

# 43<sup>th</sup> Anniversary

new "Cobra" line aerial bundle extractors self balancing...  
new poly arch 55T  
new hydro-decoking pigging units...  
new idrobox x3  
tube pullers...  
tube bundle cleaners...  
tube expander...  
tube bevellers...

**IDROJET & PARTNERS**  
TURNS WATER INTO TECHNOLOGY...

high pressure water pumps...  
hydro-blasting accessories...  
straddle carriers...  
flex-lances tube cleaners...  
dual-rotating rigid lances cleaners...  
multi-lances cleaning robots...

Idrojet, Idrokid and IDM Idrodinamica  
delivery what competitors promise!

# THE IDROJET STORY

Idrojet S.r.l since its establishment in 1975, has experienced rapid expansion through unique technology and high quality products. Idrojet personnel has considerable experience, and this know-how is amplified by the fact that these key personnel had developed equipment and methods used productively every day.

Our factory has been making and selling various heat exchanger cleaning robots for chemical plants and oil refineries, high pressure water pumps, hydraulic tube bundle extractors and other advanced technological products.

Idrojet innovative philosophy is an on-going effort, so our sales and operations are continually expanding and currently enjoy an excellent world-wide reputation with installed equipment all over in the world.

In fact, our accompanying slogan "Turns water into technology..." highlights the high quality and the high technology products that Idrojet markets worldwide. Our name is now recognized world-wide as a symbol of quality, and for this reason this slogan and our products are now so popular that some competitors have imitated it with similar ones.

Today Idrojet serve more than 40 distributors or licences distributed all over the world and serve also directly customers regularly in over 20 other countries. This makes Idrojet the largest distributor of industrial machinery for the cleaning and the transportation of heat exchangers, plus accessories.

More importantly, the company has earned the reputation of standing behind the products it sells. This reputation, and its leading position, has been earned by focusing on 3 main concepts:

- **leading technology**
- **product innovation**
- **excellent after-sales service.**

Our mission is to fulfill the above needed required system, and to do so at competitive prices; your operation is just a phone call away.

Give us a call and things will be done your way.



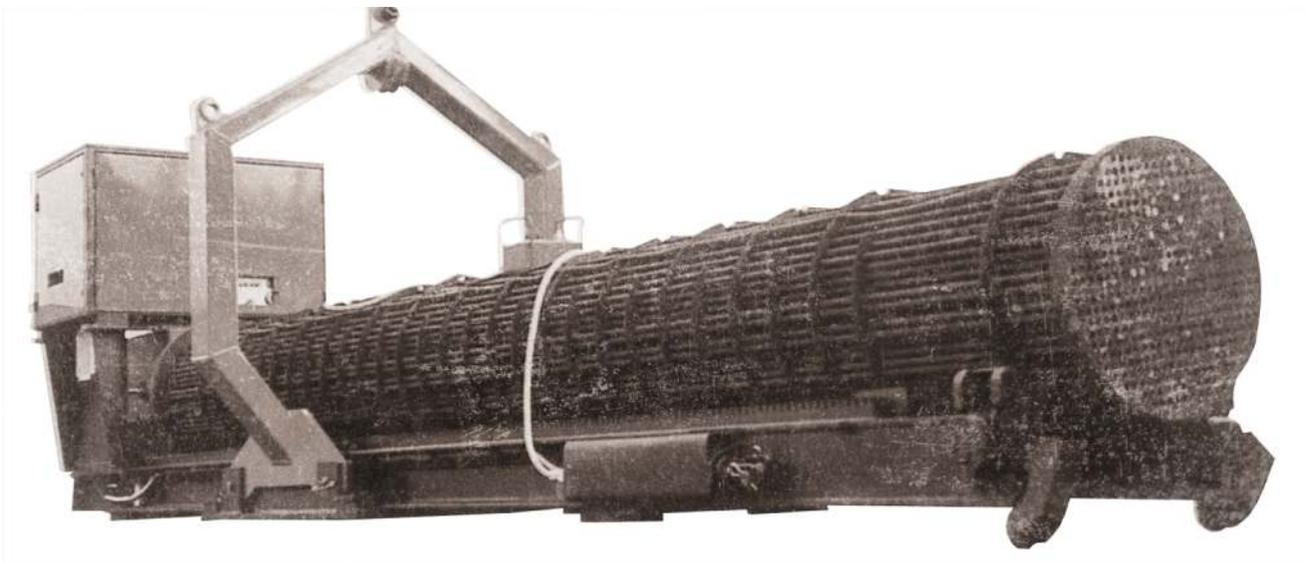
Idrokid s.r.l. first started in Italy at 1<sup>st</sup> Jan. 2016, as exclusive reseller of all Idrojet products worldwide , becoming leader in the particular field of industrial maintenance equipment for the extraction and trasportation of heat exchangers in oil refineries and chemical plants.

The company has already representations all around the five continents and especially in such countries as Singapore, Malaysia, Thailand, Indonesia, Korea, Japan, Spain, Portugal, Germany, Belgium, France and England where its active distributors serve customers regularly.

Besides expanding the sales team, another key measure taken to improve and greatly strengthen is our service team. Additional experienced technicians have been recruited, and the whole service team has underwent further intensive training to improve their skills, and to expand regularly this department.

With the efforts put in the next 2-3 years, Idrokid expect to improve its leading market position by the increasing large selections of model machines.

This large selection has not come at the expense of quality. Many customers buy new products from Idrokid on the basis of our serious and professional reputation to stand behind every product it sells, and on the basis of the long experience of Idrojet s.r.l in the production of special equipments in this particular field with more than 1000 bundle extractors fully engineered, design and 100% manufactured by Idrojet s.r.l. Italy.



 **idm**<sup>®</sup> *idrodinamica mediterranea*  
by  
**IRS - Idro Rental Service S.r.l.**

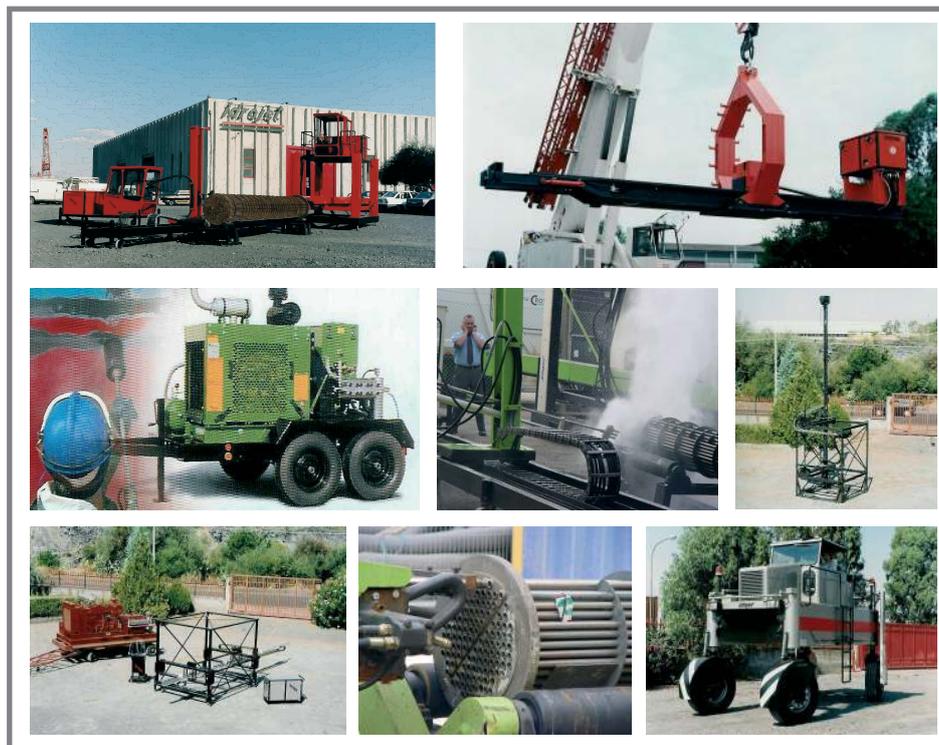
IDM - Idrodinamica Mediterranea by IRS - Idro Rental Service S.r.l., is born from the long sales experience of Idrojet and Idrokid in the special field of special equipment for the maintenance of heat exchangers, in oil refineries, chemical plants and only recently on offshore plants. Today our company is able to offer you, with all its experience, not only the rental of high technology industrial equipment, but it is also able to find out specific solutions for all your needs through well trained technicians in this particular field.

IDM - Idrodinamica Mediterranea by IRS - Idro Rental Services S.r.l., for all companies that require it, at request, can also train and certify your technicians on the use of our rental equipment!

IDM - Idrodinamica Mediterranea by IRS - Idro Rental Service S.r.l. today can offer you a wide range of rental equipment: the new Stud Double Pump Pigging Machine, high pressure water pumps, from 150 Hp to 440 Hp and from 700 atm till 2500 atm, straddle carriers, till 20 tons of weight capacity, for heat exchangers transportation and any other pipes transport, hydraulic tube bundle extractors till 45 tons of bundle weight capacity, heat exchangers internal and external pipes cleaning robots, by the use of high pressure water jets and air compressor to complete our range of machines. Safety, quality, flexibility, plus the highest technology of our equipment together with a user friendliness will permit you to carry out any single job you wish in a way that it will be the most efficient for you.

Accessories and consumable goods will be available only through a simple call! All prices, expressed in Euro, based on working days of 8 hours or weeks of 40 hours, longer working days will be quoted at your request. Additional accessories, transport charges, third party insurance operations, daily maintenance, fuel, lubricants, and any other else will be quoted separately. Our mission is to fulfill your request and to do so at competitive prices, your operations are just a phone call. Give us a call and things will be done your away!

For further information: IDM - Idrodinamica Mediterranea by IRS - Idro Rental Service S.r.l. - Via Luigi Pirandello s.n. - 95040 Piano Tavola (CT) - ITALY - Tel. +39/095/7131125 - Fax +39/095/391466 idrojet@videobank.it infoline: +39/329/8913983.



# SUGGESTED WORKING SYSTEM

Our latest philosophy suggests a system of high-technology to undertake large-scale projects within short timescales involving the maintenance of the heat exchangers. The full operation, carried out with our high technology equipment offers rapid turnaround times (until 200 tube bundles in about 18 days) and extremely safety standard.

## INTERNAL CLEANING

For the internal cleaning of heat exchangers Idrojet suggest the use of N. 2 Internal Bundle Cleaner Robots mod. Autojet I 930/5, with water jet pressure up to 1400 bar (22.000 psi).

## EXTERNAL CLEANING

For the external cleaning of heat exchangers Idrojet suggest the use of N. 2 External Bundle Cleaner Robots mod. Autojet E 930, with water jet pressure up to 1400 bar (22.000 psi).

## TRANSPORT

Heat exchangers are transported to and from cleaning area, using our Straddle Carrier Series 20T, without the need of auxiliary cranes for the positioning. In addition to transportation, this machine also lifts and positions heat exchangers on and off the extractors and moves them to and from cleaning robots on hydraulic rollers.

## EXTRACTION & INTRODUCTION

We suggest the use of N. 2 "Super Idrokid", one for the removal of heat exchangers from their shells, and one for the re-fitting in their shells simultaneously.

Idrokid has various hydraulic extractors with extraction power up to 80,000 Kg. for heat exchangers up to 12,000 mm. in length and weights up to 100 tons.

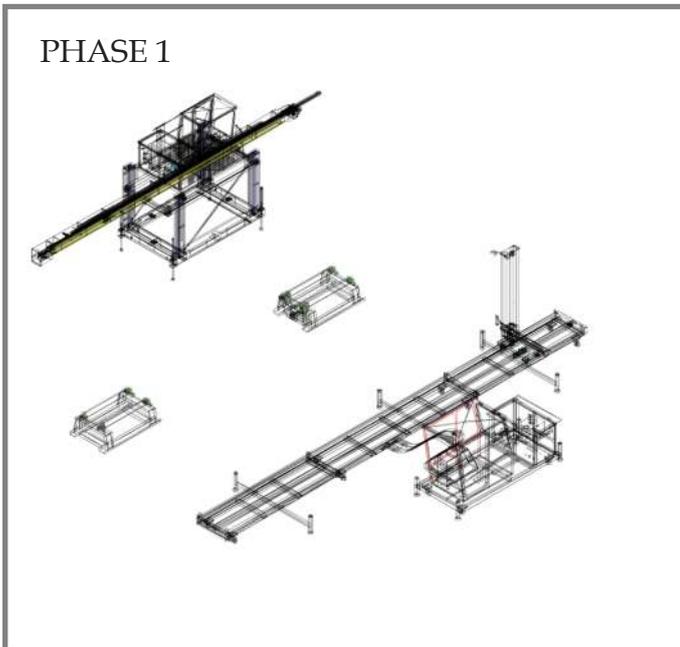
## INTERNAL CLEANING OF HEAT EXCHANGERS INSIDE SHELLS

For the internal cleaning of heat exchangers inside their shells Idrojet suggest the use of N. 3 Dual Flex Lance Semiautomated Water Blasting Units mod. Autojet FX2, with two flex lances up to 1400 bar (22.000 psi).

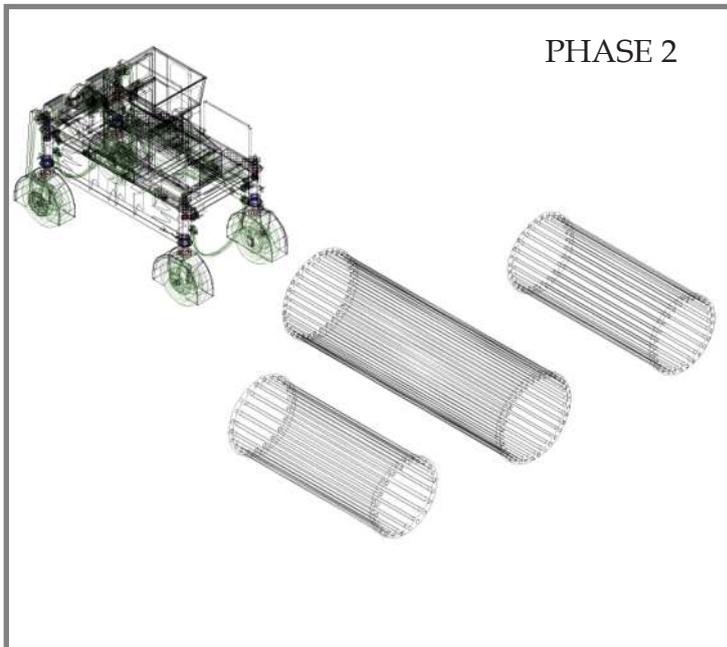
Note: the robots for the Internal and External cleaning operate totally independently so that internal and external cleaning is done simultaneously.

