
FINE MAN

OUR MISSION

At Fineman Co, we are dedicated to deliver innovative, reliable and cost-effective hydraulic products tailored to customer needs. We prioritize quality, safety and customer satisfaction.

Contact us today to learn how we can power your business with precision and efficiency.

www.finemancorp.com

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TUBE BUNDLE

EXTRACTOR

TUBE BUNDLE PULLER

FINE MAN

Tube Bundle Puller

Applications

Tube bundle extractors are widely used in industries where shell and tube heat exchangers are common, including:

Petrochemical Plants, Power Plants, Chemical Plants.

Using a Tube bundle puller typically involves the following steps:

1.**Preparation:** Ensuring the heat exchanger is properly shut down and depressurized.

2.**Attachment:** Securing the extractor to the tube bundle and the heat exchanger shell.

3.**Extraction:** Using the tube bundle puller to carefully pull the bundle.

4.**Maintenance:** Performing the necessary cleaning, inspection, and repair work on the bundle.

5.**Reinsertion:** Using the tube bundle puller to carefully reinsert the bundle into the shell.

Key features of Tube Bundle Extractor:

* Reducing overhaul time
* User friendly
* Compatible for different heat exchangers
* Enhanced safety
* Affordable

Extractor Model	25 T 6100X1600E	45 T 8000X2000E	65 T 9000X2750E	80 T 9000X3000E	100 T 10000X3300E
Max.bundle weight , kg	25000	45000	65000	80000	100000
Length of the tube bundle , mm	7100	9000	10000	11000	12000
Max.bundle diameter for extractor with standard lifting frame	1600	2000	2750	3000	3300
Width of hosting frame in operational position , mm	1953	2425	3250	4000	4000
Width of main frame , mm	900	1270	1270	1270	1270
Height of extractor in operational position , mm	2579	3563	4500	5500	6000
Operational weight	5000	11500	13500	15000	16500
Diesel engine , air cooled	25hp	25hp	25hp	25hp	25hp
Standard hydraulic pressure , ba	190	190	190	190	190
Max.pulling force	25000	50000	50000	80000	100000

TUBE BUNDLE

ROLLER

Tube bundle roller is a device with high efficiency used for washing and giving service to heat exchangers. While this innovative design proved incredibly successful at meeting our customers' needs, we've now completed the overall design for our TBR.

Tube bundle roller performance

Tube bundle rollers are designed for the rotation of tube bundles, allowing operators to clean %100 of the shell side. Sold as a set, the TBR consists of one driven roller unit and one non-driven roller unit. The system is hydraulically driven from the cab of an automated bundle cleaner.

overall, tube bundle rollers are valuable tools that enhance the maintenance process of tube bundles in heat exchangers and related equipment, offering significant benefits in terms of efficiency, safety, and cost-effectiveness.

Advantages of tube bundle roller :

* Enhanced Efficiency
* Reduced Labor
* Safety Improvement
* Precision Handling
* Versatility
* Cost Savings
* Ease of Use
* Durability

MODEL NUMBER	TBR-21
TOTAL WEIGHT (including 2 set of rollers)	2100 Kg
HEIGHT	600 mm
TOTAL WIDTH	1480 mm
TOTAL LENGTH	1500 mm
CENTER/center size betweenthe rollers (Adjustable)	540 mm to 800
CAPACITY	Up to 45 ton
REQUIRED SUPPLY	230 v - 3 phases
MIN. BUNDLE DIAMETER	0.3 m
MAX. BUNDLE DIAMETER	3 m

TUBE BUNDLE LIFTER

Tube bundle lifter is a mechanical device used to transport tube bundles safely and easily for repairment.

The clamps open, grip tube bundle when handling and lock the tube bundle, ensuring great support during movement.

Compared to traditional methods, there will be no damage to the tubes, tube sheet and its other component.

Tube bundle lifting machine

A tube bundle lifter is a specialized device which has designed for lifting and displacing tube bundles in shell and tube heat exchangers. These lifters are essential for handling tube bundles during repair and maintenance operations.

Increase safety, security and can be used both within the plant and during the production of heat exchangers. By lifting the tube bundle easily and safely, the Bundle lifter eliminates the risk of destroying the tubes.

