

LANDA®



ISO
9001
REGISTERED



PGHW SERIES

THE MOST POPULAR GASOLINE-POWERED HOT WATER PRESSURE WASHER IN THE INDUSTRY

Why Landa's PGHW is the Most Popular Gasoline-Powered Hot Water Skid in the Industry

For more than a decade, the PGHW has been Landa's most popular gasoline-powered, hot water pressure washer. It combines the versatility of a compact size yet the ruggedness and cleaning power of a full-skid pressure washer. The five PGHW models deliver cleaning power of up to 5000 PSI with a flow rate of up to 5 GPM. The PGHW is packed with:

Built to Last

A top-of-the-line, oil-bath, tri-plunger, belt-drive Landa pump with 7-year warranty, an industrial, electric-start Honda, Vanguard or Kawasaki engine and a 2,000 watt generator for reliable burner power are mounted on a vibration isolated 3/16-inch thick steel power platform. The horizontal heating coil is made of 1/2-inch cold-rolled pipe (Schedule 160 on 5000 PSI model) and the rugged 1 1/2-inch square tube open-air steel frame has a weather-resistant epoxy powder coating. The PGHW is built to last.

Safe to Use

In addition to its ETL certification to the rigid UL-1776 safety standards, Landa's PGHW has many safety features, including: Low fuel shutoff with warning light; 24-inch hose guard for burst protection; thermal pump protector; high-temperature shut down to prevent super-high heat build up; rupture disk to vent any build up of excessive pressure in the heating coil; and tri-lingual operator instructions & warning labels.

Easy to Service

The PGHW has been engineered with the service tech in mind, providing open access to components, JIC fittings throughout, easy-reach battery box, water resistant control panel with hour/tach meter and oil drain hoses for both the pump and engine.

Feature Rich

The PGHW comes with four color-coded stainless steel nozzles, extra rugged Tuff-Skin high pressure hose, a variable pressure wand (except 5000 PSI model), float tank, with pre-plumbed 3-way bypass valve, fork-lift guides for transporting, brackets for mounting on a trailer and many other features. Options include wheel kit, hose reel and steam valve kit.



PGHW APPLICATIONS

What does it clean?

The PGHW is ideal for cleaning outdoors with hot water, such as:

- Front-end loaders
- Forklifts
- Dump trucks
- Graders and dozers
- Farm equipment
- Tractors and trailers
- Buses, trains and planes
- Walls, floors and ceilings
- Machinery and equipment
- Drills and pipelines
- Street maintenance equipment
- Rental equipment
- Marinas and boats
- Trash bins
- Tanks, cages and pens
- Sidewalks, parking lots and around buildings



PGHW5-50524E
with water-cooled Kawasaki engine

How the PGHW is.... **Built to Last**



STEEL FRAME AND CHASSIS

parts are protected by a baked on epoxy powder coat finish.

Benefit: The rugged frame or cage provides protection from damage while in transit or being bumped while on the job site. The cage's strength and durability comes because the frame is made of square, rather than round, tubing. Both the frame and chassis are backed by Landa's five-year warranty. The epoxy powder coat is literally "baked" into the metal, providing all-weather protection.



LANDA PUMP

lubricating hole; tapered roller bearings and copper plated piston guides. Landa pumps are backed by a full 7-year warranty.

Benefit: Reliability is the key when moving parts are involved and nothing sees as much action as the high-pressure pump. Top quality components and aggressive warranty give the customer confidence of having the best.



INDUSTRIAL ENGINE

Benefit: Honda, Vanguard and Kawasaki engines have a legacy of dependability and durability. The OHV design has proven to be more fuel efficient than side-valve engines.

1

Feature: A welded frame made of 1.5-inch square steel tubing completely surrounds the PGHW. The chassis is made of 10-gauge steel. The engine, pump and generator are all supported on a vibration isolated 3/16-inch thick steel power platform. All metal

2

Feature: Oil-bath, 3-piston (triplex), high pressure Landa pump with die-cast aluminum crankcase, forged brass head, high quality Parker seals, hydrolysis-resistant valves, aluminum-zinc alloy cast connecting rods with oil reservoir indentation and

3

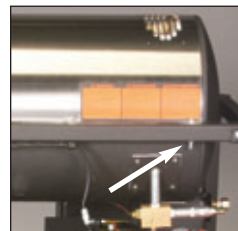
Feature: Heavy duty Honda, Vanguard, or Kawasaki engine features: Proven overhead valve (OHV) design, electronic ignition and electric start. The Kawasaki engine is liquid cooled. All engines are backed by a two-year warranty.



