FLUGO

Technical Catalogue

YU-1A Series

all-plastic corrosion-resistant
and wear-resistant submersible pump

YU-1A all-plastic corrosion-resistant and wear-resistant submersible pump

1. Product introduction

The YU-1A series portable submersible pump is improved on the basis of the YU-1 type. Its flow-through parts are made of ultra-high molecular weight polyethylene (UHMWPE) integrally molded, and reinforced polypropylene integrally injection molded. It has excellent corrosion resistance and wear resistance, and is suitable for the transportation of acidic and alkaline slurries or clear liquids in the range of -20℃~80℃. The obvious difference between this pump and the YU-1 pump is that a coupling is added between the motor shaft and the pump shaft, which enhances the stability of the pump head operation and provides convenience for users' maintenance.

YU-1A-J series corrosion-resistant and wear-resistant submersible pumps are equipped with a stirring impeller at the bottom of the YU-1A series submersible pumps, which can stir the sediment under the liquid while conveying the liquid. They are suitable for conveying slurry containing solid phase materials or cleaning and conveying sediment materials in pools and tanks such as sewage pools and sedimentation tanks.

YU-1A Series YU-1A-J Series

This series of pumps has been in mass production for more than ten years and has been used by more than 3,000 users and more than 8,000 positions. Its temperature resistance, corrosion resistance, mechanical stability, wear resistance and economical operating costs have been recognized by users. Therefore, this product is a corrosion-resistant pump product with stable performance, mature technology, popular with users, and standardized. It is called the "Old Scholar" variety by old users.

2. Performance characteristics and application scope

The pump body is integrally molded or injection molded, the connecting tube is made of polypropylene or fiberglass, and the flow-through parts are all non-metallic materials with excellent corrosion resistance. Good, the structure is stable and reliable.

The connection between the pump body and the connecting tube and between the pump body and the pump cover are all connected by large pitch threads, which makes installation and maintenance more convenient. Since no metal fastening screws are used in the submerged parts, there is no concern about corrosive damage, and its overall anti-corrosion performance is very excellent.

(I) Nonferrous metal hydrometallurgy: especially suitable for the transportation of various acidic liquids, alkaline liquids, corrosive ore pulps, electrolytes, waste acids, sewage and other media in the hydrometallurgy of lead, zinc, gold, silver, copper, manganese, cobalt and rare earth.
(II) Sulfuric acid phosphate fertilizer industry: transportation of dilute acid, mother liquor, fluorosilicic acid containing silica gel, phosphoric acid slurry and other media.
(III) Water treatment and environmental protection industry: it can transport various sewage with impurities.
(IV) Pesticide, dye, and fine chemical industries: can transport clear liquid or slurry containing dilute acid, alkaline liquid, and mixed acid.
(V) Suction and delivery of corrosive and non-corrosive clear liquids or slurries in other industrial production.

3. Model description

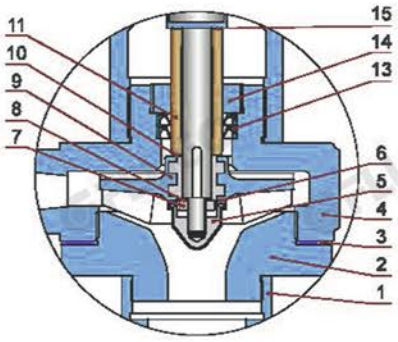
40 YU - 1A □ 20 - 25 - L

- 40 — Pump outlet diameter (mm)
- YU — Corrosion-resistant and wear-resistant submersible pump.
- 1A — Direct connection code (improved type)
- □ — J with stirring paddle device (optional)
- 20 — Flow rate (m^3/h)
- 25 — Lift (m)
- L — Submerged depth (omitted if 1m)