Features and Functions :

* Robust and Reliable Construction
* Precision Handling
* Versatile and Customizable
* Ease of Mobility
* Precision Handling
* Enhancing Safety and Efficiency
* Compact Design

MODEL NUMBER	OVERALL LENGTH mm	MAX BUNDLE O.D. mm	MAX LIFE WITH SHOCK LOAD Kgs	MAX LIFE WITHOUT SHOCK LOAD Kgs	WEIGHT Kgs
FM - TBL- 40	2740	1000	9,000	13,600	1,130
FM - TBL- 45	2740	1140	9,000	13,600	1,220
FM -TBL- 60	3650	1520	13,600	22,700	2,720
FM -TBL- 65	3650	1650	22,700	29,400	3,400

Attaching hydraulic stub puller

GRIPPUL

When working with U-type/ straight tube bundles in heat exchangers, understanding the difficulties of precipitation is important. Precipitation refers to accumulation of unwanted materials in the exchanger's tubes which can lead to tube clogging. It has the potential to reduce efficiency significantly. While encountering with this issue, the Grippul can be used.

Attaching hydraulic stub pullerr

The Grippul/Attaching hydraulic stub puller is a specific device for pulling tubes. This device is particularly useful in re-tubing the U-type heat exchangers.

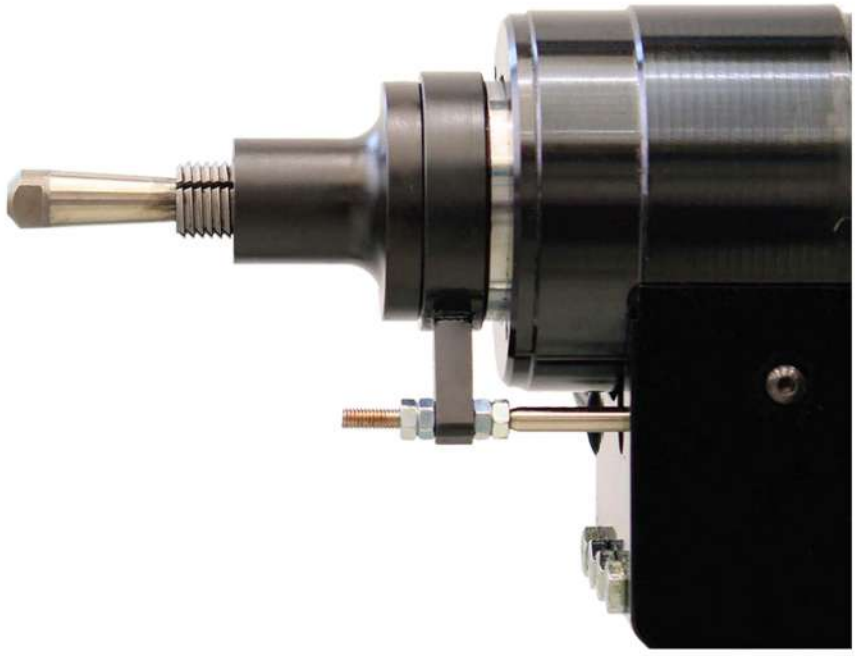
Steps for re-tubing by using Grippul:

1. Using a tube cutter to cut the end of the tube connected to the tube sheet.
2. Inserting the Grippul into the remaining tube. This attachment is secure to ensure the tube pulling out completely.
3. Throw the pulled tube away, and attach to another tube in order to complete the process.

By cutting the tube's end and utilizing the Grippul device, the maintenance process becomes faster and easier.

Advantages of using GRIPPUL :

* Increasing efficiency
* Ease of use
* Safety
* Robust construction
* Customizable



MODE	PULLING FORCE (ton)	DISCRIPTION (Inch)
FM-GP-11	13	1/2" to 1.1/4"
FM-GP-21	30	1.1/4" to 2"

TUBE

Expander

Tube Expanders are specific equipment which used to increase internal diameter of tubes used in heat exchangers, boilers, and condensers.

TUBE EXPANDER

Understanding the expansion process by using Tube Expander require to know about its components. Mandrel is one of the main component of this equipment. It is a central shaft that manage the expansion process. The other key component is Roller. The Rollers are cylindrical and positioned around Mandrel, exerting pressure on tube walls by rotating and generating radial forces. It can be manufactured with hydraulic, pneumatic or electrical force based on customer need.

