yamada

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PRODUCT GUIDE

High-Performance Air-Powered Piston Pumps

About Yamada...

yamada

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The Yamada Corporation has been a leading producer of industrial equipment since 1905, and of fluid handling products for over 60 years. As a leader in pneumatic pumping technology, Yamada is known in many industries worldwide for its innovative products, superior quality, and unmatched reliability. Other companies may claim to be innovators, but an impressive history of delivering new products and solving customer problems confirms Yamada's position as the industry leader.

Yamada's reputation for manufacturing top quality products, allied with continuing efforts in research and development have created a strong foundation for market leadership. As an ISO 9001 certified corporation, stringent quality procedures are followed throughout the manufacturing process, including liquid testing of every pump prior to shipping.

The Yamada Corporation is headquartered in **Tokyo** with manufacturing facilities located throughout Japan. Satellite facilities are located in **Arlington Heights, Illinois, USA,** servicing the Western Hemisphere, **The Netherlands,** providing support throughout Europe, Africa, and the Middle East, and **Shanghai,** covering the emerging markets of China. These offices are support centers for over 300 authorized fully stocking Yamada distributors worldwide.

Yamada professional staff provides:

- Customer Service
- Product Training
- Research & Development
- Parts and Service for all Yamada® Pumps
- Application Engineering
- Industry Knowledge

With over 300 distributors, Yamada is effectively positioned to service your market needs. Contact Yamada for the location of your closest local stocking distributor.

For additional information, product literature, and promotions, please visit yamadacorp.co.jp/global or contact our Sales Staff at Phone No.+81-(0)3-3777-0241.

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Engineered to Perform. Designed for Long Life.

Are you currently using the most efficient and effective material transfer system? A Yamada air powered™ reciprocating pump can offer you many features and benefits.

- Can safely transport flammable liquids and can be used in restricted environ ments.
- Can transfer materials at high pressure.
- Can easily transfer material to and from any location.
- Have an adjustable discharge pressure.
- Are compact, clean and efficient.
- Require minimal maintenance or spare parts.
- Can be mounted in a number of ways to many different kinds of container.
- Have a large product range to cover many applications.
- Do not effect the properties of the material being transferred.
- Can save time and lower material wastage.
- Can make the changing of material containers safer and more efficient.

Yamada Air Powered™ Pumps are driven by compressed air ensuring safety and reliability. They are cheap, efficient and an effective means for the transfer of low and high viscosity materials.

An extensive range of pumps

The Yamada air powered™ reciprocal pump series has many different models ranging from inline and divorced type pumps as well as a choice of different size air motors and different pump ratios.

Variable discharge pressures

Because the Yamada reciprocating pump series consists of pumps ranging in size from 50 to 250mm and have ratios from 1:1 up to 55:1, by using the correct combination of size and ratio it is possible to achieve any required output.

The flow control is simple and safe

By installing a valve at the discharge port it is possible to adjust the flow of liquid. The speed of the pump will adjust automatically. The discharge outlet valve can even be closed fully with no risk of damaging the pump. Another alternative is to slow the air pressure rate at the inlet regulator. By using either or both of these methods, the flow of material can be controlled easily. To get the same control, using an electrical pump, special circuitry must be installed between the pump and the valve making it expensive, complicated, and having more chance of breakdown.

Intrinsically safe and dependable

Because compressed air is used to drive Yamada pumps, there are no electrical connections, i.e. these pumps are spark less, and have no exhaust fumes. These pumps can pump inflammable liquids or be used in explosive environments.

Air tight design

By using an inductor plate, it sticks to the surface of the grease and an airtight seal is created. When the pump is operating a vacuum is formed inside the material container and thus pulls the inductor plate down. Not only does this plate help with pumping but it also prevents contaminants or dampness from entering the drum as well as enabling the total use of the containers contents preventing wastage.

Simple installation

By either using a bung adapter, bolts, mounting bracket or hoses it is possible to mount the pump onto any container from pails to 200-liter drums, even underground or above ground tanks. Once the air supply is connected the pump will run immediately.

Able to pump a wide range of viscose materials

Because these pumps are able to produce a range of low to high pressures, many viscosity materials such as motor oil, gear oil, water, thinner and paint, even high viscosity materials like grease, adhesives and putty can be pumped with ease.

Low maintenance and design efficiency

Yamada pumps are designed to be simple, efficient and high quality. The air motor section is very reliable and is almost maintenance free.Every Yamada product manufactured in our specialty plant in Japan is inspected and tested prior to shipment.

Wide array of accessories

An extensive range of accessories are available to cover a wide variety of applications.

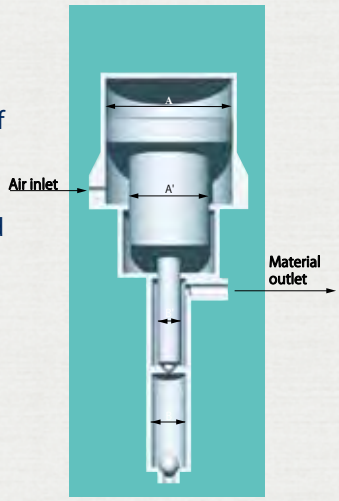
About Piston Pumps

Pump Ratio

The pump ratio is the ratio between the effective areas of the air motor (A) and of the lower pump (B). Where the area (B) is usually indicated as the base (i.e., as 1). For example when A is 100cm2 and B is 20cm2 the pump ratio would be 100:20 or 5 times 1, (=5:1). This ratio is one of the most important factors determining pump characteristics.

The maximum (theoretical) outlet discharge pressure can be calculated by multiplying the pump ratio by the supplied air pressure. For example if the above pump with a 5:1 ratio is used with an air supply of 0.7 Mpa, then the maximum discharge pressure would be 3.5Mpa, (=. 7 times 5). By using pumps with different pump ratios even with the same inlet air pressure it is possible to achieve low to extremely high discharge pressure.

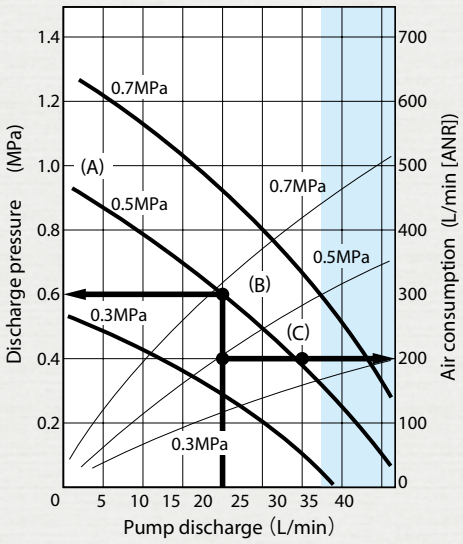
The Yamada line up of Air PoweredTM Pumps covers all ranges of pump ratio from a 1:1 to 60:1. Therefore from the same 0.7Mpa air supply, it's possible to achieve up to 42Mpa of outlet pressure. In general the pump required often depends on the viscosity of the material. To pump very high viscosity materials, a pump with a high pump ratio is required.



Performance Curve

As explained above, you can get the maximum theoretical discharge pressure by multiplying the supplied air pressure by the pump ratio. The higher the discharge pressure the smaller the pump discharge will be under the same supplied air pressure. For this reason the pump with a bigger air motor will be required as the required discharge pressure becomes higher. The air poweredTM pumps have characteristics that the discharge pressure will decrease as the pump discharge increase.
Putting all these factors together, the correlations between the supplied air pressure, the discharge pressure and the pump discharge are plotted for each pump. Their relations with the air consumption are also included in the plot. The plot is termed the performance curve, and this will provide you with the pump performance in general.

How to use the performance curve



a Three down-sloping curves indicate the relation between the discharge pressure and the pump discharge for the supplied air pressure of 0.3, 0.5 and 0.7MPa. Choose one of the curves that corresponds to your supplied air pressure.

b Let assume here that the supplied air pressure is 0.5MPa. Then, the middle curve is used in the example
●When the pump discharge is 0 L/min (i.e., when the outlet valve is closed), the discharge pressure (pumps inner pressure) is maximum as shown at point (A).
●As the outlet valve is opened, the material starts flowing out, and the discharge pressure slowly falls down. The discharge pressure will be 0.6MPa when the pump discharge reaches 20 L/min (point B.)
●A further increase in the pump discharge to 30L/min will lower the discharge pressure to 0.4MPa (point C.)
By referring to this figure, it is possible to see if a particular pump can provide the required pump discharge and discharge pressure.
If the required pump discharge of a particular pump falls into the blue zone in the figure, then the pump is not suitable for the continuous operation. If the is the case, please choose the pump with bigger capability.

c These curves also show the air consumption for the supplied air supply pressure of 0.3MPa, 0.5MPa and 0.7MPa. As you can see, the air consumption is 200L.min when the supplied air pressure is 0.5MPa and the pump discharge is 20L/min (point C.)

Note: Doa not operate the pump under the conditions that fall into the blue zone of the figure.