# BUNDLEJET CLEANING AREA

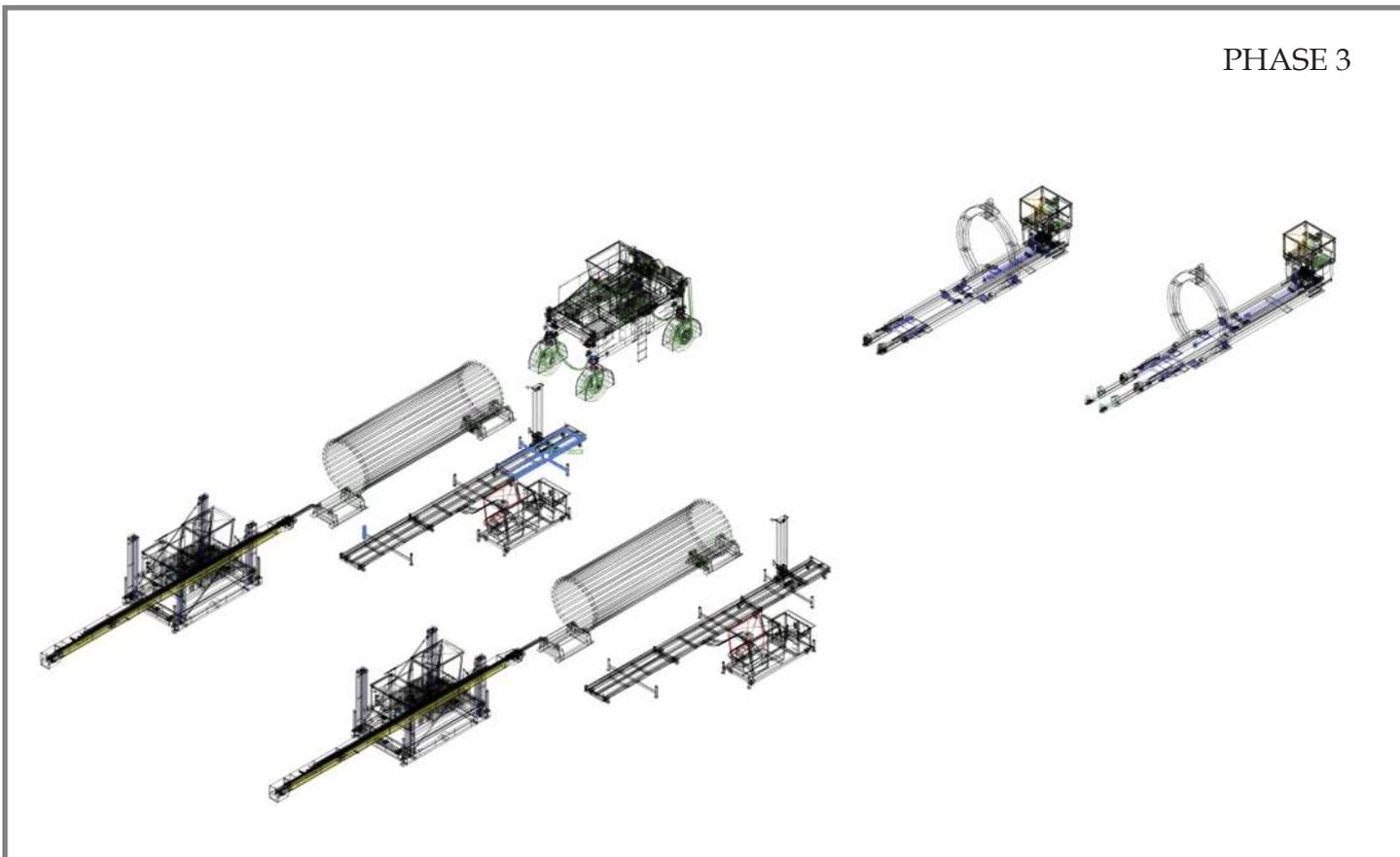
PHASE 1



PHASE 2



PHASE 3



# STRADDLE CARRIER SERIES 20T

Extracted heat exchangers are transported to and from cleaning area, without the need of auxiliary cranes for positioning.

The Straddle Carrier series 20T easily transport tube bundles up to 40 Km/h and up to 20 tons of weight capacity.

The machine has been designed to be in compliance with the CE road transportation regulations, in fact its overall height, length and width are of standard size.



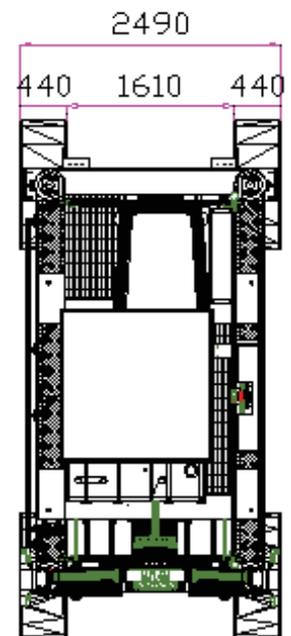
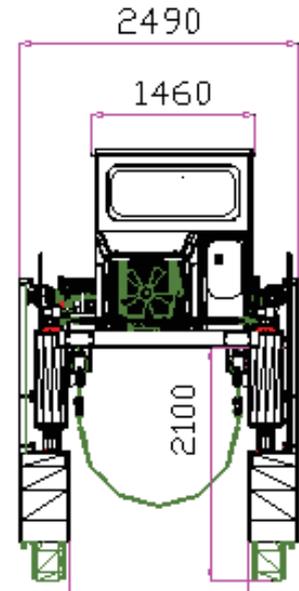
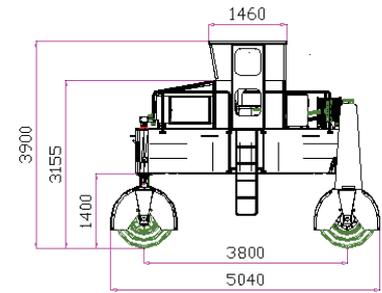
## PERFORMANCE DATA

Tubeless tires (12,00 x 24)	n.	4
Steering wheels	n.	4
Driving wheels	n.	2
Max translation speed	KM/h.	40
Max hill climbing	%	5
Max pressure on the soil	KG/cmq	8
Working stroke	mt.	1.30
Water cooled diesel engine	HP	128
Removable cabin		



# STRADDLE CARRIER SERIES 20T

			STANDARD MODEL 20 TON
<b>DIMENSION &amp; WHEIGHTS</b>			
Overall lenght OAL	mm		5015
Overall with OW / Internal IW	mm		2500 / 1600
Overall height OH	mm		3680
Wheelbase WB	mm		3800
Overall height w / cabin OHW	mm		3120
Tread	Front AW / DW	mm	2050 / 2370
	Rear CW / BW	mm	2050 / 2350
Min. ground clearence HH	mm		2080
Loading capacity	ton		20
Gross vehicle weight	Kg		7000
<b>CHASSIS</b>			
Chutch	Dry, single plate w / cushioning spring		
Suspension	Telescopie with spring		
Brakes	Air, dual circuit, front two leading, rear two leading		
Transmission	5 speed, synchromesh, floor shift control		
Steering	Powered assisted		
Tyres	Front	8,5 Bar	
	Rear	8,5 Bar	
Min. turning radius	approx	m	4,5
<b>ENGINE</b>			<b>OM 366</b>
TYPE	6 Cycle, water-cooled, vertical in line, direct injection		
Displacement	cc	5958	
Bore & stroke	mm	97,5 x 133.0	
Max torque (DIN)	N - m (Kg -m)/rpm	402 (41) / 1400	
Battery	V/AH	2 x 12 / 155	
Alternator	V	24	
Fuel tank capacity	lit.	190	
Oil tank capacity	lit.	100	



IDROJET reserves the right to change specifications and optional features at any without prior notification.

# AUTOJET I 930-5 SERIES 2015

The internal cleaning robot mod. Autojet I 930-5 series 2015 is designed to clean all types and kinds of heat exchangers internal tubes. This robot works with a maximum of 5 rigid lances, which spray high pressure water, moving both in horizontally and vertically, up to 1400 bars (20,000 psi) max working pressure. Its movements are driven by hydraulic motors fed by diesel power unit, so that the machine can be manoeuvred from the control hut inside the cabin, therefore reducing the operator risks and the contact to remove the dirt. In the fully automated version all of the functions have been programmed into the memory of a small computer.

The memory of this Robot, already programmed for standard types of heat exchangers, has the capacity to expand.

to include many other types, notably shortening the operation time.

Up stroke and cross travel motion with endless screw

- 3/4 " double chain lance slide feed
- Driving lances double speed (low - high)
- Ball bearing movement
- High pressure water supply with synchronized hose drum winch and rotating flitting
- Electric stroke end sensor-Free standing drive on the base plate for the hydraulic stabilization system
- Hydraulic remote control with 24V. electric distributor-Adjustable over pressure valve on the hydraulic circuit
- Hydraulic power unit with vibration mounting on frame
- 24 V. electric starter
- Oil cut-off valve
- Oil cooling system
- Oil compatible wheels for easy relocation on the job site
- Control hut with adjustable seat, opening window, windshield wiper, tool compartment.



Patent n° IT/1297648

Optional: New "Stop & Go" system fully electronic lances waterjet cleaning

Lenght cm.	1060
Width cm.	250
Height cm.	270
Weight Kg.	3000
Lance working stroke cm.	930
Cross travel cm.	155
Up stroke cm.	188
Number of lances	1 - 5
Lance diameter mm.	10 - 12
Flow x lance Lt.	70
Lance speed m/sec.	1 - 1.5
Force of thrust Kg.	1000
Water pressure Bar	till 1400/20000 PSI

## HYDRAULIC POWER UNIT

Lenght cm.	1060
Width cm.	250
Height cm.	270
Weight Kg.	3000
<b>ENGINE: silent pack Hatz Diesel Mod. 2L40C</b>	
Number of cylinders	2
Cubic capacity	1716
R.P.M.	3000
Horse power	24.3 KW
Cooling system	air
Hydraulic gear pump	15-25
Oil tank	140
Oil cooling system	air

# AUTOJET SI 930/5

## AUTOJET SI 930/5

Lenght mm.	10600
Width mm.	2500
Height mm.	2700
Weight Kg.	3000
Water Pressure MAX Bar/Psi	1400/2000
Flow/lance Lt/min	70
Number of lance	1 -5
Jet Lance Horizontal travel mm.	9300
Jet Lance Vertical travel mm.	1880
Jat Lance Cross travel mm.	1550

IDROJET S.r.l. has introduced on the first january of 2009 a new heat exchanger multilances internal cleaning robot mod. AUTOJET SI 930/5 on scissor-lift.

This machine is designed to clean all kind of heat exchangers internal tubes with a maximum of 5 rigid lances an a cleaning site or "insitu", thanks to a scissor lift that it is able to lift this machine till 6 mt. high, and spray high pressure water jets moving both horizontal and vertical up to 1400 bar (20000psi) max working pressure.

All movements driven by hydraulic motor and fed by diesel silent-pack power unit that can be operated by both a radio wireless control box or by a wire remote control box.

Optional: New "Stop & Go" system fully electronic lances waterjet cleaning



# AUTOJET E 930 SERIES 2015

Hydraulic power unit with vibration mounting on the frame Oil cut-off valve. Oil compatible wheels for easy relocation on the job site. Control hut with adjustable seat, opening window windshield wiper, tools compartment.

Lenght cm.	908
Width cm.	92
Cabin hut height cm.	183
Column height (at working condition) cm.	270
Weight Kg.	2000
Number of nozzles	1/5
Flow x nozzle Lt.	70
Water pressure Bar t	ill 1400/20000 PSI
Jet lance horizontal travel cm.	900
Jet lance vertical travel cm.	185
Jet lance cross travel.	90 degrees
ENGINE: silent-pack Hatz Diesel Mod. 1D81C	
Number of cylinders	1
Cubic capacity	667
R.P.M.	3000
Horse power	10 KW
Cooling system	air
Oil tank	140
Oil cooling system	air

## Hydraulic roller set



Optional:  
Water Jet Rotating Hydraulic Nozzles  
from the top



# AUTOJET E 930 XL

The new totally reinforced external cleaning robot mod. E 930 XL has been designed to solve the heat exchangers external cleaning job.

The water jet lances, up to 2800 bars (40,000 psi) of max working pressure, has a vertical working range of 185 cm. and an horizontal working range of 900 cm. which enables it to move closer to the bundle and to be tilted by 90 degrees. The bundle can also be rotated from the control hut, inside the cabin, by means of a hydraulic rollers system.

Lenght cm.	908
Width cm.	92
Cabin hut height cm.	183
Column height (at working condition) cm.	270
Weight Kg.	2000
Number of nozzles	1/5
Flow x nozzle Lt.	70
Water pressure Bar t	till 2800/40000 PSI
Jet lance horizontal travel cm.	900
Jet lance vertical travel cm.	185
Jet lance cross travel.	90 degrees
ENGINE: silent-pack Hatz Diesel Mod. 1D81C	
Number of cylinders	1
Cubic capacity	667
R.P.M.	3000
Horse power	10 KW
Cooling system	air
Oil tank	140
Oil cooling system	air



- Hydraulic power unit with vibration mounting on the frame
- Oil cut-off valve
- Oil compatible wheels for easy relocation on the job site
- Control hut with adjustable seat, opening window, wind-shield wiper, tools compartment

## THE OUTSIDE CLEANING ROBOT E-930 XL

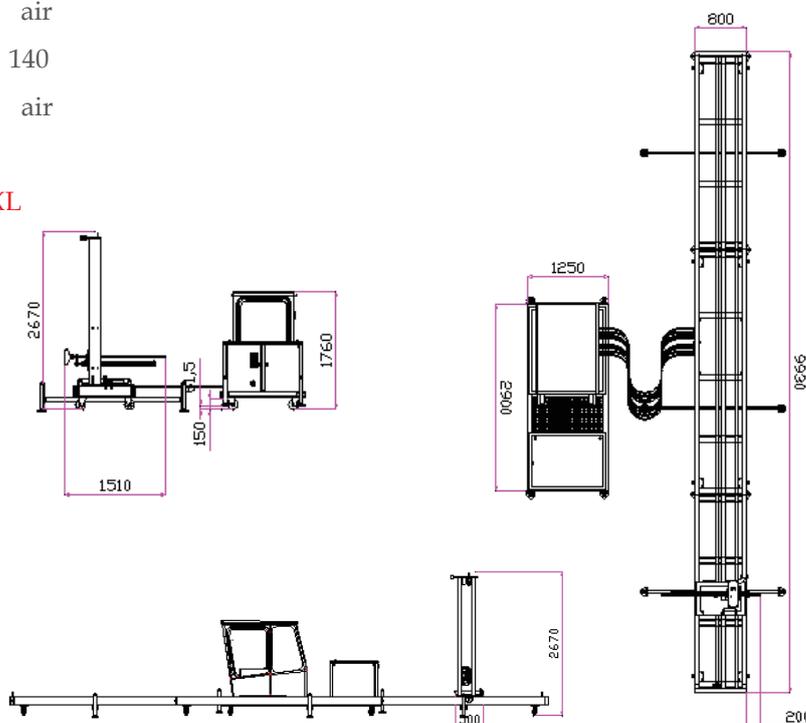
is made in two parts:

- the control hut with the power unit.
- the rail on wich the water-jet lance runs.

It works with 3 or more high pressure (till 2800 bar) water jets. The water jet lance has a working travel ① of 9 mt., a vertical travel ② of 185 cm., a cross travel ③ that gets it closer to the bundle, of 90 cm. and the possibility to be inclined of 90 degrees ④.

From the control hut can also be done the rotation of the bundle that is put on hydraulic rollers. All the movements are driven through hydraulic motors feed with a diesel power-unit.

The robot speed can be set through the gas lever or through an hydraulic valve that controls the flow-rate.



# IDROBOX



The **IdroBox** by Idrojet S.r.l. - Italy is a pneumatic flex-lance Heat Exchangers internal tubes cleaner robot, which is an powerful support for all companies providing cleaning of heat exchangers, among others, for heat and power plants and petrochemical factories.

