

Hard working Solar Pumps
for hard working Americans

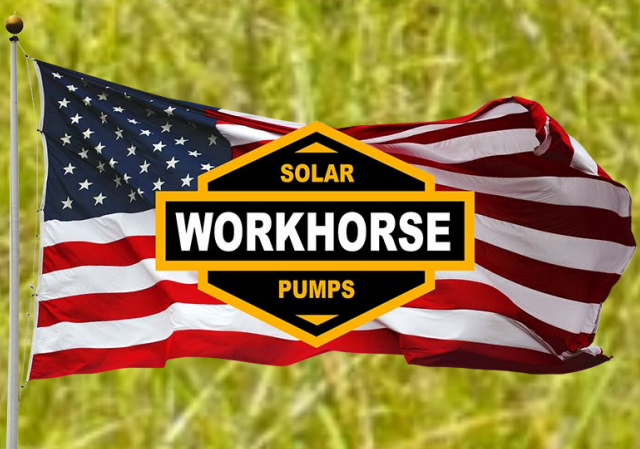


2023 CATALOG

**WORKHORSE BUILDS PUMPS
DESIGNED FOR . . .**

AMERICAN FARMS &

CATTLE RANCHES



**WORKHORSE is an 100% American company
working with USA Installers**

**WORKHORSE WAS STARTED WITH A VISION THAT A MORE RELIABLE
SOLAR-POWERED WELL PUMP WAS POSSIBLE AT A FRACTION OF THE COST.**

SINCE OUR EARLY YEARS OF DESIGN AND TESTING, WORKHORSE HAS EARNED A LOYAL FOLLOWING AMONG PROFESSIONAL PUMP INSTALLERS. AS WE FORGE AHEAD, WE WILL CONTINUE TO INTRODUCE NEW AND INNOVATIVE PRODUCTS IN ORDER TO PROVE THAT TOP-QUALITY SOLAR PUMP SYSTEMS CAN ALSO BE COST-EFFECTIVE.

THE WORKHORSE TEAM BELIEVES THAT ANYTHING WORTH DOING IS WORTH DOING RIGHT. OUR LEAD DESIGN ENGINEER, ONCE A NASA SUBCONTRACTOR, MERGES RELIABLE PUMP TECHNOLOGY WITH AEROSPACE INNOVATIONS TO CREATE USER-FRIENDLY SYSTEMS. GRATEFUL FOR THE BACKING OF OUR INVESTORS AND CUSTOMERS, WE ARE DETERMINED TO MAKE A DIFFERENCE FOR EVERY HERD, FARM, AND FAMILY WE SERVE.

The Workhorse team

WHY MORE AMERICAN RANCHERS ARE CHOOSING WORKHORSE

INDUSTRY LEADING
PRICING & WARRANTIES



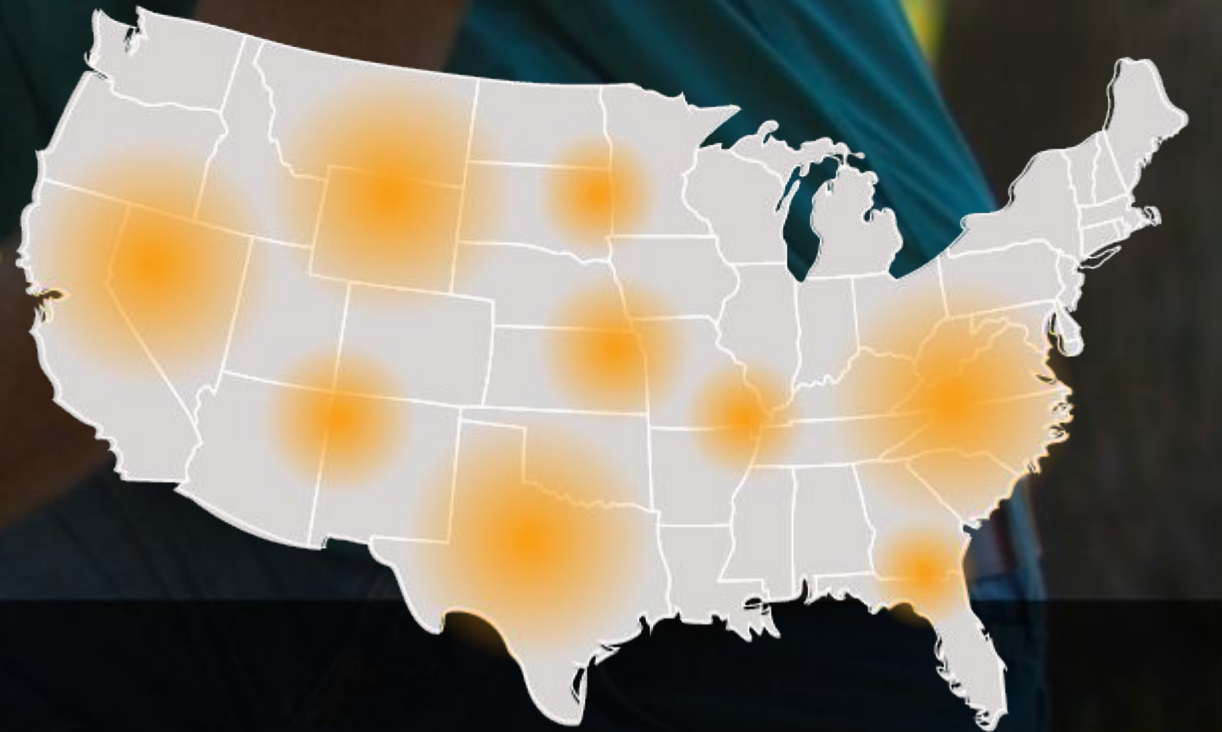
FIELD REPAIRABLE PARTS
HERE IN THE USA



MEETS ALL REQUIREMENTS
FOR NRCS FUNDING



KEN STARR
MeM WATER WELL LLC
MADISONVILLE, TEXAS



WORKHORSE CERTIFIED INSTALLER NETWORK

The Workhorse Certified Installer Network is an exclusive group of well professionals across North America specializing in solar pump installations for livestock, off-grid living, irrigation and industrial applications.

Workhorse is an American company focused on providing rancher-focused technology to rural America. Our Certified Installers are the hardworking guys from your local community who live and breathe water pumps. .

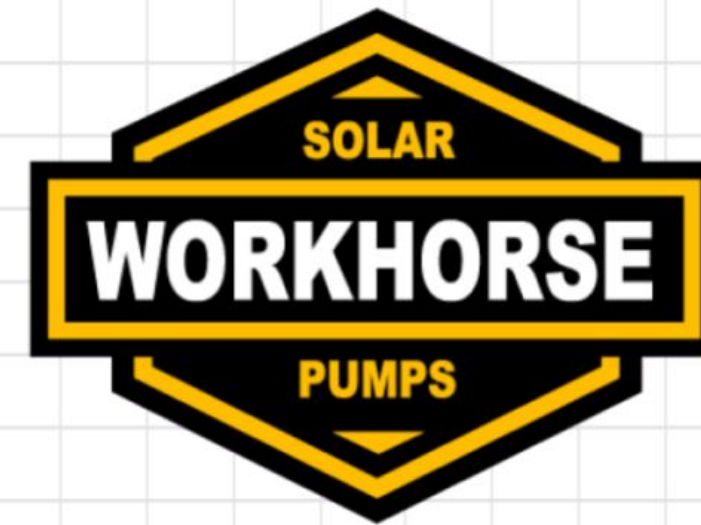
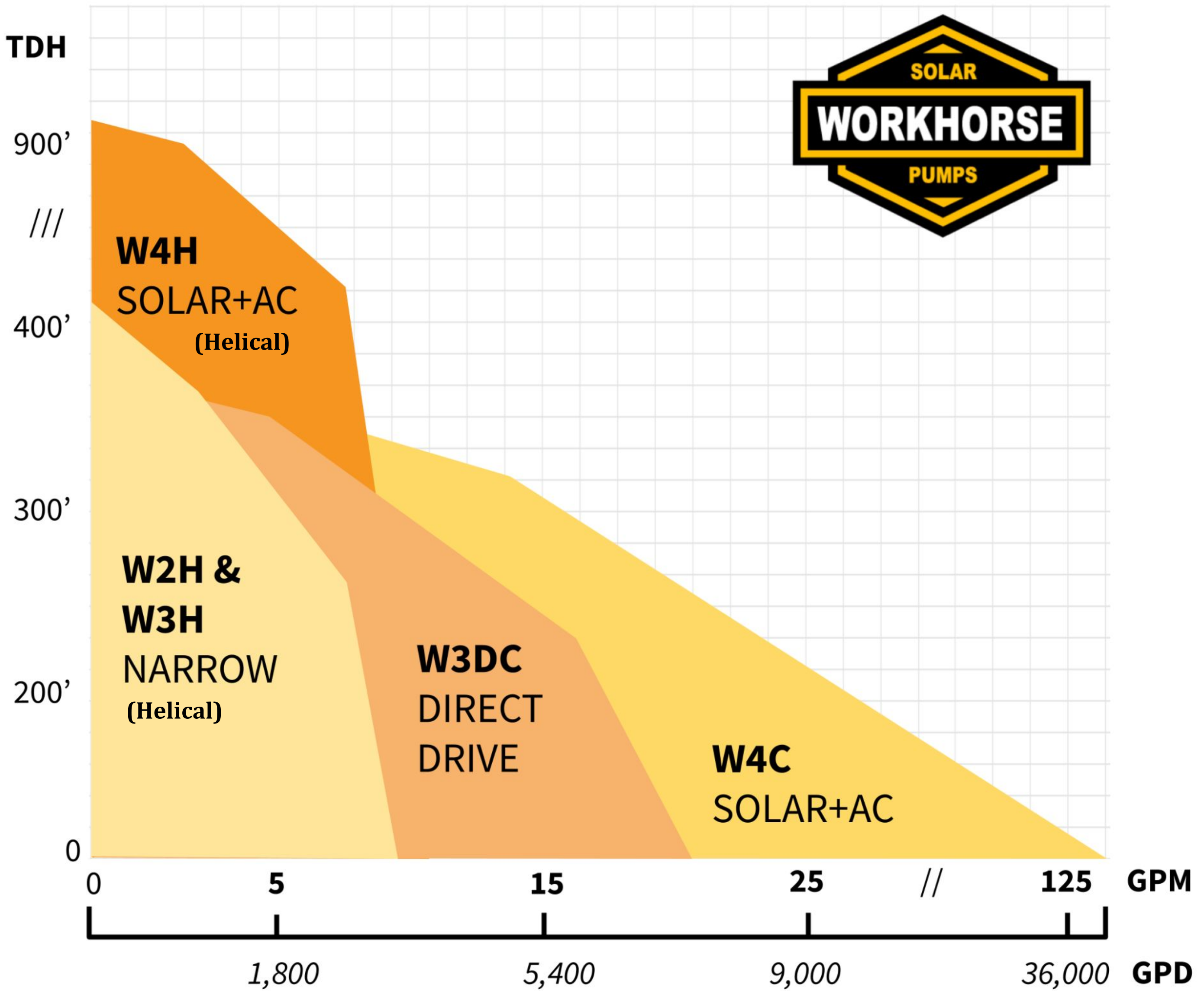


Model Selection

Every Workhorse Solar Pump system is sized for reliable GPM performance all year round. We build solar pumps for lifelong use in mind, so if your needs change in the future you can expand the solar array size for greater water production.

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NARROW

Well Pumps

W2H-5-200 (Helical)
W3H-5-250 (Helical)
W3C-20-150

DIRECT DRIVE

Well Pumps

W3DC03 (0.3HP)
W3DC05 (0.5HP)
W3DC07 (0.75HP)
W3DC10 (1.0HP)
W3DC15 (1.5HP)

SOLAR +AC

Well Pumps

W4C-26-600
W4C-65-280
W6C-125-80
W4H-12-450 (Helical)
W4H-6-650 (Helical)
W4H-3-950 (Helical)

Pump Type

W = Well Pump

Pump Diameter

Will fit this size casing (inches)

Pump End Type

H = Helical Rotor
C = Centrifugal

Max GPM
GPM at optimal power and low head

Max Head
Feet of Head (TDH) at optimal power

W 4 C - 26 - 450



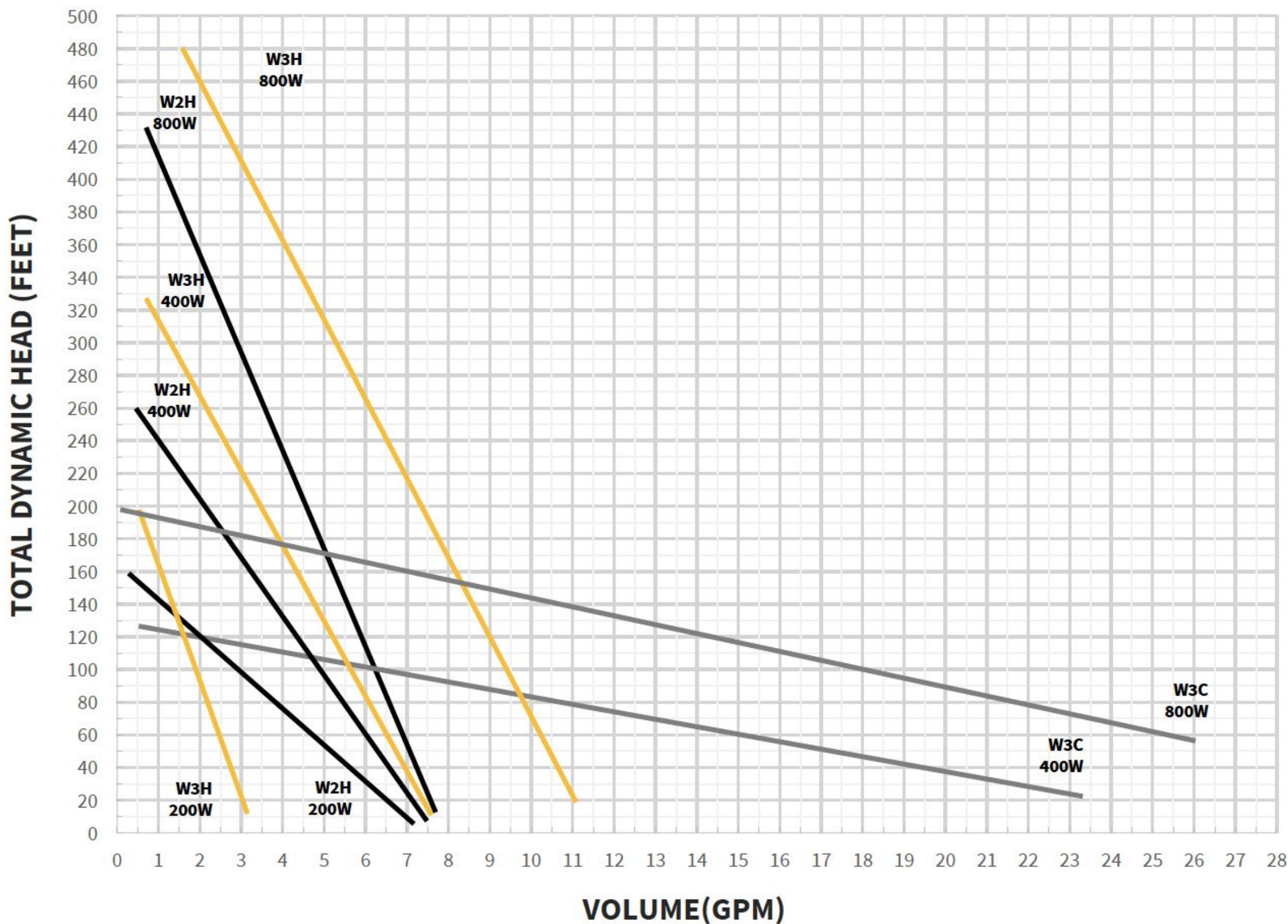
NARROW SERIES
w2H/w3H/w3C

Narrow Series: W2H/W3H/W3C

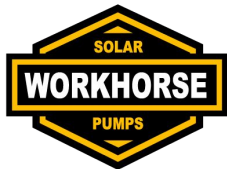
2 Inch & 3 Inch with External Controller

No need to compromise with a helical or centrifugal pump from our Narrow series. You'll pump water all year long with solar, but if the need arises, adjust output, utilize battery or AC backup power with accessory - see page 15 for more details. You get the same great WH expandable solar array ability - higher flow and higher head with just a couple more panels.

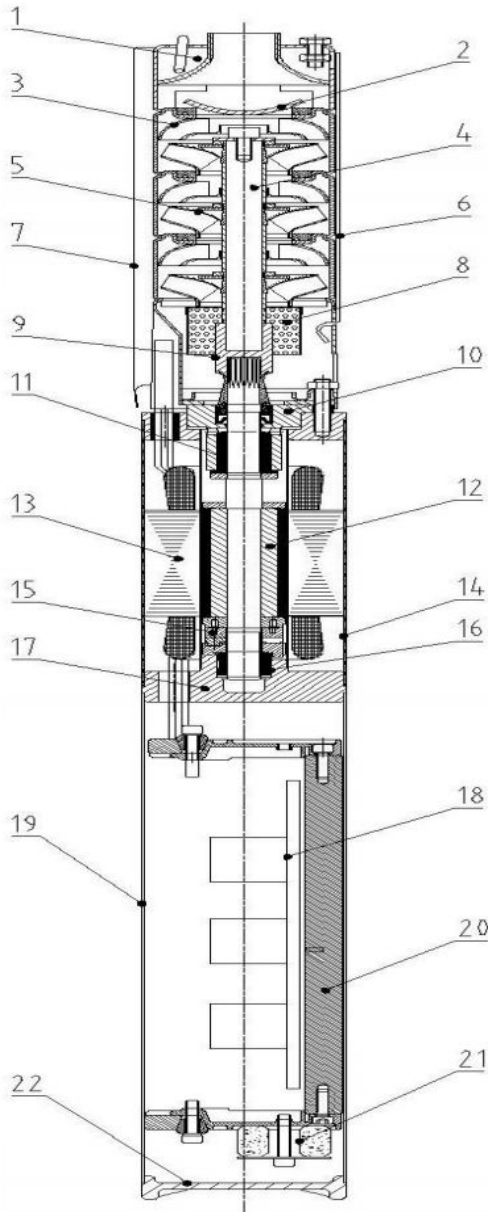
- Permanent Magnet DC brushless motor
- Solar or Battery DC Input
- Field Repairable Helical Mechanisms
- Variable speed controller PSC100
- 304 Stainless Steel pump and motor
- Variable current & Over voltage protection
- Water-filled encapsulated motor
- Soft start and soft stop to extend life
- Run-Dry protection with Sensors
- Extremely reliable
- Laser welded stainless housing
- Comprehensive 3 Year Warranty
- 100W MonoCrystalline Solar Panels
- Meets NRCS Requirements



Narrow Series Specifications



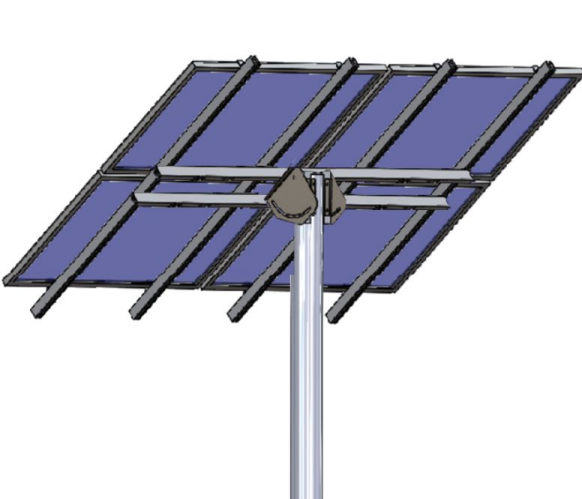
Power Input	DC Only DC 24 – 72VDC Max Voc 90V Current Range: 1.5 – 11A
Input Range	170w – 1200w
Run Time	Unlimited, Continuous Duty Solar: 5-10 hours/day area dependant
Start/Stop	No Limit (soft start built in)
Angles of Operation	Vertical (upright) or Horizontal (90 deg)
Liquid Characteristics	pH 5 to 9, Maximum temperature 100F Sand Content: <1g/m3 for helical, <50g/m3 for centrifugal
Certifications	CE, TUV
Speed Range	500 – 4500RPM
Diameters	2", 3"
Protection Class	IP 68
Max Submersion Depth	W2H 130ft W3H/C 450ft
Pump Wire	Min 12 gauge, 10 gauge for longer runs. 4 strand submersible cable for W3, 3 strand submersible cable for W2



- 1 Discharge chamber *Stainless steel*
- 2 Non-return valve *Stainless steel*
- 3 Guide vanes *PC/Stainless steel*
- 4 Pump Shaft *Stainless steel*
- 5 Impeller *POM/Stainless steel*
- 6 Impeller Fastener *Stainless steel*
- 7 Cable Cover *Stainless steel*
- 8 Pump Inlet *Stainless steel*
- 9 Shaft coupling *Stainless steel*
- 10 Upper Bearing Housing *Stainless*
- 11 Upper Bearing *Silicon Carbide*
- 12 Permanent Magnet Rotor
- 13 Motor Stator
- 14 Pump Housing *Stainless steel*
- 15 Thrust bearing *Graphite*
- 16 Lower Bearing *Silicon Carbide*
- 17 Lower Bearing Housing *Stainless*
- 18 Controller Housing *Stainless steel*
- 19 Controller Housing *Stainless steel*
- 20 Heatsink *Aluminium*
- 21 Inductor
- 22 Base *Stainless steel*



200 Watts
2P - 2 Panel
2" Steel Post

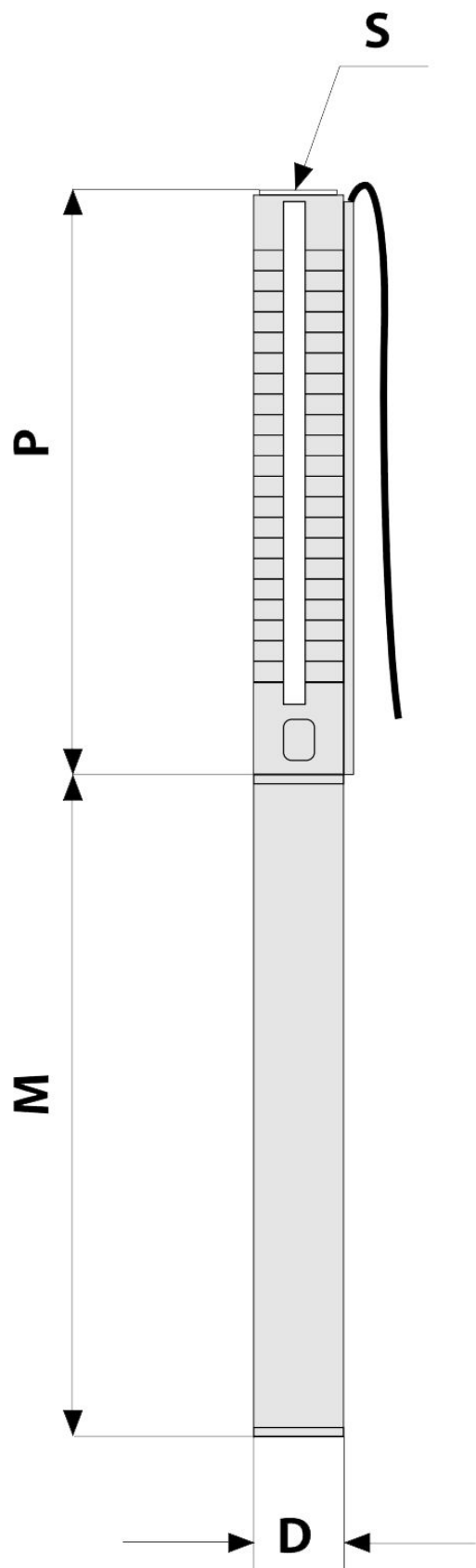
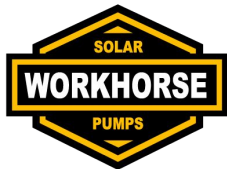


