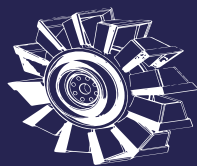


IMPIANTI DRAGANTI



MORE QUALITY FOR YOUR
D R E D G I N G



IMPIANTI DRAGANTI

Impianti Draganti (Dredgers, Equipments and Accessories Industry) produces dredgers and acts in the design and in the manufacture of every type of machinery suitable for the extraction of sand and gravel through dredging pumps and plants for the transport and the selection of aggregates.

The Company is also specialized in the overhauling and in the maintenance of the existing plants including supply of the spare parts and the fittings of the dredging pumps, produced by her own. Impianti Draganti has developed some new material types consisting in wear resistant alloys, in order to achieve a better operation life.

The experience and the advanced technology of the hydroextracting engineering achieved by application and research that has been lasting for many years, along with a good geological knowledge, now enable Impianti Draganti to manufacture plants that meet the operator requirements in the quarry and in all different dredging types too.

Standard dredgers production is avoided and special dredgers are manufactured according to her client requirement and according the soil nature.

Thanks to the ability and the experience of their technicians, Impianti Draganti is able to solve every problem and to recommend the right dredger type, with all production and operation guarantees. The high specialization will be the guarantee for a good manufacture, maintenance and service for every dredging and digging type.

WHERE A DREDGER OPERATS

- In rivers, canals and ports to canalize by lowering the depth
- For cleaning rivers, ports or canals
- At sea, along the coasts, for the nourishment of beaches eroded by the motion of the tides
- To extract aggregates for industrial and building purpose
- To clean water by removing slimy layers
- To lay pipe - lines



WHERE DREDGING PUMP CAN BE USED

- In quarries out of the river bed or mines, where sand or some type of abrasive material can be extracted
- Where there is a deposit of sand and gravel
- To transport chemical mud and chemical products
- In hydroelectric reservoirs, dams, pipelines or tanks that need to be cleaned of sand
- To remove solid and abrasive materials in foundries
- To transport some type of abrasive material
- For centrifugal hydrocyclones

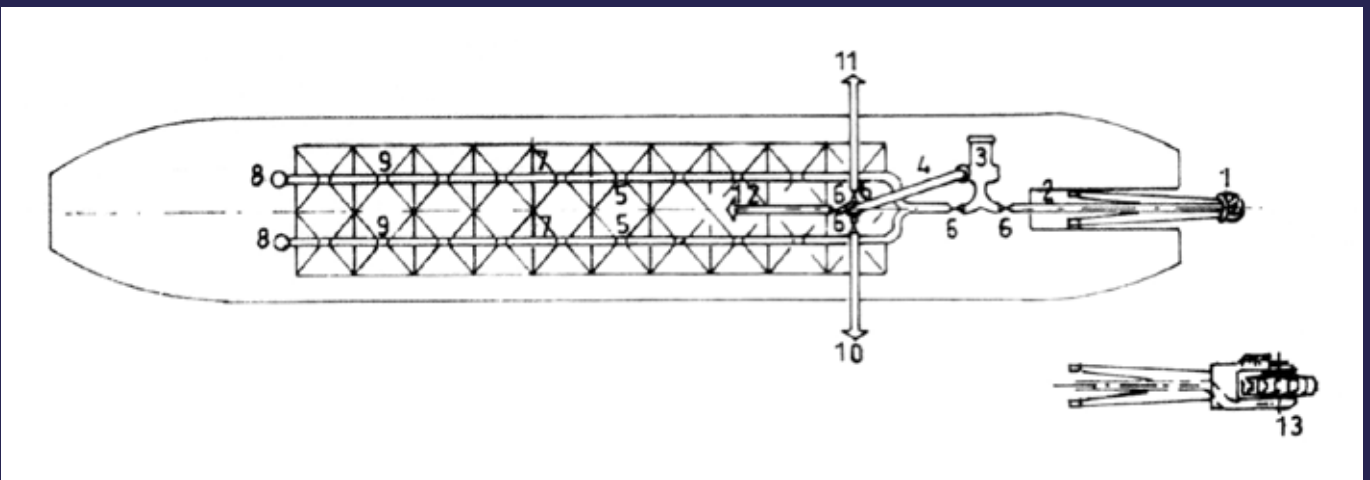


DREDGERS

Impianti Draganti builds several types of stationary and self-propelled machines with:

- HOPPER DREDGE
- CUTTER
- BLADE CUTTER
- WHEEL CUTTER
- WATER JET

SELF-LOADING AND UNLOADING HOPPER DREDGER



OPERATIVE DIAGRAM

- | | |
|--------------------------|-------------------------|
| 1. Cutter | 8. Water intakes |
| 2. Suction pipe | 9. Openings |
| 3. Dredging pump | 10. Outlet on the right |
| 4. Delivery pipe | 11. Outlet on the left |
| 5. Hopper | 12. Canal pipe |
| 6. Valves | 13. Wheel cutter |
| 7. Waterpipes under hold | |



CUTTER SUCTION DREDGER



CUTTER DIAMETERS AND POWERS

TYPE	SPEED HZ	POWER KW
DC 750	0,30	15
DC 800	0,30	18
DC 975	0,30	20/40
DC 1150	0,28	30/60
DC 1300	0,28	30/60
DC 1400	0,25	75
DC 1600	0,25	100



WHEEL CUTTER SUCTION DREDGER

The wheel cutter system, of which Impianti Draganti is the leader in the construction in Italy, not only divides the material to be dredged, but also accompanies it directly into the suction pipe, allowing to obtain high concentrations of solid; moreover, working from the top to the bottom, it works excellently even in hard soils with clay or conglomerates of sand and gravel and, being able to work halfway out of the water, it can level the banks.

WATERJET

The dredger with waterjet can operate under the following conditions:

- Mines
- Rivers
- Harbours
- Hydroelectric reservoirs
- Beach nourishment
- In fine and gross sand



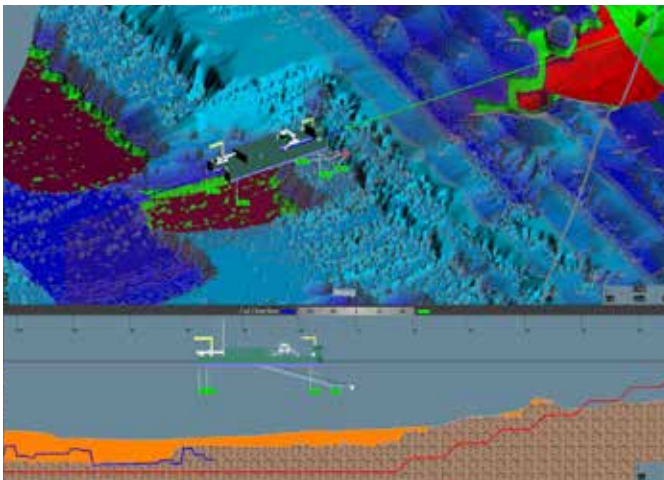
NEW "REVOLUTIONARY" DREDGING SYSTEM TROUGH WHEEL CUTTER

Against a slightly higher initial investment, the application of a wheel cutter allows to obtain economic advantages already in the short term thanks to the following best performances:

- Efficiency increase thanks to the lower water transport, that is the material transporting element, giving the advantage of a good energy saving
- High solid concentration up to 70%
- High depths operation even if there are big pebbles, that are automatically rejected
- Lower energy consumption thanks to the smaller pipes and the lower power in relation with the solid material which is transported
- Less wear due to abrasion as Impianti Draganti dredging pumps are made of new materials containing an high percentage of NI - Cr, Chrome - Hard
- The new suction system makes all dredged material to be inserted into the pipe without any pollution



The wheel cutter dredger is not only the cheapest and most productive existing dredging system, but also the most ecological: the constant production, the low power consumption and the higher concentrations of transported solids with consequent reduction of the quantity of water necessary for the flow of the material, together with the use of completely biodegradable oils, make the environmental impact of the dredger tending to zero.