Thanks to its ultralight design the safety and comfort of the operator are increased as well as efficiency. Performance of the cleaning process is increased up to 4 times compared to manual works, what leads to significant costs savings of the cleaning process.

The **IdroBox** by Idrojet S.r.l. - Italy allows to work with different outside diameters of flex lances without any additional tools and exchanging elements.

The **IdroBox** by Idrojet S.r.l. - Italy, keeps adjustable, constant speed of cleaning for the whole length of tube. Despite the small size and the weight of the device, the operator can use optional balancer to improve comfort of cleaning heat exchangers.

The modular design of the **IdroBox** by Idrojet S.r.l. - Italy, allows to connect a few ones into one IdroBox Combo and operate several lances at the same time with the synchronized drive.

## Standard scope of delivery includes wide range of accessories:

- IdroBox unit
- Air Treatment station with air hose 2m
- Stainless Steel Guiding tube ID 26mm, 400 mm length
- Protection rear hose 400 mm
- Specially designed flight case
- 5 sets of FIP cones, stop-ends, hose catchers for different diameter of flex-lances
- Tools,
- Additional high friction belt
- Manual.

## Technical Specifications:

Min. air pressure: 3,0 bar

Max. air pressure: 6,3 bar

IdroBox air consumption: 600 l/min for max. speed

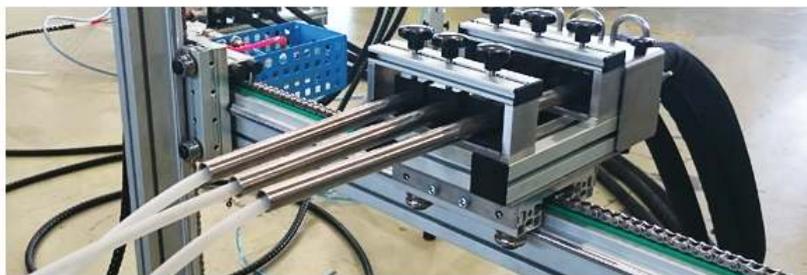
IdroBox lance speed (depends on air pressure supply): from 0,5 m/s to 1,4 m/s

IdroBox max. pull / push force: 220 N

Lance outer diameter (OD) 8,0 mm to 15,0 mm



# IDROBOX 2 or 3 COMBO



## FRAME STD + CONTROL PANEL

Set including:

complete pneumatic frame with air motors + air hoses and special top bracket for shell flange, positioning guiding box, 3-way remote control panel with integrated UHP safety button and complete air treatment station, air hoses, manual.

- The frame working area: 1500 mm x 1500 mm
- The frame speed up to : 0.1 m / s
- The frame pneumatic motors max. air consumption: 1200 l / min.
- Material: Aluminum, stainless steel

## FRAME STD :

- Ultra lightweight;
- Safe & mobility & stability by adjustable legs with wheels;
- Improved stability by special joint in the upper part of the frame;
- Easy to install by one worker;
- The modular design allows the extension of the working area;
- Fine tuning of the lance through the variable speed of the frame with fast & slow modes;
- Wide range of options eg. video surveillance;
- Corrosion resistance with anodized aluminium profiles & stainless steel components.

## NEW TRIDROBOX

### Technical Specifications:

Purpose: internal cleaning of heat exchangers

Number of lances [pcs]: 3

Possibility of vertical work: YES [only with frame "H" type]

Horizontal work: YES

Personalization of the application: YES [for individual needs]

Operating mode: automatic

Diameter lanc [OD] [mm]: 8.0 - 15.0

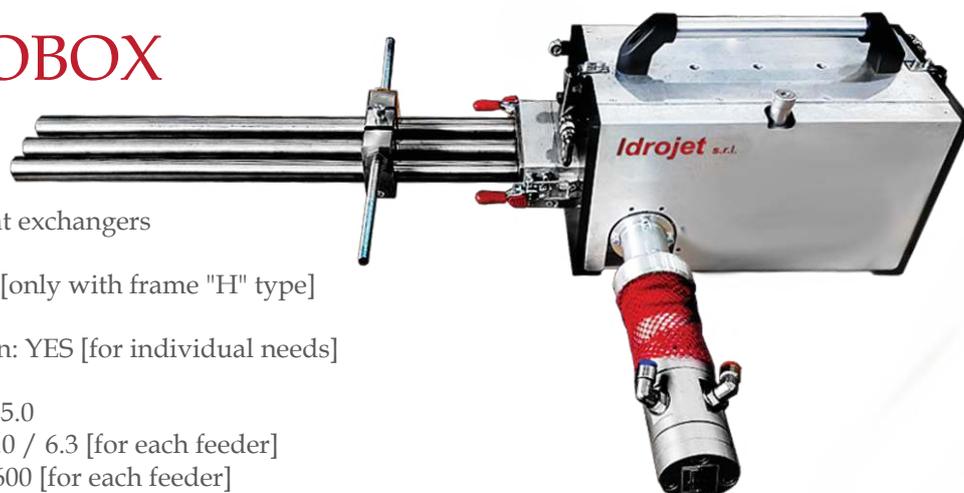
Min. / Max. air pressure [bar]: 3.0 / 6.3 [for each feeder]

Air demand [l / min. ]: approx. 600 [for each feeder]

Lance feed speed [m / s]: 0.58 - 1.4 [for each feeder]

Feed force [N]: 220 [for each feeder]

Contents: complete device with accessories, without frame



## HEAVY DUTY ROLLERS



The Idrojet, always attentive to the needs of the market, has developed different types of heavy duty rollers that vary in number of components and capacity.

During the external cleaning process of a heat exchanger, whatever type of robot you are using (external / internal), you will still need it, for a thorough and uniform cleaning, of tube bundle rollers that allow the tube bundle to rotate. Heavy duty rollers are available in sets of 2 or 3 modules and 2 to 4 rollers, each set consists of a motorized roller unit and a roller unit unguided (idle), the system is hydraulically driven from the i-930 and e-930 robot cab.

Moreover Idrojet has developed some versions of tube bundle rollers with adjustable rollers, to be able to adapt the roller module to the tube bundle, and a synchronized version that allows to rotate heavier tube bundles with ease, providing the set of with 2 or 3 motorized and synchronized modules.



### FEATURES

- The rollers are driven by a hydraulic motor
- Possibility to adjust the distance between the rollers (only adjustable mod) for rollers up to 35t.
- The drive chain is positioned so that the tube bundle can protrude without compromising the chain itself.
- The bearings mounted on each side of the rollers have a capacity of 50T each, and are also covered by a fairing to avoid damage and keep the bearings clean.
- Total cleaning of the exchanger shell.

### HEAVY DUTY TYPE:

- 25t 2 modules with 2 rollers
- 35t 2 modules with 2 rollers
- 50t 2 or 3 modules with 4 rollers

# AUTOJET FX2 AIR

The Autojet mod FX2 is a dual flexible semi-automated water blasting system that cleans the internal tubes of not extracted heat exchangers, by the use of flex-lances. The FX2 removes built-up oils and minerals, using water pressure up to 2800 bars (40,000 psi), in heat exchangers tubes up to 12 meters of length. The machine is air driven, so that the operator is completely protected against injury of high pressure jets.

## AUTOJET FX 2/3

Lenght cm.	90
Width cm.	72
Height cm.	26
Weight Kg.	87
Lance working stroke cm.	1200 cm./39.3 feet
Lance O. diameter mm.	9.4 - 11.6
Lance I. diameter mm.	5 - 6
Flow x lance Lt.	45 - 60
Lance speed m/sec.	0.7 - 1.5
MAX water pressure	2800 bar/40000 psi

## HYDRAULIC POWER UNIT (Optional)

Lenght cm.	110
Width cm.	75
Height cm.	60
Weight Kg.	375
<b>ENGINE: silent pack Hatz Diesel Mod. 2L40C</b>	
Number of cylinders	1
Cubic capacity	667
R.P.M.	3000
Horse power	10 KW
Cooling system	air

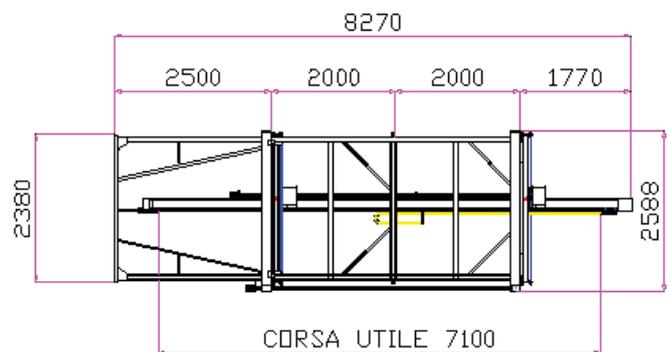
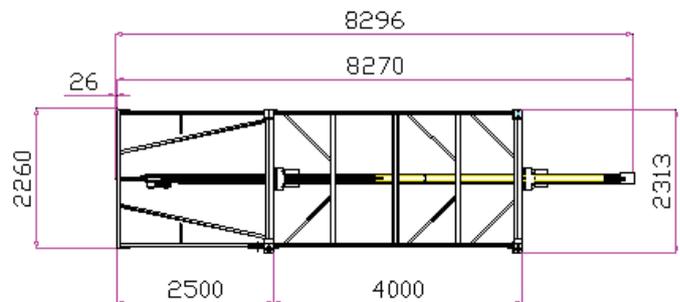
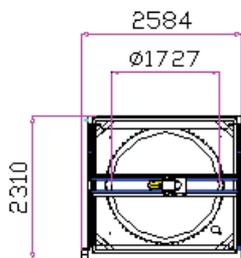
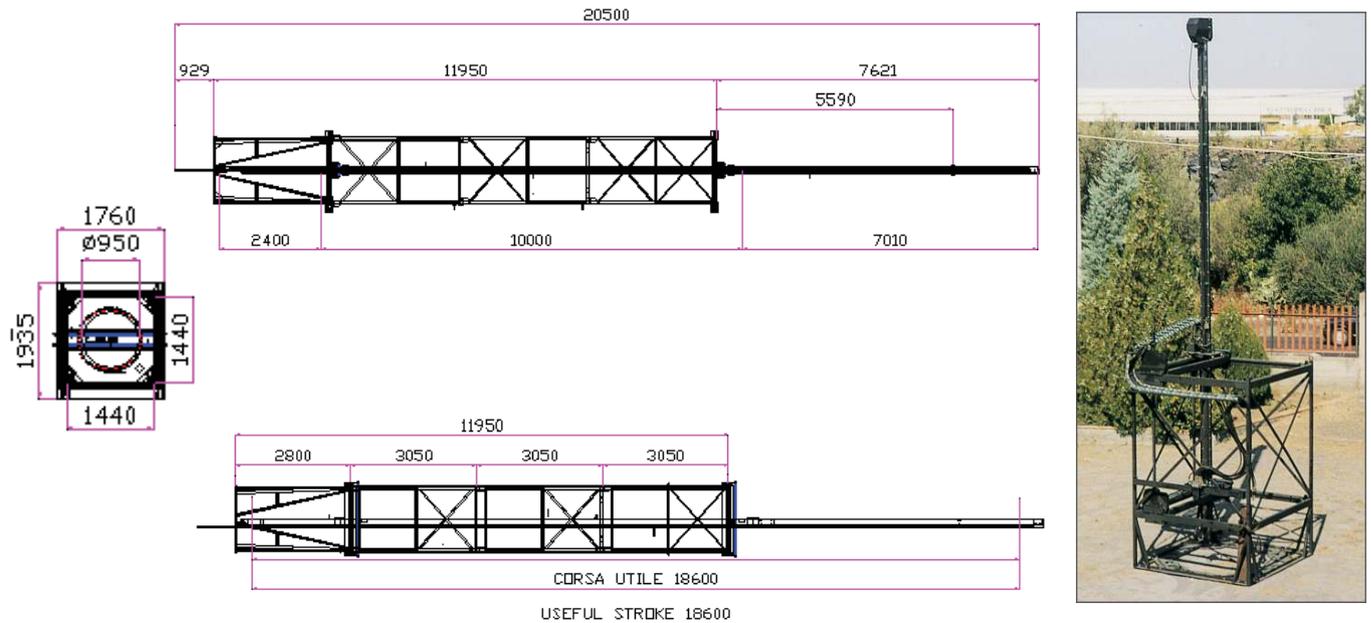


# AUTOJET OV2/40PSI

Idrojet developed a new rotating rigid lances machine up to 2800 bars (40,000 psi) of working pressure, to clean the dirtiest tubes of heat exchangers by means of 2 rotating rigid lances.

The lances boom is connected to a X-Y movement which is hydraulically powered and controlled by remote control joysticks. The Autojet OV2/40PSI can be used both in horizontal and in vertical position.

This machine is to clean hairpin and floating head bundles even in difficult places with limited space.



# THE IDROJET ACCESSORIES

## ROTATING TANK CLEANING HEADS

Internal vessel, tank, autoclave or other internal equipment surfaces, when fouled of function, and inefficient, these are the conditions when our cleaning heads are utilized to restore a clean process environment.

Idrojet offer a complete line of cleaning heads for customers requirements.



## SWIVEL JOINTS AND ACCESSORIES

The latest born are our high pressure swivels up to 2800 bars (40,000 psi), totally made in stainless steel, with high quality bearings and seals, which guarantee a long life.

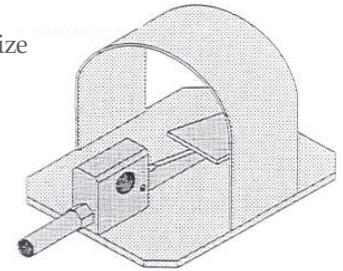
Idrojet also offer from the cleaning nozzle to rigid and flex lances, to ensure optimum cleaning action for various applications, in an efficient, economic and safe way.



## FOOT-OPERATED CONTROL GUN - G SERIES

The G-Series footgun features a fully enclosed Safety Guard, increased foot pedal area to minimize operator fatigue, and to ensure positive valve operation.

“Quick Change” valve assembly allows: Field Overhaul in less than 60 seconds.

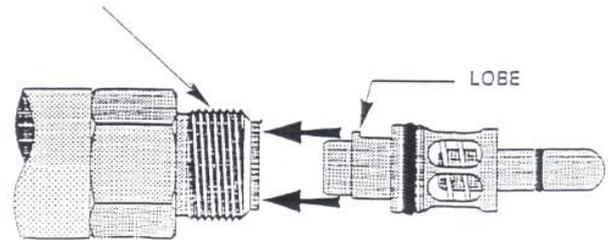


## FOOT GUN ASSEMBLY COMPLETE

- G/7 (700 BAR/10000 psi MAWP)
- G/10 (1050 BAR/15000 psi MAWP)
- (1/2" NPT Inlet & Outlet Standard)
- G/14 (1400 BAR/20000 psi MAWP)

**Simple Overhaul:** Align lobe on valve assembly with groove in Dump Tube. Push in and turn clockwise to lock. Removal is simply the reverse of this procedure.

