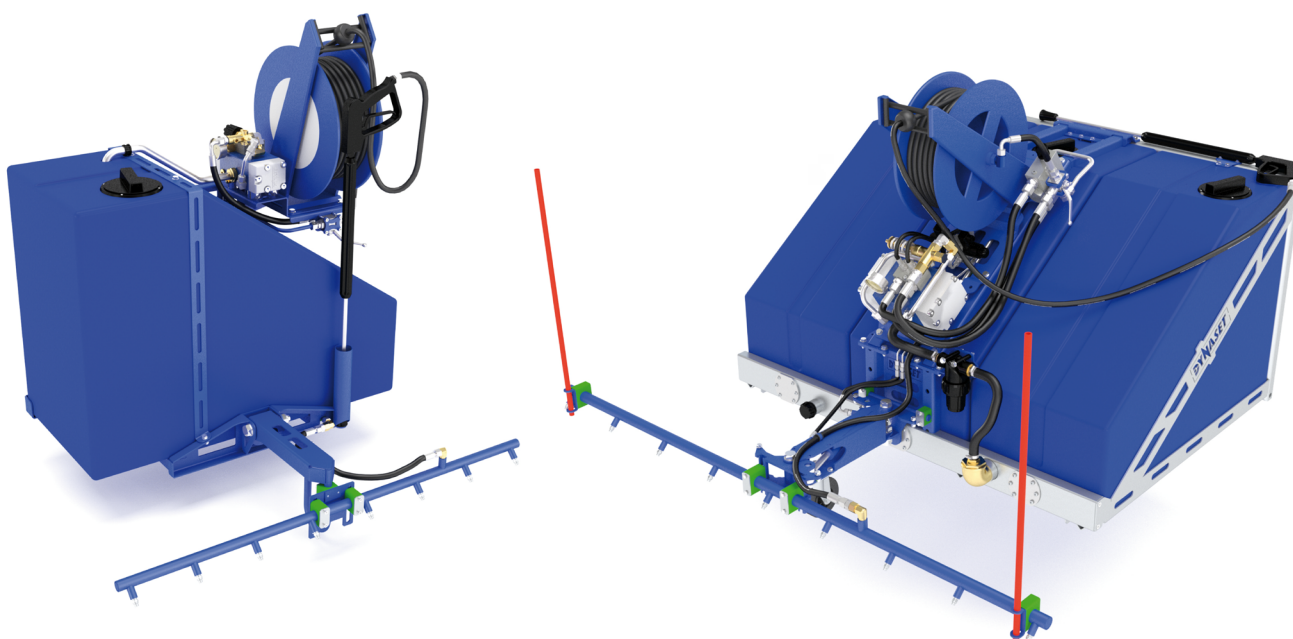
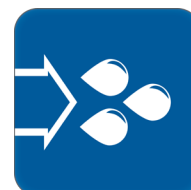




rev 1.1

USER MANUAL

HIGH PRESSURE STREET WASHING UNITS



KPL S 200

KPL M 200

KPL L 200

KPL L 220

KPL XL 180

KPL XL 220

Download PDF version from www.Dynaset.com/manuals

Keycode: FKNMPH





Congratulations!

You have just purchased DYNASET hydraulic equipment!

The equipment allows you to maximize the productivity and efficiency of your mobile machine. Read this User Manual before using your new equipment. It contains important information that will help you to take the full advance of the technical features available in your equipment.

Please contact us for any feedback you might have on our products. Your feedback is important to us for improving our products and customer service.

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HIGH PRESSURE STREET WASHING UNITS

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1. GENERAL

This manual contains general information about assembly, installation, operation and maintenance of DYNASET KPL High Pressure Street Washing Unit.



ATTENTION!

Read this user manual before installation, use or maintenance of the KPL unit to ensure proper handling, operation and maintenance right from the beginning. Pay attention to warnings and safety instructions. READ CHAPTER "SAFETY" for more information.

1.1. PRODUCT INFORMATION

DYNASET KPL High pressure street washing unit is a powerful accessory. It utilizes Dynaset HPW- hydraulic high pressure water pump, which transforms the hydraulic power of a working machine into high pressure water. The HPW pump is free of rotating parts, which makes it very durable and maintenance free.

Compact size, light weight and low water consumption make the KPL unit a cost-saving and work efficient solution. High pressure water digs dust and sand out from the pores in asphalt, concrete and similar surfaces. This way the surface will not emit dust after drying. Small water consumption makes it possible to wash large areas effectively even with a small vehicle, with less amount of water.

Street washing units raise the degree of working machine's versatility. With a quick couplings the KPL units are easy to connect different carriers. This guarantees optimal usability and best possible work results.

KPL units includes spray gun and hose reel with 20 meter hose, which makes cleaning of the apartment entrances, corners and other tight spaces effective and easy. Statues, park benches, road signs etc. can also be washed without prior arrangements with handy spray gun.

1.2. PRODUCT IDENTIFICATION KEY

KPL - XL - 180 - 2200x10 - SK-24

(1) (2) (3) (4) (5)

Picture 1: Identification key for KPL units

1.Product group KPL Street Washing Unit.

2.Size (listed below)

S = 1 water tank, 270 liters.

M = 2 water tanks, 540 liters.

L = 3 water tanks, 810 liters.

XL = 4 water tanks, 1080 liters.

3.Maximum water pressure (bar) of HPW pump in KPL.

4.Washing pipe length (mm) and count of water nozzles.

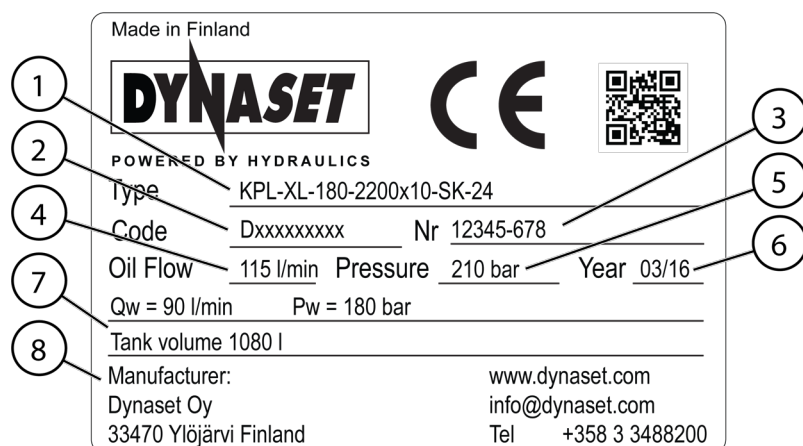
5.Turning Device control (listed below)

M = Manual

HK = Hydraulic turning control.

SK = Electric turning control with 12V or 24V control voltage.

1.3. TYPE PLATE

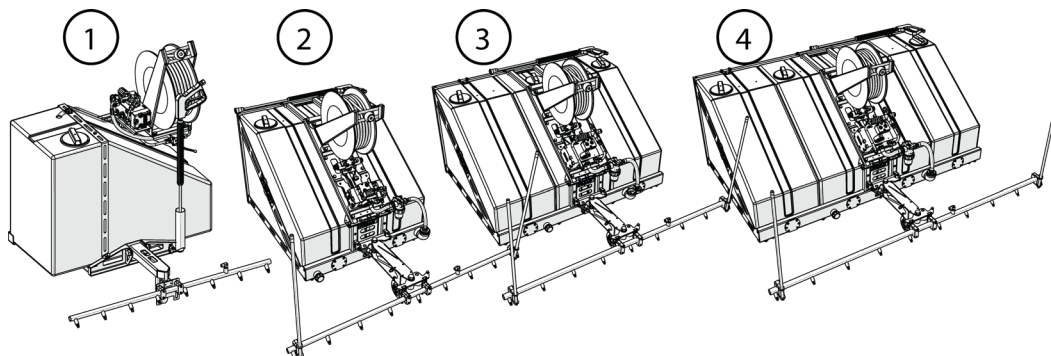


Picture 2: Type plate

The products type plate shows the following information.