400 Watts
4P - 4 Panel
4" Steel Post



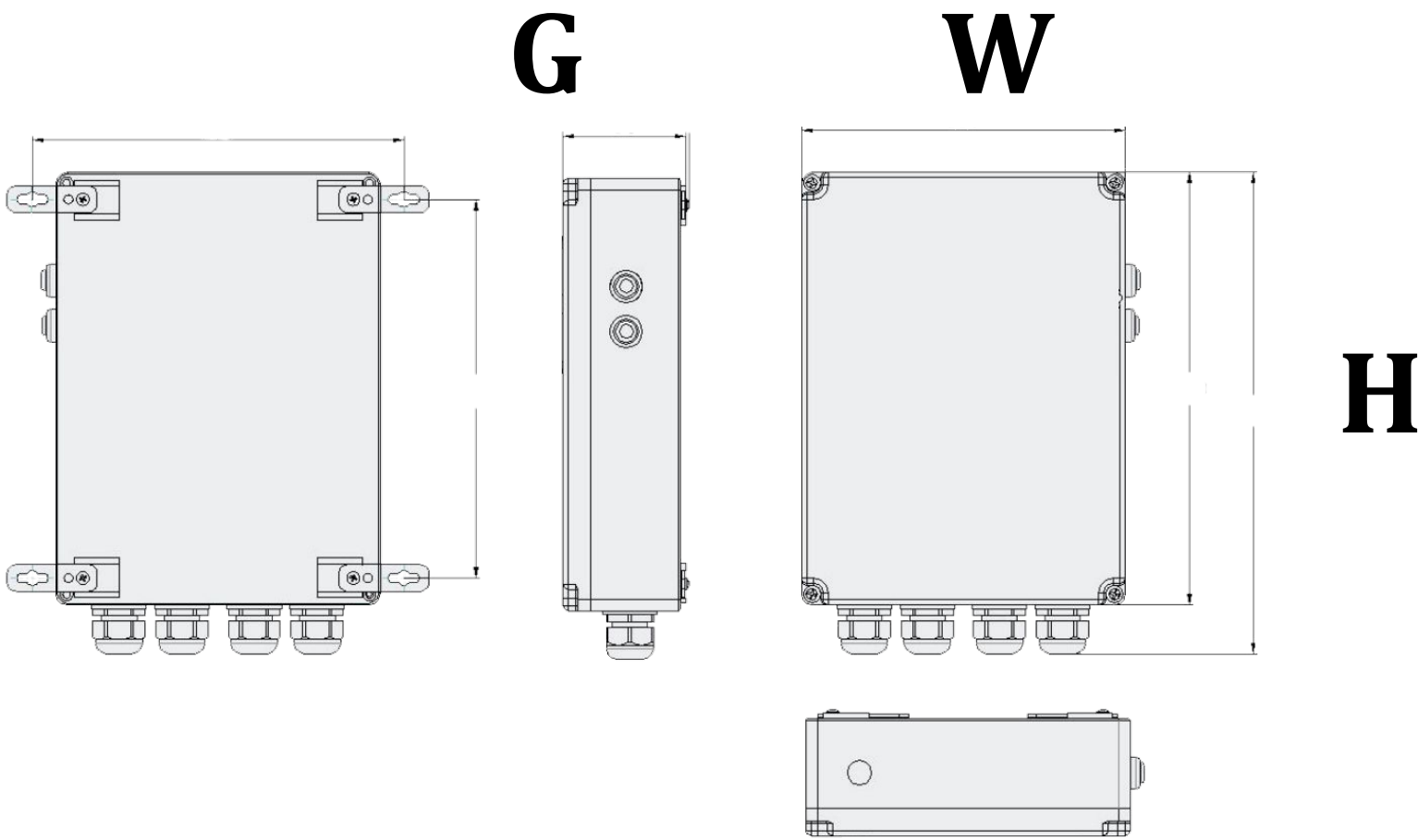
800 Watts
8P - 8 Panel
4" Steel Post

Narrow Series Dimensions

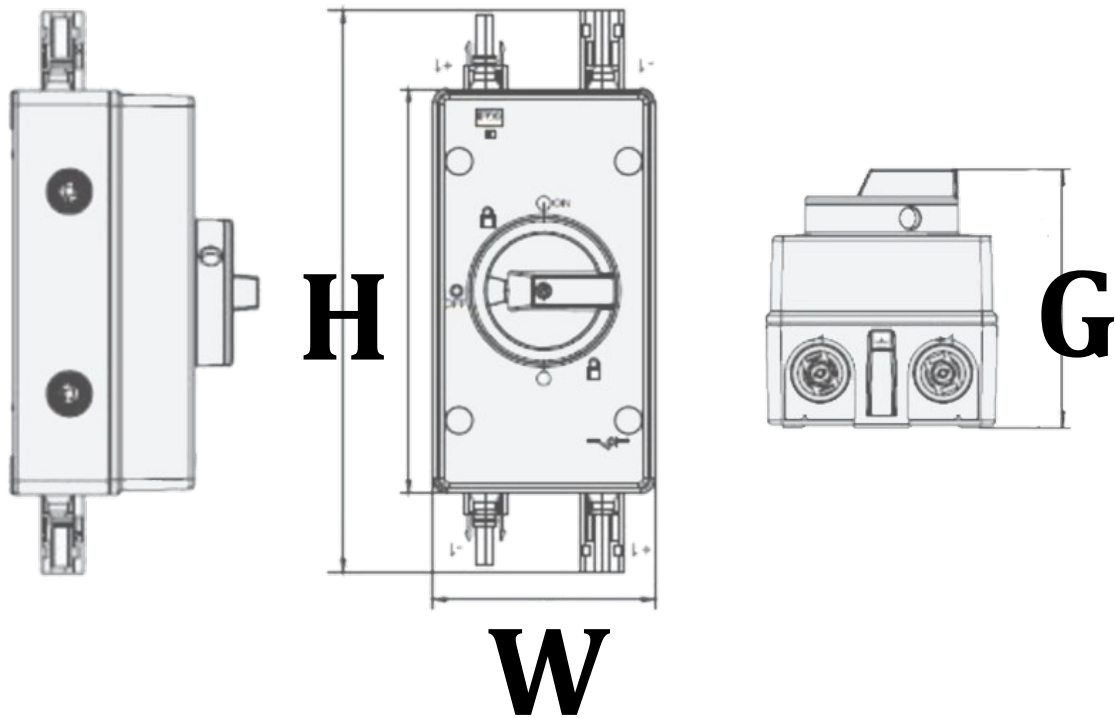


	W3C	W3H	W2H
S	1.25" FNPT	3/4" FNPT	1/2" FNPT
P	12.25"	9"	9"
M	8"	8"	14"
T	20.25"	17"	23"
D	3.25"	3.01"	2.01"

PSC100



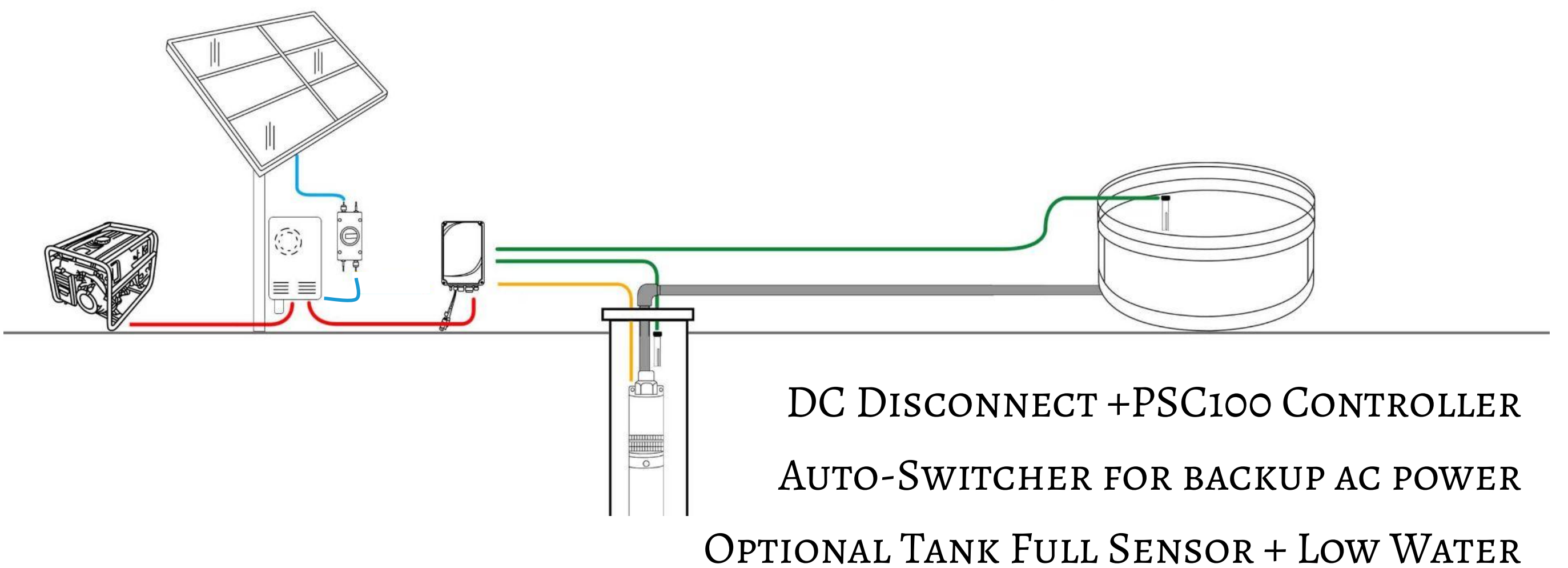
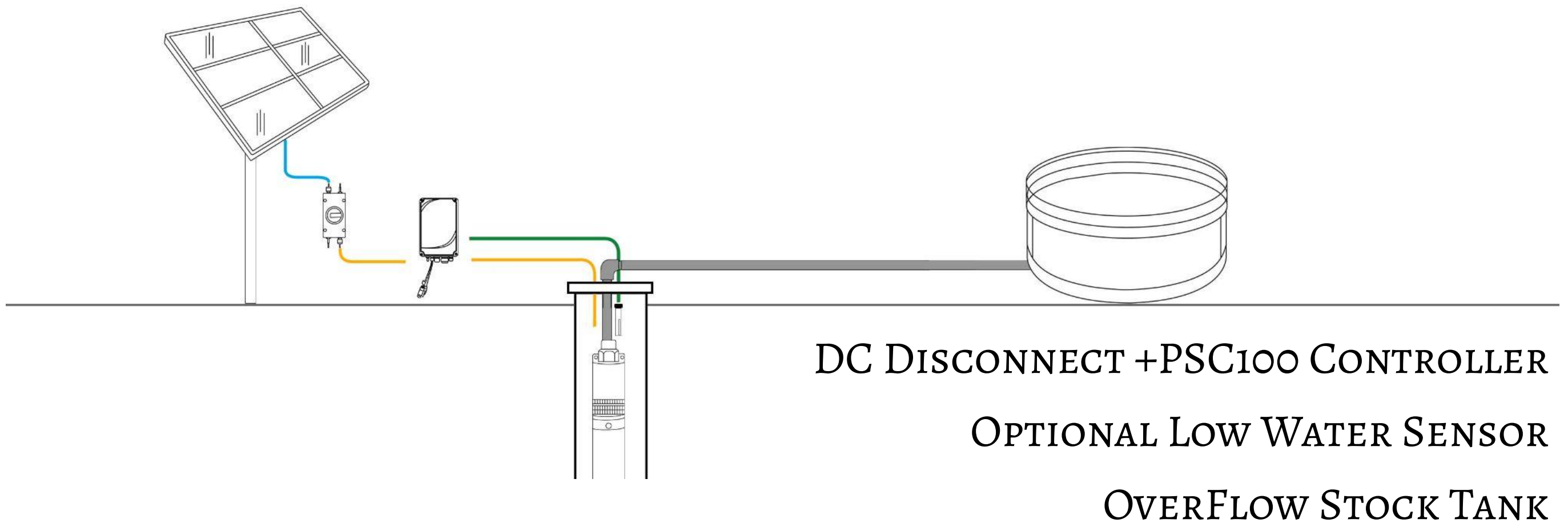
DC101



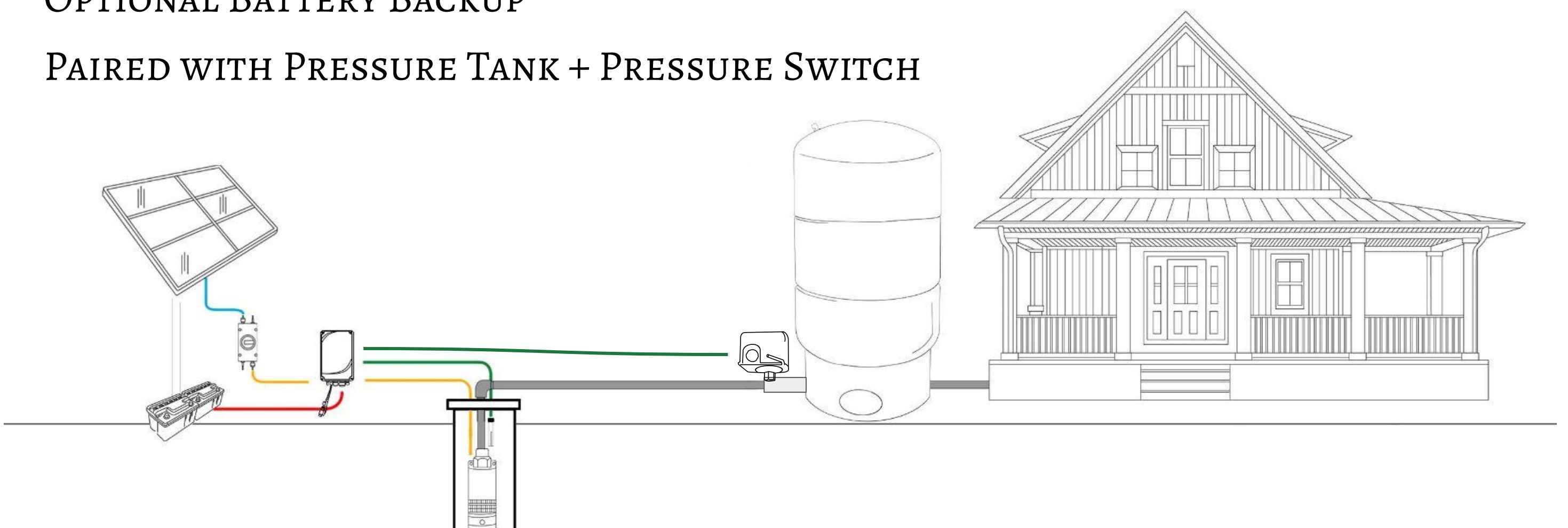
	DC101 Switch	PSC100 Controller
H	7" / 10"	10.5"
W	3.75"	7.25"
G	4.5"	4"



WORKHORSE
NARROW SERIES DIAGRAMS

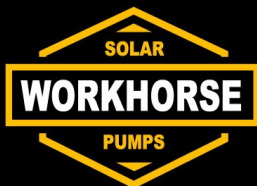


DC DISCONNECT +PSC100 CONTROLLER
OPTIONAL BATTERY BACKUP
PAIRED WITH PRESSURE TANK + PRESSURE SWITCH

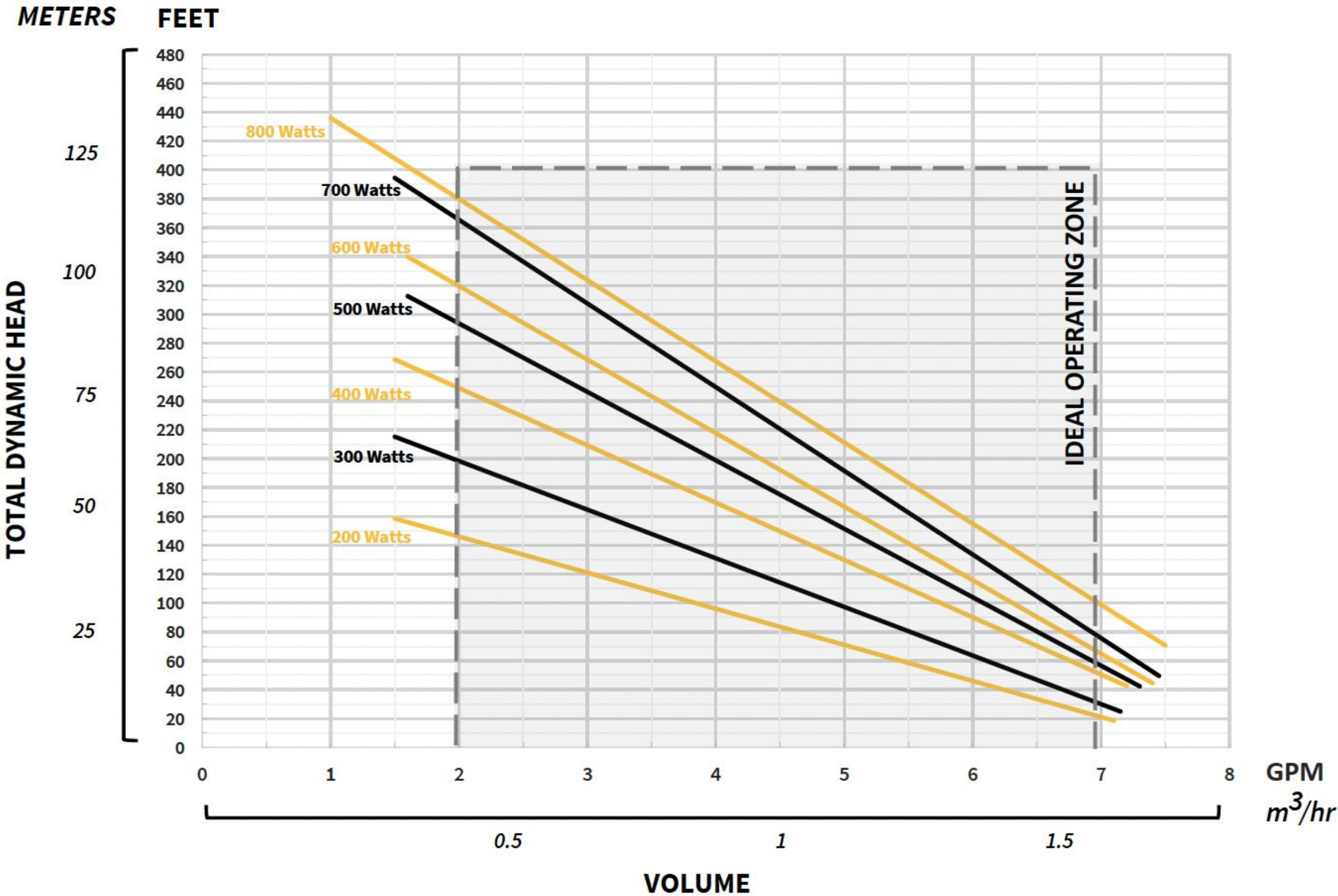


W2H-5-200

2 Inch Helical Pump



NARROW SERIES



W2H-5-200 is a 2.01” OD helical pump made for extra tight casings or to sit alongside other pumps or windmill sucker rods.

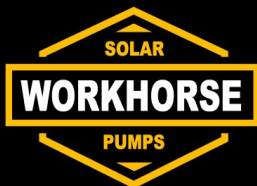
PSC100 Controller
(Required and included)

Input Voltage:
DC 54 - 72 Vmp (Prefers higher end of this range)
Max Voc 90V
Compatible with: 48V Battery Bank

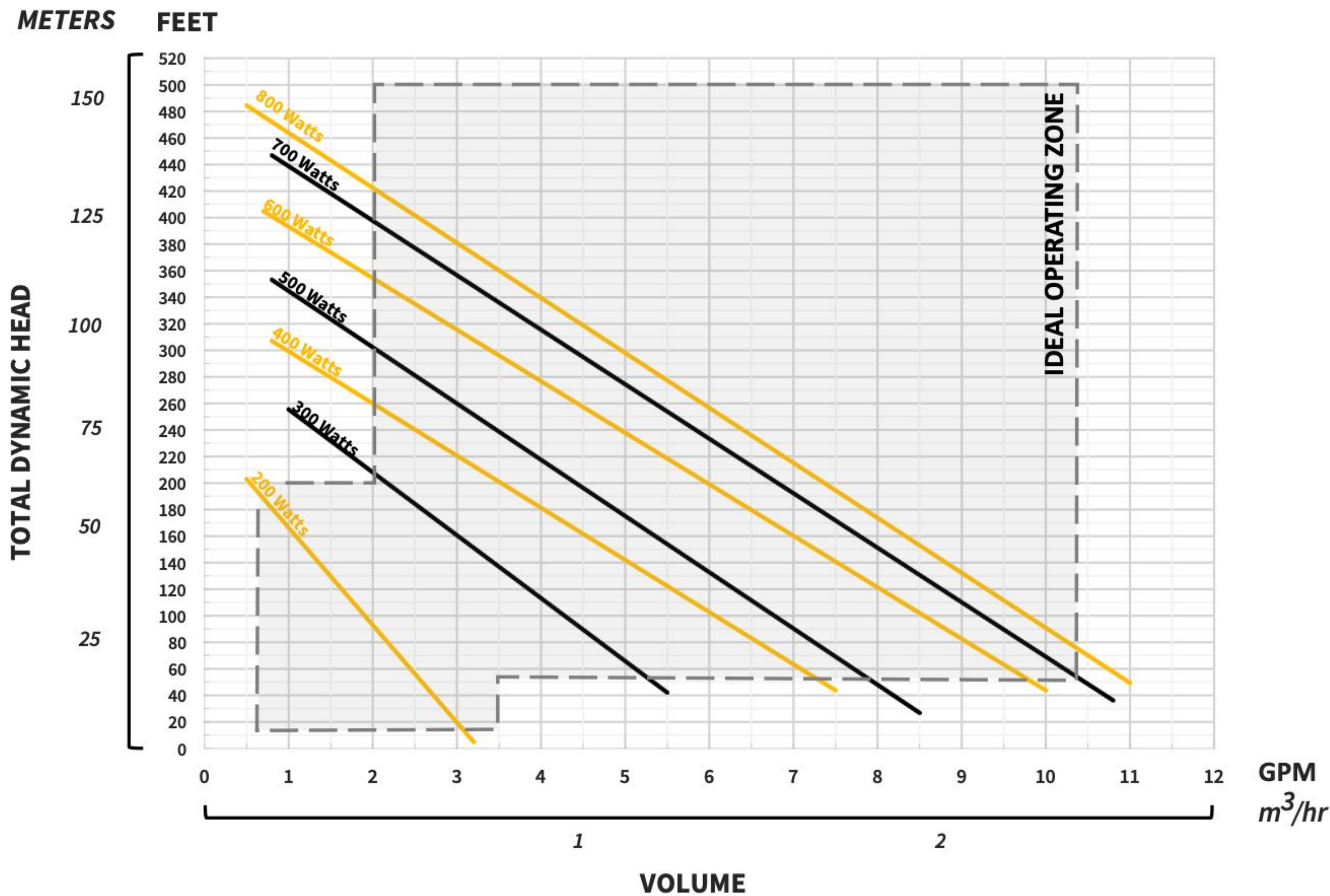
Input Wattage:
Standard 400 - 800w, Max 1200w
Adding wattage past 800w generally increases daily pumping time, not GPM volume

W3H-6-500

3 Inch Helical Pump



NARROW SERIES



W3H-6-500 is a 3.01" OD submersible pump using a field replaceable helical rotor pumping mechanism and brushless motor.



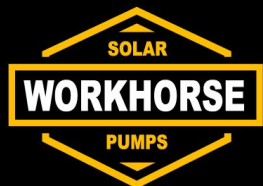
PSC100 Controller
(Required and included)

Input Voltage:
DC 36 – 72 Vmp, Max Voc 90V
200w Pump Curve above is measured at 36v Vmp (24v)
Unless 24v Solar array, 48V Battery Bank Recommended

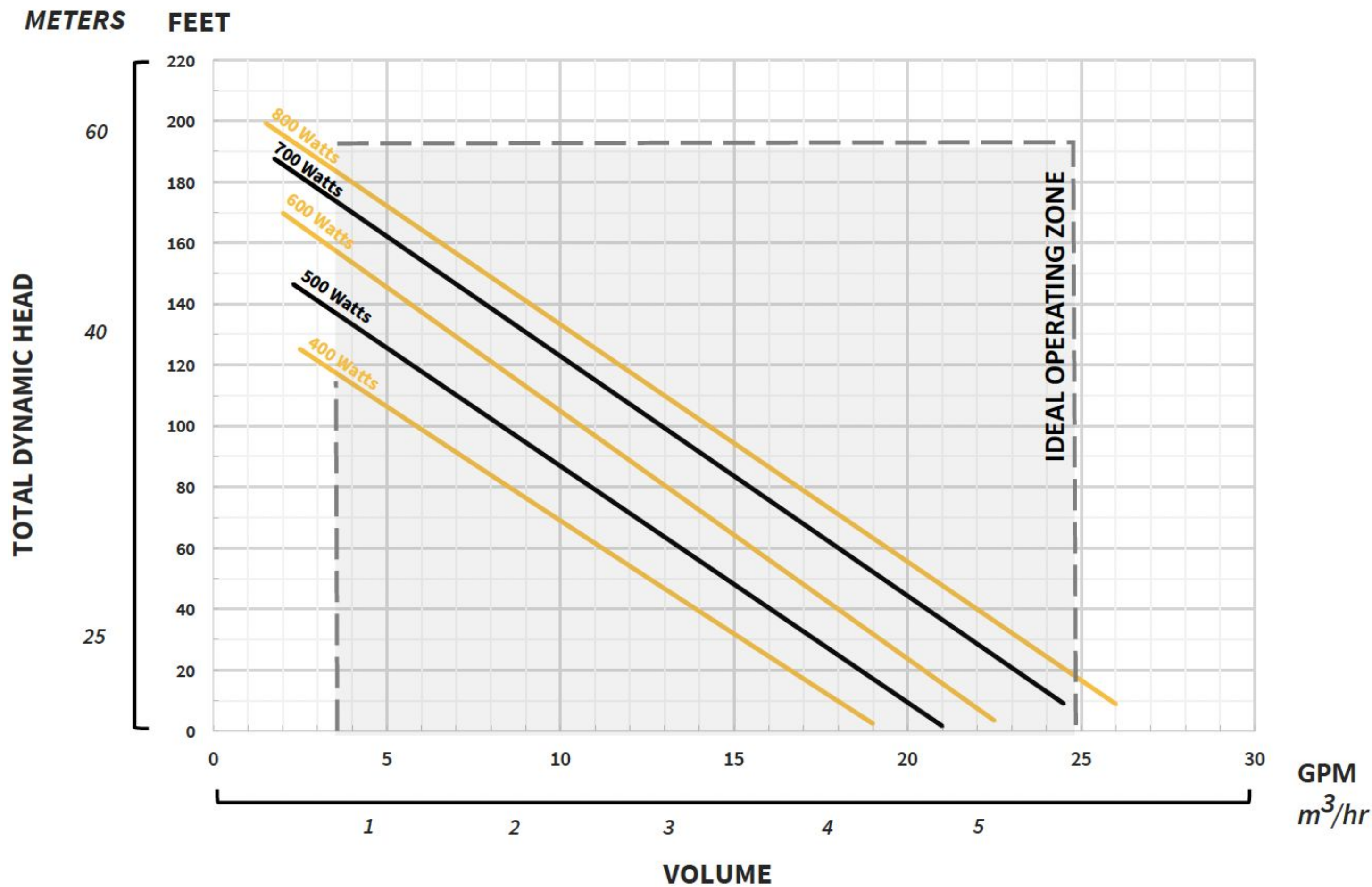
Input Wattage:
Standard 200 - 800w, Max 1200w
Adding wattage past 800w generally increases daily pumping time, not GPM volume

W3C-20-150

3.25 Inch Centrifugal



NARROW SERIES



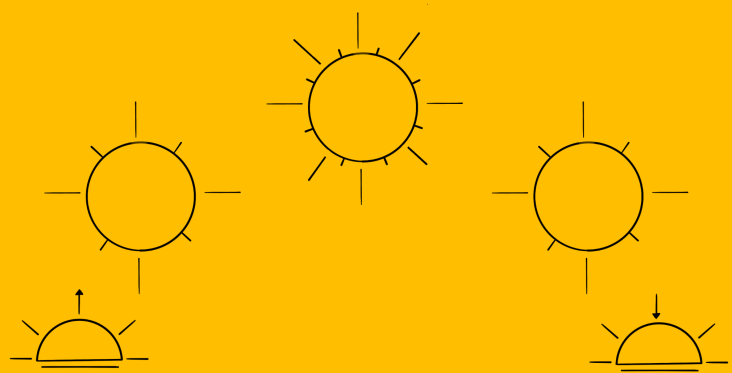
W3C-20-150 is a high volume, mid head centrifugal pump with ability to accept power from AC backup using a converter.

