#### UNDERSTANDING DREDGER INNOVATION

# DREDGERS EQUIPMTNT

REIONO

ONE-STOP DREDGE PARTS SOLUTIONS

SPECIALIZATION STANDARDIZED INTELLIGENCE



### **Dredge Cutter Heads**

Multiple Cutter Heads , suitable for the different working condition







#### Our Features

- Complete range
- Up to 3,000mm in diameter
- Up to 1,100kW of cutting power
- Refined tooth and cutting edge design.
   Our Benefits
- Variety of cutterheads to meet your requirements
- Low cost-per-tonne productivity
- Easy maintenance.





#### **Our Features**

- Upward and downward cutting models available
- Accurate selective dredging at flat bottom profile
   Our Benefits
- Reduced risk of large clay ball formation
- High production and low spillage
- Low operating costs
- Low maintenance



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- 🔄 +86 18661705879
- 🔀 sales@relong-tech.com
- 🞗 No.52 Miaoling Road, Laoshan District, Qingdao, Shandong, China

# **Dredging Cutter Teeth**

Adapt Multiple Cutter Heads , suitable for the different working condition



RELONG has extended its cutter head portfolio with a new cutter tooth system that promises to deliver the best value for customers.

The general shape of the cutter head is the result of a long lasting scientific research for maximising the performance of a cutter head. Best practices from the field combined with the results of this research resulted in a long list of the most sought-after features for a stae-of-the-art cutter head and makes this cutter head the new standard in the market.



Pick Point

Narrow Chisel

Wide Chisel



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#### Our Advantage

- Strong teeth to be able to penetrate hard soils
- Strong adapters to withstand all cutting forces
- Durable teeth and adapters
- Easy changing of the teeth
- Hammerless locking
- Teeth as light as possible
- A locking mechanism that is covered, preventing contact with soil
- Adapters protected against abrasive action of the soil





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# **Dredge Cutter Heads**

### SPECIFICATION

Model	CSD-150	CSD-200	CSD-250	CSD-300	CSD-450	CSD-500	CSD-600				
Cutter Dia.	1000	1300	1300	1500	1700	2050	2200				
Motor Quantity/Power(Kw)	1/30	1/50 1/50		1/80 1/170		4/300	4/500				
R.P.W	30		10. 20. 30								
Displacement(Ml)	3960	10170	10170	11870	21490	42000	60000				
Torque(Kn.m)	9.5	22	22	25	50	96	160				
Cutting Force	700	1500	1500	1600	2700	4100	6700				
Cutting Speed(m/s)	1.6	2.0	2.0	2.4 2.7		3.2	3.5				
Working Pressure(Mpa)				16							
Cutter Teeth		25/ZGM13		30/ZGM13	35/ZGM13	40/Z0	GM13				
Cutter Arm Quantity		5									
Cutter Arm Material		ZG35SiMn									
Replace Frequency	180	180	180	160 130		120	120				

#### APPLICATIONS









**Dredging Pump** 

Strong Power, Submersible, Reliability and High Performance



RELONG dredge pump and mining pumps are suitable for pumping and handing all slurry, sand, gravel and rocks. RELONG is continuously working on optimizing the hydraulic design giving the dredge and mining pump the highest efficiency, best wear performances, highest reliability and long duty life cycle.





#### Our Advantage

- Depending on the operation area, the pump impeller can be delivered with three, four or five vanes.
- To allow a longer wear life, the pump casing is made from thick material.
- All of these are available with clockwise and counter clockwise rotation.
- All dredging pumps can be fully customized to your specific needs and requirements.
- RELONG pumps meet the strictest environmental standards, of course we can also offer loose pump sets.