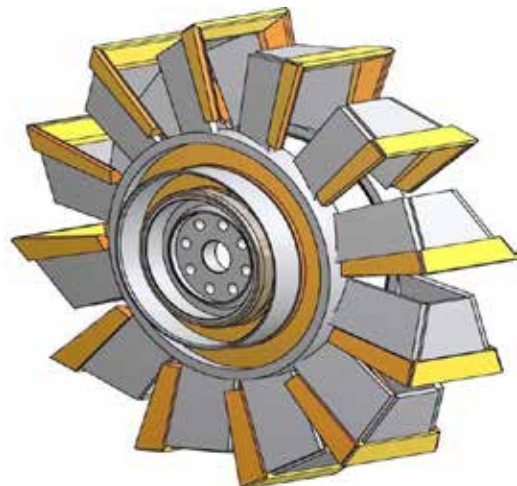


WHEEL CUTTER USE

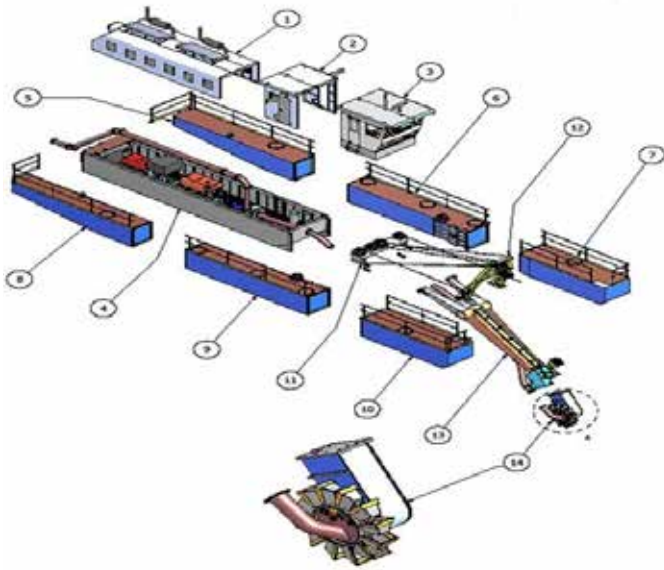
- Mines
- Rivers
- Harbours
- Hydroelectric Reservoirs
- Beach nourishment
- In fine and gross sand

DIAMETERS AND POWERS

TYPE	SPEED HZ	POWER KW
RD 1715	0,25	75
RD 1512	0,27	60
RD 1309	0,29	50
RD 1107	0,29	40



DEMOUNTABLE AND TRANSPORTABLE DREDGERS



In general, the CSD consists of the cutter, the suction line, the dredging pump, the gearbox, the diesel or electric engine, the discharge pipe-line and the hull. Dredges are not standard machines: all elements must be sized and coupled in a specific way, according to the work to be done.

The material on the seabed is moved by the cutter in order to create a mixture of suitable concentration to be carried through the suction pipe, through the dredging pump and finally reach the discharge point thanks to the delivery pipe-line.

The technology is now advanced enough to solve ecologically all the existing dredging problem. However, it is necessary to combine the builder's experience, geological and technical skills with the customer's willingness to solve the problem. The

dredging pump coupled to the engine with adequate power, is the heart of the machine, as it allows the suction and flow of the material and, must be chosen according to the production required, the grain size of the material to be extracted and the discharge distance.

Impianti Draganti designs and manufactures dredgers that can be completely dismantled and transported in containers.

GENERAL FEATURES AND PERFORMANCE

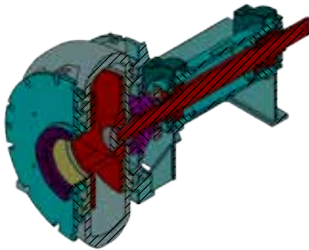
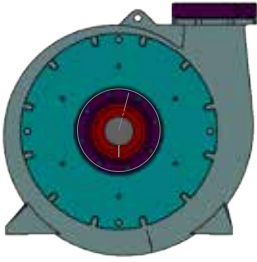
DREDGE TYPE	DELIVERY PIPE	SUCTION PIPE	DISCHARGE DISTANCE	MAIN DIESEL	AUXIL DIESEL	ELECTRIC ENGINE	MATERIAL PRODUCT	SOLID MAX PASSAGE	LENGHT	HULL DIMENSION WIDTH	HEIGHT
	mm	mm	m ⁽¹⁾	CV	CV	KW	Mc/h ⁽²⁾	mm	m ⁽³⁾	m	m
D 150	150	182	370	200		125	45-90	80	9-16	3,75	1,25
D 180	182	207	480	250		160	60-120	100	10-18	4,00	1,25
D 200	207	230	575	300		210	70-180	125	12-22	4,50	1,35
D 250	260	310	680	400		280	100-250	160	14-26	5,10	1,55
D 300	310	352	840	400	150	360	150-360	200	17-29	5,50	1,55
D 350	352	401	1000	500	150	360	150-450	250	19-31	6,00	1,75
D 400	401	450	1120	850	200	660	250-580	300	22-34	6,50	2,05
D 450	450	500	1300	1150	250	850	250-760	350	25-38	7,00	2,05
D 500	500	550	1450	1400	300	1050	300-950	400	29-42	7,50	2,55

⁽¹⁾ Max discharging distances refer to an end - elevation of 4 m.

