

# WORKHORSE builds Solar Pumps for hard working Americans

Workhorse was started with a vision that a more reliable **solar-powered well pump** was possible at a fraction of the cost. Our founders were sick of watching a massive European pump corporation profit off American Ranchers. The fight has become a true David & Goliath story of the underdog American company fighting against an international behemoth. Workhorse has gained fans and followers during our early years of design and testing, demonstrating the grit to stand up and fight these corporations competing in the American pump market.

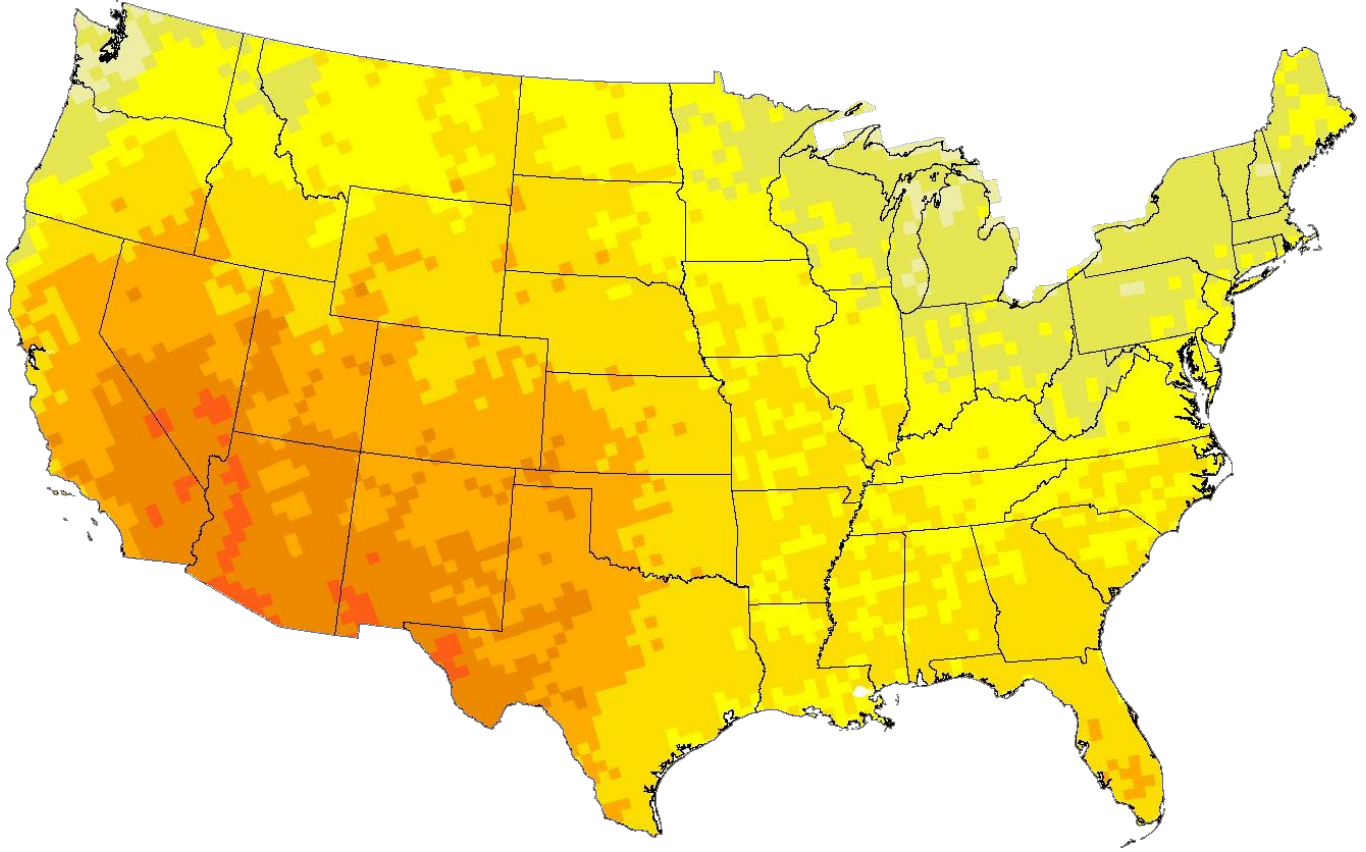
The Workhorse team here believes that **anything worth doing, is worth doing right**. Our lead design engineer is a former subcontractor for NASA, and has worked to incorporate proven pump technology and precision engineering with aerospace innovations in electronics and solar. Innovation that makes sizing, Installing, and operating easier than anything else on the market. We're blessed with the support of great investors and customers as we continue the fight against foreign pump corporations on American soil, one healthy hydrated herd, farm and family at a time.