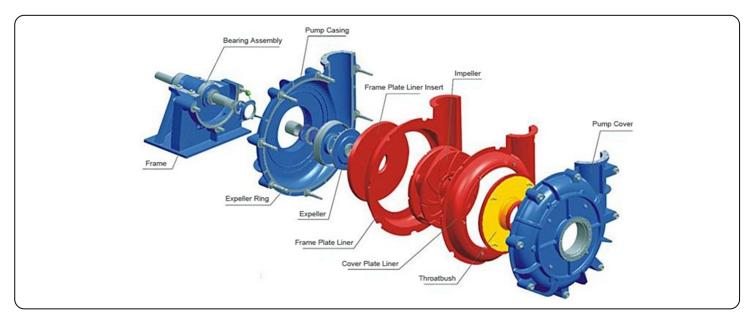




# **Dredging Pump**

### SPECIFICATION

Type NO.	Allowable Mating Max. Power (KW)		Clear Water Performance							
		Capacity/ Q m³/Hr	Head/m	Speed/ R.P.M	Max Eff. /%	NPSH /m	Nos of V	′ane s	Impeller Diameter /mm	
RL-DP150	120	115486	1251.5	8001500	65	26	4		381	
RL-DP200	120	234910	9.540	6001100	64	36	4		457	
RL-DP250	120	3961425	830	500800	77	210	5		550	
RL-DP300	560	4682538	860	400950	79	210	5		653	
RL-DP350	560	6502800	1059	400840	81	310	5		736	
RL-DP400	560	7203312	751	300700	80	210	5		825	
RL-DP450	560	10084356	948	300600	86	29	5		933	
RL-DP550	1200	19807920	1050	250475	86	410	5		1213	







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 +86 18661705879 × sales@relong-tech.com

2 No.52 Miaoling Road, Laoshan District, Qingdao, Shandong, China



## **Submersible Pump**

#### Strong Power, Submersible, Reliability and High Performance





#### **Clear Water Performance** Voltage Model Flow capacity Head Speed Power (m<sup>3</sup>/h) (m) (r/min) (kw) (v) RLNSSP100 72~185 49~51 1450 75 380 33~48 1450 90~132 216~570 380 RLSNSSP150 37~55 136~410 16~22 980 380 237~680 21~24 740 75~132 380 RLNSSP200 360~720 44~50 980 90~220 380 40~45 680~1260 740 220~400 380/6000 RLNSSP250 540~1080 380/6000 24~28 590 110~185 RLNSSP300 1080 ~ 2160 41~50 590 280~400 6000

#### **Our Advantage**

- Depending on the operation area, the pump impeller can be delivered with three, four or five vanes.
- To allow a longer wear life, the pump casing is made from thick material. ٠
- All of these are available with clockwise and counter clockwise rotation. ٠
- All dredging pumps can be fully customized to your specific needs and ٠
- requirements.

RELONG pumps meet the strictest environmental standards, of course we can also offer loose pump sets.





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#### RLNSSP SUBMERSIBLE SLURRY PUMP SERIES PARAMETER

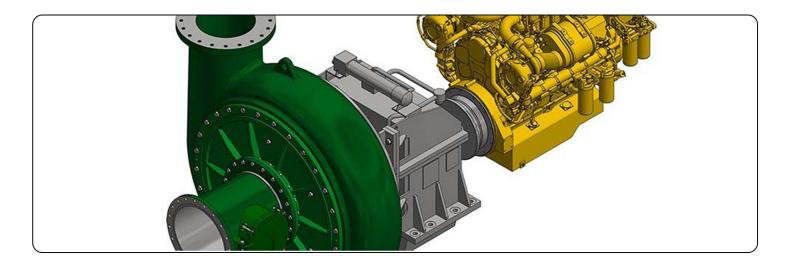


## **Relong Booster Pump**

Strong Power, Submersible, Reliability and High Performance



	REL	ONG BC					
Model	Discharge Size (mm)	Suction Size (mm)	Max.Particl e Clearance (mm)		Engine-Rating	Power At MaxRPM	
RLBP325	250	300	125	600	John Deere 6090	242 kW @ 2,200 RPM	
RLBP375-12T4	250	300	184	686	Caterpillar C9.3 – Tier 4f	280 kW @2100 RPM	
RLBP575-14T4	350	350	184	940	Caterpillar C18 – Tier 4f	429 kW @1800 RPM	
RLBP875-18T4	457	457	213	965	Caterpillar C27 – Tier 4f	652 kW @1800 RPM	
RLBP1125-20T4	500	500	275	1220	Caterpillar C32 – Tier 4f	838 kW @1800 RPM	