PSC100 Controller
(Required and included)

Input Voltage:
DC 54 - 72 Vmp (Prefers higher end of this range)
Max Voc 90V
Note on batteries: GPM and Head on Centrifugal Pumps decrease by 50% on batteries, but are compatible with 48V Battery Bank if required

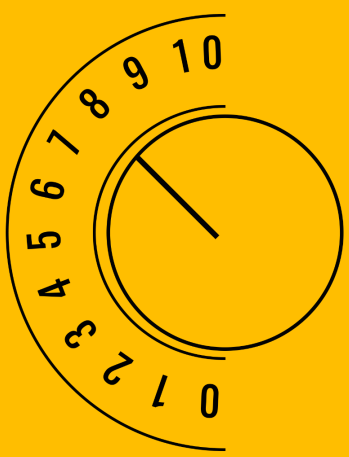
Input Wattage:
Standard 400 - 800w, Max 1200w
Adding wattage past 800w generally increases daily pumping time, not GPM volume

FLEX POWER PSC100 CONTROLLER



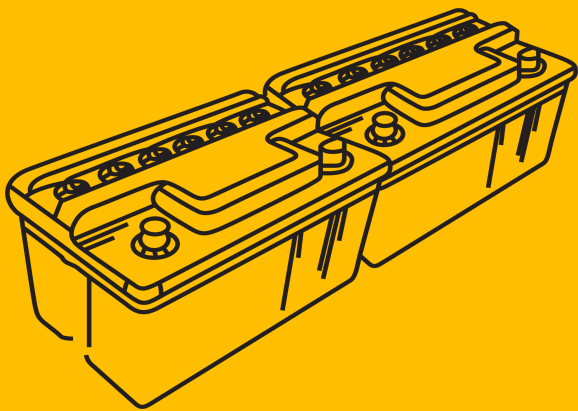
MPPT BOOST

INCLUDED IN EVERY WH PSC100. BOOSTS ENERGY FROM SOLAR PANELS FOR OPTIMUM PUMP PERFORMANCE UNDER ANY WEATHER CONDITIONS



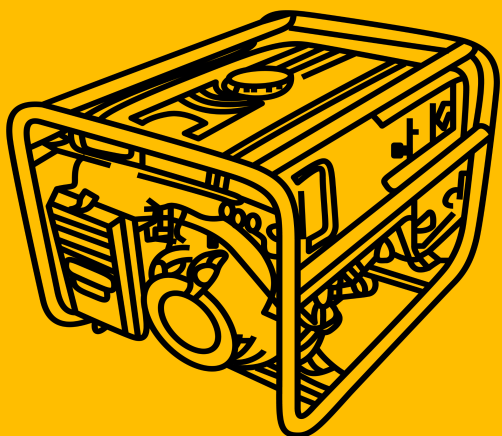
Speed +Timer Dials

SPEED DIAL ADJUSTS PUMPING SPEED. TIMER DIAL DELAYS PUMP TURNING BACK ON AFTER LOW WATER SHUT OFF. BALANCE OF BOTH GREAT FOR LOW PRODUCING WELLS.



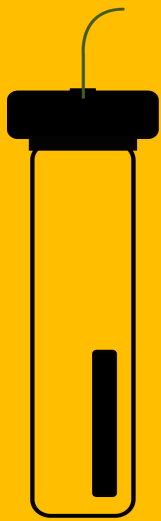
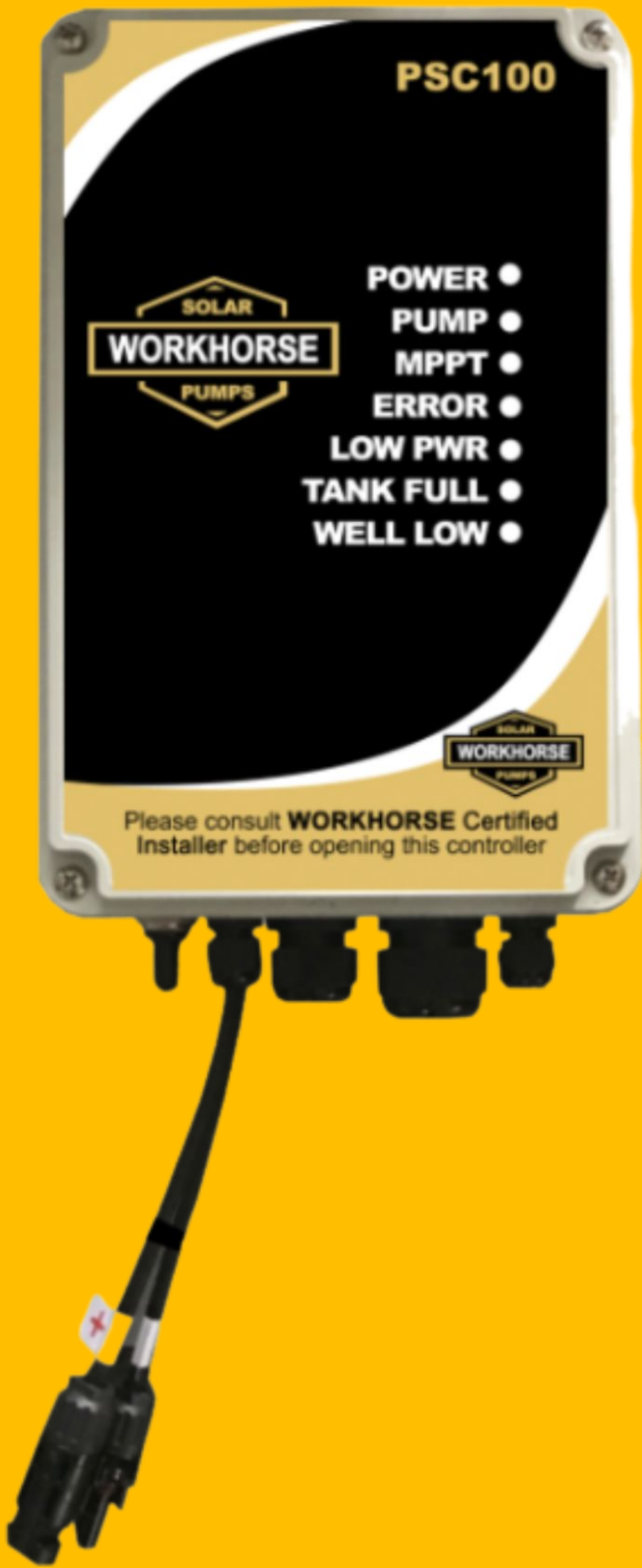
Battery Backup

OPTION TO RUN PUMP OFF A 24V OR 48V BATTERY BANK. PSC100 ENSURES BATTERIES DO NOT OVERCHARGE OR OVER-DISCHARGE.



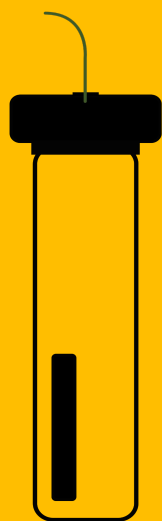
AC Power Backup

OPTION TO RUN PUMP OFF 110V AC POWER, WHETHER FROM GRID OR GENERATOR. * **REQUIRES AUTO-SWITCHER**, SEE PAGE 37.



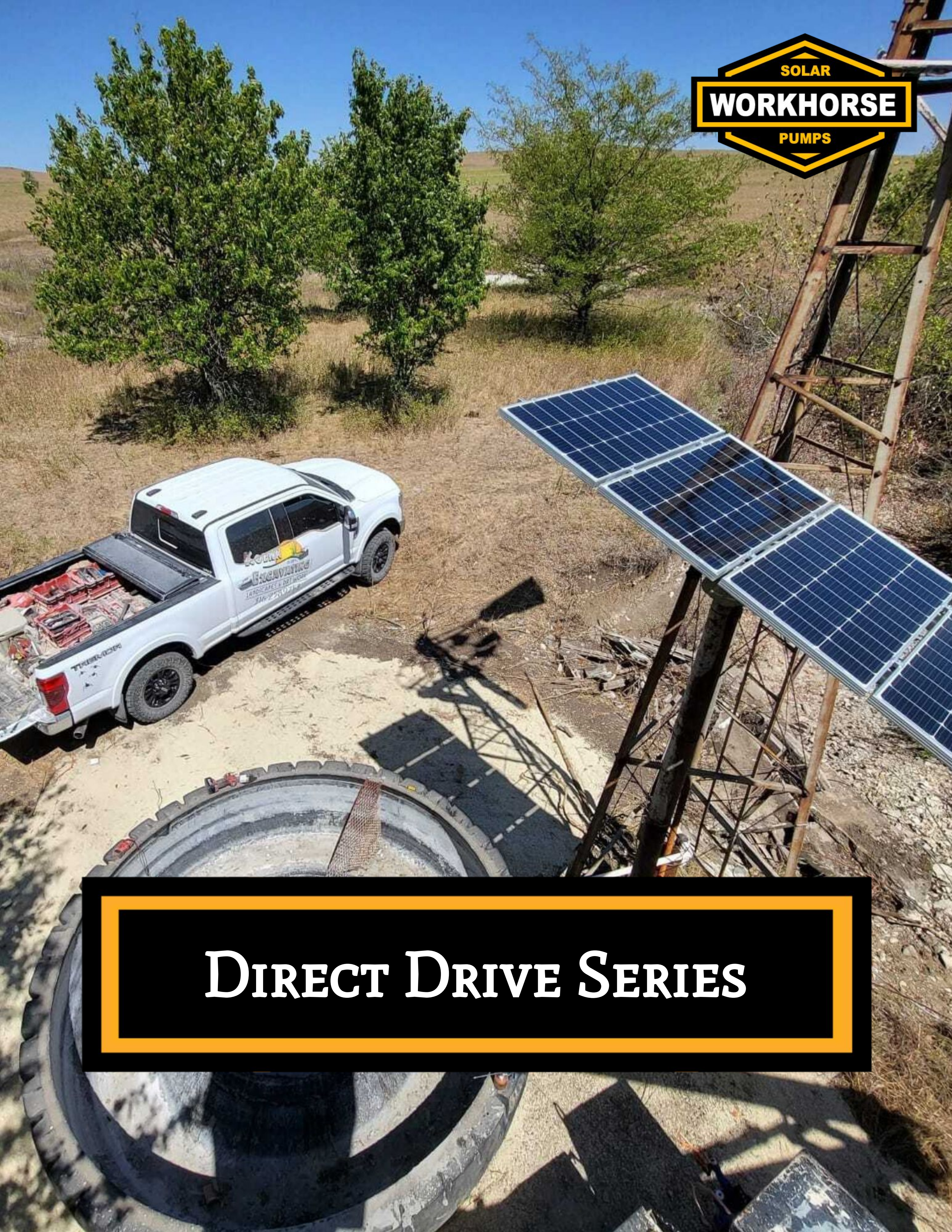
Tank Full Sensor

OPTIONAL. FASTENED AT THE TOP OF TANKS AND SHUTS OFF PUMP ONCE TANK IS FULL.



Low Water Sensor

OPTIONAL BUT ENCOURAGED. PLACED A FEW FEET ABOVE PUMP IN WELL. SHUT OFFS PUMP IF WATER LEVEL IN WELL BECOMES TOO LOW, PREVENTS RUN DRY.

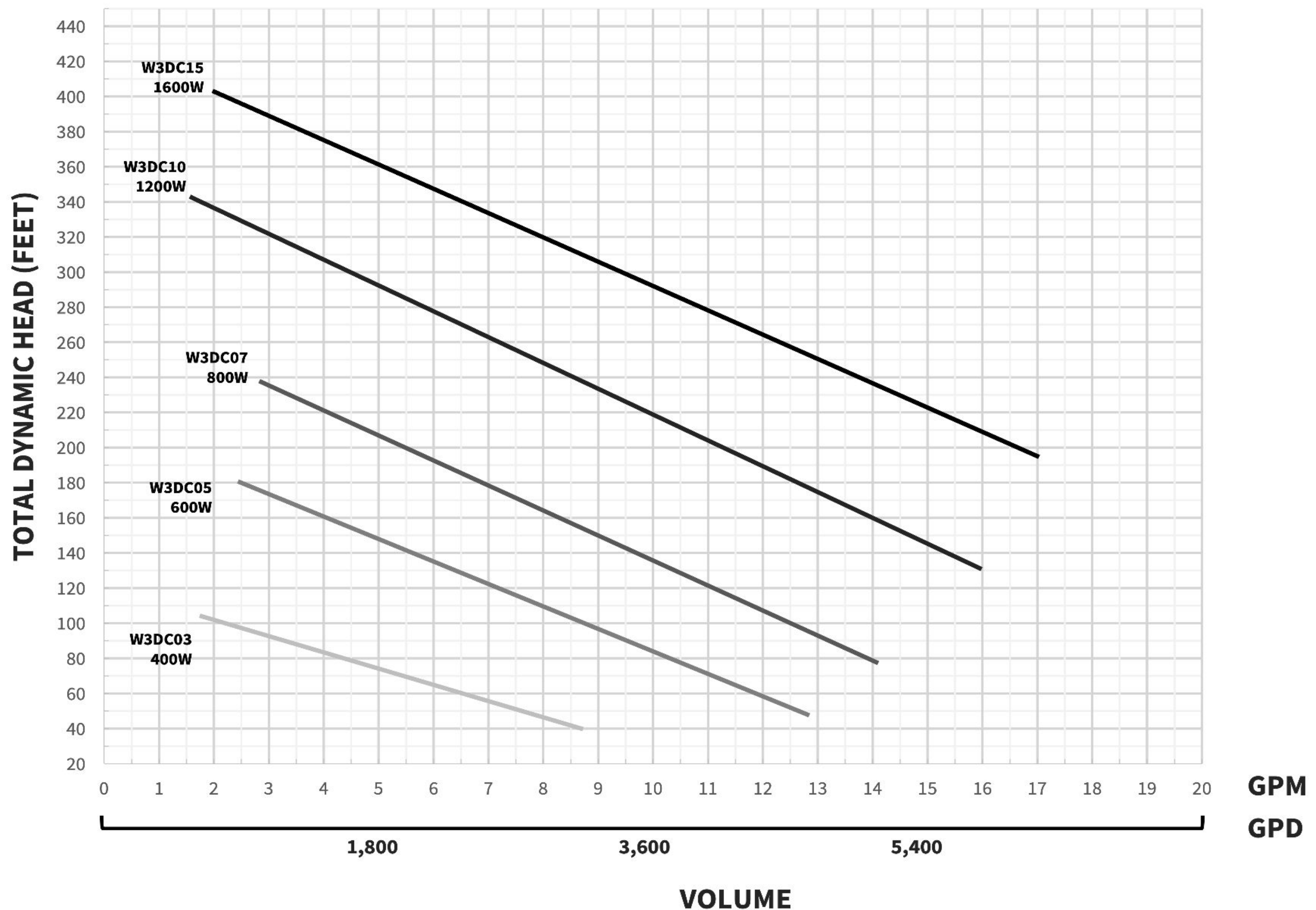


DIRECT DRIVE SERIES

Direct Drive Series: W3DC



3.25" Inch Centrifugal Solar Pump with Optional Controller



Offering even further simplicity for installation, the W3DC Direct Drive Series only requires solar panels, pump and DC disconnect for operation. Ideally suited to low- and mid-flow applications. And you get the same great WH exanadable solar array ability - adapt to flow and head requirements with just a couple more panels.

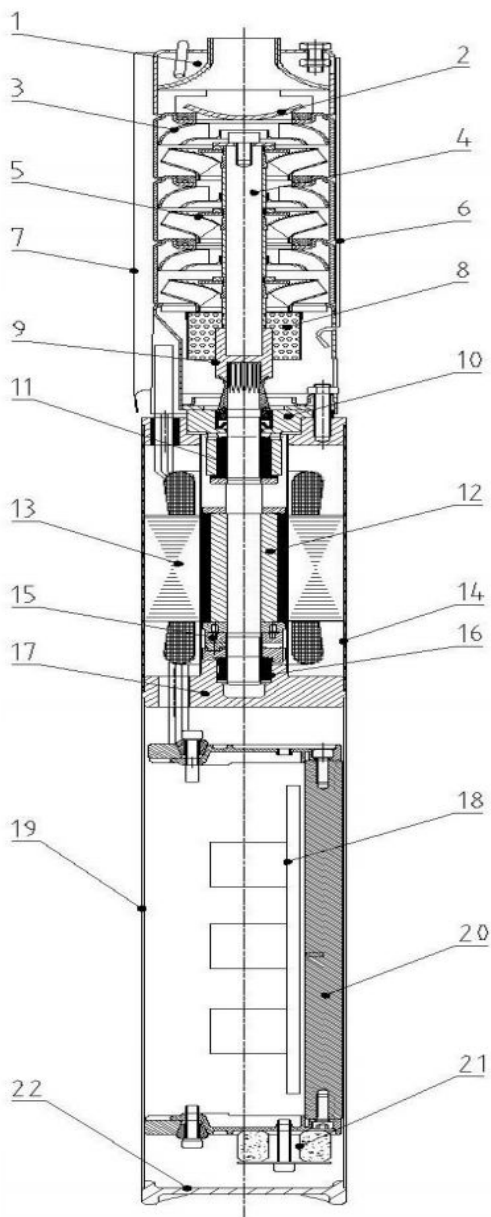
- Permanent Magnet DC brushless motors with internal controller and Run-Dry protection
- Centrifugal design for better sand, grit and iron performance
- Only DC Disconnect switch needed at surface between panels and pump
- Variable current & over voltage protection
- Water-lubricated thrust bearings
- Soft start and soft stop to extend life
- Laser welded 304 stainless housing
- Comprehensive 3 Year Warranty
- Meets NRCS Requirements



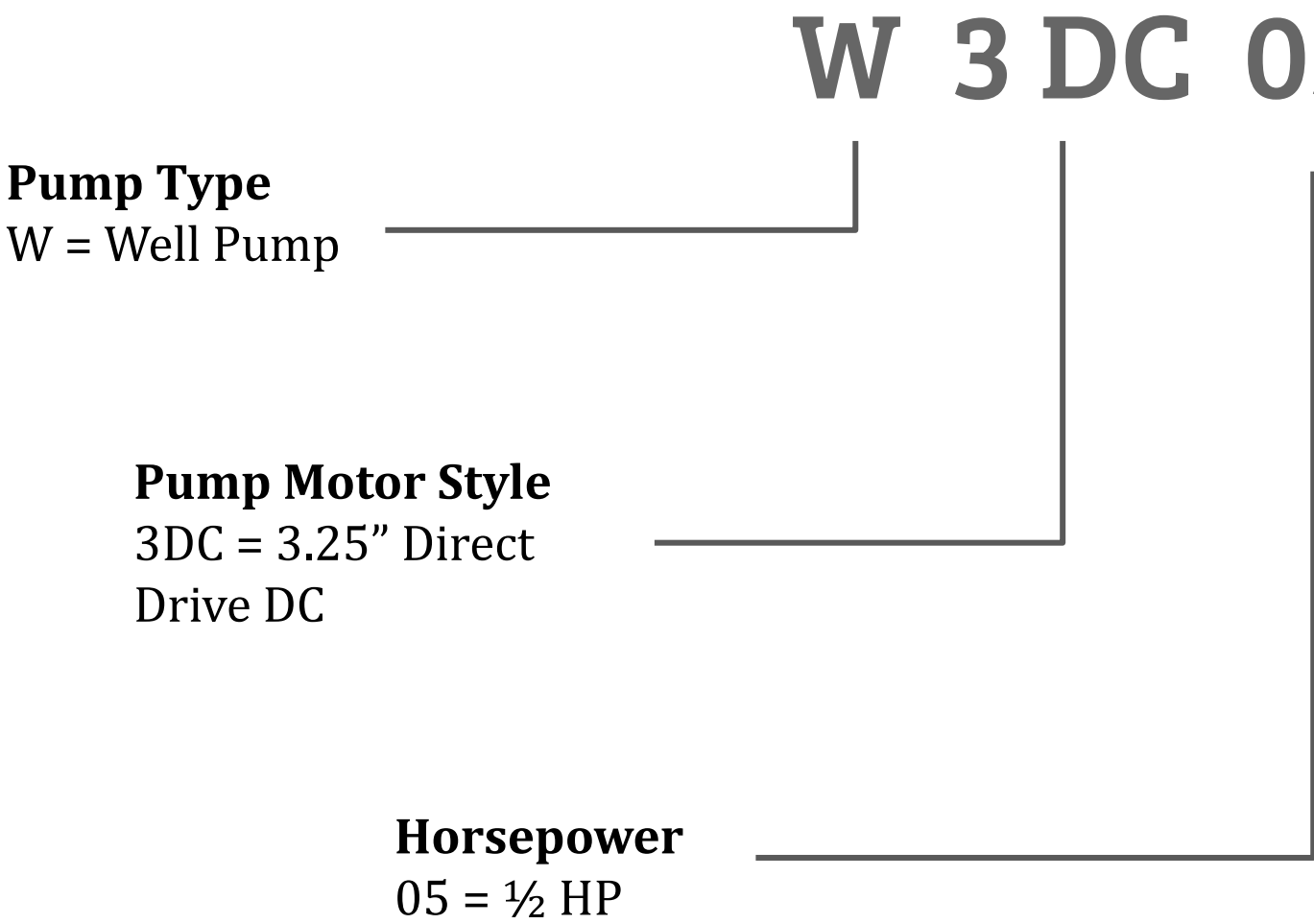
Direct Drive Series Specifications



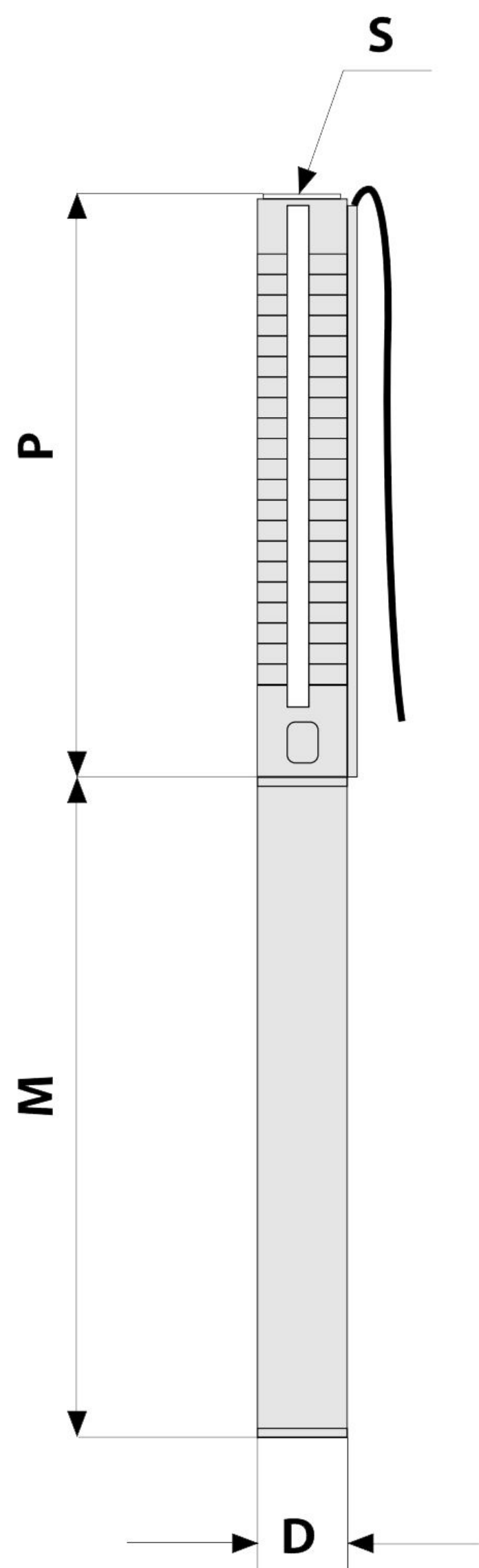
Power Input	DC Only Varies on Model - See pump specs Current Range: 1.5 – 11A
Input Range	Varies on Model - See pump specs
Run Time	Unlimited, Continuous Duty Solar: 5-10 hours/day area dependant
Start/Stop	No Limit (soft start built in)
Angles of Operation	Vertical (upright) or Horizontal (90 deg)
Liquid Characteristics	pH 5 to 9, Maximum temperature 100F Sand Content: <50g/m3
Certifications	CE, TUV
Speed Range	500 – 4500RPM
Diameters	3.25"
Protection Class	IP 68
Max Submersion Depth	450ft (Additional check valve required over 250ft of head)
Pump Wire	Min 12 gauge, 10 gauge for runs >200'. 3 strand(2 hot + G) submersible grade cable.