Advantages of Tube Expander :

* Ease of use
* Expanding without damaging the tubes
* Portable
* Reduce maintenance time
* High efficiency

Drive Model	Suitable tube OD range	Chuck square size	Voltage
FM - Drive - 1	1/4"-3/8"	1/4"-3/8"	230
FM - Drive - 2	1st speed 3/8"-1/2" 2nd speed 1/2"-5/8"	3/8"	
FM - Drive - 3	1/2"-3/4"	3/8" & 1/2"	
FM - Drive - 4	3/4" -1.1/2"	3/8" & 1/2"	
FM - Drive - 5	1st speed 5/8"-3/4" 2nd speed 3/4"-1"	3/8" & 1/2"	
FM - Drive - 6	1st speed 1"-1.1/2" 2nd speed 1.1/2"-2"	1/2" & 3/4"	
FM - Drive -7 (Drive3+Gearbox)	GB-1 1"-1.1/2" GB-1 1.1/2" -2"	1/2", 3 /4" & 1"	
FM - Drive - 8 (Drive4+Gearbox)	GB-1 2"-2.1/2" GB-1 2.1/2" -4"	3/4" & 1"	
FM - Drive - 9 (Drive5+Gearbox)	1.1/2" -3"	1/2", 3 /4" & 1"	
FM - Drive - 10 (Drive6+Gearbox)	2"-5"	3/4"	

Model	Tube OD	RPM	Max Torque(NM)	Chuck size	Air Consumption Liter/Min	CFM
FM-58	up to 5/8"	1250	12.2	1/4"	1700	60
FM-100	up to 1"	600	21.8	3/8" &1/2"	1700	60
FM-114	up to 1.1/4"	400	36	3/8" &1/2"	1700	60

VALVE GRINDER

Valve grinder is an essential tool which helps to ensure that the device is properly fit into the valve seat. Proper use of a valve grinder can significantly improve valve performance by impacting on valve's efficiency and preventing leakage.

VALVE GRINDER

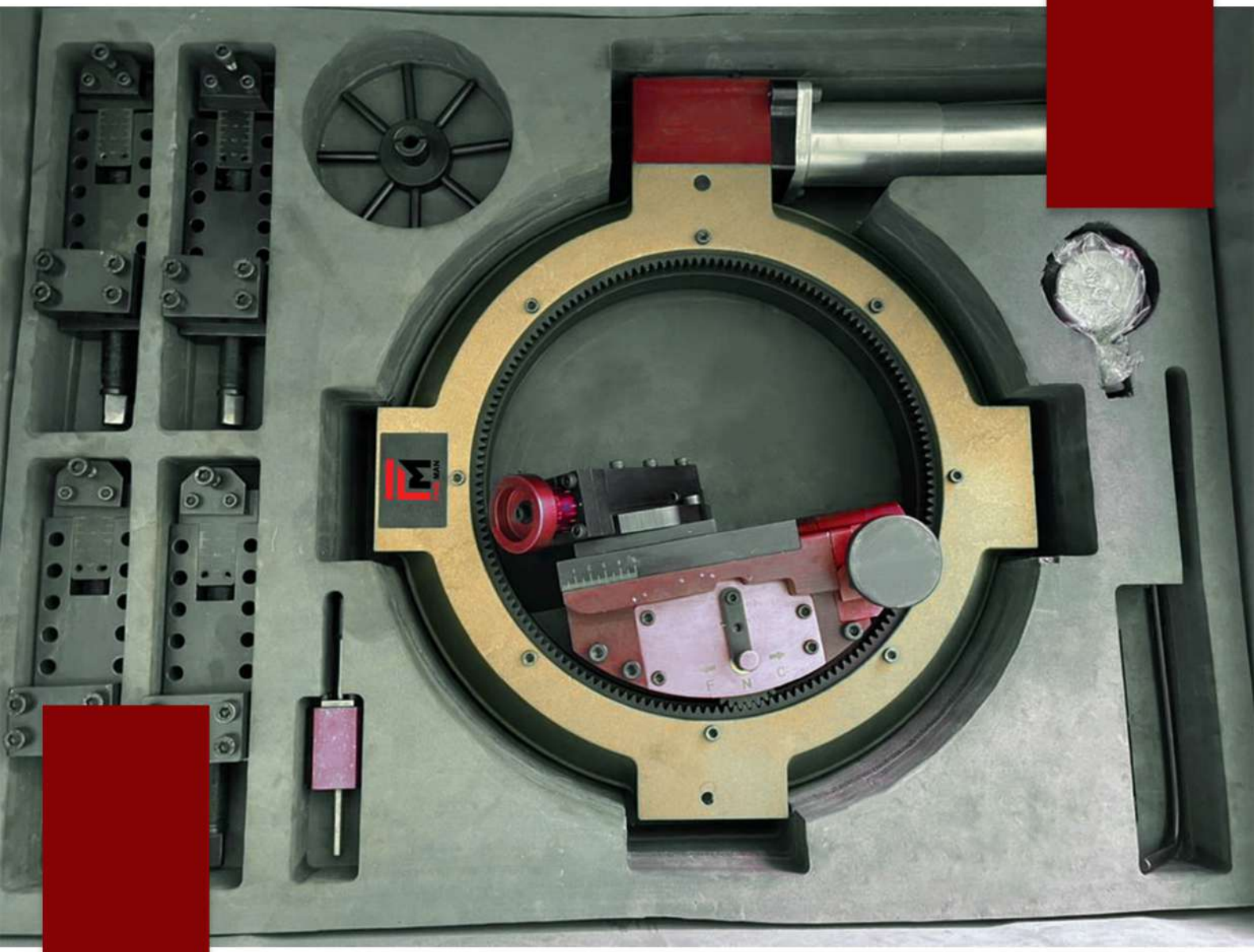
Valve grinder is primarily used for resurfacing and smoothing the surfaces of valves, like ball and gate valves.

