

PETAL®



oil & gas equipment

PETAL®



equipment

2021

CERTIFIED PETAL®



We are in an engaged process of technical refurbishment. All our machines will be modern, will be connected to each other, monitored and programmed remotely.

Our employees will gain new skills through the new technologies they come in contact with.

A study by Dell Technologies shows that "85% of the trades that will exist in 2030 have not yet been invented and globally over 800 million jobs will be invalidated by automation."

In other words, our children will have jobs that we have not heard of yet, which means that with the advancement of new technologies and due to the increase in their performance, new and new opportunities will be born at the same time, with the risks associated with them, from which we will be able to benefit fully only by resorting to COMMUNICATION.

Eng. Sergiu MATEIU Ph.D
CEO PETAL S.A.

Founded in 1949 as a company producing simple metal fabrications, PETAL S.A. is today a well-known manufacturer of oil machinery and equipment for different geographical conditions of climate and environment, of industrial fittings and metallurgical equipment, both for the domestic and international market.

MISSION

PETAL S.A. will be engaged in the creation, production and supply of products and spare parts for drilling and extraction of crude oil and methane gas, industrial fittings, technological equipment, as well as capital repairs of metallurgical equipment to align with the needs of Romanian and foreign customers. PETAL SA will conduct its activities in a way that creates value for shareholders and to be a respected company in Romanian society.

VALUES



VISION

PETAL S.A. will become the first option as a manufacturer and supplier of creation, production and supply of products and spare parts for drilling and extraction of crude oil and methane gas, industrial fittings, geological equipment, as well as capital repairs of metallurgical equipment in Romania. Customers will classify PETAL S.A. products and services as exemplary, and employees will consider it among the top 5 companies in Romania for which they want to work. Finally, PETAL S.A. will be compared, in terms of efficient and profitable operation, with other competitors in Central Europe.

QUALITY AND COMPETENCE SINCE 1949

1980

Since 1980, the Company has been growing fast by upgrading and by building new manufacturing capacities, by equipping with modern technological lines and by increasing the professional training of its employees. During this period, new oilfield equipment has been assimilated.



1985

In 1985, the Company starts being among the acknowledged producers of cementing units and wellheads.

1970

Complexity of products gradually increased so that in the 70's the Company was among the manufacturers of metallurgical equipment.



1949

The Company was founded in 1949, as a manufacturer of simple ironwork.



2014

In 2014, PETAL S.A. has received the right to apply the API-7K monogram on spare parts of slush pumps, for which implementation of requirements of the standard has been inspected and approved by the API representative.



2020

For PETAL S.A., 2020 represents the start of a new era of modernization and re-engineering, involving major projects of researching, innovation and development.

2013

In 2013, the PETAL S.A. earns the right to apply the CE marking on its products, according to PED 97/23/EC (PED 2014/68/EU).
In our company, the welding works are performed by certified welders, in compliance with certified welding processes.

2010

In 2010, the Company diversifies the range of API-certified products and moves from the Quality Management System to the Integrated Management System for Quality, Environment, Occupational Health and Safety, according to ISO 9001, ISO 14001 and OHSAS 18001 Standards.

2004

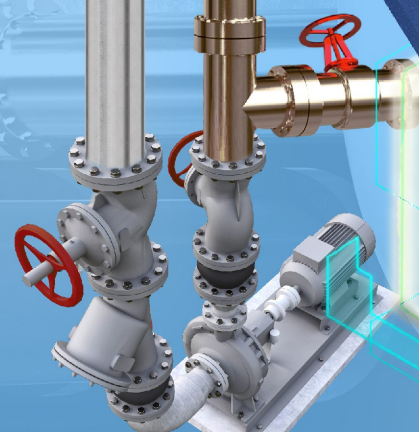
PETAL S.A. receives the API 6A certification for valves and nozzles

2001

PETAL S.A. certifies its Quality Management System in compliance with ISO 9001

2000

In 2000, PETAL S.A. becomes an entirely private Romanian company and focuses on upgrading the quality of its products.



CERTIFICATIONS



PRODUCT

CEMENTING UNITS



The cementing units are mobile units designed to perform cementing, fracturing, pressure balancing, extinguishing and acidizing operations at the wells.

For cementing operations, the cementing units are equipped with jet mixer with 3 nozzles supplied with water by a water pump.

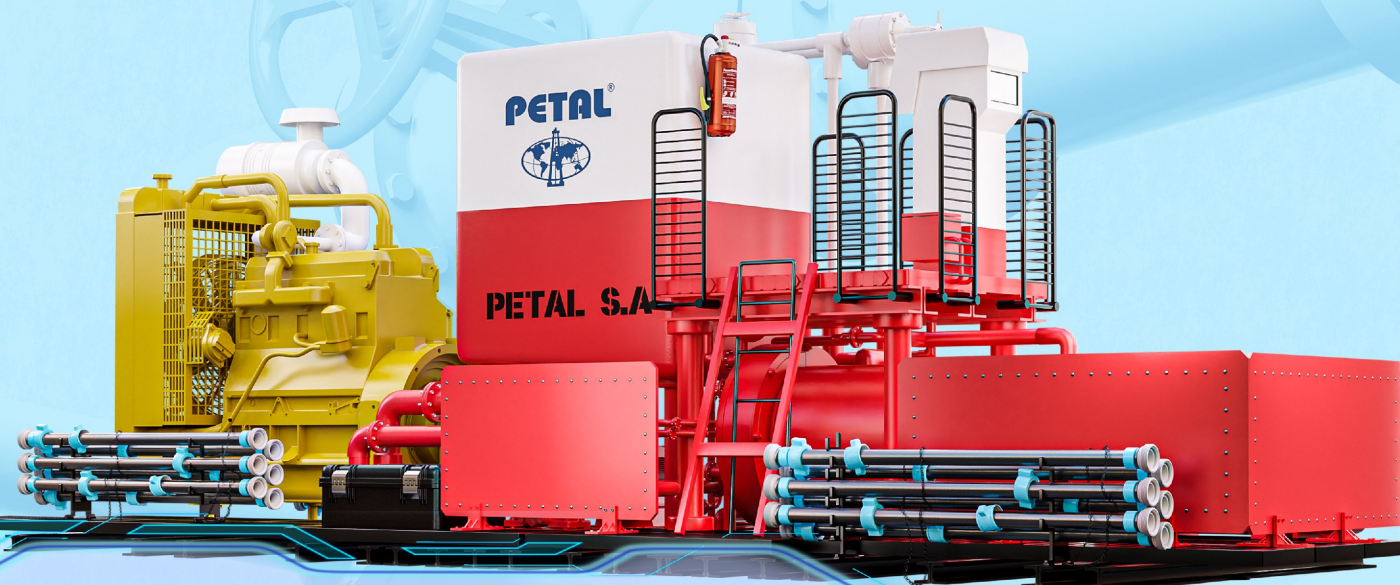
Water supply to the mixer is so conceived to provide parallel operation of one, two or all three nozzles of the mixer, as required, providing 100 tone to blend/hour.

For protection against overpressure, the discharge manifold is provided with a shearing pin safety valve and the water pump manifold is provided with a spring safety valve.