HEATING COIL

of insulation, an aluminized steel wrap followed by a stainless steel outer top wrap and painted steel bottom wrap (optional all-stainless steel outer wrap available; all-stainless steel wrap standard on 5000 PSI model). The coil is backed by a 5-year limited warranty.

Benefit: The PGHW's frame and coil bottom wrap cradle the heating coil, while the coil top wrap provides superb coil protection, as well as providing additional protection for the end mounted diesel burner. Other manufacturers mount the coil vertical, which increases the risk of the coil shaking loose and making the burner

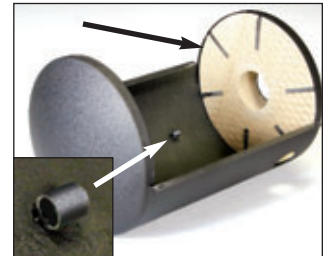


Stainless steel top wrap is attached with bolts instead of metal screws that can vibrate loose during pressure washer use or become stripped.

more difficult to get to for repairs. The heating coil delivers 200°F hot water at the amazing flow rate of up to 5 GPM. Cold rolled pipe has fewer leaks than coils that are heated when formed. Insulation retains the heat for energy efficiency and the aluminized steel wrap withstands heat and corrosion better than regular steel. Aluminized steel is used in automobile mufflers, furnaces, ovens and gas-fired heaters where there is a high presence of heat and moisture. Studies show that aluminized steel oxidizes at only 5% of the rate of carbon steel. Aluminized steel also reflects about 80% of incident radiant heat up to 900° F. This makes it ideal for the pressure washer heating coil application. Less fuel is required to maintain the operating temperature and it heats up faster. The aluminized steel wrap also has a tendency to direct the heat to where it is needed while providing the added benefit of strength. The outer wrap provides an extra layer of protection and heat efficiency while the cylinder lid is easy to remove for convenience in servicing or replacing the coil.

4

Feature: The Landa Duracoil with signature "duck bill" top wrap used for heating the water is made of 1/2-inch, cold-rolled, Schedule 80 pipe (Schedule 160 pipe on 5000 PSI model). It is surrounded by a 1-inch blanket



An insulation block is placed at each end of the outer wrap; special spacers keep the coil from compressing the insulation blanket to maximize its insulating properties.

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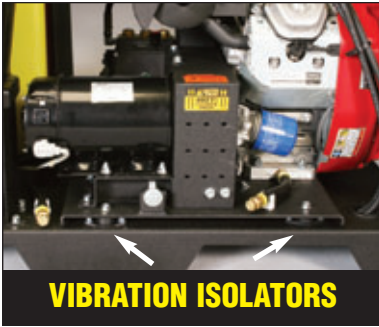
Feature: Heavy-duty 2,000 watt generator provides 120VAC of reliable power to the burner assemblies and motors.

Benefit: 120 volt systems are more reliable than 12 volt systems. With 2,000 watts, the generator supplies more than is required by the burners allowing the user to also



2,000 WATT GENERATOR

run a work lamp or other 120V electrical accessory.



VIBRATION ISOLATORS

6 Feature: The engine and pump, two components that create the most vibration in a pressure washer, rest on a vibration isolated 3/16-inch thick steel power platform attached to the steel chassis. Coils and burner motors also rest on a vibration isolated platform.

Benefit: The vibration isolators provide fatigue resistance by preventing the engine-pump vibration from spreading throughout the pressure washer and shaking loose nuts, bolts, electrical wiring and burner components, thus minimizing maintenance, especially on the burner assembly and extending the life of the entire pressure washer.



BECKETT BURNER

7 Feature: Water is heated in the PGHW by a Beckett Burner featuring advanced technology using the CleanCut fuel pump.

Benefit: The R.W. Beckett Corp. has parlayed more than a half century of experience in home heating to a high-efficiency burner assembly for

pressure washers. All Beckett burners come with a CleanCut oil pump, which uses solenoid valves (rather than the conventional diaphragm and cone valves) to open and close instantly when electrical current to the pump turns on and off. This fraction-of-a-second timing difference renders huge benefits in a cleaner, more fuel efficient burn and less maintenance. Furthermore, a new "drop out" feature of the solid-state ignitor turns off the ignition system once the burner is operational so it requires less power from the engine and alternator. The Beckett Burner also uses dual rings and markers for "dialing in" the amount of air flow to the burner, another key element for a clean, fuel-efficient burn.