Low Pressure Supply Pump Series

LOW PRESSURE SUPPLY PUMPS

Inline Pumps. (Steel)

For lubricants similar to engine oils, gear oils and machine oils etc. Generally the material must provide a certain amount of lubrication, be non-corrosive and have a low viscosity.
<Ex.> Engine oil, Gear oil, Machine oil, etc.

Divorced Pumps. (Steel)

For fluids that are air-drying like paints and certain chemical solutions. The material must provide a certain amount of lubrication, be non-corrosive and have a low viscosity. Different packing materials may be required depending on the application.
<Ex.> Paint, Chemical solution, etc.

Inline Stainless Steel Pumps.

For fluids similar to water and cutting oils etc that have a low viscosity, are corrosive and non air-drying.
<Ex.> Water, Cutting oil, etc.

Divorced Stainless Steel Pumps.

For fluids like chemical agents and acids etc, that are corrosive and air-drying. Teflon packing is used in these pumps. *
<Ex.> Chemical agents, etc.
* Teflon packing is used.

MODEL NUMBER NOMENCLATURE

SKR- XX M 50 -SAL

PUMP SIZE: (DIA.OF AIR PISTON):
110= 110mm
125= 125mm
140= 140mm
250= 250mm

GLAND SEAL TYPE:
M=METAL SEAL
A=INLINE
P=PACKING SEAL

PUMP RATIO:
10= 10 x 1
13= 13 x 1
20= 20 x 1
25= 25 x 1
38= 38 x 1
40= 40 x 1
47= 47 x 1
50= 50 x 1
55= 55 x 1

LIFT TYPE:
SAL: Air Rum Single Post Lift for Pail
PWAL: Air Rum Double Post Lift for Pail
AL: Air Single Lift for Drum
DAL: Air Rum Single Post Lift for Drum
DWAL: Air Rum Double Post Lift for Drum

Inline Pumps

Suitable for lubricants

DR-110A5(851754) / DR-110A15(851826) / SH-110A5(851753)
Overall length: 1275mm / 1320mm / 610mm
Shank length: 935mm / 980mm / 270mm
Intake port: ----- / ----- / R1-1/2
Discharge port: Rc3/4 / G1/4 / Rc3/4
Air inlet port: G1/4
Net Wt.: 12.0kg / 9.0kg / 8.3kg
Shipping Wt.: 14.0kg / 13.0kg / 12.0kg

DR-50A1(852628) / SH-50A1(852629)
Overall length: 1270mm / 561mm
Shank length: 910mm / 201mm
Intake port: —— / R1-1/2
Discharge port: Rc3/4
Air inlet port: Rc1/4
Net Wt.: 5.0kg / 2.6kg
Shipping Wt.: 6.5kg / 4.0kg

DR-50A3(852633) / SH-50A3(852634)
Overall length: 1270mm / 680mm
Shank length: 910mm / 320mm
Intake port: Rc3/4
Discharge port: Rc3/4
Air inlet port: Rc1/4
Net Wt.: 5.4kg / 3.3kg
Shipping Wt.: 7.0kg / 5.0kg

DR-90A3(880966) / SH-90A3(880967)
Overall length: 1296mm / 551mm
Shank length: 910mm / 201mm
Intake port: —— / R1-1/2
Discharge port: Rc3/4
Air inlet port: Rc3/4
Net Wt.: 7.1kg / 4.5kg
Shipping Wt.: 9.0kg / 7.0kg

DR-125A13(854620) / SH-125A13(854619)
Overall length: 1519mm / 854mm
Shank length: 1063mm / 398mm
Intake port: —— / R1-1/2
Discharge port: Rc3/4
Air inlet port: Rc3/8
Net Wt.: 21.2kg / 17.6kg
Shipping Wt.: 24.0kg / 20.0kg

Inline Pumps Specifications

Pump Ratio

DR/SH-50A1	1 x 1
DR/SH-50A3	3 x 1
DR/SH-90A3	3 x 1
DR/SH-110A5	5 x 1
DR/SH-125A13	13 x 1
DR-110A15	15 x 1

Maximum Discharge Pressure

DR/SH-50A1	0.7MPa
DR/SH-50A3	2.1MPa
DR/SH-90A3	2.1MPa
DR/SH-110A5	3.5MPa
DR/SH-125A13	9.1MPa
DR-110A15	10.5MPa

Discharge Volume per Cycle

DR/SH-50A1	126mL
DR/SH-50A3	56mL
DR/SH-90A3	145mL
DR/SH-110A5	120mL
DR/SH-125A13	171mL
DR-110A15	37mL

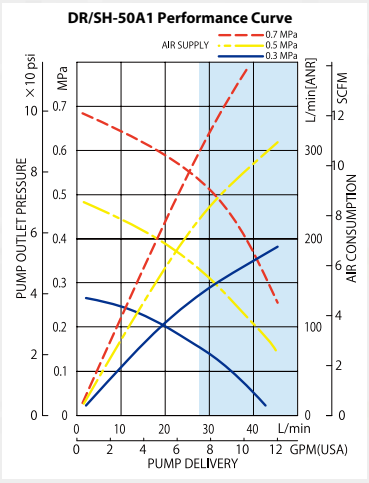
Air Supply Pressure

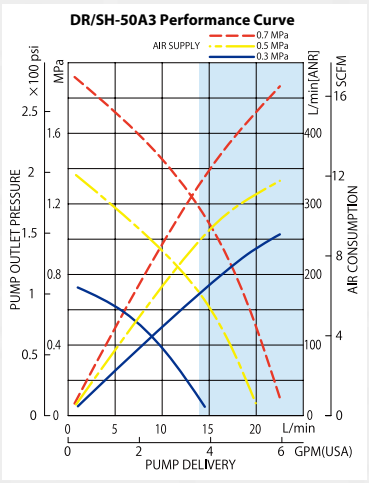
DR/SH-50 series: 0.3 – 0.7MPa

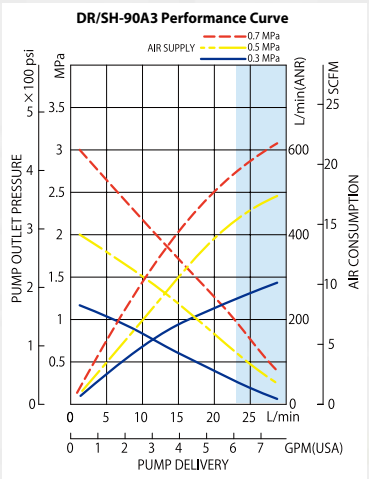
DR/SH-90,110,125 series: 0.2 – 0.7MPa

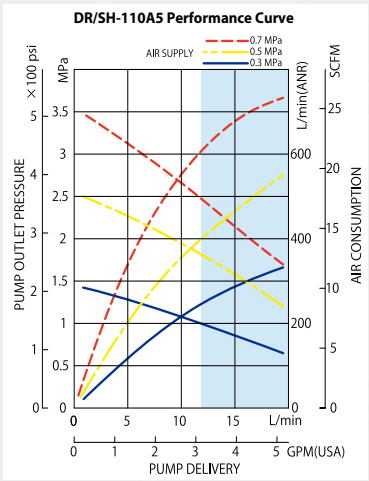
Maximum Liquid Temperature (All Models)

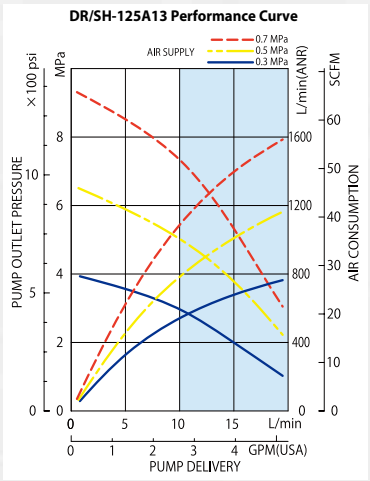
80°C

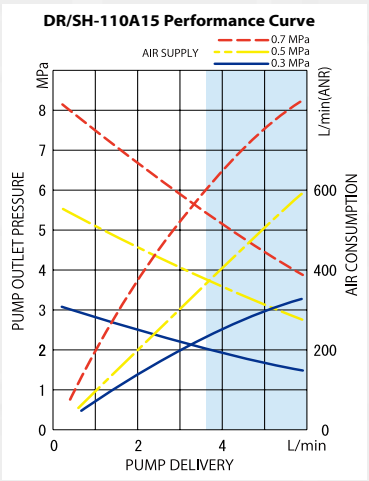












Divorced Pumps

Suitable for paints

DR-125B13(854597) / SH-125B13(854596)
Overall length: 1735mm / 1115mm
Shank length: 1280mm / 660mm
Intake port: — / Rc1-1/2
Discharge port: Rc3/4
Air inlet port: Rc3/8
Net Wt.: 26.0kg / 22.6kg
Shipping Wt.: 28.0kg / 24.0kg

DR-110B5(851831) / SH-110B5(851830)
Overall length: 1180mm / 861mm
Shank length: 860mm / 541mm
Intake port: — / R1-1/2
Discharge port: Rc3/4
Air inlet port: G1/4
Net Wt.: 17.0kg / 12.0kg
Shipping Wt.: 19.0kg / 14.0kg