Characteristics									
Unit type	Engine type	Transmission	Complexity	Maximum working pressure (bar)	Plunger diameter	Actuated type of butterfly valve and plug valve	Measuring possibility of parameters	Carrier	Other features
AC 400	Diesel Caterpillar C 15 ACERT usual ***	Caterpillar CX31-P600 ***	Single pump/Double pump*	400	D 115, D 125	Manual/ electric*/ pneumatic*	Analog / Digital, with multiphysics sensors * (pressure, flow, temperature, density)	Truck**/ Skid*/ Eurocontainer*	Lighting spots 24V Operator Cab*
AC 500				500	D 100, D 115, D125				
ACF 700				700	D 100, D 115,				
ACF 1050				1050	D 85, D 100, D 115				
*	Equipment on request								
**	Chassis according to customer request: Mercedes, Tatra, Kraz, Roman, Volvo, MAN								
***	Other possible equipment in combination with Petal pumps, proposed or provided by the customer.								

A new type of cementing unit equipped with an electric motor is under development.
Spare parts for old model of Cementing units: AC350, AC 400, AC500, ACF700, ACF 1050.

PUMPING UNITS



- Pumping units are driven by diesel or electric motors on customer request;
- Could be equipped with Petal pumps or with pumps provided by the customer;

PUMPS

TRIPLEX PUMPS

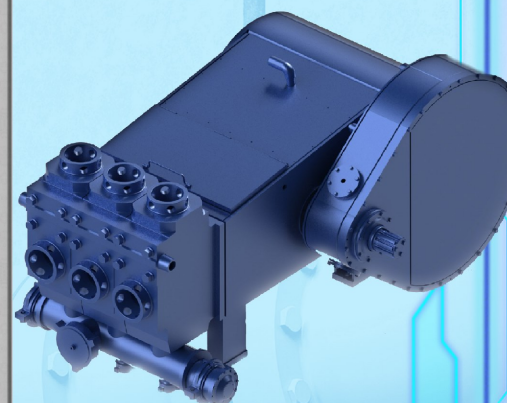
The triplex pumps are designed to perform cementing, fracturing, pressure balancing, extinguishing and acidizing operations at the wells.

The triplex pumps are single-acting pumps special designed for operating conditions of cementing units; Operate at a low speed, ensuring a good filling of the cylinders and a volumetric efficiency over 0.9 at a natural suction without overfeeding.

The hydraulic part of pump may be equipped, as desired, with the following range of plungers: 85, 90, 100, 115 mm and 125 mm, according with the maximum working pressure of cementing unit.

In hydraulic part of pump mechanical energy is converted to hydraulic energy at the required operating pressure.

TRIPLEX PUMPS



PET TRIPLEX PLUNGER PUMP

Maximum hydraulic power: 286 Kw (390HP)

Max power input : 298 Kw (400HP)

Theoretical flow rate at maximum pressure: 167 l/min

Maximum theoretical flow rate (with 115 mm plungers): 2047 l/min

Pump size (plunger max. x travel), in x in: 4,5 x 6

Working temperature (Celsius Degrees): between -45 and 60

Dimensions: length - 1,790 mm, width - 1,340 mm , height - 992 mm

net dry weight - 2,498 Kg

Valve size: 5 in

Suction pressure: 0.6 bar

Oil tank capacity: 23 lt.

Power end mechanism:

Maximum input power: 428 HP

Maximum input torque: 9895 Nm

Max. force within plunger: 596 KN

Maximum input rpm: 2100 rpm

Gear ratio: 4,857

Lubrication oil pressure (according to filter specs): min 1 bar.

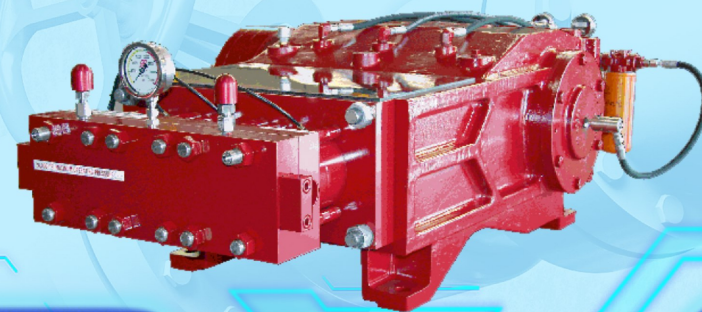
Oil tank capacity: 60 lt.

Performances

Plunger Diam.(mm)	Output/stroke (Liters)	No. of double stroke/min											
		62,6		100		150		200		300		432,3	
		Q L/min	P Mpa	Q L/min	P Mpa	Q L/min	P Mpa	Q L/min	P Mpa	Q L/min	P Mpa	Q L/min	P Mpa
85	2,587	162	105	259	63	388	41	517	31	776	21	1118	14
100	3,581	224	75	358	47	537	31	716	23	1074	15	1548	10
115	4,736	296	55	473	35	710	23	947	17	1420	12	2047	8
125	5,595	350	40	559	25	839	17	1119	13	1678	8	2418	6
Input speed (rpm)		304		485		728		971		1457		2100	

Triplex pumps are designed to perform cementing, fracturing, pressure balancing, extinguishing and acidizing operations at the wells.

UNIPET TRIPLEX PUMPS



Destination: The UNIPET type Emulsion Pump provide the hydrostatics pressure required to drive the different mechanisms.

Technical characteristics

Working fluid density: 0.75 – 1.25 Kg/dm³

Theoretical flow rate at maximum pressure: 171 l/min

Required oil quantity: 38.00 l

Gear ratio: 8.07

Overall dimensions:

length: 1430 mm

width: 1100 mm

height: 740 mm

The pump is driven by an electric motor with 75 KW and 1500 r.p.m. by means of a gear reducer with cylindrical wheels.

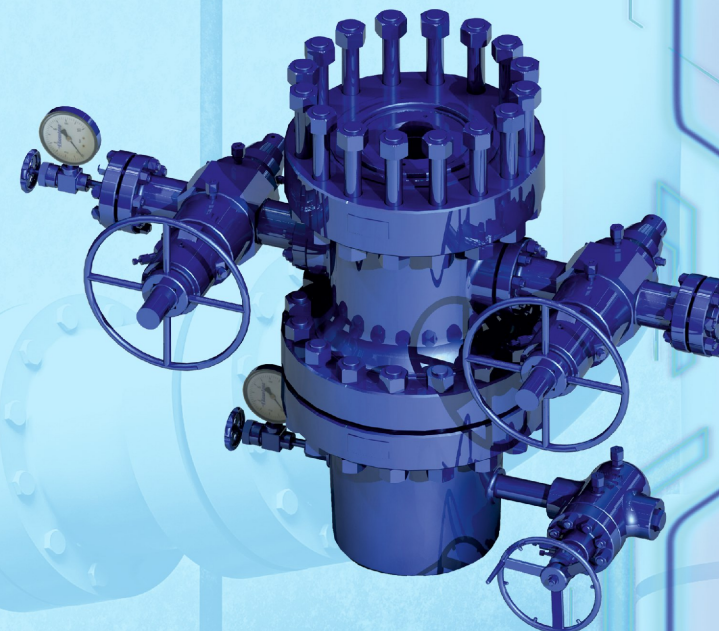
The pump requires the mounting of one safety valve into installation, regulated at maximum discharge pressure.

The pump can be used for pumping slightly acidic fluids such as crude oil or salt water, at pressures between 50 and 180 bar.

Engine power / 1500 r.p.m	Plunger Diameter (mm)					
	50		55		60	
	Q (l/h)	P (bar)	Q (l/h)	P (bar)	Q (l/h)	P (bar)
75KW	10260	210	12420	190	14760	160
55KW		170		140		120
45KW		140		120		100

Spare parts for duplex mud pumps 2PN160 and 2PN400, 2PN700, 2PN 1300, 3PN 465, R5x10.

WELLHEAD AND X-MAS TREES



PETAL designs and manufactures conventional wellheads assemblies according to API 6A requirements, to any custom design requirement.