- | | |
|-------------------------------|---|
| 1. Product identification key | 6. Production month / year |
| 2. Product code | 7. Output water flow rate and pressure. |
| 3. Serial number | 8. Manufacturer's contact information |
| 4. Maximum hydraulic flow | |
| 5. Maximum hydraulic pressure | |

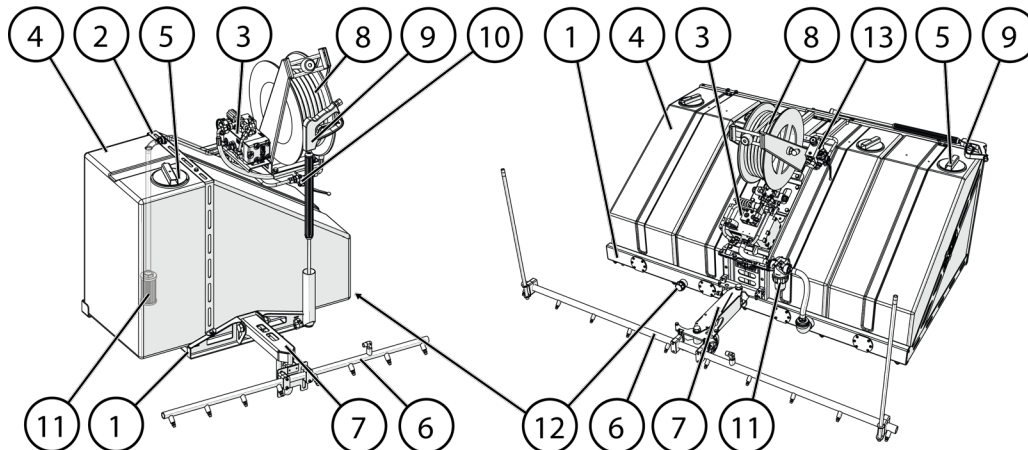
1.4. KPL UNIT LINE-UP



Picture 3: KPL unit line-up

- | | |
|--------------|----------------------------|
| 1. KPL-S-200 | 3. KPL-L-200 / KPL-L-220 |
| 2. KPL-M-200 | 4. KPL-XL-220 / KPL-XL-180 |

1.5. MAIN COMPONENTS OF KPL UNIT



Picture 4: Main components of KPL unit

- | | |
|------------------------|----------------------------------|
| 1. Frame | 8. Hose reel |
| 2. Support | 9. Spray gun |
| 3. HPW pump | 10. 3-way water valve |
| 4. Water tank | 11. Water filter |
| 5. Water fill cap | 12. Drain plug |
| 6. Street washing pipe | 13. 3-way oil flow limiter valve |
| 7. Turning device | |



HIGH PRESSURE STREET WASHING UNITS

GENERAL

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 both hydraulic oil and water circuits of KPL unit is considerably high. Keep the condition of your equipment and hydraulic system under constant observation.

 **WARNING**

HIGH PRESSURE WATER AND OIL!

Can cause severe injuries.
Always wear appropriate clothing
and safety equipment.



Couplings, valves and hoses need to be kept tight and clean to avoid possible leakages. Leaks in the hydraulic system must be repaired immediately to avoid injuries caused by high pressure blowouts.

In order to avoid accidents, it is not allowed to clean or inspect KPL unit when hydraulic fluid circuit is pressurized. Prior to any cleaning, inspection and service, hydraulic system of your base machine must be stopped and all hydraulic fluid circuits must be depressurized.

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

2.2. SAFETY EQUIPMENT

When operating close to the KPL unit, wear appropriate clothing and safety equipment such as safety goggles, safety shoes and ear protection.



2.3. OPERATING SAFETY

When operating the KPL unit, beware of the unit parts warmed by hot hydraulic oil.

 **WARNING**

RISK OF BURNS!

The unit parts and hydraulic oil can be hotter than 80 °C!

Wear personal safety equipment!



Never aim high pressure water at a person.

 **VAROITUS**

KORKEAPAINEN VESI!

Älä koskaan suuntaa korkeapaineista vesisuihkua ihmistä kohti.
Se voi aiheuttaa vakavia vammoja.



**ATTENTION!**

Do not exceed the maximum pressure, temperature or load.

**ATTENTION!**

Always detach KPL unit on a hard, level surface.

2.4. MAINTENANCE SAFETY



ATTENTION

Installation and service of hydraulic equipment must be performed by qualified and experienced personnel only.



NOTE!

When carrying out any maintenance to KPL unit keep the components of the system clean. This is to ensure safe, reliable and longlife operation of your equipment.

Hydraulic system of the base machine should be maintained according to the service program.

2.5. WARNING LABELS

Product recipient is obligated to place warning labels on the DYNASET product. Attach labels to visible and appropriate place onto or close to DYNASET product where it's easily seen. Clean surface with solvent detergent before attaching labels.



LUE
KÄYTTÖOHJEET.



KÄYTÄ
KUULONSUOJAIMIA
JA SUOJALASEJA.



ESTÄ
JÄÄTYMINEN.



VARO
KORKEAPAINEISIA
ROISKEITA.



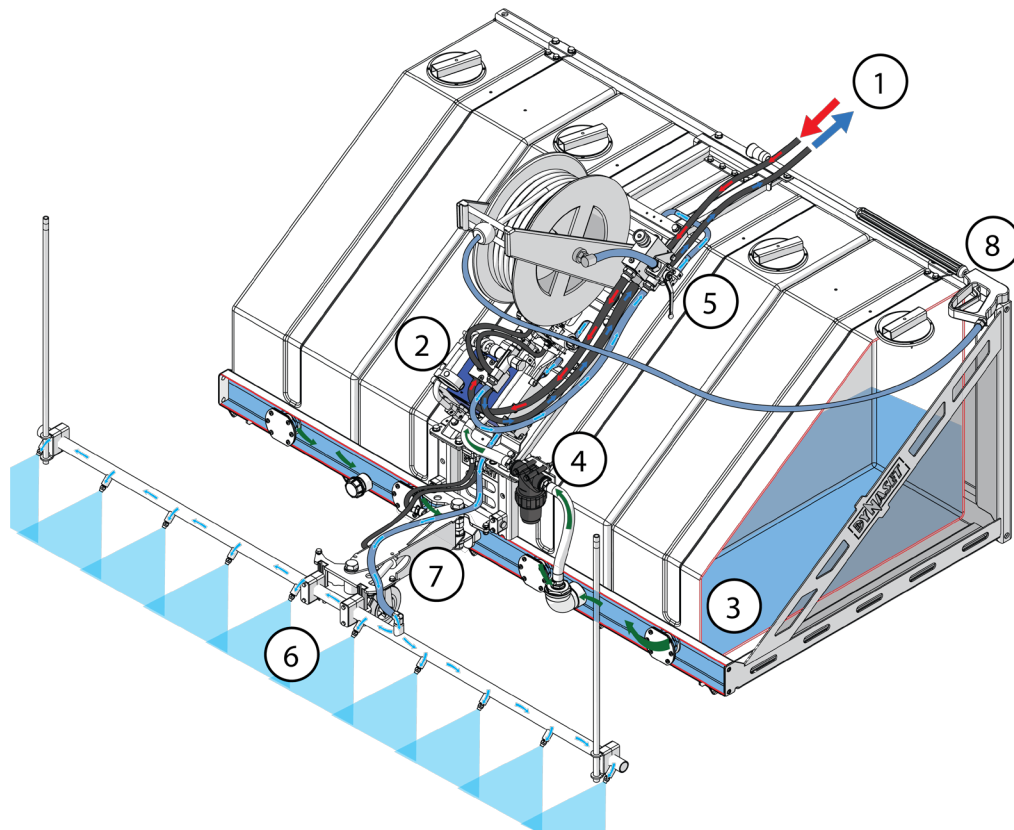
VARO KUUMAA
PINTAA.



