TRITORC

PIPELINE SOLUTIONS

HYDROTEST PUMP

TRITORC
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Pneumatic (Air compressor driven) liquid booster pumps/system

Compressed Air Driven Liquid Booster Pump

We offer the most complete range of Air driven liquid pump models in the industry measured for:

A. Capability of ultimate pressure, flow or output horsepower.
B. Compatibility with a broad variety of liquids, such as oil, water and chemical applications.

TRITORC pumps are air driven at a drive air pressure of 1bar to 8bar (14.5 psi to116 psi) by the normal air compressor. Basically the principle of operation is similar to a reciprocating amplifier where control of the piston at the end position is regulated by a pilot operated 4/2 way valve.

TRITORC pumps feature a large air piston joint to a smaller diameter plunger. The pressure ratio is the difference of these two areas and is the method of determining maximum outlet pressure.
Higher pressures obtained by using higher pressure ratios. TRITORC model numbers reflect the pumps nominal pressure ratios while the technical data indicates exact ratios. The outlet pressure is easily to set through a simple air regulator. By multiplying the pressure ratio by the available shop air pressure, the nominal liquid pressure can be calculated.

TRITORC pumps are self-priming. In general it is not necessary to use an airline lubricator. The liquid to be pumped flows into the suction chamber by the up-stroke of the drive piston. By this suction effect, the inlet check valve is opened and the outlet check valve is closed. The down-stroke generates the pressure at the liquid side. The inlet check valve is closed and the outlet check valve is opened by the generated pressure. TRITORC liquid pumps cycle automatically, where the pressure is built up the numbers of cycles slow down, the pump stops automatically when the output pressure forces are equal. The pump restarts with a slight drop in the outlet pressure or an increase in the air drive pressure. Pump performance can be affected by a number of conditions, such as freezing of muffler or pilot valves (which is caused by moisture in air lines), inadequate inlet airline sizes and dirty filers. Don’t reduce the indicated port sizes and consult TRITORC for exact flow conditions not shown in charts.

Applications include:

- Pressure testing
- Burst(Hydrostatic) testing
- Work holding/power clamping
- Jacking/lifting
- Valve actuator control
- Hydraulic cylinder actuation
- Press safety overload devices
- Roller tensioning
- Metering
- Precision lubrication and spraying
- Liquefied gas transfer

Key features include:

- Compressed Air driven - no electricity required (connect to normal air compressor)
- In order to extend the lifetime of the pump, the driving air pressure should not be higher than 8 bar
- No airline lubricator required
- Pressures to 640Mpa (6400 bar)
- Wide range of models with different ratios
- Built-in-cooling on most models
- Easy to install, operate and maintain
- Best price / performance ratio
- No heat, flame or spark risk and explosion proof
- Automatic pressure holding, whatever the cause of the pressure drop, the TRITORC pump will automatically start, keep the loop pressure constant

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liquid booster pump working circuit

Air compressor

Driven air presure:3-8 bar

Flow rate:800-1000L/Min

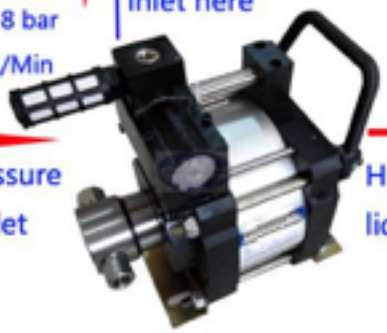
Driven air inlet here

Pneumatic(Air Driven),no need electricity

Portable and small size

Automatic and easy operating

Max pressure up to 640 MPa



Low pressure liquid inlet

High pressure liquid outlet (1-640 MPa for option)

