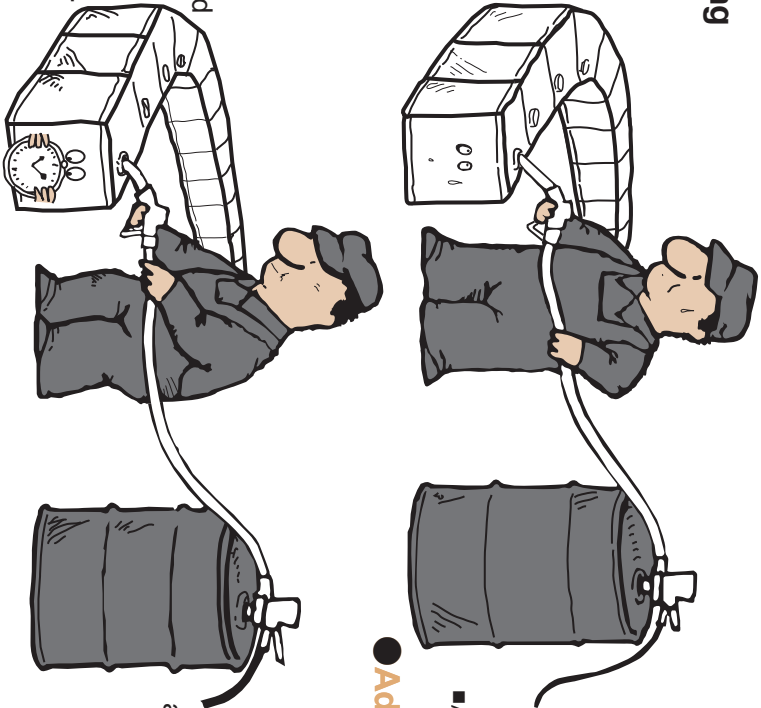


Transfer dangerous liquids speedily and safety.

Safety-1 meets the explosion-proof structure standards for electro-mechanic equipment set by the Ministry of Labor and is compatible with class 2 explosive liquids and class 3 combustible liquids and other fluids of lower classes. Safety-1 has been verified by and has passed the rigorous national verification test, and a certifying mark is placed on the motor of the pump for its excellent performance.



Utmost safety is required for transferring explosive and flammable liquids. Through up-to-date technology and innovations, Shoei has developed a line of electric pumps which provide remarkable efficiency and usefulness. Shoei has the pump that suits your business best, so choose from the line of Safety-1 pumps to achieve safer, quicker and fail-proof operation.

Adoption of a highly reliable sparkless motor

The pump uses an induction-type motor to minimize the generation of sparks, thus lessening the danger of combustion and explosion.

Measures against static electricity

The pump is provided with every possible consideration against the occurrence of static electricity generated by the transference of fluid. For additional safety, the pump is equipped with earth wires at three locations.

Amazingly long service-life

The pump uses selected parts chosen through endurance operation tests. Also, as the Safety-1 is operated at a slow speed it has remarkably increased the life of bearings and other consumables.

Adoption of a Safety Switch

An easy-to-operate hand switch has been developed through the development of a compact pressure-resistant and explosion-proof switch, which has been safely designed in conformity with the explosion-proof grade 42G3 standards.

Full after-sales service

All options, accessories, explosion-proof plugs, cook nozzles, etc. are all available on request. Contact Shoei or an agent, and we will gladly supply you with anything that you need.