4. Pump Structure Diagram

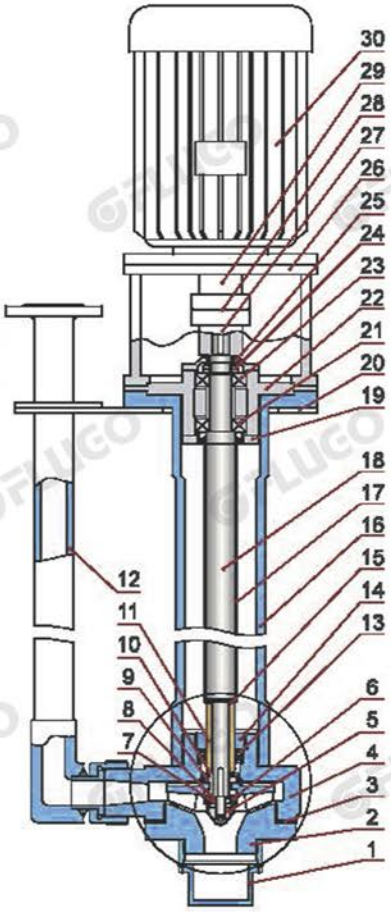
Structural Diagram of YU-1A Series Pump

No.	Name	Material
1	Filter cover	polypropylene
2	Pump cover	UHMWPE
3	Pump cover gasket	Fluorine rubber
4	Pump body	UHMWPE
5	Lock nut	UHMWPE+A3
6	Lock nut pad	Fluorine rubber
7	Anti-rotation nut	A3
8	Wasabi	
9	Impeller	UHMWPE+A3
10	Impeller pad	Fluorine rubber
11	Bushing	99 porcelain
12	Liquid outlet pipe	Polypropylene+fiberglass
13	K-ring	Fluorine rubber
14	Puzzle	UHMWPE
15	Bushing pad	Fluorine rubber
16	Connecting barrel	polypropylene/GRP
17	Spindle sheath	polypropylene
18	Spindle	40Cr
19	Lower bearing side cover	HT200
20	Mounting plate	HT200 or A3 board



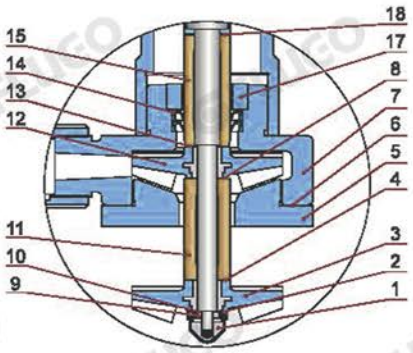
Partial enlarged view of the bottom of the submersible pump

No.	Name	Material
21	Lower bearing	
22	Bearing bracket	HT200
23	Upper bearing	
24	Spindle Cap	A3
25	Upper bearing side cover	HT200
26	Motor bracket	HT200
27	Spindle coupling	HT200
28	Flexible hexagonal block	Polyurethane
29	Motor coupling	HT200
30	Motor	



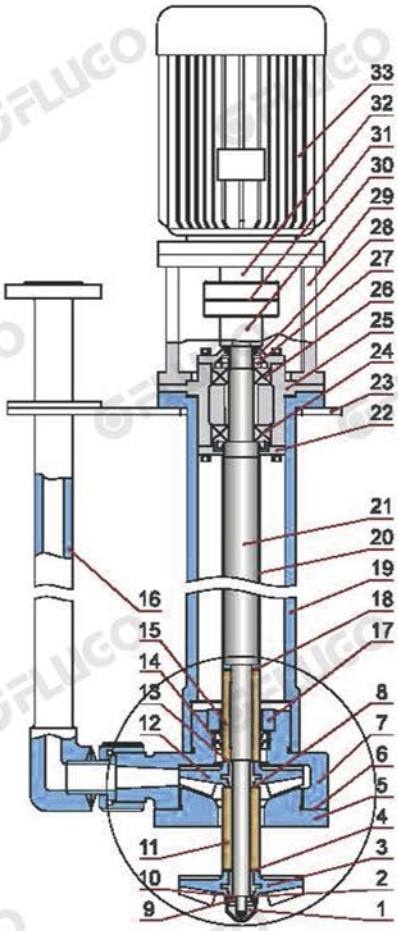
Structural diagram of YU-1A-J series pumps