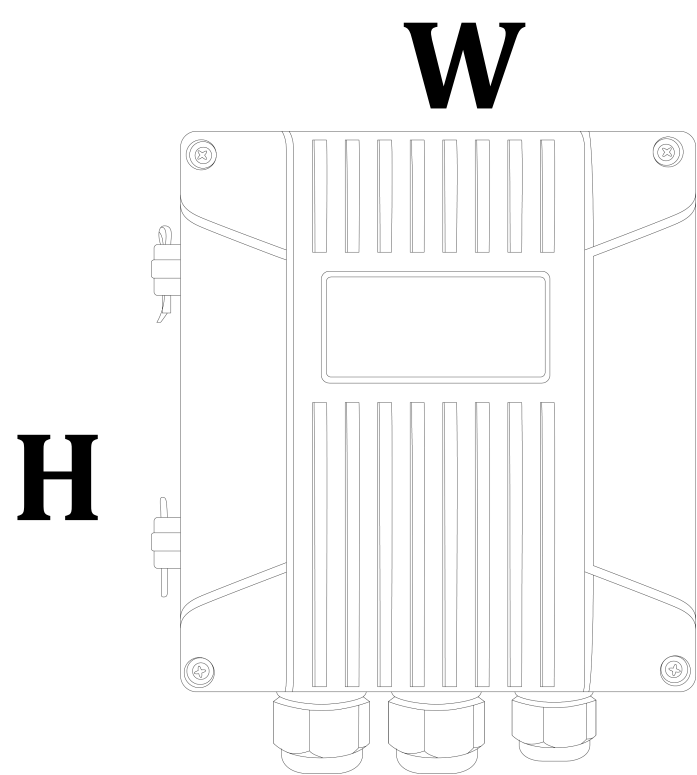
- 1 Discharge chamber *Stainless steel*
- 2 Non-return valve *Stainless steel*
- 3 Guide vanes *PC/Stainless steel*
- 4 Pump Shaft *Stainless steel*
- 5 Impeller *POM/Stainless steel*
- 6 Impeller Fastener *Stainless steel*
- 7 Cable Cover *Stainless steel*
- 8 Pump Inlet *Stainless steel*
- 9 Shaft coupling *Stainless steel*
- 10 Upper Bearing Housing *Stainless*
- 11 Upper Bearing *Silicon Carbide*
- 12 Permanent Magnet Rotor
- 13 Motor Stator
- 14 Pump Housing *Stainless steel*
- 15 Thrust bearing *Graphite*
- 16 Lower Bearing *Silicon Carbide*
- 17 Lower Bearing Housing *Stainless*
- 18 Controller Housing *Stainless steel*
- 19 Controller Housing *Stainless steel*
- 20 Heatsink *Aluminium*
- 21 Inductor
- 22 Base *Stainless steel*



Direct Drive Series Dimensions



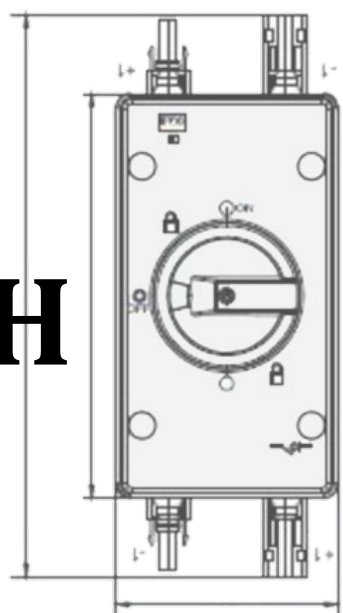
	W3DC03	W3DC05	W3DC07	W3DC10	W3DC15
S	1.25" FNPT	1.25" FNPT	1.25" FNPT	1.25" FNPT	1.50" FNPT
P	11.8"	14.3"	17.0"	20.5"	25.6"
M	10.3"	10.3"	11.1"	11.1"	15.6"
T	22.1"	24.6"	28.1"	31.6"	41.2"
D	3.25"	3.25"	3.25"	3.25"	3.25"



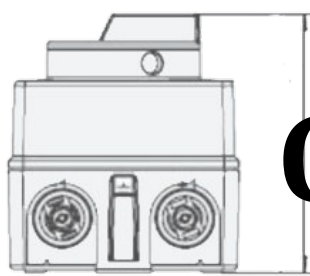
DC101



H



W

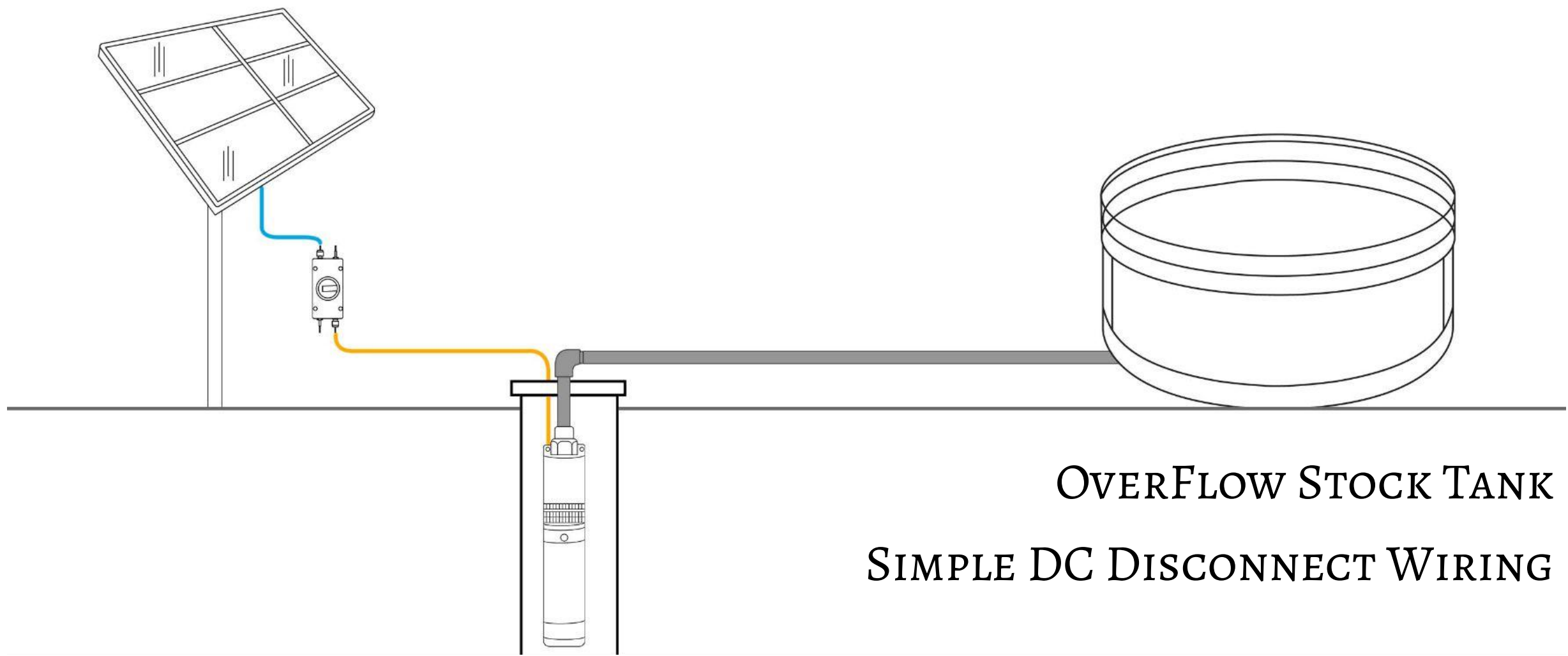


G

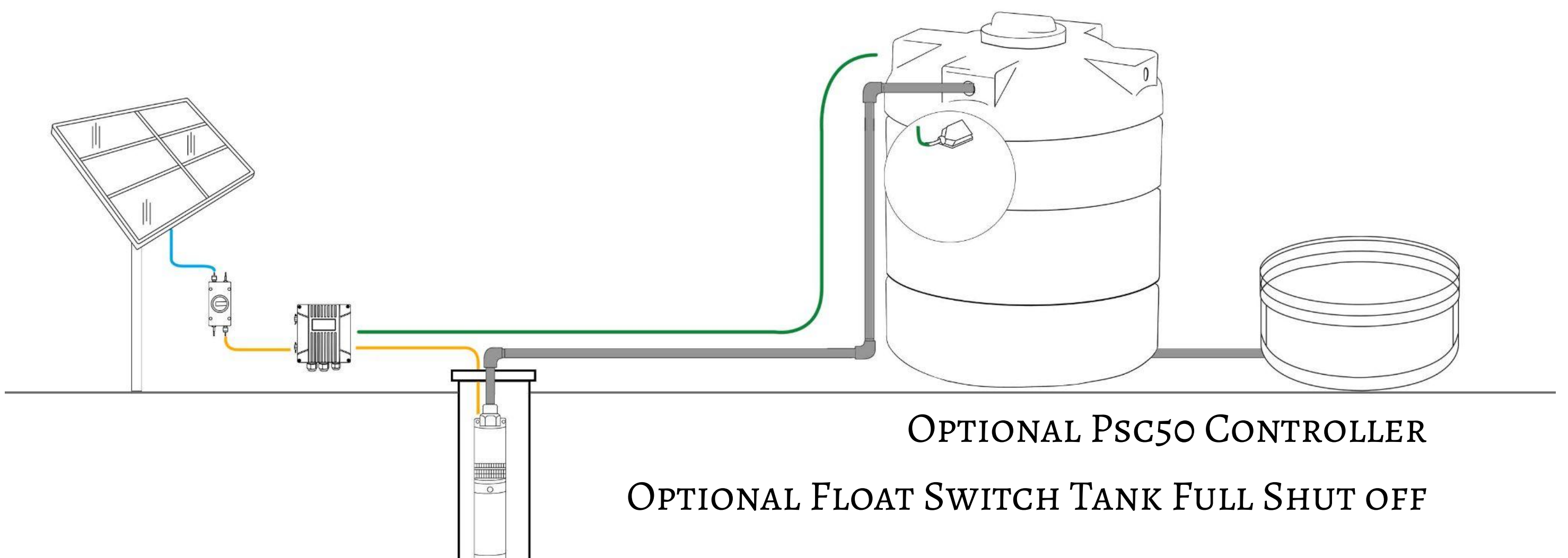
	DC101 Switch	PSC50
H	7" / 10"	6.50"
W	3.75"	6.50"
G	4.5"	3.25"



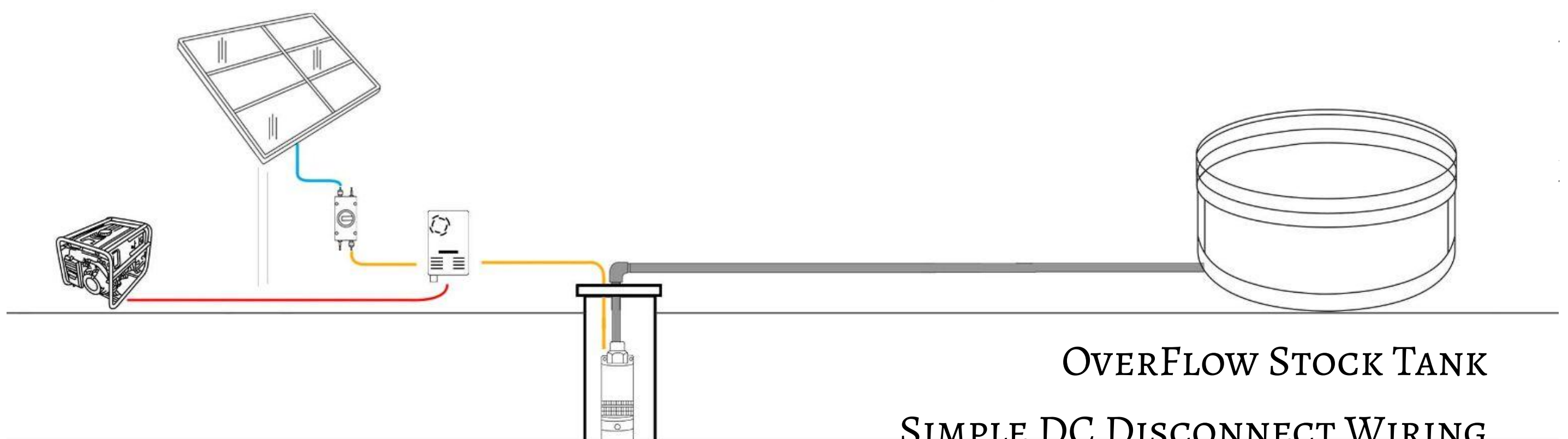
WORKHORSE
DIRECT DRIVE DIAGRAMS



OVERFLOW STOCK TANK
SIMPLE DC DISCONNECT WIRING



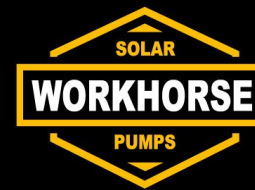
OPTIONAL PSC50 CONTROLLER
OPTIONAL FLOAT SWITCH TANK FULL SHUT OFF



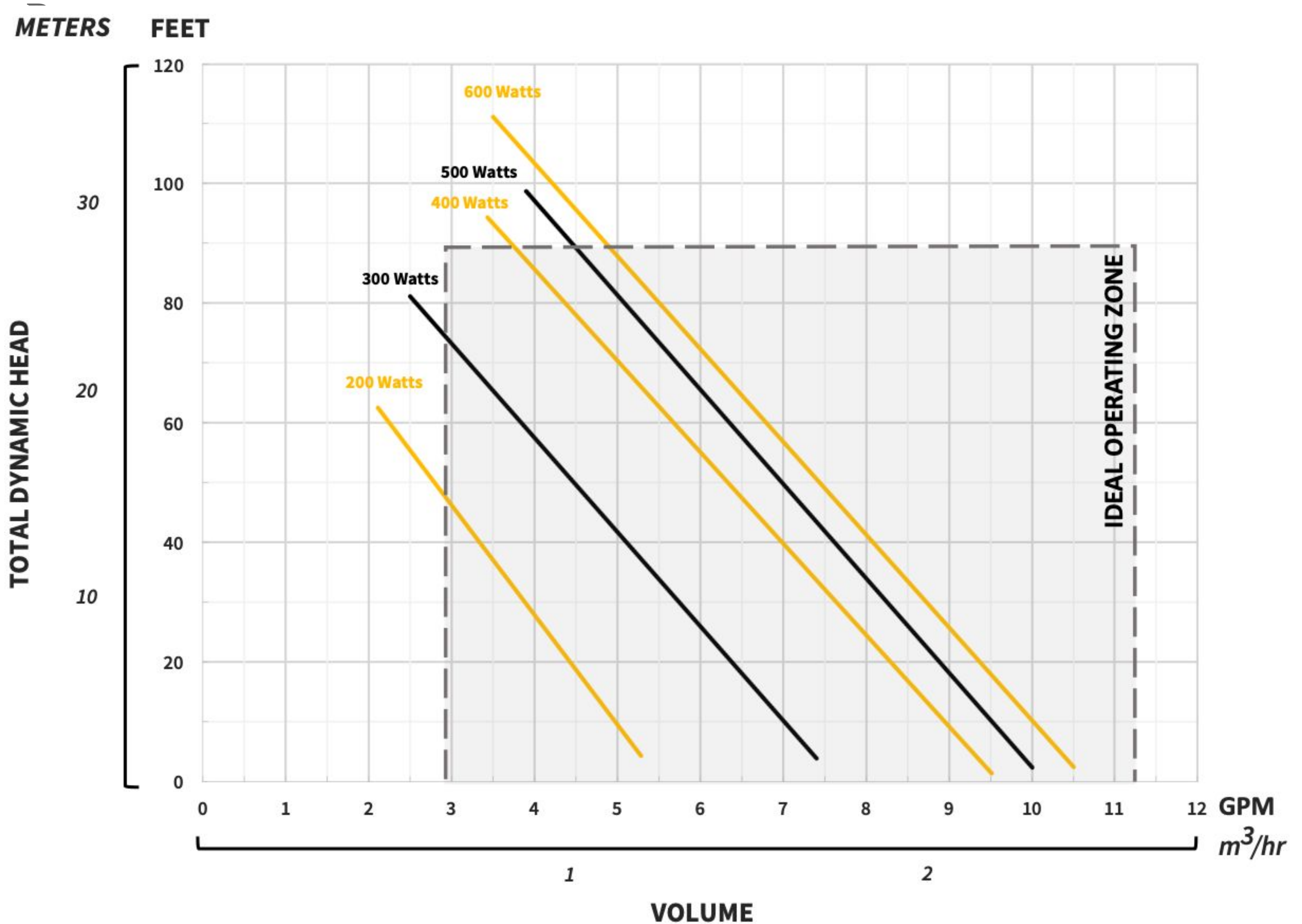
OVERFLOW STOCK TANK
SIMPLE DC DISCONNECT WIRING
AUTO-SWITCHER FOR BACKUP AC POWER

W3DC03

1/3 HP Centrifugal Solar



DIRECT DRIVE



Input Voltage:

20-40V (*Prefers higher end of this range*)

Max Voc 48v

Compatible with: 110VAC to 36V DC Auto Switcher

Input Wattage:

Standard 200 - 400w, Max 600w

Adding wattage past 600w generally increases daily pumping time, not GPM volume

PSC50 Controller

(Not compatible. Use High Voltage DC Float for pump shutoff)

Diameter / Length

3.25" / 22.1"

Pump Outlet

1-1/4" FNPT

Weight

12.9 lbs

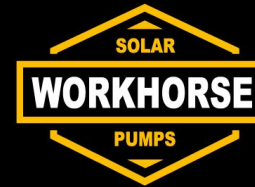
Box Dimensions

26"x4"x4"



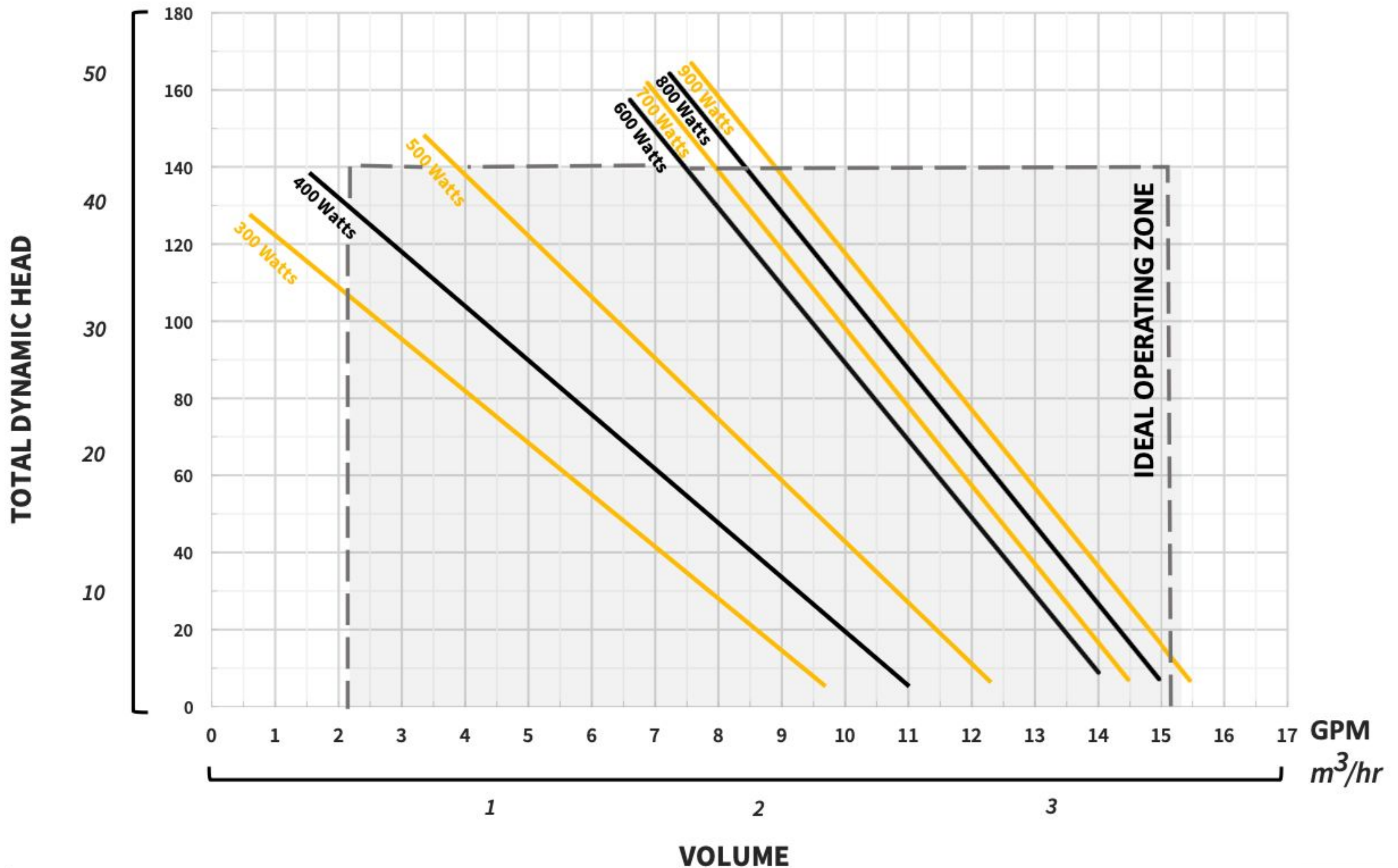
W3DC05

1/2 HP Centrifugal Solar Pump



DIRECT DRIVE

METERS FEET



Input Voltage:

40-76V (Prefers higher end of this range)

Max Voc 96v

Compatible with: 110VAC to 72V DC Auto Switcher

Input Wattage:

Standard 400 - 600w, Max 900w

Adding wattage past 900w generally increases daily pumping time, not GPM volume

PSC50 Controller

(Not compatible. Use High Voltage DC Float for pump shutoff)

Diameter / Length

3.25" / 24.6"

Pump Outlet

1-1/4" FNPT

Weight

14.7 lbs

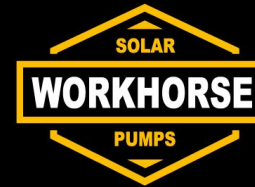
Box Dimensions

31"x4"x4"

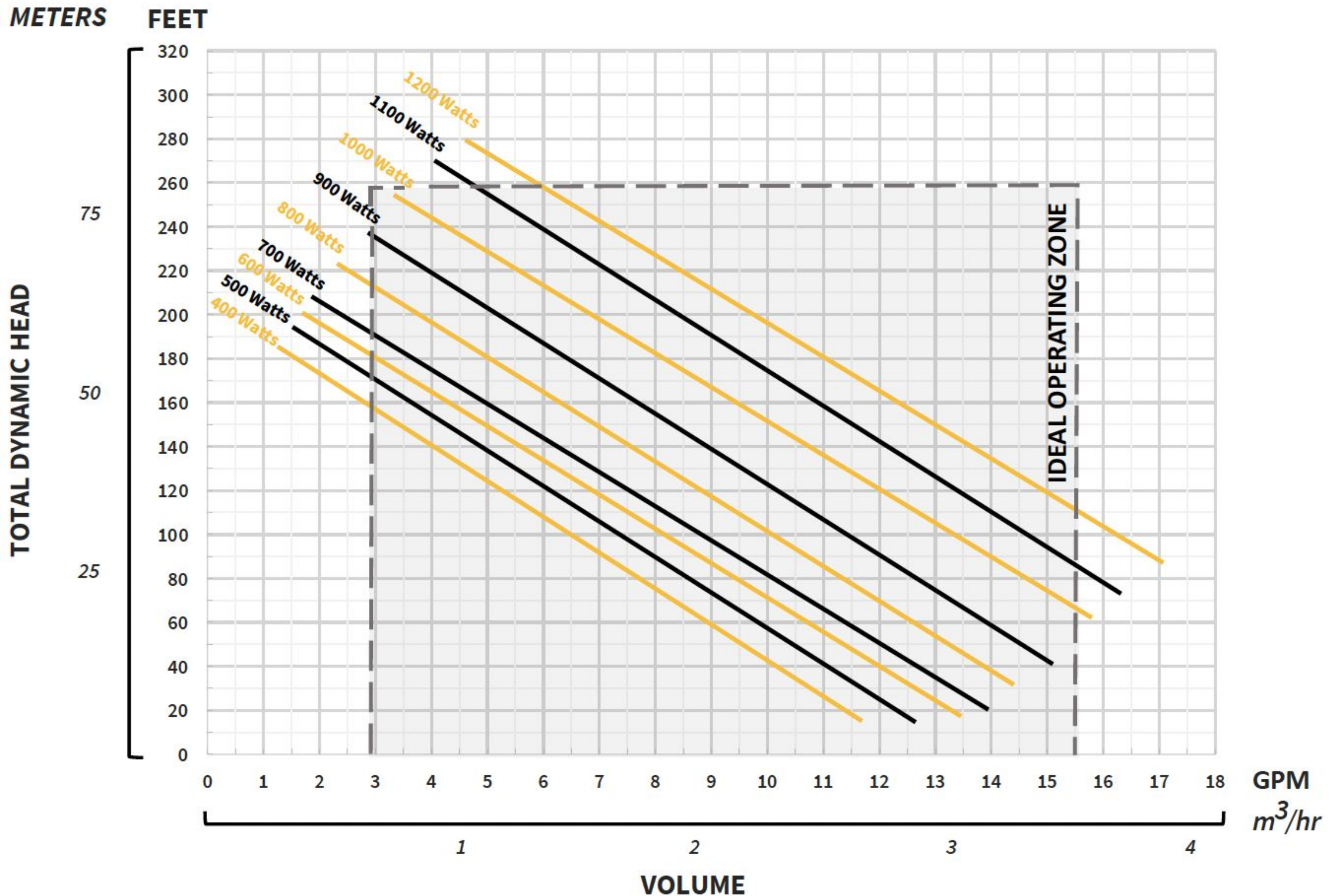


W3DC07

3/4 HP Centrifugal Solar



DIRECT DRIVE



Input Voltage:

65-110V (*Prefers higher end of this range*)

Max Voc 150v

Compatible with: 110VAC to 72V DC Auto Switcher

Input Wattage:

Standard 400 - 1000w, Max 1200w

Adding wattage past 1000w generally increases daily pumping time, not GPM volume

PSC50 Controller

(Not required. Only compatible if $\geq 100V$ DC)

Diameter / Length

3.25" / 28.1"

Pump Outlet

1-1/4" FNPT

Weight

16.9 lbs

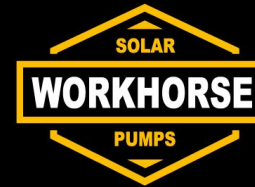
Box Dimensions

35"x4"x4"

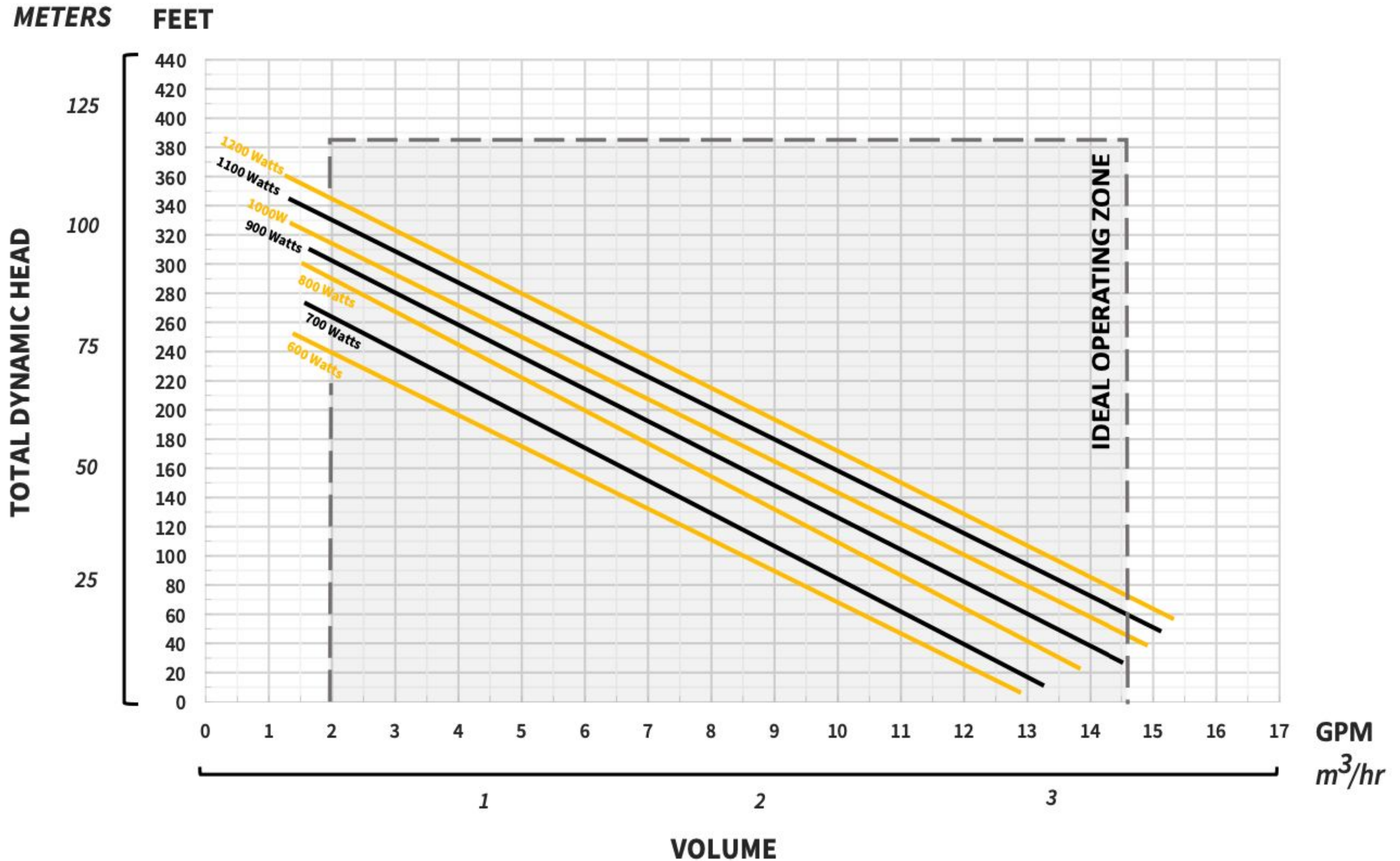


W3DC10

1HP Centrifugal Solar Pump



DIRECT DRIVE



Input Voltage:

80-150V

Max Voc 180v

Input Wattage:

Standard 400 - 1000w, Max 1200w

Adding wattage past 1000w generally increases daily pumping time, not GPM volume

PSC50 Controller

(Not required. Only compatible if $\geq 100V$ DC)

Diameter / Length

3.25" / 31.6"

Pump Outlet

1- $\frac{1}{4}$ " FNPT

Weight

17.4 lbs

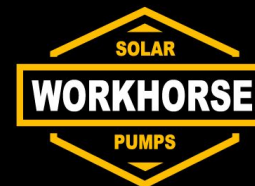
Box Dimensions

38"x4"x4"



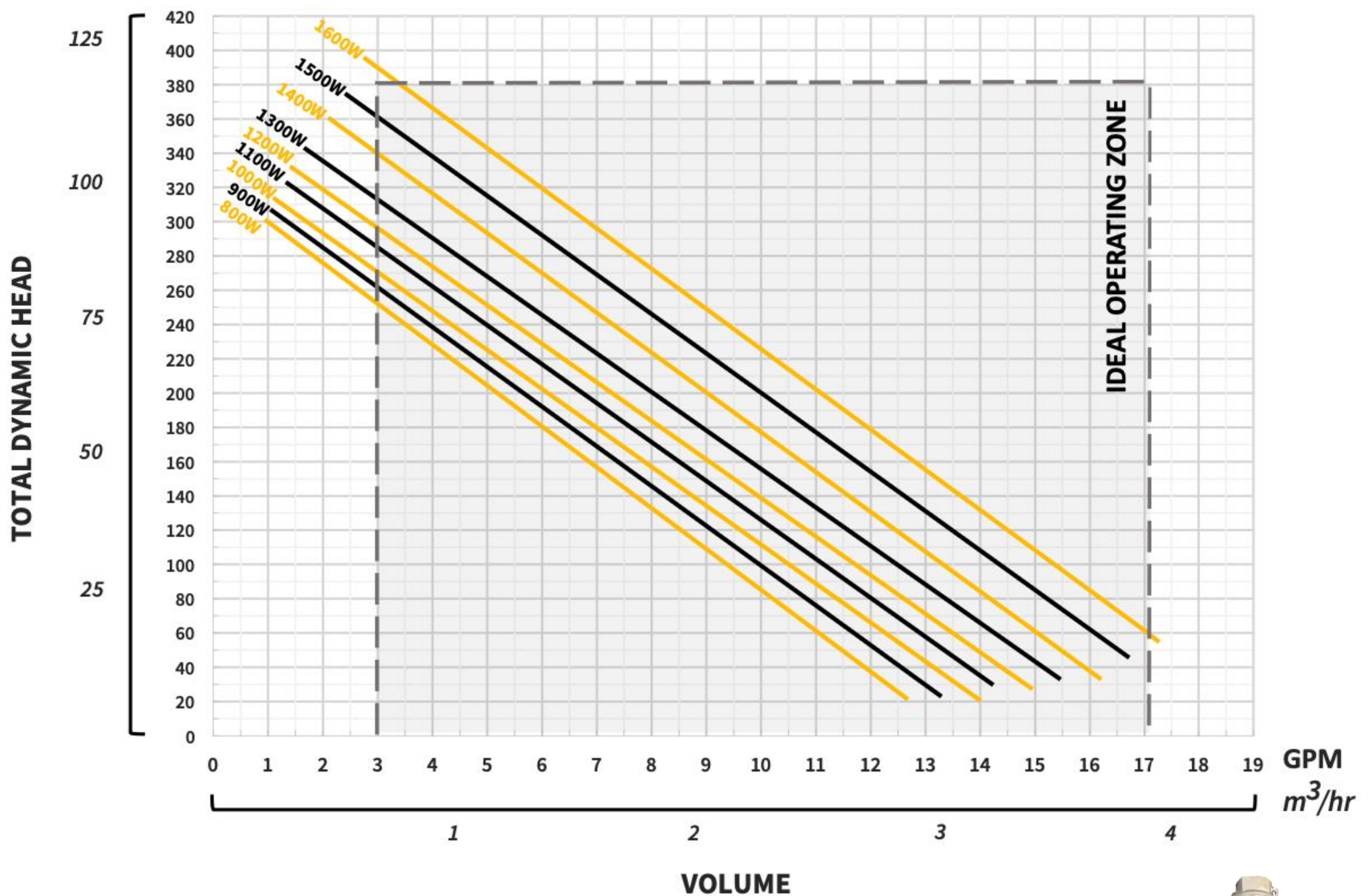
W3DC15

1-1/2 HP Centrifugal Solar



DIRECT DRIVE

METERS FEET



Input Voltage:

130-190V

Max Voc 230v

Input Wattage:

Standard 800 - 1600w, Max 2400w

Adding wattage past 1600w generally increases daily pumping time, not GPM volume

PSC50 Controller

(Not required. Only used if Tank/Pressure Shutoff needed)

Diameter / Length

3.25" / 41.2"

Pump Outlet

1-1/2" FNPT

Weight

22.0 lbs

Box Dimensions

47"x4"x4"





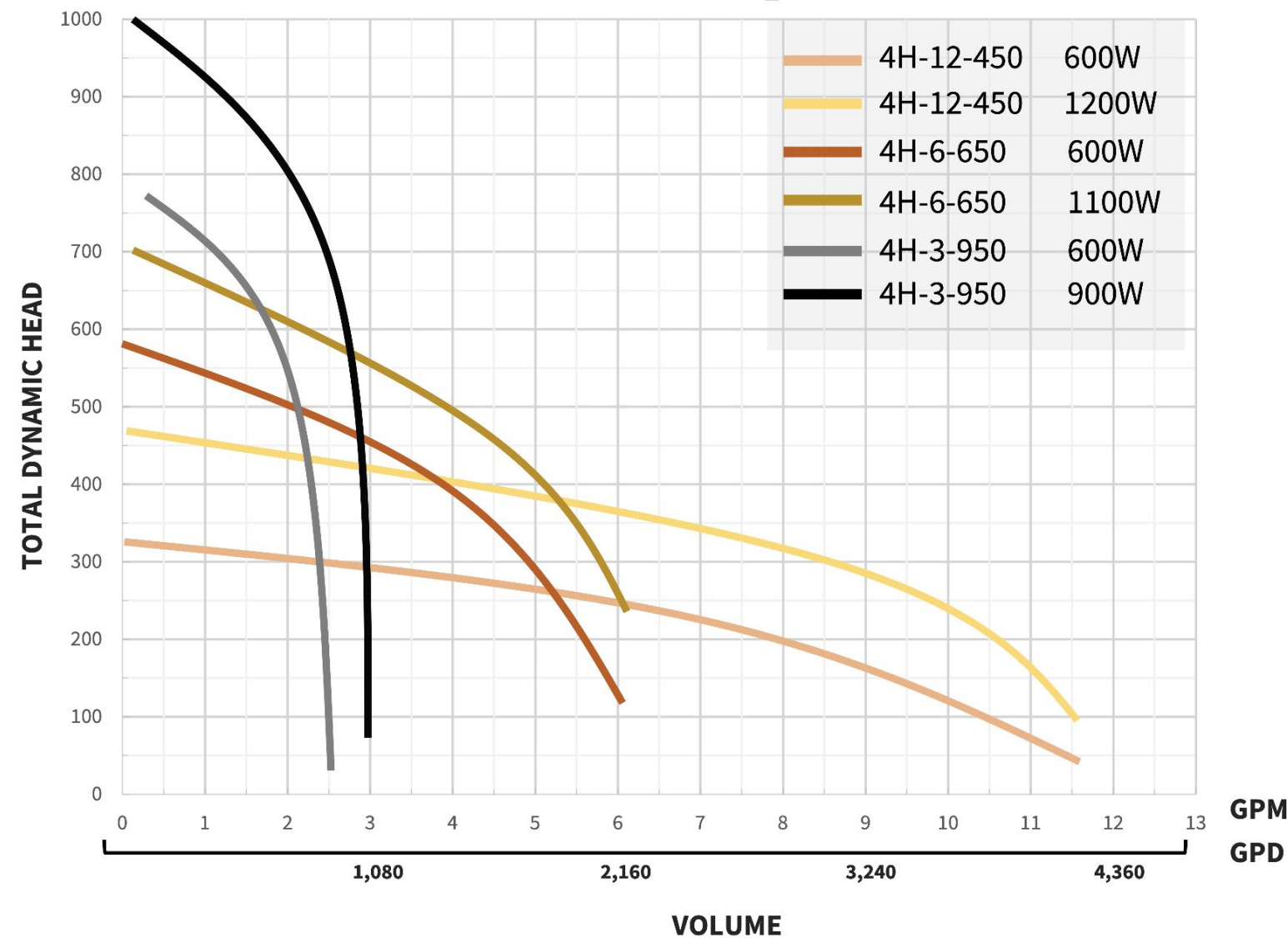
**SOLAR + AC PUMPS
w4H / w4C / w6C**

Solar+AC Series: W4C/W6C/W4H



Solar, 110VAC, 220VAC 4 inch & 6 inch Solar Pumps

WORKHORSE Deep Series

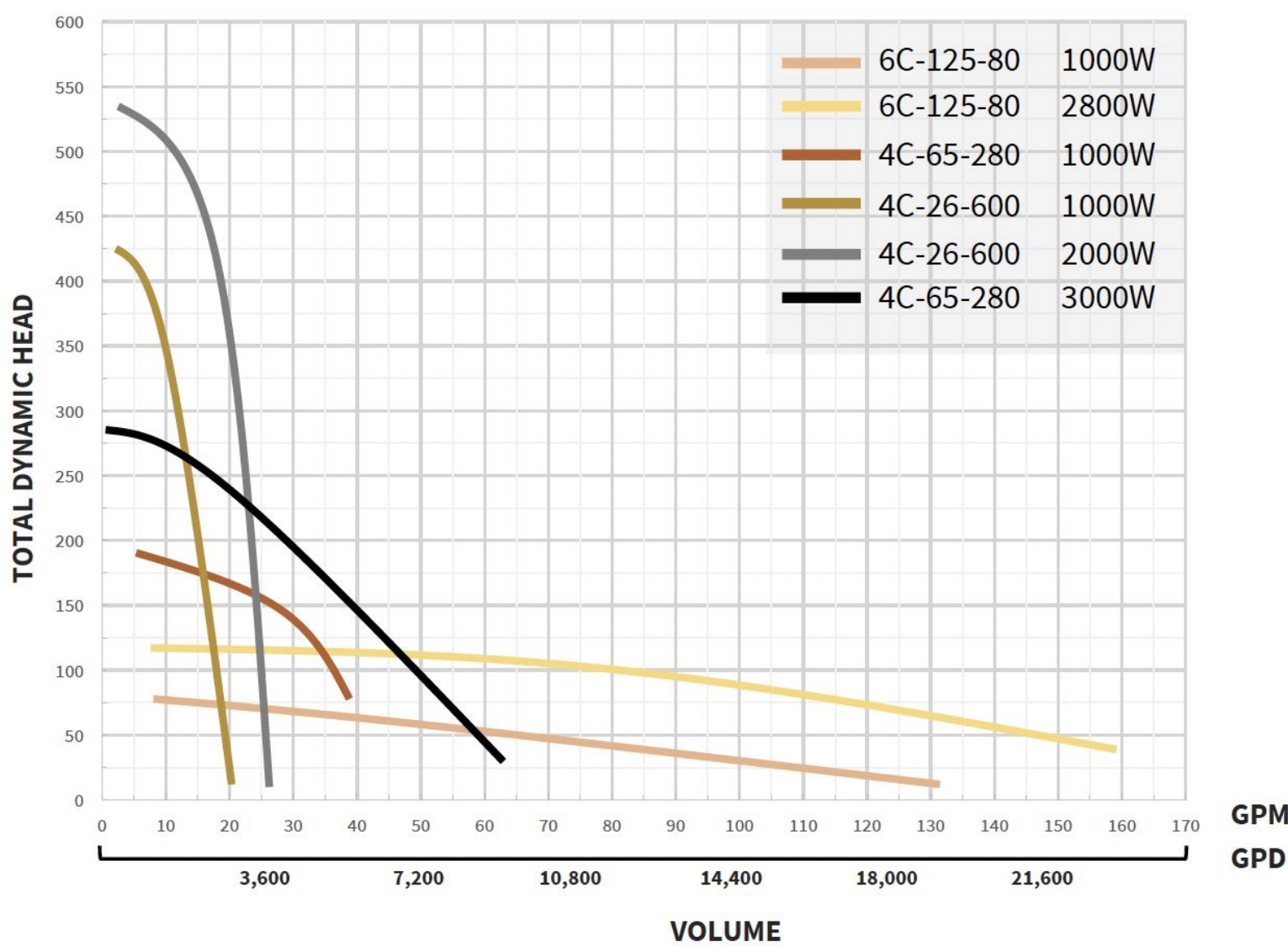


Ideal Applications

Higher pumping head, Lower volume
Particle free deep well water pumping

- Field Repairable Helical Pumping Mechanism

WORKHORSE Volume Series



Ideal Applications

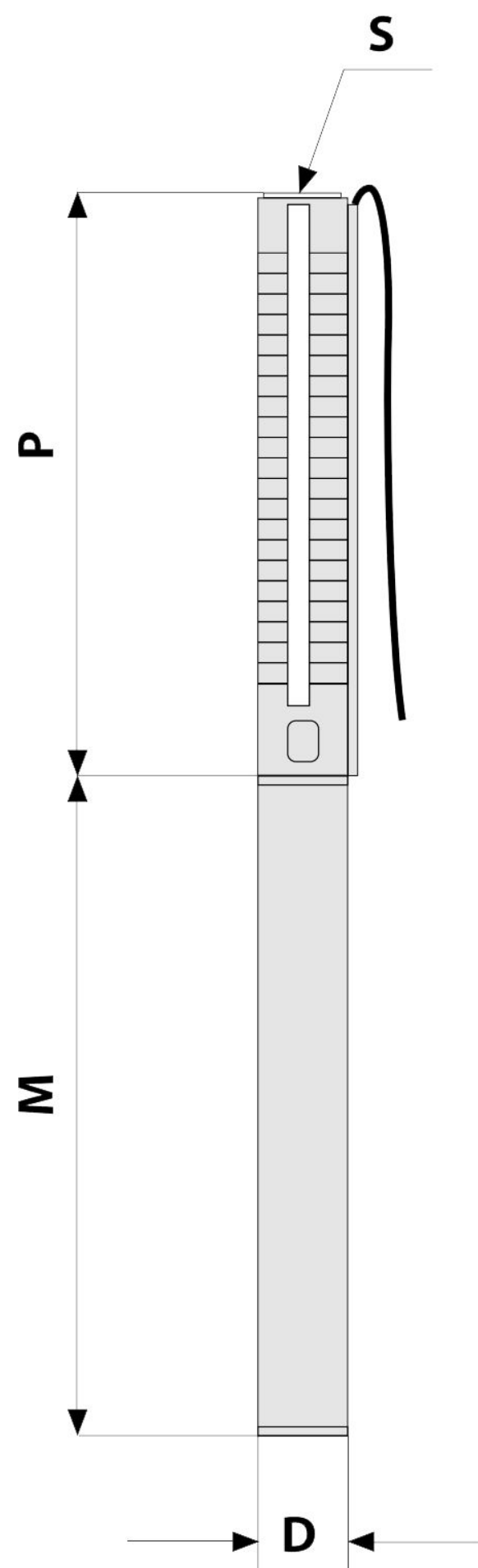
Higher volume, lower pumping head
(Ponds, Canals, Springs)
Productive older wells with higher particulate count

- Rebuildable centrifugal pump ends

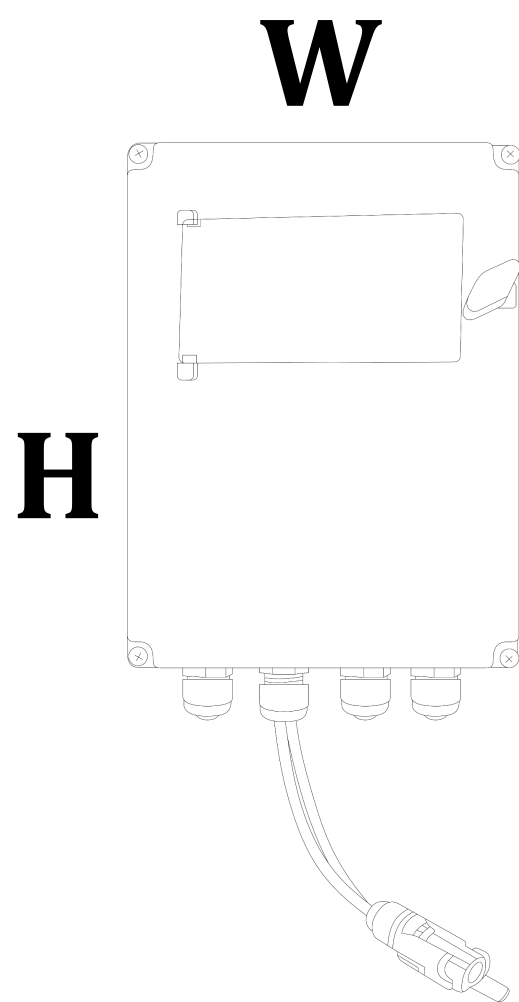
- Internal controller capable of operating on solar or AC power input (110V or 220V)
- Scalable, add more solar panels later if water needs increase
- Permanent Magnet DC brushless motor
- DC or AC Wide Input Range
- Internal variable speed controller
- 304 Stainless Steel pump and motor
- Variable current & Over voltage protection
- Water-lubricated thrust bearings
- Water-filled encapsulated motor
- Soft start and soft stop to extend life
- Built-in Run-Dry protection
- Laser welded stainless housing
- Comprehensive 3 Year Warranty
- Meets NRCS Requirements



Pump Dimensions

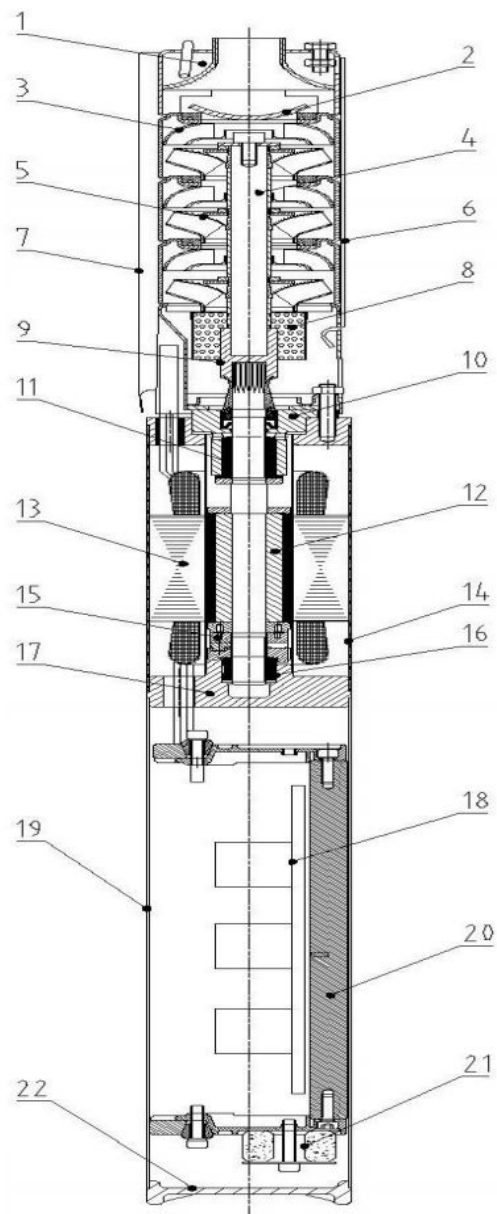


	W6C-125-80	W4C-65-280	W4C-26-600	W4H-3-950	W4H-6-650	W4H-12-450
S	3" FNPT	2" FNPT	1.25" FNPT	1" FNPT	1.25" FNPT	1.25" FNPT
D	5.50"	3.95"	3.95"	3.95"	3.95"	3.95"
P	13.65"	14.45"	21.00"	27.00"	28.10"	28.10"
M	24.25"	24.25"	24.25"	24.40"	24.40"	24.40"
T	37.90"	38.70"	45.25"	51.40"	52.50"	52.50"
W	38 lbs	35 lbs	39 lbs	35 lbs	36 lbs	36 lbs



