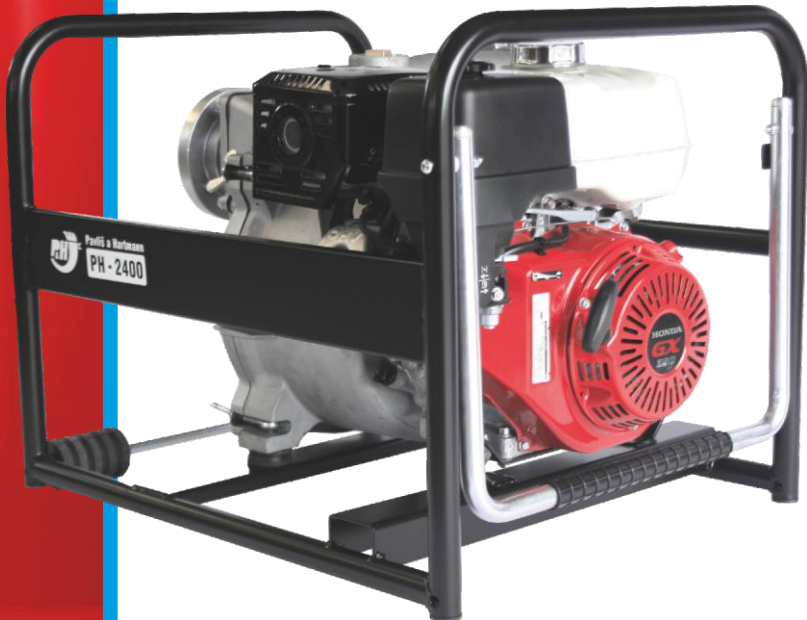




# SEWAGE PUMP PH-2400

POWERED by **HONDA**™

## Instructions for Use Operating Instructions



### **Pavliš a Hartmann, spol. s r. o.**

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Incorporated in Company Register with the Regional Court in Hradec  
Králové, Section C, Entry 6042, on 22 March 1994



The design of the product complies with requirements of Act no. 22/1997 Coll.

The manufacturer reserves the right to make technical changes and product innovations that do not affect performance of the device described in textual and graphical information in this manual without prior notice and without any exposure to liabilities.

## CAUTION

Users are obliged to read and understand these Instructions for Use and follow all instructions for operating the equipment to avoid risks to health and property of the user and other persons. Safety precautions described in these instructions do not describe all instances, conditions and situations that may occur in practice.

This device may only be operated by mentally and physically healthy persons.

**The manufacturer is not liable for any damage caused by unauthorised use or misuse and for damage caused by any modifications to the equipment made without the manufacturer's consent.**

For the professional use of the device, the owner is obliged to provide training in occupational safety and provide instructions for operation of the equipment.

If you find any information in the instructions unclear, please contact directly the manufacturer whose address and contact information is provided on the front page of this manual.

The Instructions for Use that come with this equipment form an integral part of the device and must always be available. When selling the equipment to another person, the Instructions for Use must be handed over to the new owner.

When handling the device, it is especially important to follow the safety precautions to avoid risk of injury to yourself or persons in the vicinity.

## INTRODUCTION

Dear Customer,

By buying this device, you have become the owner of one of the wide range of Pavliš & Hartmann s r.o. products.

Please read carefully these Instructions for Use. If you follow these guidelines, the device will serve you for many years without any defects.

At the time of sale, the device is ready for immediate operation, i.e. it is delivered with full tanks and it has been tested.

## SAFETY PRECAUTIONS

Safety precautions and warnings for engine operation are given in the separate engine operating manual. It is included with the device.

- The operator must be over 18 years of age.
- Do not start or use the engine indoors. Exhaust gas contains poisonous carbon monoxide.
- Caution, the muffler is hot when the pump is running, burns may occur.
- The muffler remains hot after switching off the engine. Take extra care when handling or refueling.
- The engine must be switched off when refueling. Be careful not to spill or splash the fuel on the engine when refilling. Make sure that the engine is dry before restarting.
- Take extra care when changing the engine oil. Follow environmental laws and regulations when handling fuel and oil.
- Do not leave the device running unattended.
- It is forbidden to remove any covers and protective equipment.
- When cleaning or adjusting the device, turn off the engine and disconnect the cable boot from the spark plug.
- Never clean the suction hole while the pump is running.
- Never insert your fingers into the suction hole. (DANGER OF INJURY)
- Use only original spare parts approved by the manufacturer.
- **Never tilt the pump** more than 20 degrees from the horizontal plane. (Risk of engine damage due to lack of oil)

## TECHNICAL DESCRIPTION

**Assembly:** engine: HONDA GX390  
pump type: centrifugal  
pump frame: welded

The pump is fixed to the engine to form one unit. Therefore, it cannot be used separately. The impeller and body are made of gray iron, the cover and chamber are made of Al alloy. The engine shaft passes through the pump casing equipped with a seal. The pump housing is bolted to the engine flange. The pump cannot be connected to other engine types. The pump housing is fitted with a cover used to clean the suction chamber. It also has the suction and the discharge ports.