No.	Name	Material
1	Lock nut	UHMWPE+A3
2	Lock nut L washer	Fluorine rubber
3	Mixing impeller	UHMWPE+A3
4	Mixing impeller pad	Fluorine rubber
5	Pump cover	UHMWPE
6	Pump cover gasket	Fluorine rubber
7	Pump body	UHMWPE
8	Lower shaft bushing pad	Fluorine rubber
9	Anti-rotation nut	A3
10	Wasabi	
11	Lower bushing	99 porcelain
12	Impeller	UHMWPE+A3
13	Impeller pad	No rubber
14	K-ring	Fluorin rubber
15	Upper bushing	99 porcelain
16	Liquid outlet pipe	Polypropylene+fiberglass
17	Puzzles	UHMWPE
18	Upper sleeve gasket	Fluorin rubber
19	Connecting barrel	Polypropylene/GRP
20	Spindle sheath	Polypropylene
21	Spindle	40Cr
22	Lower bearing side cover	HT200
23	Base plate	HT200 or A3 board



A partial enlarged view of the bottom of the submersible pump with agitator

No.	Name	Material
24	Lower bearing	
25	Bearing bracket	HT200
26	Upper bearing	
27	Spindle cap	A3
28	Upper bearing side cover	HT200
29	Motor bracket	HT200
30	Spindle couple	HT200
31	Flexible hexagonal block	Polyurethane
32	Motor coupling	HT200
33	Motor	



5. Performance parameter table

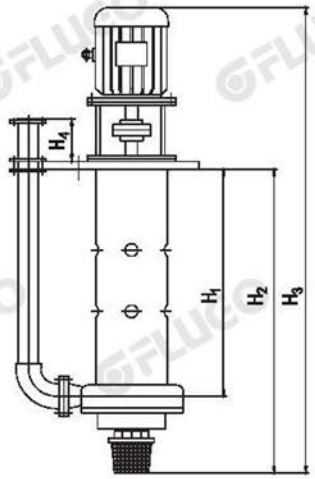
No.	Specification	Reference model	Flow (m/3h)	Lift (m)	Matching motor (kw)	Machine weight (kg)	Motor speed (r/min)	Remark
1	25YU-1A	25YU-1A-3-5	3	5	0.75	55	2900	Submersible depth ≤ 1m
2		25YU-1A-3-10	3	10	1.1	55		
3		25YU-1A-5-15	5	15	1.1	55		
4		25YU-1A-5-20	5	20	1.5	60		
5	32YU-1A	32YU-1A-5-25	5	25	2.2	65		
6		32YU-1A-10-10	10	10	1.5	60		
7		32YU-1A-10-15	10	15	1.5	60		
8		32YU-1A-10-20	10	20	2.2	65		
9		32YU-1A-15-15	15	15	2.2	656		
10	40YU-1A	40YU-1A-10-30	10	30	3	100		
11		40YU-1A-15-20	15	20	3	100		
12		40YU-1A-15-28	15	28	3	100		
13		40YU-1A-20-10	20	10	3	100		
14		40YU-1A-20-20	20	20	4	100		
15		40YU-1A-20-25	20	25	4	110		
16		40YU-1A-20-30	20	30	5.5	130		
17	50YU-1A	50YU-1A-30-15	30	15	5.5	140		
18		50YU-1A-30-20	30	20	5.5	140		
19		50YU-1A-30-25	30	25	5.5	140		
20		50YU-1A-30-30	30	30	7.5	145		
21		50YU-1A-40-10	40	10	5.5	140		
22	65YU-1A	65YU-1A-45-30	45	30	11	220		
23		65YU-1A-50-8	50	8	7.5	170		
24		65YU-1A-50-25	50	25	11	250		
25		65YU-1A-60-20	60	20	11	250		
26	80YU-1A	80YU-1A-60-30	60	30	15	270		
27		80YU-1A-80-30	80	30	18.5	290		
28		80YU-1A-100-30	100	30	22	320		
29	100YU-1A	100YU-1A-90-30	90	30	22	500		
30		100YU-1A-100-26	100	26	22	500		
31		100YU-1A-120-25	120	25	22	500		
32		100YU-1A-130-23	130	23	22	500		