	DC101 Switch
H	9.25"
W	7"
Depth	2.75"

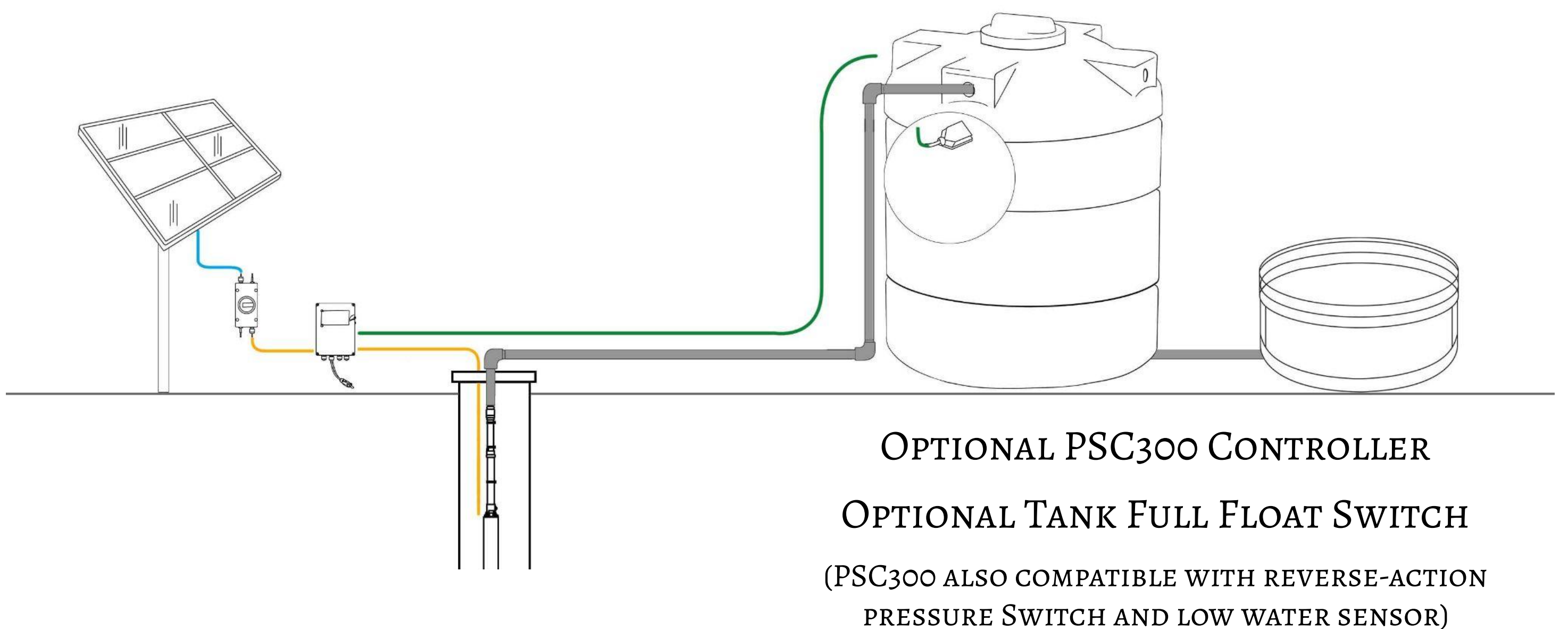
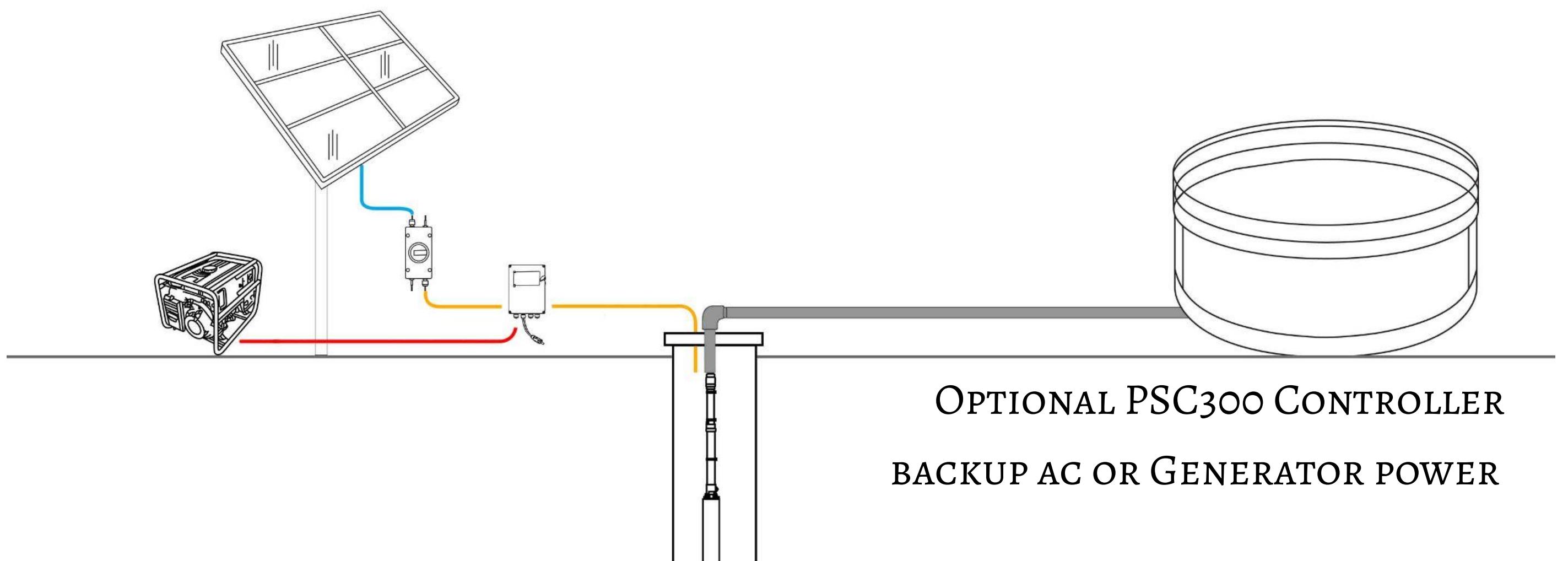
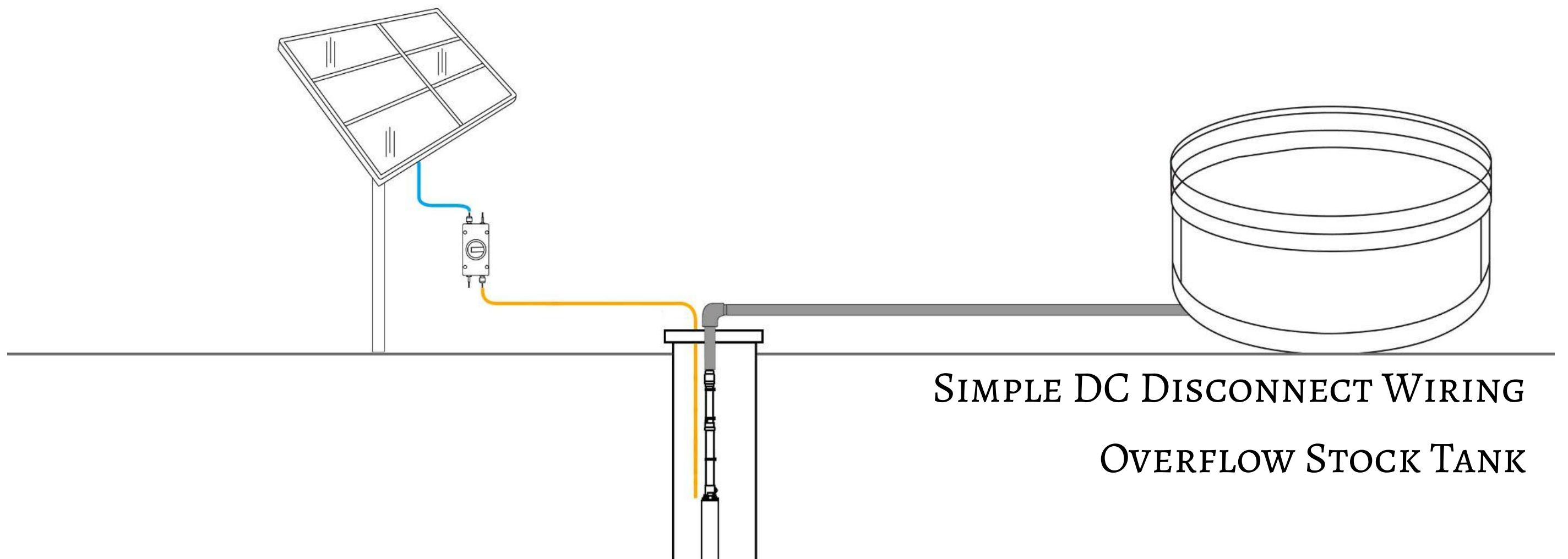
- 1 Discharge chamber *Stainless steel*
- 2 Non-return valve *Stainless steel*
- 3 Guide vanes *PC/Stainless steel*
- 4 Pump Shaft *Stainless steel*
- 5 Impeller *POM/Stainless steel*
- 6 Impeller Fastener *Stainless steel*
- 7 Cable Cover *Stainless steel*
- 8 Pump Inlet *Stainless steel*
- 9 Shaft coupling *Stainless steel*
- 10 Upper Bearing Housing *Stainless*
- 11 Upper Bearing *Silicon Carbide*



- 12 Permanent Magnet Rotor
- 13 Motor Stator
- 14 Pump Housing *Stainless steel*
- 15 Thrust bearing *Graphite*
- 16 Lower Bearing *Silicon Carbide*
- 17 Lower Bearing Housing *Stainless*
- 18 Controller Housing *Stainless steel*
- 19 Controller Housing *Stainless steel*
- 20 Heatsink *Aluminium*
- 21 Inductor
- 22 Base *Stainless steel*

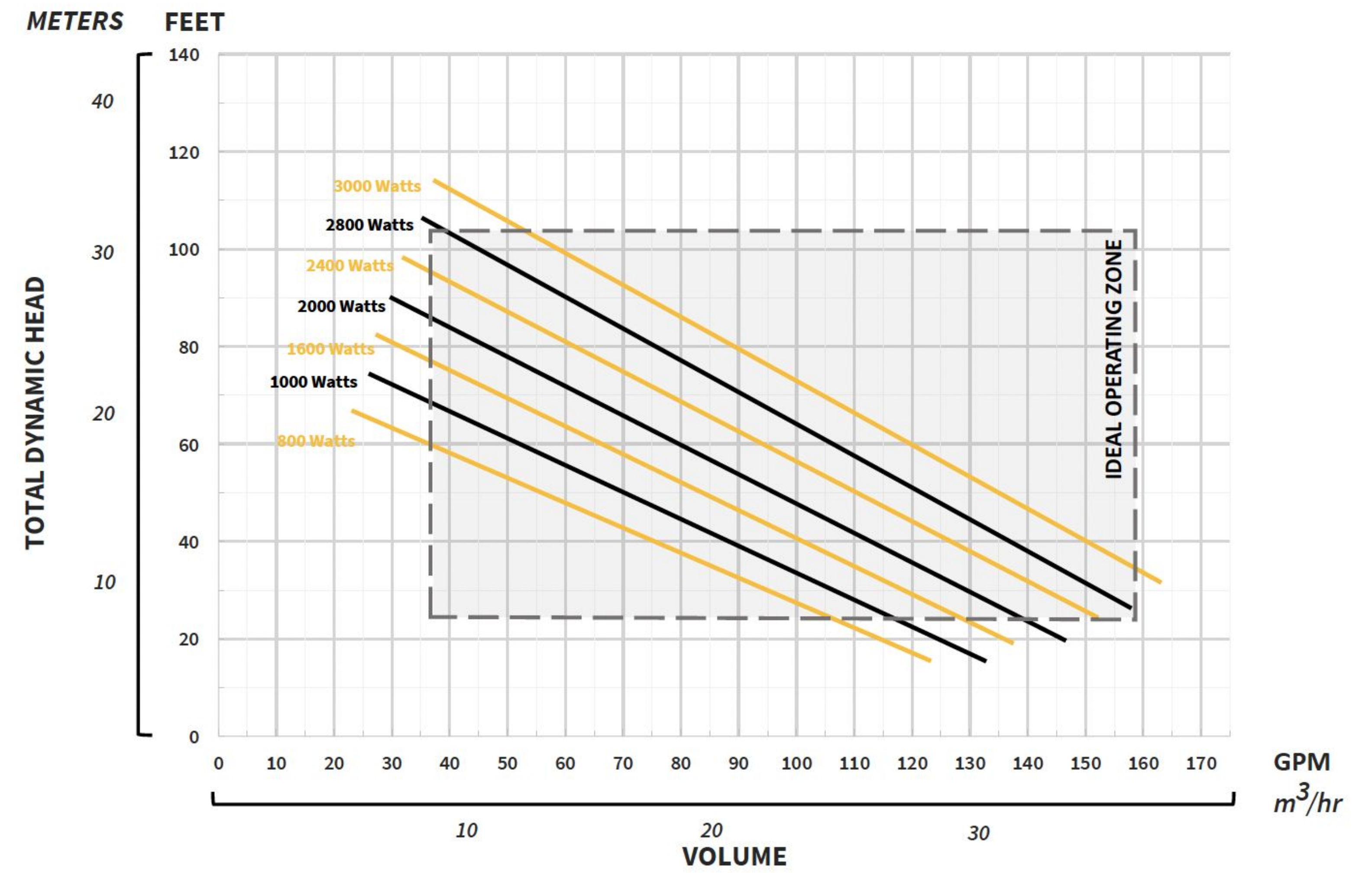


WORKHORSE
SOLAR + AC DIAGRAMS



W6C-125-80

The W6C-125-80 is an ultra high volume centrifugal solar pump with a 6" OD pump end to allow for higher pumping volumes. Featuring up to 3HP motor, it is ideal for irrigation projects, keeping ponds full and other applications where a large volume of water is required.



- Input Voltage:**
60-380V
Max Voc 440v

Input Wattage:
Standard 600 - 2200w

Sand/Particulate Tolerance: Good

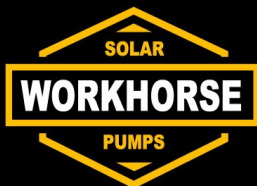
PSC300 Controller
(Not required. Only used if Tank/Pressure Shutoff or AC power needed)
- Diameter / Length**
5.50" / 37.9"

Pump Outlet
3" FNPT

Weight
38.0 lbs

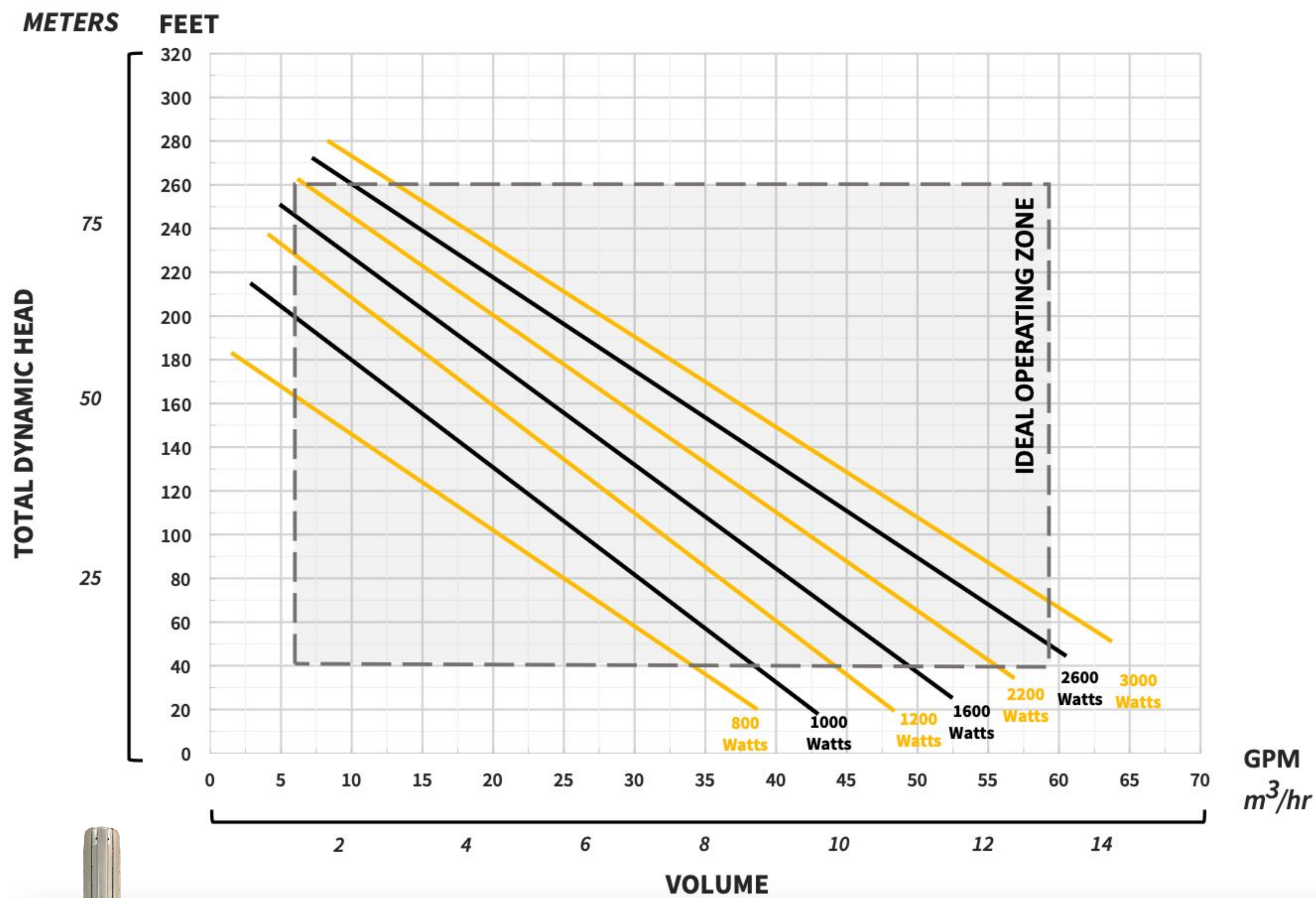
Box Dimensions
48"x7"x7"

W4C-65-280



SOLAR + AC VOLUME

The W4C-65-280 is a high volume centrifugal solar pump with a 4" OD pump end to allow for a balance between pumping volume and pumping head. Featuring up to 3HP motor, it is ideal for irrigation projects, keeping ponds full and other applications where a large volume of water is required.



Input Voltage:

60-380V
Max Voc 440v

Input Wattage:

Standard 600 - 3200w

Sand/Particulate Tolerance: Good

PSC300 Controller

(Not required. Only used if Tank/Pressure Shutoff or AC power needed)

Diameter / Length

3.95" / 38.70"

Pump Outlet

2" FNPT

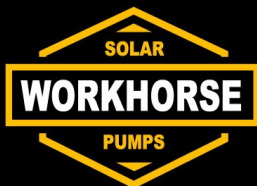
Weight

35.0 lbs

Box Dimensions

48"x7"x7"

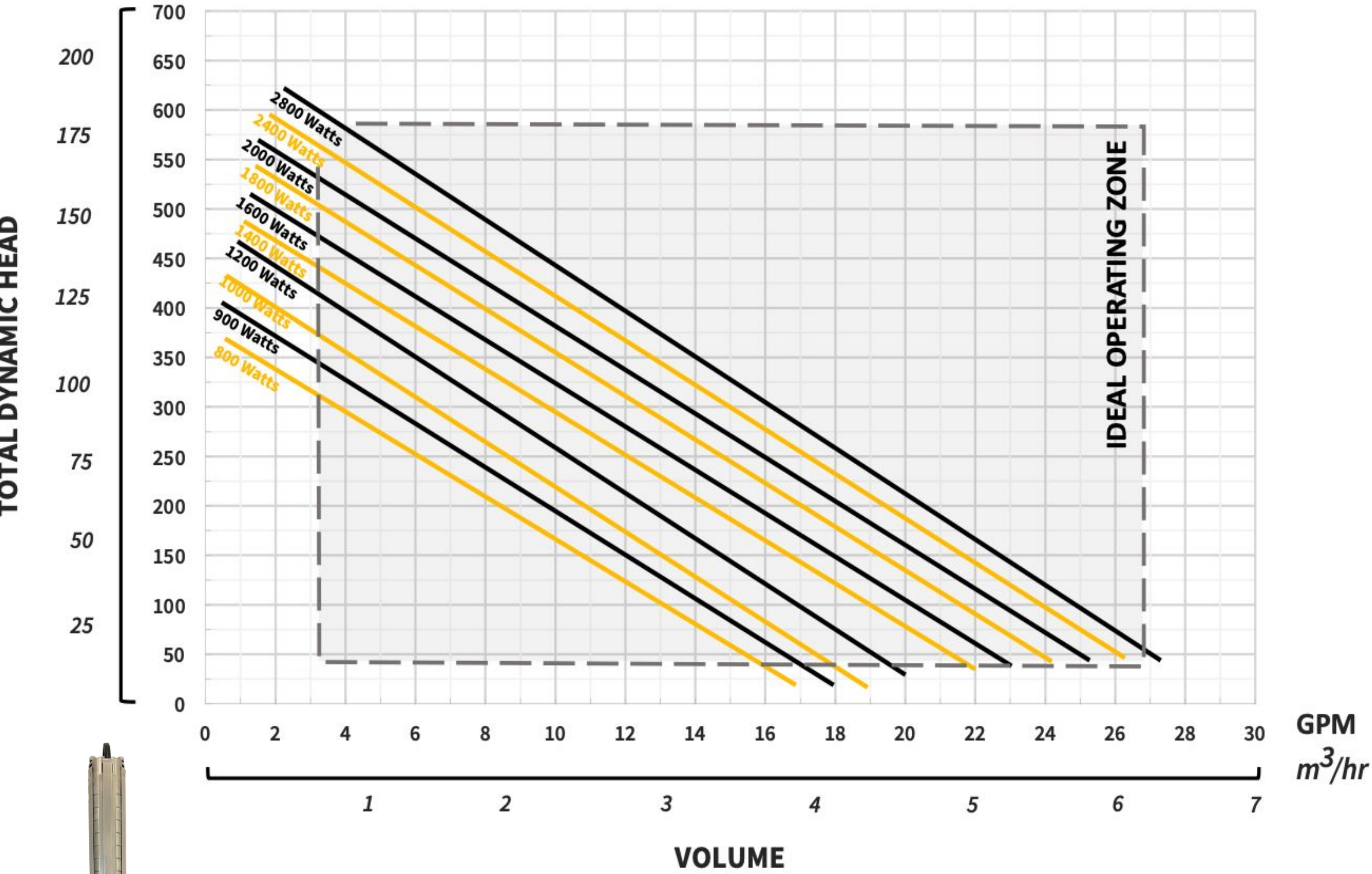
W4C-26-600



SOLAR + AC VOLUME

The W4C-26-600 is a medium volume centrifugal solar pump with a 4" OD pump end to allow for operation at higher pumping head for those deeper wells, while maintaining impressive volume. Featuring up to 3HP motor, it is ideal for larger livestock projects, households and projects where the water is a bit deeper.