Features of Safety-1

Easy maintenance

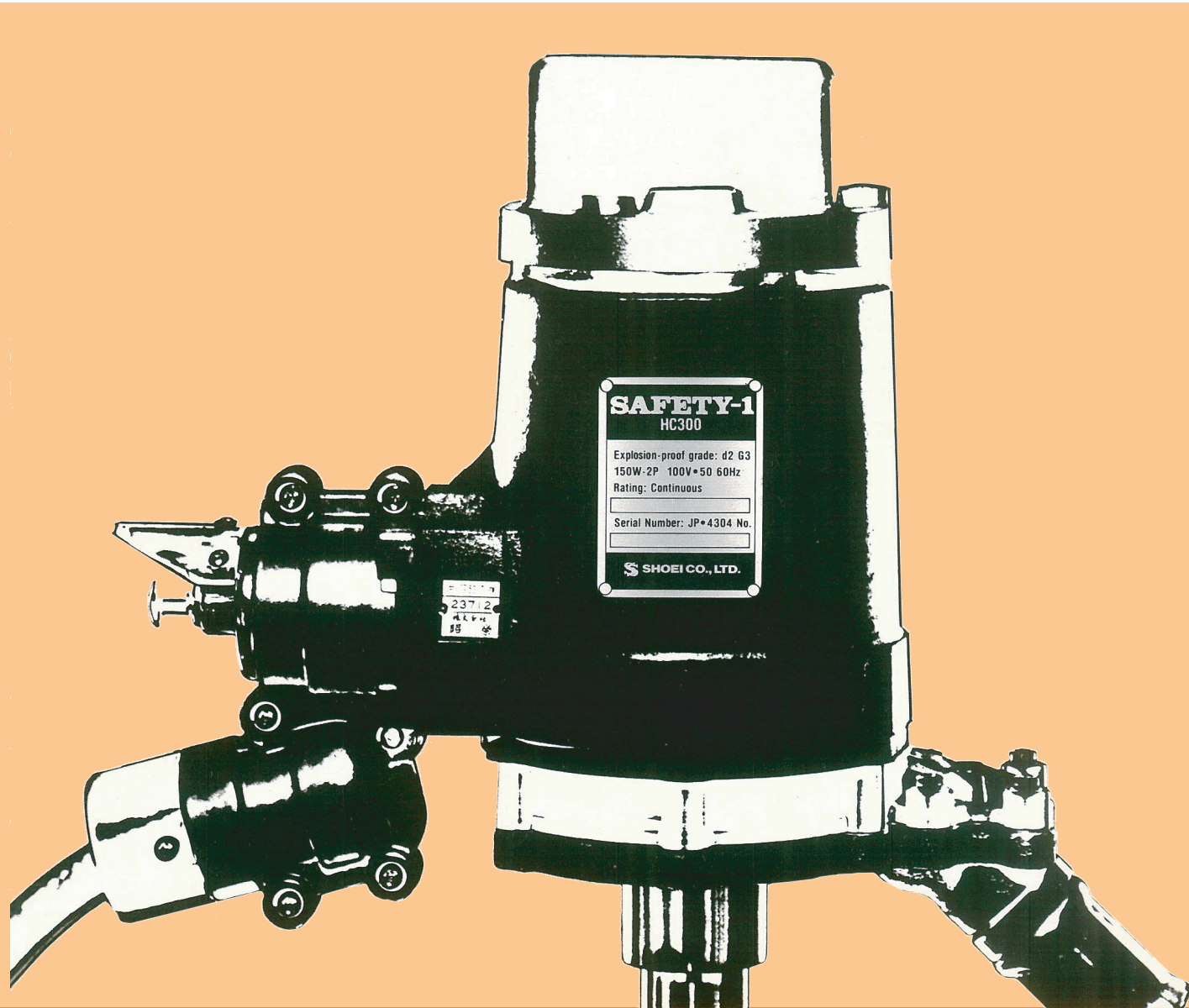
The motor requires no lubrication and other troublesome maintenance, as it does not include consumables, such as fuses, brushes, etc. which may cause accidents. For this reason, both the motor and pump are enclosed for maintenance-free construction.

All units constructed in compliance with the explosion-proof standards are prohibited by law from being disassembled without permission.