**WORKHORSE. Hard  
working Solar Pumps for  
hard working Americans**



# Why More American Ranchers are choosing **WORKHORSE**



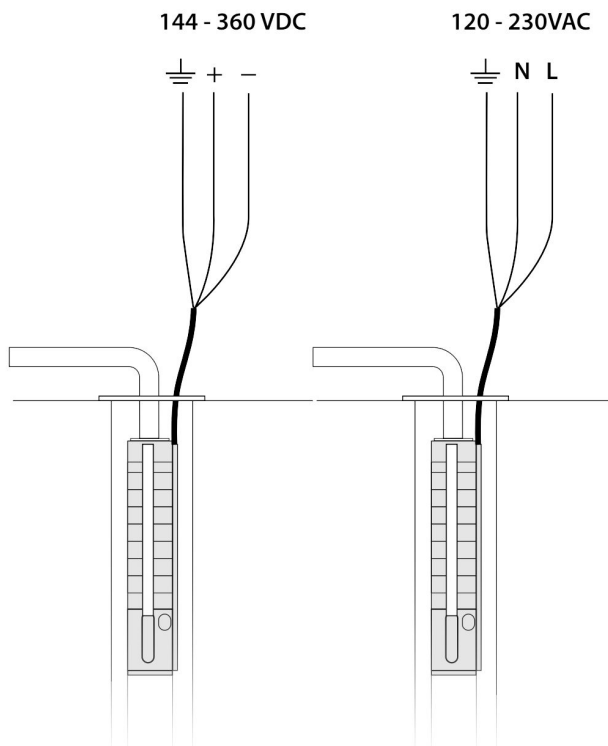
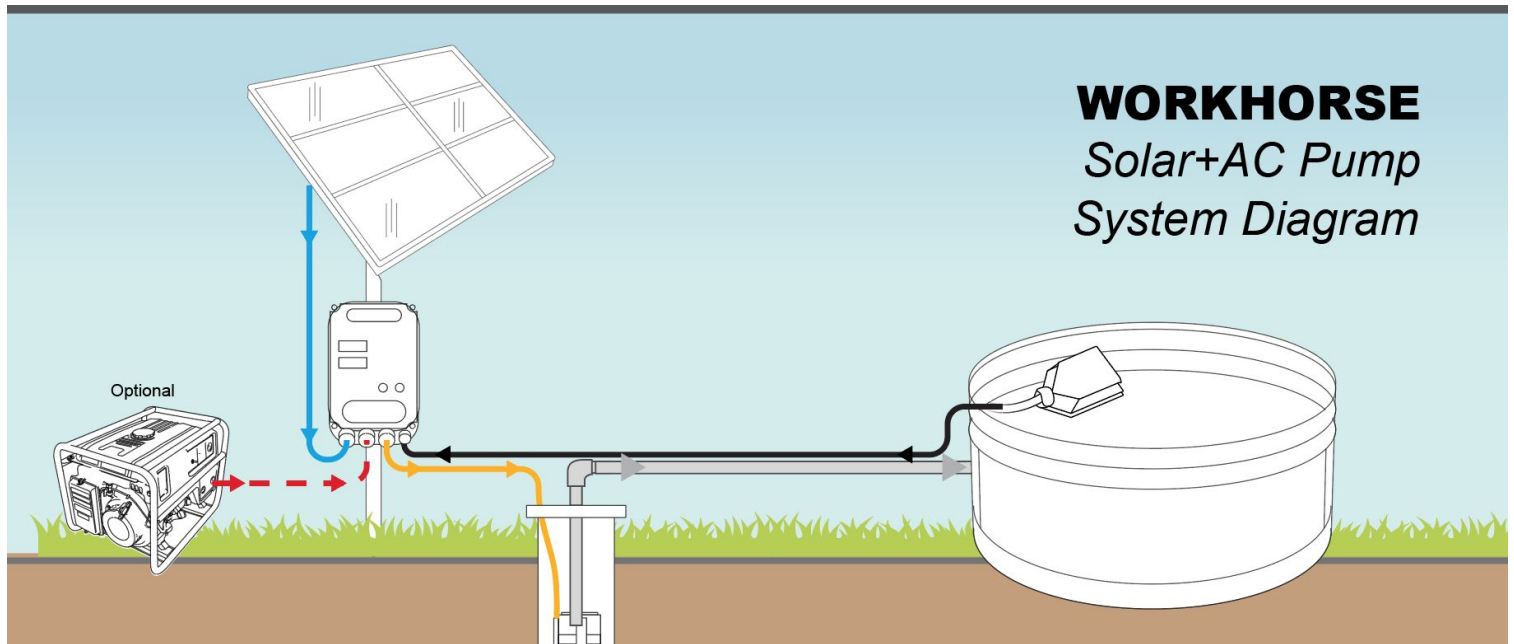
- More water with greater solar, motor and pump efficiency
- Better value with industry leading pricing & warranties
- More power options with 110VAC and 220VAC backup
- American company focused on selling solar pumps to American ranches
- Longer lasting components and field repairable parts here in the USA
- Meet all requirements for NRCS funding





