TSURUMI PUMP

Single-phase
Portable Dewatering Pumps

LB/HS/NK
LSC/LSP

LB LB-A HS NK

LSC LSP

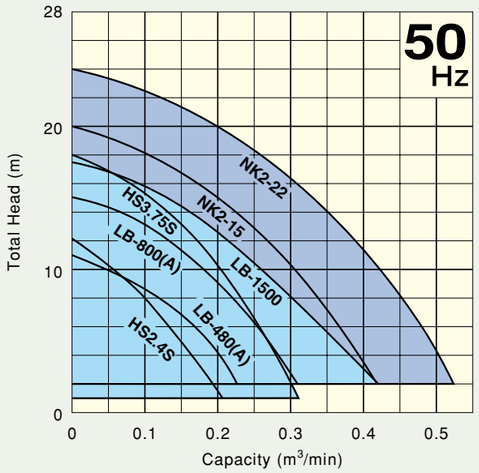
Amenics
Amenities from Technology for People and the Earth

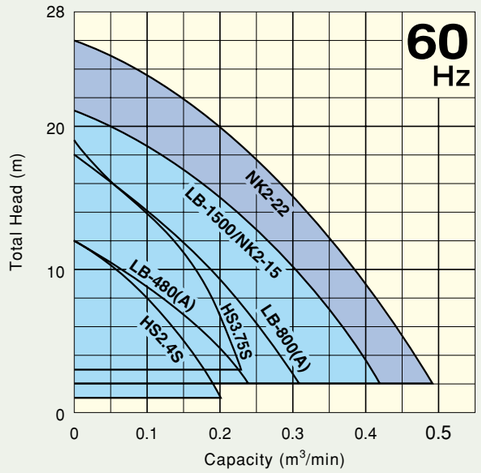
Specification Table

Category			Submersible Pump			
			General Dewatering			
Series			**LB**	**LB-1500**	**HS**	**NK**
Discharge Bore		mm	50 (80)	50 (80)	50 · 80 (50)	50
Motor	Output	kW	0.48 – 0.75	1.5	0.4 – 0.75	1.5 – 2.2
	No. of Poles		2	2	2	2
Discharge Design	Top Discharge	Flow-Thru	●	●		
		Side Flow				●
	Side Discharge				●	
Impeller			Semi-vortex	Semi-open	Semi-vortex	Semi-vortex
Automatic Operation			Electrode (LB-A)	—	Float (HSZ)	—
Page No.			3 – 4	5	6	7

Category			Submersible Pump	Non-submersible Pump
			Residue Dewatering	
Series			**LSC**	**LSP**
Discharge Bore		mm	25	25
Motor	Output	kW	0.48	0.48
	No. of Poles		2	2
Discharge Design	Top Discharge	Flow-Thru	●	●
		Side Flow		
	Side Discharge			
Impeller			Semi-vortex	Semi-vortex
Automatic Operation			—	—
Page No.			8	9

Selection Curves

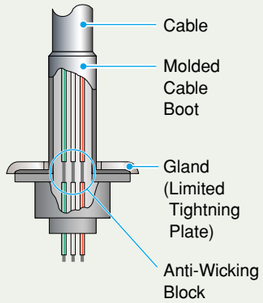




Common Features

Anti-Wicking Cable Entry

An anti-wicking block is provided at the cable entry section of the motor chamber. Even if the cable jacket becomes damaged or the tip of the cable is accidentally immersed in water, this device prevents water from traveling into the motor chamber through capillary action.



High-Performance Motor

Dry type, squirrel-cage induction motor, housed in a watertight casing, conforms to either insulation class B or E. In both of these classes, all standard pumps can be used in ambient temperatures up to 40℃.

Automatic Motor Protection Device

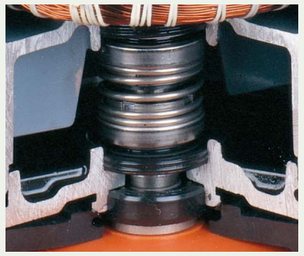
A built-in thermal motor protection device reacts to the heat caused by overcurrent or run-dry conditions. It not only cuts off the motor circuit automatically but also resets by itself. When the motor cools down to a safe operating temperature, the motor restarts.