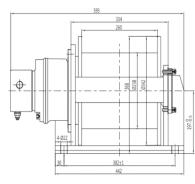
# **RLSJ Hydraulic Winch**

Low maintenance ,easy to change and customized

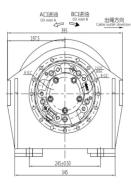


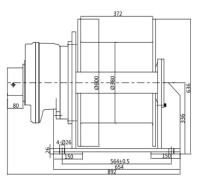
#### **SPECIFICATION**

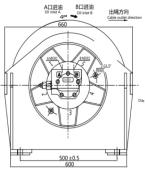
	First	Layer	Reel	Total	Difference	Diamete	Steel		
Model	Pull	Rope	Bottom	Displace	of Working	r of	Cable	Model of Hydraulic	Model of
	Force	Speed	Diamete	ment	Pressure	Steel	Capacit	Moter	Planetary Reducer
	(KN)	(m/min)	(mm)	(ml/r)	(MPa)	Cable	у		
RLSJ2.5-10-60-10-ZP	10	0-30	238	575	15	10	60	XHS05-110D51	C2.5-5
RLSJ2.5-20-50-12-ZP	20	0-30	238	1050	17	12	50	XHS05-200D51	C2.5-5.5
RLSJ3-30-65-15-ZP	30	0-35	305	2125	15.9	15	65	XHS2-420D51	C3-5
RLSJ3-40-60-16-ZP	40	0-35	305	2711.5	16.4	16	60	XHS2-500D51	C3-5.5
RLSJ4-50-70-20-ZP	50	0-40	380	4365	16.3	20	70	XHS3-900D240101	C4-5
RLSJ4-60-68-21.5-ZP	20	0-30	238	1050	17	12	50	XHS3-1000D240101	C4-5.5
RLSJ5-80-100-24-ZP	80	0-40	470	9080	15.6	24	100	XHS5-1800D240101	C5-5
RLSJ5-100-90-28-ZP	100	0-40	470	11039	16	28	90	XHS5-2000D240101	C5-5.5
RLSJ6-120-176-30-ZP	120	0-30	600	16725	17	30	175	XHS6-3000D480101	C6-5.5
RLSJ6-150-150-34-ZP	150	0-25	600	16725	19.8	34	150	XHS6-3000D480101	C6-5.5
RLSJ7-180-143-38-ZP	180	0-30	640	23639	17.8	38	143	XHS7-4300D480101	C7-5.5



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### **Dredger Gearbox**

Low maintenance ,easy to change and customized



#### Submerged Cutter Gearbox



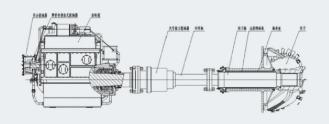
Input Power: 2x2200kW Input Speed: 1000RPM Output Speed: 30RPM Applies for 6000m<sup>3</sup> cutter dredger



Input Power: 2x1400kW Input Speed: 1000RPM Output Speed: 30RPM Applies for 4500m<sup>3</sup> cutter dredger



Input Power: 2000kW Input Speed: 1000RPM Output Speed: 30RPM Applies for 3500m<sup>3</sup> cutter dredger





Double Ratio Gearbox Input Power: 3300kW Input Speed: 600RPM Output Speed: 340RPM (Pump off) Output Speed: 220RPM (Stowing) Applies for 8000m<sup>3</sup> Hopper dredger



Dredge Pump Driving System in Cabin

Dredge Pump & Gearbox Integrated-in-one Input Power: 3700kW Input Speed: 1000RPM Output Speed: 282RPM Applies for 4500m<sup>3</sup> Hopper dredger



### **Dredger Gearbox**

Low maintenance ,easy to change and customized

#### Submerged Dredge Pump Driving System



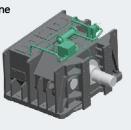
Submerged Dredge Pump Gearbox (Long shaft line) Input Power: 2200kW Input Speed: 1000RPM Output Speed: 269RPM Applies for 3500m<sup>3</sup> cutter dredger