# Solar+AC Pumps

- Permanent Magnet DC brushless motor
- AC/DC Switching Controller Optional
- Field Repairable Helical Mechanism
- Internal controller with MPPT function
- 304 Stainless Steel pump and motor
- Variable current & Over voltage protection
- Comprehensive 2 Year Warranty
- Water-lubricated thrust bearings
- Water-filled encapsulated motor
- Soft start and soft stop to extend life
- Built-in Run-Dry protection
- Variable load protection
- Laser welded stainless housing
- NRCS compatible



*Tank Sensor Compatible*

## Models:

W4C-26-600 W4H-12-450  
W4C-65-280 W4H-3-950  
W5C-125-80

## Input Voltage:

DC 60 - 360VDC Max Voc 450V  
AC 120 - 230VAC 50/60Hz

**Current Range:** 1.5 - 8A

**Power Input Range:**

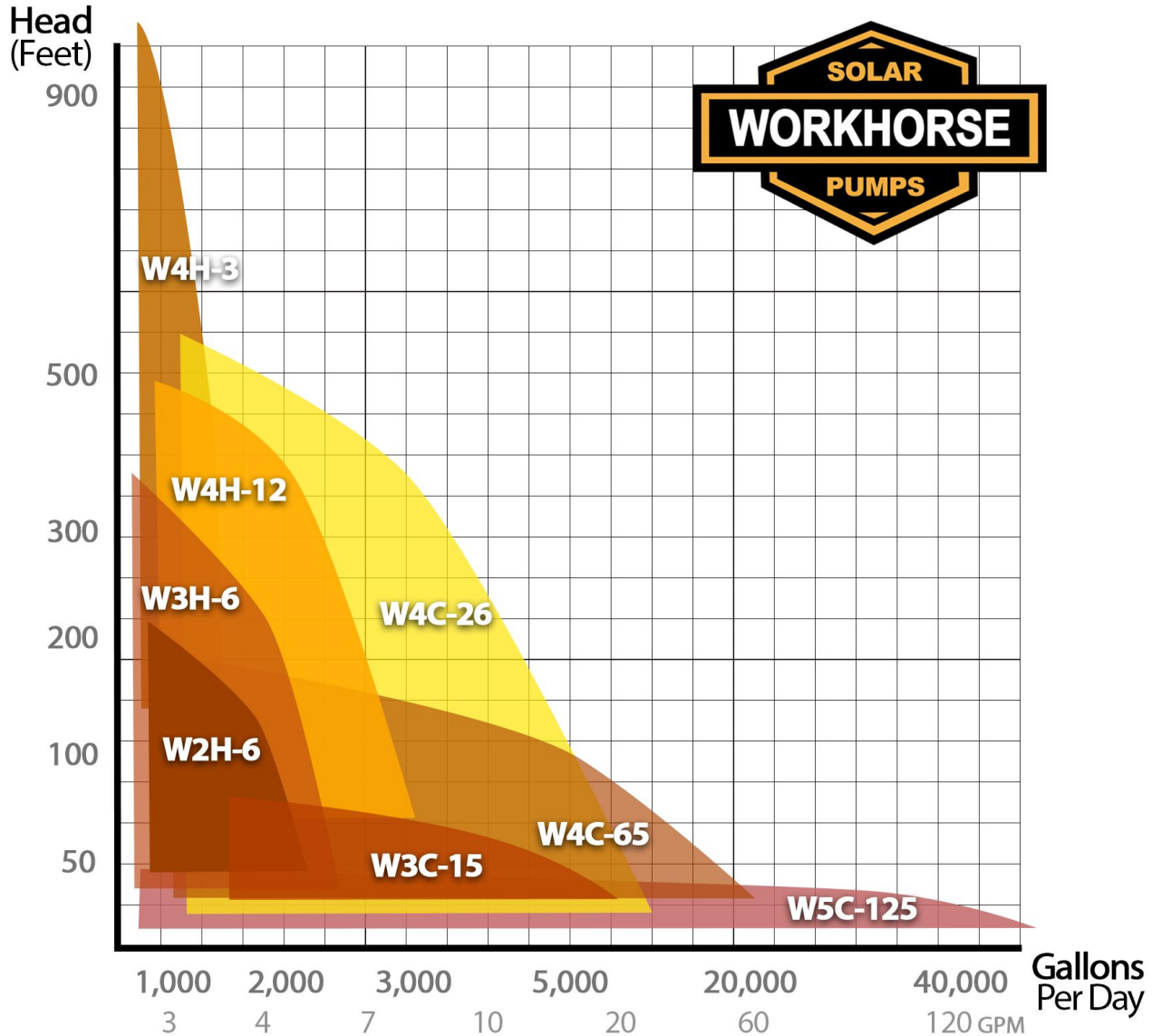
400w - 2400w

**Speed Range:** 500 - 4500RPM

**Diameter:** 4 Inch

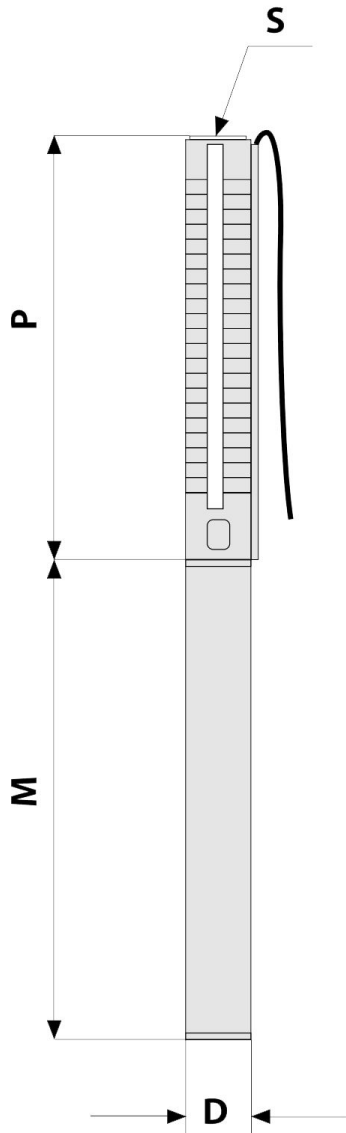
**Protection Class:** IP 68

# Model Selector



			Total Dynamic Head (ft)																	
Model	Watts Solar		16	32	49	64	98	128	160	192	262	328	394	459	525	591	656	787	919	TDH
W5C-125-80	400w		62	23																
5" Centrifugal	800w		96	65	33															
	1600w		129	108	82															
W4C-65-280	400w		30	26	18	10	4													
4" Centrifugal	800w		45	39	35	29	17	11												
	1600w		65	60	55	47	40	30	21	14	5									
W4C-26-600	400w		12	12	10	10	5	3												
4" Centrifugal	800w		20	19	14	13	12	11	10	7	4	2								
	1600w		28	24	23	22	19	18	17	15	12	9	7	5						
W4H-12-450	400w						10	8	7	6										
4" Helical	800w						15	14	12	11	9	7	4							
	1600w								16	15	11	11	10	8						
W4H-3-950	400w							3	3	3	3	3	3	2	2	1				
4" Helical	800w											3	3	3	3	3	3	2	1	