Miniature Thermal Protector

Circle Thermal Protector

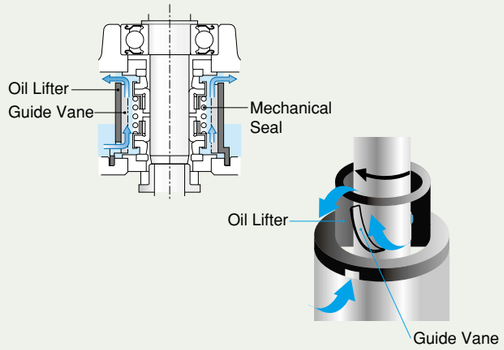
Dual Inside Mechanical Seal

A dual inside mechanical seal, located in the oil chamber together with the Oil Lifter, has two sealing faces made of quality materials, including silicon carbide (SiC). The advantages of this seal are two-fold; it eliminates spring failure caused by corrosion, abrasion or fouling, which can prevent the seal faces from closing properly, and prevents loss of cooling to the bottom seal faces during run-dry conditions, which causes the bottom seal to fail.



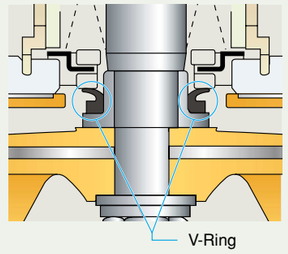
Oil Lifter (patent pending)

The Oil Lifter was developed as a lubricating device for the mechanical seal. Utilizing the centrifugal force of the shaft seal, the Oil Lifter forcibly supplies lubricating oil to the upper seal faces even if the lubricant falls below the specified volume. This amazingly simple device reliably lubricates and cools but also stabilizes the effect of the shaft seal and extends the length of the inspection period.



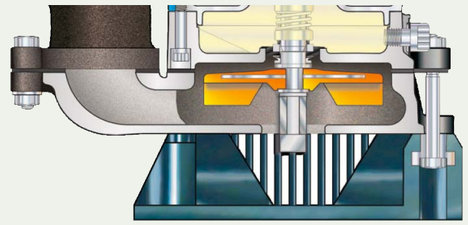
V-Ring
*Not Available on HS2.4S

A V-ring is mounted at the top of the impeller and is brought in close contact to the bottom of the mechanical seal by the internal pressure of the pump casing. This V-ring acts as a dust seal to prevent fine abrasive particles in the pumping fluid from reaching the mechanical seal.



Semi-Vortex Design
*Not Available on LB-1500 series

The “high-gap structure” used on the pump minimizes the “impeller lock” that can occur when the pump sucks in a large amount of sand at once. This structure is highly resistant to wear, and performance is largely unaffected even if the impeller becomes worn.



LB

General Dewatering Pumps

Light, Compact, Easy-to-Uses Tsurumi Typical Portable Pumps, Perfect for a Variety of Applications

Automatic Version

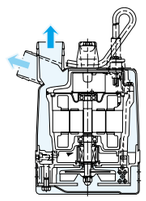
Major Standard Specifications

Discharge Bore mm			50(80)
Motor Output kW			0.48 - 0.75
Pumping Fluid	Type of Fluid		Rain, Spring, Ground, Sand Carrying Water
	Fluid Temperature		0 to 40°C
Pump	Structure	Impeller	Semi-vortex
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	Urethane Rubber
		Casing	Synthetic Rubber
		Suction Cover	Carbon Steel + Urethane Rubber
		Outer Cover	Carbon Steel
		Shaft Seal	Silicon Carbide
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole
	Insulation		Class E
	Phase/Voltage		Single-phase/ 110V, 220V, 230V, 240V
	Starting Method		Capacitor Run
	Protection Device (Built-in)		Miniature Thermal Protector/ Circle Thermal Protector
	Lubricant		Turbine Oil (ISO VG32)
	Materials	Frame	Aluminium Alloy Die-casting
		Shaft	403 Stainless Steel
		Cable	PVC

Individual Features

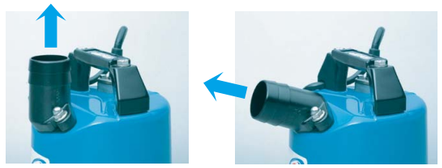
Flow-Thru Design

An excellent cooling effect for the motor can be achieved at low water levels. The top discharge port enables the pump to be installed in narrow locations.