HIGH PRESSURE STREET WASHING UNITS SAFETY

3. OPERATING PRINCIPLES

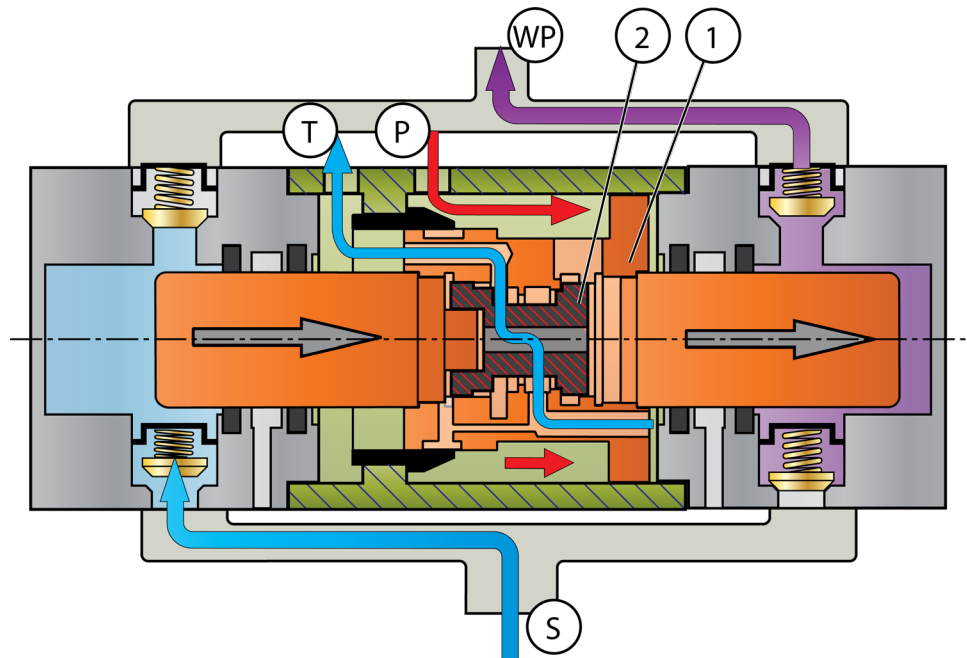
3.1. OPERATING DESCRIPTION



Picture 5: Operating description of KPL unit

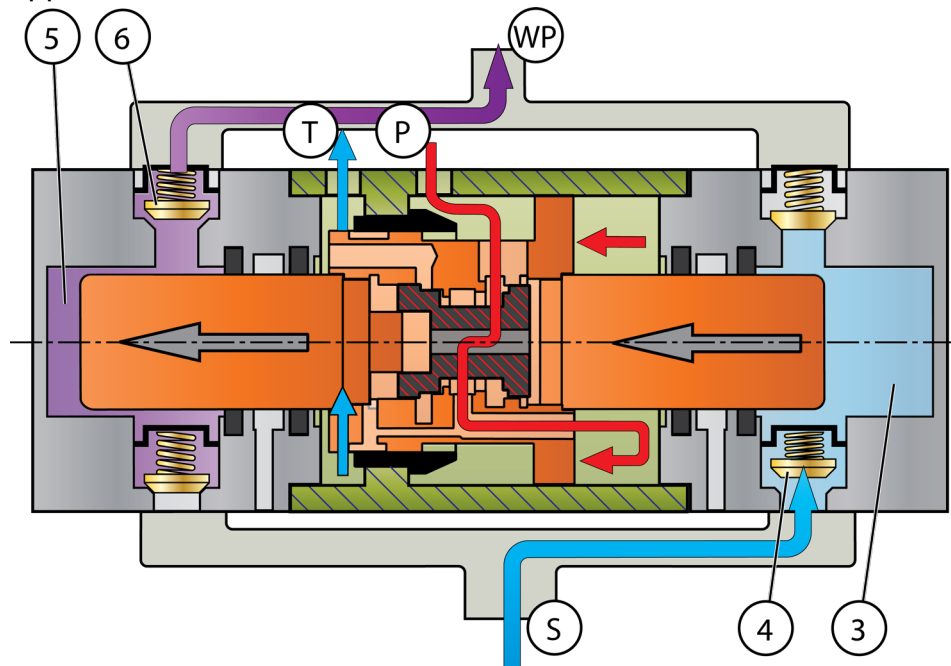
HPW pump (2) of the KPL unit is driven by hydraulic oil flow (1) from the base machine. The HPW pump self-primers water from a water tanks (3) and water is filtered with a water filter (4). High pressurized water flows from the HPW pump to 3-way valve (5), where the water can be directed to street washing pipe (6) or to spray gun (8). The steering angle and the position of the street washing pipe can be adjusted with turning device (7) in KPL M, L and XL models. In KPL S model steering angle can be adjusted manually.

The patented HPW-pump utilizes the reciprocal motion of the hydraulic piston.



Picture 6: Operating description of HPW pump 1

HPW-pump is driven by hydraulic flow through the hydraulic ports (P) and (T). Hydraulic flow moves the piston assembly (1) into its extreme position. After extreme position reached, reversal valve (2) inside the piston assembly changes the direction of hydraulic flow and the piston assembly starts to move into the opposite direction.



Picture 7: Operating description of HPW pump 2

Move of the piston assembly creates pressure and suction. Pump self-priming from water supply line (S) and generates pressure into pressure line (WP). When piston assembly moves away from head it creates underpressure (3) and water (or other pumping fluid) is sucked through intake valve (4) into head. When water piston moves towards the head, it creates pressure (5) and water is pushed through pressure valve (6) into pumping fluid outlet (WP).

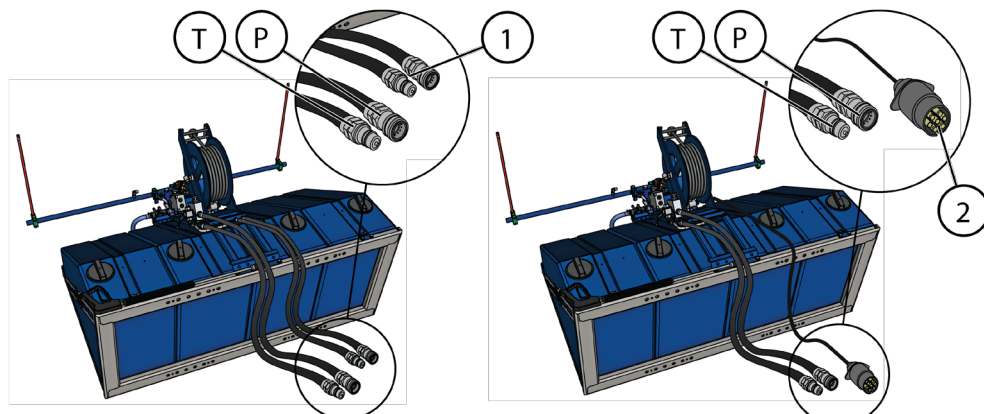
4. INSTALLATION OF THE KPL UNIT

4.1. INSTALLATION TO A HYDRAULIC TOOL LINE

The KPL unit is recommended to be installed into the base machine's existing hydraulic tool line. Usually other installations are not required and the KPL unit can be operated from the existing controls.

Install the hydraulic tool lines **pressure (P)** and **return (T)** ports to their corresponding ports in the KPL unit.