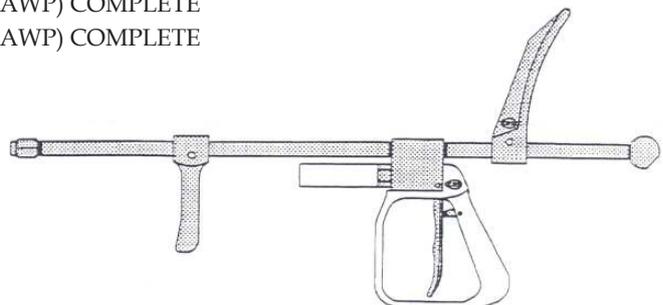
DUMP ADAPTER



## HAND-HELD CONTROL GUNS \_ HG SERIES CARTRIDGE TYPE “QUICK CHANGE” VALVE ASSEMBLY

- MODEL HG/7: PART NO: 700001 (700 BAR/ 10000 psi MAWP) COMPLETE
- MODEL HG/10: PART NO: 700003 (1050 BAR/ 15000 psi MAWP) COMPLETE

This hand Control Gun combines simplicity of operation and maintenance, with rugged durability. The style of the HG/7 and HG/10 has become a Water Blast Industry standard. The shoulder stock and handgrip can be adjusted to any desired position for maximum comfort and minimum fatigue during blasting. The entire valve mechanism can be removed and replaced in the field in less than 1 minute. Operator safety is of primary importance, and for this reason an automatic safety catch is incorporated into the handle, which engages each time the trigger is released.



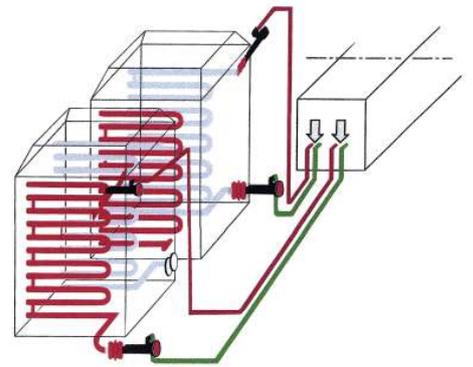
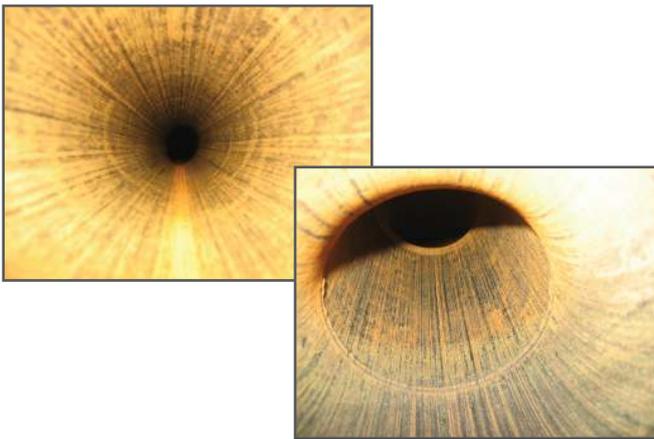
# INTRODUCTION OF THE NEW IDROJET STUD PIGGING SYSTEM MACHINE

Idrojet can now boast 40 years as a market leader in the field of industrial cleaning using high pressure pump. Today the company is striding ahead with new technology. IDM-IRS introduces to you a new concept for decoking refinery heaters. Using the latest technology and products we can now offer you a service that can save you time and money and make your heaters run more efficiently. The **H.D.T. Pigging System** uses low pressure water and specially designed range of piggs to remove carbon/coke and other deposits from your heater tubes safely. Designed by our own engineers and built by our own company we believe that by combining our knowledge-experience and planned expansion in pigging and decoking. Idrojet will become the one of the leaders in Europe.

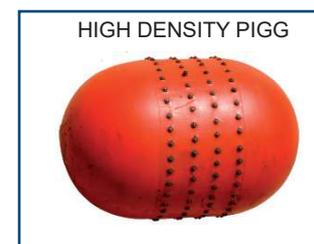
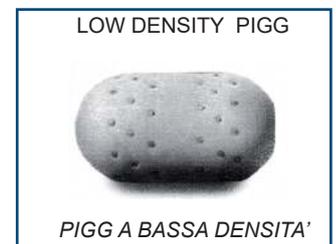
Our trailer mounted double pump decoke units have the capacity to carry out two jobs at once.

For example:

- One heater with two passes can be cleaned simultaneously.
- By looping passes together even more time can be saved.



Whatever you need cleaning from the hardest heater coke to the softest pipeline build ups Idrojet can solve your problem.



From the thickest coke build up to clean tube or pipe in the minimum of time safely and without damage.

## INTRODUCTION OF THE NEW IDROJET STUD PIGGING SYSTEM MACHINE



Idrojet S.r.l. after 40 years experience as a worldwide market leader in the field of heat exchangers industrial cleaning machines using high pressure water jets, is now striding ahead with a new technology. We are introducing you a new concept for decoking refinery heaters, using the latest technology; in fact we can now offer you a special machine that can make you save time and money and run your heaters more efficiently.

Idrojet S.r.l., together with some specialists in this special sector, have designed and built several special machines that use a combination of low pressure water and specially designed piggs to remove carbon/coke and other deposits from heater tubes, with radius bends, plug headers and box headers. Our trailer mounted double pump decoke unit have the capacity to carry out two jobs at once, as for example one heater with two passes that can be cleaned simuders, and pressure transmitters permit to clean your heaters in a bi-directional way, without any chemical product, without any heater tube damage and with a friendly environmental impact. Today we can sell you our special unit, we can train your staff to use it, since in our factory we have a complete heater for test and demo, or through our sister company, we can rent you our machine.



*Decoking machine on trailer*



*Decoking machine on container*

## INTRODUCTION OF THE NEW IDROJET STUD PIGGING SYSTEM MACHINE



### AUTOMATIC BASKETS FOR DECOKING PROCESS

The automatic baskets, positioned in the upper part of the decoking machine, are operated by an operator positioned inside the cabin, without the help therefore, of other operators, this allows a saving both in terms of human resources and the use of additional auxiliary means, which in the past were used for the emptying of the wastebaskets, therefore a saving in terms of time and labor costs.

All processing waste is automatically transported from the baskets to an external container through hoppers.

# NEW IDROJET PUMP UNITS "IDROENERGY" LINE



The base for heat exchangers cleaning is formed by a powerful high pressure Idrojet pump unit.

Idrojet offer a complete range of high pressure water pumps up to 1400 HP covering a range up to 2800 bars (40,000 psi) and 650 gpm.

## IDROJET BLASTERS

Idrojet pumps represent a new dimension of high versatility in high pressure pumping equipments.

## MODEL SPECIFICATIONS

Designed to meet the requirements of: Chemical injection - Oil field service - API processing - Reverse osmosis - Mining - Water Blasting

## DIESEL & ELECTRIC MODELS

SERIES ENGINE SIZE	MODEL NUMBER	OPERATION	RATING	
100 HP SERIES	D or E- IDJ1 (14)	TRIPLEX	20000 PSI @ 6,8 GPM	1400 BAR @ 25,7 L/M
	D or E- IDJ1 (10)		15000 PSI @ 9,8 GPM	1050 BAR @ 37 L/M
	D or E- IDJ1 (7)		10000 PSI @ 15 GPM	700 BAR @ 56,7 L/M
	D or E- IDJ1 (4)		6000 PSI @ 24,6 GPM	420 BAR @ 92,9 L/M
150 HP SERIES	D or E- IDJ1/5 (28)	TRIPLEX	40000 PSI @ 6 GPM	2750 BAR @ 21,6 L/M
	D or E- IDJ1/5 (21)		30000 PSI @ 7,5 GPM	2100 BAR @ 28,3 L/M
	D or E- IDJ1/5 (14)		20000 PSI @ 10,7 GPM	1400 BAR @ 40,4 L/M
	D or E- IDJ1/5 (10)		15000 PSI @ 14,7 GPM	1050 BAR @ 55,5 L/M
	D or E- IDJ1/5 (7)		10000 PSI @ 21,6 GPM	700 BAR @ 81,6 L/M
165 HP SERIES	D or E- IDJ1/65 (28)	TRIPLEX	40000 PSI @ 6,3 GPM	2800 BAR @ 24 L/M
	D or E- IDJ1/65 (21)		30000 PSI @ 7,7 GPM	2100 BAR @ 29 L/M
	D or E- IDJ1/65 (14)		20000 PSI @ 12,4 GPM	1400 BAR @ 47 L/M
	D or E- IDJ1/65 (10)		15000 PSI @ 16,4 GPM	1050 BAR @ 62 L/M
	D or E- IDJ1/65 (7)		10000 PSI @ 25,6 GPM	700 BAR @ 97 L/M
200 HP SERIES	D or E- IDJ2 (21)	TRIPLEX	30000 PSI @ 11,5 GPM	2100 BAR @ 43,5 L/M
	D or E- IDJ2 (14)		20000 PSI @ 15,6 GPM	1400 BAR @ 59 L/M
	D or E- IDJ2 (10)		15000 PSI @ 20,4 GPM	1050 BAR @ 77 L/M
	D or E- IDJ2 (7)		10000 PSI @ 35,1 GPM	700 BAR @ 132,7 L/M
	D or E- IDJ2 (5)		8000 PSI @ 42,1 GPM	560 BAR @ 159,2 L/M
220 HP SERIES	D or E- IDJ2/2 (28)	TRIPLEX	40000 PSI @ 11,5 GPM	2800 BAR @ 32 L/M
	D or E- IDJ2/2 (21)		30000 PSI @ 15,6 GPM	2100 BAR @ 38 L/M
	D or E- IDJ2/2 (14)		20000 PSI @ 20,4 GPM	1400 BAR @ 62 L/M
	D or E- IDJ2/2 (10)		15000 PSI @ 35,1 GPM	1050 BAR @ 81 L/M
	D or E- IDJ2/2 (7)		10000 PSI @ 42,1 GPM	700 BAR @ 127 L/M
250 HP SERIES	D or E- IDJ2/5 (28)	TRIPLEX	40000 PSI @ 6,4 GPM	2800 BAR @ 23 L/M
	D or E- IDJ2/5 (24)		35000 PSI @ 8,3 GPM	2400 BAR @ 32 L/M
	D or E- IDJ2/5 (21)		30000 PSI @ 10,8 GPM	2100 BAR @ 41 L/M
	D or E- IDJ2/5 (14)		20000 PSI @ 15,4 GPM	1400 BAR @ 58 L/M
320 HP SERIES	D or E- IDJ3 (21)	TRIPLEX	30000 PSI @ 11,5 GPM	2100 BAR @ 50,6 L/M
	D or E- IDJ3 (14)		20000 PSI @ 15,6 GPM	1400 BAR @ 77,1 L/M
	D or E- IDJ3 (10)		15000 PSI @ 20,4 GPM	1050 BAR @ 96,7 L/M
	D or E- IDJ3 (7)		10000 PSI @ 35,1 GPM	700 BAR @ 145,1 L/M
	D or E- IDJ3 (5)		8000 PSI @ 42,1 GPM	560 BAR @ 173,9 L/M
350 HP SERIES	D or E- IDJ3/P5 (28)	QUINTUPLEX	40000 PSI @ 11,3 GPM	2750 BAR @ 42,3 L/M
	D or E- IDJ3/P5 (21)		30000 PSI @ 13,4 GPM	2100 BAR @ 50,6 L/M
	D or E- IDJ3/P5 (14)		20000 PSI @ 22,1 GPM	1400 BAR @ 84 L/M
	D or E- IDJ3/P5 (10)		15000 PSI @ 28,9 GPM	1050 BAR @ 110 L/M
	D or E- IDJ3/P5 (7)		10000 PSI @ 45,1 GPM	700 BAR @ 172 L/M
D or E- IDJ3/P5 (5)	8000 PSI @ 54,6 GPM	560 BAR @ 207 L/M		
450 HP SERIES	D or E- IDJ4/P5 (28)	QUINTUPLEX	40000 PSI @ 15,36 GPM	2750 BAR @ 58,4 L/M
	D or E- IDJ4/P5 (21)		30000 PSI @ 18,3 GPM	2100 BAR @ 81,5 L/M
	D or E- IDJ4/P5 (14)		20000 PSI @ 32,5 GPM	1400 BAR @ 123,5 L/M
	D or E- IDJ4/P5 (10)		15000 PSI @ 41,1 GPM	1000 BAR @ 156 L/M
	D or E- IDJ4/P5 (7)		10000 PSI @ 61,4 GPM	700 BAR @ 233,5 L/M
D or E- IDJ4/P5 (5)	8000 PSI @ 85,5 GPM	560 BAR @ 290 L/M		

## NEW SELF-BALANCING "COBRA" LINE (PATENT. N.PCT/IT2016/00079)

### New "COBRA" line patented self-balancing.

Removal of tube bundles is essential; special hydraulic tube bundle extractor are used to extract and transport the tube banks to/from their shells.

Idrokid is at the forefront of technology in this special field, because its machines are born from 1000 ideas, by people that everyday pull and push tube bundles in oil refineries and chemical plants all over the world.

Idrokid is your hydraulic tube bundle extractor, super light, super easy to operate, super powerful and super clever, self-supportive, due to the use of an air-cooled diesel engine, with all hydraulic functions remotely controlled, fitted with hydraulic winch that can pull/install the most obstinate bundles in one stroke, normally in less than 15 minutes, and with the biggest range of machines in the world.

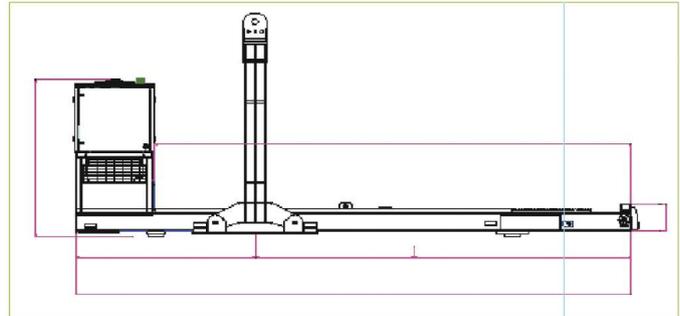
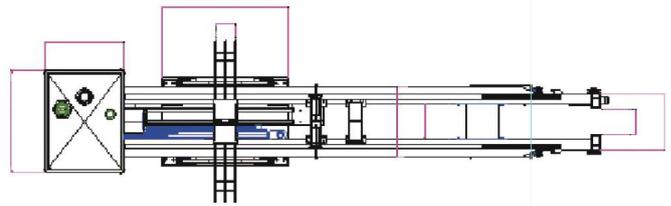
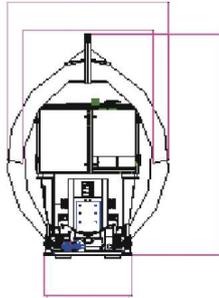


New "COBRA" line self-balancing fully electronic aerial extraction able to remove or reinstall bundle with or without your operator!



# AERIAL TUBE BUNDLE EXTRACTOR MOD: SUPER CLEVER IDROKID EXTRACTOR

The aerial bundle puller mod. "Super Clever Idrokid Extractor" weights only 4800 kg. (10.850 lb.) and is long just 7000 mm. (23 feet), but because of its light weight and due to its unique and particular construction in high resistance steel, it is able to pull and push tube bundles till 6800 mm. (21 feet) of length, 25 tons of bundle weight up to 1600 mm. (5,25 feet) of bundle diameter.