Multi-Directional Hose Coupling

Discharge can be converted to horizontal direction. Notched bolt holes enable the hose coupling to be removed by merely loosening the cap nuts.



Slimline Models

The non-automatic model has the overall dimension of 187 mm and can fit in a 200-mm (8″) casing.

Simple Structure

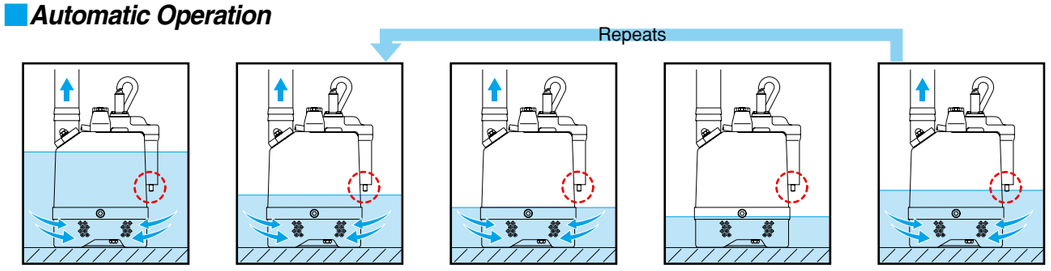
The pump section can be disassembled and reassembled using a single 13-mm box wrench.

Electrode Auto Control Device (LB-A)

Stable electrode-type sensor ON/OFF operation prevents dry running, saves power consumption, and extends operational life.

Electrode-Type Sensor

Automatic Operation



Electrodes submerged in water. Pump starts operation.

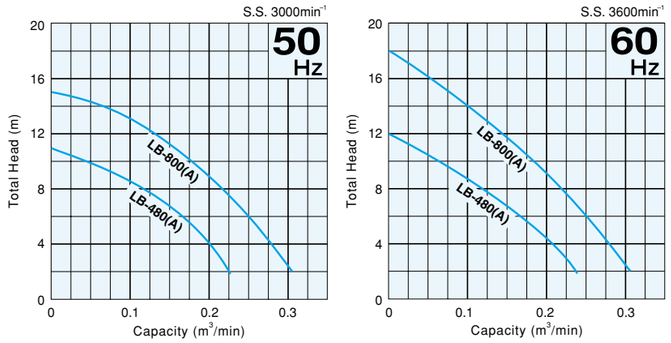
Water level falling. Electrodes emerged from water and timer starts.

Pump continues operation for 1 min.

Timer makes pump to stop operation.

Water level reaches electrodes. Pump restarts.

Performance Curves



Applications

Draining at civil engineering and building sites
Draining storm water, groundwater, or puddles
Draining from basements or utility pits
Draining water from dewatering wells

Standard Accessories

- Hose Coupling·····1pc.
- Hose Band·····1pc.

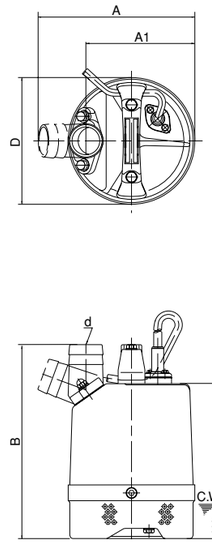
Standard Specifications 50/60Hz

Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Dry Weight kgs	Cable Length m	Dimensions mm						C.W.L. mm
							d	A	A1	B	B1	D	W1
50	LB-480	0.48	Single	Capacitor Run	10.4	5	50	233	162	286	228	187	50
50	LB-480A	0.48	Single	Capacitor Run	11.0	5	50	233	162	286	228	187	115
50(80)	LB-800	0.75	Single	Capacitor Run	13.2	5	50	230	160	337	283	187	50
50(80)	LB-800A	0.75	Single	Capacitor Run	13.8	5	50	230	160	337	283	187	170