This device can work either with pneumatic or electric drive. Accuracy of the valve grinder is important to achieve a smooth surface, at least the valve is carefully inspected to ensure that the final surface is smooth

Key features in valve grinders:

* Simple operation
* Portable
* Light weight
* Ease of use
* Reasonable price
* High efficiency
* Prevent waste of time

VALVE GRINDER FM 300	
Working range	2-18"
Submerging depth	700 MM
Number of revolution of grinding / Lapping heads	50 -350 min $^{-1}$
Seats & Valve gates	Vertical / Horizontal
Lapping head	Orbital lapping head with mechanical
Configuration	2 Types: valve gate and valve seat
Large set of abrasives supplied	Small, medium and large (with different grits)



FLANGE FACER

PORTABLE LATHE MACHINE

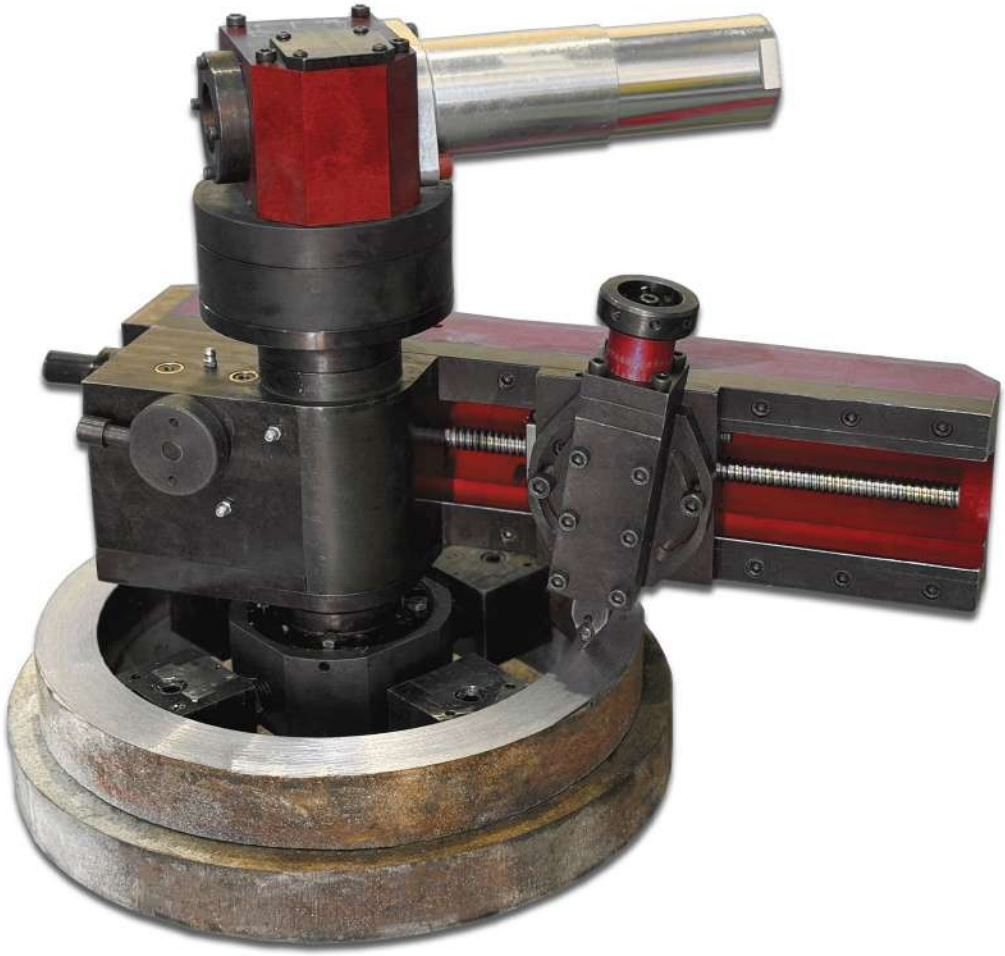
EXTERNAL FLANGE FACER

These tools are used to grip the flange from its outer diameter by using four jaw clamping arrangement.

They are designed to face the flange from outside up to 24 inch.

By carefully evaluating these factors, you can determine whether an internal or external flange facer is the best for your application and ensure optimal performance and results.

They can be manufactured with hydraulic or pneumatic power based on customer needs.



INTERNAL FLANGE FACER

These tools are designed to mount inside the flanges. They can face flanges up to 45 inch in bore size to 120 inch in outer diameter. The device is ready to use by setting up four jaw assemblies. The common model uses a pneumatic motor to power the machine which produce the torque required for facing.

This type has a compact, cylindrical design which let them fit inside the flange opening and machine the flange surfaces. Internal facers are typically suited for situations that access to the outer diameter of the flange is limited.