QUALITY CONFIRMED

8 Feature: The PGHW is manufactured in an ISO-9001:2000 certified factory. ISO-9001:2000 is an internationally recognized certification for quality in manufacturing. There is a limited 7-year warranty on the oil end of the high-pressure pump and a limited lifetime warranty on

the brass manifold. The PGHW frame and chassis are backed by Landa's 5-year parts warranty (1-year labor). The coil also has a 5-year warranty. The PGHW meets the performance standards established by the Cleaning Equipment Trade Association (CETA).

Benefit: Customers have the assurance they are making a safe investment in quality and can operate the equipment with confidence that it will hold up for years with minimal maintenance.



COLOR-CODED FUEL TANKS

9 Feature: Rugged 5 gallon gasoline tank (except 13HP model) and 10 gallon diesel tank are color-coded and feature an elevated fuel line.

Benefit: The rust-free, extra-large fuel tank insures hours of uninterrupted operation. The elevated fuel

line prevents dirt and debris on the floor of the tank from plugging the line or being drawn into the burner.



HIGH QUALITY FITTINGS

10 Feature: Many fittings are JIC and all are made of brass or zinc-coated steel.

Benefit: Zinc-coated steel fittings provide rust protection. JIC fittings are easy to connect and disconnect and are rated for withstanding high pressures (see page 6).

Why the PGHW is....
Safe to Use

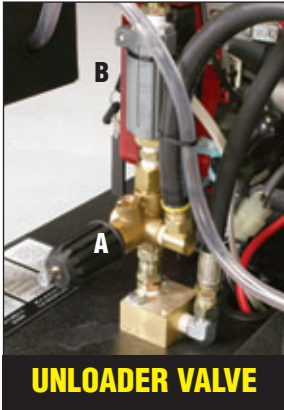


SAFETY CERTIFIED

1 Feature: The PGHW has been certified by ETL laboratories to the rigid UL-1776 safety standards for pressure washers.

Benefit: Customers have the assurance they are investing in equipment that will not only last but will be safe for them and others to use, mini-

mizing their personal and liability risk. Remember, federal OSHA regulations require safety certified electrical equipment or one faces fines of up to \$10,000. UL-1776 safety standards include: thermal overload protection on motors to prevent risk of fire, all electrical components must undergo a test for current leakage to avoid electrical shortages, wands must be at least 36 inches in length (42 inches when pressure is in excess of 3200 PSI) to prevent operators from accidentally spraying themselves, no quick coupler between the gun and wand to prevent attaching a nozzle directly into the gun, a trigger gun for quick-release control by the operator, a hose guard of at least 24 inches to protect the operator against a possible hose burst, high-limit switch to automatically shut down the burner on hot water models should the water overheat, and a rupture disk to protect against excessive build up of pressure in the system.

**UNLOADER VALVE**

2 Feature: The unloader is an adjustable, pressure trapping valve (A) attached to the pump. It is the mechanism that automatically bypasses the pump output when the operator releases the trigger on the gun and stops the flow of water. When the flow is stopped, the unloader senses the build up of pressure and automatically reroutes the water to the inlet side of the pump thereby reducing the load on the engine and pump. This recycling of the water continues

until the trigger is pulled again, signaling the unloader to send the water through the hose again and renew the flow from the spigot or water supply.

Hot water models, like the PGHW, also have a flow-activated shut-off switch—called the Flow Switch (B)—which quickly shuts off the fuel to the burner when the operator releases the trigger and stops spraying. The Flow Switch is much more responsive than the conventional Vac-On Switch.

Benefit: The unloader makes it possible to enjoy the convenience and safety of a trigger gun while cleaning with a pressure washer. The flow-activated shut-off switch prevents the burner from overheating the water when the water flow has been stopped during the washing operation, thus protecting the operator and pressure washer from the consequences of a build up of both pressure and heat.