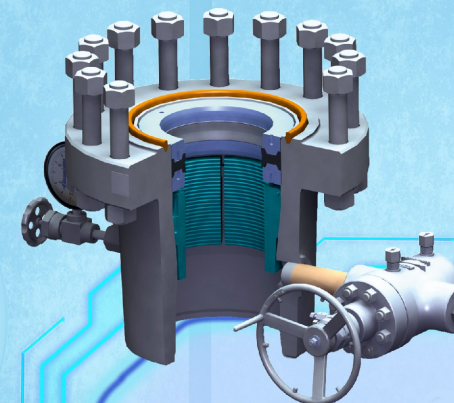
We offer tested solutions under constant improvement that maximizes the benefits to the user.

Advantages:

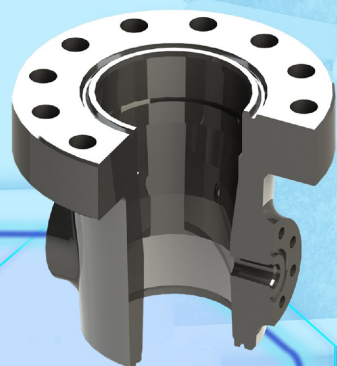
- Low investment.
- Standard design.
- Users are familiarized with the product.
- Simplicity of installation.

Features:

- Independent stage for each drilling phase.
- Standard operation and installation tool.
- Standard API connections.
- Elastomeric seals and, optionally, metal-to-metal seals.
- Designs for operating pressures ranging from 2,000 up to 15,000 PSI.



CASING HEAD HOUSING



Could be land on conductor through Landin Base or anchor directly on surface casing:

Landing Bases are used when load transfer to conductor pipe or ground is required.

Are available in two design variants: Single piece and split type. Side outlets are available in female Line Pipe threads and studed flange connections.

The bottom connection can be threaded (API or Premium thread), prepared for welding with/without O-ring or, slip-lock quick-connector type.

Test port for pressure testing the connection for SOW designs.

Two types of bowl preparation: with 45 degree landing shoulder designed, prepared to receive PET-22 slip casing hangers and with two shoulders design (one shoulder for packoff and one for slip casing hanger assy.) to receive PET-B casing hangers.

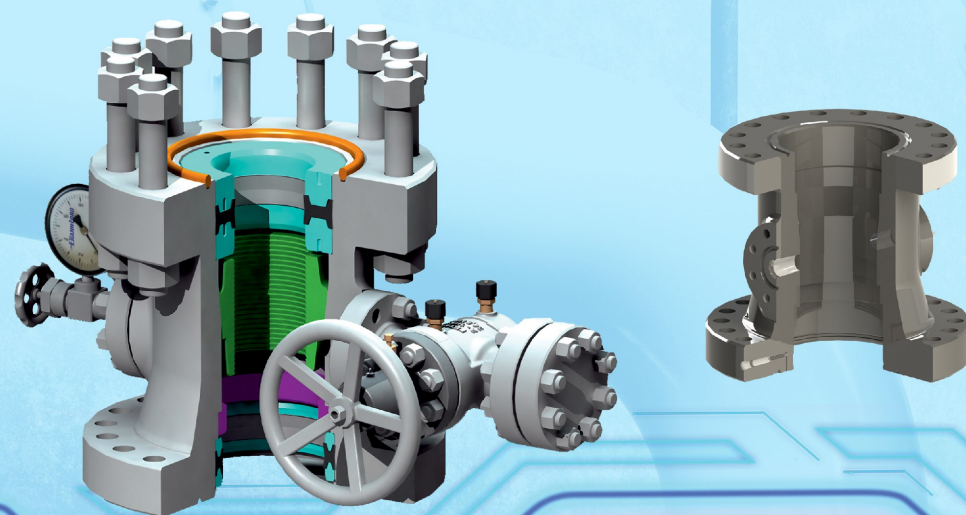
Working Pressure : Up to 10000 PSI

Top flange: Up to 21 1/4

Operating temperature : -46 to 121 deg. C

Material Class: AA, BB, CC, DD, EE, FF

CASING HEAD SPOOLS



These are full-opening, straight-bore spools, flanges and the passing inside diameters are designed according to API spec.6A. The side outlets of casing spools are available on studded, LP or TBG threaded, or extended flange. Valve-removal threads standard in studded flanged outlets to provide the ability to replace or add a full opening valve under pressure Valve removal plugs are available.

Casing spools are available with a bottom preparation to accommodate type H, T or P secondary seal, and the bit pilot. Two type of bowl preparation: with 45 degree landing shoulder prepared to receive PET-22 slip casing hangers and with two shoulders design (one shoulder for packoff and one for slip casing hanger assy.) prepared to receive PET-B slip casing hangers.

The lower flange has a test port, bleeder port, or plastic-injection port to test/energize seals inside the casing spool.

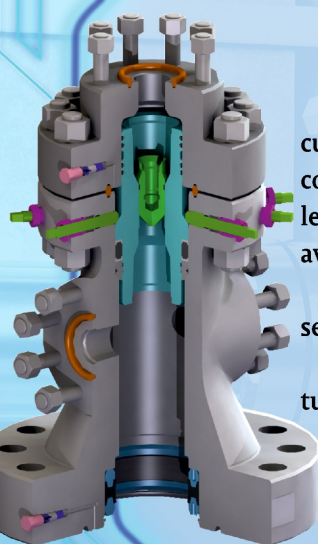
Working Pressure : up to 15000 PSI

Bottom flange and top flange: any combination function of casing dimension

Operating temperature : -46 to 121 deg. C

Material Class: AA, BB, CC, DD, EE, FF

TUBING HEAD SPOOLS



These are full-opening, straight-bore spools. Lockdown screws in top flange are standard and any custom design requirement. Two 2" LP screwed or studded outlets are also standard. The outlet also could be TBG threaded, or extended flange. Valve-removal threads standard in studded flanged outlets to provide the ability to replace or add a full opening valve under pressure Valve removal plugs are available.

Tubing head spools are available with a bottom preparation to accommodate type H, T or P secondary seal, and the bit pilot.

The lower flange has a test port, bleeder port, or plastic-injection port to test/energize seals inside the tubing spool.

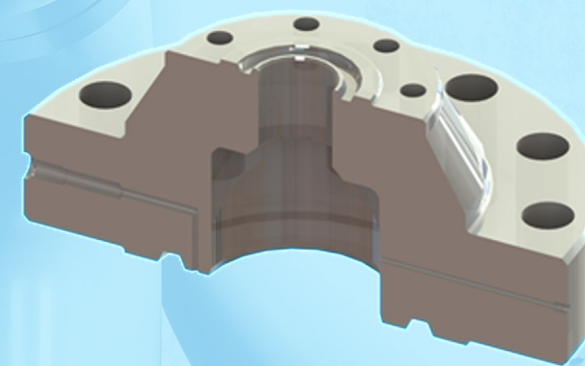
Working Pressure : up to 15000 PSI

Bottom flange and top flange: any combination function of casing dimension

Operating temperature : -46 to 121 deg. C

Material Class: AA, BB, CC, DD, EE, FF

TUBING HEAD ADAPTERS



Single studded adapter flanges PET-THA-EN type are standard, used along with type PET-TH-EN extended-neck tubing hangers. They provide a secondary seal, and a test port that allows seal test of the connection.

They are also available with a control lines port for use with type PET-TH-ENCL extended-neck tubing hangers and with continuous control lines hangers for use with type PET-TH-ENCCL.

Tubing head Adapter type PET -THA-FT with ACME suspension thread, are available with bottom feature to receive tubing hanger type PET - TH-FT.