SAFETY-1

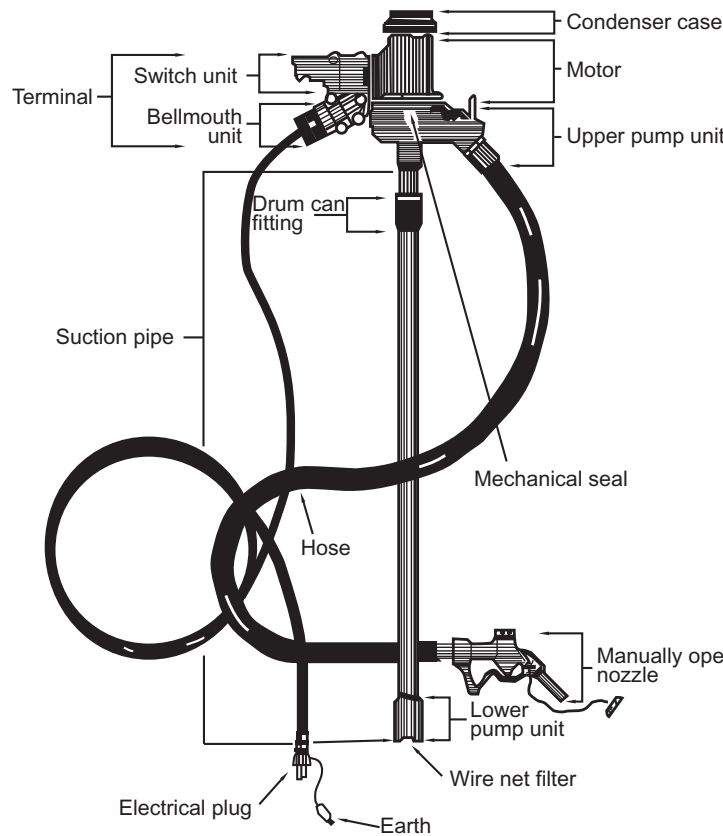
Shoei Electric Pumps for Explosive and Flammable Liquids

Pressure-resistant, portable pumps for use with flammable substances offer safe, efficient transferring of explosive and dangerously flammable liquids.



SHOEI CO., LTD.

Parts



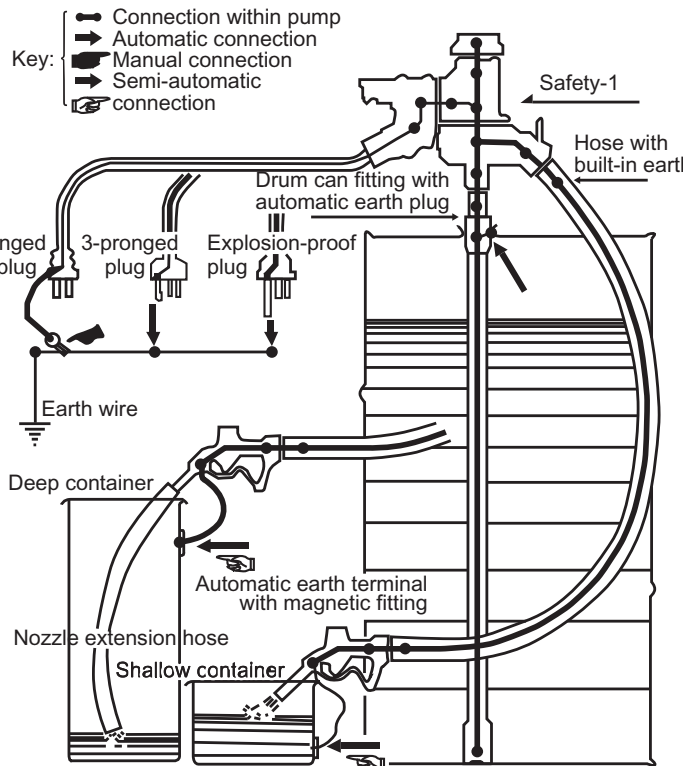
Earth system diagram Safety-1

Special measures have been taken against static electricity. Safety-1 has been provided with various innovations, and improvements to prevent accidents due to static electricity. The pump has an extremely thick pipe and hose, compared to conventional pumps, to provide a wide passage for the liquid to flow through smoothly. Also, the motor revolution is kept to a minimum to prevent generation

of static electricity. The pump is equipped with a triple-wire electric system, including earth, to avoid accidents caused by static electricity. Daily inspection and maintenance of the pump is recommended for added safety.