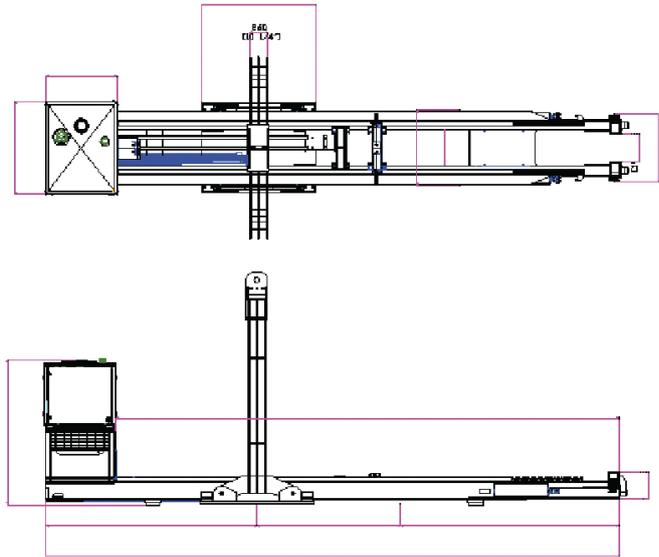
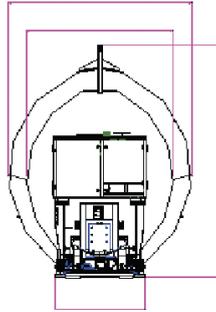
## SPECIFICATIONS

<i>BUNDLE EXTRACTOR MACHINE</i>	<i>SUPER CLEVER</i>
Length	7000 mms.
Width	1040 mms.
Height	2215 mms.
Weight (with bundle arch)	4800 Kgs.
Weight (without bundle arch)	6800 Kgs.
Maximum bundle extraction height	N/a
Minimum bundle extractor height	N/a
<i>TUBE BUNDLE</i>	
Length	6500 mms.
Bundle weight capacity	25000 Kgs.
Diameter	1600 mms.
Winch pull force	62000 Kgs.
Speed	2.8m/min
<i>PUMP</i>	Rexroth var. delivery
<i>ENGINE/AIR DRIVE (OPTIONAL)</i>	Hatz mod. 2L41C
Cooling system	air
No. of cylinders	2
Cubic capacity	1716cc
RPM	3000
Horse power	33
<i>PACKING</i>	40' Dv cont
<i>PRICE</i>	<i>EURO</i> Poa



# AERIAL TUBE BUNDLE EXTRACTOR MOD: SUPER IDROKID EXTRACTOR

The aerial bundle puller mod. "Super Idrokid extractor" weights only 5400 kg. (11.900 lb.) and is long 8000 mm. (26,3 feet), but due to its unique and particular construction in high resistance steel, it is able to pull and push tube bundles till 7700 mm. (25,26 feet) of length, 35 tons of bundle weight up to 2000 mm. (6,56 feet) of bundle diameter with a pullingforce of 62 tons.



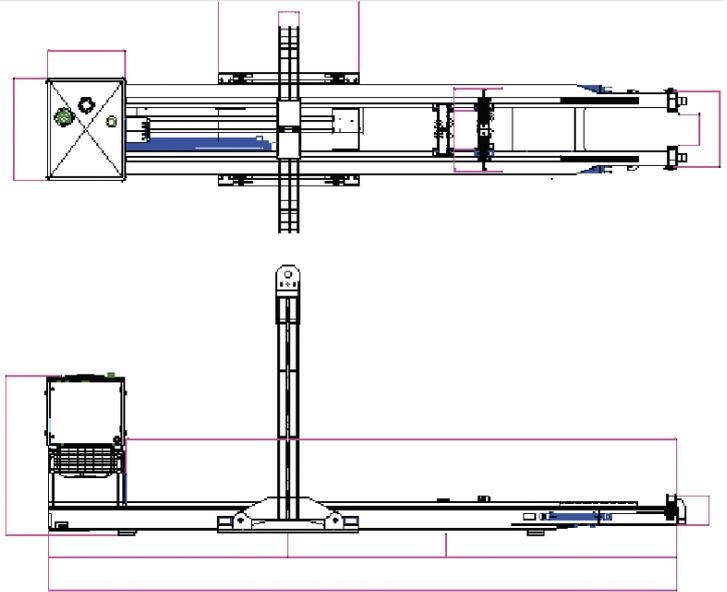
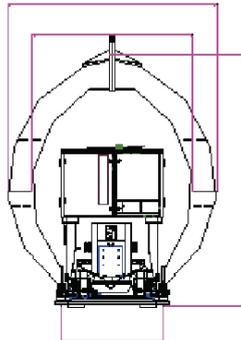
## SPECIFICATIONS

<i>BUNDLE EXTRACTOR MACHINE</i>		<i>SUPER IDROKID</i>
Length		8000 mms.
Width		1240 mms.
Height		2315 mms.
Weight (with bundle arch)		5400 Kgs.
Weight (without bundle arch)		7400 Kgs.
Maximum bundle extraction height		N/a
Minimum bundle extractor height		N/a
<i>TUBE BUNDLE</i>		
Length		7700 mms.
Bundle weight capacity		35000 Kgs.
Diameter		2000 mms.
Winch pull force		62000 Kgs.
Speed		2.8m/min
<i>PUMP</i>		Rexroth var. delivery
<i>ENGINE/AIR DRIVE (OPTIONAL)</i>		Hatz mod. 2L41C
Cooling system		air
No. of cylinders		2
Cubic capacity		1716cc
RPM		3000
Horse power		33
<i>PACKING</i>		40' Dv cont
<i>PRICE</i>		<i>EURO</i> Poa



# AERIAL TUBE BUNDLE EXTRACTOR MOD: SUPER IDROKID EXTRACTOR/2

The aerial bundle puller mod. "Super Idrokid Extractor/2" weighs only 5600 kg. (12.340 lb.) and is long 8000 mm. (26,3 feet), but due to its unique and particular construction in high resistance steel, it is able to pull and push tube bundles till 7700 mm. (25,26 feet) of length, 45 tons of bundle weight up to 2000 mm. (6,56 feet) of bundle diameter with a pulling force of 62 tons.



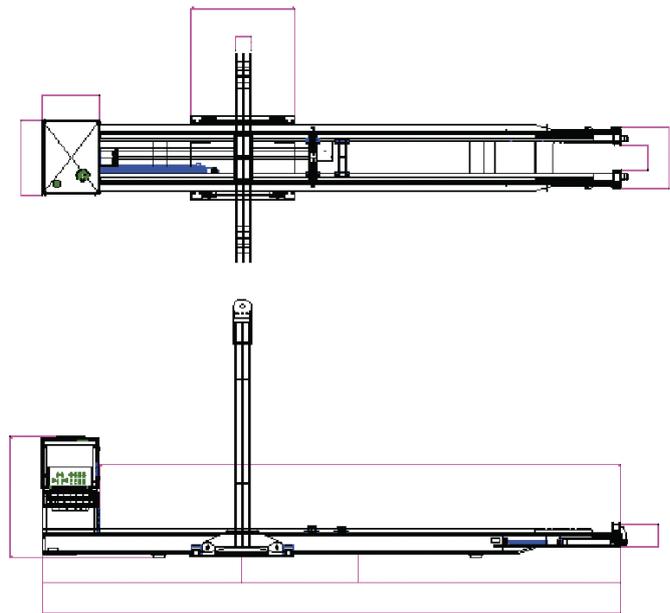
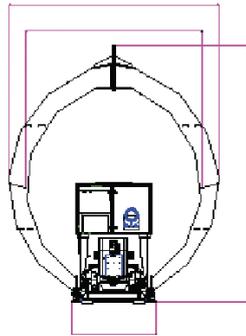
## SPECIFICATIONS

<i>BUNDLE EXTRACTOR MACHINE</i>		<i>SUPER IDROKID/2</i>
Length		8000 mms.
Width		1240 mms.
Height		2315 mms.
Weight (with bundle arch)		5600 Kgs.
Weight (without bundle arch)		7600 Kgs.
Maximum bundle extraction height		N/a
Minimum bundle extractor height		N/a
<i>TUBE BUNDLE</i>		
Length		7700 mms.
Bundle weight capacity		45000 Kgs.
Diameter		2000 mms.
Winch pull force		62000 Kgs.
Speed		2.8m/min
<i>PUMP</i>		Rexroth var. delivery
<i>ENGINE/AIR DRIVE (OPTIONAL)</i>		Hatz mod. 2L41C
Cooling system		air
No. of cylinders		2
Cubic capacity		1716cc
RPM		3000
Horse power		33
<i>PACKING</i>		40' Dv cont
<i>PRICE</i>	<i>EURO</i>	Poa



# AERIAL TUBE BUNDLE EXTRACTOR MODEL: MEGA IDROKID EXTRACTOR

The aerial bundle puller mod. "Mega Idrokid Extractor" weights only 5800 kg. (12.790 lb.) and is long 10000 mm. (32,8 feet), but due to its unique and particular construction in high resistance steel, it is able to pull and push tube bundle till 9500 mm. (31,17 feet) of length, 45 tons of bundle weight up to 2000 mm. (6,56 feet) of bundle diameter with a pulling force of 62 tons.

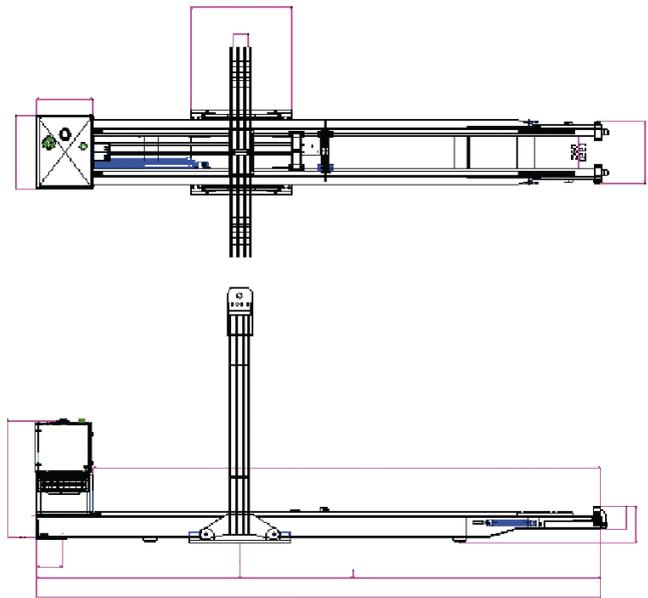
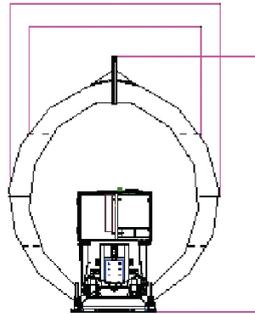


SPECIFICATIONS	
<b>BUNDLE EXTRACTOR MACHINE</b>	<b>MEGA KID</b>
Length	10000 mms.
Width	1440 mms.
Height	3315 mms.
Weight (with bundle arch)	5800 Kgs.
Weight (without bundle arch)	7800 Kgs.
Maximum bundle extraction height	N/a
Minimum bundle extractor height	N/a
<b>TUBE BUNDLE</b>	
Length	9500 mms.
Bundle weight capacity	45000 Kgs.
Diameter	3000 mms.
Winch pull force	62000 Kgs.
Speed	2.8m/min
<b>PUMP</b>	Rexroth var. delivery
<b>ENGINE/AIR DRIVE (OPTIONAL)</b>	Hatz mod. 2L41C
Cooling system	air
No. of cylinders	2
Cubic capacity	1716cc
RPM	3000
Horse power	33
<b>PACKING</b>	40' Dv cont
<b>PRICE</b>	<b>EURO</b> Poa



# AERIAL TUBE BUNDLE EXTRACTOR MODEL: SUPER MEGA IDROKID EXTRACTOR

The aerial bundle puller mod. "Super Mega Idrokid Extractor" weights only 6200 kg. (13.670 cb.) and is long 11000 mm. (35,8 feet), but due to its unique and particular construction in high resistance steel, it is able to pull and push tube bundle till 10500 mm. (33,17 feet) of length, 65 tons of bundle weight up to 3000 mm. (3,84 feet) of bundle diameter with a pulling force of 62 tons.



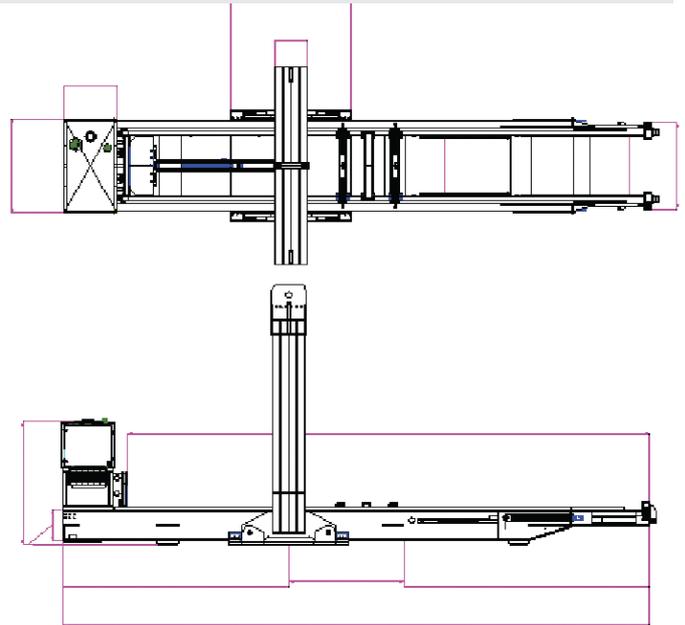
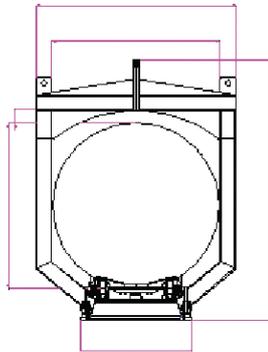
## SPECIFICATIONS

<i>BUNDLE EXTRACTOR MACHINE</i>		<i>SUPER MEGA KID</i>
Length		11000 mms.
Width		1440 mms.
Height		3315 mms.
Weight (with bundle arch)		6200 Kgs.
Weight (without bundle arch)		8200 Kgs.
Maximum bundle extraction height		N/a
Minimum bundle extractor height		N/a
<i>TUBE BUNDLE</i>		
Length		10500 mms.
Bundle weight capacity		65000 Kgs.
Diameter		3000 mms.
Winch pull force		62000 Kgs.
Speed		2.8m/min
<i>PUMP</i>		Rexroth var. delivery
<i>ENGINE/AIR DRIVE (OPTIONAL)</i>		Hatz mod. 2L41C
Cooling system		air
No. of cylinders		2
Cubic capacity		1716cc
RPM		3000
Horse power		33
<i>PACKING</i>		40' Dv cont
<i>PRICE</i>	<i>EURO</i>	Poa



## AERIAL TUBE BUNDLE EXTRACTOR MODEL: SUPER BIG IDROKID EXTRACTOR

The aerial bundle puller mod. "Super Big Idrokid Extractor" weights only 8800 kg. (16.870 cb.) and is long 12000 mm. (39,8 feet), but due to its unique and particular construction in high resistance steel, it is able to pull and push tube bundles till 11500 mm. (37,45 feet) of length, 100 tons of bundle weight up to 3200 mm. (4,84 feet) of bundle diameter with a pulling force of 100 tons.