- Bottom flange size: 7 1/16" ÷ 13 5/8";

- Top flange size: up to 4 1/16";

- Pressure rating: up to 10,000 PSI;



Tubing Head Adapter PET-THA-ESP is customized function of customer, taking into account their needs and preferred brand for ESP and penetrators.

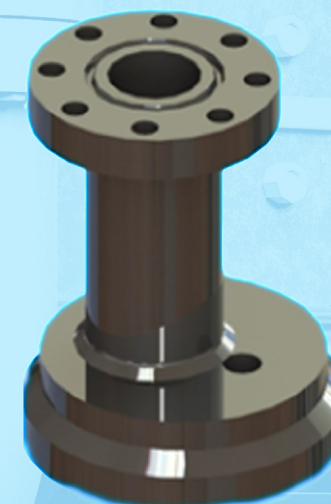
- Rotating flange for proper installation;

- Bottom flange size: 7 1/16" ÷ 13 5/8";

- Top flange size: up to 4 1/16";

- Pressure rating: up to 5,000 PSI;

- Stuffing box prepared to receive different size of stripped cable;



CASING HANGERS



PET-22 Slip Casing Hangers

The PET-CH-22 casing hanger is designed to be used with the PET-22 bowl of spools and is utilized for most intermediate casing string weights.

The PET-CH-22 automatic casing hanger has an integral, compression-type seal mechanism that automatically actuates with the weight of the casing string.

The sealing element included into the casing hanger provides the Primary seal on the string of casing being suspended.

Capable to support maximum 50% of the casing joint strength.

Casing size: 4 1/2" ÷ 13 5/8".

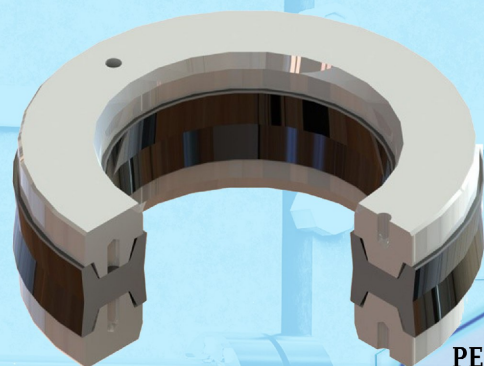


PET-CH-B Slip Casing Hangers

The PET-CH-B Slip Casing Hangers is designed to be used with C-22 bowl of spools, and, in conjunction with the PET H seal pack-off.

Simple and efficient design. Segmented, wrap-around casing hanger used for heavy casing loads which not require an annular seal prior to removing the BOP.

Capable to support maximum 80% of the casing joint strength

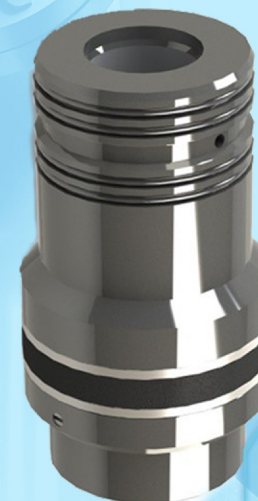


PET H SEAL PACKOFF

The PET H seal pack-off is designed to be installed after the casing has been landed, cut off and dressed. The pack-off serves as the primary seal when the next spool is installed.

Casing size: 4 1/2" ÷ 13 5/8".

TUBING HANGERS

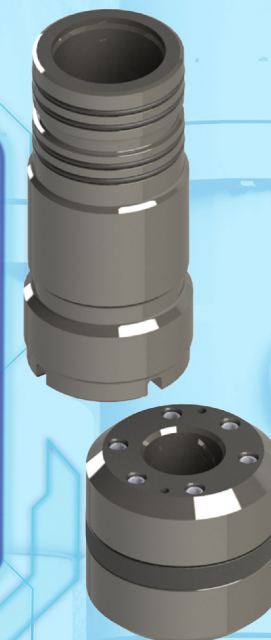


PET-TH-ENCL extended-neck tubing hangers

The PET-TH-ENCL regular tubing hanger and extended neck hanger is a single string hanger manufactured for use with the Tubing Head Adapter type PET-THA-EN.

- Quick and easy to install, no special running tools are required;
- Lock down screws are used to both energize this pack-ing as well as lock the hanger into the tubing head bowl:
- Available thread preparation: 2 3/8" ÷ 4 1/2" - API tubing threads or premium tubing threads;
- Pressure rating: 2,000 ÷ 15,000 PSI;
- Neck seal – two elastomeric seal, T seal function of working pressure;
- Available with glands for Isolate down hole control lines, if one or two control lines is needed;
- A threaded preparation type H-BPV is furnished as standard;
- Available with standard API tubing threads or premium tubing threads;

- PET-TH-FT type tubing hanger uses a one piece coupling that is externally threaded with a ACME load bearing thread, and suspends the tubing from the bottom of the tubing head adapter PET-THA-FT type.
- This tubing hanger is used in conjunction with the PET-1W wraparound pack-off whenever the tubing string needs to be moved up, down or rotated to operate the packer in the bottom of the well and still maintain well security;
- Available thread preparation: 2 3/8" ÷ 3 1/2" - API tubing threads or premium tubing threads;
- Pressure rating: 2,000 ÷ 10,000 PSI;
- Additionally the PET-TH-FT hanger incorporates a H back pressure valve profile.
- Available with standard API tubing threads or premium tubing threads.



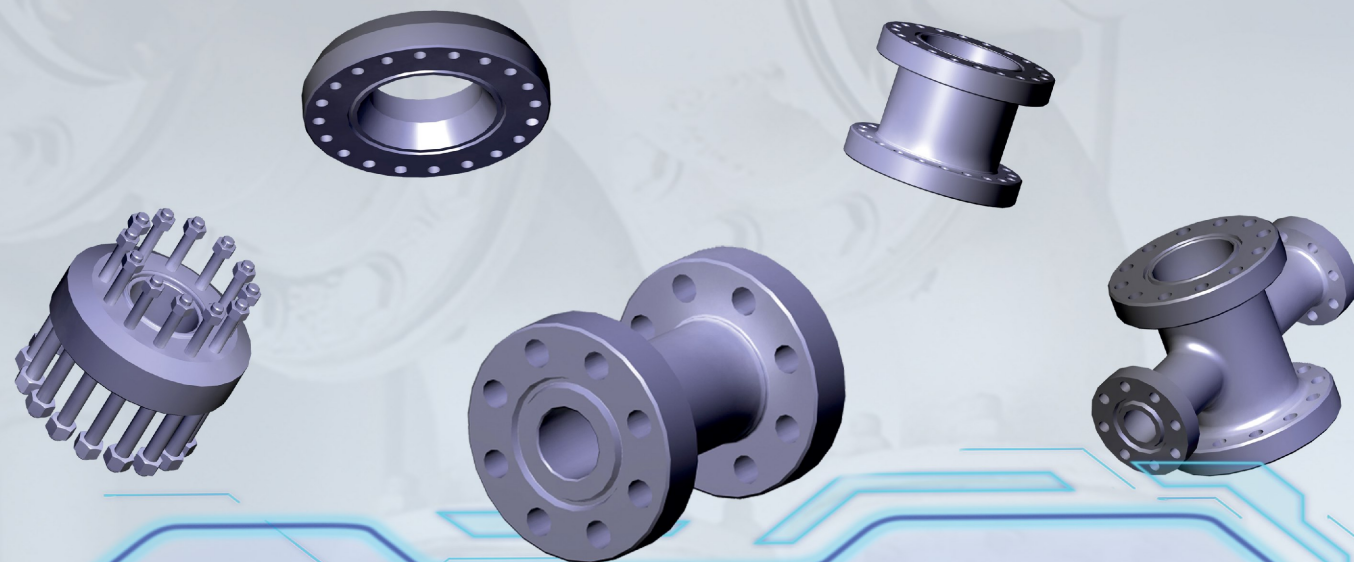
PET-TH-FT Tubing Hanger



PET-TH-ESP tubing hanger is used in conjunction with electrically driven submersible pumps, (ESP's). The hanger is prepared with two ports: one port designed to accept a single production tubing string; the second port is designed to accommodate the electrical supply cable that powers the pump; designs have been completed that also allow down-hole control valves and/or fiber optic instrumentation lines.