Precautionary measures

- Attach an additional hose to the end of the hose nozzle to prevent liquid from pouring from a distance during operation, as shown in the illustration.
- Be sure to turn off the switch after use to avoid unnecessary stirring of the liquid
- Handle the pump with care to avoid generating static electricity and sparks, caused by metal parts, which can be the cause of accidents.



Specifications

Type	Output (W) Voltage (V)	Lift/exhaust volume		Parts touching liquid	Compatible liquids
		60Hz	60Hz		
HC-300	150W (AC100V)	10m (max.) 90ℓ/min.	7m (max.) 80ℓ/min.	P.P.S. resin SUS 304 Teflon	Organic solvents, chemicals, alkali etc.
HC-100	65W (AC100V)	5m 56ℓ/min.	4m 47ℓ/min.	Aluminum alloy Polyethylene SUS304, Teflon	Organic solvents, gasoline, kerosene, A-heavy oil, etc.
FC	65W (AC100V)	5m 56ℓ/min.	4m 47ℓ/min.	Aluminum alloy nylon, SUS304, synthetic rubber	Gasoline, light oil, kerosene, A-heavy oil, etc.
DF	DC12V(45W)	3.5m, 35ℓ/min.		Aluminum alloy, gus pipe, synthetic rubber	Gasoline, light oil, kerosene, A-heavy oil, etc.
	DC24V(60W)	4.5m, 45ℓ/min.			

SHOEI CO., LTD.

Manufacture office: 10-2, 5-chome, Mitejima, Nishi-yodogawa-ku, Osaka.
Phone 06-6473-8677
Tokyo Branch: Yoshino-building, 1-Kanda-izumi-cho, Chiyoda-ku, Tokyo.
Phone 03-3866-2962
Head office: 10-2, 5-chome, Mitejima, Nishi-yodogawa-ku, Osaka.
Phone 06-6829-7273

Please contact:

SAFETY-1 ELECTRIC PUMPS

... Contributing to safety
and efficiency in all
fields of industry

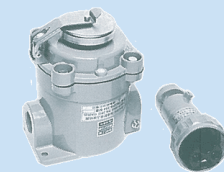
*Input voltage can be adjusted to meet your requirements.

HC-300 (d2G3)

Explosion-proof, corrosion-proof, with high lift and exhaust. A portable pump provided with corrosion-proofing, high lift and sufficient exhaust capacity for organic solvents, chemicals, etc.

Option

Explosion-proof plug

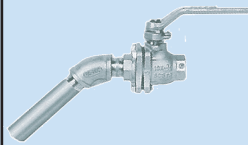


HC-100 (d2G3)

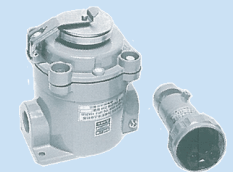
A portable pump designed for organic solvents and chemicals (Trichloroethylene, acetone, MEK, thinner, alcohol, etc.)

Options

Cock nozzle



Explosion-proof plug



FC (d2G3)

A portable pump designed to safely transfer petro-products (Benzene, gasoline, light oil, A-heavy oil, etc.)

FCM (d2G3)

In addition to the functions of the FC, this pump is equipped with a scale.



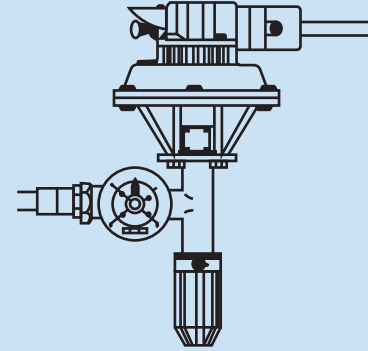
DF (d2G3)

A 12/24 V battery-operated light weight pump.



DFM (d2G3)

Battery-operated pump with scale.



Assures absolute safety, high-efficiency and laborsaving in the transferring of combustible and explosive petro-products such as gasoline, kerosene, light oil, A-heavy oil, etc.

HC300 (d2G3)

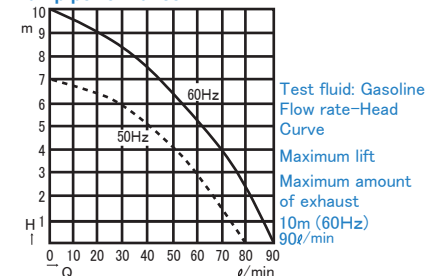
Improved safety construction with continuous rating.