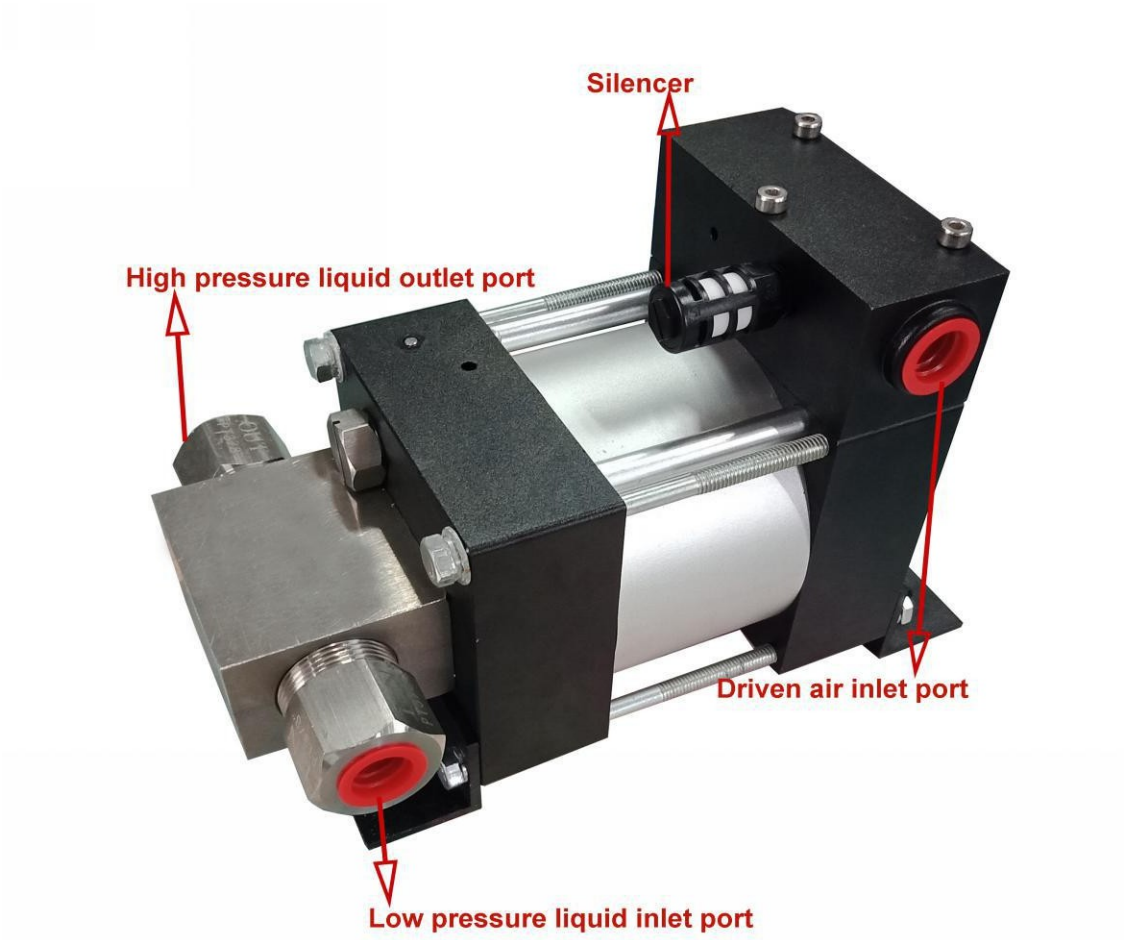
liquid booster pump

Boost Medium: Water/Oil/Chemical liquid

For hydraulic/hydrostatic test or chemical injection

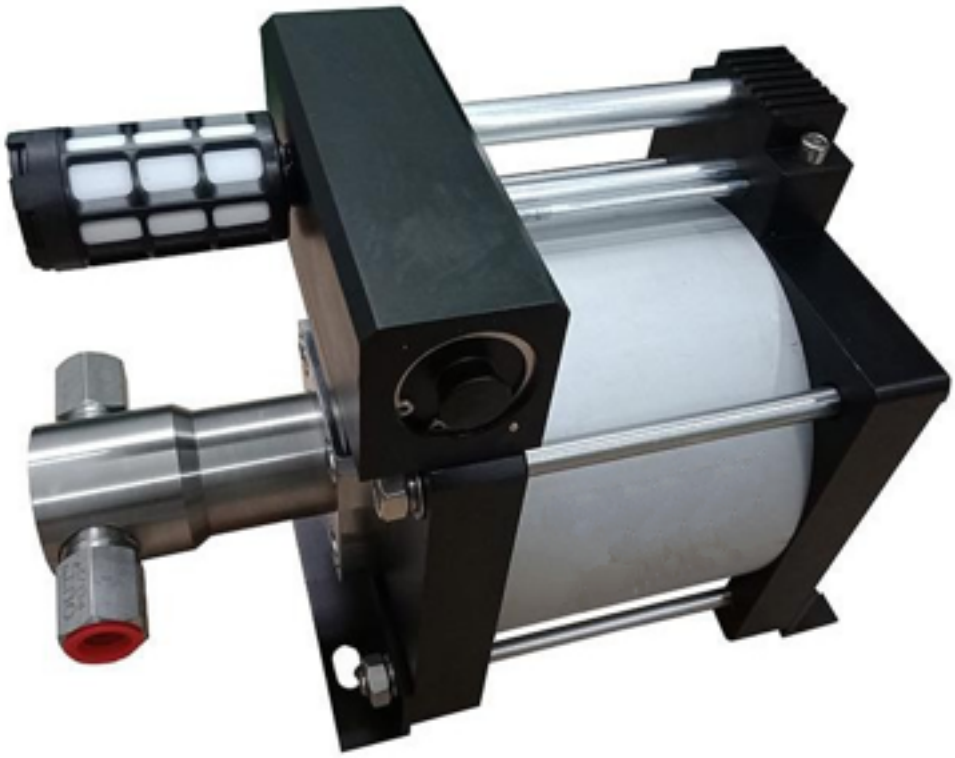
THP-L Series Liquid Pumps(Single acting, single air drive head)

- They have aluminium bodies, with oxidation treatment and wetted materials of carbon steel or stainless steel, which depending on different service liquid. Material of stainless steel, making them an excellent choice of water application.
- Portable design.
- High quality seals, long service life available
- Easy to install, operate and maintenance.
- Explosion proof and no electrical power required.