KPL unit is equipped either with hydraulic, electric, or manual turning device control. Hydraulic connection of turning device is connected to other hydraulic tool line connection ports.



Picture 8: Connections of KPL unit

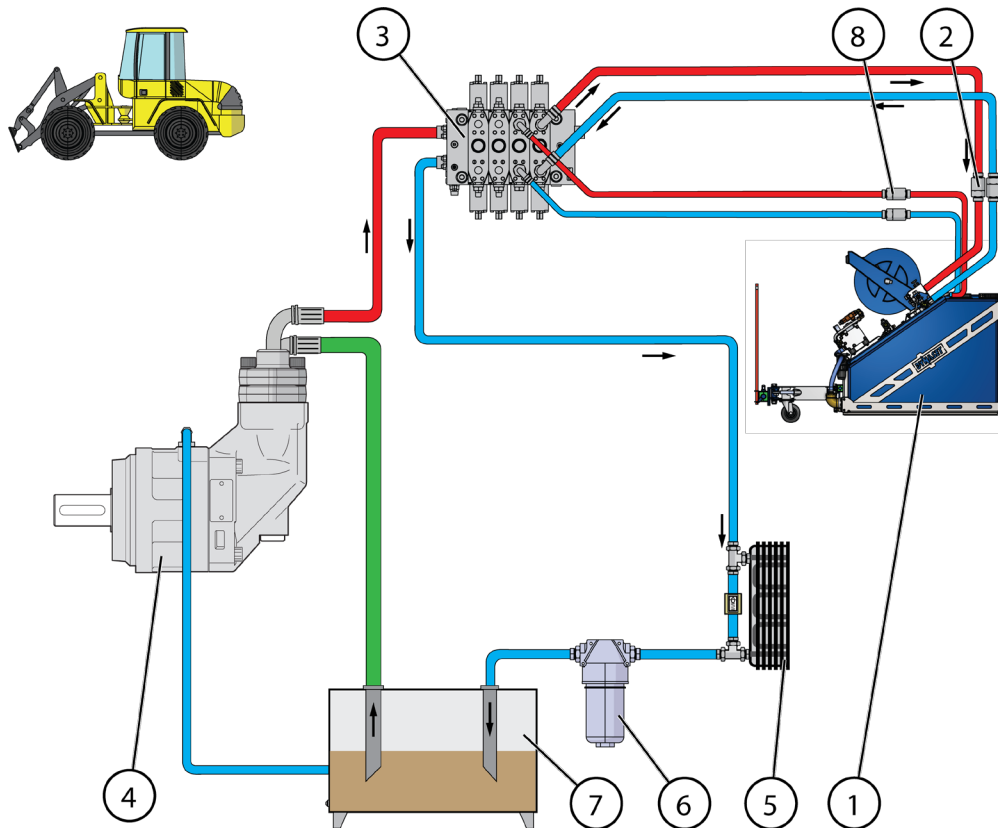
1. Hydraulic connection of turning device control
2. Electric connection of turning device control

Ensure that the hydraulic flow of the base machine is sufficient to run the unit. At least the nominal hydraulic flow must be available to get the maximum washing power. Lower hydraulic flow reduces washing power.

⚠ ATTENTION!

Ensure that the filtering degree and cooling capacity of the hydraulic system are sufficient. READ CHAPTER "TECHNICAL SPECIFICATIONS" for more information.

In the picture 9 is an example of installing the KPL unit with hydraulic turning control into a existing tool line.



Picture 9: Exaple of existing tool line installation

- | | |
|--|--|
| 1. DYNASET KPL unit | 5. Oil cooler |
| 2. Quick couplers for hydraulic connection | 6. Oil filter |
| 3. Open centre directional control valves | 7. Oil tank |
| 4. Base machines displacement pump | 8. Quick couplers for turning device (HK-models) |

4.2. HYDRAULIC FLUIDS

To use proper hydraulic fluid READ CHAPTER "Hydraulic fluids" for more information.

4.3. QUICK COUPLINGS

DYNASET KPL can be connected to the base machine with quick couplings.



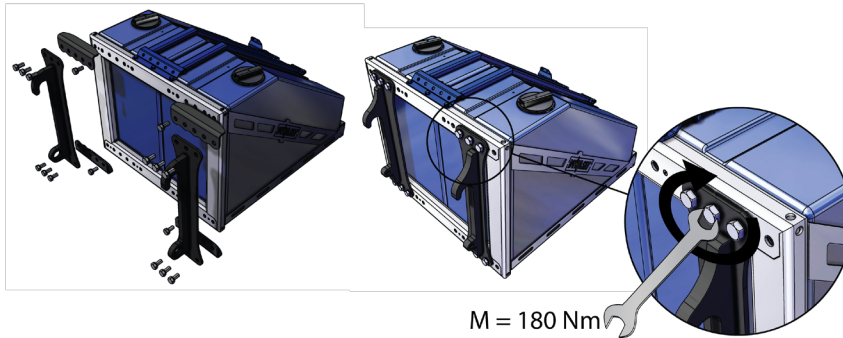
Picture 10: Quick couplings

	KPL-S	KPL-M	KPL-L	KPL-XL
COUPLING				
MP-Lift / Trima	-	X	X	X
Valtra	-	A	X	X
Isme	-	X	X	X
Karamer 180-350	-	X	-	-
Kramer 380-580	-	A	X	X
Kunta 500	-	A	X	X
EURO	-	A	X	X
Volvo BM	-	A	X	X
Avant / Agromatic	X	X	X	X
JCB	-	X	X	X
JCB 406-409 - Zettlemeyer	-	A	X	X
Bobcat	-	X	X	X
Giant	-	X	X	X
Wiedemann	-	X	X	X

A = with adapter

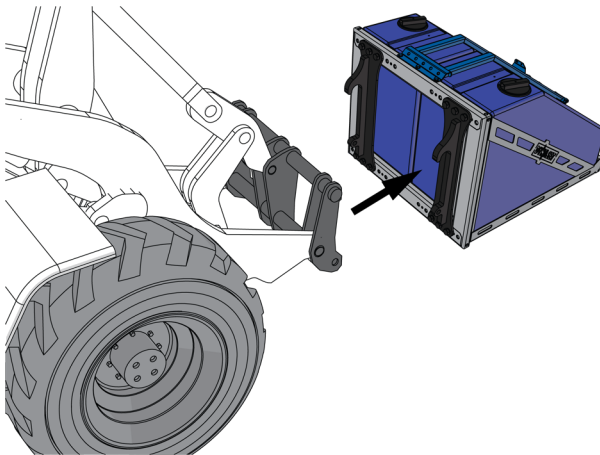
4.4. INSTALLATION TO THE BASE MACHINE

To install KPL unit to your base machine, install suitable quick coupling in to your KPL unit. If installing quick couplings to a KPL M unit, you may need adapters.



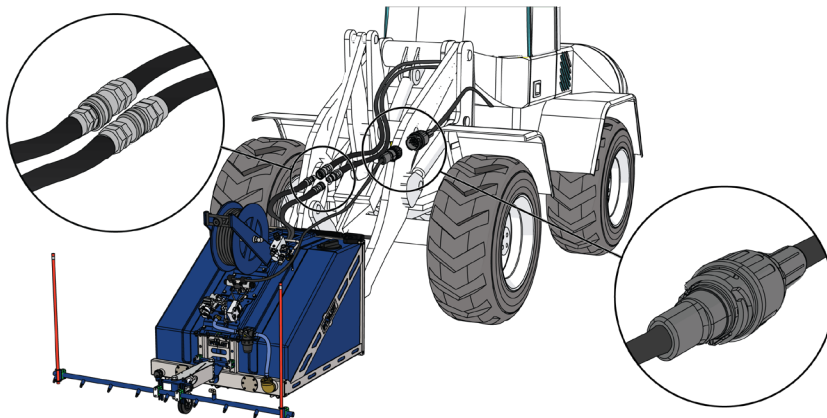
Picture 11: Quick couplings with adapter

Attach KPL unit into your base machines mounting plate.

