

Spiral Hydraulic Power Unit "PicoPica"

Manufactured by Sumino Co., Ltd. Japan

November 27, 2020

Specification

Model		PicoPica 10	PicoPica 100	PicoPica 500		
Generator ⁽¹⁾	Rated Power	10W		500W(300rpm)		
	Number of Revolutions	-		100rpm	200rpm	300rpm
	Voltage	6.0V		59.7V	119.7V	178.6V
	Current	0.4A	-	1.00A	2.01A	2.99A
	Power	2.4W		59.7W	240.3W	534.2W
Structural Dimensions ⁽²⁾	Length	Main Body (L1)	1085mm		3100mm (incl. protrusion)	
		with Foundation (L2) ⁽³⁾	-		3000mm (incl. protrusion)	
	Width	Main Body (W1)	280mm		656mm	
		with Foundation (W2) ⁽³⁾	-		764mm	
	Height	Main Body (H1)	385mm		700mm	
		with Foundation (H2) ⁽³⁾	-		2150mm	
	Weight		17.5kg		Main Body 500kg, Foundation 75kg	

(1) Output mode for PicoPica 100 and PicoPica 500 is three-phase alternating current.

(2) The values of Structural Dimensions are subject to change without notice.

(3) Foundation Frames for PicoPica 100 and PicoPica 500 are optional auxiliary attachments (removable).

Main Components

Model	Pico Pica 10	Pico Pica 100	Pico Pica 500
Spiral Blade	φ 198mm		φ 540mm
Generator	see Specification		see Specification
Rotary Ball Bearings	Inner φ 12mm		Inner φ 40mm
Accelerator	-		Speed increase ratio 4

Auxiliary Attachments

Model	PicoPica 10	PicoPica 100	PicoPica 500
6V LED Light designed for exclusive use	○		-
Battery ⁽¹⁾	-		Optional
Voltage Controller ⁽¹⁾	-		Optional
Foundation Frame ⁽²⁾	-		Optional

Optional auxiliary attachments are available at cost by order.

(1) Battery and Voltage Controller should be paired and synchronized to the voltage specified by the buyer.

(2) Foundation Frame is designed to provide a 30-degree elevation to the inflow end of the main body when installed on a flat and horizontal (without inclination) channel bed (see Elevation Angle in Effective Channel Conditions below).

Effective Channel Conditions (for reference only)

Model	PicoPica 10	PicoPica 100	PicoPica 500
Channel Platform Length (horizontal)	300mm		780mm
Rated Water-Flow Volume	10L/sec		100L/sec
Hydraulic Head	100mm		700mm
Elevation Angle	-	Inflow end of the main body to be elevated and placed at an angle of 30 degrees against the water surface at the hydraulic head	

Caution: All matters related to electricity must be handled by professional electricians.
The manufacturer shall be free of liability for any accident or mechanical and/or human damage caused by mishandling.

Notes:

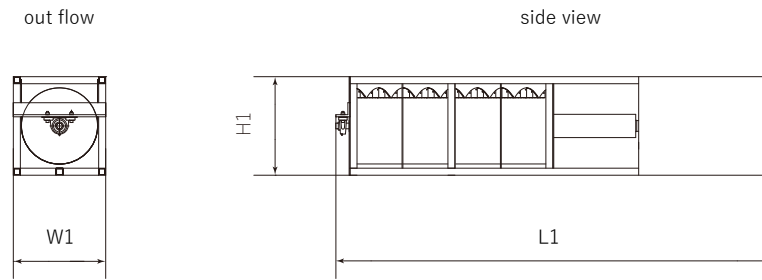
- PicoPica 10 is an educational model and it is not recommended for practical use. It will be shipped in a dismantled form in a cardboard casing.
- PicoPica 100 and PicoPica 500 can be used for practical purposes. Each model will be shipped in a fully assembled form in fumigated wooden casing. Availability of PicoPica 100 is to be announced.
- The rotary ball bearing is subject to wear. However, it can be removed and replaced without difficulty by screwing it off and on. Replacement bearings are available upon order at cost.

Spiral Hydraulic Power Unit "PicoPica500"

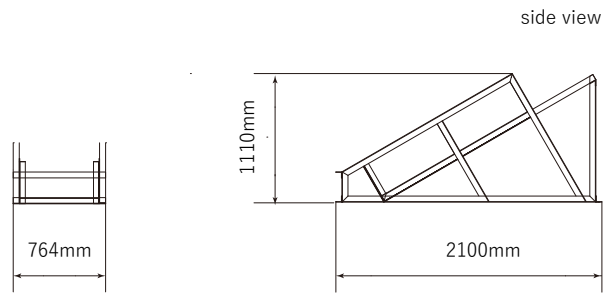
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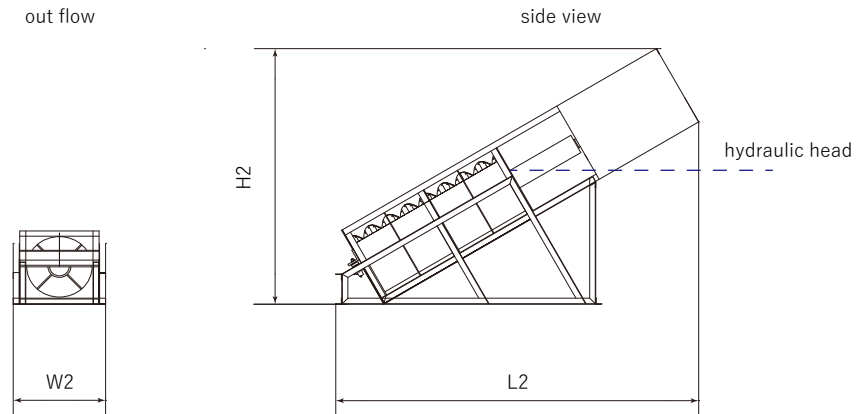
Main Body



Foundation Frame



Main Body attached to Foundation Frame



For stability Foundation Frame is supported on both sides by additional frame work to fit the structure of the channel.



The steel plate (Block Plate) blocks the flow of water to level up the water surface to the hydraulic head.

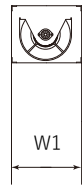
Spiral Hydraulic Power Unit "PicoPica10"

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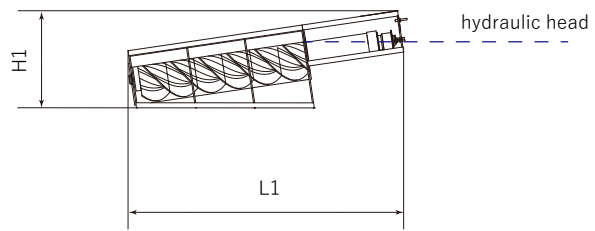
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Main Body

out flow



side view



Children discussing how to assemble the parts.



PicoPica 10 is structured with an appropriate elevation and a block plate to the inflow end and can be placed as it is on a flat and horizontal channel bed. The 6V LED light is a specially made auxiliary. It lights up when the generator is functioning normally. It can be used to light up the walkway or for security.



PicoPica 10 is shipped in a dismantled form in a cardboard casing. Children will have fun assembling the parts.