Pressure-resistant and explosion-proof construction, meets the explosion-proof construction standards for electro-mechanical equipment, (d2G3) set by the Ministry of Labor. Ideal for use with explosive and flammable fluids. The continuous rating permits long and continuous operation. *Verified certification number: 23712

Corrosion-proof and heat-resisting properties.

SUS304 is used in the parts of the pump which come into contact with the liquid and the pump casing is made of a special resin, providing chemical-resistant and heat-resistant properties, similar to those of fluorine resin.

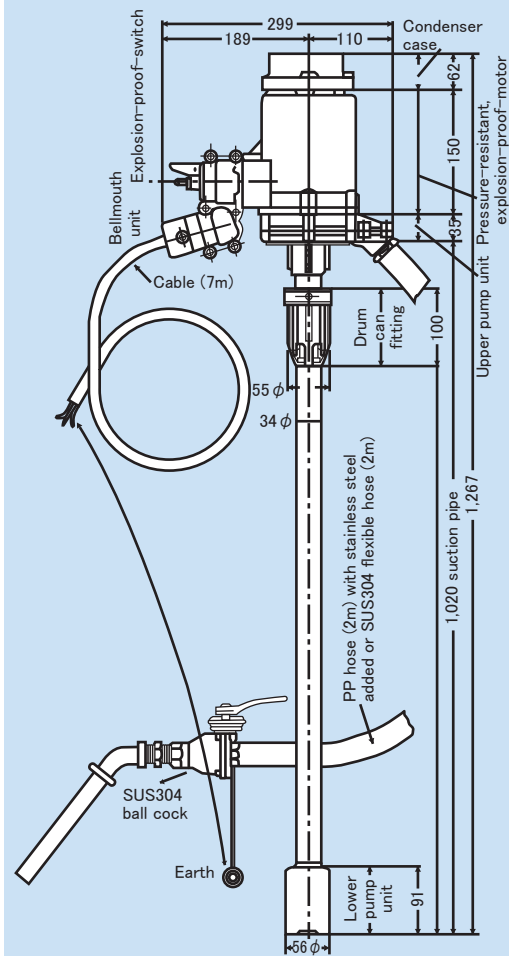
Pump performance



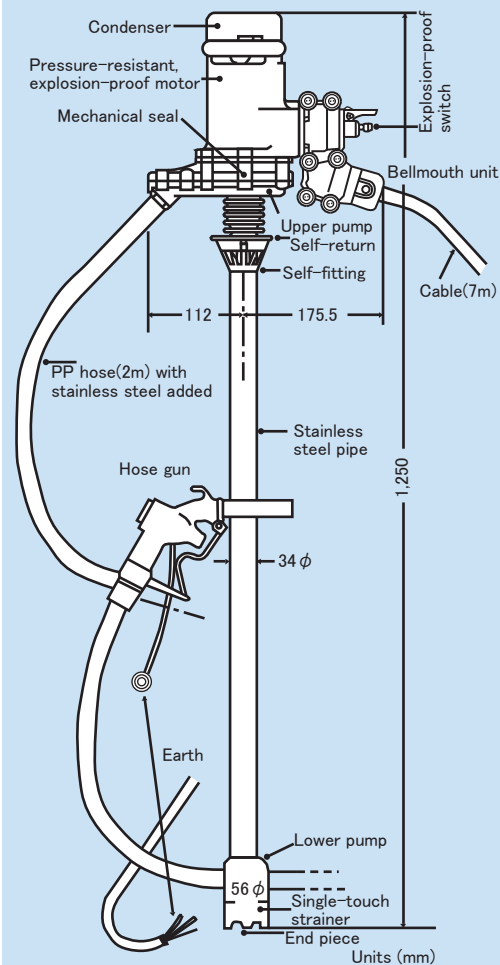
Specifications

Motor	
Type	Pressure-resistant, explosion-proof, single-phase induction motor
Explosion-proof symbol	d2G3
Starting method	Capacitor starting
Number of poles	2 poles
Power source	100V
Current	Full-load 2.7A(7.5A at start-up)
Frequency	50/60Hz
Output power	150W
Switch	
Type	Pressure-resistant, explosion-proof single-circuit, switch
Explosion-proof symbol	d2G3
Switching capacity	10A(AC100V)
Pump	
Frequency	60Hz 50Hz
Maximum lift	10m 7m
Maximum exhaust	90 l/min 75 l/min
Revolutions	3,400 r.p.m. 2,800 r.p.m.
Applied viscosity	less than 150CPS