⁽²⁾ Solid productions change according to material quality

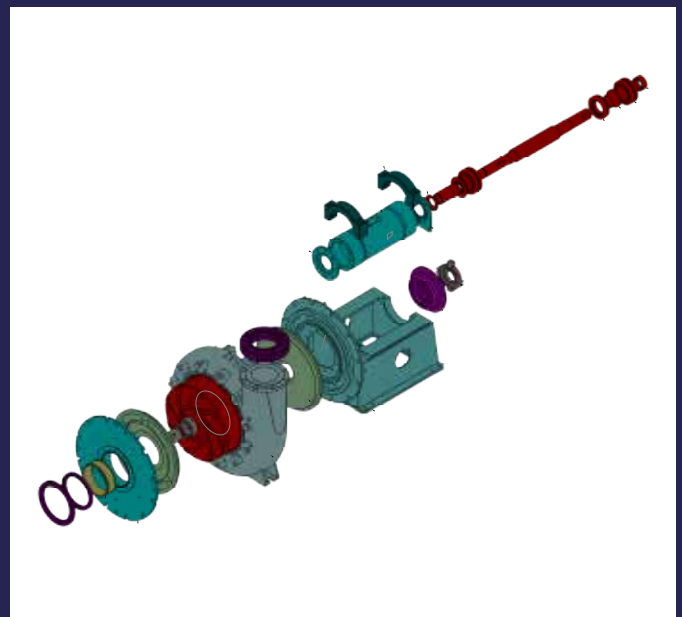
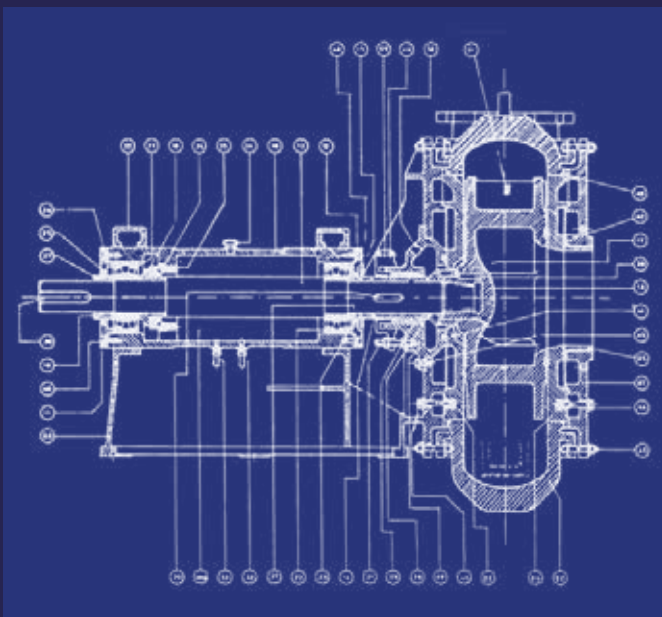
⁽³⁾ Hull lengths change according to the required depths

THE PERFECT COMBINATION OF THE DREDGING PUMP



The pump is the “DREDGE HEART”. The most important element for the best dredging operations is the perfect combination between pump types and the different uses. The Impianti Draganti dredging pumps are made by a new wear resistant material. The perfect shape between impeller and the shell allows to achieve an high hydraulic efficiency with high solid production. The wear resistant material is thick widely to be used in heavy duties. There is a wide range of dimension: from 3” - 75 mm., for industrial use, up to 20” - 500 mm. for difficult dredging duties.

HORIZONTAL ID PUMP	DELIVERY PIPE mm	SUCTION PIPE mm	MAX SOLID PASSAGE mm	WEIGHT t	TOTAL MANOMETRIC HEAD m	MAX MISTURE CAPACITY mc/h
75	82,5	100	40	0,25	40	100
100	125	125	60	0,38	40	150
150	150	183	90	0,83	40	330
180	183	207	100	1,3	40	500
200	207	230	125	1,9	40	640
250	260	310	160	2,9	40	1000
300	310	352	200	4,5	45	1400
350	352	401	250	6,5	45	1800
400	401	440	260	9	45	2400
450	440	492	300	12	45	2900
500	492	540	340	16	45	3600