Submerged Dredge Pump Gearbox Input Power: 900kW Input Speed: 310RPM Output Speed: 335RPM



Dredge Pump & Gearbox Integrated-in-one (Horizontal section) Input Power: 2x1400kW Input Speed: 1000RPM Output Speed: 248RPM Applies for 4500m<sup>3</sup> cutter dredger



Dredge Pump & Gearbox Integrated-in-one (Vertical section) Input Power: 2x1400kW Input Speed: 1000RPM Output Speed: 248RPM Applies for 4500m<sup>3</sup> cutter dredger

#### High Pressure Water Pump Gearbox

Pivot Shaft & Bucket Wheel Gearbox



High Pressure Water Pump Gearbox Input Power: 1200kW Input Speed: 1500RPM Output Speed: 458RPM Applies for 11000m<sup>3</sup> hopper dredger



Hydraulic Power Pack Gearbox (single input 6 outputs) Input Power: 1470kW Input Speed: 600RPM Output Speed: 1800RPM Apply for the hydraulic station driving unit of piling barges and large cutter dredgers



Pivot Shaft Gearbox Input Power: 1752kW Input Speed: 1600RPM Output Speed: 242RPM

Apply for submerged dredge pump driving unit of large cutter dredger and bucket wheel dredger



Bucket Wheel Gearbox Input Power: 750kW Input Speed: 900RPM Output Speed: 13.7RPM Apply for submerged bucket wheel driving section of large bucket wheel dredgers



### **Deck Crane**

#### Low maintenance ,easy to change and customized



Technical Parameters of Folding Knuckle Boom Crane										
MODEL	Outreach Safety Load		Lifting Mome nt	Toal Moment	Pedestal Diameter	Dead Weight				
	(m)	(kN)	(kNm)	(r/min)	(mm)	(t)				
HCK150	8.0-12.0	2.1-1.1	132-168	241	885	2.8-3.2				
HCK 250	10.0-14.0	2.9-1.8	242-290	381	885	3.7-4.3				
HCK 350	12.0-16.0	3.6-2.3	370-430	603	1095	5.3-6.3				
HCK 550	14.0-18.0	4.7-3.2	573-660	980	1325	7.8-9.2				
HCK 750	14.0-18.0	6.1-4.2	749-855	1375	1490	11.5-12.8				
HCK 1150	16.0-20.0	7.3-5.2	1040-1160	1765	1490	12.7-14.0				
HCK 1450	16.0-20.0	9.0-6.4	1268-1440	2555	1770	19.2-23.0				
HCK 220	27.5	30,0	2200	4000	1800	25				
HCK 300	30	30	3000	5000	2065	27.5				
HCK 400	32	30	4000	6300	2050	30				
HCK 500	35	35	5000	8000	2240	35				
HCK 800	37	50	8000	11500	2271	55				
HCK 1000*	40	60	10000	14400	2536	70				
HCK 1200	43	80	12000	18000	2550	100				
HCK 1600	45	100	16000	34000	3166	150				
HCK 2000	50	125	20000	44000	3987	200				
HCK 2500	50	150	25000	50000	4000	220				
HCK 3000	50	200	30000	60000	4500	275				

#### **Our Benefits**

- Running smoothly
- Rates of speed can be changed
- 360 degrees rotary
- Both electric hydraulic and manual to control
- Operate conveniently
- Safety and reliability









### **Dredging Pipeline**

Low maintenance ,easy to change and customized



### SPECIFICATION

Inner diameter of pipe (mm)	Thickness of pipe (mm)	Inner diameter of floater (mm)	Outer diameter of floater (mm)	Length of floater (mm)	Thickness of plastic (mm)
200	6	220	500	800	7
285	6	300	700	1200	7
350	6	375	1100	1100	7
400	8	414	1100	1200	8
414	8	430	1200	1200	8
450	8	480	1300	1300	8
500	10	530	1400	1500	9
550	10	580	1400	1600	10
600	10	630	1400	1700	11
650	10	680	1480	1800	11.5
700	12	730	1600	1900	12
750	12	780	1600	2000	13
800	15	830	1800	2000	14
850	15	880	1800	2200	15
900	18	940	2200	2500	16