DR-250P6(854291)
Overall length: 1377mm
Shank length: 936mm
Intake port: Rc2
Discharge port: Rc1-1/2
Air inlet port: Rc3/4
Net Wt.: 78.0kg
Shipping Wt.: 81.0kg

DR-250P10(854292)
Overall length: 1377mm
Shank length: 936mm
Intake port: Rc2
Discharge port: Rc1-1/2
Air inlet port: Rc3/4
Net Wt.: 75.0kg
Shipping Wt.: 78.0kg

Divorced Pumps Specifications

Pump Ratio

DR/SH-110B5	5 x 1
DR/SH-125B13	13 x 1
DR-250P6	6 x 1
DR-250P10	10 x 1

Maximum Discharge Pressure

DR/SH-110B5	3.5MPa
DR/SH-125B13	9.1MPa
DR-250P6	4.2MPa
DR-250P10	7.0MPa

Discharge Volume per Cycle

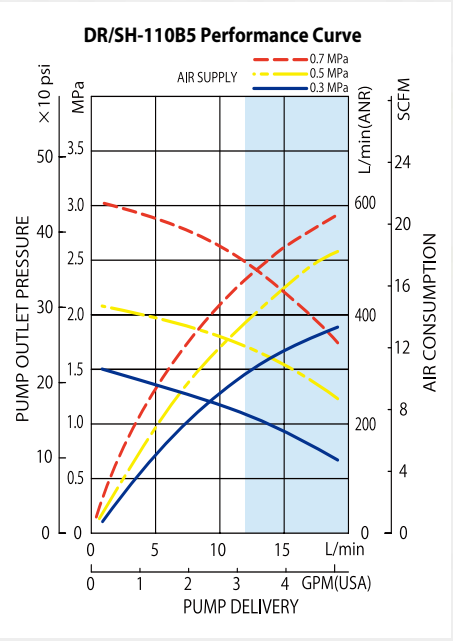
DR/SH-110B5	98mL
DR/SH-125B13	171mL
DR-250P6	2280mL
DR-250P10	1400mL

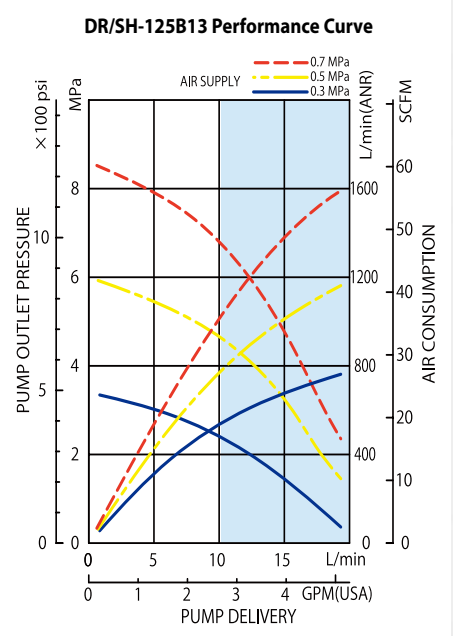
Air Supply Pressure

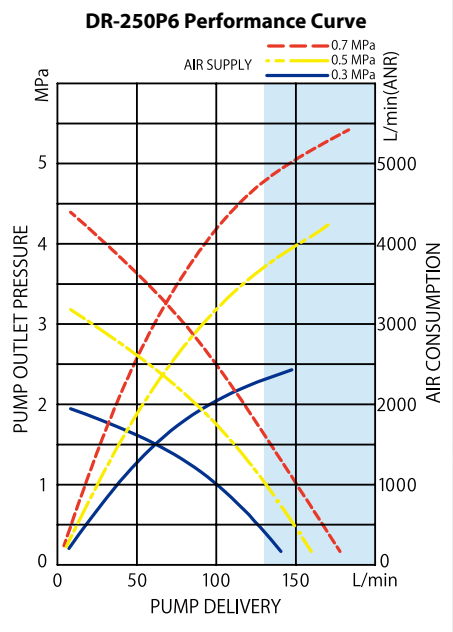
DR/SH-110B5: 0.3 – 0.7MPa
DR/SH-125B13, DR-250 series: 0.2 – 0.7MPa

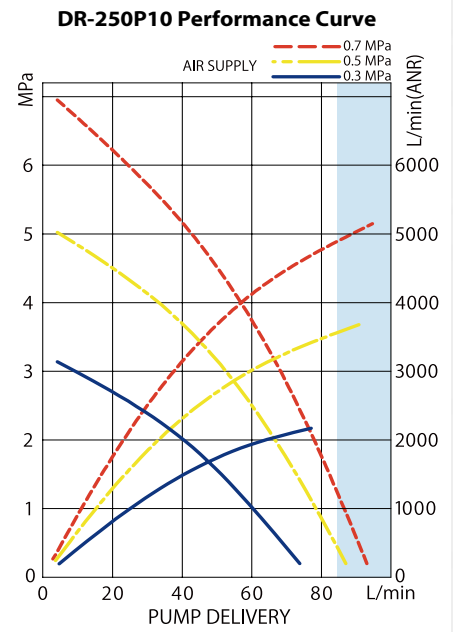
Maximum Liquid Temperature (All Models)

80°C









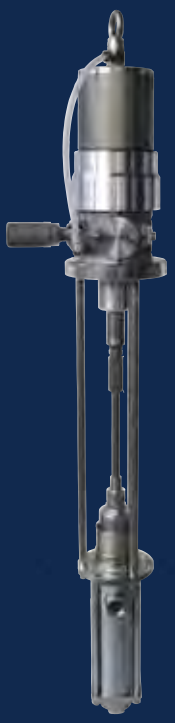
Divorced Circulate Pumps

Suitable for paints

DR-110C1.5P(851856) / DR-110C1.5(851854)
Overall length: 1177mm / 765mm
Shank length: 842mm / 430mm
Intake port: Rc1-1/2
Discharge port: Rc3/4
Air inlet port: G1/4
Net Wt.: 24.0kg / 21.0kg
Shipping Wt.: 26.0kg / 23.0kg

DR-110C2P(851857) / SH-110C2(851855)
Overall length: 1177mm / 765mm
Shank length: 842mm / 430mm
Intake port: Rc1-1/2
Discharge port: Rc3/4
Air inlet port: G1/4
Net Wt.: 22.0kg / 19.0kg
Shipping Wt.: 24.0kg / 21.0kg

DR-125B3.5(854593) / SH-125B3.5(854592)
Overall length: 1298mm / 1058mm
Shank length: 840mm / 600mm
Intake port: Rc1-1/2
Discharge port: Rc1
Air inlet port: Rc3/8
Net Wt.: 30.5kg / 28.9kg
Shipping Wt.: 33.0kg / 32.0kg



DR-125B5(854595) / SH-125B5(854594)
Overall length: 1298mm / 1058mm
Shank length: 840mm / 600mm
Intake port: Rc1-1/2
Discharge port: Rc1
Air inlet port: Rc3/8
Net Wt.: 28.9kg / 27.3kg
Shipping Wt.: 32.0kg / 30.0kg

Divorced Circulate Pumps Specifications

Pump Ratio

DR/SH-110C1.5	1.5 x 1
DR/SH-110C2	2 x 1
DR/SH-125B3.5	3.5 x 1
DR/SH-125B5	5 x 1

Maximum Discharge Pressure

DR/SH-110C1.5	1.05MPa
DR/SH-110C2	1.4MPa
DR/SH-125B3.5	2.45MPa
DR/SH-125B5	3.5MPa

Discharge Volume per Cycle

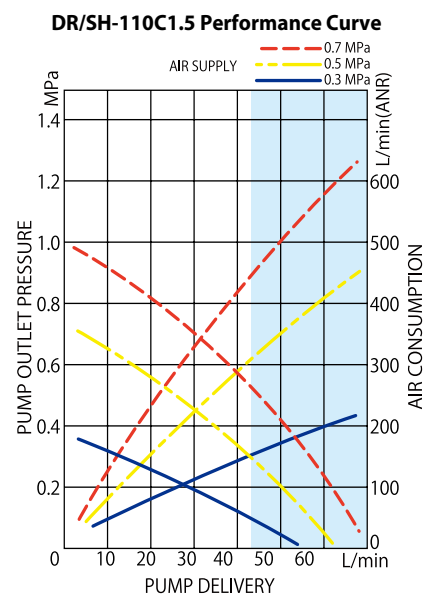
DR/SH-110C1.5	400mL
DR/SH-110C2	286mL
DR/SH-125B3.5	619mL
DR/SH-125B5	458mL

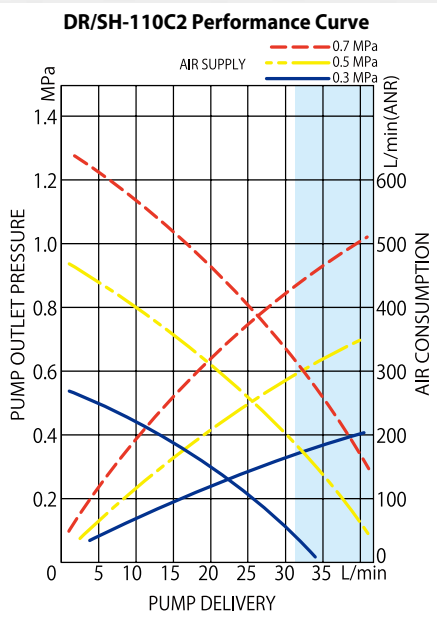
Air Supply Pressure (All Models)