# Pump Dimensions

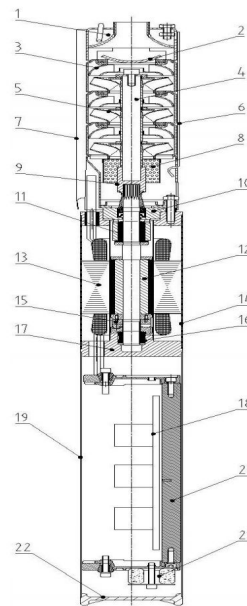


	W5C-125-80	W4C-65-280	W4C-26-600	W4H-3-950	W4H-12-450
<b>S</b>	2" FNPT	2" FNPT	1.25" FNPT	1" FNPT	1.25" FNPT
<b>D</b>	5"	4"	4"	4"	4"
<b>P</b>	20 3/4"	14 3/8"	20 5/8"	29 1/4"	30 3/8"
<b>M</b>	24 1/4"	24 1/4"	24 1/4"	24 1/4"	24 1/4"
<b>T</b>	45"	38 5/8"	44 7/8"	53 1/2"	54 5/8"
<b>W</b>	47 lbs	34 lbs	38 lbs	35 lbs	36 lbs

	W2H-	W3C-	W3C-	W3H-	W3H-
<b>S</b>					
<b>P</b>					
<b>M</b>					
<b>T</b>					
<b>D</b>					

**COMING  
SPRING  
2020**

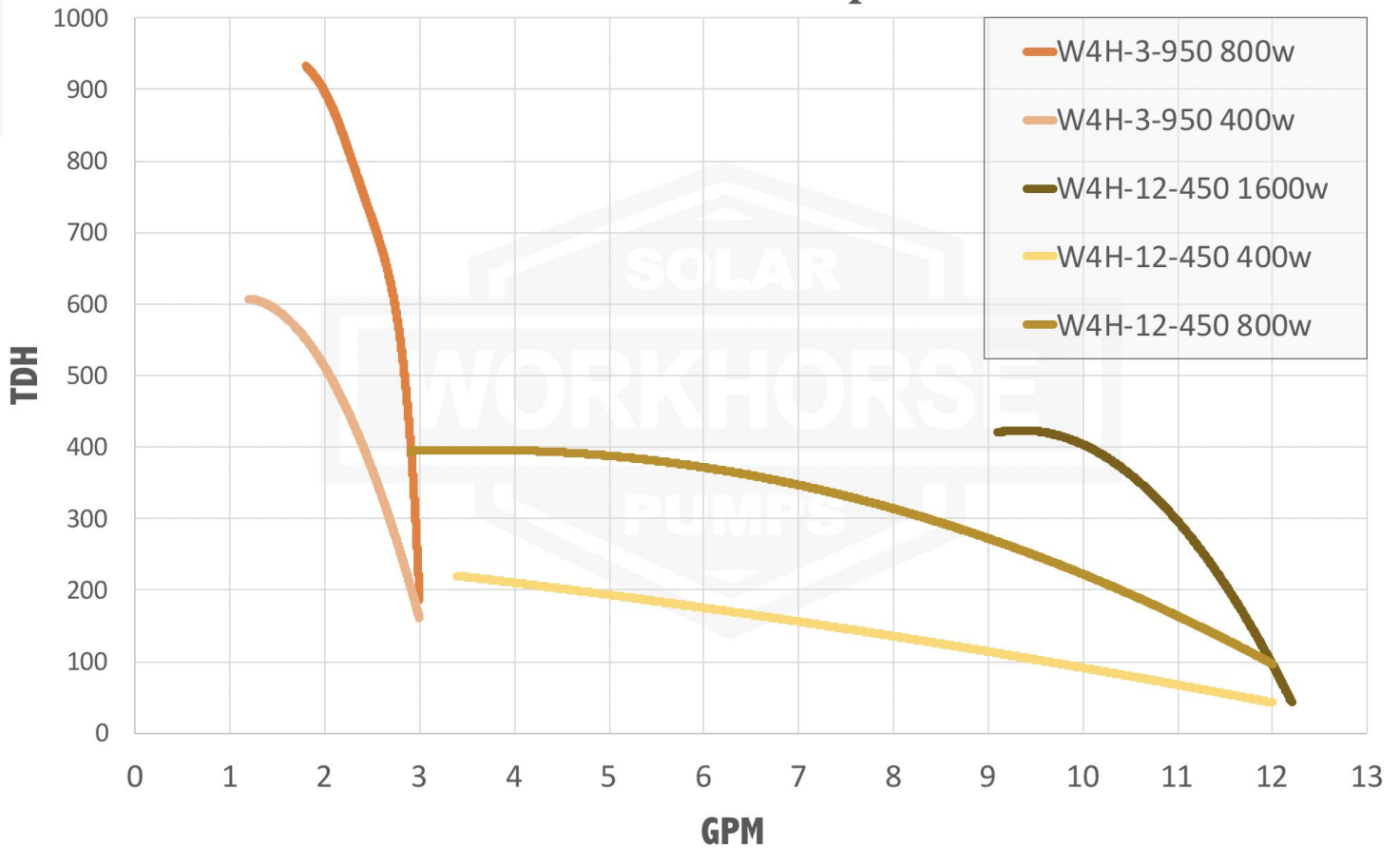
- 1 Discharge chamber *Stainless steel*
- 2 Non-return valve *Stainless steel*
- 3 Guide vanes *PC/Stainless steel*
- 4 Pump Shaft *Stainless steel*
- 5 Impeller *POM/Stainless steel*
- 6 Impeller Fastener *Stainless steel*
- 7 Cable Cover *Stainless steel*
- 8 Pump Inlet *Stainless steel*
- 9 Shaft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