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Internal Clamping

DEXCRIPTION	SIZE (INCH)	TYPE
INTERNAL	2-12"	FM305i
INTERNAL	2-24"	FM610i
INTERNAL	6-34"	FM860i
INTERNAL	6-40"	FM1000i
INTERNAL	12-60"	FM1500i
INTERNAL	24-80"	FM2000i
INTERNAL	45-120"	FM3000i

External Clamping

DEXCRIPTION	SIZE (INCH)	TYPE
EXTERTNAL	0-8"	FM200E
EXTERTNAL	0-12"	FM300E
EXTERTNAL	0-24"	FM600E
EXTERTNAL	0-30"	FM760E
EXTERTNAL	0-70"	FM1775E
EXTERTNAL	0-80"	FM2000E

HYDRAULIC ALLIGATOR

Hydraulic Alligator shears are applied in recycling companies.

automobile dismantling plants smelting & casting industry to cold-shear section steel and metallic structural parts to produce acceptable furnace charges.

Metal Hydraulic Alligator Shear:

Shearing machines are used by manufacturing companies to cut sheet metal, as well as other materials and workpieces, with a straight blade.

The sheet metal is secured below the cutting blade, after which the cutting blade drops down to cut through it. There are many different types of shearing machines, however, one of which is an alligator shear.

Hydraulic Alligator shears contain a straight-bladed cutting tool as well, but they feature a unique alligator-like design that distinguishes them from other shearing machines.

Advantages Alligator Shear :

* Hydraulic drive, simple operation & easy maintenance
* Options for different force & blade length

Powerful and able to cut hard materials

* an efficient method for cutting workpieces

HYDRAULIC

Power Unit

Hydraulic Power Pack

Hydraulic units, which also known as hydraulic power units (HPUs) are special systems that control, distribute and produce hydraulic power to drive machinery and equipment by converting mechanical power to hydraulic energy.

Reservoir, pump, motor, filters and actuators are the main components of a Hydraulic power pack.