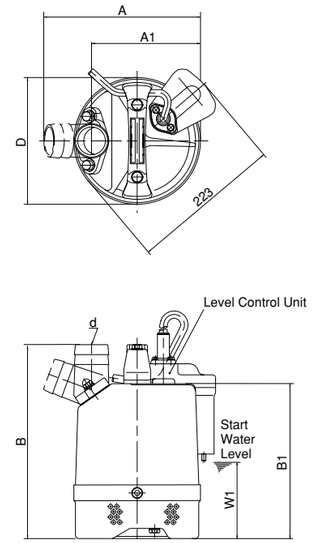
● 80 mm discharge available upon request ● Dry weight excluding cable

Dimensions

<LB>

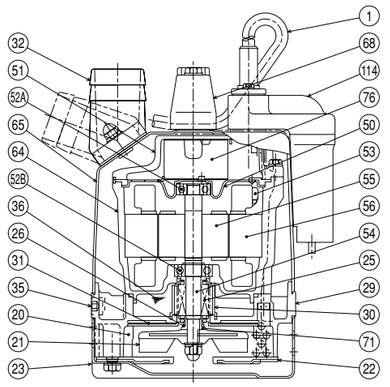


<LB-A>



C.W.L. : Continuous Running Water Level

Cross-Section



No.	Description	No.	Description	No.	Description
1	Cabtyre Cable	31	Wearing Plate	54	Shaft
20	Pump Casing	32	Hose Coupling	55	Rotor
21	Impeller	35	Oil Plug	56	Stator
22	Suction Cover	36	Lubricant	64	Motor Frame
23	Strainer Stand	50	Motor Bracket	65	Outer Cover
25	Mechanical Seal	51	Motor Head Cover	68	Handle
26	V-ring	52A	Upper Bearing	71	Shaft Sleeve
29	Oil Casing	52B	Lower Bearing	76	Capacitor
30	Oil Lifter	53	Motor Protector	114	Relay Unit

LB-1500

General Dewatering Pump

LB-Series High-Head Type Pump Fits into an 8″ Casing

Major Standard Specifications

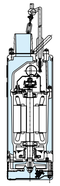
Discharge Bore			50(80)
Motor Output			1.5
Pumping Fluid	Type of Fluid		Rain, Spring, Ground, Sand Carrying Water
	Fluid Temperature		0 to 40°C
Pump	Structure	Impeller	Semi-open
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	High-chromium Cast Iron
		Casing	Synthetic Rubber
		Outer Cover	Carbon Steel
		Shaft Seal	Silicon Carbide
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole
	Insulation		Class B
	Phase/Voltage		Single-phase/ 110V, 220V, 230V, 240V
	Starting Method		Capacitor Start
	Protection Device (Built-in)		Circle Thermal Protector
	Lubricant		Turbine Oil (ISO VG32)
	Materials	Frame	Aluminium Alloy Die-casting
		Shaft	403 Stainless Steel
		Cable	Chloroprene Rubber

● Three-phase model available upon request

Individual Features

Flow-Thru Design

An excellent cooling effect for the motor can be achieved at low water levels. The top discharge port enables the pump to be installed in narrow locations.



Internal Starting Capacitor

A starting capacitor is built into the pump, despite of the high-performance motor.

Slimline Models

The pump has the overall dimension of 187 mm and can fit in a 200-mm (8") casing, making it suitable for dewatering wells.

Simple Structure

The pump section can be disassembled and reassembled using a single 13-mm box wrench.

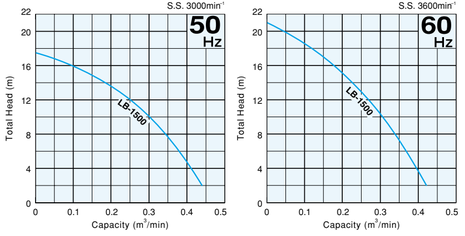
Applications

Draining at civil engineering and building sites
Draining storm water, groundwater, or puddles
Draining from basements or utility pits
Draining water from dewatering wells

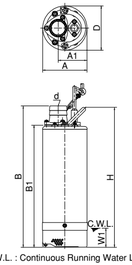
Standard Accessories

● Hose Coupling·····1pc.
● Hose Band·····1pc.