NEVER attempt to operate the pump without water as this may cause overheating, resulting in damage to the pump.

Roll bar frame is welded from steel tubes coated with paint finish. The device is provided with a hinged handle and transport castors for handling of the pump.

The GX 390 engine is manufactured in the highest quality of HONDA engines.

**Please read and understand the enclosed instructions for use and maintenance of the engine.**

## APPLICATION

The pump can be used by fire brigade units to replenish fire engines from outdoor water sources. Furthermore, it can be used to pump water from flooded spaces or areas. Other applications include agriculture, construction sites, etc.

**WARNING: Do not use the pump indoors! Risk of carbon monoxide poisoning.**

## MAIN SPECIFICATIONS

- max. flow rate - 2400 l/min
- max head - 30 m
- max. suction depth - 8 m
- suction port - coupling A110
- discharge port - coupling A110
- engine - Honda GX 390
- engine power - 8.7 kW / 11.7 HP
- fuel tank capacity - 6.1 l
- fuel - natural 95
- dimensions (LxWxH) - 800x630x595 mm
- dry weight (without fuel and oil) - 89 kg

## CAUTION FOR USING THE PUMP

The pump may not be used in potentially explosive atmospheres.

It may not be used indoors (exhaust gas and flue gas contain highly toxic carbon monoxide, inhalation may cause loss of consciousness or even death).

To switch off the device quickly in the event of danger, turn the switch to the "O" (off) position.

There is a risk of burns from the engine exhaust cover when using the device. **The complete device can be pulled around using the handle and rollers.** The device may only be transported and carried when it is not running.

This device is not intended to put out fires. The device is designed for pumping domestic water. It pumps debris up to a size of approx. 20 mm. If the suction strainer gets clogged, the pump must be shut down and cleaned at rest. The fuel and oil must be checked before each start-up.

When assembling the pump, the maximum torque is 15 Nm for tightening the wing nuts of the pump cover.

If the device catches fire, use a snow or powder fire extinguisher

## RECOMMENDED FUEL AND OIL

Petrol: unleaded petrol with min. octane number 85

Oil: according to the engine manufacturer's specifications

## STORAGE

Store the pump in a dry place, always in a horizontal position.

Protect it from weather.

Prevent access and handling by unauthorized persons.

**When longer storage is expected, shut off the fuel supply and use up the petrol in the carburetor. Drain the petrol from the tank and preserve the engine according to the manufacturer's instructions.**

Before storing, clean the device from dirt.

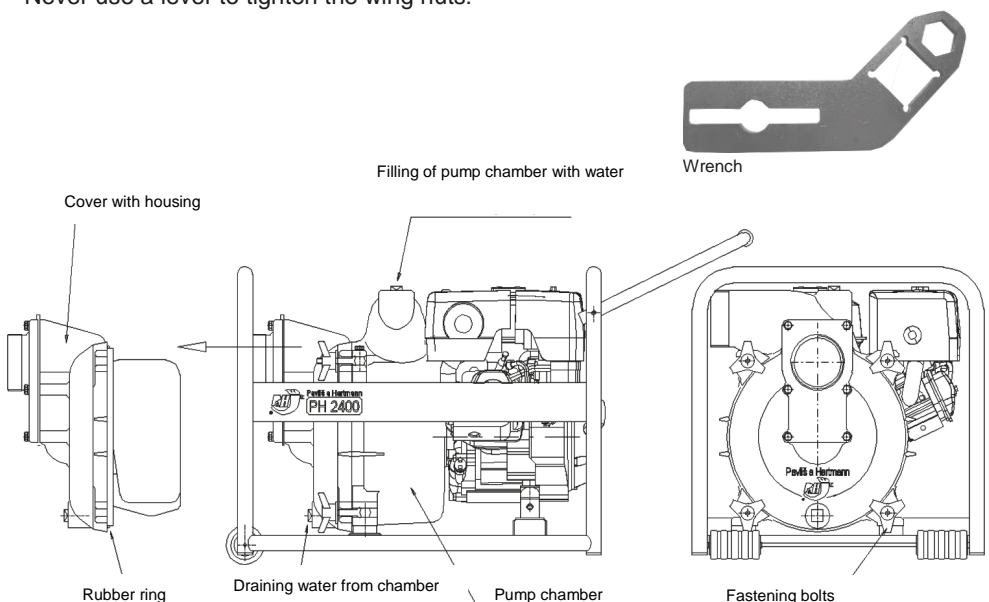
When washing and cleaning the device with solvents or other chemicals, follow the applicable laws and regulations protecting the environment, watercourses and water resources from pollution.