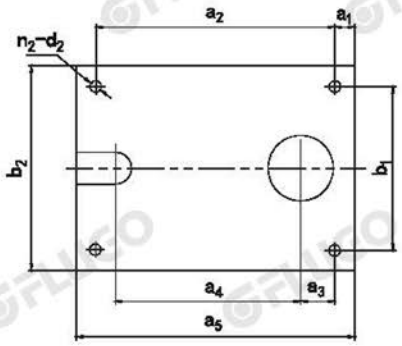
Note:

1. The performance parameters of YU-1A-J are the same as those of YU-1A.
2. The parameters in the table are obtained by testing with clean water. If other types of media are transported, the motor power will vary with the specific gravity of the media.
3. The submersible depths of submersible pumps are usually 0.6m, 0.8m and 1m. If you have special depth requirements, please indicate them when ordering.
4. The submersible pump mounting plate is marked as square in this manual. If the user has other requirements, it can be made into a circular or other shaped mounting plate according to the needs.
5. If the user's working conditions require conveying large particles or high abrasion requirements, please explain. Our company can help select blades made of special wear-resistant materials. Wheel and pump cover: materials include polyurethane, alloy steel, etc.
6. If you encounter fluorine-containing media (such as hydrofluoric acid, etc.) in your working conditions, please explain so that our factory can select a hydrofluoric acid-resistant connecting tube for you.

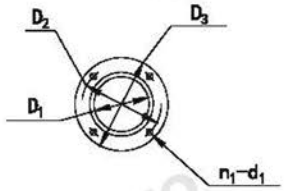
6. Pump outline drawing and installation dimension table

Pump outline





Mounting Plate



Export flange

Pump installation dimension table

Specification	Matching motor	Dimensions (mm)				Mounting plate size (mm)								Outlet flange size (mm)				Insert a measuring stick Inch (mm)
		H1	H2	H3	H4	a1	a2	a3	a4	a5	b1	b2	n2-d2	D1	D2	D3	n1-d1	
25YU-1A	0.75~1.1kW-2	770	925	1385	150	50	300	70	245	400	250	300	4-φ12	25	85	115	4-φ14	395x220
	1.5kW-2	770	925	1360	150	50	300	70	245	400	250	300	4-φ12	25	85	115	4-φ14	395x220
32YU-1A	1.5~2.2kW-2	770	925	1405	150	50	300	70	245	400	250	300	4-φ12	32	100	140	4-φ18	395x220
40YU-1A	3kW-2	800	960	1520	150	50	370	100	275	470	300	350	4-φ14	40	110	150	4-φ18	430x250
	4kW-2	800	960	1540	150	50	370	100	275	470	300	350	4-φ14	40	110	150	4-φ18	430x250
	5.5kW-2	800	960	1595	150	50	370	100	275	470	350	400	4-φ14	40	110	150	4-φ18	430x250
50YU-1A	5.5kW-2	800	960	1595	150	50	370	100	265	470	350	400	4-φ14	50	125	165	4-φ18	430x250
	5.5~7.5kW-2	800	1000	1635	150	50	450	100	310	550	350	400	4-φ14	50	125	165	4-φ18	550x315
65YU-1A	5.5~7.5kW-2	800	1000	1635	15	50	450	100	310	550	350	400	4-φ18	65	145	185	4-φ18	550x315
	7.5kW-2	775	980	1625	150	50	500	160	325	600	400	450	4-φ18	65	145	185	4-φ18	550x320
	11kW-2	795	1000	1775	150	50	500	150	335	600	400	450	4-φ18	65	145	185	4-φ18	550x320
80YU-1A	15kW-2	810	1015	1850	150	50	500	150	335	600	400	450	4-φ18	80	160	200	8-φ18	590x350
	18.5kW-2	810	1015	1895	150	50	500	150	335	600	400	450	4-φ18	80	160	200	8-φ18	590x350
	22kW-2	810	1015	1920	150	50	500	150	335	600	400	450	4-φ18	80	160	200	8-φ18	590x350
100YU-1A	22kW-2	815	1035	2045	150	50	540	170	345	640	400	500	6-φ18	100	160	220	8-φ18	590x365