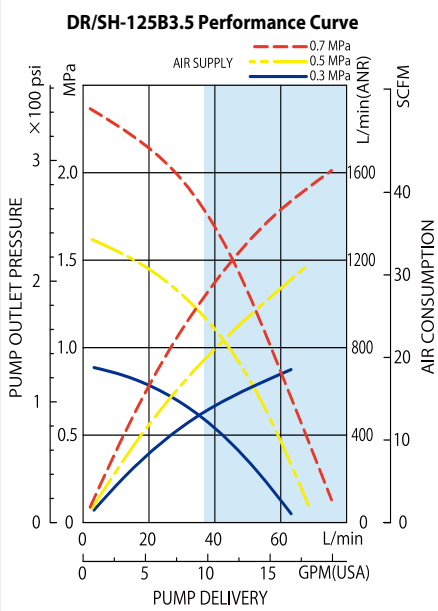
0.2 – 0.7MPa

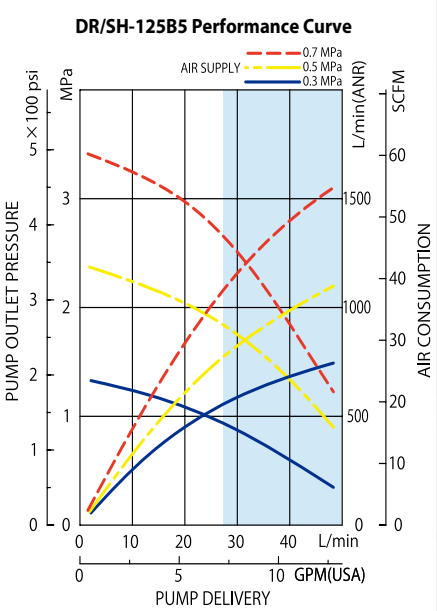
Maximum Liquid Temperature (All Models)

80°C









Divorced Stainless Steel Pumps

Suitable for chemicals

OPG-1DRSUS(850435)* / OPG-1SHSUS(850434)*
Overall length: 1308mm / 640mm
Shank length: 887mm / 219mm
Intake port: —— / R1-1/2
Discharge port: Rc3/4
Air inlet port: Rc1/4
Net Wt.: 9.1kg / 7.0kg
Shipping Wt.: 11.0kg / 8.5kg
***Inline Pumps**

DR-110B5SUS(851833) / SH-110B5SUS(851832)
Overall length: 1229mm / 538mm
Shank length: 909mm / 538mm
Intake port: —— / Rc1-1/2
Discharge port: Rc3/4
Air inlet port: G1/4
Net Wt.: 16.0kg / 15.0kg
Shipping Wt.: 18.0kg / 17.0kg

DR-50B1SUS(880996) / SH-50B1SUS(880997)
Overall length: 1892mm / 874mm
Shank length: 910mm / 240mm
Intake port: —— / R1-1/2
Discharge port: Rc3/4
Air inlet port: Rc1/4
Net Wt.: 5.0kg / 2.6kg
Shipping Wt.: 6.0kg / 4.0kg

DR-110B1.5SUS(851860) / SH-110B1.5SUS(851858)
DR-110B2SUS(851861) / SH-110B2SUS(851859)
Overall length: 1177mm / 795mm
Shank length: 842mm / 455mm
Intake port: Rc1-1/2
Discharge port: Rc3/4
Air inlet port: G1/4
Net Wt.: 21.3kg / 18.3kg
19.6kg / 17.5kg
Shipping Wt.: 22.0kg / 20.0kg
21.0kg / 19.0kg

DR-125B3.5SUS(854606) / SH-125B3.5SUS(854605)
DR-125B5SUS(854608) / SH-125B5SUS(854607)
Overall length: 1298mm / 1058mm
1300mm / 1074mm
Shank length: 840mm / 600mm
842mm / 616mm
Intake port: Rc1-1/2
Discharge port: Rc3/4
Air inlet port: Rc3/8
Net Wt.: 30.0kg / 28.4kg
29.4kg / 27.8kg
Shipping Wt.: 32.0kg / 31.0kg
32.0kg / 31.0kg

DR-125B13SUS(854610) / SH-125B13SUS(854609)
Overall length: 1769mm / 1112mm
Shank length: 1314mm / 657mm
Intake port: —— / Rc1-1/2
Discharge port: Rc3/4
Air inlet port: Rc3/8
Net Wt.: 25.5kg / 22.3kg
Shipping Wt.: 28.0kg / 25.0kg

Divorced Stainless Steel Pumps Specifications

Pump Ratio

OPG-1DR/SH SUS	1 x 1
DR/SH-50B1 SUS	1 x 1
DR/SH-110B1.5 SUS	1.5 x 1
DR/SH-110B2 SUS	2 x 1
DR/SH-110B5 SUS	5 x 1
DR/SH-125B3.5 SUS	3.5 x 1
DR/SH-125B5 SUS	5 x 1
DR/SH-125B13 SUS	13 x 1

Maximum Discharge Pressure

OPG-1DR/SH SUS	0.7MPa
DR/SH-50B1 SUS	0.7MPa
DR/SH-110B1.5 SUS	1.05MPa
DR/SH-110B2 SUS	1.4MPa
DR/SH-110B5 SUS	3.5MPa
DR/SH-125B3.5 SUS	2.45MPa
DR/SH-125B5 SUS	3.5MPa
DR/SH-125B13 SUS	9.1MPa

Discharge Volume per Cycle

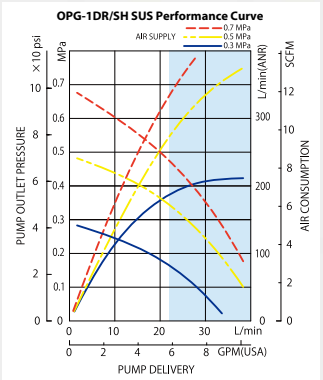
OPG-1DR/SH SUS	150mL
DR/SH-50B1 SUS	174mL
DR/SH-110B1.5 SUS	400mL
DR/SH-110B2 SUS	286mL
DR/SH-110B5 SUS	98mL
DR/SH-125B3.5 SUS	603mL
DR/SH-125B5 SUS	434mL
DR/SH-125B13 SUS	171mL

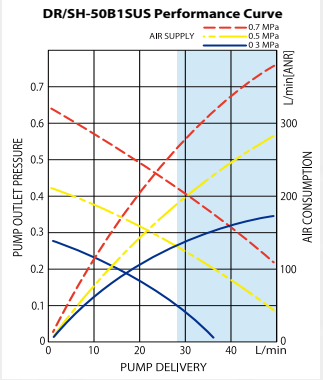
Air Supply Pressure (All Models)

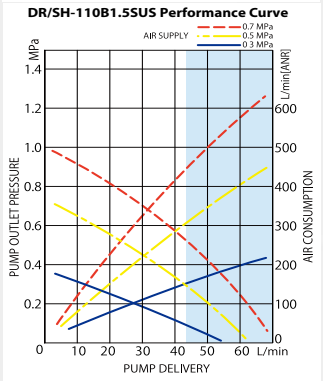
0.2 – 0.7MPa

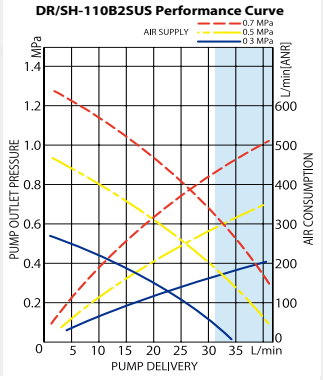
Maximum Liquid Temperature (All Models)

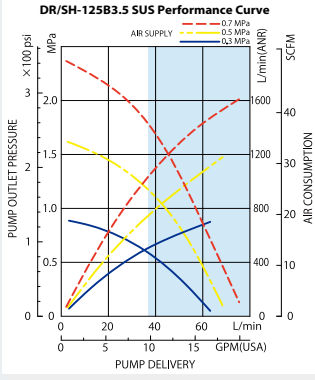
80°C

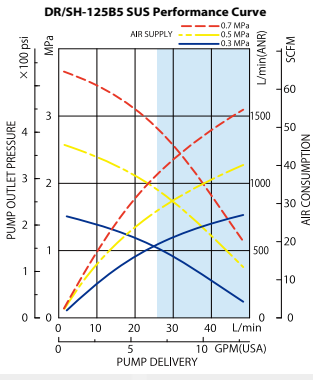


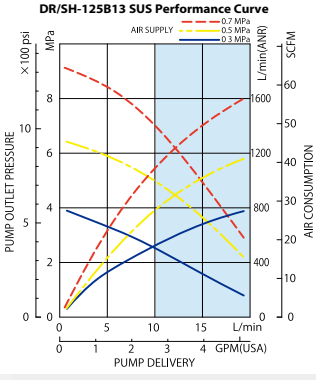


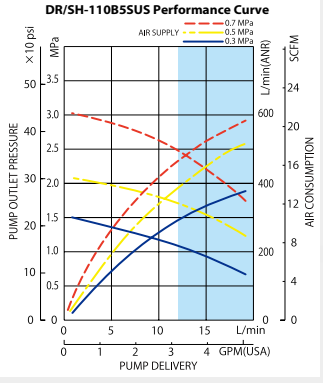












Wall Mounted Pump Units

KP-90,KP-110 & KP-125

These units are consisting of Pump, Suction Tube & Hose Kit and Panel Unit, which includes Delivery Hose and Air Regulator.