## MAINTENANCE

Before any repair, always disconnect the high voltage cable from the spark plug to prevent accidental starting.

Engine maintenance instructions are provided in the engine manufacturer's operating instructions. It is necessary that the operator of the device reads and understands these instructions before first starting up of the device. Note: Change the oil according to the engine operating instructions.

Make sure that the connection ports (couplings A 110) are clean. Treat the sealing rings of the couplings with preservative grease when the device is stored for longer periods of time. After each use, loosen the screws on the pump cover, allow water to escape. Remove the cover with the body and remove all dirt and sludge from the pump cover and chamber. Rinse with clean water. Pay special attention to the rubber sealing rings! Reinstall the rings on the cover with the pump body taking care not to damage them. Insert the cover with the body into the pump chamber and gradually tighten the retaining screws crosswise. Use the special wrench to tighten the screws, see photo. Never use a lever to tighten the wing nuts!

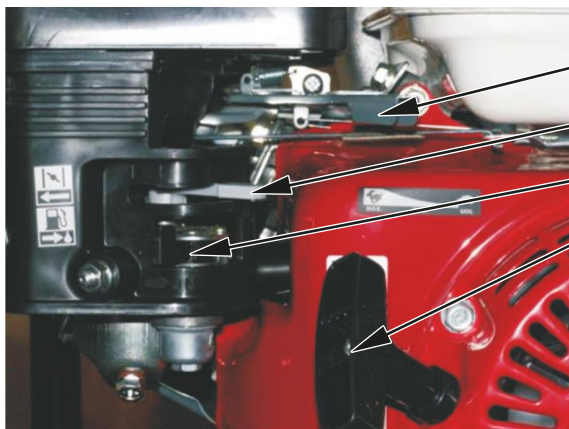


## PREPARATION, START-UP AND OPERATION OF THE DEVICE

Be careful when attaching the suction hose to prevent air from being sucked in. This may lead to suction malfunction. Improperly or insufficiently connected suction hose will reduce the performance and suction capacity of the pump.

Fill the pump chamber with water before using the pump.

Connect the A 110 suction hose to the suction port and the A 110 hose to the discharge port. Align the hose so that it does not move when it is filled, which could result in damage to the hose or injury of the operator. Install a suction strainer onto the end of the suction hose before each pumping action. The suction strainer prevents ingress of dirt and particles that could cause clogging, blocking or damage to the pump. **Start the engine following the engine manufacturer's instructions. To stop the device, turn the switch to the "O" (OFF) position. Disconnect the hoses and take the device out or pull it away from the water source. Drain the pump after finishing the work by removing the cover.**



Throttle control (slow and fast run)

Choke lever off, on

Fuel lever off, on

Starter cord



Main switch

## WARRANTY TERMS AND CONDITIONS

Once the equipment is delivered, the manufacturer is responsible for the construction, performance, quality and completeness of the equipment only under the condition that the it has been handled according to the operating instructions which form an integral part of each device.

The warranty does not cover defects caused by normal wear and tear, defective storage or unprofessional operation, or damage caused by the customer or a third party.

The warranty is void in the event of an accident of the equipment that was not caused by a defect caused by the manufacturer, or any intervention in the construction of the equipment without the consent of the manufacturer.

**Warranty for the entire unit is 24 months from the date of sale and warranty claims should be made to Pavliš & Hartmann. The engine warranty is 24 months from the date of sale and claims can also be made to Honda authorised service centers. Pavliš & Hartmann also carry out post-warranty inspections (change of engine oil, air filter, etc.).**

If a defect is identified during a warranty repair that is demonstrably not covered by the product warranty, the costs associated with the service and repair shall be borne by the owner of the product.