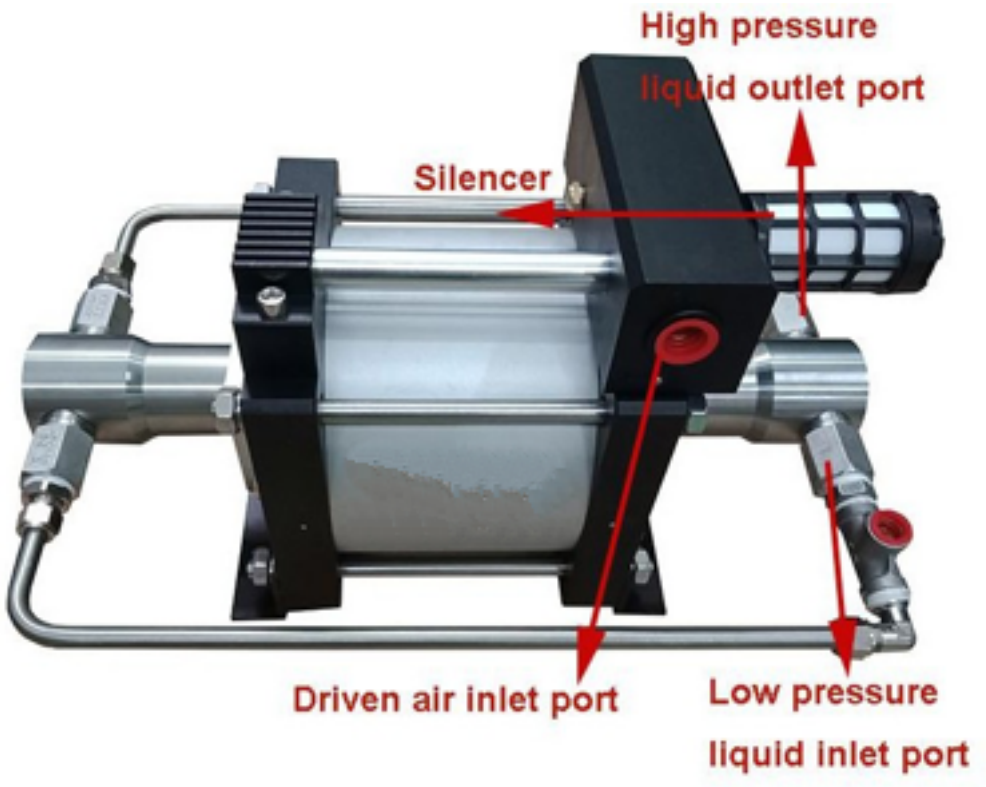


THMF-P Series Liquid Pumps(Single acting, single air drive head)

- DGG pumps have aluminum bodies and wetted materials of stainless steel or carbon steel ,which depends on different service liquid. Materials of stainless steel, make them an excellent choice of water application. High quality seals, long service life available.



THDH-F Series Liquid Pumps(Double acting, single air drive head)
They are characterized by the same features as the DGG pumps single acting, single air drive head types, but they have less pulsations and deliver approx. 50 % more flow.



TRITORC Pneumatic (Air driven) Liquid Booster System

TRITORC- Hydraulic power packs(Liquid pump system) are compact and delicacy solution tailored to customer specific requirements with air driven liquid pumps as well as all accessories to be fitted and installed on the frame or in closed cabinet.

To operate this system, the pressure gauges, valves and pressure regulators have to be fitted on panels. The outlet pressure is easily to be set through a simple air regulator. The pump stops automatically when this end pressure is reached and restarts with a slight drop in the outlet pressure or an increase in the air drive pressure. TRITORC Hydraulic power packs are available with wide range of pressure ratios make these series of pumps ideal for powering a variety of oil/hydraulic operations. The maximum operating pressure up to 640 MPa.
As the pressure will be generated by means of a pneumatically operated pump, the electric connection will not be necessary. To operate this system, the air driven liquid pump have to be
equipped with the air control unit combined filter and water separator, pressure-regulating valve, pressure control gauge as well as manual relieve valve. In this operation, the pump will be mounted to the stainless steel tank in the closed cabinet in a compact and space saving manner. Pressure gauges, valves and pressure regulators will be fitted on panel.

The desired operating pressure can be attained by adjusting the driving air pressure. When the driving air pressure and the output pressure reach the balance, the pump stops filling pressure and the output pressure stays at the preset value. This hydraulic unit can be used for all kinds of pressure testing and test tools for research and test institutes or for other functions requiring a determined pressure.

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For the hydraulic test station(liquid booster station), we have three different cabinet design for choosing