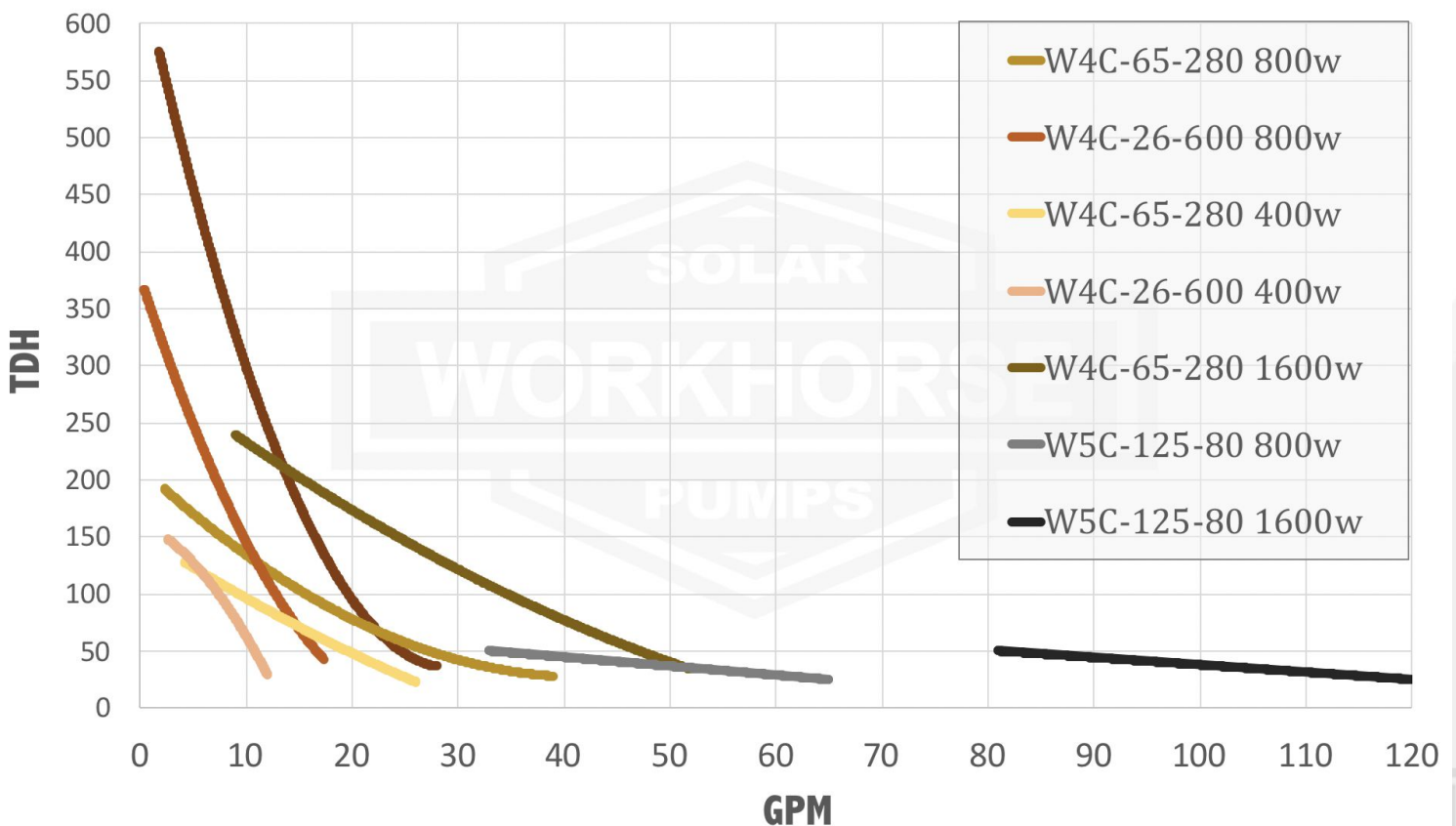
- 12 Permanent Magnet Rotor
- 13 Motor Stator
- 14 Pump Housing *Stainless steel*
- 15 Thrust bearing *Graphite*
- 16 Lower Bearing *Silicon Carbide*
- 17 Lower Bearing Housing *Stainless*
- 18 Controller Housing *Stainless steel*
- 19 Controller Housing *Stainless steel*
- 20 Heatsink *Aluminium*
-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