Performance Curves



Dimensions



C.W.L. : Continuous Running Water Level

Standard Specifications 50/60Hz

Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Dry Weight kgs	Cable Length m	Dimensions mm							C.W.L. mm
							d	A	A1	B	B1	D	H	W1
50(80)	LB-1500	1.5	Single	Capacitor Start	33	10	50	187	122	600	518	187	593	80

● 80 mm discharge available upon request ● Dry weight excluding cable

HS

General Dewatering Pumps

Equipped with an Agitator and a Spiral Pump Casing, Sand, Solids, Debris are Pumped with Minimal Wear and Clogging

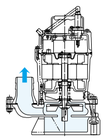
Major Standard Specifications

Discharge Bore			50	80(50)
Motor Output			0.4 - 0.75	
Pumping Fluid	Type of Fluid		Rain, Spring, Ground, Sand Carrying Water	
	Fluid Temperature		0 to 40°C	
Pump	Structure	Impeller	Semi-vortex	
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)	
		Bearing	Double-shielded Ball Bearing	
	Materials	Impeller	Urethane Rubber	
		Casing	Gray Cast Iron/ Ductile Cast Iron	
		Shaft Seal	Silicon Carbide	
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole	
	Insulation		Class E	
	Phase/Voltage		Single-phase/ 110V, 220V, 230V, 240V	
	Starting Method		Capacitor Run	
	Protection Device (Built-in)		Miniature Thermal Protector/ Circle Thermal Protector	
	Lubricant		Turbine Oil (ISO VG32)	
	Materials	Frame	Aluminium Alloy Die-casting	
		Shaft	403 Stainless Steel	
		Cable	PVC	

Individual Features

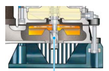
Spiral Design

The large channel in the spiral casing allows sand and silt-laden water to pass through efficiently.



Air Lock Prevention

The shaft-mounted agitator prevents the "air lock" that tends to take place on vortex pumps.



Agitator

Simple Structure

The pump section can be disassembled and reassembled using a single 13-mm box wrench.

Auto Operation with Float Switch (HSZ)

The pump employs a float switch for automatic operation to prevent dry running and lower power consumption.

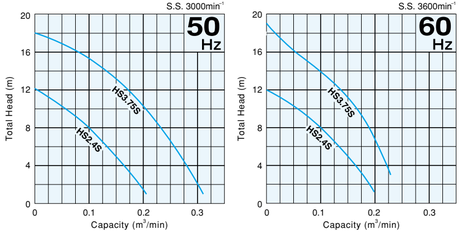
Applications

Draining at civil engineering or building sites
Draining storm water, groundwater, or puddles
Draining from basements or utility pits

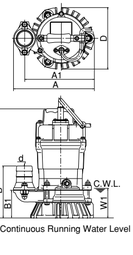
Standard Accessories

● Hose Coupling·····1pc.
● Hose Band·····1pc.

Performance Curves



Dimensions



C.W.L. : Continuous Running Water Level

Standard Specifications 50/60Hz

Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Dry Weight kgs	Cable Length m	Dimensions mm							C.W.L. mm
							d	A	A1	B	B1	D	H	W1
50	HS2.4S	0.4	Single	Capacitor Run	11.3	5	50	241	207	158	84	184	328	90
80(50)	HS3.75S	0.75	Single	Capacitor Run	17.5	5	80	285	233	217	109	184	388	90

● 50 mm discharge available upon request. Note that smaller discharge may increase friction loss. ● Dry weight excluding cable

NK

General Dewatering Pumps

Heavy-Duty, High-Head Pumps for Handling Abrasive Materials Found on Construction Sites

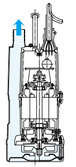
Major Standard Specifications

Discharge Bore			50
Motor Output			1.5 - 2.2
Pumping Fluid	Type of Fluid		Rain, Spring, Ground, Sand Carrying Water
	Fluid Temperature		0 to 40°C
Pump	Structure	Impeller	Semi-vortex
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	Ductile Cast Iron
		Casing	Synthetic Rubber
		Shaft Seal	Silicon Carbide
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole
	Insulation		Class B
	Phase/Voltage		Single-phase/ 110V, 220V, 230V, 240V
	Starting Method		Capacitor Start/ Capacitor Start + Capacitor Run
	Protection Device (Built-in)		Circle Thermal Protector
	Lubricant		Turbine Oil (ISO VG32)
	Materials	Frame	Aluminium Alloy Die-casting
		Shaft	403 Stainless Steel
		Cable	Chloroprene Rubber

Individual Features

Side Flow Design

Achieved efficient cooling of the motor. The top discharge port makes the pump easier to install in narrow locations.