HYDRAULIC POWER UNIT

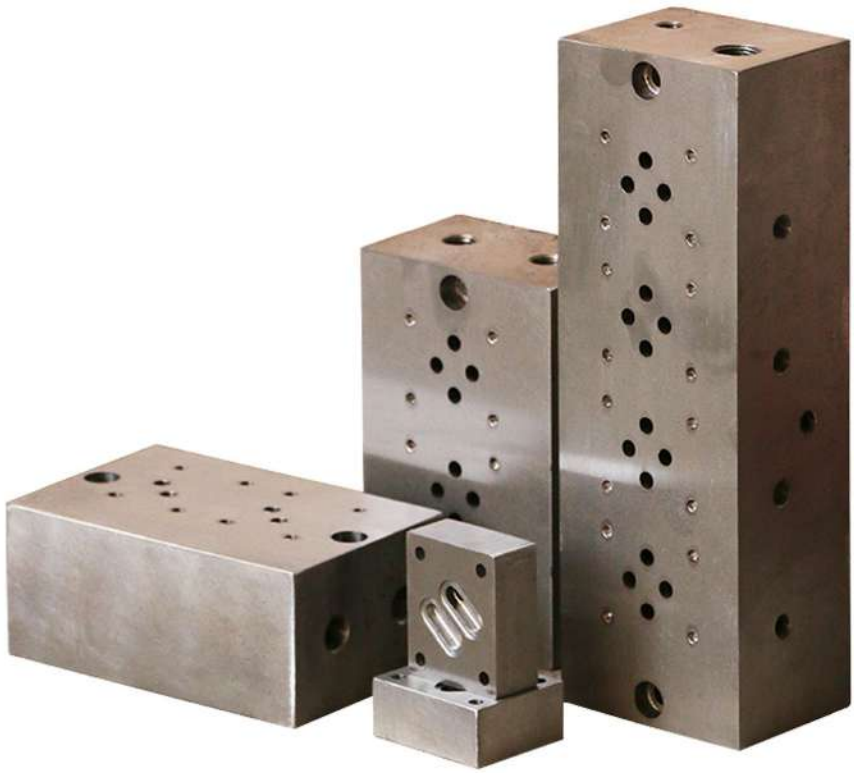
Important parameter for designing this device:

Designing hydraulic power packs involve essential considerations of several key parameters such as flow rate, pressure, fluid viscosity, pump type, control system and environmental conditions to ensure optimal efficiency. Each parameter plays an important role in the overall performance.

Preventive maintenance is important for the longevity and efficiency of hydraulic units.

Advantages:

* High power density
* Precision control
* Smooth and consistent operation
* Versatility
* customizability



HYDRAULIC BLOCK

Hydraulic Manifold

A hydraulic manifold is an essential block which connects hydraulic system's ports.

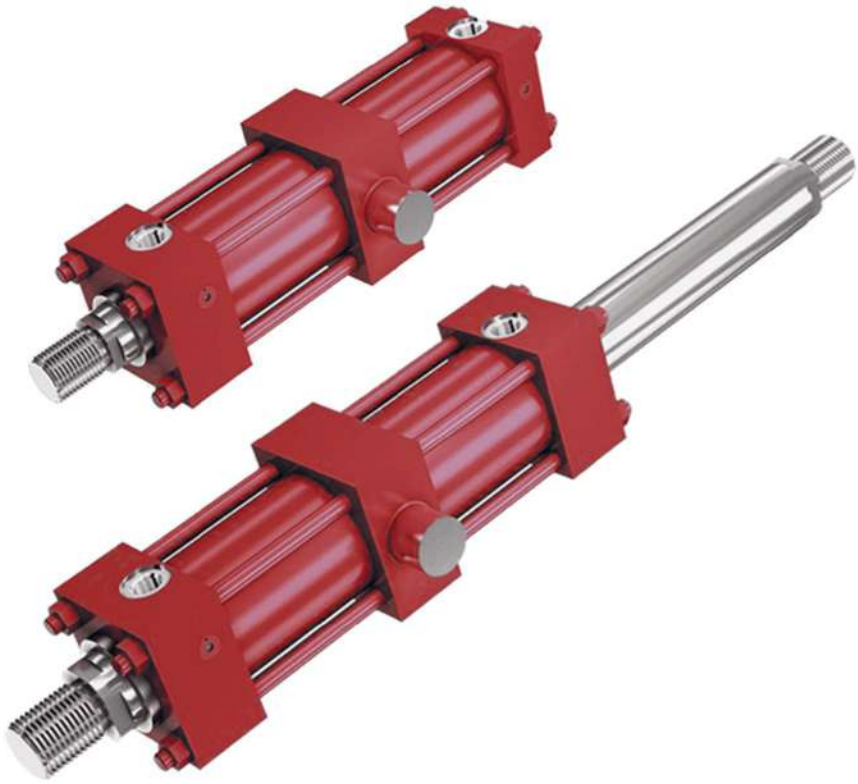
HYDRAULIC BLOCK

A hydraulic manifold is an essential block which connects hydraulic system's ports.

Hydraulic blocks are designed to manage the fluid flow through the hydraulic system from pump to actuator.
Hydraulic Manifolds regulate the pressure and flow to different ports and channels. They perform as a centralized hub.
We can manufacture hydraulic manifolds made from carbon steel, stainless steel or aluminum to meet your requirements.

Advantages:

* Saving space
* Reduce maintenance cost
* High efficiency
* Reduce assembly time



HYDRAULIC CYLINDER

A hydraulic cylinder is a special mechanical actuator which produce linear force through hydraulic fluid pressure.