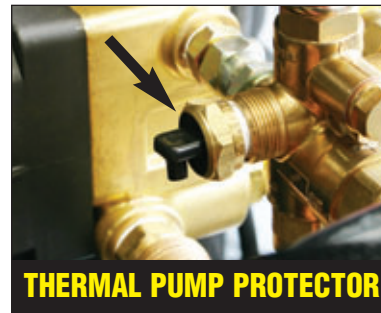
**RUPTURE DISK**

3 Feature: The rupture disk is located at the coil discharge junction and allows water to escape through a relief hose in the case of overpressurization.

Benefit: When water is heated, pressure is created. The rupture disk senses when the pressure in the

system has exceeded acceptable levels and immediately the rupture disk gives way allowing pressure to escape through the relief hose. This protects the operator from a potential hot water rupture in the plumbing or hose. The rupture disk has been proven to be the most effective protection against pressure build up, more reliable than pop off and pressure relief valves in the hot water environment. Pop off and pressure relief valves are designed for overpressurization of cold water only.

Should the rupture disk ever need to release a build up in pressure, the super heated hot water is vented through an insulated tube that carries the water and steam to the underside of the PGHW and away from the operator.

**THERMAL PUMP PROTECTOR**

4 Feature: The thermal pump protector is attached to the inlet side of the high-pressure pump and monitors the water temperature as it passes through the pump. It opens to dump hot water if the water temperature rises above a safe level.

Benefit: This protects the pump from being damaged by hot water. The water temperature can build up when the water constantly recycles out and back into the pump. This occurs when the operator leaves the pressure washer running for a long period of time without opening the trigger gun to release the water.

**HOSE GUARD PROTECTION**

5 Feature: Tuff-Skin hoses are characterized by two, durable PVC

sleeves on each end of the hose. On the end that attaches to the gun and wand, there is a 24-inch sleeve or hose guard and an 8-inch sleeve on the end that attaches to the pressure washer.

Benefit: Both hose guards provide operator protection against a high-pressure burst. The 24-inch sleeve meets the UL-1776 safety standard for owner liability protection. **NOTE:** In order to preserve the pressure washer's UL-1776 certification any replacement hose must also meet these specifications.

**TRI-LINGUAL LABELS**

6 Feature: Tri-lingual operating instructions and illustrated warning labels are in English, French and Spanish. The labels are printed on Lexan®.

Benefit: As mandated by UL-1776, this feature provides the owner with some peace of mind, if not liability protection, knowing that most any operator has instructions and warnings easily available prior to using. The Lexan® labels have an additional protective coating capable of withstanding all weather conditions, including UV or sunlight.

How the PGHW is.... *Easy to Service*



OPEN ACCESS

within the open cage for easy monitoring and service access. The PGHW is not only designed for performance, but for serviceability as well.



ACCESSIBLE BATTERY



CONTROL PANEL

1 **Feature:** Open chassis design allows easy access to engine and pump assembly components.

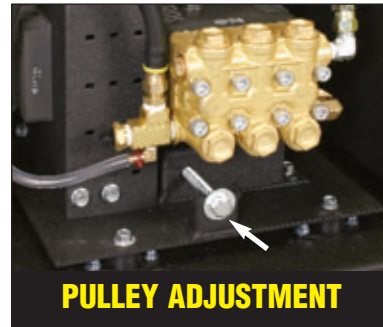
2 **Feature:** The 12V battery is located in a hardened marine-duty plastic container and placed on the PGHW platform.

3 **Feature:** The control panel features an adjustable thermostat, hour/tach meter, burner switch with monitor light and a low burner fuel indicator light. The 5000 PSI model also has a voltmeter and low oil, temperature and engine charging indicator lights as well as an engine choke control.

Benefit: From oil changes to complete services, the PGHW's open design makes servicing easy. Components are mounted on the open cage for easy monitoring and service access. The PGHW is not only designed for performance, but for serviceability as well.

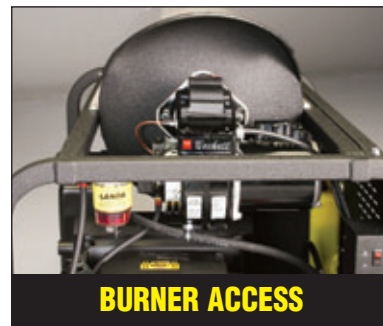
Benefit: Great care has been taken to insure that the battery has a long life and is easily accessed for servicing.