The drum can be easily changed.

Model	Pump used
KP-90 (880995)	SH-90A3
KP-110(880634)	SH-110A5
KP-125(881118)	SH-125A13

Air Inlet

KP-90,KP-110:R1/4 ×1.2m Hose

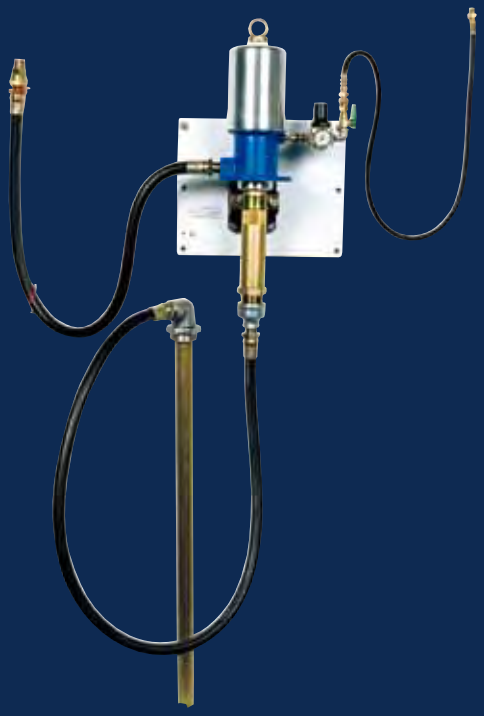
KP-125:R3/8 × 1.2m Hose

Delivery Hose

R3/4 × 1.2 Hose

Suction Tube & Hose

2"Bung with 3/4×1.8m Hose

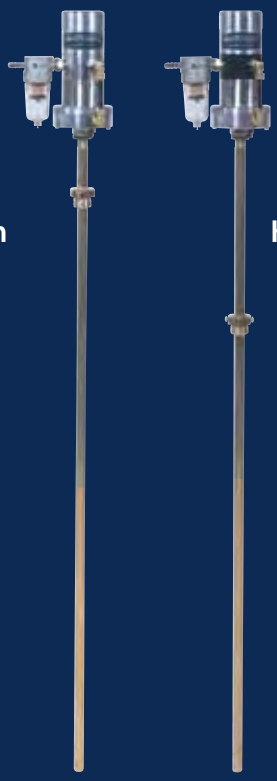


Accessories

Wide variety of accessories is available.

Item	Fits Pump Models
Bung Adapter (802857) Wall Mounting Bracket(800400)	DR-50A1/A3 DR-90A3,DR-110A5/B5 DR-110A5/B5 DR-125A13/B13
Pump Clamp(800402)	Inline Pumps Model 50,90,110,125
Elevator Unit	see below Drum Cover
Air Regulator 3/8"(800434)	125 series
Air Regulator 1/4"(802553)	90 & 110 series
Wall Mounting Unit(851837)	SH-50A1/A3 SH-90A3,SH-110A5/B5
Wall Mounting Unit(852744)	SH-125A13/B13
Suction Tube & Hose Kit(850126)	DR-50A1/A3 DR-90A3,DR-110A5/B5 DR-110A5/B5 DR-125A13/B13
Drum Cover (800383)	Circulation Pump Model 110 & 125 series
Drum Cover (800412)	Inline Pumps Model 110 series
Wall Mounting Bracket(801214)	Circulation Pump Model 110 & 125 series
Wall Mounting Bracket(801215)	Divorced Pumps Model 110 & 125 series

Liquid Level Alarms



Low Level Alarm
(480007)

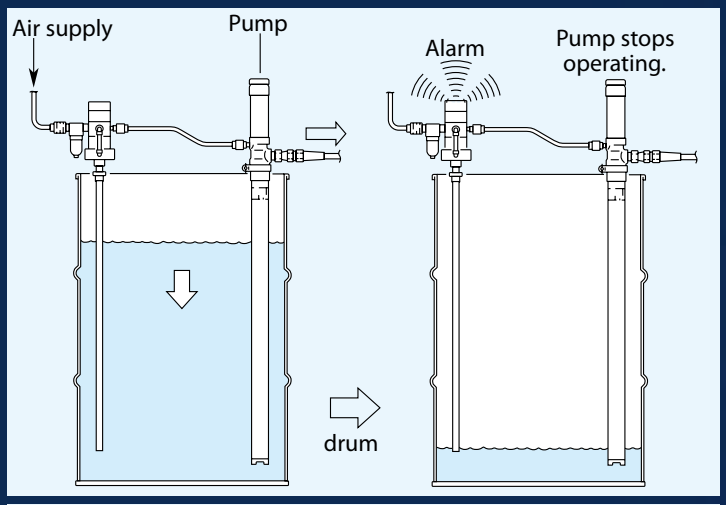
High Level Alarm
(480008)

The Yamada Liquid Level Alarms are totally pneumatic liquid level sensor designed to automatically stop Yamada Air-Powered Piston Pumps when the liquid level within a drum reaches predetermined levels.

The Liquid Level Alarms consists of a sophisticated air logic control valve. As the liquid level within the drum rises or falls, the subtle changes in pressure are transmitted through high and low level dip tubes to the air logic control valve. When the liquid level reaches a predetermined level (tubing is cut in the field to the preferred HIGH and LOW level points), the air supply to the pump is shut and it blows the whistle instead.

Air Supply Pressure (All Models)
0.25 – 0.7MPa

Air Inlet & Outlet Port (All Models)
Rc1/4



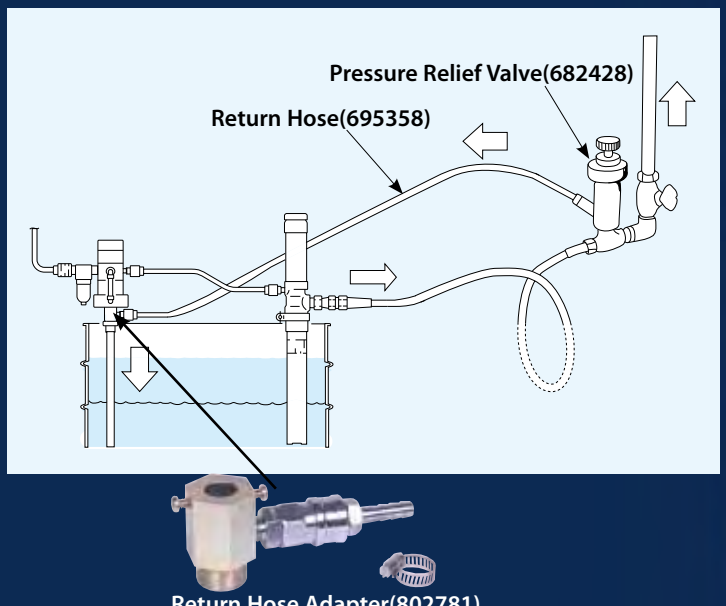
Pressure Relief Valve

The Pressure Relief Valve can protect pump from pressure rise in the pipe caused by temperature change, etc.

The released liquid is returned to the drum from 3/4" bunghole.

If High or Low Level Alarm is used simultaneously, Please use Return Hose Adapter.

Pressure Relief Valve Connection Port
Rc1/4 (In/Out)



High Pressure Supply Pump Series

HIGH PRESSURE SUPPLY PUMPS

Inline Pumps.

Used for high viscosity materials like grease and putty. The material must provide a certain amount of lubrication and be non-corrosive.
<Ex.> Grease

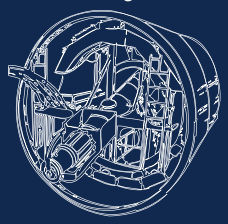
Divorced Pumps.

Used for highly viscous materials that are air-drying similar to adhesives ink putty and grease. The material must be non-corrosive to the pump.
<Ex.> Adhesive, Putty, Ink and Grease

Applications

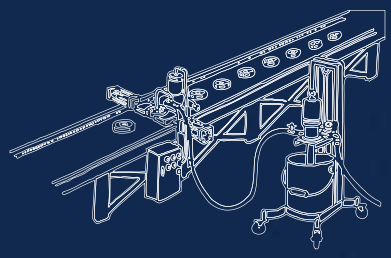
TUNNEL BUILDING

High-pressure supply pumps are driven by compressed air, not electricity and are therefore very safe. They are often used to lubricate the drive trains of vehicles or machines, and due to their high-pressure output are used for sealing or plugging of tunnel walls against water seepage.