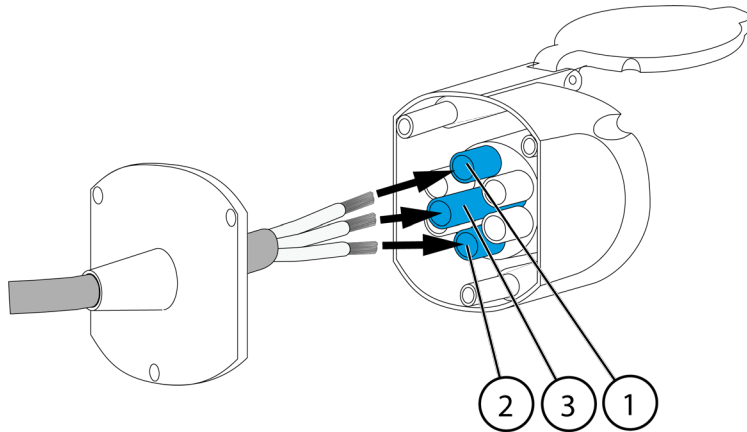


Picture 12: Attach KPL into your base machine

Connect hydraulic hoses and electric cable if washing pipe turning is electrically controlled.



Picture 13: Connect hydraulic connections and turning device connections

4.5. ELECTRIC TURNING DEVICE CONTROL SOCKET CONNECTION

Picture 14: Electric turning device control socket connection

1. **1/L** Cylinder extend
2. **4/R** Cylinder retract
3. **58L** Ground

**NOTE!**

SEE CHAPTER APPENDIX for electric schematic



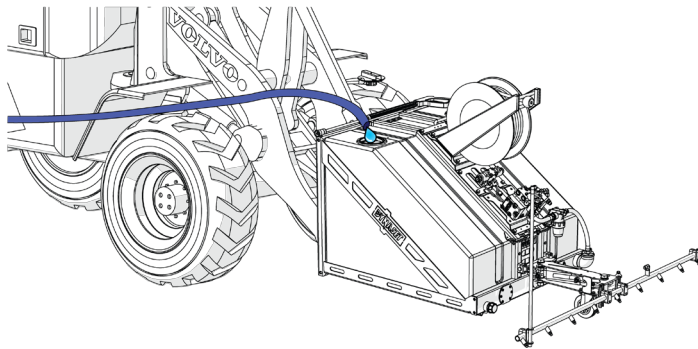
HIGH PRESSURE STREET WASHING UNITS INSTALLATION

5. OPERATION

After having ensured the proper mechanical and hydraulic installation of the KPL unit it is ready for use.

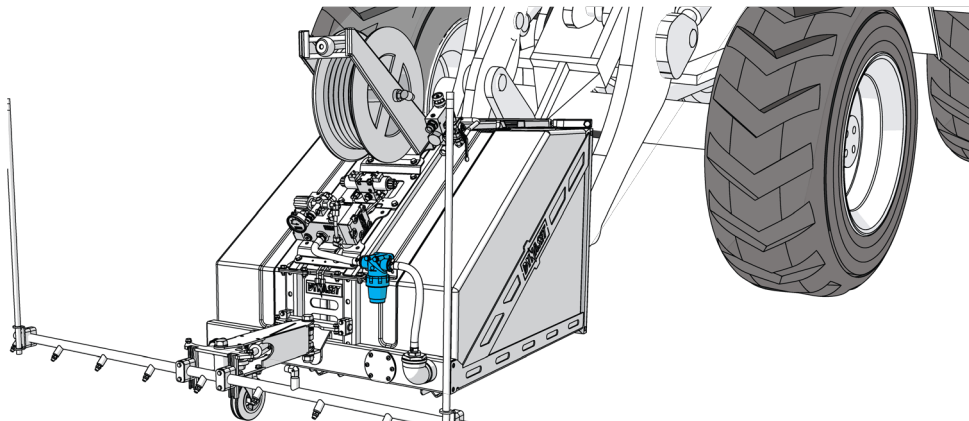
5.1. BEFORE OPERATING THE KPL UNIT

- 1.Fill the water tank with clean water.



Picture 15: Fill the water tank

- 2.Ensure that the water filter is clean and in place.



Picture 16: Location of water filter

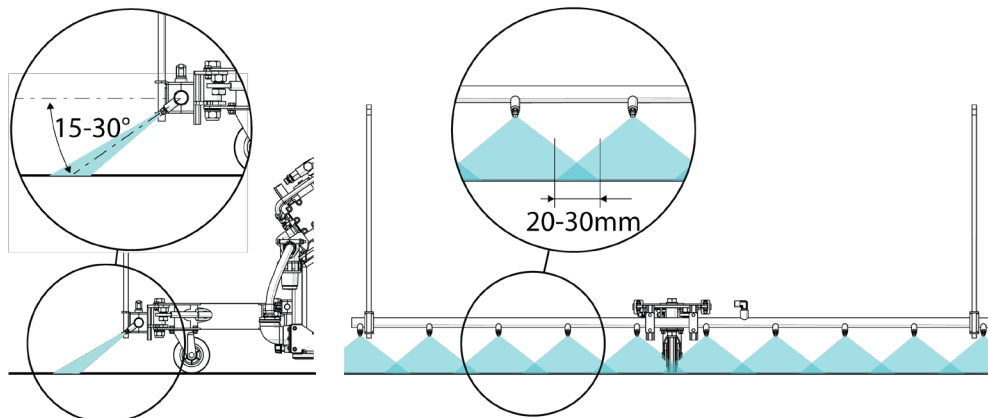
3. Adjust the washing angle of the washing pipe as instructed in CHAPTER "Adjusting washing angle"

5.2. STARTING AND STOPPING THE KPL UNIT

To start and stop the KPL unit turn on/off the hydraulic flow in to the hydraulic line where KPL unit is installed, for example hydraulic tool line.

5.3. ADJUSTING WASHING ANGLE

Washing angle should be 15-30 degree and the height of washing pipe should be positioned so that the water jets cross each other 20-30 mm before hitting ground.



Picture 17: Washing angle

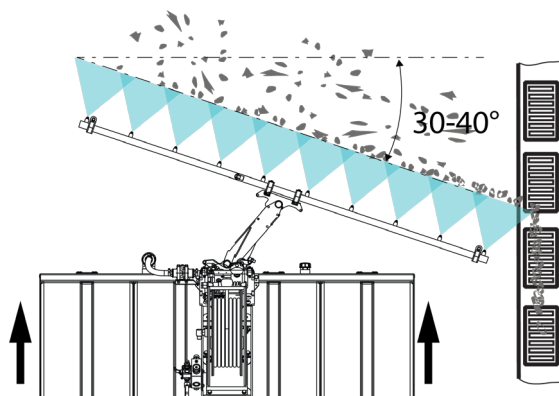


ATTENTION!

Wrong positioning of the washing pipe can cause washing power loss up to 50 %.