- Tubing size: up to 4 1/2";
- Pressure rating: up to 5,000 PSI;
- Bowl seal – elastomeric seal;
- Quick and easy to install, no special running tools are required;
- A threaded preparation type H-BPV is furnished as standard;
- Available with standard API tubing threads or premium tubing threads.

LOOSE CONNECTOR AND OTHER WELLHEAD COMPONENTS



- Drilling spools
- Intermediate flanges
- Adapter flanges
- Blind flanges
- Instrumental flanges
- Threaded flanges
- Weld neck flanges
- Top connectors
- Pack-off flanges

PETAL designs and manufactures a variety models of flanges and spools, to any custom requirement. Threaded and flange connection according with API 6A, or custom dimension according to the customer needs.

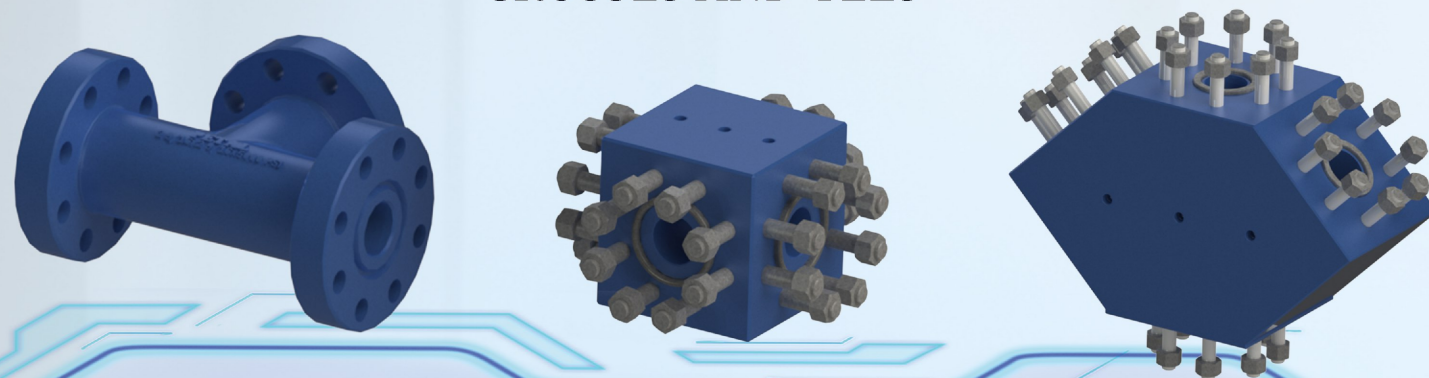
Working Pressure : up to 15000 PSI

Flange: any combination up to 20 3/4

Operating temperature : -46 to 121 deg. C

Material Class: AA, BB, CC, DD, EE, FF

CROSSES AND TEES



PETAL manufactures Tees and Crosses, in every size and pressure rating, with end connection that differs/or not from one another in nominal size according to the design and table in API Spec 6A .

Customers may specify any combination of nominal size and different angle witch are not appearing in API Spec 6A.

Working Pressure : up to 15000 PSI

Flange: any combination up to 4 1/16

Operating temperature : -46 to 121 deg. C

Material Class: AA, BB, CC, DD, EE, FF

X-MAS TREES



PETAL X-MAS TREES

used for flowing, gas-lift or injection.

PETAL X-MAS TREES have one or two wings provided usually with parallel gate valves.

PETAL X-MAS TREES are provided with one or two master valves on vertical column and one or two wing valves on each wing and with positive or adjustable chokes, manufactured from hard, abrasion and corrosion-proof materials.

Execution conditions:

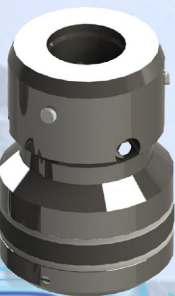
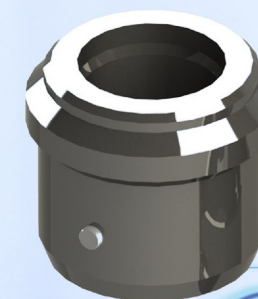
Working Pressure : up to 15000 PSI

Flange: any combination up to 4 1/16

Operating temperature : -46 to 121 deg. C

Material Class: AA, BB, CC, DD, EE, FF

WEAR BUSHING, TEST PLUGS, VALVE REMOVAL PLUGS, RUNNING AND RETRIEVING TOOLS FOR WELLHEADS AND X-MAS TREES



Running and retrieving tools for Wellheads and X-MAS TREES are sets of tools, which are supplied on request along with the Wellheads and X-MAS TREES. They are used for assembling - disassembling of certain components of products, such as: back pressure valves, test plugs, wear bushings, valves, sealing packages etc.

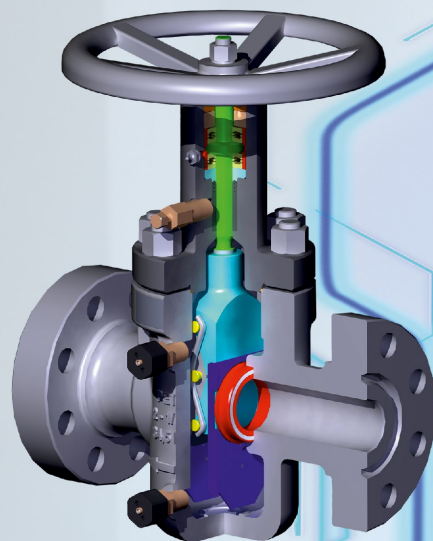
The technology of well shutting-off by setting a back-pressure valve or a plug in the tubing hanger avoids well killing with drilling mud, this offering considerable economical and time advantages.

The back-pressure valves and plugs are designed to withstand the working pressure of the X-MAS TREES in which they are mounted.

VALVES AND CHOKES

PETAL Company produces and sells valves and chokes into a wide dimensional-type-assortment range with pressure values up to 15000 psi (1050 bar for neutral working conditions and low corrosive action (oil and other petroleum products, drilling fluids, water, gases) intended for wellhead equipments, cementing and fracturing units, various technological equipment.

EXPANDING PARALLEL GATE VALVES WITH NONRISING STEM



This type of valves is used in the oilfield industry for drilling and production operations for nominal pressures of 140, 210, 350 bar (2000, 3000, 5000 PSI) and nominal dimensions from 2 1/16 until 7 1/16.