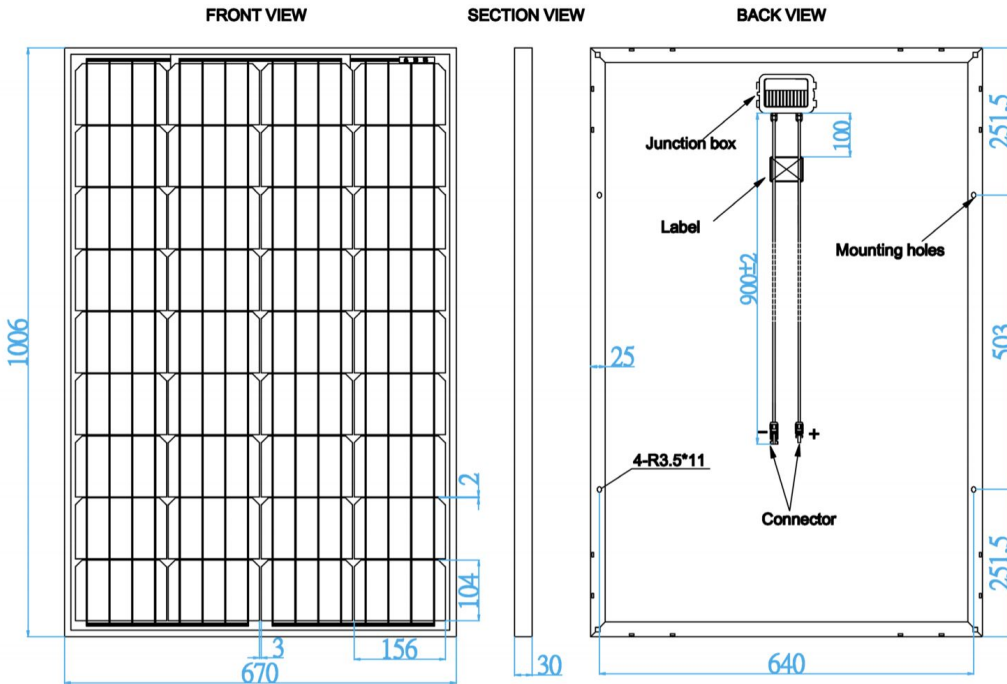
## WORKHORSE Deep Series



## WORKHORSE Volume Series



# Solar Panels



**Dimensions:** 39.6 in x 26.4 in x 1.2"  
**Weight:** 17 lbs

UL1703 Certified per Intertek ETL  
 Nationally Recognized Testing Facility

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

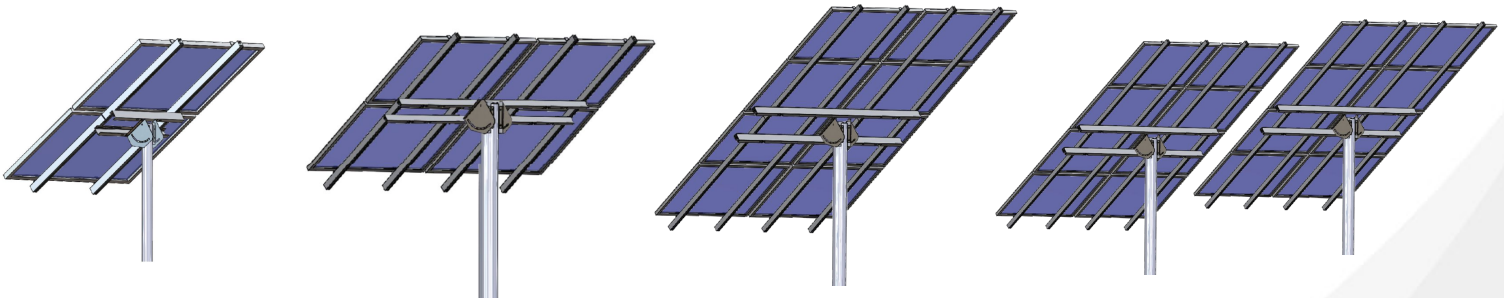
UL1703 Standards comply fully with NRCS

**Peak Power (Wp) : 100W**

Max Power Voltage (Vmp): 18.3V Open Circuit Voltage (Voc): 21.8V

Max Power Current (Imp): 5.47A Short Circuit current (Isc): 5.96A

## Solar Panel Configurations



**200 Watts**  
**2P - 2 Panel**  
 Adjustable Tilt Mount

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

**400 Watts**  
**4P - 4 Panel**  
 Adjustable Tilt Mount

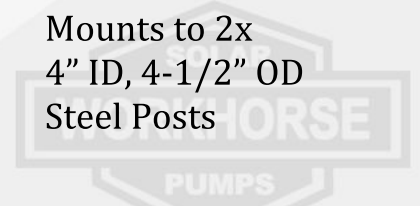
Mounts to 4"  
 ID, 4-1/2" OD  
 Steel Post

**800 Watts**  
**8P - 8 Panel**  
 Adjustable Tilt Mount