Model A
closed type with
carbon steel material

Model B
closed type with
stainless steel material

Model C
frame type with
stainless steel material

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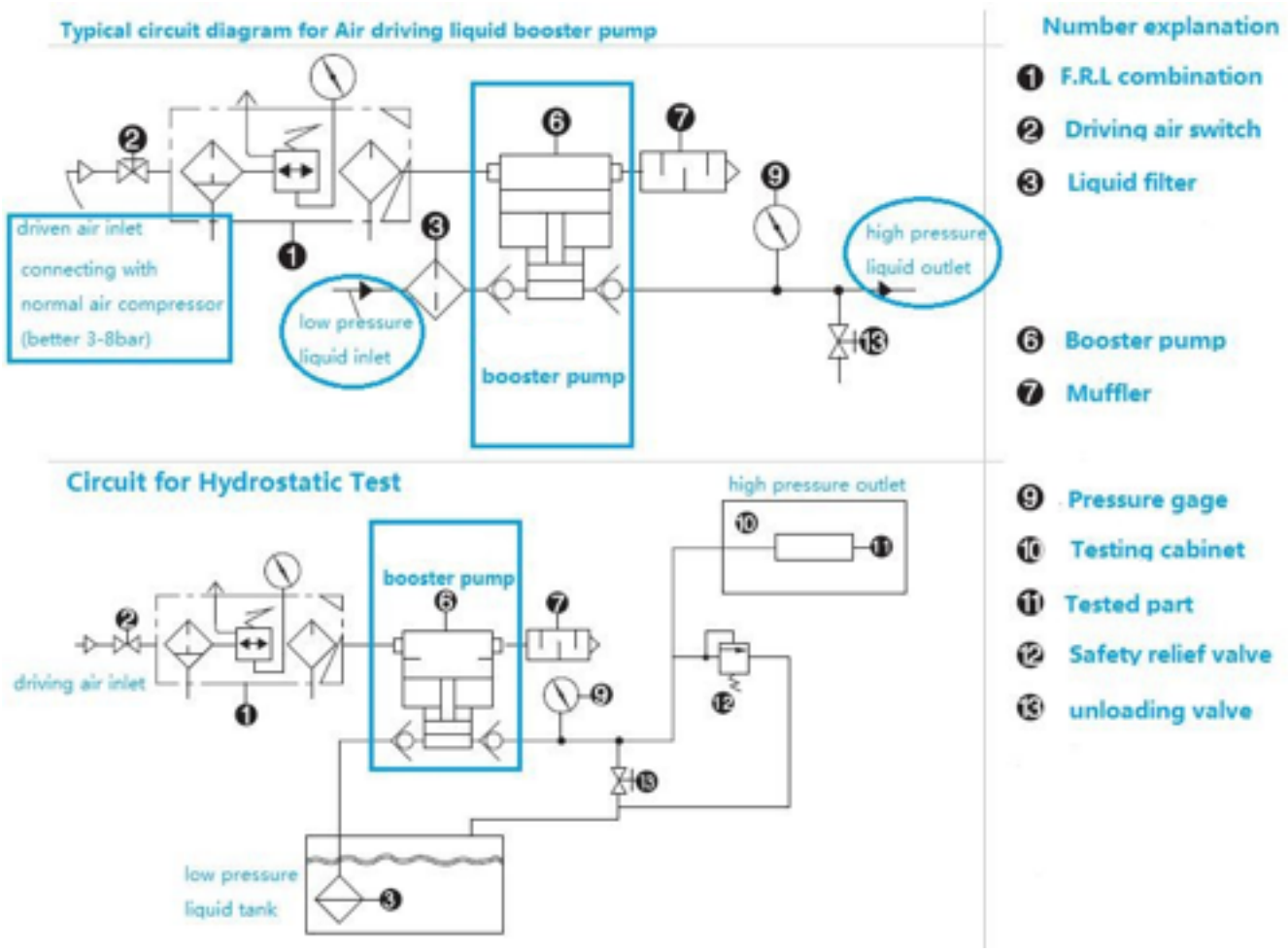
Liquid (hydraulic) booster system = Liquid pump+ following valves, gages, and parts



The standard liquid pump system including following parts:
Air –driven liquid booster pump Stainless steel (carbon steel) material cabinet (Three models for choosing)
F.R.L combination for driven air (adjusts air pressure, add lubricating oil and water filter) Driven air switch (Pump starting switch), driven air pressure gauge, water tank Liquid inlet/outlet switch, high pressure liquid guage, unloading valve, interconnecting pipes etc. And we could also customize it according to clients' special requirement.

Liquid Pressure Booster Pump System-The hottest selling Model C cabinet

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How to Select TRITORC Air Driven Liquid Boosters/Systems?
In order to choose suitable liquid booster pump or systems for you, please kindly reply us the following questions:

1. **What is the liquid you want to booster?**

2. **What outlet liquid pressure do you want?( )bar**

3. **What driven air pressure (of your air compressor) can you offer?( )bar, Because our booster is completely air operated and no need any electricity**

4. **What outlet liquid flow rate do you need?( )L/min**

If you are interested in any of our products, please feel free to contact us.
We could also make the customized products according to your special requirements.