5.4. ADJUSTING STEERING ANGLE

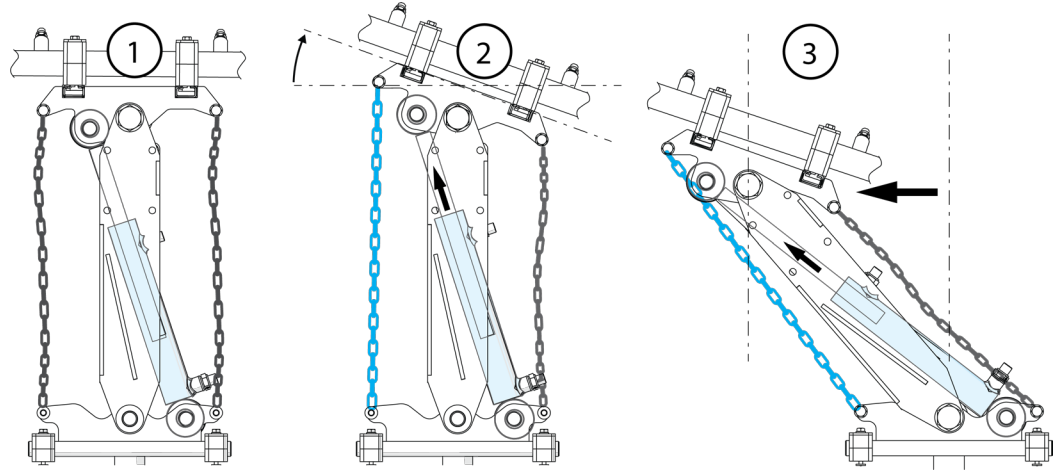
The steering angle of the washing pipe determines the direction where the dirt is moved to. The steering angle of 30 - 40° is most effective. High pressure water jets work as dozer blade, moving dirt along the washing pipe to its other end and further aside.



Picture 18: Steering angle

In KPL M, L and XL models steering angle can be adjusted with turning device and in KPL S turning angle can be adjusted manually.

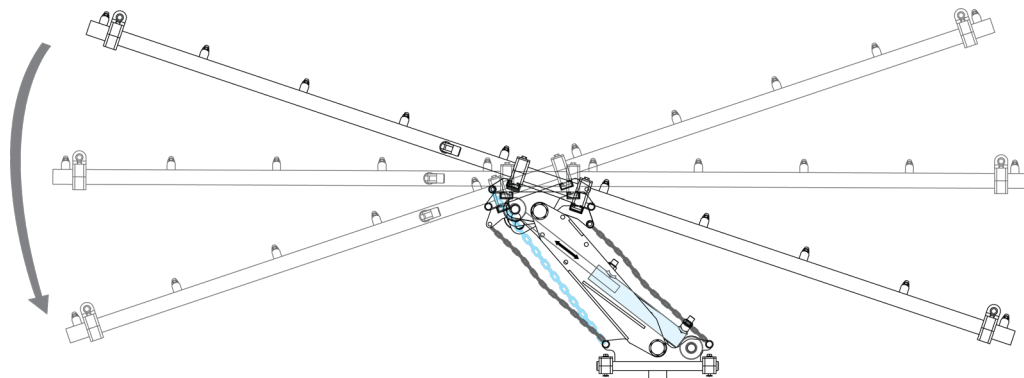
To adjust steering angle in KPL M, L and XL models extend (or subtract depending desired direction) the cylinder of the turning device.



Picture 19: Adjusting steering angle

To position the washing pipe left or right, extend or subtract the cylinder of the turning device until the other chain is tight. Keep extending the cylinder and the turning device rotates to the direction of the tight chain. After desired position of the washing pipe is achieved stop extending the cylinder of the turning device.

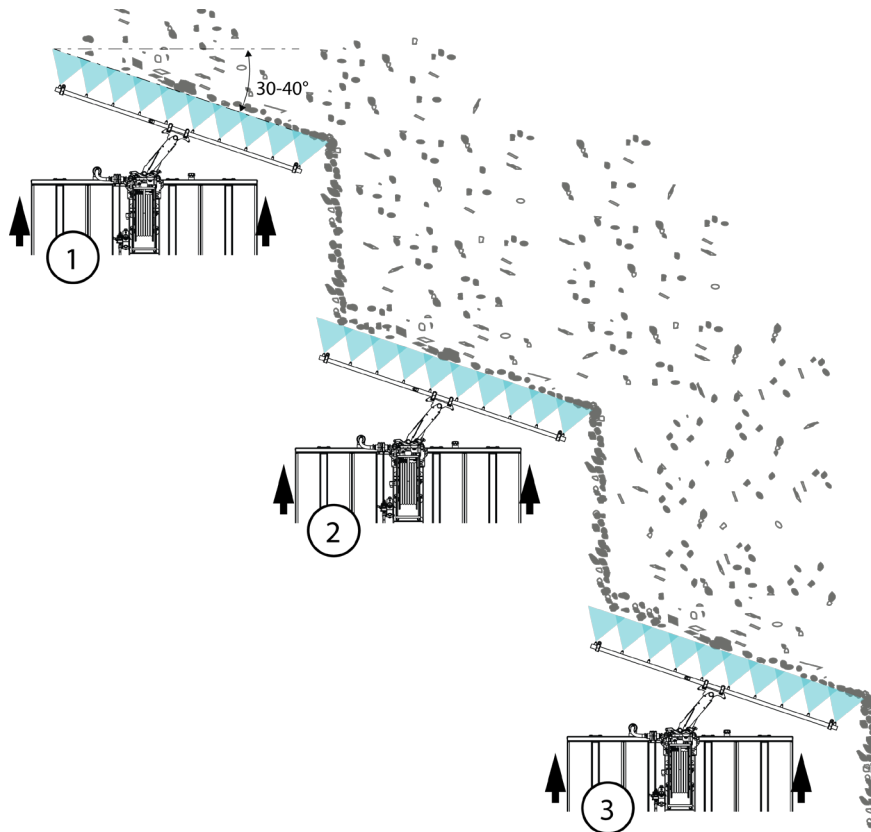
The steering angle of washing pipe can be adjusted after positioning of the washing pipe.



Picture 20: Steering angle in far left position of turning device

5.5. WASHING

When washing large area, it is recommended to start job from the highest point of the area to be washed. When washing the first lane the dirt runs with the washing water and is moved side to next lane. Wash the area one lane at the time until the whole area is clean.



Picture 21: Washing large area

5.6. WORKING IN COLD TEMPERATURES

To prevent pipes and KPL unit from freezing in cold season the pump, water lines and water tank should be dewatered after a working shift. Open the drain plug of the water tank and drain out the water. After tank is empty run the pump dry for a while until all water is removed from water circuit.



ATTENTION!

Prevent the KPL unit from freezing.

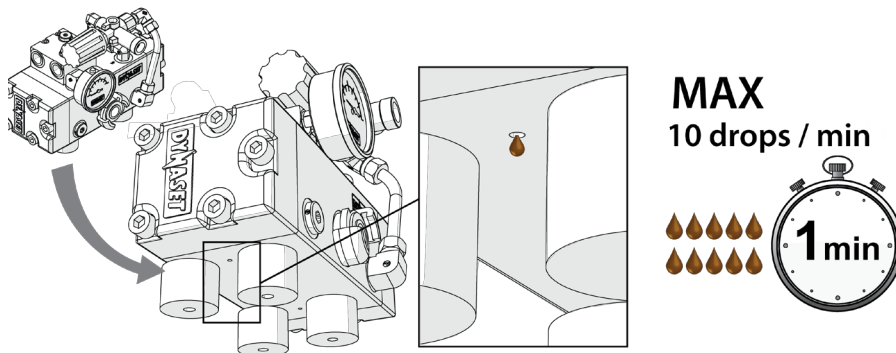
6. MAINTENANCE

6.1. MAINTENANCE INTERVAL

All maintenance must be complied with as they are scheduled in this manual. The following table provides maintenance schedule for DYNASET KPL units.

CHECK POINTS	Daily	After daily use	Every 1500 hours or if necessary
Observe HPW pumps leakage detectors	x		
Clean KPL unit		x	
Clean water intake filter	x	x	
Change water intake filter			x
Change filter of nozzles			x
Change HPW pump sealings			x

Check constantly whether the fluid dropping from pump's leakage detectors is growing. Replace sealing in proper time to exclude intermixing of hydraulic oil and pumping fluid. Sealings replace instructions can be found in HPW User Manual.