METERS FEET



Input Voltage:
60-380V
Max Voc 440v

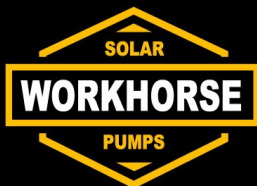
Input Wattage:
Standard 600 - 3200w

Sand/Particulate Tolerance: Good

PSC300 Controller
(Not required. Only used if Tank/Pressure Shutoff or AC power needed)

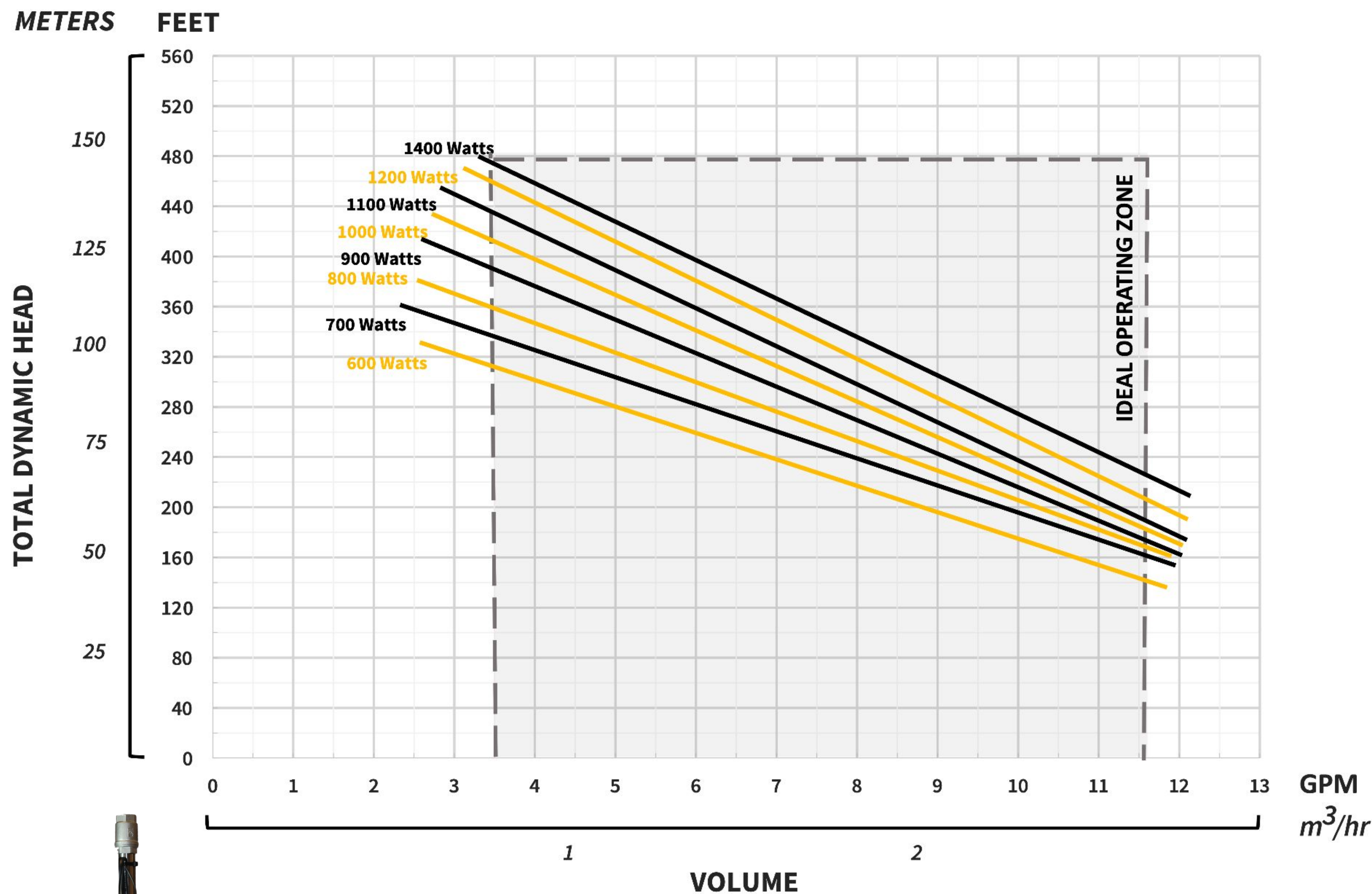
Diameter / Length
3.95" / 45.25"
Pump Outlet
1.25" FNPT
Weight
39.0 lbs
Box Dimensions
48"x7"x7"

W4H-12-450



SOLAR + AC DEEP

The W4H-12-450 is a medium volume helical solar pump with a 4" OD pump end to allow for operation at higher pumping head for those deeper wells, while maintaining impressive volume. Featuring up to 1.5HP motor, it is ideal for livestock projects, households and projects where the water is a bit deeper than a centrifugal pump can handle.



Input Voltage:

60-380V
Max Voc 440v

Input Wattage:

Standard 400 - 1600w

Sand/Particulate Tolerance: Low

PSC300 Controller

(Not required. Only used if Tank/Pressure Shutoff or AC power needed)

Diameter / Length

3.95" / 52.50"

Pump Outlet

1.25" FNPT

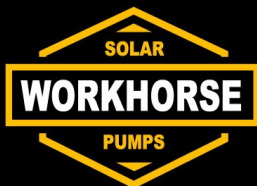
Weight

36.0 lbs

Box Dimensions

60"x7"x7"

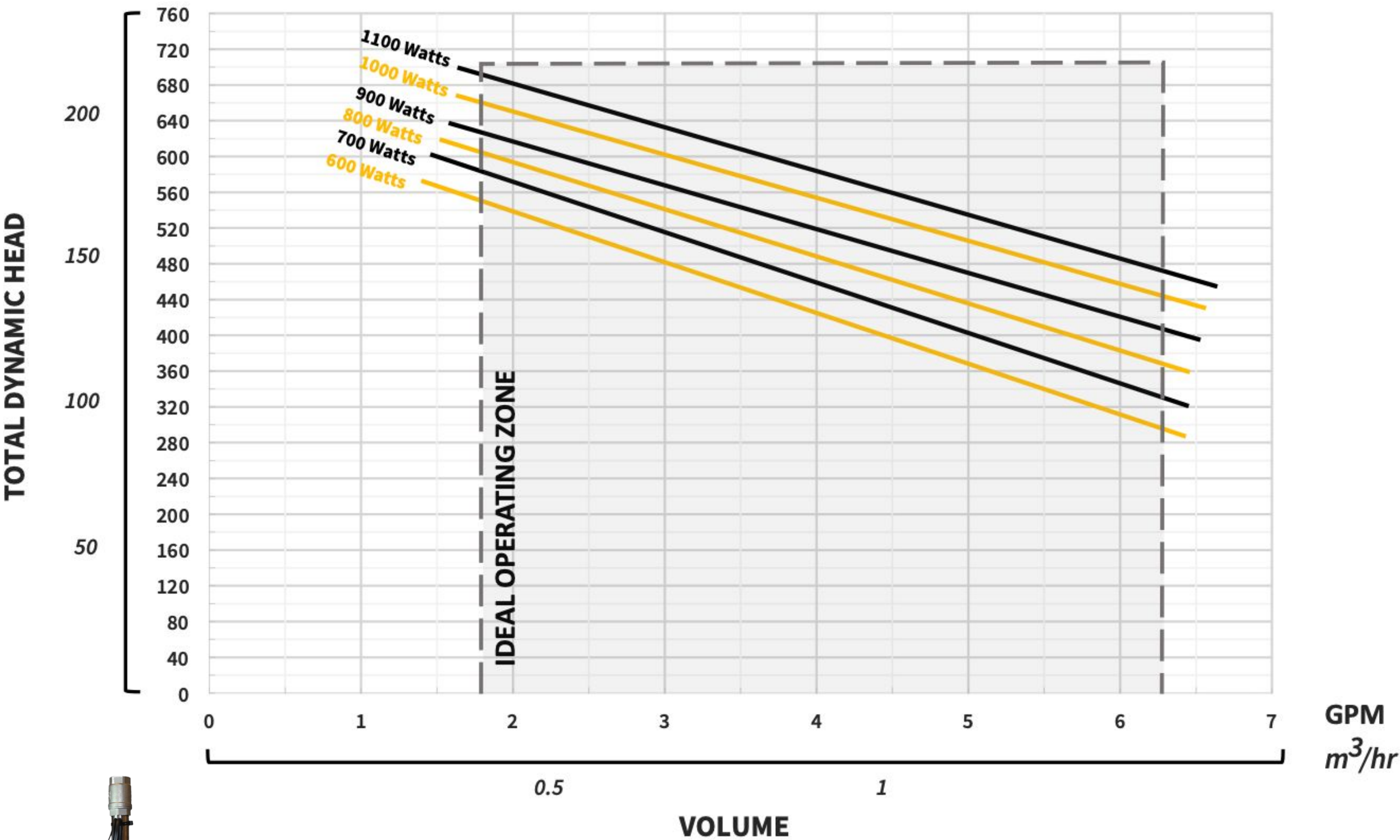
W4H-6-650



SOLAR + AC DEEP

The W4H-6-650 is a medium volume helical solar pump with a 4" OD pump end to allow for operation at higher pumping head for those deeper wells, while maintaining impressive volume. Featuring up to 1.5HP motor, it is ideal for livestock projects, households and projects where the water is a bit deeper than a centrifugal pump can handle.

METERS FEET



Input Voltage:
60-380V
Max Voc 440v

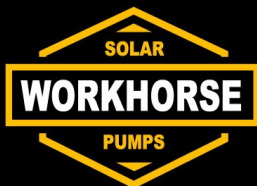
Input Wattage:
Standard 400 - 1600w

Sand/Particulate Tolerance: Low

PSC300 Controller
(Not required. Only used if Tank/Pressure Shutoff or AC power needed)

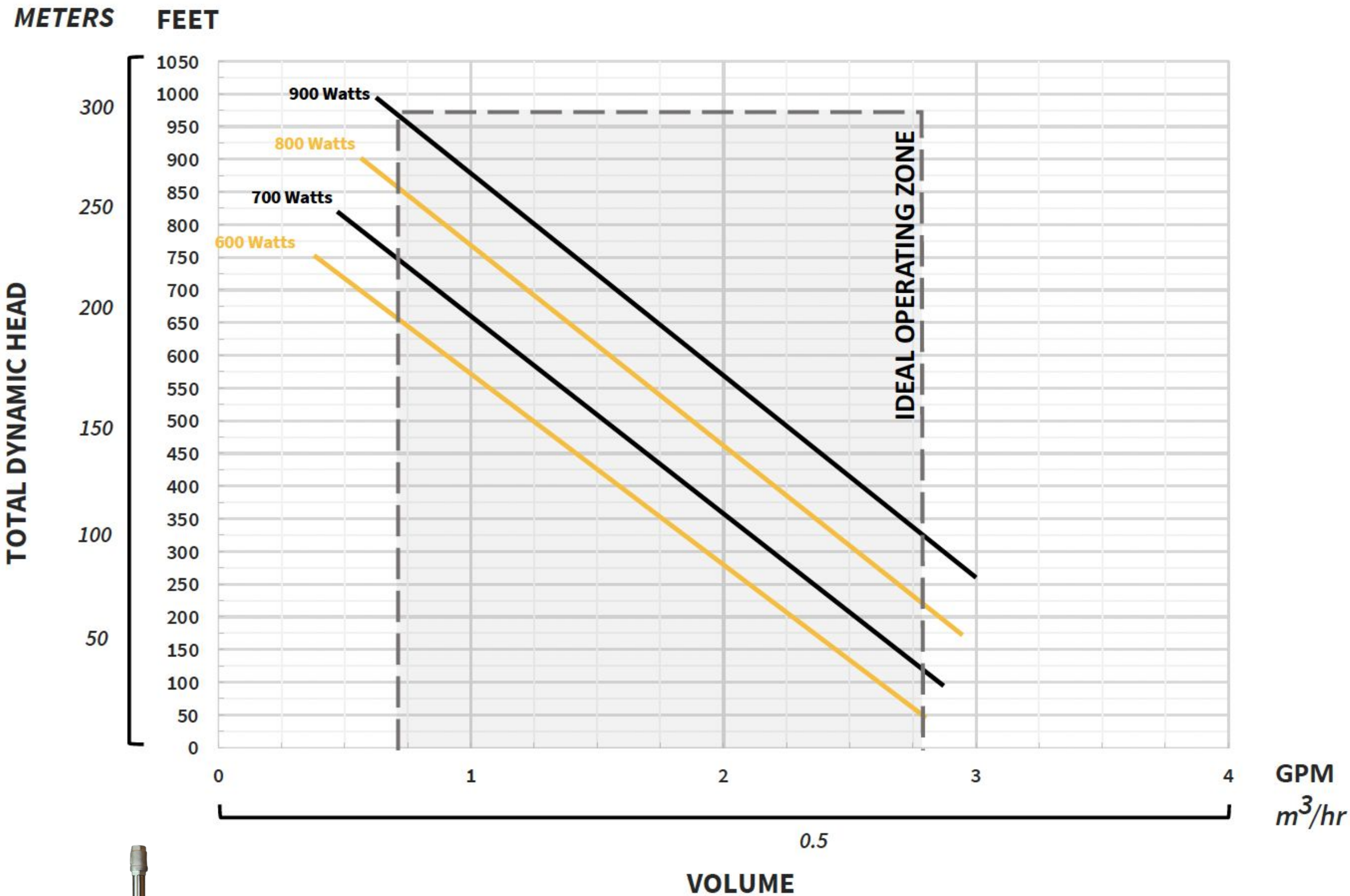
Diameter / Length
3.95" / 52.50"
Pump Outlet
1.25" FNPT
Weight
36.0 lbs
Box Dimensions
60"x7"x7"

W4H-3-950



SOLAR + AC DEEP

The W4H-3-950 is a low volume helical solar pump with a 4" OD pump end to allow for operation at very high pumping head for those especially deep low producing wells.. Featuring up to 1.5HP motor, it is ideal for larger deep livestock wells, households and projects where the water is a very deep.



Input Voltage:
60-380V
Max Voc 440v

Input Wattage:
Standard 400 - 1600w

Sand/Particulate Tolerance: Low

PSC300 Controller
(Not required. Only used if Tank/Pressure Shutoff or AC power needed)

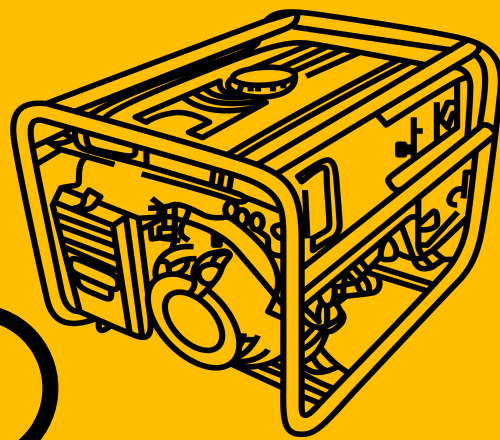
Diameter / Length
3.95" / 51.40"
Pump Outlet
1" FNPT
Weight
35.0 lbs
Box Dimensions
60"x7"x7"

PSC300

CONTROLLER



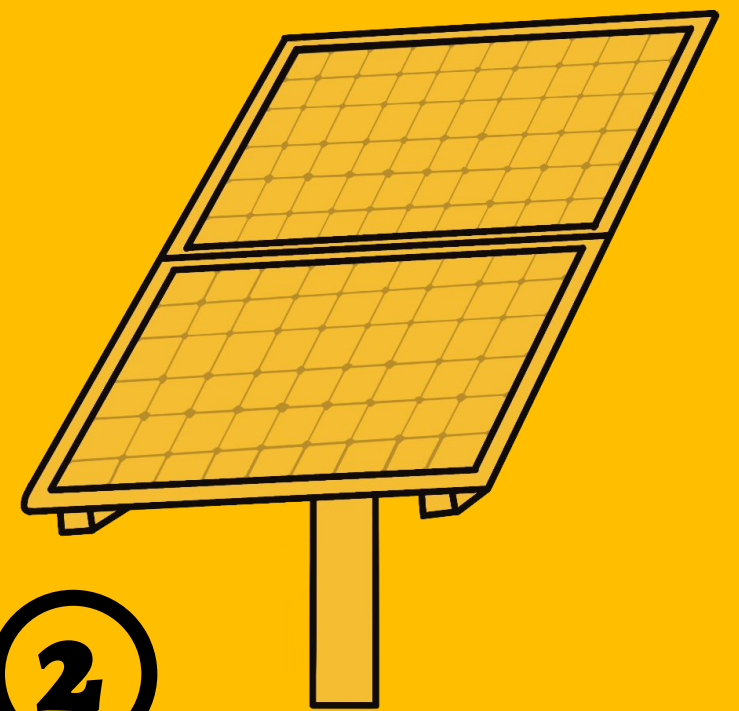
1



AC Power Backup

BUILT IN OPTION TO AUTOMATICALLY SWITCH BETWEEN SOLAR AND 110V OR 220V AC POWER. CAN BE USED WITH 2,000-4,000W GENERATOR DEPENDING ON MODEL.

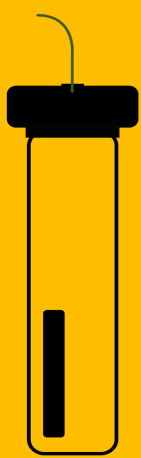
2



Solar Input

CONNECTS TO SOLAR ARRAY THROUGH DC CUT-OFF SWITCH AND PLUG N' PLAY WIRING.

3



Low Water Sensor

OPTIONAL. SITS A FEW FEET ABOVE PUMP IN WELL. NOT REQUIRED ON CENTRIFUGAL PUMPS, PREVENTS W4H HELICAL PUMPS FROM RUNNING DRY.

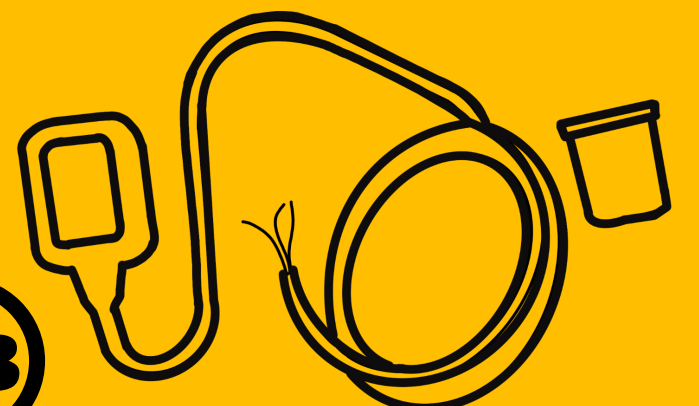
4A



Pressure Switch

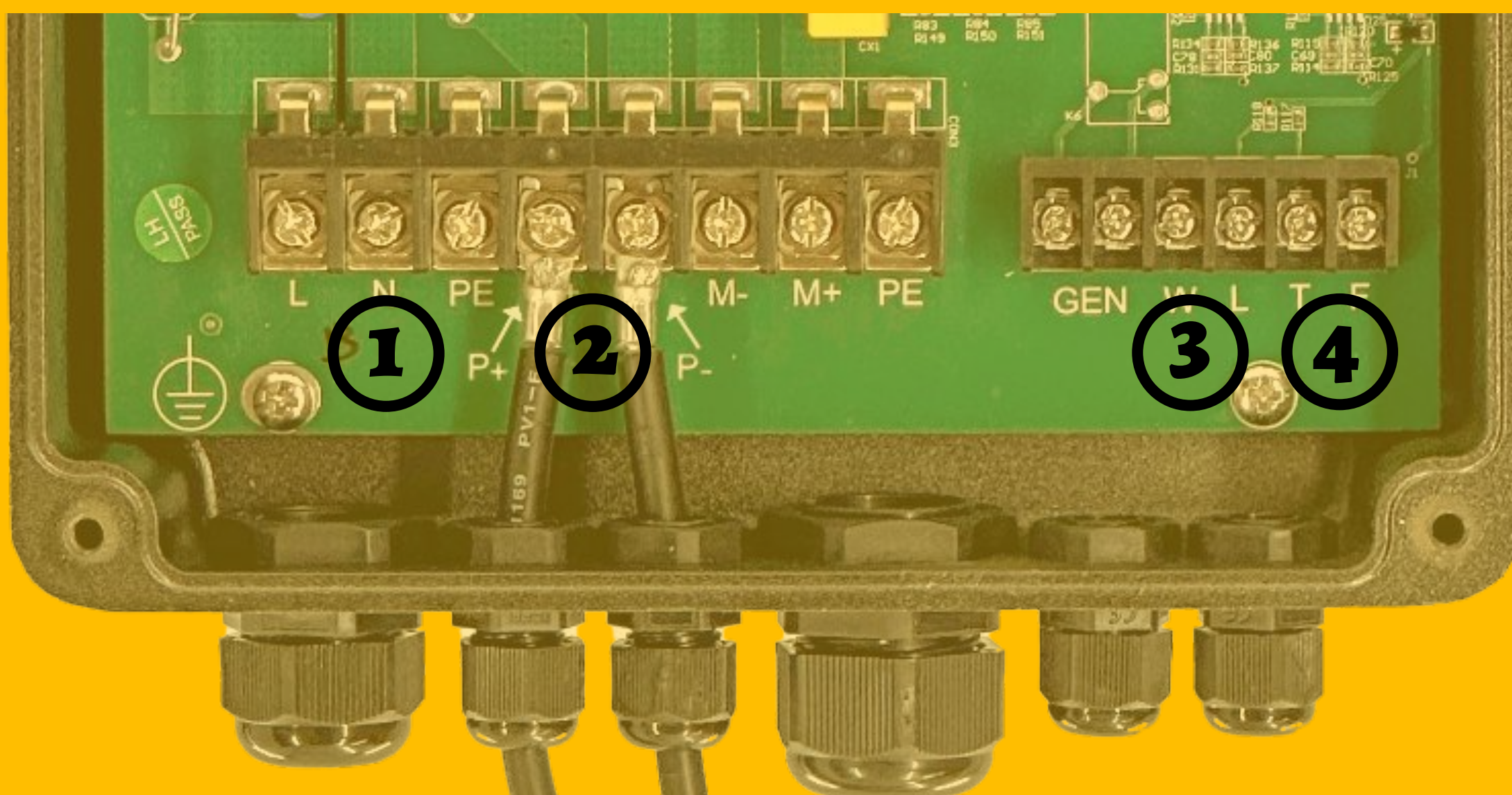
OPTIONAL. USE REVERSE-ACTION SWITCH WHEN PRESSURE IS NEEDED TO SHUT-OFF YOUR SYSTEM. USE FOR LONG DISTANCES BETWEEN TANKS, PRESSURE TANK OR IRRIGATION NEEDS.

4B



Float Switch

OPTIONAL. PROVIDES AN ELECTRICAL SIGNAL TO CONTROLLER WHEN THE TANK IS FULL, AND CONTROLLER SHUTS PUMP OFF IN RESPONSE.