Note:
1. The installation dimension diagram of YU-1A-J series pumps is provided to customers when ordering.
2. The insertion port size is the maximum physical dimension of the pump below the mounting plate.
3. The installation dimensions are for a submerged depth of 1 meter. If the submerged depth H1 is 0.6 or 0.8, except for H2, H3 and H1, the other dimensions remain unchanged.
4. The company reserves the right to make technical improvements and size corrections without notifying the user.

7. Operation and maintenance methods

Transportation

(1) The pump arrives at the project site after long-distance transportation. Before installation, check whether the parts of the whole machine are intact, tighten the fasteners, check the concentricity of the pump shaft and the motor shaft, and correct any displacement.

(2) When transporting, the lifting rings on the pump body and the motor should be used as the fulcrum, and the pump should be lifted and placed gently without causing strong vibration or impact.

Installation

(1) The pump should be installed in a spacious, bright and easy-to-maintain place, and the foundation must be flat.

(2) The diameter of the inlet and outlet pipes cannot be smaller than the inlet and outlet inner diameter of the pump. In order to reduce pipeline flow resistance and improve delivery efficiency, it is recommended that the pipe be one level larger than the pump inlet and outlet.

(3) The inlet and outlet pipelines should be cleaned and a gravity support system should be installed. The pump cannot bear the weight of the pipeline, otherwise it will be easily damaged;

(4) Fix the pump vertically at the required position and connect the outlet pipe.

(5) After installation, turn the coupling by hand to see if it can run smoothly. If it cannot run smoothly or there is abnormal noise or jamming, disassemble the pump and check it again, clean up foreign objects and eliminate noise. Alternatively, adjust the gap between the impeller and the pump body by adding or removing impeller gaskets. The gap should be between 1 and 2 mm. Adjust the gap between the impeller and the pump cover by adding or removing pump cover gaskets. The gap should be between 1 and 2 mm. After installation, turn the coupling again. Repeat this process until it can run smoothly before connecting the power supply. Press the start procedure to put the pump into working condition.

(6) To facilitate maintenance and control, valves should be installed on the pump inlet and outlet pipelines.

(7) Compensators, also known as flexible pipe joints, should be installed at the pump inlet and outlet. Their main function is to compensate for the stress of stretching, squeezing, and twisting of the infusion pipeline caused by thermal expansion and contraction or startup vibration, thereby improving the detachability and safety of the equipment.

(8) For positions with long (high) outlet pipelines, a check valve should be installed near the outlet of the pump to prevent the high-pressure water hammer at the outlet from damaging the pump when the pump is stopped.

(9) It is recommended to tighten the connecting bolts between the pump inlet and outlet and the pipeline first, and then tighten the pump anchor bolts to prevent tensile stress on the pump when connecting the pipeline and damaging the pump.

Startup

(1) Turn on the power and start the pump, and check whether the direction of motor rotation is consistent with the direction indicated by the arrow on the pump. If not, reconnect and adjust the wiring;

(2) After the motor is running normally, the outlet valve should be opened slowly to the required working state.

Run

(1) If there is any abnormal noise or other fault during the operation of the pump, it should be stopped and checked immediately, and the operation can only be continued after the fault is eliminated.