Internal Starting Capacitor

A starting capacitor is built into the pump, despite of the high-performance motor.

Simple Structure

The pump section can be disassembled and reassembled using a single 13-mm box wrench.

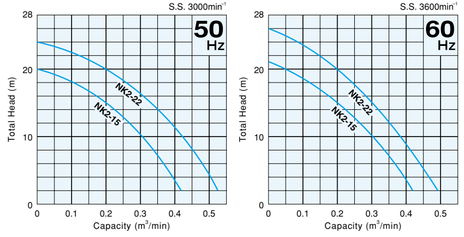
Applications

Draining at civil engineering or building sites
Draining storm water, groundwater, or puddles
Draining from basements or utility pits

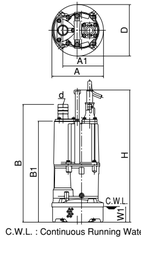
Standard Accessory

● Hose Coupling·····1pc.

Performance Curves



Dimensions



C.W.L. : Continuous Running Water Level

Standard Specifications 50/60Hz

Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Dry Weight kgs	Cable Length m	Dimensions mm							C.W.L. mm
							d	A	A1	B	B1	D	H	W1
50	NK2-15	1.5	Single	Capacitor Start	31.6	10	50	240	187	555	473	240	623	80
50	NK2-22	2.2	Single	Capacitor Start +Capacitor Run	32.0	10	50	240	187	555	473	240	623	80

● Dry weight excluding cable

LSC

Residue Dewatering Pump

Residue Dewatering Pump that Can Pump Water Down to a Minimum Level of 1 mm

Major Standard Specifications

Discharge Bore		mm	25
Motor Output		kW	0.48
Pumping Fluid	Type of Fluid		Residual Water, Puddles
	Fluid Temperature		0 to 40°C
Pump	Structure	Impeller	Semi-vortex
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	Urethane Rubber
		Casing	Synthetic Rubber
		Suction Cover	Carbon Steel + Urethane Rubber
		Bottom Plate	Carbon Steel + Synthetic Rubber
		Outer Cover	Carbon Steel
		Shaft Seal	Silicon Carbide
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole
	Insulation		Class E
	Phase/Voltage		Single-phase/ 110V, 220V, 230V, 240V
	Starting Method		Capacitor Run
	Protection Device (Built-in)		Miniature Thermal Protector
	Lubricant		Turbine Oil (ISO VG32)
	Materials	Frame	Aluminium Alloy Die-casting
		Shaft	403 Stainless Steel
		Cable	PVC

Individual Features

Flow-Thru Design

An excellent cooling effect for the motor can be achieved at low water levels. The top discharge port enables the pump to be installed in narrow locations.

Low Water Draining Mechanism

A unique structure enables the pump to drain water down to a minimum water level of 1 mm. A proprietary valve seat and newly developed swing valve prevent the reverse-flow of water once it is sucked in.

Rubber Lining Base Plate

The base plate is provided with a rubber lining to prevent scratching of floor surfaces.

Multi-Directional Hose Coupling

Discharge can be converted to horizontal direction. Notched bolt holes enable the hose coupling to be removed by merely loosening the cap nuts.

Simple Structure

The pump section can be disassembled and reassembled using a single 13-mm box wrench.

