

### Compressed Air Driven Liquid Booster Pump-DGM/DGG/DGGDSeries

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.

MAXITROL pumps are air driven at a drive air pressure of 2 to 10bar (29 to 145 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.

MAXITROL 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. Suncenter 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.

MAXITROL pumps are self priming. In general it is not necessary to use an air line 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. SUNCENTER 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 air line sizes and dirty filters. Don't reduce the indicated port sizes and consult SUNCENTER for exact flow conditions not shown in charts.

#### **Applications include:**

- o Pressure testing
- o Burst(Hydrostatic) testing
- o Work holding/power clamping
- o Jacking/lifting
- o Valve actuator control
- o Hydraulic cylinder actuation
- o Press safety overload devices
- o Roller tensioning
- o Metering

# MAXITROL®

## Maximun Control

High Pressure Technology - Testing Equipment  
Hydraulics - Pneumatics - Gases

- o Precision lubrication and spraying
- o Liquefied gas transfer

### Key features include:

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

## Suncenter liquid booster pump working circuit



### DGM Series Liquid Pumps(Single acting, single air drive head)

- o They have aluminum 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.
- o Portable design.
- o High quality seals, long service life available
- o Easy to install, operate and maintenance.
- o Explosion proof and no electrical power required.



Model	Pressure Boost Ratio	Driven air pressure $P_L$	Formula to calculate outlet pressure	MAX Outlet Pressure(bar)*	Liquid inlet Connection	Liquid outlet Connection	MaxFlow rate(L/min)**
DGM4	4:1	3-8 bar	$4XP_L$	32	NPT1	NPT1/2	15.36
DGM10	10:1	3-8 bar	$10XP_L$	80	NPT3/4	NPT1/2	7.15
DGM16	16:1	3-8 bar	$16XP_L$	128	NPT /2	NPT 1/2	4.59
DGM30	30:1	3-8 bar	$30XP_L$	240	NPT 1/2	NPT 3/8	2.53
DGM44	44:1	3-8 bar	$44XP_L$	352	NPT 3/8	NPT 3/8	1.41
DGM64	64:1	3-8 bar	$64XP_L$	512	NPT 3/8	NPT 3/8	0.95
DGM100	100:1	3-8 bar	$100XP_L$	800	NPT 3/8	NPT 3/8	0.64
DGM170	170:1	3-8 bar	$170XP_L$	1360	NPT 3/8	M14*1.5	0.37

Max. outlet pressure at an air drive of 8 bar/116 PSI

In order to extend the lifetime of the pump, the driving air pressure should not be higher than 8 bar

# MAXITROL®

Maximun Control

High Pressure Technology - Testing Equipment  
Hydraulics - Pneumatics - Gases

## DGG 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.



### Technical specification

Model	Pressure Boost Ratio	Driven air pressure $P_L$	Formula to calculate outlet pressure	MAX Outlet Pressure(bar)*	Liquid inlet Connection	Liquid outlet Connection	MAX Flow (L/min)
DGG6	6:1	3-8 bar	$6XP_L$	48	NPT1/2	NPT1/2	29.91
DGG10	10:1	3-8 bar	$10XP_L$	80	NPT1/2	NPT1/2	18.84
DGG16	16:1	3-8 bar	$16XP_L$	128	NPT1/2	NPT1/2	12.42
DGG28	28:1	3-8 bar	$28XP_L$	224	NPT1/2	NPT1/2	7.11
DGG40	40:1	3-8 bar	$40XP_L$	320	NPT1/2	NPT1/2	4.89
DGG64	64:1	3-8 bar	$64XP_L$	512	NPT1/2	NPT3/8	3.08
DGG80	80:1	3-8 bar	$80XP_L$	640	NPT1/2	NPT3/8	2.44
DGG100	100:1	3-8 bar	$100XP_L$	800	NPT1/2	NPT3/8	1.92
DGG130	130:1	3-8 bar	$130XP_L$	1040	NPT1/2	M14X1.5	1.47
DGG175	175:1	3-8 bar	$175XP_L$	1400	NPT3/8	M14X1.5	1.14
DGG255	255:1	3-8 bar	$255XP_L$	2040	NPT1/4	M14X1.5	0.75
DGG400	400:1	3-8 bar	$400XP_L$	3200	NPT1/4	M14X1.5	0.48
DGG510	510:1	3-8 bar	$510XP_L$	4080	NPT1/4	M14X1.5	0.65
DGG800	800:1	3-8 bar	$800XP_L$	6400	NPT1/4	M14X1.5	0.42

Max. Outlet pressure at an air drive of 8 bar/116 PSI

In order to extend the lifetime of the pump, the driving air pressure should not be higher than 8 bar