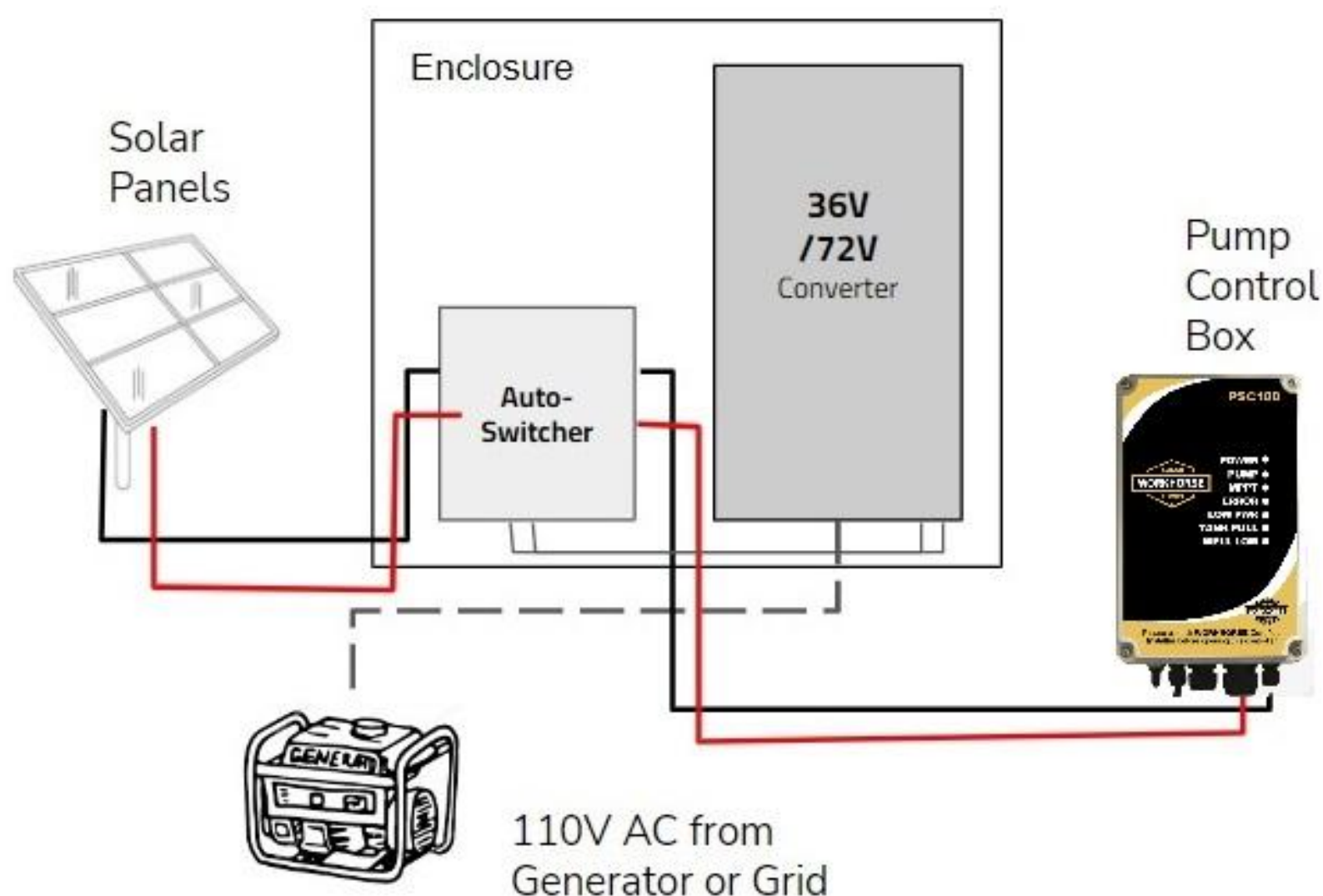
ACCESSORIES



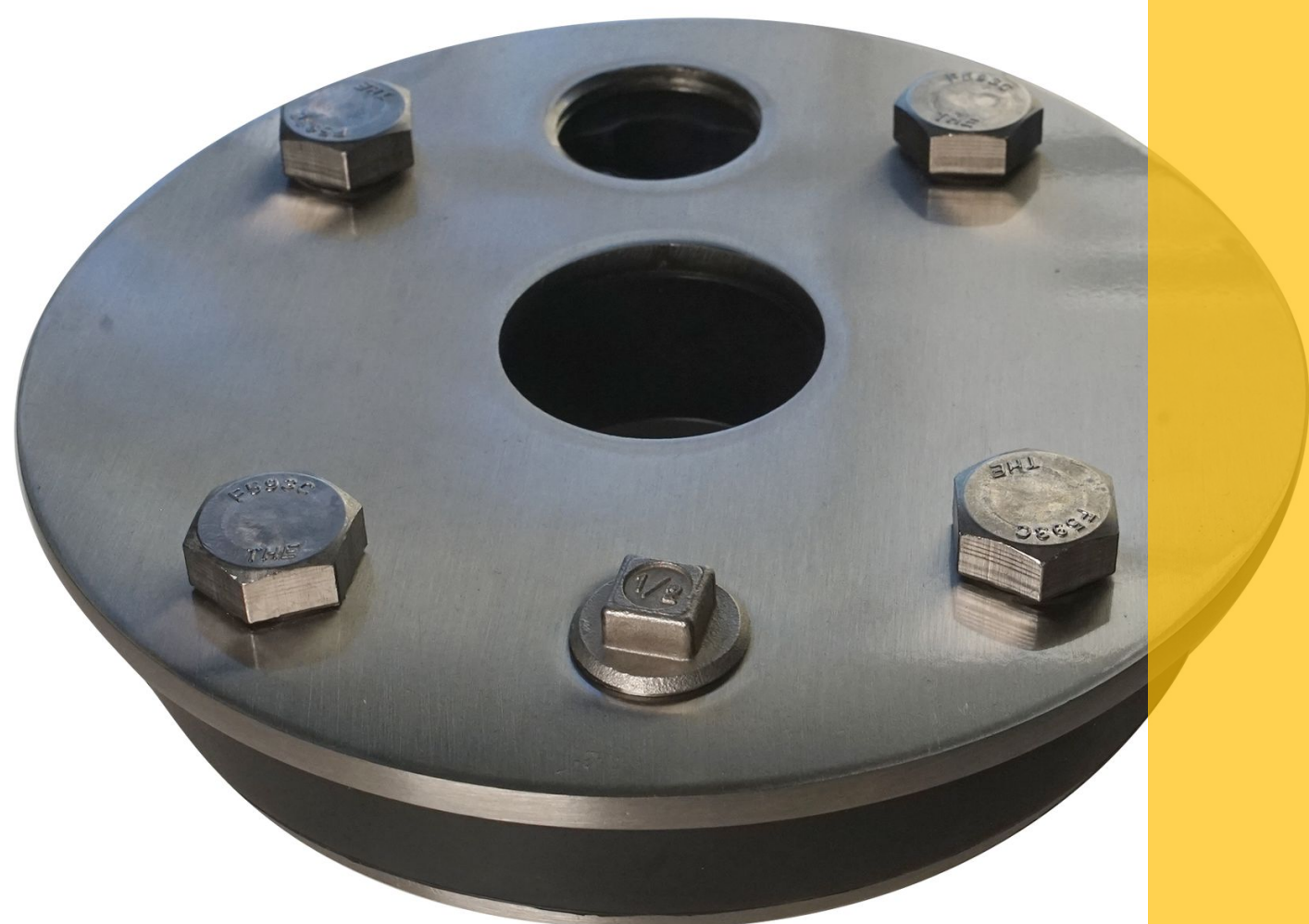
AC to DC Auto-Switcher

This Auto-Switcher can take 110V AC power from the grid or a generator and convert it to DC power to run your pump when sun isn't shining. 36V and 72V converters are set to a fixed voltage, and will prioritize solar whenever available. Compatible with W2H, W3H, W3C, and W3DC pump models.

5 feet of solar wire
5 feet of ac wire + three prong plug



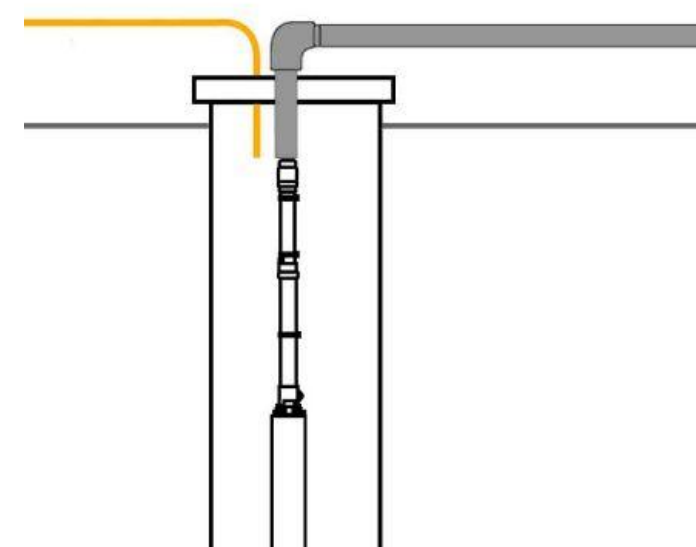
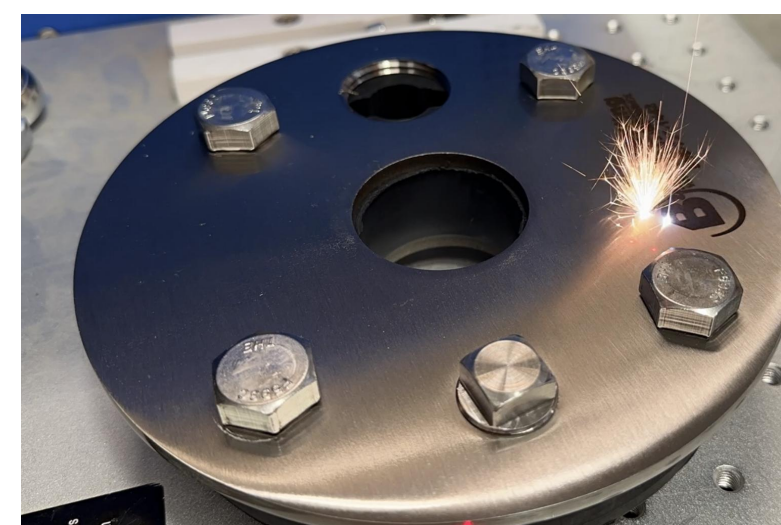
Stainless Steel Well Seals



Made of superior high quality 304 stainless steel. High weight load capacity - perfect for hanging submersible pumps in deep wells.

Ask us about custom laser-engraving options!

Fits Casing Diameters:
4", 5", 6" and 8"
Pipe Hole: 1.25"
Auxiliary hole for wiring
Rubber gasket expands for tight fit



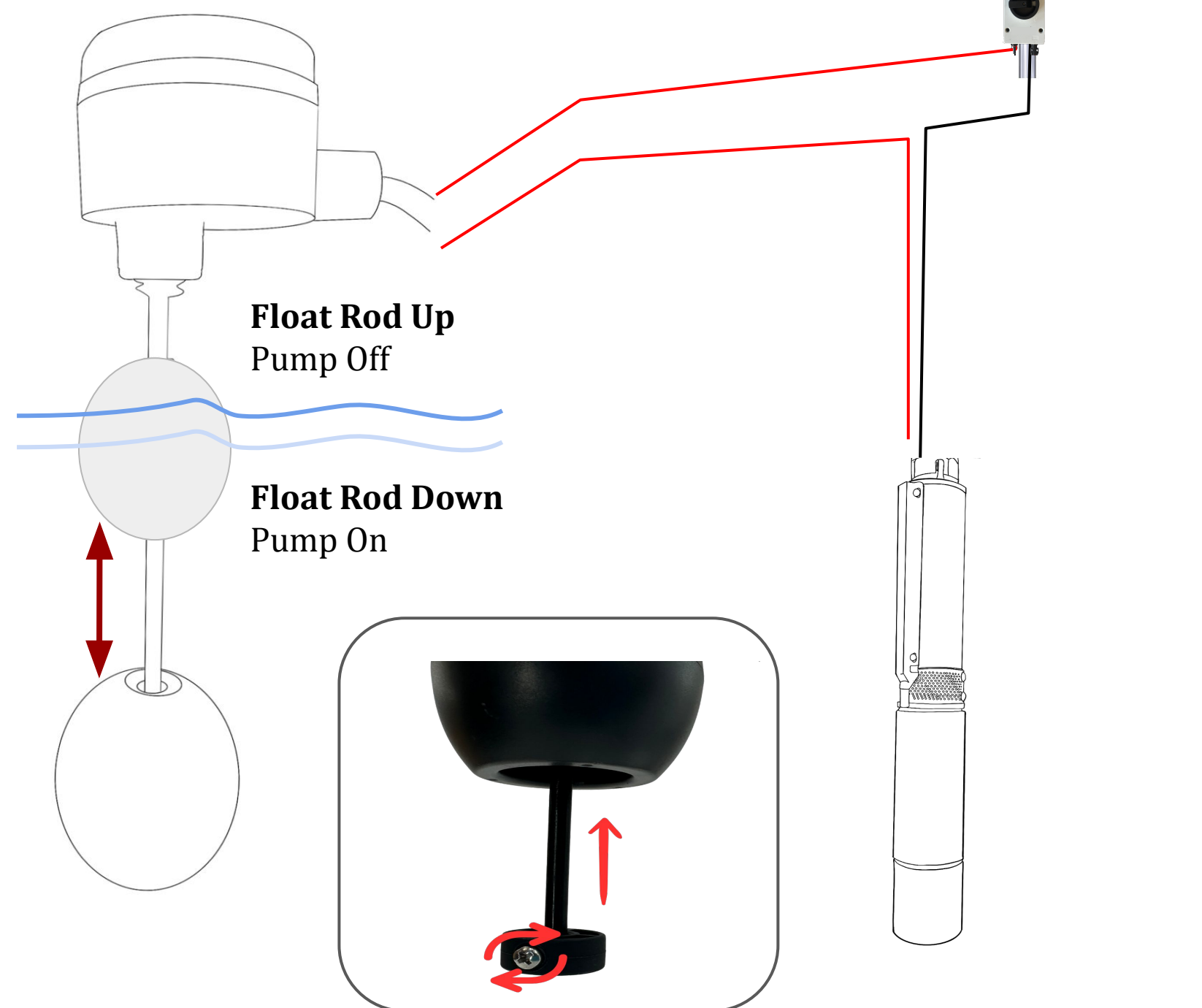
ACCESSORIES



High Voltage DC Float Switch

Finally a float switch designed specifically for solar pumps! For years we'd been searching for a tank float that could handle higher DC voltages, but nothing met our standards... so we built it ourselves!

Rated up to 250V DC



Stainless Fittings



We stock a wide range of high quality 304 stainless steel fittings in common sizes as well as hard-to-find adapters. Let us know what you need to complete your installation!

- Tees
- Couplers
- Plugs
- Nipples
- Reducing couplers
- Bushings
- Check valves
- Ball valves
- Flow control valves



WIRELESS TANK SENSOR



Avoid installing thousands of feet of tank-full sensor wire! After years of customer requests and development comes our easy to use wireless tank sensor. No more trenching, no more running hundreds of feet of wire, and no more damaged underground wires! Compatible with all of our WORKHORSE systems as well as other Solar, VFD and AC Pumps. 120V and 240V control system options available (30A standard) as well as optional battery backup for 24 hour operation.

Systems come with a transmitter unit powered by a 10W solar panel and receiver unit powered by AC power or another 10W panel. Plug the units into their power source, hook up your tank float or tank sensor, connect to your pump controller and you are ready to go. Tested at over 2.5 miles line of sight (moderately flat land with trees and buildings in-between, will not work between two valleys with large hills blocking the signal). Never trench signal wires again!

“SAVED US! TRENCHED WIRE TO TANK GOT CUT SOMEWHERE IN A 2000FT RUN. THIS WIRELESS SHUTOFF SAVED US! INSTALLED QUICKLY. WORKS WELL.” -TOM, CA



Transmitter at Tank End

Transmitter Unit is installed at Water Tank connected to Float Switch or Float Sensor. Includes: Tank Float Switch, Solar Panel, Mounting bracket

- Wireless Technology: 433MHz LORA Spread Spectrum-Encrypted to prevent interference and crosstalk - No real world limit to number of units in the same area

Receiver Unit is installed at Controller and connects to the Tank Sensor terminals. Includes Wiring Jumpers, Solar Panel, Mounting bracket, Hardware

Receiver at Controller End

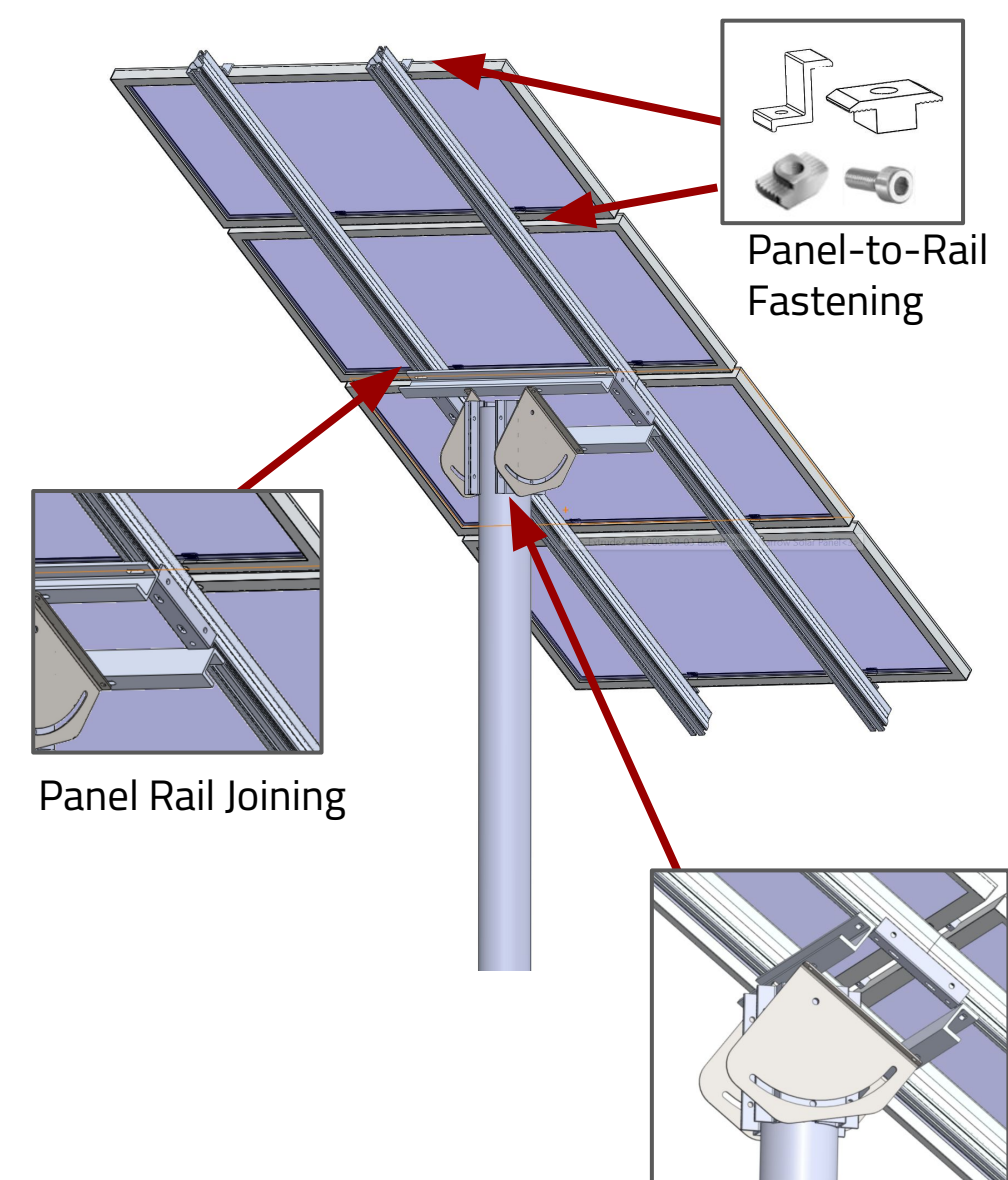




WORKHORSE ADJUSTABLE TILT TOP-OF-POLE SOLAR PANEL RACKS

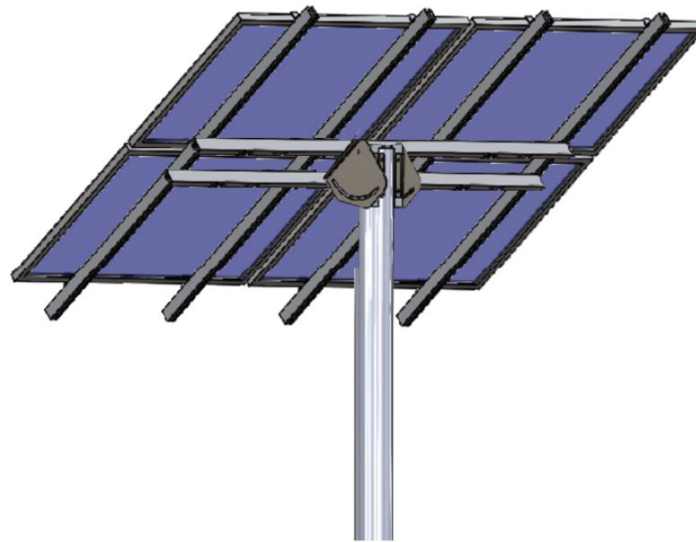
BUILT FOR YEARS THE FIELD

- 100% STAINLESS STEEL AND EXTRUDED ANODIZED ALUMINUM RAILS
- RUGGED LASER CUT STAINLESS STEEL PLATES
- RATED FOR UP TO 81 MPH WINDS
- CHOOSE BETWEEN SEASONAL ADJUSTMENTS OR YEAR ROUND ANGLE - UNIQUE TILT ABILITY
- SHIPPED FREE ALONGSIDE ANY **WORKHORSE** SOLAR PUMP SYSTEM



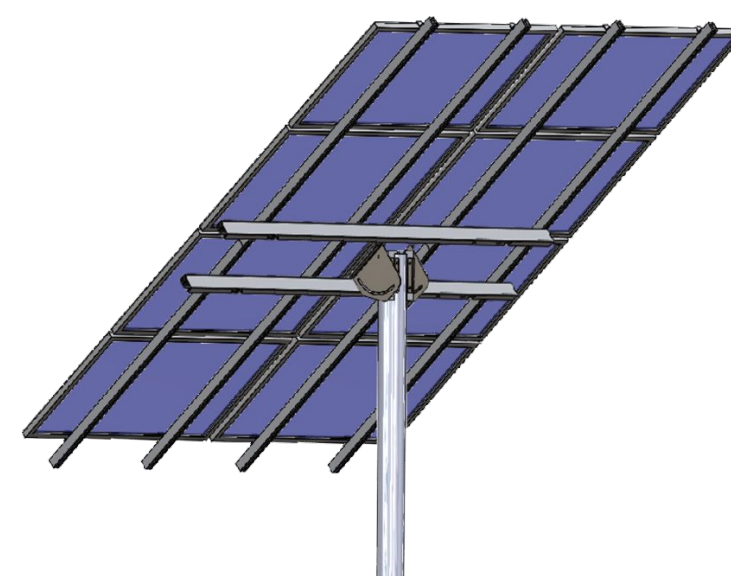
200 Watts
2P - 2 Panels

Mounts to 2" ID,
2-3/8" OD Steel Post



400 Watts
4P - 4 Panels

Mounts to 4" ID,
4-1/2" OD Steel Post



800 Watts
8P - 8 Panels

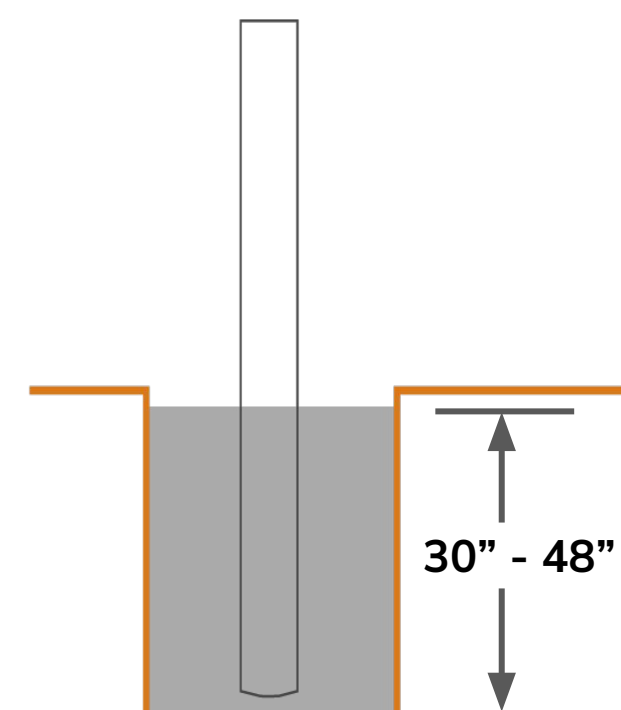
Mounts to 4" ID,
4-1/2" OD Steel Post

EASILY EXPANDABLE

*Easily upgrade from a 4P to an 8P Purchase the **4P-to-8P Upgrade Kit** that includes the needed hardware to expand the 4 Panel into an 8 Panel Mount on the same 4" post.*

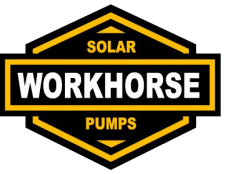
HOW TO MOUNT 12, 16 OR 30+ SOLAR PANELS

More than 800W? Using 300W+ panels? Use multiple 8P mounts to accommodate larger solar arrays of 1000W, 1200W, 1600W, 2400W and greater. If you'd like all the panels on a single mounting system ask about our Scalable Ground Mount options..



Bury the steel post 30-48 inches below the ground based on your sites frost line.

Solar Panel Specs



Our top choice: Back40 Solar 100W

Model: B40-M100W-38L

Peak Power: 100W Mono

Dimensions: **38.6 in x 20.9 in x 1.18"**

Weight: 13.2 lbs

Max Power Voltage (Vmp): 19.8V

Open Circuit Voltage (Voc): 23.4V

Max Power Current (Imp): 5.06A

Short Circuit current (Isc): 5.35A

Optional larger panels (freight required)

Model: Back40 B40-M375H

Peak Power: 375W Mono

Dimensions: **69.1 in x 40.9 in x 1.4"**

Weight: 43.0 lbs

Max Power Voltage (Vmp): 34.6V

Open Circuit Voltage (Voc): 41.1V

Max Power Current (Imp): 10.84A

Short Circuit current (Isc): 11.60A



UL1703 Certified per
Intertek ETL
Nationally Recognized
Testing Facility

Tested to Hail, Wind
Requirements,
IEC 612512 / IEC 61646

**UL1703 Standards
comply fully with NRCS**

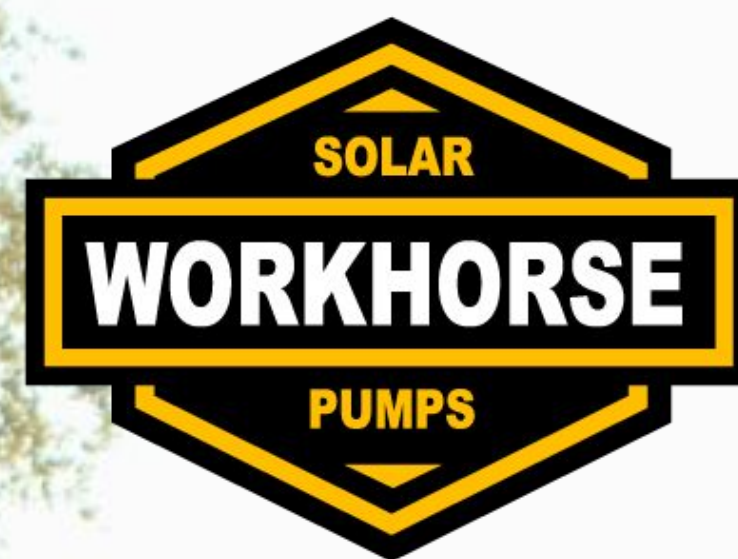
WHY 100W PANELS?

- Cost Effective
- Lighter Weight
- Easy to Expand Array in the Future
- Low Cost Replacement

100W solar panels are ideal if you are running single man crews, as they are easy to lift and install by a single person. Two man crews can split up the work and have a single person install the solar array without having to constantly ask for help lifting and holding solar panels. 100W panels are also extremely easy to ship via ground on any carrier, and the shipping cost is cheaper than sending larger panels via palletized freight. Customers who live in areas that receive hail prefer 100W panels, as replacement of a single 100W panel is more affordable than a 300W+ panel, and results in less pump downtime. 100W panels also allow for easy and building block-like array expansion over time as needs change.



You will link your solar panels together and connect to the controller by clipping **MC4 connectors** together. Each MC4 connector is either a male end or female end (see image). They simply snap together to make safe and easy connections.



**AS SEEN
FEATURED IN**

WWJ
WATER WELL JOURNAL

WorkhorsePumps.com

Call or Text: 916-623-4621

support@workhorsepumps.com