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

**1600 Watts**  
**2x 8P Mounts**  
 Adjustable Tilt Mount

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







# Narrow Solar Pumps

2 inch & 3 inch Direct Drive Solar Pumps



**Power:** 200w – 800w

**Input Voltage:** DC 24 – 90VDC

*Voc Max 100V*

**Range:** 1.4 – 12A

**Speed:** 1000 – 4500RPM

**Option**

**IP 68**

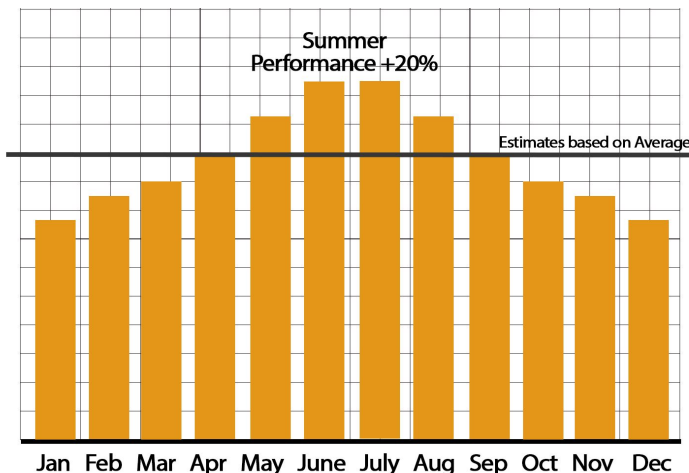
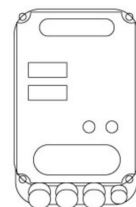
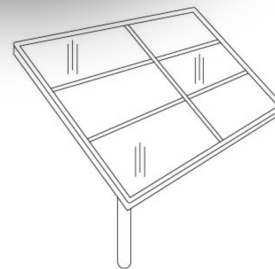
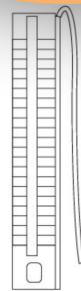
**COMING  
SPRING  
2020**

**NEW** W2H-6-200  
**DEEP 2 Inch Narrow**

*Narrow Series 2.01" heli*  
*for tight casings.*

## 3 INCH PUMPS

*Coming Spring 2020*





Learn more at  
**workhorsepumps.com**



Call, Text or Email Us Anytime  
with Technical Questions

**916-623-4621**

**support@workhorsepumps.com**