Applied temperature	less than 100°C (80°C continuous)
Height	1,270mm
Weight	Approx. 13.5kg
Power cable	7m(Chloroprene class-3, 3-core cable)
Hose	2m
Hose gun	

HC-300



HC-100



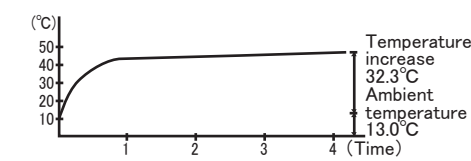
HC-100 (d2G3), FC (d2G3), FCM (d2G3)

Pressure-proof, explosion-proof construction meets the explosion-proof construction standards for electro-mechanical equipment (d2G3) set by the Ministry of Labor.

• Verified certification No. ... 1035 (HC-100,FC)

Motor temperature

Measured by thermistor thermometer/bar thermometer



Results

Time(min.)	0	30	60	90	120	165	195	225	255
Surface temp. of motor(°C)	13.0	34.0	40.0	42.0	43.3	43.5	43.8	45.3	45.3

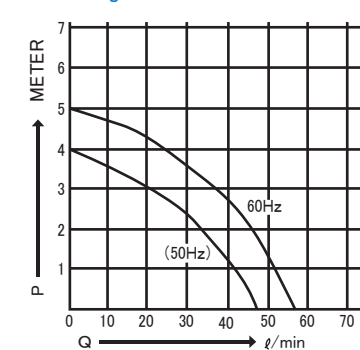
The liquid in one drum can be transferred in as little as three minutes and 35 seconds, and these pumps can also be operated continuously for up to 24 hours.

Continuous rating permits operation for a whole day without the possibility of any trouble occurring. The power consumption of the motor is only 65 watts, allowing economical operation. Also, the combination of two pumps will allow a high pumping efficiency of 56 l (60Hz) per minute.

• Meter-equipped pumps may show different values from those shown here. For farther details,ask one of our specialists.