Picture 22: Location of leakage detectors in HPW

6.2. HYDRAULIC FLUIDS

Wide range of standard hydraulic fluids can be used with DYNASET hydraulic equipment. Depending on the operating temperature, following mineral hydraulic oils are recommended:

Mineral hydraulic oil	Operation temperature up to
ISO VG 32S	60 °C
ISO VG 46S	70 °C
ISO VG 68S	80 °C

! NOTE!

Recommended oil viscosity is between 10 to 35 cSt when operating at normal operating temperature.

Synthetic and bio-oils can also be used if their viscosity characteristics and lubricating efficiency are similar to the mineral oils.

Automatic transmission fluids and even engine oils can be used, provided that they are allowed to be used in hydraulic system of your base machine.

For the hydraulic fluid change interval follow the base machine's maintenance instructions.

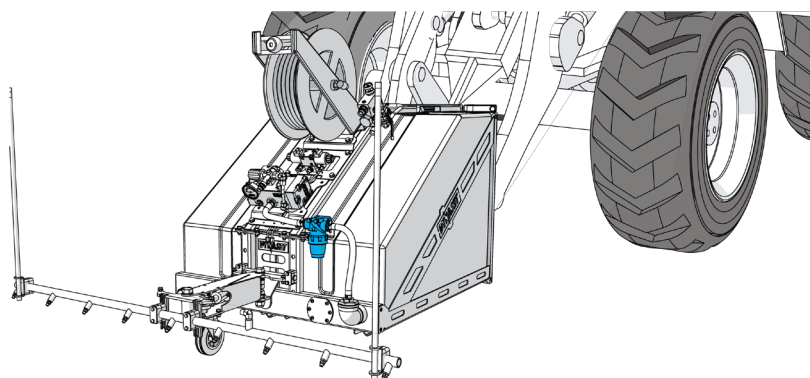
To use special hydraulic fluids with DYNASET equipment, please contact the nearest DYNASET representative for more information.

6.3. CLEAN THE KPL UNIT**! ATTENTION!**

Keep the KPL unit clean to enable its safe and longlife operation. Check and clean your KPL unit after every work shift.

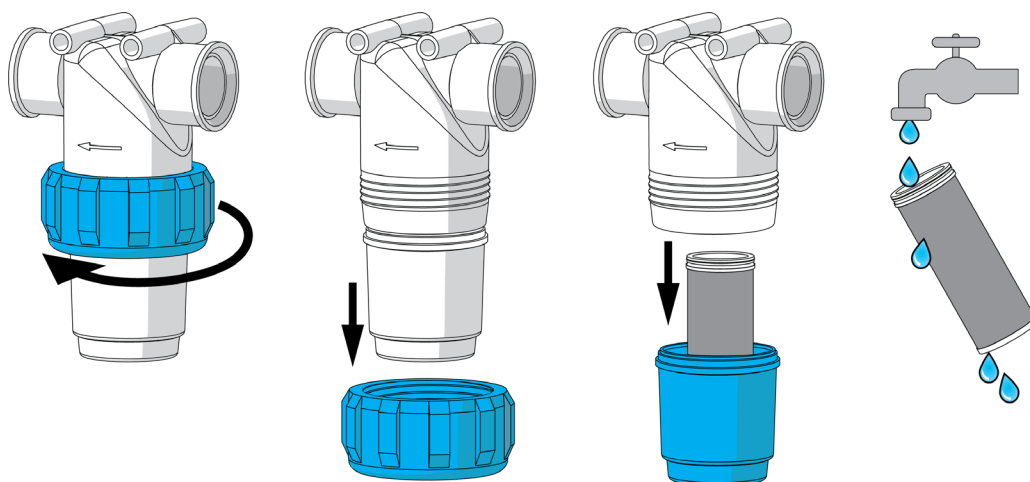
6.4. CLEAN WATER FILTER

Water filter is located in front of the water tank.



Picture 23: Location of water filter in KPL M, L and XL

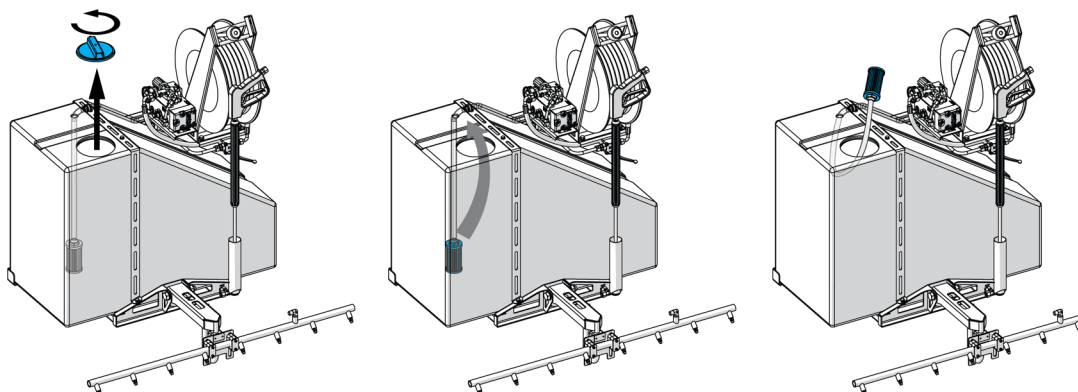
Check and clean water filter every 3 months in KPL M, L and XL models, replace if necessary. Check and replace water filter every 3 months in KPL S.



Picture 24: Clean water filter in KPL M, L and XL

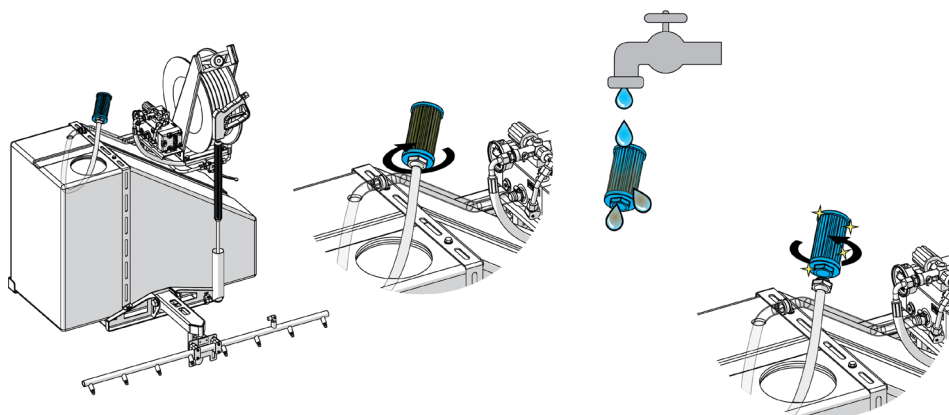
Remove the water filter in KPL M, L and XL models. Wash the water filter under clean water to remove all soil and dirt from the filter. Install clean filter back to the KPL unit.

In KPL S model water filter is located inside the water tank.



Picture 25: Location of water filter in KPL S

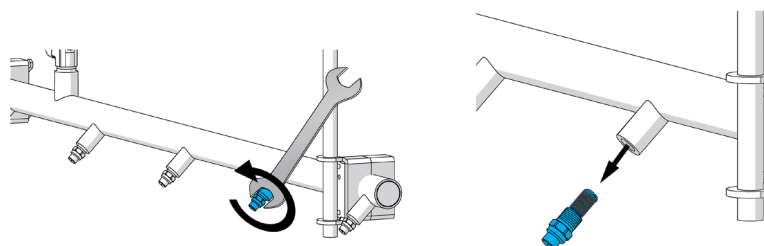
To clean or replace the water filter, open water tank cover and pull out the water filter.