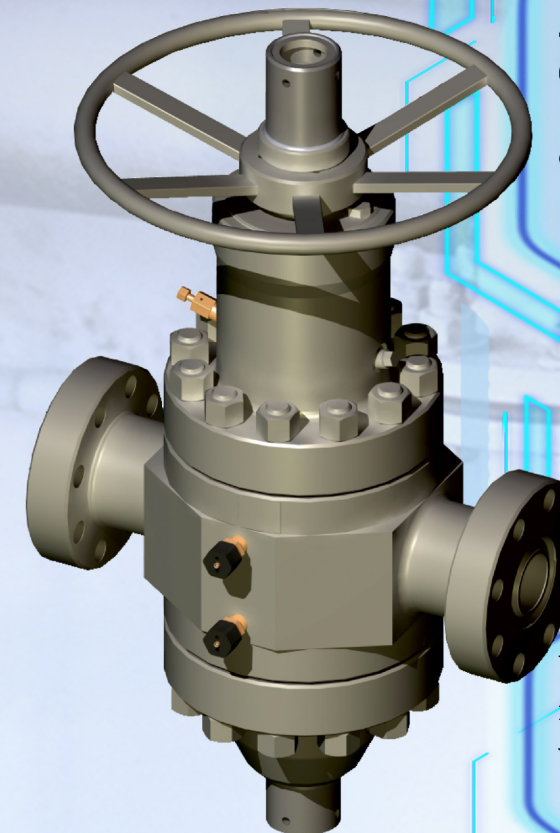
The products are designed to perform according to the requirements of PR1 Performance Requirement Level and, on request, PSL1, PSL2 and PSL3 Product Specification Levels.

Working medium: water, oil products, gases, steam.

Constructive characteristics of the main components:

- Available to meet all appropriate API 6A requirements;
- Valve type: full-bore ;
- Body shape - straight;
- Closing element - parallel gate;
- Stem-non-rising, provided with trapezoidal thread, in contact with the circulation fluid;
- The bonnet is fasteneted to the body by threaded stud bolts.
- The valve is connected to the pipe by flanges provided with sealing metallic rings, 6B type.

EXPANDING PARALLEL GATE WITH RISING STEM



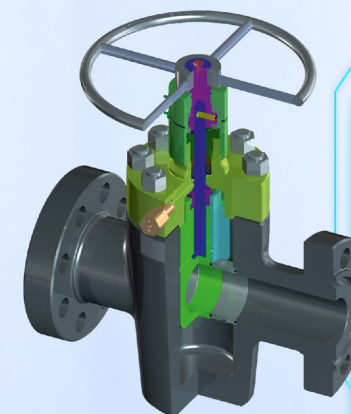
This type of valves is used in the oilfield industry for drilling and production operations for nominal pressures of 700 bar (10,000 PSI) and nominal dimensions from 2 1/16 until 5 1/8.

Working medium: water, oil products, gases with a light corrosive action.

Operating and constructive characteristics :

- Designed in accordance with the API specification 6A requirements;
- The products are designed to perform according to the requirements of PR1 Performance Requirement Level and, on request, PSL1, PSL2 and PSL3 Product Specification Levels;
- Valve type: full-bore;
- Body shape - round, forged;
- Closing element - parallel gate;
- Stem - ascending, provided with trapezoidal thread, being in no contact with the circulation fluid. The compensating rod annihilates the volume variation inner cavity during gate valve handling.
- The bonnet is assembled to the body by thread;
- The valve is connected to the pipe by flanges provided with 6Bx type sealing metallic rings.

FC MODEL GATE VALVES (SLABE GATE)

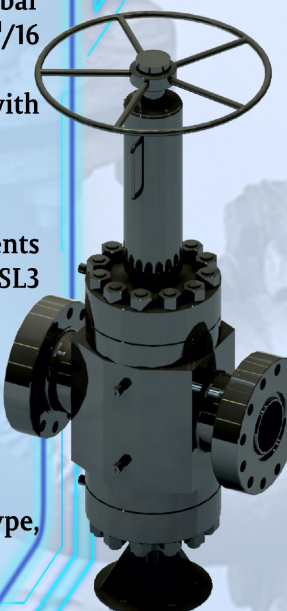


This type of valves is used in the oilfield industry for drilling and production operations for nominal pressures of 210, 350, 700 and 1050 bar (3000, 5000, 10000 and 15000 PSI) and nominal dimensions from 2 1/16 until 7 1/16.

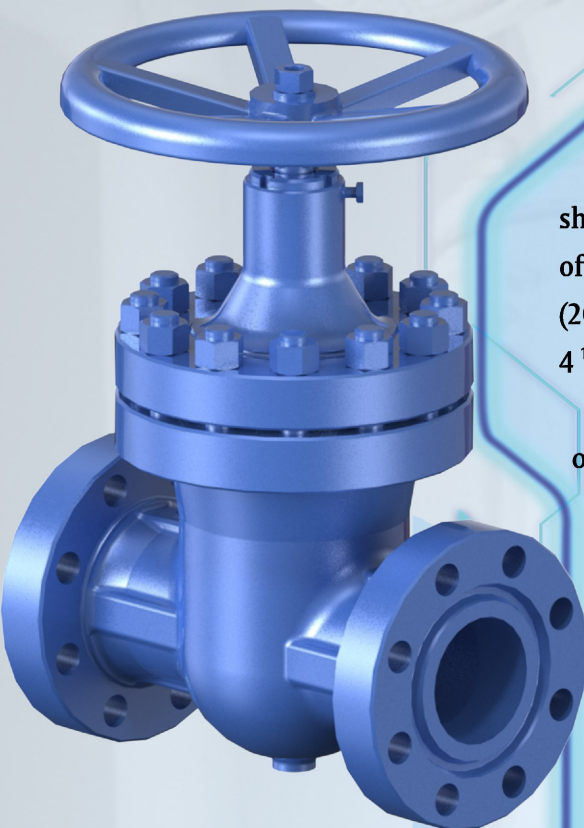
Working medium: water, oil products, gases, steam or other fluids with low corrosion.

Constructive characteristics of the main components:

- Available to meet all appropriate API 6A requirements;
- The products are designed to perform according to the requirements of PR1 Performance Requirement Level (on request, PSL1, PSL2 and PSL3 Product Specification Levels);
- Body shape - straight;
- Closing element - forged slab gate;
- Stem - nonascending, threaded;
- The bonnet is fasteneted to the body by threaded stud bolts;
- Bi-directional flow;
- The valve is connected to the pipe by flanges 6B and 6Bx type, according to API 6A, provided with sealing metallic rings.



STEEL WEDGE GATE VALVES WITH NONRISING STEM



The wedge gate valves are used for a complete or partial shutting-off of a fluid flow as well as for resuming the initial flow of the same fluid, for nominal pressures of 140, 210, 350 bar (2000, 3000, 5000 PSI) and nominal dimensions from 2 1/16 until 4 1/16.

Working medium: water, gases, petroleum products and other similar fluids with a light corrosive action.

Operating and constructive characteristics:

- Designed in accordance with API specification 6A requirements;
- The products are designed to perform according to the requirements of PR1 Performance Requirement Level (on request PSL1, PSL2 and PSL3 Product Specification Levels;
- Body shape - straight, with round top flange;
- Closing element - monoblock wedge gate;
- Sealing of the passing section on the seat: 17%Cr/17%Cr or simple metal-to-metal;
- Acting stem: nonrising, rotating, threaded;
- The valve is connected to the pipe by flanges provided with sealing metallic rings;
- Mounting position: indifferent;
- Acting: by turning of handwheel;
- The valve is connected to the pipe by flanges provided with "R" type sealing metallic rings.

CHECK VALVES

Destination: Exploitation, transport and distribution of industrial water and oil products.

Technical characteristics:

- max. working temperature: 82°C;
- passing direction: one-way;
- mounting position: according with the indicated sense;
- body-piston sealing: metal-to-metal;
- body-cover sealing: metal-to-metal.