Performance

Test fluid: gasoline

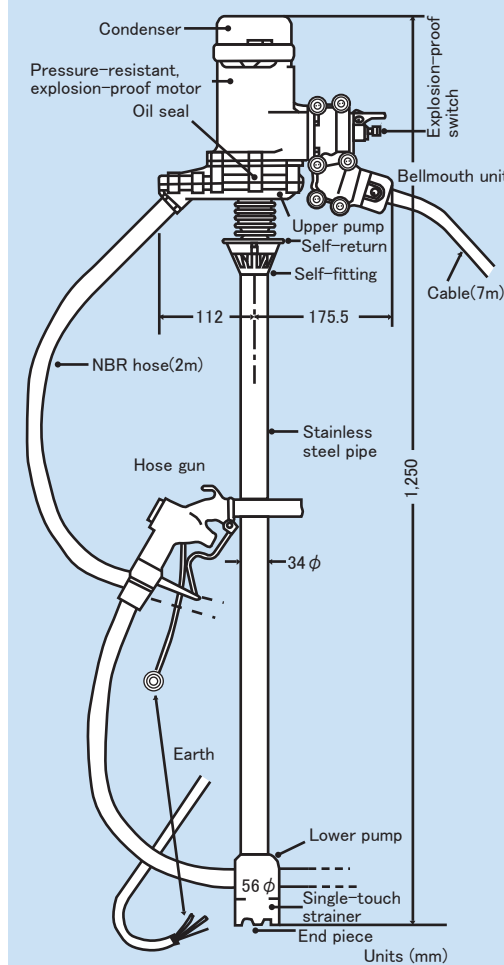


Specifications

Motor	
Type	Pressure-resistant, explosion-proof, single-phase induction motor
Explosion-proof symbol	d2G3
Starting method	Capacity startin
Number of poles	2 poles
Power source	100V
Current	Full-load 1.8A(2.5A at start-up)
Frequency	50/60Hz
Output power	65W
Switch	
Type	Pressure-resistant, explosion-proof single-throw switch
Explosion-proof symbol	d2G3
Switching capacity	2.5A(100VAC)
Pump	
Frequency	60Hz 50Hz
Maximum lift	5m 4m
Maximum exhaust	56 l/min 40 l/min
Revolutions	3,400 r.p.m. 2,800 r.p.m.
Applied viscosity	Less than 150 CPS
Applied temperature	Less than 30°C
Height	1,250mm
Weight	Approx. 10kg
Power cable	7m(Chloroprene class-3, 3-core cable)
Hose	2m
Hose gun	Type 06473

The HC, FC and the DF can be used only with gases specified by "d2G3".

FC



DF (d2G3), DFM (d2G3)

Pressure-resistant, explosion-proof construction meets explosion-proof construction standards for electro-mechanical equipment (d2G3) set by the Ministry of Labor.

Verified certification No. 2400(12V),20901(24V)

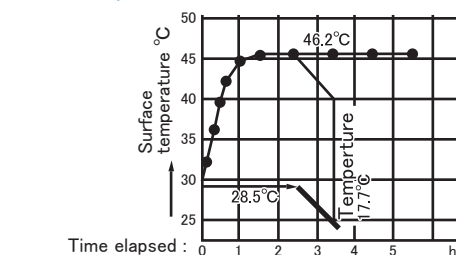
Pressure-resistant, explosion-proof construction with motor, switch and wire lead-in port, fixed in an explosion-proof box. Uses a long-life DC motor,permitting long hours of operation without over-heating or fear of combustion or explosion.

Equipped with a safety switch (certified verification No. 18170, authorized by the Ministry of Labor) ensuring safe and easy operation.

All possible measures have been taken to fully ground any static electricity that may be generated.

Motor temperature

Measured by thermistor thermometer/bar thermometer



Results

Time(min.)	0	10	20	30	40	50	60	150	210
Surface temp. of motor(°C)	28.5	35	36.8	39.5	42.5	44.2	46.5	46.2	45.9

Continuous operation.

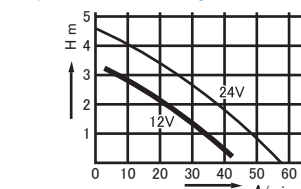
The liquid in one drum can be transferred in as little as four minutes and the power consumed is as low as 45W, assuring high economy and efficiency.

These trouble-free pumps have a high pumping efficiency of approx. 45l/min. at 12V, and 57l/min. at 24V.

(Meter-equipped pumps may show different values from those shown here. For farther details, ask one of our specialists.

Performance

Temperature-25°C/Test fluids: gasoline
Liquid:22°C/Test fluid: gasoline



Safety-1—Easy on Batteries

Safety-1DF provides high performance on little power, so it does not require an additional car battery for operation.

This means that the DF pump can be used at anytime and anywhere, as a mobile pump.

Specifications

Motor	
Type	Pressure-resistant, explosion-proof DC motor
Explosion-proof symbol	d2G3
Power source	12/24V
Current	Full-load, 6A
Output power	45W(12V),60W(24V)
Switch	
Type	Voltage-proof, explosion-proof, single-throw switch
Explosion-proof symbol	d2G3
Switching capacity	6A(12V),7A(24V)DC
Pump	
Maximum lift	4m(12V),5m(24V)
Maximum exhaust	45l/min(12V),60l/min(24V)
Revolutions	4,200r.p.m.(12V),5,600r.p.m.(24V)
Height	1,250mm
Weight	Approx. 8kg
Power cable	7m(Chloroprene class-3, 3-core cable)
Hose	2m
Hose gun	Type 4304

DF