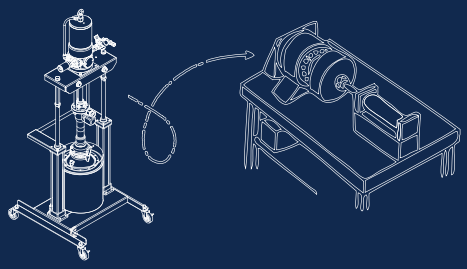
GREASE METERING

By using a pump unit fitted with a grease meter, it is possible to carryout accurate and efficient lubrication. Used for applications such as metering systems and bearing grease packers, they are commonly used in the manufacturing and vehicle industries.



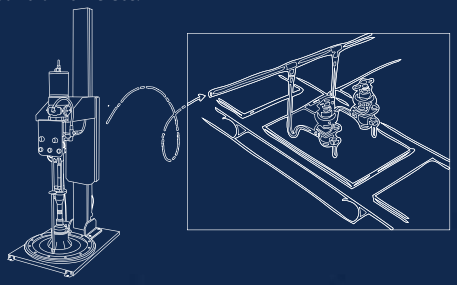
Bearing grease applications

Using this system grease can be supplied from the pump usually through a special metering device directly into the bearing of a vehicle. A variety of systems and different guns and outlets are available.



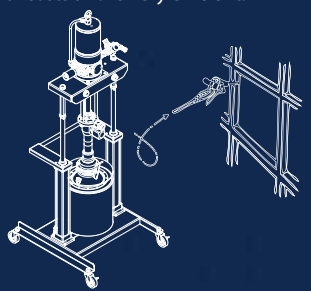
CENTRALIZED SEALER

This type of pump can be used for adhesive and spot sealing applications and is often seen in mass production plants. Material can be piped to any point in the plant thus the entire plant space is used effectively. Often used in conjunction with a flow control valve etc.



APPLICATION OF SEALER AND CAULKING

By connecting a hose and flow gun to a portable high-pressure pump unit, a uniform and smooth delivery of material can be carried out efficiently at any location. This type of unit saves on time and material costs and is very efficient.



Pump Construction and Features

Pump Construction and Features

● AIR POWERED™ pump

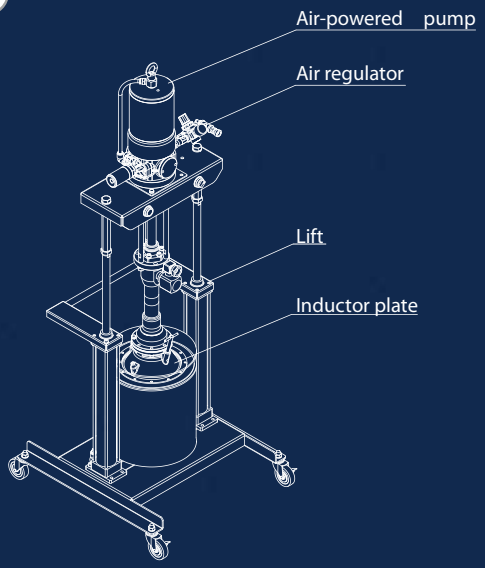
The Yamada reciprocating pump series is comprised of pumps with air motors ranging from 50 to 250MPa in size, and ratios from 1to1 up to 55to1.

● AIR REGULATOR

An air regulator is used to control the air pressure supplied to the pump.

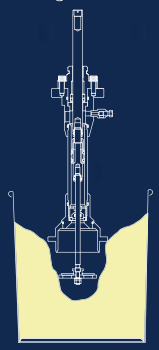
● Lift

A pump fitted with an airlift is designed so that it can be raised using compressed air enabling the material container to be replaced with ease. The second type of airlift (air ram type) is designed especially for high viscosity materials and as well as being able to raise the pump are also able to forcefully press down on the material to help with feeding.

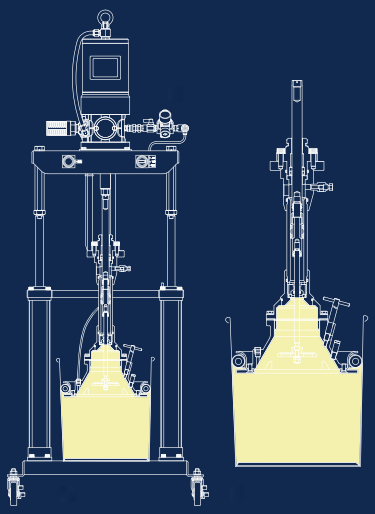


● INDUCTOR PLATE.

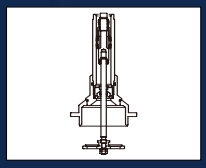
Some Yamada Pumps are fitted with an inductor plate. Semi solid and highly viscous materials are of a nature that they adhere to the inner wall of their container. They also tend to make a cavity around the pump inlet and generally cannot be pumped smoothly. When using an inductor plate it sticks to the surface of the grease and an airtight seal is created. When the pump is operating a vacuum is formed inside the material container and thus pulls the inductor plate down. As the grease level decreases the plate will also move down the inside of the container. This action is combined with either downward pressure from the weight of the pump or if required by using a ram inductor to force the material down. These 3 forces (vacuum, weight or force) constantly push the material up to the pump inlet, and thus facilitate the transfer of material effectively.
The airtight seal also prevents contaminants or dampness from entering the drum as well as enabling the total use of the containers contents preventing wastage.



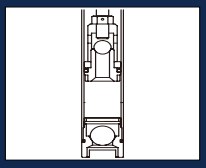
If the pump is not equipped with the inductor plate, highly viscous material tends to form cavities around the foot valve and it will not be sucked out of the container.



● SUCTION TYPE

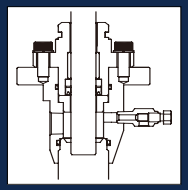


● Shovel type
Shovel type pumps are designed to supply highly viscose and semisolid materials. The pumps shovel, scrapes up material and sends it into the foot valve for delivery.
High viscosity material pumps of this kind include both double and single action types. Single action types scrape up the material on the up stroke and deliver it on the down stroke.

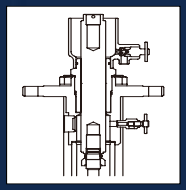


● Ball type
Ball type pumps are especially designed to pressure feed low viscosity fluids. The foot valve has a large ball that is designed to deliver a large volume at full power. The most common ball type valve is a double action type that pumps fluid on both the up and down strokes. High viscosity airless supply pumps and oil supply pumps fall into this category.

● GLAND SEAL TYPE



● Packing seal Type
This type of pump is suitable for paint and grease. Rubber packing is used in the gland seal section.



● Metal sealed
This type of pump uses precision alloy steel in the gland section and is suitable for solvent based materials.

MODEL NUMBER NOMENCLATURE

SKR- XX M 50 -SAL

PUMP SIZE: (DIA.OF AIR PISTON):
110= 110mm
125= 125mm
140= 140mm
250= 250mm

GLAND SEAL TYPE:
M=METAL SEAL
A=INLINE
P=PACKING SEAL

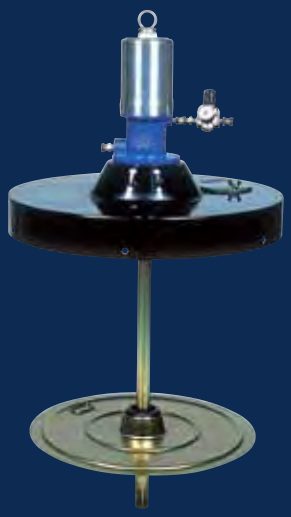
PUMP RATIO:
10= 10 x 1
13= 13 x 1
20= 20 x 1
25= 25 x 1
38= 38 x 1
40= 40 x 1
47= 47 x 1
50= 50 x 1
55= 55 x 1

LIFT TYPE:
SAL: Air Rum Single Post Lift for Pail
PWAL: Air Rum Double Post Lift for Pail
AL: Air Single Lift for Drum
DAL: Air Rum Single Post Lift for Drum
DWAL: Air Rum Double Post Lift for Drum