### SPECIFICATIONS

<i>BUNDLE EXTRACTOR MACHINE</i>	<i>EXTRA BIG KID</i>
Length	12000 mms.
Width	1750 mms.
Height	5000 mms.
Weight (with bundle arch)	8800 Kgs.
Weight (without bundle arch)	10800 Kgs.
Maximum bundle extraction height	N/a
Minimum bundle extractor height	N/a
<i>TUBE BUNDLE</i>	
Length	11500 mms.
Bundle weight capacity	100000 Kgs.
Diameter	3200 mms.
Winch pull force	100000 Kgs.
Speed	2.8m/min
<i>PUMP</i>	Rexroth var. delivery
<i>ENGINE/AIR DRIVE (OPTIONAL)</i>	Hatz mod. 2L41C
Cooling system	air
No. of cylinders	2
Cubic capacity	1716cc
RPM	3000
Horse power	33
<i>PACKING</i>	40' Dv cont
<i>PRICE</i>	<i>EURO</i> Poa



## NEW AERIAL BUNDLE EXTRACTOR FROM 25 TONS TILL 100 TONS

Idrokid is able to remove and reinstall 100% of the tube-bundles in common petroleum refinery use, with great easiness in cheap way.

The hydraulic tube bundle extractor, super light, super easy to operate, super powerful, super clever.

Idrokid's hydraulic system brings the convenience to change the pulling force automatically:

it increase the power and at same time decreases the speed and viceversa.

Idrokid extractor is a the forefront of technology, because it is born from 1000 ideas, by peoples that everyday pull and push tube bundles in oil refineries and chemical plants all over the world.



*ATEX ZONE 1 Temperature T2  
(air motor or electric motor optional)*



*Hydraulic V-Block Trolley  
(optional)*



*Wireless remote control box  
(optional)*

SPECIFICATIONS	<i>SUPERCLEVER</i>	<i>SUPER IDROKID</i>	<i>SUPER IDROKID2</i>	<i>MEGA IDROKID</i>	<i>SUPERMEGA IDROKID</i>	<i>SUPER BIG IDROKID</i>
<i>BUNDLE EXTRACTOR MACHINE</i>						
Length	7000 mms.	8000 mms.	8000 mms.	10000 mms.	11000 mms.	12000 mms.
Width	1020 mms.	1220 mms.	1220 mms.	1440 mms.	1540 mms.	1640 mms.
Height	2215 mms.	2315 mms.	2315 mms.	3315 mms.	3315 mms.	3615 mms.
Weigth (without arch)	48000 kgs	54000 kgs.	75600 kgs.	58000 kgs.	68000 kgs.	98000 kgs.
<i>TUBE BUNDLE</i>						
Length	6500 mms	7700 mms.	7700 mms.	9700 mms.	10700 mms.	11700 mms.
Weigth at max. height 7000mm	25000 kigs.	35000 kgs.	45000 kgs.	45000 kgs.	65000 kgs.	100000 kgs.
Diameter	1600 mms.	2000 mms.	2000 mms.	2000 mms.	3000 mms.	3200 mms.
Winch pull force	62000 / 100000 kgs.					
Speed	2.8 m / min					
<i>PUMP</i>	REXROTH VAR. DELIVERY					
<i>ENGINE AIR DRIVE</i>	HATZ MOD. 2L41C					
Cooling system	AIR RADIATOR					
No. of cylinders	2					
Cubic capacity	1716 CC.					
RPM	3000					
Horse power	33					

**on all models side ext. 400 mm. and front side ext. 1000 mm. long**

## NEW PULL AND PUSH

No more Fork Lift or traditional way with small cranes to Pull and Push tubes or small tubes bundles in oil refinery or chemical plants!

The unit is self supportive, due to the use of an air cooled Hatz diesel engine, it needs just a crane to be lifted into position. The engine, equipped with a spark arrestor in order to be used also in hazardous areas, drives an hydraulic pump and is equipped with an hydraulic winch that can Pull and Push the most obstinate tube and/or tube bundle in one stroke, normally in less than 10 minutes !

All hydraulic functions are remotely controlled, allowing a reduction in personnel and increasing the safety of the operators.

When the tube or the tube bundle is completely on the machine, the load is balanced using an hydraulic cylinder. Furthermore, due to the slim and super light construction of the balancing system, accessibility to the tube or the heat exchanger and its surrounding obstacles is increased, and there is no need anymore to disassembly the superstructure while lifting the tube bundle or the tube out from the chassis of the machine.

Max Winch pulling/pushing force up to 20 tons and hydraulic power pack supplied with Hatz diesel engine and spark arrestor.



SPECIFICATIONS		5 TONS	10 TONS	15 TONS	20 TONS
<b>PULL AND PUSH</b>					
Lenght of "P&P"	6600 mm./ 21,65 feet	7000 mm./ 23 feet	7400 mm./ 25 feet	7400 mm./ 25 feet	
Maximum Height	1880 mm./ 74 Inches				
Width of "P&P" (without arch.)	800 mm./ 32 Inches	1000 mm./ 40 Inches	1500 mm./ 48 Inches	1600 mm./ 52 Inches	
Weight of "P&P" (unloaded)	1600 Kg./ 3500 Inches	1800 Kg./ 4000 Inches	2000 Kg./ 4400 Inches	2000 Kg./ 4400 Inches	
Maximum bundle lenght	6000 mm/ 20 feet	6400 mm/ 21 feet	7000 mm/ 23 feet	7000 mm/ 23 feet	
Maximum bundle diameter	1000 mm / 40 Inches	1000 mm / 40 Inches	1500 mm / 60 Inches	1600 mm / 63 Inches	
Maximum winch pulling force	10000 Kg./ 22046 Ibs				
Maximum bundle weight	5000 Kg./ 11000 Ibs	10000 Kg./ 22046 Ibs	15000 Kg./ 33100 Ibs	20000 Kg./ 44092 Ibs	
Winch pulling speed	2500 mm/min. / 8,2 feet/min.				
Pump working pressure	200 Bars / 2900 psi				
<b>ENGINE/AIR DRIVE (OPTIONAL)</b>	HATZ model 1D90W	HATZ model 1D90W	HATZ model 1D90W	HATZ model 1D90W	
Cooling system	air	air	air	air	
No. of cylinders	1	1	1	1	
Cubic capacity	722 CC	722 CC	722 CC	722 CC	
RPM	3000	3000	3000	3000	
Horse power	16 HP	16 HP	16 HP	16 HP	

## TRUCK MOUNTED BUNDLE EXTRACTOR MODEL: IK TRUCK 25

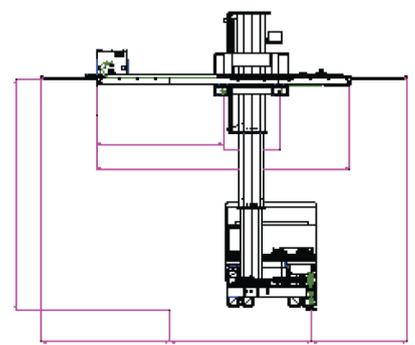
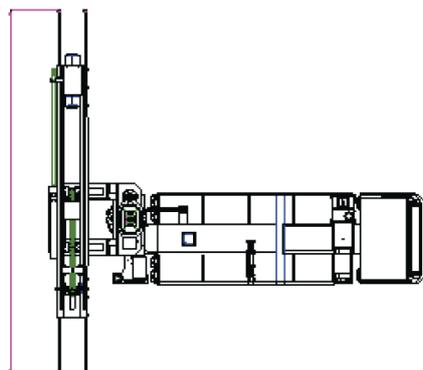
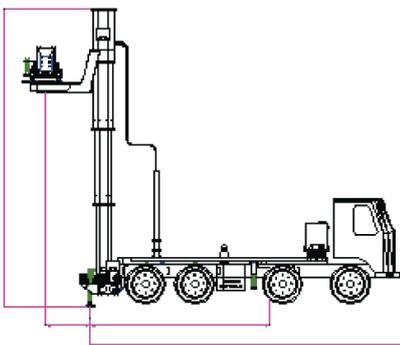
Our Truck Mounted Bundle Extractor is completely self-sufficient. It travels at highway speeds mounted on a cab over truck eliminating transportation cost. Its capabilities once onsite enables our extractor to pull, transport to a cleaning location and unload the bundle without the assistance of other trucks or cranes. The main advantages of this machine are that pulling and reinstalling bundles can be faster, easier, safer and cheaper.



Patent n.  
PCT/IT00/00069

### TECHNICAL DATA

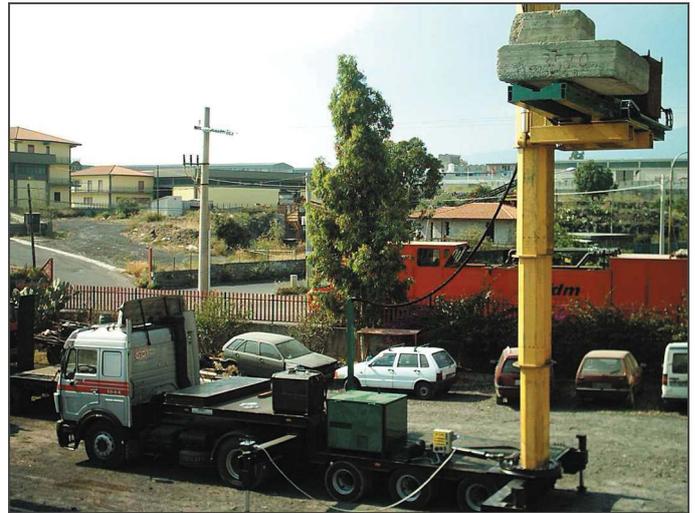
Maximum working height	7000 mm./23 feet
Minimum working height	610 mm./2 feet
Maximum bundle diameter	2000 mm./6,56 feet
Maximum bundle weight (at minimum height of extraction)	25.000 Kg./55.080 Ib.
Maximum bundle weight (at maximum height of extraction)	22.000 Kg./48,501 Ib.
Maximum bundle length	7700 mm./25 feet
Maximum pulling force	62.000 Kg./136.686 Ib.
Winch pulling speed	2.8 mt./min 91,8 feet/min



## TRAILER BUNDLE EXTRACTOR MODEL: TLBEX IK25

The new born in Idrojet factory is the trailer lift bundle extractor mod. "TLBEX IK22", that is able, since it is assembled on a special trailer, to be easy positioned to pull and push one tube bundle without any auxiliary crane. At the end of the pulling/inserting operations, the machine can be easily transported, by the use of a common tractor, positioned in front of another heat exchanger and ready to restart its job, while the tractor will be free to do another service. The machine, in fact is self-sufficient, thanks to an hydraulic power unit and a remote control by the use of joysticks.

The TLBEX IK22 can reach 7000 mm. (23 feet) high from the ground and can pull/push heat exchangers till 8000 mm. (26,3 feet) of length and 20 tons of weight, with a pulling force of 62 tons.



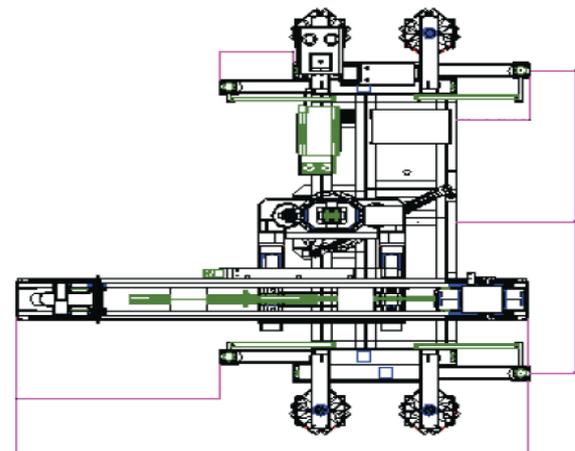
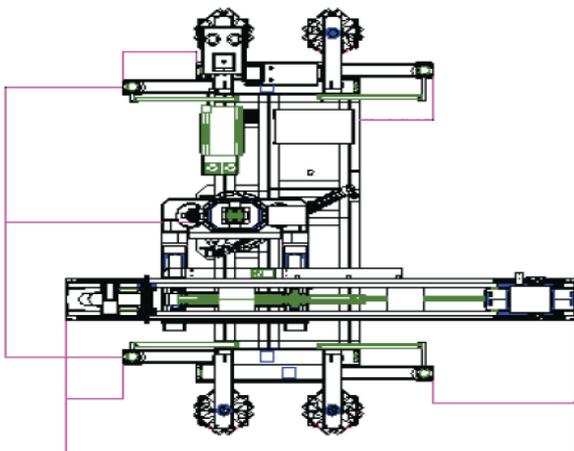
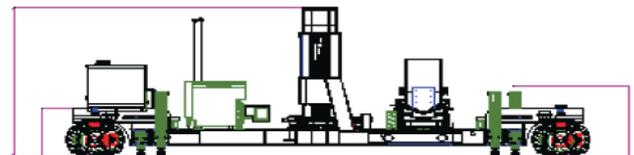
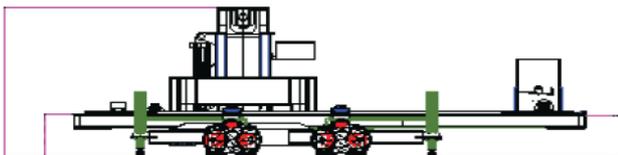
SPECIFICATIONS		TLBEX IK25
<i>BUNDLE EXTRACTOR MACHINE</i>		
Length		8000 mms.
Width		1220 mms.
Height		N/a
Weight		14000 Kgs.
Maximum bundle extraction height		7000 mms.
Minimum bundle extractor		610 mms.
<i>TUBE BUNDLE                      TUBE BUNDLE</i>		
Bundle Length		7700 mms.
Weight at maximum height		25000 Kgs.
Weight at minimum height		25000 Kgs.
Diameter		2000 mms.
Winch pull force		62000 Kgs.
Speed		2.8m/min
<i>PUMP</i>		Rexroth var. delivery
<i>ENGINE/AIR DRIVE (OPTIONAL)</i>		Hatz mod. 2L41C
Cooling system		air
No. of cylinders		2
Cubic capacity		1716cc
RPM		3000
Horse power		33
<i>PACKING</i>		40' O/T
<i>PRICE</i>	<i>EURO</i>	Poa

## SELF PROPELLED BUNDLE EXTRACTOR MODEL: SPBE IKDSME25 LIGHT TYPE

Idrojet has designed and projected a new self propelled bundle extractor especially suitable for off-shore platform plants. This machine is in fact able to pull and push bundle up to 25 tons of weight, 8000 mm. of length (26,3 feet) at 6,5 meters of maximum height (21,3 feet) self-sufficient, thanks to an hydraulic power pack unit and remotely controlled by the use of joysticks.