ADJUSTABLE AND POSITIVE STUDDED CHOCKS

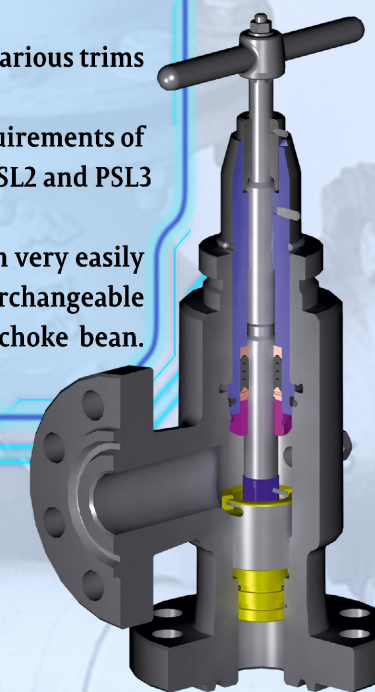
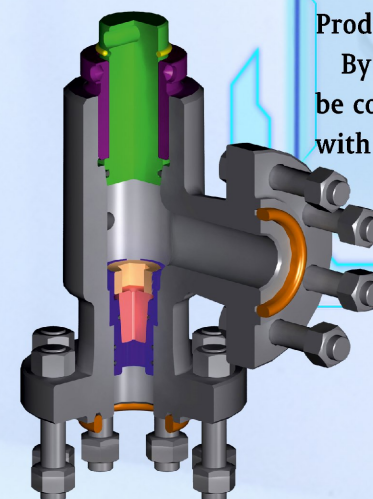


The Adjustable and Positive Chokes are designed and manufactured in accordance with API 6A, for pressures up to 10,000 PSI (700 bar) and nominal dimensions from 2 1/16 until 4 1/16.

These chokes are available in a large sizes range, and with various trims depending upon customer requirements.

The products are designed to perform according to the requirements of PR1 Performance Requirement Level and, on request, PSL1, PSL2 and PSL3 Product Specification Levels.

By means of a conversion kit, the adjustable type choke can very easily be converted to positive type choke. A wing union cap interchangeable with the adjustable type allows quick replacement of the choke bean.



MANIFOLDS



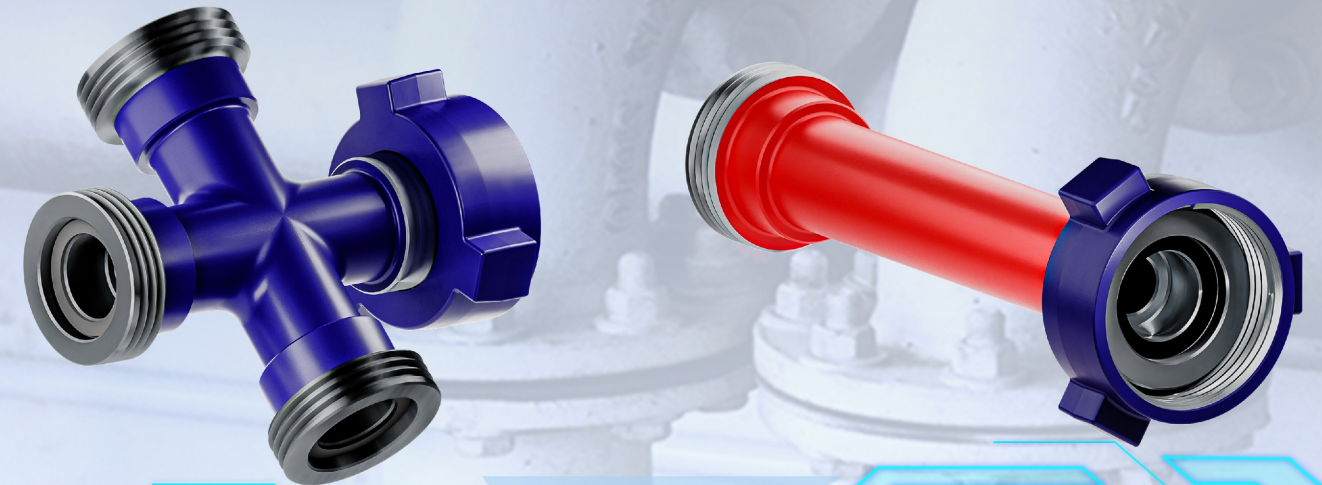
PETAL designs and manufactures on customer's request, manifold systems designed to manage well pressure fluctuations encountered during drilling by diverting flow through a series of valves and chokes.

Working pressure up to 15000 psi, and dimension up to 4 1/16".

End connection are flange connection type or union

Valves and chokes manufactured according with API 6A.

FLOW LINE (SWIVEL JOINT, INTEGRAL PUP JOINT, INTEGRAL FITTING)



Swivel joints are used as components of the manifolds, cementing units and other high-pressure line. Standard end connections are hammer union. Special seal design and seal material significantly increase sealing capability and service life.

Integral Pup Joints are straight tubes with union connections on both ends, widely used for transporting high pressure flow in fracturing manifold, cementing manifold, maintenance manifold and test manifold.

Standard types are available with different models, pressure and temperature rating.

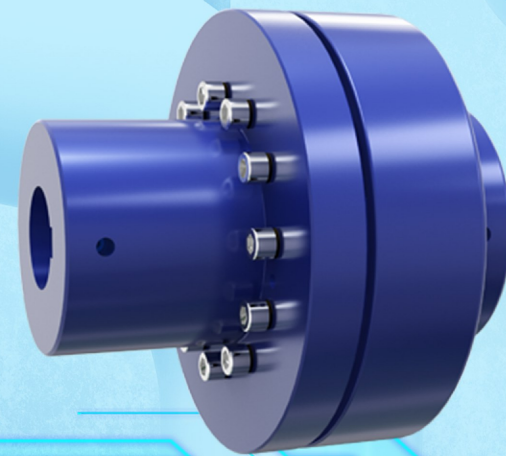
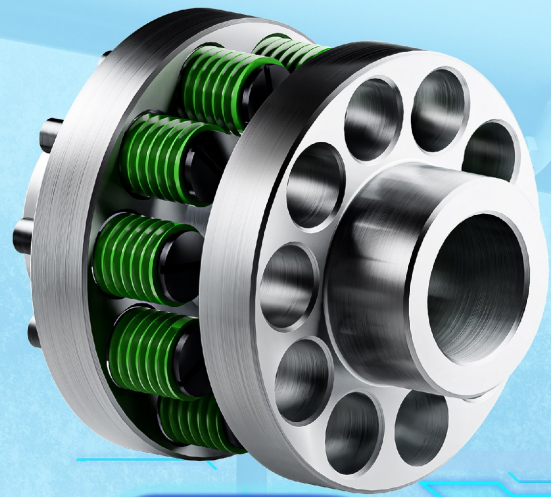
Customized service is also available.

Integral Fittings are used for connecting surface manifold. End connections are union or thread.

Many types are available including tees, long radius swivels, crosses, adapters and union plugs. PETAL also offers customized design.



METALLURGICAL EQUIPMENT



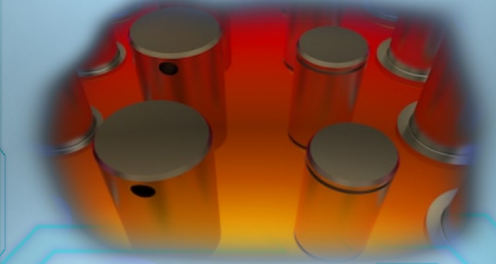
Metallurgical equipment manufactured according to the customer's project or according to the project developed together with the customer.