# MAXITROL®

Maximun Control

High Pressure Technology - Testing Equipment  
Hydraulics - Pneumatics - Gases

## DGGD 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.



### Technical specification

Model	Pressure Boost Ratio	Driven air pressure $P_L$	Formula to calculate outlet pressure	MAX Outlet Pressure(bar)*	Liquid inlet Connection	Liquid outlet Connection	MAX Flow (L/min)**
DGGD4	4:1	3-8 bar	$4XP_L$	32	NPT1/2	NPT1/2	70.00
DGGD6	6:1	3-8 bar	$6XP_L$	48	NPT1/2	NPT1/2	48.60
DGGD10	10:1	3-8 bar	$10XP_L$	80	NPT1/2	NPT1/2	30.61
DGGD16	16:1	3-8 bar	$16XP_L$	128	NPT1/2	NPT1/2	19.73
DGGD28	28:1	3-8 bar	$28XP_L$	224	NPT1/2	NPT1/2	11.30
DGGD40	40:1	3-8 bar	$40XP_L$	320	NPT1/2	NPT3/8	7.69
DGGD64	64:1	3-8 bar	$64XP_L$	512	NPT1/2	NPT3/8	4.94
DGGD80	80:1	3-8 bar	$80XP_L$	640	NPT1/2	NPT3/8	3.96
DGGD100	100:1	3-8 bar	$100XP_L$	800	NPT1/2	NPT3/8	3.13
DGGD130	130:1	3-8 bar	$130XP_L$	1040	NPT1/2	M14*1.5	2.40
DGGD175	175:1	3-8 bar	$175XP_L$	1400	NPT3/8	M14*1.5	1.81
DGGD255	255:1	3-8 bar	$255XP_L$	2040	NPT1/4	M14*1.5	1.23
DGGD400	400:1	3-8 bar	$400XP_L$	3200	NPT1/4	M14*1.5	0.79

Max. outlet pressure at an air drive of 8 bar/116 PSI

In order to extend the lifetime of the pump, the driving air pressure should not be higher than 8 bar

### Suncenter DLS Series Pneumatic (Air driven) Liquid Booster System Suncenter- DLS Series Pneumatic(Air driven) Hydraulic Power Packs

MAXITROL- Hydraulic power packs 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. SUNCENTER 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.



# MAXITROL®

Maximun Control

High Pressure Technology - Testing Equipment  
Hydraulics - Pneumatics - Gases

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



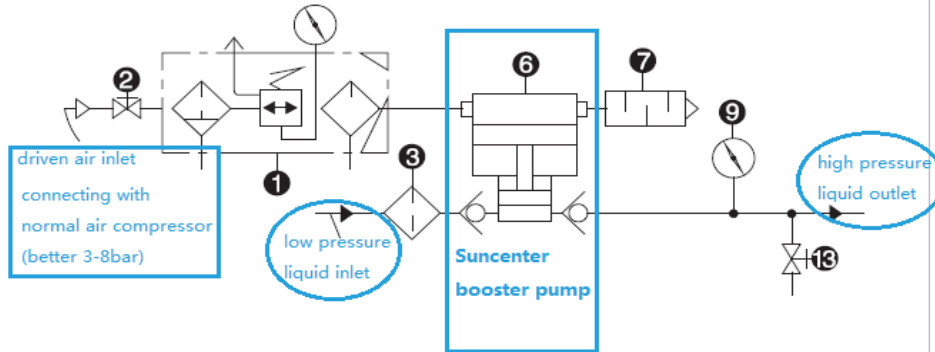
Model C  
frame type with  
stainless steel material

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



Valve Test Bench, Cylinder Hydrostatic Testing

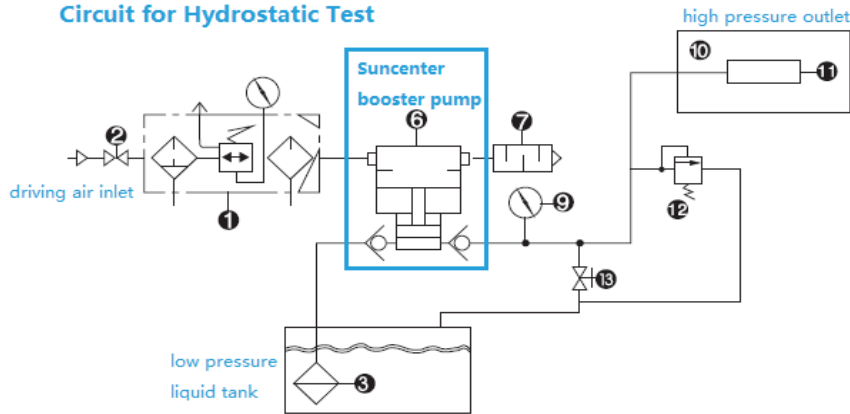
Typical circuit diagram for Air driving liquid booster pump



Number explanation

- ① F.R.L combination
- ② Driving air switch
- ③ Liquid filter
- ⑥ Booster pump
- ⑦ Muffler

Circuit for Hydrostatic Test



- ⑨ Pressure gage
- ⑩ Testing cabinet
- ⑪ Tested part
- ⑫ Safety relief valve
- ⑬ unloading valve

### How to Select Suncenter 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

Flutrol(Thailand)Co.,Ltd

ADD: 152/9 Petkaseam rd, Nong Khang Phul, Nong Kheam, Bangkok 10160

Tel: 02-807-4771 Fax: 02-807-4772,3

Website: [www.flutrol.co.th](http://www.flutrol.co.th)

e-mail: [info@flutrol.co.th](mailto:info@flutrol.co.th)