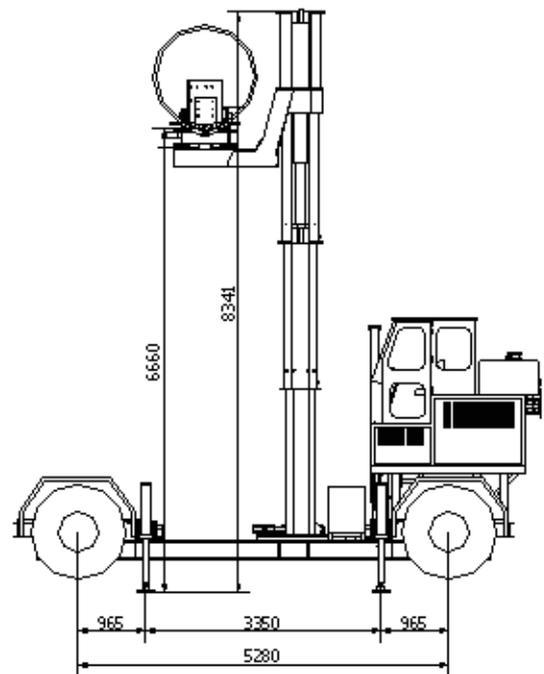
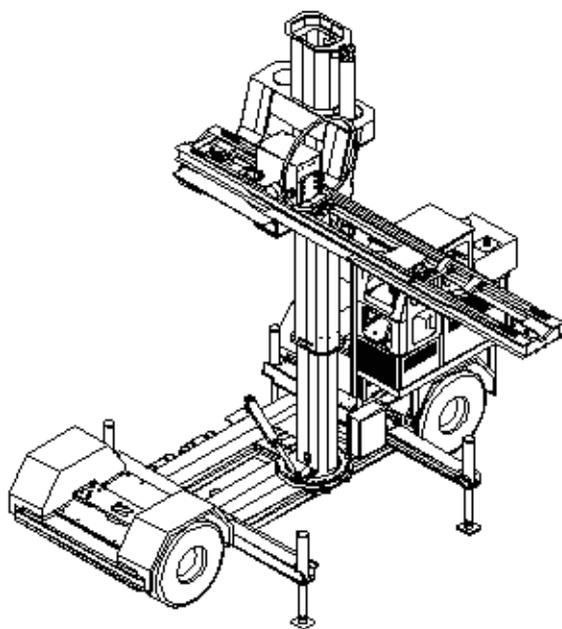
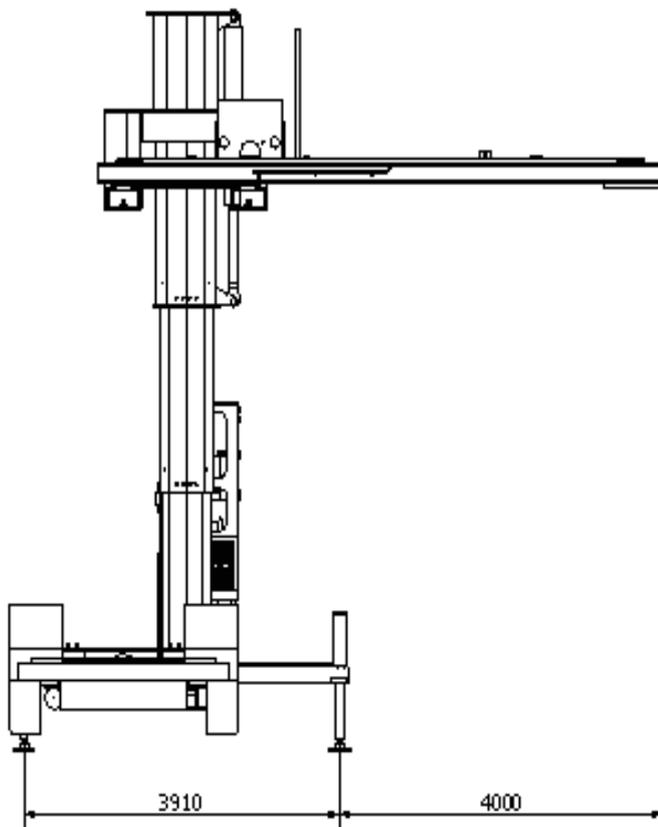
All wheels can turn up to 180° in both directions and can drive at same time in both directions, like a toy for childrens.

Further, the weight of the machine, only 13 tons, its engine, modified for hazardous areas, and its hydraulic air controlled joysticks, make this machine perfect for the use in platform offshore plants.



## SELF PROPELLED BUNDLE EXTRACTOR MODEL: IK SELF 40 - HEAVY TYPE

This extractor is the state of the art technology in the field of industrial maintenance equipment, because it combines all properties of the truck mounted bundle extractor and of the trailer lift bundle extractor. Just try one of our models for the first time and this will become your **trusted** hydraulic tube bundle extractor!



## IDROKID HIGH-TECH FOR HEAT EXCHANGER TUBE PULL/PUSHING

### IDROKID HIGH TECH TUBE PULLING/PUSHING

IDROKID today can offer you a wide range of hydraulic devices dedicated to partial or complete pulling of heat exchanger tubes, manual or semi-automated, to be used on site or in-house, plus tube rolling equipments, tube expander, tube bevelling and tube cleaning tools, and of course hydraulic tube bundle extractors.



## CATALIST BOTTOM REMOVAL MODEL: SUPERGAS

IDROJET has development in cooperating with a local engineering contractor a new revolutionary machine to open the bottoms of the reactor installed in the re-gasifying plants, when it is necessary to open them in order to remove and change the catalyst held inside these special reactors.

Since these reactors are usually situated at very high level from the ground, we developed a special scissor-lift is able to approach the bottom of the reactor and move it down on the ground level, all by the use of joysticks on the remote control box, and of course, the all machine is driven by an hydraulic power pack with an air explosion-proof engine for a better labour safety we built two models:



Model super-gas 1 for a max weight capacity of 10 ton at a maximum height of 7 mt.  
Model super-gas 2 for a max weight capacity of 22 ton at a maximum height of 12 mt.

Model super-gas 1 for a max weight capacity of 10 ton at a maximum height of 7 mt.

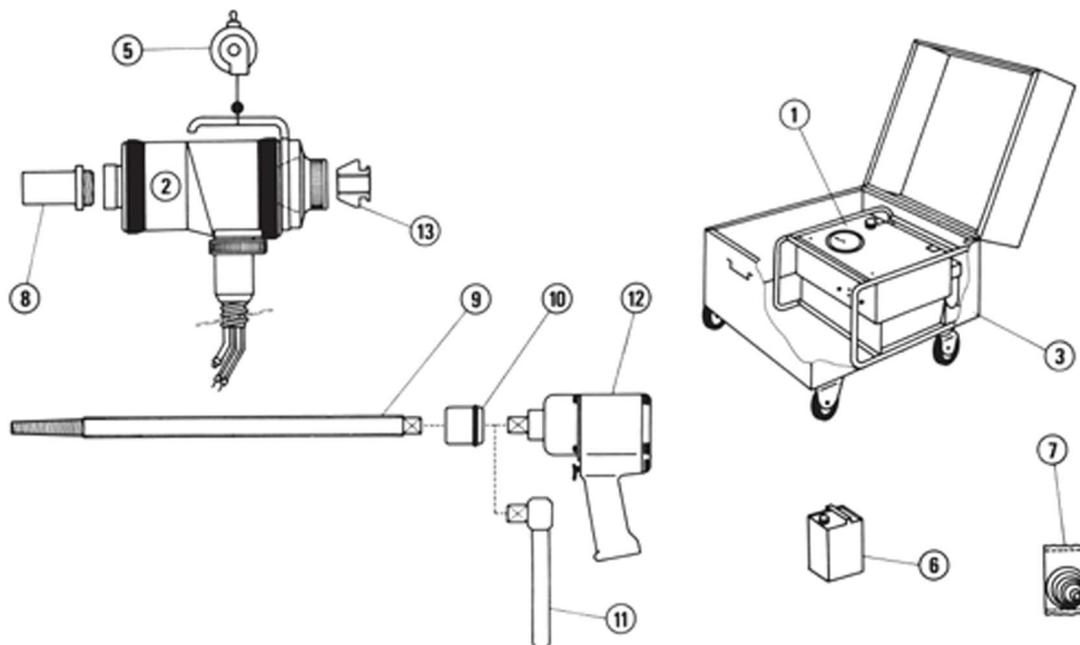
Model super-gas 2 for a max weight capacity of 22 ton at a maximum height of 12 mt.

## TUBE PULLERS

### HTP 500

Hydraulic tube puller

ACCESSORIES TO BE USED WITH HTP 500 MANU AND HYDROPULL 500 GUNS



1 - HW 8000 air powerd hydraulic pump; 2 - HTP 500 gun(hydraulic clamping); 3 - Wheel mounted storage case ; 4 - Balancer; 5 - Special oil; 6 - Set of spare O-rings; 7 - HTP 300 collar (according O.D. tube); 8 - HTP 400 mandrel (according I.D. tube) ; 9 - Socket; 10 - Ratchet wrench (1" sqaure drive); 11 - Impact wrench (1" square drive); 12 - Set of jaws (according to madrel diameter); 13 - Spare parts for 2 years service.

SPECIFICATIONS		
	CTP 900	CTP 1100
STANDARD JAWS DIAMETER	12,5 ▶ 30 mm*	30,5 ▶ 50 mm*
MAXIMUM STROKE	60 mm	100 mm
PULLING FORCE	13 t	31 t
LENGTH WITHOUT ACCESSORY	≈ 360 mm	≈ 540 mm
BODY DIAMETER	100 mm	106 mm
WEIGHT	22,5 kg	27 kg
WORKING PRESSURE	300 bar maxi	700 bar maxi
SPRING BALANCER	C 15	F 28
AIR POWERED HYDRAULIC PUMP	HW 8000	HW 8000

\* other dimensions on request

## TUBE EXPANDERS

### Condenser expander

Expansion (mm)	Rolling length (mm)	Model	
3,8 ▶ 9	6 ▶ 15	900 C	
6,1 ▶ 9	15 ▶ 28	900 L	
5,8 ▶ 9	15 ▶ 75	1300 C	
5,8 ▶ 9	28 ▶ 87	1300 L	
8,2 ▶ 37,3	10 ▶ 32	800 C	
11,4 ▶ 37,3	25 ▶ 51	800 L	
8,2 ▶ 37,3	10 ▶ 130	1200 C*	
11,4 ▶ 37,3	25 ▶ 150	1200 L*	
34,7 ▶ 74,9	12 ▶ 100	1400*	

\* Extended lengths on request

### Boiler expander

Expansion (mm)	Rolling length (mm)	Model	
28 ▶ 108	30 ▶ 100	KSB (Expander/Flarer)	
27,8 ▶ 78	12 ▶ 120	P2000	
28 ▶ 108	30 ▶ 100 (non adjustable)	B15Z (Fixed thrust collar)	
Sugar pan expanders		SEP	

## TUBE ROLLINGS

### Pneumatic rolling machines

These machines control expansion by accurate measurement of torque.

They automatically stop the expansion at the predetermined setting which guarantees a uniform tight tube joint.

The cast aluminium housing ensures easy handling and less fatigue to operator.

All these pneumatic rolling machines include torque sensing cams designed for tube expanding applications.

Model	
720	
850	
1050 1550 - 1850	
2055 1753 - 1752	

### Electric rolling machines

Programmable expansion system, enabling automatic or semi-automatic operation.

The absorbed power control guarantees the regularity of the rolling torque.

The main information of each cycle are memorized (heat exchanger, cycle number, date, power, result etc..)

Model	
Dudgeonneuses TC 42	
Coffret de contrôle TCM B1	
Supports pour TC 42	

## TESTING PUMPS



### Electric motor or internal combustion engine driven testing pumps

Motor pumps are driven by an electric motor or a combustion engine. The combustion engine, gasoline or diesel type, makes the pump autonomous, and enables its use far from any power sources.

These pumps deliver a constant flow up to the maximum pressure. All motor pumps are supplied <<Ready for use>> on a wheel carrying tubular frame including a pressure gauge, a pressure regulator, a shut-off valve, a drain valve and flexible hose of 10 meters long.



### Hand operated testing pumps

Autonomous and very cheap, they are mainly for testing small volumes.

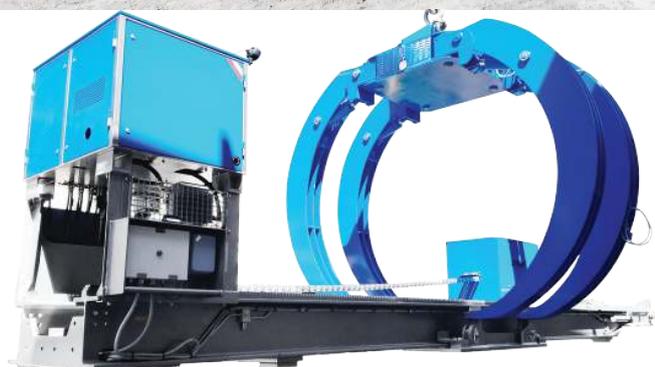
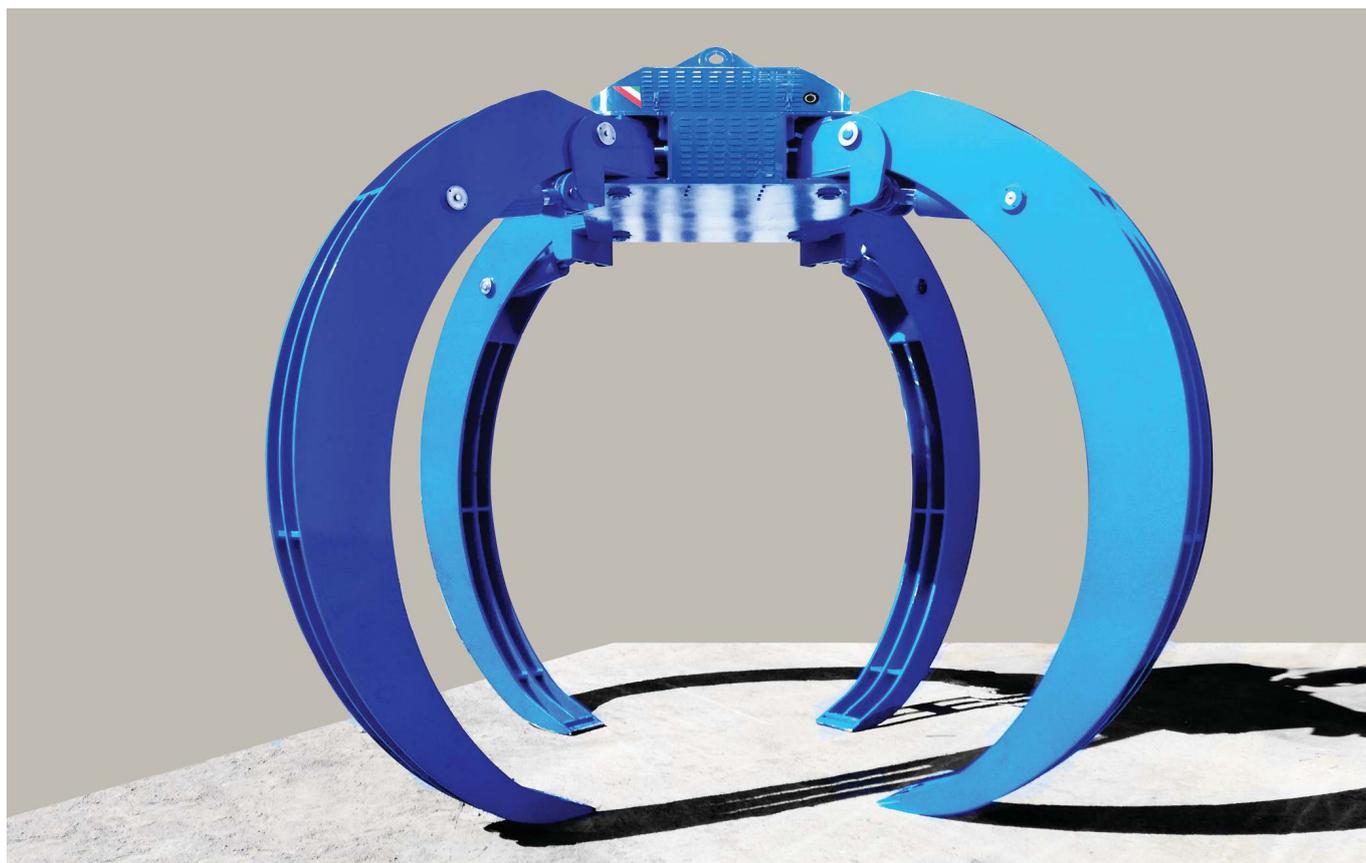
All our hand operated testing pumps are delivered <<Ready to be used>> with a tank (except the PEM 30), a pressure gauge, a drain valve and a flexible hose of 5 meters long, (1 meter for a PEM 30 and 2 meters for PEM 40).