Picture 26: Clean water filter in KPL S

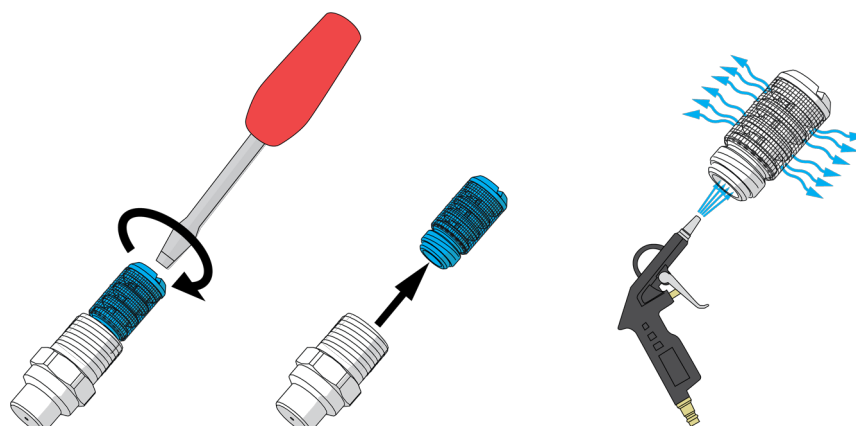
Remove the water filter from the suction hose and clean the filter or install new water filter if necessary.

6.5. CLEAN NOZZLE FILTER



Picture 27: Remove nozzle from street washing pipe

Remove the nozzle from street washing pipe.



Picture 28: Remove and clean nozzle filter

Remove nozzle filter from the nozzle. Use air blow gun to clean clogged nozzle filter. Re-install clean nozzle filter to nozzle and to street washing pipe.

6.6. TROUBLESHOOTING

Performing the maintenance tasks requires a qualified hydraulic mechanic. Please, contact DYNASET authorized workshop or dealer for more maintenance information.

FAILURE	REASON	CORRECTIVE ACTION
KPL unit does not work.	Hydraulic flow not sufficient or no hydraulic flow at all.	Enable or adjust the hydraulic flow.
	Hydraulic pressure too low.	Adjust the hydraulic pressure.
	Hydraulic flow reversed.	Check and reconnect hydraulic hoses. Pressure hose should be connected to P-port and return hose to T-port.

FAILURE	REASON	CORRECTIVE ACTION
KPL unit does not deliver water	No water in tanks.	Check and fill the water tank.
	Intake hose detached or hose breathes.	Check and fix the hose and connectors.
	Water supply line clogged.	Check water filter and clean thoroughly.
	Nozzle is clogged	Check and clean nozzle filter.

Troubleshooting for HPW pump can be found in HPW User Manual.



HIGH PRESSURE STREET WASHING UNITS MAINTENANCE

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.



HIGH PRESSURE STREET WASHING UNITS PRODUCT DISPOSAL

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

LVD directive 2006/95/EC

EMC directive 2004/108/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.

EN60204-1 Safety of machinery – Electrical equipment of machines.

Manufacturer: **DYNASET Oy**
Menotie 3, FI-33470 Ylöjärvi, Finland

Product group: HIGH PRESSURE WATER PUMPS

Product: KPL High pressure street washing units

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



Timo Nieminen
R&D Manager
Ylöjärvi, Finland 01.12.2015



HIGH PRESSURE STREET WASHING UNITS DECLARATION OF CONFORMITY

10. TECHNICAL SPECIFICATIONS

		KPL S 200	KPL M 200	KPL L 200	KPL L 220	KPL XL 220	KPL XL 180
WATER POWER							
Water output max.	l/min (gpm)	30 (7.92)	30 (7.92)	30 (7.92)	50 (13.20)	50 (13.20)	90 (23.78)
Pressure max.	bar (psi)	200 (2900)	200 (2900)	200 (2900)	220 (3191)	220 (3191)	180 (2611)
Working width	cm (in)	150 (59.1)	180 (70.9)	180 (70.9)	200 (78.7)	250 (98.4)	250 (98.4)
Water tank	l (gal)	280 (73.97)	560 (147.93)	840 (221.91)	840 (221.91)	1120 (295.87)	1120 (295.87)
Water filter size		R3/4"	R3/4"	R3/4"	R1"	R1"	R1 1/4"
Water filter mesh		80					
STREET WASHING PIPE							
Turning device control	(M) Manual (H) Hydraulic (E) Electric *	M	H / E	H / E	H / E	H / E	H / E
Washing pipe width	mm (in)	1250 (49.2)	1650 (65.0)	1650 (65.0)	1850 (72.8)	2200 (86.6)	2200 (86.6)
Washing nozzles		8	9	9	9	10	10
SPRAY GUN							
Hose diameter		3/8"					
Hose length	m (feet)	20m (65.6)					
Spray gun		ST2300-SW-800-2508					
CONNECTIONS							
Pressure line	P	1/2" ISO - A	1/2" ISO - A	1/2" ISO - A	3/4"TEMA 7500	3/4"TEMA 7500	3/4"TEMA 7500
Return line	T	1/2" ISO - A	1/2" ISO - A	1/2" ISO - A	3/4"TEMA 7500	3/4"TEMA 7500	3/4"TEMA 7500
Turning device contol	Hydraulic	-	1/2" ISO - A	1/2" ISO - A	1/2" ISO - A	1/2" ISO - A	1/2" ISO - A
	Electric	-	ISO 1724	ISO 1724	ISO 1724	ISO 1724	ISO 1724
HYDRAULIC POWER REQUIREMENTS							
Oil flow max.	l/min (gpm)	40 (10.56)	40 (10.56)	40 (10.56)	70 (18.49)	70 (18.49)	115 (30.38)
Pressure max.	bar (psi)	210 (3046)					
HYDRAULIC FLUID REQUIREMENTS							
Viscosity	cSt	10-200 / optimum 25-35					
Temperature **	° C (° F)	max. 70 (158)					
Filter ratio	µm	25 or better					
Cooling capacity requirement	kW	2	2	2	3	3	6
DIMENSIONS							
Length	mm (in)	960 (37.8)	1655 (65.2)	1655 (65.2)	1655 (65.2)	1655 (65.2)	1655 (65.2)
Width	mm (in)	1042 (41.0)	960 (37.8)	1438 (56.6)	1438 (56.6)	1916 (75.4)	1916 (75.4)
Height	mm (in)	1143 (45.0)	1100 (43.3)	1100 (43.3)	1100 (43.3)	1100 (43.3)	1100 (43.3)
Weight	kg (lbs)	80 (176)	212 (467)	215 (473)	225 (496)	302 (666)	312 (688)

* Electric turning device control available in 12VDC and 24VDC

** READ CHAPTER "Hydraulic fluids"



HIGH PRESSURE STREET WASHING UNITS

TECHNICAL SPECIFICATIONS

11. APPENDIX

APPENDIX 1: ELECTRIC SCHEMATIC FOR ELECTRIC CONTROLLED TURNING DEVICE

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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 Fire Fighting 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 Vibration Pump
HVD Hydraulic Directional Vibra
HVC Hydraulic Vibration Compactor
HRC Hydraulic Reversal Cylinder



POWER BOOSTING

HPI Hydraulic Pressure Intensifier
HPI-C Hydraulic Pressure Intensifier for Cylinder



KNOW-HOW

Hydraulic Power Take-off (PTO)
Hydraulic Power Unit Technology
HEU Hydraulic Expansion Unit
HRU Hydraulic Rescue Units
De-Icing Technology
Installation Valves
HHK Hydraulic Grinder
HV/HVY Hydraulic Winch / Winch Unit

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