#### High performance fender systems for various applications



ITEM	Diameter (mm)	Length B	Initial internal pressure	Diameter incl.belt net (mm)	Length incl.belt net (mm)	Energy absorption at 60%	Reaction force at 60%	Weight
Pneumatic Fender 500x1000mm - 50 Kpa - w/ chain tyre net	500	1000	50	640	1255	6	64	77
Pneumatic Fender 1000x1500mm - 50 Kpa - w/ chain tyre net	1000	1500	50	1240	1715	32	182	180
Pneumatic Fender 1000x2000mm - 50 Kpa - w/ chain tyre net	1000	2000	50	1240	2215	45	257	225
Pneumatic Fender 1200x2000mm - 50 Kpa - w/ chain tyre net	1200	2000	50	1440	2215	63	297	260
Pneumatic Fender 1500x3000mm - 50 Kpa - w/ chain tyre net	1500	3000	50	1720	3330	153	579	590
Pneumatic Fender 2000x3000mm - 50 Kpa - w/ chain tyre net	2000	3500	50	2260	3830	308	875	989
Pneumatic Fender 2500x4000mm - 50 Kpa - w/ chain tyre net	2500	4000	50	2760	4380	663	1381	1404
Pneumatic Fender 2500x5500mm - 50 Kpa - w/ chain tyre net	2500	5500	50	2760	5880	943	2019	1853
Pneumatic Fender 3300x6500mm - 50 Kpa - w/ chain tyre net	3300	6500	50	3740	6940	1814	3015	3800

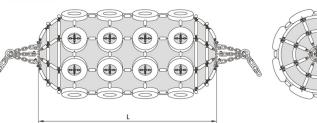
#### Pneumatic Fender Characteristics

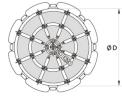
- Proportional increase of energy and reaction
- Low hull pressure
- Economical solution

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- Easily deplateable to be used in different location
- and to be stored on deck of vessels







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### **Dredger System**

Hydraulic systems & solutions for dredging



Relong can provide solutions from hydraulic systems for dredger system and winch drives to bottom door control systems and spud-lifting systems. We provide the total package from cylinders, piping, hydraulic power packs and manifolds to complete system installation and start-up, when it concerns hydraulic systems and components for dredgers.



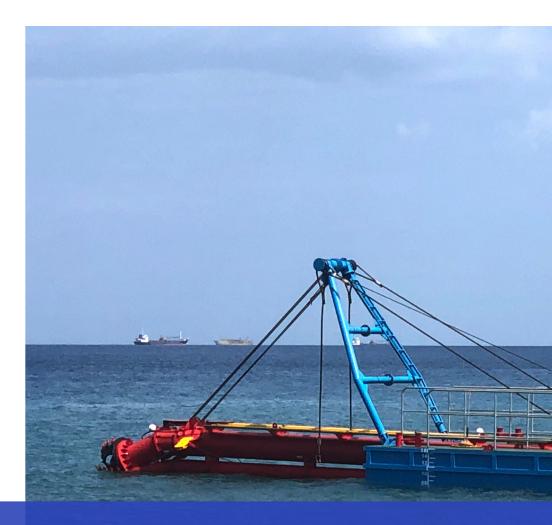
Most Cutter Suction Dredgers are completely hydraulically driven.

The Cutter Suction Dredgers move forward by means of the main spud on a carriage moved by cylinders driven by a hydraulic power unit. For the ladder winch, fore side winches, and anchor boom winches, hydraulic motors are used. The cutter is often driven by low speed hydraulic motors that are suitable for underwater operation.

Also various jet-water, vacuum relief valves and bypass valves are controlled hydraulically.







#### QINGDAO RELONG TECHNOLOGY CO.,LTD

- https://www.dredgingsystem.com/
- +86 18661705879
- ₩ sales@relong-tech.com
- No.52 Miaoling Road, Laoshan District, Qingdao, Shandong, China