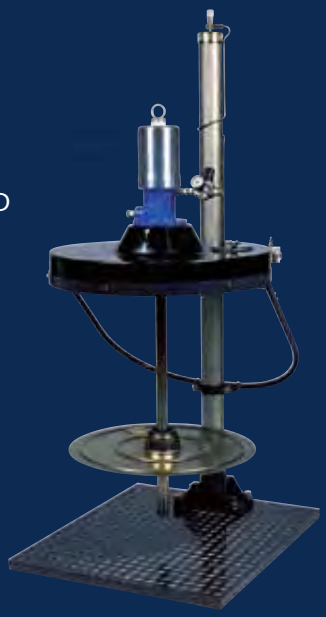
Inline Pumps

Suitable for lubricants

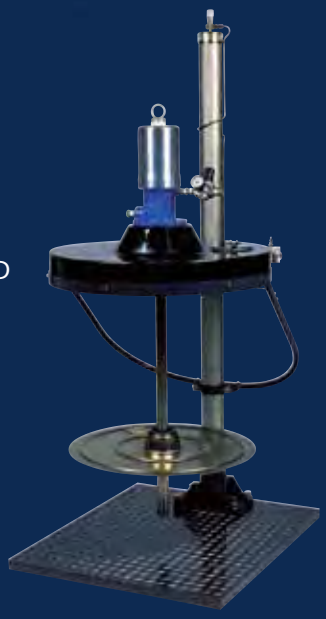
SKR110M50SAL(880622)/
SKR110M50SAL for Silicon Grease(880677)
Dimensions: 587mm W x 1072mm H x 649mm D
Maximum Height: 1315mm
Discharge port: G1/4
Air inlet port: 1/4 w/ Air Plug
Net Wt.: 36.0kg
Shipping Wt.: 43.0kg



HPP110A50(880629)
Dimensions: 637mm W x 1211mm H x 637mm D
Discharge port: G1/4
Air inlet port: G1/4
Net Wt.: 23.0kg (Only Pump)
Shipping Wt.: 31.0kg



HPP110A50AL(880630)
Dimensions: 670mm W x 1615mm H x 850mm D
Maximum Height: 2565mm
Discharge port: G1/4
Air inlet port: G1/4
Net Wt.: 103kg (Only Pump)
Shipping Wt.: 128kg



DR110A50AL(880628)
Dimensions: 670mm W x 1615mm H x 850mm D
Maximum Height: 2565mm
Discharge port: G1/4
Air inlet port: G1/4
Net Wt.: 113kg
Shipping Wt.: 128kg

Inline Pumps Specifications

Usable Container

SKR110M50SAL	18L Pail
HPP110A50	200L Drum
HPP110A50AL	200L Drum
DR110A50AL	200L Drum

Usable Grease

SKR110M50SAL	NLGI No.0- No.2
HPP110A50	NLGI No.0- No.1
HPP110A50AL	NLGI No.0- No.1
DR110A50AL	NLGI No.0- No.2

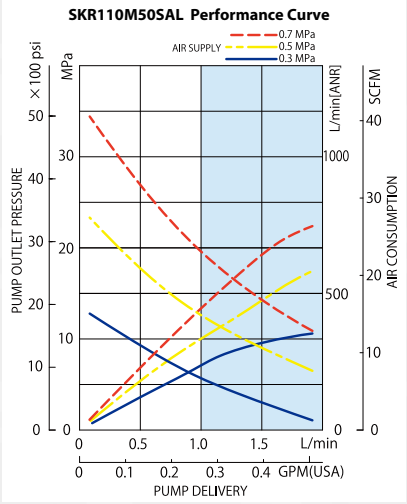
Pump Ratio (All Models)
50 x 1

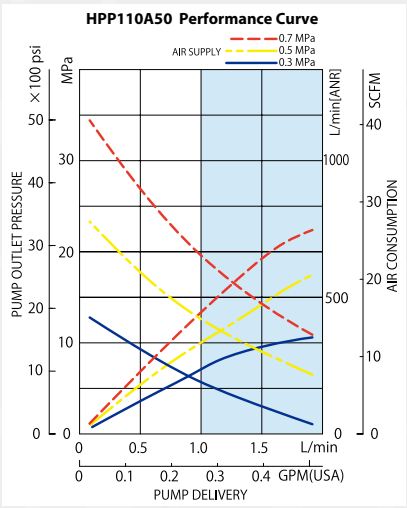
Maximum Discharge Pressure (All Models)
3.5MPa

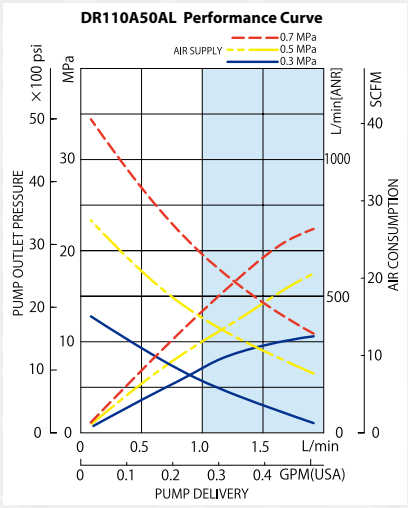
Discharge Volume per Cycle (All Models)
11.0mL

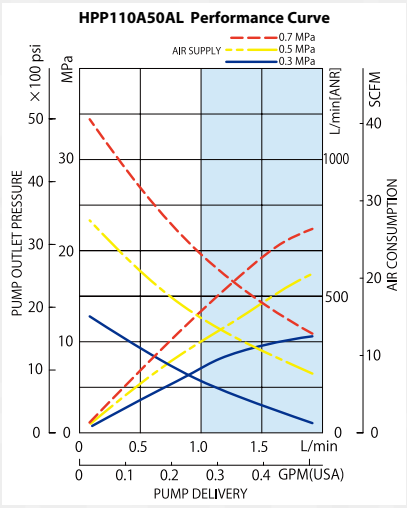
Air Supply Pressure (All Models)
0.3 – 0.7MPa

Maximum Liquid Temperature (All Models)
80°C









Divorced Pumps (SR125/140)

Suitable for Grease & Adhesive

SR140P25/38/50PWAL-F(881107,881108,881109)
Dimensions: 735mm W x 1400mm H x 735mm D
Maximum Height: 1850mm
Discharge port: G3/4
Air inlet port: G3/8
Net Wt.: 61.0kg
Shipping Wt.: 80.0kg

Flat bottom type Inductor Plate reduces grease waste when changing drum.

SR140P25/38/50PWAL-T(881110,881111,881112)
Dimensions: 735mm W x 1400mm H x 735mm D
Maximum Height: 1850mm
Discharge port: G3/4
Air inlet port: G3/8
Net Wt.: 63.0kg
Shipping Wt.: 80.0kg

SR125D13DAL(811125)
SR140P25/38/50DAL(881113,881114,881115)
Dimensions: 660mm W x 1553mm H x960mm D
Maximum Height: 2503mm
Discharge port: G3/4
Air inlet port: Rc1/2
Net Wt.: 173kg
Shipping Wt.: 190kg

Divorced Pumps Specifications

Usable Container

SR140P25/38/50DWAL-F	18L Pail
SR140P25/38/50DWAL-T	18L Pail
SR125D13DAL	200L Drum
SR140P25/38/50DAL	200L Drum

Usable Grease

SR140P25/38/50DWAL-F	NLGI No.1- No.3
SR140P25/38/50DWAL-T	NLGI No.1- No.3
SR125D13DAL	NLGI No.0- No.2
SR140P25/38/50DAL	NLGI No.0- No.2

Pump Ratio

SR125D13DAL	13 x 1
SR140P25 series	25 x 1
SR140P38 series	38 x 1
SR140P50 series	50 x 1

Maximum Discharge Pressure

SR125D13DAL	9.1MPa
SR140P25 series	17.5MPa
SR140P38 series	26.6MPa
SR140P50 series	35.0MPa

Discharge Volume per Cycle

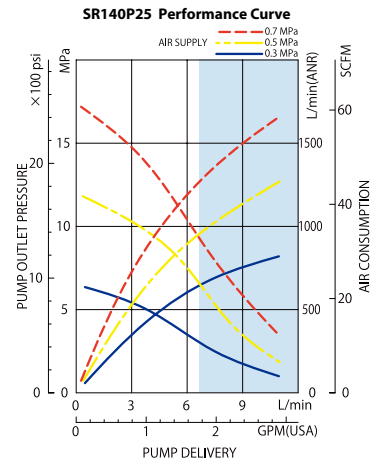
SR125D13DAL	171.5mL
SR140P25 series	116.2mL
SR140P38 series	76.0mL
SR140P50 series	61.2mL

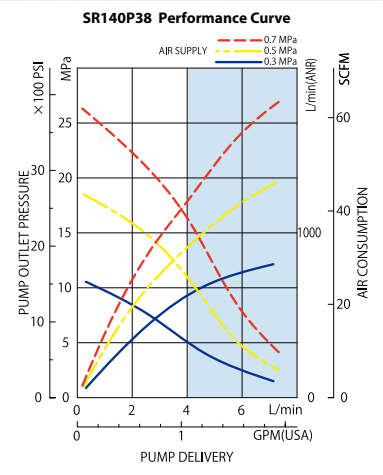
Air Supply Pressure(All Models)

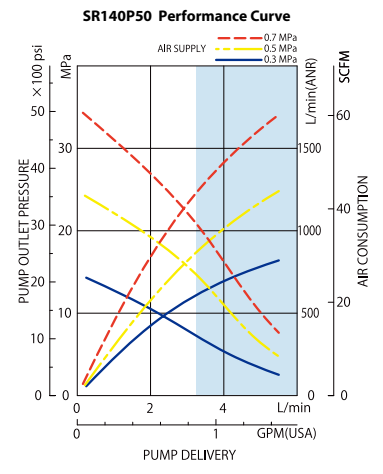
0.3 – 0.7MPa

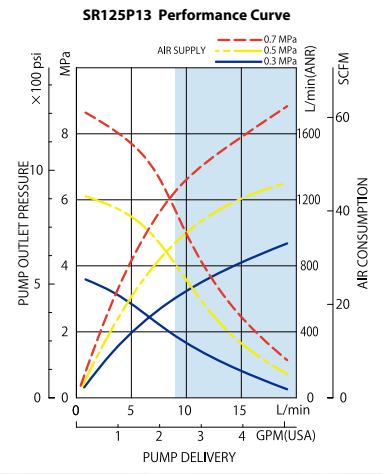
Maximum Liquid Temperature (All Models)

80°C





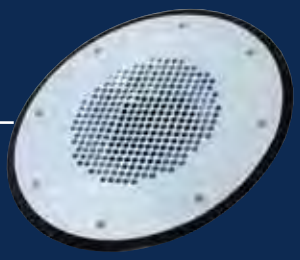




Divorced Pumps (SR250)

Suitable for Grease & Adhesive

Flat bottom type Inductor Plate reduces grease waste when changing drum.