Benefit: Electrical controls are located in a rain-tight box mounted on the side for quick and ready access by the operator. The adjustable thermostat allows for altering the water temperature to match the user's application. The hour/tach meter displays the engine RPM running hours so that regular maintenance can be performed. The low fuel light warns the user before burner fuel is completely depleted, thus avoiding disruption of hot-water cleaning and running the fuel pump dry which can cause pump damage. The voltmeter indicates the voltage output of the generator.



PULLEY ADJUSTMENT

tightening a nightmare. With the PGHW's single-rail, true-track pulley adjustment, the pulley's always stay in alignment and belt tightening is accomplished by turning a single bolt.



BURNER ACCESS

tightening a nightmare. With the PGHW's single-rail, true-track pulley adjustment, the pulley's always stay in alignment and belt tightening is accomplished by turning a single bolt.

4 **Feature:** The PGHW's single rail, true-track pulley adjustment makes alignment of the pulleys and tightening of the belts a breeze.

5 **Feature:** The horizontal coil design allows for end mounted burner, and improved serviceability.

Benefit: Repairing or replacing a burner can be a service technician's nightmare. Most manufacturers mount the burner under the coil and frame, making any service difficult and frustrating. The PGHW's horizontal coil allows mounting the burner at waist level with access from all sides, making burner service fast & easy. From checking the electrodes, to adjusting the air settings the PGHW makes it simpler.



OIL DRAIN HOSE



JIC FITTINGS

6 **Feature:** Drain hoses with brass plugs lead from the engine and pump crankcases to the edge of the platform.

Benefit: Conveniently located drain hoses allow oil to be drained from the engine and pump without spilling onto the platform.

7 **Feature:** JIC (Joint Industrial Council) fittings are used for coupling major components, such as the pump and unloader. JIC fittings, with flared ends, are quickly removable and create a seal without having to use tape.

Benefit: JIC fittings are preferred because they are secure yet easy to connect and disconnect, especially in those tight working areas so common in pressure washers. The easier the coupling, the faster the job. Reduced service time means reduced labor costs.

How the PGHW is....

Feature Rich



HIGH-PRESSURE NOZZLES

Feature: Nozzles are what create the pressure or cleaning power of the pressure washer. The pump puts a large volume of water down the pipe quickly, but it's the tiny orifice of the nozzle that translates that flow volume into high pressure. Four color-coded, hardened stainless steel, high-pressure nozzles are mounted next to the control panel. They attach to the end of the wand with a quick coupler. The colors designate the spray patterns created by each nozzle: Red = 0°, Yellow = 15°, Green = 25° and White = 40°.

Benefit: The hardened stainless steel means the nozzles will hold up well without rusting or disintegrating during months of regular operation. The quick-couple makes switching nozzles quick and easy without additional tools. The colors allow the operator to quickly identify the flow patterns available. Having a variety of flow patterns—from the narrow, focused 0° stream to the broad 40° spray—gives the operator plenty of options to meet whatever cleaning task is at hand—from blasting concrete or metal to washing down wood or asphalt.



VARIABLE PRESSURE WAND

Feature: The variable pressure wand is 40 inches long and consists of two stainless steel tubes, which are adjoined and insulated. An easy-grip handle on the side of the wand twists to increase or decrease the pressure. For high pressure, all of the water stays in the main pipe and is forced through the quick-coupled nozzle at the end of the wand. For low pressure, the water is diverted to the second pipe and gently sprays at low pressure. This reduces the flow volume in the main pipe thus reducing the pressure of the main water stream. A durable, plastic hood or nozzle covering is mounted at the end of the wand.

Benefit: Having adjustable spray at the point of the wand helps adjust the force to the job at hand. It also allows the operator to control the flow of detergent when a downstream detergent injector is attached. The wand handle is turned to create a low-pressure flow, which immediately begins suctioning detergent into the spray. Then, with the twist of the handle, clean water comes out again as a high-pressure spray. The wand length prevents an operator from spraying him/herself. The easy-grip handle is mounted at the right angle for hours of fatigue-free spraying. The plastic hood at the tip helps protect the nozzle and objects being cleaned.

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ADJUSTABLE THERMOSTAT

3 Feature: An adjustable thermostat is located on the control panel.

Benefit: The easily accessible thermostat, adjustable up to 200° F, allows the operator to match the temperature to the job and to prevent overheating.