- | | | | | |
|-----------------------|------------------------|-------------------------|-----------------------------|----------------|
| 1. Impeller | 11.Rear plug | 21.Register screws | 31.Oil discharge connection | 41.Cap screws |
| 2. Shell | 12.Front plug | 22.Clamps | 32.Flexible hose | 42.Cap screws |
| 3. Engine side liner | 13.Shaft | 23.Bearings | 33.Flexible hose | 43.Cap screws |
| 4. Suction side liner | 14.Shaft sleeve | 24.Thrust bearing | 34.Exhaust plug | 44.Head screws |
| 5. Throat Ring | 15.Centrifugation ring | 25.Seal rings | 35.Spring | |
| 6. Base | 16.Impeller hub | 26.O Ring | 36.Rubber seals | |
| 7. Counter liner | 17.Spacing collar | 27.O Ring | 37.Rubber seal | |
| 8. Stuffing box | 18.Thrust ring | 28.O Ring | 38.Rubber seal | |
| 9. Gland | 19.Spacing collar | 29.Packing | 39.Bolts | |
| 10.Bearing house | 20.Keys | 30.Oil level connection | 40.Cap screws | |

THE IMPORTANCE OF THE CUTTER FOR HIGH PRODUCTIVITIES

Impianti Draganti produces the whole range of cutters at high technological content and lasting a long time. Cutter is very important for a continuous production and it's necessary to opt for the most proper cutter and the right system choosing among:

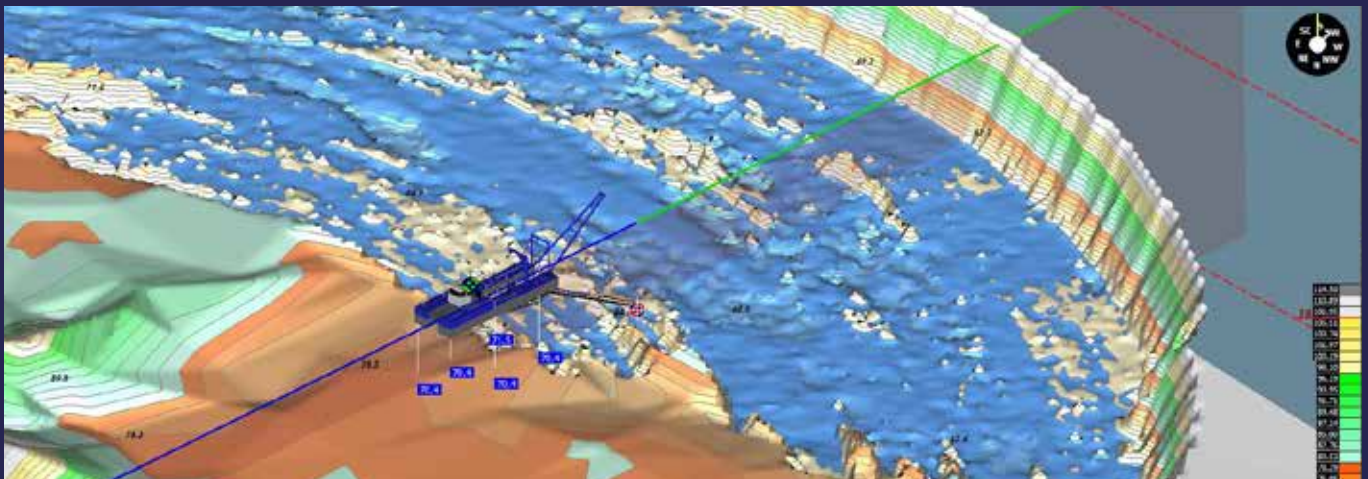
- Bucket Cutter Wheel with smooth or teeth wear sectors according to soil compactness
- Cutter at Water High Pressure
- Blade Cutter with interchangeable teeth sectors
- Blade Cutter with smooth sectors
- Cutter with interchangeable, revolving point teeth, easy to remove and of several types
- A suitable dredging pump is the main feature which allows to reach a high yield and productivity