SR250P10/20/40/55DWAL(881101,881102,881057,881058)
SR250M47DWAL(881104)
Dimensions: 1090mm W x 1903mm H x 753mm D
Maximum Height: 2641mm
Discharge port: G1
Air inlet port: G3/4
Net Wt.: 265kg / 260kg / 255kg / 250kg
250kg
Shipping Wt.: 330kg / 320kg / 320kg / 310kg
310kg

Divorced Pumps Specifications

Usable Container (All Models)

200L Drum

Usable Grease

SR250P10/20/40/55DWAL	NLGI No.0- No.3
SR250M47DWAL	NLGI No.0- No.3

Pump Ratio

SR250P10DWAL	10 x 1
SR250P20DWAL	20 x 1
SR250P40DWAL	40 x 1
SR250P55DWAL	55 x 1
SR250M47DWAL	47 x 1

Maximum Discharge Pressure

SR250P10DWAL	7.0MPa
SR250P20DWAL	14.0MPa
SR250P40DWAL	28.0MPa
SR250P55DWAL	38.5MPa
SR250M47DWAL	32.9MPa

Discharge Volume per Cycle

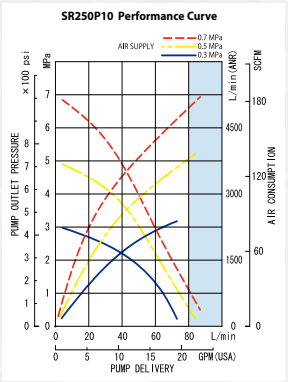
SR250P10DWAL	1270mL
SR250P20DWAL	650mL
SR250P40DWAL	345mL
SR250P55DWAL	250mL
SR250M47DWAL	240mL

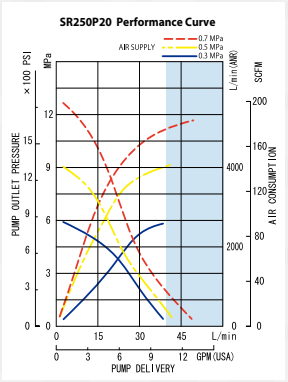
Air Supply Pressure(All Models)

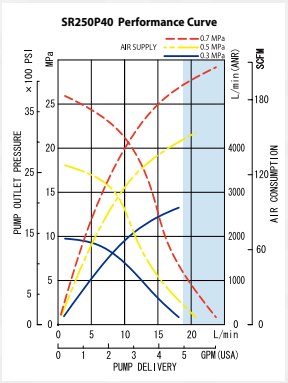
0.2 – 0.7MPa

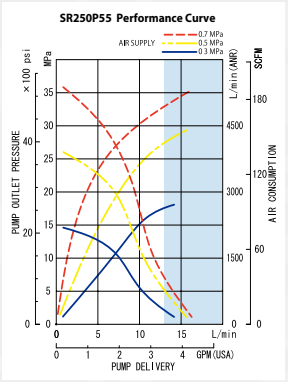
Maximum Liquid Temperature (All Models)

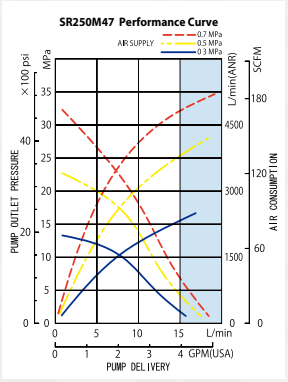
80ºC











Metering Valves

The KGK series metering valves can discharge preset amount of grease or adhesive with single action by trigger or pneumatic 3-port valve.

The material is extruded by a piston after being charged in the metering chamber.

KGK-100 Series

Manual metering gun.

Metering Range

KGK-112/112T	0.3 – 1mL
KGK-114/114T	0.5 – 3mL
KGK-115/115T	1 – 5mL
KGK-116/116T	3 – 10mL
KGK-117/117T	5 – 20mL

Packing Material

KGK-100 series: NBR (for grease)
KGK-100T series: PTFE (for adhesive)

Intake Port (All Models)

Rc1/8

KGK-400 Series

Pneumatic metering valve.
KGK-400MS series, which is equipped with piston stroke sensors, can output signal of charge/discharge completion.
Silicon grease spec is also available.

KGK-400 Series Metering Range

KGK-401M	0.08 – 0.5mL
KGK-402M/T/MS	0.3 – 1mL
KGK-404M/T/MS	0.5 – 3mL
KGK-405M/T/MS	1 – 5mL
KGK-407M/T/MS	3 – 10mL
KGK-408M/T/MS	5 – 20mL
KGK-409M/MS	10 – 20mL

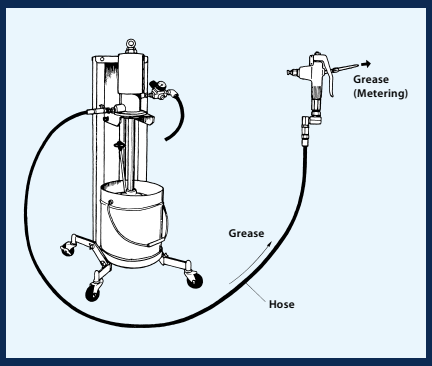
Packing Material

KGK-400M&MS series: NBR (for grease)
KGK-400T series: PTFE (for adhesive)

Air Inlet, Intake & Discharge Port (All Models)

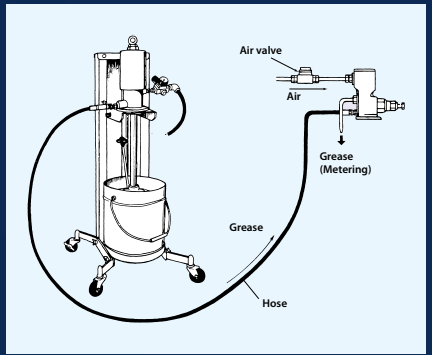
Rc1/4

Model KGK-100
Manual metering gun

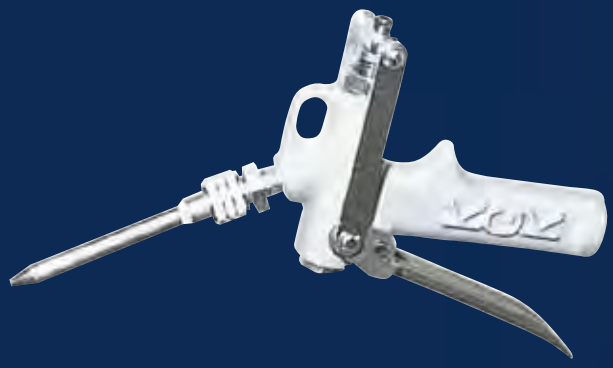


Model KGK-400M/T
Pneumatic metering valve

Model KGK-400MS
Pneumatic metering valve
With stroke sensors



Manual Flow Gun



KGK-127EF (850K127)

KGK-127EF

Compact and lightweight pistol type flow gun

Intake Port

Rc1/4

Max Working Pressure

40MPa

Automatic Flow Valves

AF30M-15A (803685)
AF20M-25A (804001)
AF20M-25AS (804023)

Pneumatic open/close valve

Max Working Pressure

AF30M-15A: 30MPa
AF20M-25A/AS: 20MPa

Intake & Discharge Port

AF30M-15A: Rc1/2
AF20M-25A/AS: Rc1

Air Inlet Port (All Models)

Rc1/4

Grease Meter Nozzle

GMN-500(853502)

GMN-500

Dispensing nozzle for grease, equipped with an oval-gear weight meter. Flow rate is displayed on a LCD.

Inlet Port

Rc1/4

Max Working Pressure

55MPa

yamada

www.yamadacorp.co.jp/global

CAUTION WHEN SELECTING A PUMP

Yamada offers a large range of Air Operated Pumps to cater for many different kinds of materials and conditions. When selecting the most appropriatepump for a particular selection and installation please consult your local Yamada Pump Distributor or Yamada Corporation.

YOUR LOCAL DISTRIBUTOR:

FORM NO.:910-012E REVISED:NOV.1

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