Portfolio:

- Gearboxes assemblies and subassemblies for heavy industries;
- Gear couplings;
- Elastic couplings;
- Spare parts for overhead cranes: rolling wheels, translation mechanisms, rotation mechanisms, drive mechanisms;
- Conveyors: with belt, with auger;



SERVICES

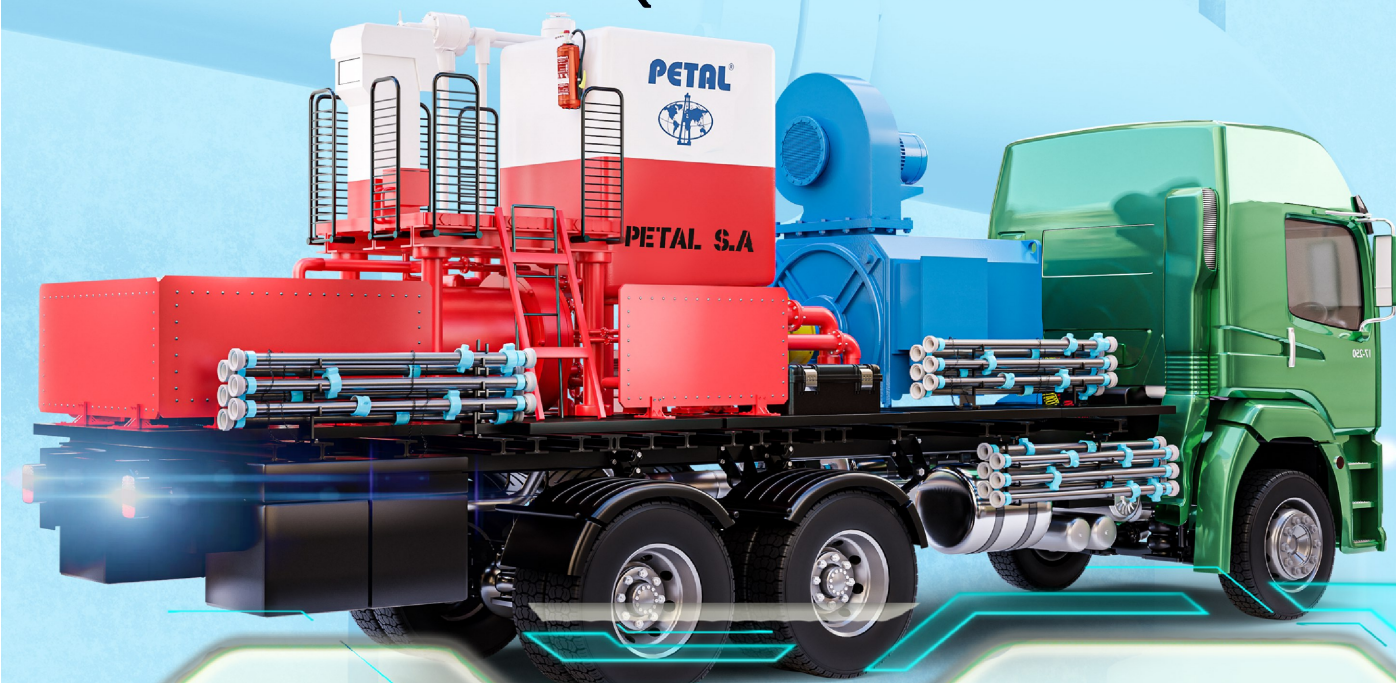


- Design services;
- Heat treatments services;
- Testing and certification of the integrity of the subassemblies for pressures up to 1500 bar;
- Refurbish services for mechanical subassemblies
- Refurbish services for vary products that work at high pressures
- Machining services
- Post-warranty service across the entire world, related to the delivered equipment with the possibility of taking over in service of the other equipment too.



NEW PRODUCTS TO COME IN 2021

CEMENTING UNITS EQUIPPED WITH ELECTRICAL ENGINE



The cementing units are mobile units designed to perform cementing, fracturing, pressure balancing, extinguishing and acidizing operations at the wells.

For cementing operations, the cementing units are equipped with jet mixer with 3 nozzles supplied with water by a water pump. Water supply to the mixer is so conceived to provide parallel operation of one, two or all three nozzles of the mixer, as required, providing 100 tone to blend/hour.

For protection against overpressure, the discharge manifold is provided with a shearing pin safety valve and the water pump manifold is provided with a spring safety valve.

Characteristics								
Unit type	Engine type	Complexity	Maximum working pressure (bar)	Plunger diameter	Actuated type of butterfly valve and plug valve	Measuring possibility of parameters	Carrier	Other features
AC 400	Electrical engine and frequency converter	Single pump	400	D 115, D 125	Manual/ electric*/ pneumatic*	Analog / Digital, with multiphysics sensors * (pressure, flow, temperature, density)	Truck**/ Skid*/ Eurocontainer*	Lighting spots 24V Operator Cab*
AC 500			500	D 100, D 115, D 125				
ACF 700			700	D 100, D 115, D 125				
ACF 1050			1050	D 85, D 100, D 115,				
<div>* Equipment on request</div> <div>** Chassis according to customer request: Mercedes, Tatra, Kraz, Roman, Volvo, MAN</div> <div>- Other possible equipment in combination with Petal pumps, proposed or provided by the customer.</div>								

ROTARY PYROLYTIC INCINERATOR



ROTARY KILNS Type "PyroRot" FOR SOLID AND LIQUID WASTE

GENERAL

The pyrolytic gasifier / incineration kilns "PyroRot" are liquid proof and have been designed for the pyrolysis, gasification or combustion of all kind of wastes, and mainly of liquid wastes, e.g. Urban wastes, Medical wastes, animal wastes, blood from slaughterhouses and wastes with high humidity level.

The stirring of the wastes inside the kiln, is achieved by the rotating of the horizontal chamber, which leads, firstly to the drying and secondly to the removal of the upper burned layer of the wastes, resulting in an easy and full pyrolysis /gasification or combustion of them.

The chambers are manufactured from construction steel plates, of 5mm thickness, with proper reinforcements. The inner surfaces of the chambers are covered with special mixtures of refractory and insulating materials, which can withstand high temperatures and are part of the know-how of our company, after a decade of research.

The construction is of pedestal type and can be transported and installed easily.

The cylindrical shape of the kiln, ensures a long life of the refractory materials even at high and continuous temperatures.

The advantages of these kilns are the following:

- They can pyrolyse, gasify or incinerate quickly and effectively, all kind of wastes, with maximum liquid up to 100% - that is pure liquids – e.g. liquid waste, blood etc.

- The capability to adjust the gasification/incineration process, by adjusting all the parameters in the process, through a friendly User's Interface, installed on a touch panel – a propriety of our company. In the case of incineration, in the chimney, at the exit of the flue gases, there is a quick controllable cooling system, for reducing their temperature, before releasing them to the environment, for avoiding liquefaction and creation of harmful compounds.

All the gasification/incineration programs, are automatically controlled through PLC, which is located into the electrical control board. That ensures full gasification/incineration and at the same time, protection of the environment.

USE

The rotary gasification/incineration kilns of "PyroRot" type are being used at hospitals, Urban Waste stations, slaughterhouses, rural industries, food industries etc., or for Waste Treatment purposes. These – before mentioned- kilns can treat from 100-1800kg/h, with maximum liquid up to 100%. We can provide even bigger systems, upon customer's request.

COMBINED HEAT AND POWER (CHP): The pyrolytic gasification/incineration kilns of "PyroRot" type, have high efficiency in heat recovery, due to high temperature of the flue gases. Depending on the quality and the quantity of the waste, we can provide the most suitable heat recovery system with the form of hot water, steam or superheated oil or Power generation system, based on Syngas production or direct electrical generation from flue gases thermal power.