Hydraulic cylinder is an essential component in hydraulic systems.

A hydraulic pump makes pressure by pushing fluid to the cylinder, this pressurized fluid on the piston surfaces area generates a linear force.

The force moves the piston rod (depending on the direction of the fluid flow), this movement controls by a valve.

HYDRAULIC CYLINDER

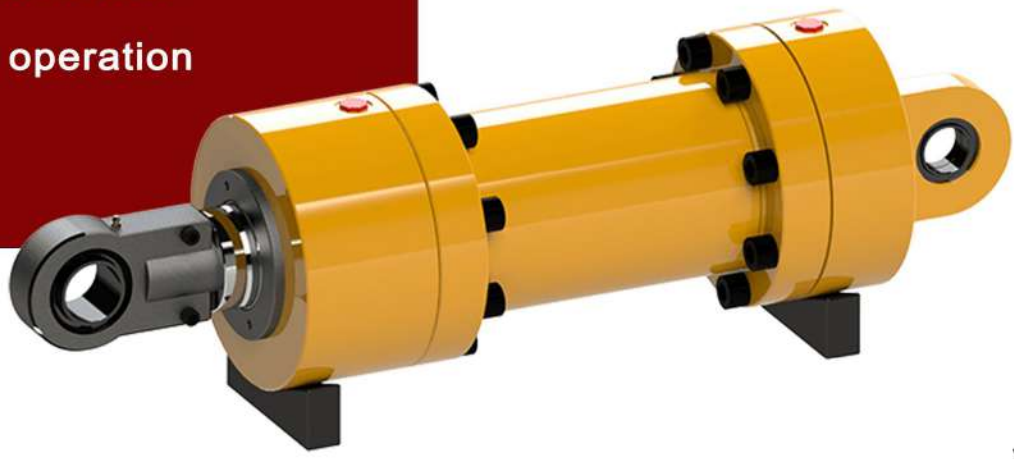
Hydraulic cylinders are actuation devices that use pressurized hydraulic fluid to produce linear motion and force.
They are used in a variety of power transfer applications, and can be single or double action.

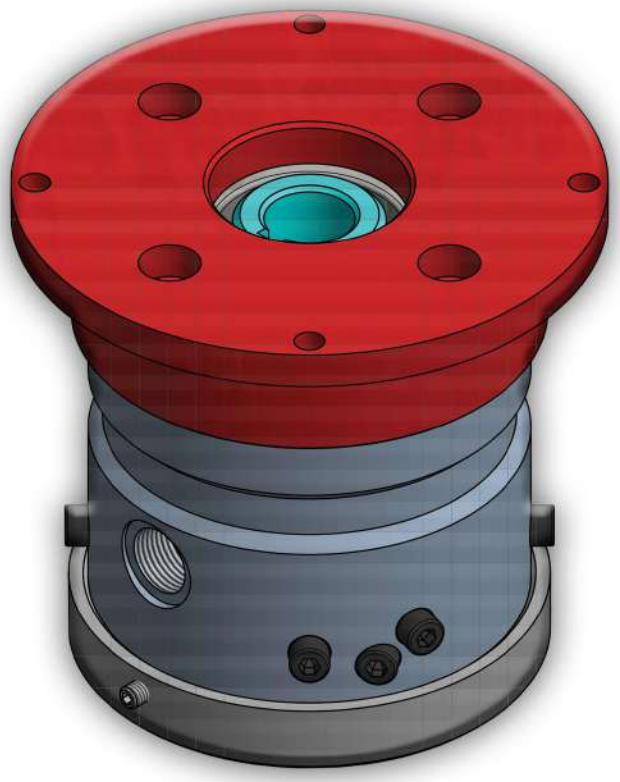
A single action hydraulic cylinder is pressurized for motion in only one direction, whereas a double action hydraulic cylinder can move along the horizontal (x-axis) plane, the vertical (y-axis) plane, or along any other plane of motion.

Important operating specifications for hydraulic cylinders include the cylinder type, stroke, maximum operating pressure, bore diameter, and rod diameter.

Advantages:

* High force capability
* Precision control
* Smooth operation





HYDRAULIC PUMP
700 BAR

Pumps that operate at 700 bar (or approximately 10,000 psi) are considered high-pressure pumps.

They are typically used in applications that require high force or where precision is critical. Some examples of applications that may require a pump operating at 700 bar include high-pressure testing, hydraulic presses, and hydraulic jacks.