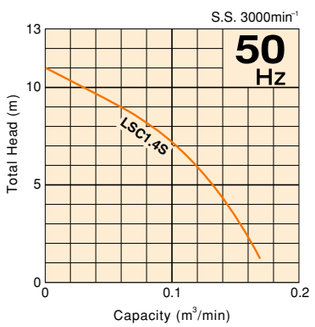
Applications

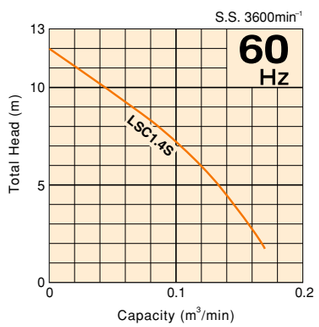
Ideal for complete drainage of flat surfaces where a sump is not available.
Rooftops, parking lots, utility pits, basements, plant maintenance, pools

Standard Accessories

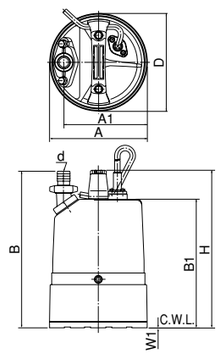
- Hose Band·····1pc.
- ϕ25 mm Hose Coupling with Union Hose Band ·····1set

Performance Curves





Dimensions



C.W.L. : Continuous Running Water Level

Standard Specifications 50/60Hz

Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Dry Weight kgs	Cable Length m	Dimensions mm d	A	A1	B	B1	D	H	C.W.L. mm W1
25	LSC1.4S	0.48	Single	Capacitor Run	12	5	25	196	169	316	258	196	316	1

● Dry weight excluding cable

LSP

Self-Priming Residue Dewatering Pump

Residue Dewatering Pump that is Incorporated a Novel Mechanism of Reverse-Flow Prevention

Major Standard Specifications

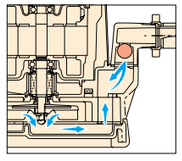
Discharge Bore		mm	25
Motor Output		kW	0.48
Pumping Fluid	Type of Fluid		Residual Water, Puddles
	Fluid Temperature		0 to 40°C
Pump	Structure	Impeller	Semi-vortex
		Shaft Seal	Double Mechanical Seal (with Oil Lifter)
		Bearing	Double-shielded Ball Bearing
	Materials	Impeller	Urethane Rubber
		Casing	Synthetic Rubber
		Suction Cover	304 Stainless Steel
		Bottom Plate	Aluminium Alloy Die-casting + Synthetic Rubber
		Outer Cover	Carbon Steel
		Shaft Seal	Silicon Carbide
Motor	Type, Pole		Dry Type Submersible Induction Motor, 2-pole
	Insulation		Class E
	Phase/Voltage		Single-phase/ 110V, 220V, 230V, 240V
	Starting Method		Capacitor Run
	Protection Device (Built-in)		Miniature Thermal Protector
	Lubricant		Turbine Oil (ISO VG32)
	Materials	Frame	Aluminium Alloy Die-casting
		Shaft	403 Stainless Steel
		Cable	PVC

Individual Features

Flow-Thru Design

An excellent cooling effect for the motor can be achieved at low water levels.

Low Water Draining Mechanism



The pump is ideal for draining shallow flooding and narrow spaces. The new siphon breaker mechanism prevents the reverse-flow of water once it is sucked in.

Free-Positioning Suction Attachment

The suction attachment can be placed freely without the need to move the pump.

Simple Structure

The pump section can be disassembled and reassembled using a single 13-mm box wrench.

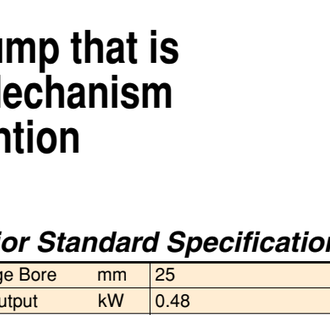
Applications

Ideal for complete drainage of flat surfaces where a sump is not available.
Rooftops, parking lots, utility pits, basements, plant maintenance, pools

Standard Accessories

- ϕ25 mm Hose Coupling with Union ·····1set
- Suction Hose with Union (5m) ·····1set
- Suction Attachment ·····1pc.

Dimensions



Standard Specifications 50/60Hz

Suction & Discharge Bore mm	Model	Motor Output kW	Phase	Starting Method	Max. Vacuum kPa(mmHg)	Dry Weight kgs	Cable Length m	Dimensions mm A	B	B1	D	H
25	LSP1.4S	0.48	Single	Capacitor Run	73.3(550)	12.5	5	276	263	153	240	307

● Dry weight excluding cable

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CAT. IB101-C Printed in Japan
DC/NZ-F-E-N