TUFF-SKIN HOSE

4 Feature: Landa's Tuff-Skin hose is the toughest high pressure hose in the industry. When tested to 6945/DIN20024, the Tuff-Skin has proven to be seven times more abrasion resistant than standard pressure washer hoses yet is 20% more flexible. It has a unique braid design and

has been engineered for a greater continuous temperature range—from 40° to 275°F / 310°F intermittent—and for handling pressures of up to 6000 PSI. The Tuff-Skin hose is used on all PGHW models and has maximum strength Class A ORS (Oil Resistance Standard) cover and features a bite-the-wire coupler that grips the hose better than any other design. The PGHW hose is 50 feet in length.

Benefit: Because of its abrasion resistance as well as flexibility, the Tuff-Skin holds up better than any other hose in outdoor pressure washer environments where hoses typically get whipped, twisted and yanked around. The maximum strength Class A cover rating means it will hold up to oils, grease and fats much better than the more commonly used Class B. The 50-ft. hose gives the operator plenty of slack to clean freely without feeling encumbered by the pressure washer.



FLOAT TANK

5 Feature: Rust-free float tank with stainless steel inlet filter.

Benefit: The PGHW's float tank is elevated to provide a constant "flooded-suction" water supply to the pump. An elevated stainless steel strainer protects the pump by preventing dirt particles from being drawn into the pump. For applying detergent under high pressure, the PGHW's float tank makes it simple. Simply set the application rate, and there is no need for further adjustment. Other manufacturers use complicated inlet injectors without float tanks, which require the user to constantly adjust the water and detergent flow rates.



DETERGENT INJECTOR

6 Feature: Detergent injector and hose attach easily to the pump allowing for control by means of the pressure wand for applying soap while cleaning.

Benefit: This heavy-duty injector is constructed with brass and stainless steel for

strength and corrosion resistance. The industrial-duty strainer is made with a nylon cage and stainless steel mesh strainer. The suction tube is made of thick-wall, see-through, clear vinyl tubing for years of constant usage. The injector automatically suctions detergent from the jug at a 15:1 ratio when the operator reduces the pressure by twisting the handle on the variable pressure wand.



SWIVEL CRIMP FITTING

7 Feature: A swivel crimp fitting is located between the hose and the gun.

Benefit: The swivel makes it easy to connect the gun to the hose and makes coiling of the hose easier after use.



3-WAY WATER VALVE

8 Feature: Pre-plumbed 3-way ball valve allows user to bypass the float tank when drawing water directly from an auxiliary tank.

Benefit: When the PGHW is mounted on a trailer or in a remote location where water is drawn from a

water tank, the pre-plumbed 3-way valve allows the PGHW to quickly be switched between drawing from the float tank and drawing from the water tank.



TRAILER READY

9 Feature: Trailer ready with included mounting brackets.

Benefit: The PGHW's pre-drilled frame and included "L" brackets allow for easy placement and mounting of the PGHW on a trailer or truck bed.



FORK LIFT GUIDES

10 Feature: Integrated forklift guides.

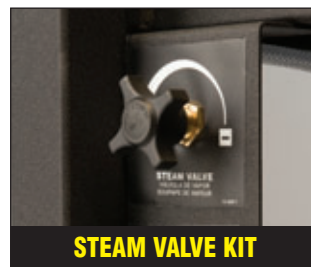
Benefit: With forklift access from all sides, loading and unloading of the PGHW is a breeze.

How the PGHW is.... *Option Ready*



WHEEL KIT

1 Option: Wheel kit
Benefit: The PGHW wheel kit provides extra mobility. Whether moving the PGHW around your facility, or moving it from job to job, the PGHW wheel kit makes the job simple and easy.



STEAM VALVE KIT

2 Option: The Steam Valve Kit allows the pressure washer to produce super hot wet steam.
Benefit: Super hot wet steam allows for cleaning even the dirtiest of greasy surfaces and helps sanitize as it cleans.



HOSE REEL KIT

3 Option: Hose reel kit
Benefit: Never wrestle with coiling up your high pressure hose again. Winding your hose is easy with the PGHW's 360° pivot hose reel, which eliminates the tangling and hassle of coiling your hose, and provides easy access for the next job. For convenience, you can choose the corner of the PGHW frame on which to clamp the hose reel mounting bracket.