700 BAR HYDRAULIC PUMP

Air-driven hydraulic pumps typically work by using compressed air to drive a piston or diaphragm, which then pressurizes hydraulic fluid in the pump's reservoir.

This pressurized fluid is then delivered to the hydraulic system through a hose or other conduit.
The amount of pressure generated by the pump depends on various factors such as the size of the pump, the air pressure supplied, and the design of the pump's hydraulic circuit.

When operating a pump at 700 bar, it is important to consider the potential hazards associated with high-pressure hydraulic systems. These can include the risk of fluid injection injuries, which can occur if hydraulic fluid is forced into the skin or underlying tissues.
It is important to follow all recommended safety procedures when working with high-pressure hydraulic systems, including wearing appropriate personal protective equipment and ensuring that all hydraulic components are properly rated for the intended operating pressure.

LOBE PUMP

A lobe pump is a type of positive displacement pump commonly used in various industries for transferring fluids, particularly those that are thick, viscous, or sensitive to shear forces.

It operates by using two or more rotors (lobes) that rotate in opposite directions within a casing, creating a series of cavities that trap and move the fluid through the pump.

LOBE PUMP

Key Features:

Positive Displacement: The pump moves a fixed amount of fluid with each rotation, which makes it ideal for applications requiring precise flow control.

Gentle Handling of Fluids: Lobe pumps are often used for products that cannot tolerate shear stress (e.g., food, pharmaceuticals, or delicate chemicals).

Self-Priming: Most lobe pumps can operate without being fully flooded with fluid, which is useful for applications where priming is difficult or where fluid levels fluctuate.

Versatility: Can handle a wide range of fluids, from thin liquids to thick slurries, and even abrasive or viscous products.

Advantages:

* **Sanitary design:** Many lobe pumps are designed to meet sanitary standards, especially in food and pharmaceutical applications.

* **Maintenance:** They are relatively easy to maintain compared to other positive displacement pumps.

* **Flow Control:** Provides a consistent, reliable flow regardless of pressure changes.

HAND PUMP

A hand pump is a type of pump that is manually operated, meaning it doesn't require electricity, compressed air, or a motor to function.

Instead, it relies on the mechanical force exerted by the user to generate fluid movement.

Hand pumps come in many types and designs depending on the application, from simple water pumps to high-pressure hydraulic pumps.

HAND PUMP

Applications of Hand Pumps:

Hydraulic Systems: In construction, maintenance, and repair work, hand pumps are used to apply high pressure to hydraulic systems, such as jacking systems or press machines.

Pumping Fuel or Chemicals: Hand pumps are often used in fuel stations, chemical plants, or even marine applications for transferring liquids like oil, fuel, or chemicals.

Advantages:

* Portability
* Cost-Effective
* Simplicity
* Reliability

Industrial waste water

TREATMENT SYSTEM

(API / DAF)

API WASTE WATER TREATMENT SYSTEM

The term “API separator” stands for American Petroleum Institute (API system) oil-water separator. They are designed to separate free oil and suspended solids from wastewater, making it appropriate for discharge or further treatment. API separators are commonly used in the oil and gas industry for the separation of oil and suspended solids from wastewater.

How API Waste Water Treatment System works:

Wastewater enters the separator, and due to the tank’s design, the waste water remains for some amount of time that cause oil and solids to flow into the surface, forming a layer that can be skimmed off. Treated water exits from the bottom.

DAF WASTE WATER TREATMENT SYSTEM

A Dissolved Air Flotation system (DAF system) is the final step for purifying wastewater after applying API system which clarifies water by removing suspended matter such as oil or solids.

In a DAF Waste water treatment system or DAF system, fine air bubbles are introduced into the water, attaching to the particles and causing them to float to the surface. The floated particles form a layer, known as a “float,” which can be skimmed off. This process is effective for separating and removing contaminants from industrial or municipal wastewater streams. The treated water, now separated from the contaminants, is collected from the bottom of the DAF tank. It has undergone a significant reduction in suspended solids and other impurities.

NON-METALLIC EQUIPMENT
NCS720S

Non-metallic equipment feature:

- With high strength and durability
- Reliable performance and very low energy consumption (up to %80 reduction) in comparison with metal, very high abrasion resistance
- Light weight and corrosion resistant to any chemical
- Reliable and easy to maintain
- Very long life up to 10 times longer than metal samples
- Silent performance during work

FINE MAN

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