## DEFECTS, THEIR CAUSES AND TROUBLESHOOTING

1. Engine faults and corresponding troubleshooting are given in the HONDA engine manual.

2. If a foreign object enters the pump and the impeller is blocked during operation, or if, after stopping during backflow, it is blocked by objects that have already passed through the pump, the cover must be removed and the interior of the pump cleaned.

Before removing the pump cover **it is necessary, for safety reasons, to disconnect the HV cable** on the spark plug. This is necessary to prevent accidental start.

3. If the pump will not pump water:

Is the pump filled with water?

Make sure the suction strainer is not clogged.

Are the hose couplings tightened? Make sure there is not any suction of air.

Make sure the suction head is not too high.

If the pump still does not work, consult the Pavliš & Hartmann service team.

## DELIVERY

The device is delivered assembled, tested and filled with petrol and oil. The delivery includes instructions for operation and maintenance of the engine and a warranty certificate. The device can be delivered in a complete or basic version.

## DISPOSAL

At the end of the service life of the device, have the sludge pump disposed of by a specialist company.

## EC DECLARATION

The device complies with all applicable provisions of

- government regulations:

1. Government Regulation No. 176/2008 Coll., on technical requirements for machinery, as amended by Government Regulation No. 170/2011 Coll. (European Parliament and Council Directive 2006/42/EC of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) as amended by European Parliament and Council Directive 2009/127/EC)

- harmonized standards:

ČSN EN ISO 12100:2011; ČSN EN 349+A1:2008; ČSN EN 614-1+A1:2009; ČSN EN ISO 13857:2008; ČSN EN ISO 14118:2018; ČSN EN ISO 13732-1:2009; ČSN EN ISO 14120:2017; ČSN EN ISO 7010:2012



## Testing and Measurement Report

No.: ...../...../.....

Place: Chvaletice

**Tested and measured: Sludge Pump PH-2400**

Serial No. ....

Flow rate test performed:

Suction height 2 m and discharge up to 1 m l/min

Test:

Engine accel. throttle. control – .....

Engine start and stop – .....

Engine run at both low and high speeds – .....

Hose and suction hose connection – .....

Inspector's signature: .....

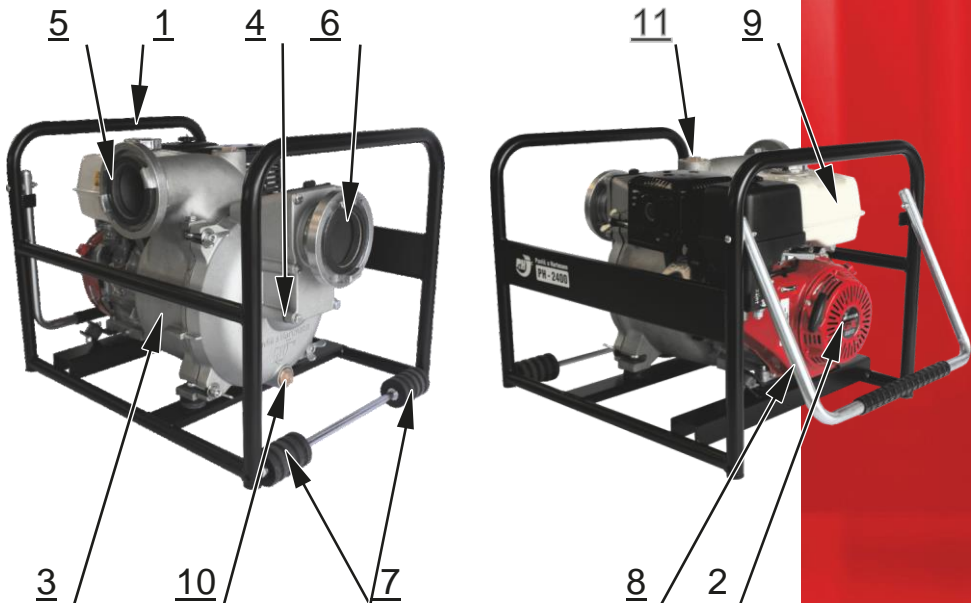
Date:

Report issued by: .....

Report closed: yes no

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PH



1. Pavliš & Hartmann frame
2. HONDA engine
3. Pavliš & Hartmann pump housing
4. Pavliš & Hartmann pump housing
5. Port out of the pump
6. Pump suction port
7. Castors (complete device)
8. Handle (complete device)
9. Engine fuel tank
10. Chamber drain screw
11. Screw for filling water (priming) into the pump chamber