warranty.

2. Beginning of warranty period
Warranty period begins from the delivery date of the product. Delivery is considered to be done on the date when installation has been accomplished or purchaser has taken the product in use. Product is considered as taken in use at the date when DYNASET OY has delivered the product to purchaser, unless separately agreed otherwise by written agreement.

3. Warranty period
Warranty period is twenty four (24) months based on maximum of 2000 hours usage during this time period. In cases where the system is provided complete with certain special components (e.g. drive unit), those components are considered as a subject to their manufacturer's warranty.

4. Warranty procedures
Immediately upon identifying a problem which purchaser believes to be a failure subject to the product's limited warranty, purchaser must contact primary to the seller of the product. Contact must be made as soon as possible, latest thirty (30) days after the problem was identified. Seller and/or manufacturer technical staff determines the nature of the problem primarily by phone or e-mail. Purchaser commits to give necessary information and to perform routine diagnostic procedures in order to determine the nature of the problem and necessary procedures.

5. Warranty repairs
If the product is found to be defective during the warranty period, DYNASET OY will, at its option, either repair the product, author it to be repaired at its authorized workshop or exchange the defective product. If the product must be repaired elsewhere than premises of DYNASET OY or authorized workshop, all costs excluded from this warranty (traveling and waiting hours, daily allowance, traveling expenses and uninstallation/reinstallation costs) will be charged from the purchaser. If the problem is not covered by this limited warranty, DYNASET OY has the right to charge purchaser of troubleshooting and repairing.

6. Delivery terms of warranty repair
If the product is found possible to be defective under this limited warranty and it needs to be repaired, DYNASET OY gives Warranty Return Number (WRN). Items being returned must be shipped, at the purchaser's cost, adequately packed for shipment, to the DYNASET OY or to other location authored by DYNASET OY.
Shipment documents must contain:

- Purchaser's name and contact information
- Receipt of original purchase
- WRN code
- Problem description

7. Warranty of repaired product
Warranty period of the product repaired under this limited warranty continues to the end of original warranty period.

8. Exclusions from warranty
This warranty shall not apply to:

- Failures due to normal wear and tear, improper installation, misuse, abuse, negligence, purchaser selection of improper product to intended use, accident, improper filtration of hydraulic oil or intake water or lack of maintenance.
- Cost of maintenance, adjustments, installation or startup.
- Coating, hydraulic oil, quick couplings and interconnection hoses (internal or external to system assemblies).
- Products altered or modified in a manner not authorized by DYNASET OY in writing.
- Products which have been repaired during warranty period by others than DYNASET OY or its authorized workshop.
- Costs of any other damage or loss, whether direct, indirect, incidental, special or consequential, arising out of the use of, or the inability to use, the product.
- Telephone or other communications expense.
- Product that is used in exceptional conditions, considered to cause excessive wear and tear.
- Faults caused by nature phenomenon's like flood, thunder, etc.

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8. PRODUCT DISPOSAL

Dispose and recycle all DYNASET products and their packaging environmentally responsible way.

Do not dispose used oils, electrical components, batteries or any other hazardous waste with normal waste. They are harmful for the environment and can be recycled for re-use.

Contact your local waste recycling facility for more information about recycling hazardous waste.

NOTE!

Always act according to the waste legislation, regulations and recommendations in waste disposal and waste recycling issued by your local authorities.

9. DECLARATION OF CONFORMITY

We hereby declare that the design and manufacture of the product stated below are in conformity with the provisions of the European Parliament and Councils on the harmonization of the laws of Member States on the safety of machines.

Machine directive 2006/42/EC

Applied conformity standards:

CEN EN ISO 4413: EN ISO 4413:2010 Hydraulic fluid power - General rules and safety requirements for systems and their components.

Manufacturer:	**DYNASET Oy** Menotie 3, FI-33470 Ylöjärvi, Finland
Product group:	HIGH PRESSURE WATER PUMPS
Product:	Firefighting Pistol Kit

If the device has been modified by someone other than the manufacturer or without the manufacturer's permission, this declaration is not valid.

CE

Timo Nieminen
R&D Manager
Ylöjärvi, Finland 20.04.2016

10. TECHNICAL SPECIFICATIONS

Unit	Nozzle	Nominal pressure	Maximum pressure	Water flow	Length
HPW180	Piercing nozzle 60°	180 bar	180 bar	70 l/min	500 mm
	Piercing nozzle 170°	180 bar	180 bar	70 l/min	500 mm
	Fog nozzle	170 bar	180 bar	43 l/min	500 mm
	Point nozzle	180 bar	180 bar	60 l/min	600 mm
	Foam nozzle	180 bar	180 bar	60 l/min	400 mm
HPW200	Piercing nozzle 60°	170 bar	200 bar	30 l/min	500 mm
	Piercing nozzle 170°	170 bar	200 bar	30 l/min	500 mm
	Fog nozzle	180 bar	200 bar	30 l/min	500 mm
	Point nozzle	200 bar	200 bar	25 l/min	600 mm
	Foam nozzle	200 bar	200 bar	25 l/min	400 mm
HPW220	Piercing nozzle 60°	200 bar	220 bar	50 l/min	500 mm
	Piercing nozzle 170°	200 bar	220 bar	50 l/min	500 mm
	Fog nozzle	220 bar	220 bar	47 l/min	500 mm
	Point nozzle	220 bar	220 bar	50 l/min	600 mm
	Foam nozzle	220 bar	220 bar	50 l/min	450 mm

10.1. SPRAY PISTOL HANDLE TECHNICAL SPECIFICATIONS

Unit	Maximum flow	Maximum pressure
Spray pistol handle	80 l/min	600 bar

DYNASET
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ELECTRICITY
HG Hydraulic Generator
HGV POWER BOX Variable Hydraulic Generator System
HGV Variable Hydraulic Generator System
HWG Hydraulic Welding Generator
HGG Hydraulic Ground Power Generator

HIGH PRESSURE WATER
HPW Hydraulic High Pressure Water Pump
HPW Hydraulic Power Washer
KPL High Pressure Street Washing Unit
HPW-DUST High Pressure Dust Suppression System
PPL High Pressure Pipe Cleaning Unit
HPW-FIRE High Pressure Firefighting System
FP Firefighting Piercing Kit
HDF Hydraulic Drilling Fluid Pump
JPL High Pressure Bin Washing System
HSP Hydraulic Submersible Pump

COMPRESSED AIR
HK Hydraulic Piston Compressor
HKL Hydraulic Rotary Vane Compressor
HKR Hydraulic Screw Compressor

MAGNET POWER
HMG PRO Hydraulic Magnet Generator
MAG Lift Magnet
HMAG PRO Hydraulic Magnet

VIBRATION
HVB Hydraulic Vibra
HVD Hydraulic Directional Vibra
HRC Hydraulic Reversal Cylinder

POWER BOOSTING
HPI Hydraulic Pressure Intensifier
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