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THP-L Series Liquid Pumps

Model	Pressure Ratio	Outlet pressure (bar)	Outlet pressure (bar)															
			0	50	100	150	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
			Outlet flow (L/min)															
THPL-FP4	4:1	32	15.36	0.00														
THPL-FP10	10:1	80	7.15	1.52	0.00													
THPL-FP16	16:1	128	4.59	1.67	0.00													
THPL-FP30	30:1	240	2.53	1.72	1.42	0.51	0.00											
THPL-FP44	44:1	352	1.41	1.12	0.84	0.69	0.36	0.22	0.00									
THPL-FP64	64:1	512	0.95	0.84	0.56	0.37	0.23	0.15	0.11	0.06	0.00							
THPL-FP100	100:1	800	0.64	0.52	0.49	0.45	0.37	0.32	0.31	0.26	0.21	0.12	0.09	0.00				
THPL-FP170	170:1	1360	0.37	0.32	0.31	0.29	0.27	0.25	0.22	0.19	0.16	0.15	0.13	0.12	0.08	0.03	0.01	0.00
Outlet High Pressure = Driven Air Pressure* Pressure Ratio																		

THMF-P Series Liquid Pumps

Model	Pressure Ratio	Outlet pressure (bar)	Outlet pressure (bar)															
			0	50	100	150	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
			Outlet flow (L/min)															
THMF-P6	6:1	48	29.91	0.00														
THMF-P10	10:1	80	18.84	5.10	0.00													
THMF-P16	16:1	128	12.42	5.32	0.00													
THMF-P28	28:1	224	7.11	6.01	4.71	1.34	0.00											
THMF-P40	40:1	320	4.89	4.02	3.04	1.98	0.89	0.00										
THMF-P64	64:1	512	3.08	2.95	2.87	2.06	1.13	0.00										
THMF-P80	80:1	640	2.44	2.35	2.12	1.76	1.03	0.65	0.00									
THMF-P100	100:1	800	1.92	1.88	1.83	1.78	1.12	0.75	0.00									
THMF-P130	130:1	1040	1.47	1.45	1.38	1.26	1.11	0.63	0.52	0.00								
THMF-P175	175:1	1400	1.14	1.02	0.97	0.85	0.81	0.78	0.65	0.34	0.02	0.00						
THMF-P255	255:1	2040	0.75	0.72	0.65	0.61	0.54	0.47	0.41	0.36	0.28	0.22	0.15	0.00				
THMF-P400	400:1	3200	0.48	0.46	0.45	0.42	0.39	0.37	0.32	0.29	0.27	0.26	0.25	0.19	0.16	0.14	0.08	0.00
Outlet High Pressure = Driven Air Pressure* Pressure Ratio																		

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THDH-F Series Liquid Pumps

Model	Pressure Ratio	Outlet Pressure (Bar)	Outlet pressure (bar)															
			0	50	100	150	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400
			Outlet flow (L/min)															
THDH-FP06	6:1	48	48.60	0.00														
THDH-FP10	10:1	80	30.61	6.41	0.00													
THDH-FP16	16:1	128	19.73	9.86	0.00													
THDH-FP28	28:1	224	11.30	10.80	8.40	3.21	0.00											
THDH-FP40	40:1	320	7.69	7.53	4.56	3.21	1.11	0.00										
THDH-FP64	64:1	512	4.94	4.75	4.65	3.78	1.86	0.00										
THDH-FP80	80:1	640	3.96	3.82	3.65	2.78	2.31	1.23	0.00									
THDH-FP100	100:1	800	3.13	3.12	3.01	2.96	2.46	1.97	0.00									
THDH-FP130	130:1	1040	2.40	2.33	2.21	2.01	1.56	1.35	1.09	0.00								
THDH-FP175	175:1	1400	1.81	1.75	1.73	1.68	1.62	1.43	1.22	0.68	0.02	0.00						
THDH-FP255	255:1	2040	1.23	1.21	1.19	1.85	1.65	1.45	1.36	1.25	0.83	0.45	0.21	0.00				
THDH-FP400	400:1	3200	0.79	0.75	0.71	0.68	0.63	0.59	0.51	0.46	0.43	0.39	0.30	0.26	0.21	0.19	0.10	0.00
Outlet High Pressure = Driven Air Pressure* Pressure Ratio																		

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India, Oman, Qatar, Saudi Arabia, UAE

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