### Air operated testing pumps

Most currently used, they are reliable and operate from standard water network and compressed supply. They can be used in hazardous environment. THE <<HL>> Range (high flow) suits a direct test of small volumes and enables the testing pressure, of large pipeworks and volume. All our operated testing pumps are delivered <<Ready to be used>> in a protection tubular frame, with an air treatment device, a high and low pressure gauge and drain valve. The types L, LC and HL are also fitted with shut-off valve, an emergency safety button, and a flexible hose of 10 long. LC and HL types are on wheel carrying frame.



## POLYARCH 55T



Idrokid Poly Arch 55T is the art of technology, newly designed to be used as an integral part of your bundle extractors, as an arch, or when disconnected from Idrokid bundle pullers can act to lift tubes bundles or any other parts of oil refineries or chemical plants.

Designed to operate with the crane for lift tube bundles heat exchangers or other pieces, or attached to aerial extractor of tube bundles to be able to move the aerial extractor with or without tube bundles heat exchangers.

Four independent arms are able to work parallel or at 90° angle between each arms, to be changed from the wireless control box.

GENERAL ITEMS	
LENGTH	3426 mm / 11.24 ft.
LENGTH (maximum opening)	4630 mm / 15.20 ft
HEIGHT	3640 mm / 143 in.
WEIGHT	~ 4800 Kg / 10.600 lb.
MAX DIAMETER CAPACITY	2500 mm / 98 in.
MAX WEIGHT CAPACITY	55000 Kg / 121.250 lb.
WIDTH PARALLEL WORK CONFIG.	1380 mm / 54 in.
WIDTH CROSSING WORK CONFIG.	3842,50 mm / 151 in.

ENGINE	
MODEL	HATZ 1D90Z
CYLINDERS	1
HP	16
CAPACITY	722cc
COOLING SYSTEM	Air

## POLYARCH 55T



All hydraulic functions are controlled by a wired controller and a wireless system to ensure greater operator safety.

### → SAFETY

The machine is completely self-sufficient, and due to wireless remote-control box, you can control every single movement, at a safety distance.

### → FOUR ARMS

It is constituted from 4 mechanical arms connected to a hydraulic unit and a motor compartment.

### → SAVING AND SECURITY

It is hydraulically assisted thus allowing staff reductions and increasing safety.

### → PUMP FOR LIFTING WORKS

The machine is provided with an hydraulic pump with 250 bars working pressure which allows a strong force to do any job.

**1**

Poly Arch can adjust the arms in parallel or crossover configuration, according to the needs.

**2**

In addition to standard use as a clamp-lift, it can be used as a balancing arch for tube bundle extractors.

**3**

The unit is self-sufficient thanks to the use of an air-cooled HATZ diesel engine.



### Building Materials

All metallic parts are treated and painted for preventing the corrosion. For the metallic sections it has been used differently material.

Aldur 700

Fe 510

WRENCH (COMING SOON)



NEW PROFESSIONAL  
**WRENCH**



WWW.IDROJET.COM  
FOR ALL YOUR NEEDS

## INTRODUCTION OF IDROJET/IDROKID WORLDWIDE COMMERCIAL NETWORK

We first would like to thank you every distributor in the past in promoting the Idrojet and Idrokid brands.  
Your efforts have resulted in a growing total sales.  
Exhibitions: WJTA Conference and Expo, Ahoy Rotterdam - Holland Maintenance Exhibitions, NPRA Maintenance show.

### EUROPE

#### FINLAND

ESLEYHTIO Oy Ahjokatu 13, FIN-40320, Jyväskylä, FINLAND  
Phone : 00358/14/271500 - Fax 00358/14/271200  
E-mail: info@esleyhtio.fi

#### FRANCE - ALGERIA

TCEM - Technologies et Conception d'Equipments de Maintenance  
58, Rue Du General Chanzy, 76086 - Le Havre - France  
Phone : (+33) 2/35256180 Fax (+33) 2/35253666  
Website: www.tcem.fr  
E-mail: martial.herrero@tcem.fr

#### GREECE

Zisimopoulos & Co. Ltd  
Industrial Park Shisto (Vipa), Block 7, 3rd Road, 18863, Perama  
Phone : (+30) 2104412004  
Website: www.zisimopoulos.gr  
E-mail: info@zisimopoulos.gr

#### GERMANY - AUSTRIA

HERA MAINTENANCE GMBH Emil - Zimmermann - Allee 86  
45891 Gelsenkirchen, GERMANY - Austria  
Phone : 0049/209/701080 - Fax 0049/209/7010817

#### HOLLAND - BELGIUM

Calder Ltd  
Prescott Drive, Worcester, wr4 9ne - United Kingdom  
Phone : (+44) 1905759090  
Website: www.calderltd.com  
E-mail: steve.sharp@calder.com

#### ITALY - SWITZERLAND

PTC S.r.l.  
Via F.lli Capena, 132 f - 16010 Serra Ricco' - Genova  
Phone : (+39) 0106509422  
Website: www.ptcitaliana.com  
E-mail: paulli@ptcitaliana.com

#### POLAND

Ponar Pressure Sytem S.A  
Świerczewskiego 10A43-170 Łaziska Górneynacka 5 - Poland  
Phone : (+48) 32 323-34-58 - Fax (+48) 586991223  
Website: www.ponar-pressure.pl

#### ROMANIA - BULGARIA

S.C. Woma Ecoserv s.r.l.  
Berceni 106, Prahova - Romania  
Phone : / Fax (+40) 244/470018  
Website: www.womaecoserv.ro

#### SPAIN - PORTUGAL - TURKEY

Idrokid s.r.l.  
95040 Via Luigi Pirandello s.n. Piano Tavola (CT) - Italy  
Phone : (+39) 095 7131125  
Website: www.idrokid.com  
E-mail: info@idrokid.com

#### SWEDEN - NORWAY

AQUAJET SYSTEMS AB - Brunnsvagen 15  
SE-570 15 Holsbybrunn, SWEDEN  
Phone : 0046/383/50801 - Fax 0046/383/50730  
E-mail: aquajet@aquajet.se

#### UNITED KINGDOM - IRELAND - DENMARK

Calder Ltd  
Prescott Drive, Worcester, wr4 9ne - United Kingdom  
Phone : (+44) 1905759090  
Website: www.calderltd.com  
E-mail: steve.sharp@calder.com

### NORTH AMERICA

#### U.S.A. & CANADA

C & K SERVICES, L.L.C.  
109 Bent Water Bay Drive 77356 Montgomery TX U.S.A.  
Phone : 001 936 7773617  
E-mail: ccleveland49@gmail.com

### CENTRAL AMERICA

#### MEXICO AND CENTRAL AMERICA

Woma De Mexico  
Av. Industrial Electrica 14, Parque Industrial Tlatilco,  
53470 Naucalpan De Juárez, Mexico  
Phone : / Fax (+52) 55/53002326  
Website: www.woma.mx  
E-mail: gerhard.kohler@woma.mx

### SOUTH AMERICA

#### COLOMBIA

EPC Toscano  
Calle 118 N. 19 - 52 Edificio Acocentro 118, Bogotá - Colombia  
Phone : / Fax (+57) 1/5204674  
Website: www.epctoscano.com  
E-mail: hugo.toscano@epctoscano.com

#### BRASIL

Cinematic Do Brasil  
Rua Brideiro Jordao n. 861, 04210-000 Sao Paulo, Sp, Brasil  
Phone : / Fax (+55) 11/61699595  
Website: www.cinematic.com.br  
E-mail: cinematic@aol.co.br

### NORTH AFRICA

AVAILABLE

### SOUTH AFRICA

#### NIGERIA (GLOBAL BUSINESS LINK LTD)

DREAMGLASS NIGERIA LIMITED  
1 Glory cClose, Off Abuloma Road PORT HARCOUT NIGERIA  
E-mail: dream.glass@yahoo.com

#### MAROCCO-TUNISIA-ALGERIA-LEBANON

MR. JAMAL KADDOURA  
Shatila Building (3rd Floor, #301), Aradati Street,  
Ras Beirut, LEBANON  
Phone : 0049/5564/919833 - Fax 0049/5564/999760 (German office)  
Phone : 00212/661/06367; 00212/23319421 (Marocco Office)  
E-mail: Kaddoura@gmx.net

### OFF SHORE PLANTS PROJECTS

KEEGAN SPACIALTY ENTERPRISE, INC  
10700 Richmond Avenue, Suite 265, Holston,  
TX 77042 U.S.A.  
Tel. 001/713/9757454 - Fax 001/713/9750040  
E-mail: smh@keegansoo.com

## INTRODUCTION OF IDROJET/IDROKID WORLDWIDE COMMERCIAL NETWORK

### ASIA

#### CHINA

Dongying Trust Imp & Co. Ltd.  
30 Huanghe Road, Dongying, Shandong, 257091 - China  
Phone: (+86) 131-76621616  
E-mail: jianwu\_ge@163.com

#### CHINA

Shanghai GaoAo Environmental Protection Technology & Co. Ltd.  
N.2, Songmi Road, SongJiang District, Shanghai - China  
Phone: (+021) 67830178 / Fax: (+021) 57836902  
E-mail: fudangaofei@163.com

#### INDIA

United Engineering Agencies  
3rd Floor, Mathewsons Trade Centre, Near Tvs Showroom Kaloor ,  
Kochi - 682017, Kerala, India  
Phone: (+91) 4842539979  
Website: <http://unitedengineeringagencies.com>  
E-mail: pojnambiar@unitedengineeringagencies.com

#### ISRAEL

LAOR ENGINEERING LTD  
8, Hanna Senesh Street, Qiryat Tiv'on, ISRAEL  
Phone: 00972/4/9833566 - Fax 00972/4/9530475  
Website: [www.laoreng.com](http://www.laoreng.com)  
E-mail: ori-or@laoreng.com

#### KOREA - JAPAN

Sano Trade  
Gadong 101-ho, 143 Yanggoj-4ro, Yangchon-eup  
Gimpo-si, Gyeonggi-do - Korea  
Phone: (+82) 31//9849571  
E-mail: sanotrade@haver.com

#### OMAN - BAHRAIN - QATAR - U.A.E.

POWERFLOW MIDDLE EAST (CLE)  
P.O. Box 28836 Shed No: 13, Street No:06  
Industrial No: SHARJAH - UNITED ARAB EMIRATES  
Phone: 00971/6/5354627-28 Fax 00971/6/5354629  
E-Mail: [info@pflome.com](mailto:info@pflome.com)  
Website: [www.pflome.com](http://www.pflome.com)

#### PHILIPPINES - MYANMAR - BRUNEI - VIETNAM - SINGAPORE MALAYSIA - INDONESIA

Klenco (Singapore) PTE Ltd  
18 Gul Crescent, Singapore 629527  
Phone: (+65) 6/8623388 - Fax (+65) 6/8617575  
Website: [www.klenco-asia.com](http://www.klenco-asia.com)  
E-mail: [info@klenco-asia.com](mailto:info@klenco-asia.com)

#### TAIWAN

THETAGROUP INTERNATIONAL CORP.  
1 Floor, n. 133, sector 2 Chang-Sha Street, Taipei  
TAIWAN R.O.C.  
Phone: 00886/2/23930388 Fax 00886/2/23944098  
E-Mail: [theta92@cm1.hinet.net](mailto:theta92@cm1.hinet.net)

#### EGYPT

Eta Trade  
27 Syris Street - Mohandsseen - Giza - Egypt  
Mobile 002 0122 343 8020  
E-mail: [khalifamohammed@hotmail.com](mailto:khalifamohammed@hotmail.com)

#### IRAN

Kadiran Ind. Tools CO., P.O Box; 11365-1989 Tehran - IRAN  
Phone: 0098/21/6671512 - Fax 0098/21/66726809  
E-mail: [kaven.hatami@kadiran.com](mailto:kaven.hatami@kadiran.com)

#### JORDAN - IRAQ - LYBIA - SYRIA - SUDAN

UKHOUSE Limited  
414 Harrow Road, London w9 2hu - UK  
Phone: (+44) 20/72866166 - Fx (+44) 20/79003169  
E-mail: [muhy@hotmail.com](mailto:muhy@hotmail.com)

#### KUWAIT - SAUDI ARABIA

Hoeit Ltd / Calder Ltd.  
P.O. Box 174, Al-Khobar 31952, Saudi Arabia  
Phone: + (966) (13) 887-7390 - Fax: + (966) (13) 887-7830  
Website: [www.hoeit.com](http://www.hoeit.com)  
Email: [info@hoeit.com](mailto:info@hoeit.com)

#### PAKISTAN

Nuricon Union(Pte) Ltd.  
House n1, street 44, Islamabad, Pakistan  
Phone: (+92) 51/2650371 - Fax (+92) 51/2650372  
E-mail: [fawad-fayaza@nuricon.com](mailto:fawad-fayaza@nuricon.com)

#### RUSSIA

POWERMASTER LTD  
125430, Moscow, 1 yi Mitinskiy per. , 15  
Phone: (495) 9782574, 5105382  
Website: [www.powermaster.ru](http://www.powermaster.ru)  
E-Mail: [mail@powermaster.ru](mailto:mail@powermaster.ru)

#### AUSTRALIA - NEW ZELAND - NEW GUINEA METCO

2 De Laine Avenue Edwardstown SA 5039 - Australia  
Phone: (+08) 82972011 - Fax: (+08) 83712610  
Website: [www.metco.com.au](http://www.metco.com.au)  
E-mail: [sales@metco.com.au](mailto:sales@metco.com.au)

For further informations contact:

#### Idrojet S.r.l.

Via Luigi Pirandello s.n. - 95040 Piano Tavola (CT) - ITALY  
Phone: +039/095/7131125 - Fax +039/095/391466  
e-mail: [idrojet@videobank.it](mailto:idrojet@videobank.it) | [idrojet@videobank.it](mailto:idrojet@videobank.it)  
Website: [www.idrojet.net](http://www.idrojet.net)

#### Idrokid S.r.l.

Via Luigi Pirandello s.n. - 95040 Piano Tavola (CT) - ITALY  
Phone: +039/095/7131125 - Fax +039/095/391466  
Website: [www.idrokid.com](http://www.idrokid.com)  
e-mail: [info@idrokid.com](mailto:info@idrokid.com)

#### IDM - Idrodinamica Mediterranea by IRS - Idro Rental Service S.r.l.

Via Luigi Pirandello s.n. -  
95040 Piano Tavola (CT) - ITALY  
Phone: +39/095/7131125 - Fax +39/095/391466  
e-mail: [idrojet@videobank.it](mailto:idrojet@videobank.it) infoline: +39/329/8913983  
[www.idm-italy.com](http://www.idm-italy.com) - [www.decoking.net](http://www.decoking.net)

**Idrojet** s.r.l.

COSTRUZIONI MANUTENZIONI MECCANICHE IDRODINAMICHE

Uffici e Stabilimento : Via Luigi Pirandello s.n. - 95040 Piano Tavola (CT) - ITALIA

Tel. 039 095 7131125 - Fax Pbx 039 095 391446

[www.idrojet.com](http://www.idrojet.com)