(2) Always check the temperature rise of the pump and motor. The temperature rise of the bearing should not be greater than 40°C, and the limit temperature should not be greater than 90°C; the maximum temperature rise of the motor is 90°C, and the limit temperature should not exceed 130°C.

(3) When the motor is overcurrent, the outlet valve should be closed to reduce the flow rate to prevent long-term overcurrent operation from damaging the motor.

Parking

(1) Close the outlet valve first.

(2) Turn off the power again.v

Disassembly and assembly sequence (see P132 pump structure diagram)

▲ Disassembly sequence of YU-1A series pumps:

a. First remove the liquid outlet pipe 12;

b. Unscrew the filter cover 1 (right-hand thread), unscrew the pump cover 2, and remove the pump cover gasket 3;

c. Unscrew the locking nut 5 and anti-rotation nut 7, and then remove the locking nut washer 6, washer 8, impeller 9, impeller washer 10, and sleeve 11;

d. Unscrew the pump body 4 (right-hand thread), unscrew the splicing ring 14 (left-hand thread), and take out the K-type sealing ring 13.

▲ Disassembly sequence of YU-1A series pumps:

a. First remove the liquid outlet pipe 16:

b. Unscrew the locking nut 1 and anti-rotation nut 9, and then remove the locking nut gasket 2, washer 10, stirring impeller 3, stirring impeller gasket 4, lower shaft sleeve 11 and lower shaft sleeve gasket 8;

c. Unscrew the pump cover 5, remove the pump cover gasket 6, remove the impeller 12, impeller gasket 13, and upper shaft sleeve 15;

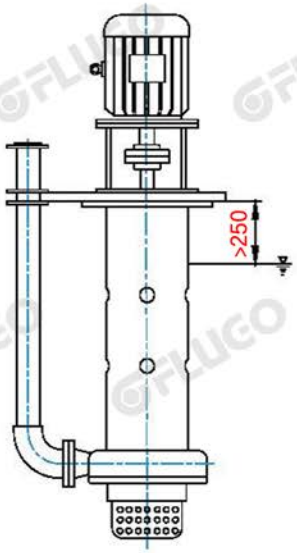
d. Unscrew the pump body 7 (right-hand thread), unscrew the ring 17 (left-hand thread), and take out the K-type sealing ring 14.

▲ The installation sequence is opposite to the disassembly sequence. Pay special attention to the installation of gaskets in each part.

Notes

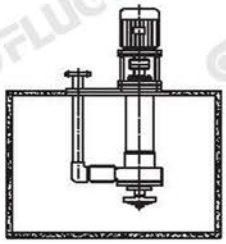
Since most parts of the pump are made of plastic, they should not be subjected to strong impact or twisting to avoid unnecessary damage.

Special tips for installation

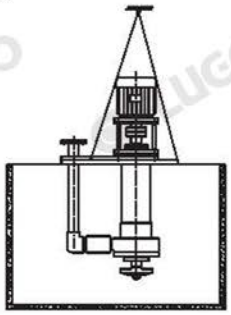


Please note: The distance between the highest liquid level and the pump base plate should be greater than 250mm to prevent liquid from corroding the bearings.

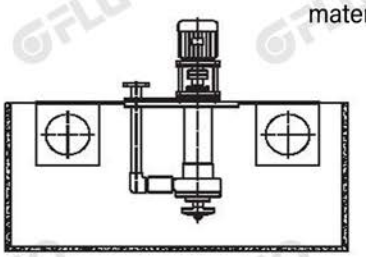
YU-1A-J Series Pump Installation Diagram and Instructions



1. Fixed installation, suitable for tanks with small liquid level changes.



2. Lifting, moving and suctioning are suitable for cleaning the sediment materials at the bottom of the tank.



3. Installed on a float, suitable for tanks with large liquid level changes.

FLUGO

YU-1A Series

all-plastic corrosion-resistant
and wear-resistant submersible pump

Authorized Distributor