ADVANCED TECHNOLOGIES

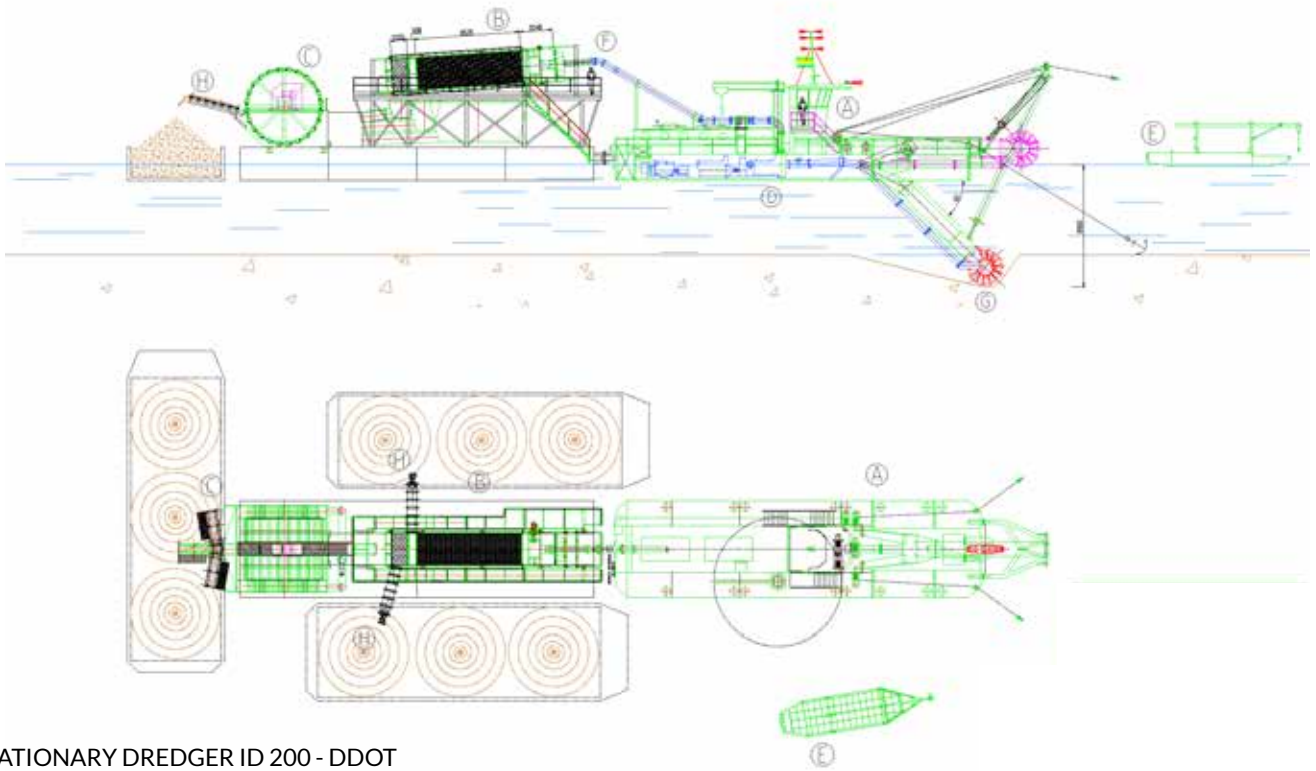
Impianti Draganti, finally, furnishes new dredger with the most innovative technologies existing:

- Wide range of electronic equipments
- Microprocessor unit for machine control
- Electronic vacuum gauges, depth gauges and electronic pressure gauges
- Densimeter
- Dredging management systems with sonar and echo sounders
- PLC for automatic management of the operating plan



SPECIAL SOLUTIONS

Impianti Draganti identifies, designs and builds the solution for every type of operating conditions.



STATIONARY DREDGER ID 200 - DDOT
WITH FLOATING SORTING PLANT



HIGH DEPTH STATIONARY
DREDGER ID 500 - DDOF

THE IMPORTANCE OF THE COMPONENTS

The use of worn parts involves pressure drops, load losses and the consequent low production. Impianti Draganti produces the best components for the optimization of the dredging operations:

- Spare parts in steel Mm 12 - 14%, Ni - Hard, Crom - Hard with suitable thickness
- Suction and delivery rubber hoses consisting of antiabrasive material underlay metal couplings incorporated and vulcanized
- Ball - joint
- Oil - pressure electric winches



SERVICE BOAT

Impianti Draganti produces special boat for the easy maintenance of the dredger.



PLANTS FOR COMPOSITE MATERIALS RECOVERY

Impianti Draganti builds plants perfect for recovery of composite materials:

- Primary and secondary selection screens
- Dewatering wheels at high production capacity
- Hydrocyclones for wastewater and silt from pump dredgers





IMPIANTI DRAGANTI

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