



AQUA

SYSTEM CO.,LTD.

PRODUCT CATALOGUE

2nd Edition



AIR-OPERATED PUMPING EQUIPMENT

- APDS-25SUS APDS-25PP APDS-32
- APDS-32SUS APDS-1s APDS-1.5s
- APDQS-25SUS APDQS-25PP APDQS-32
- APDQS-32SUS APDQS-1s APDQS-1.5s
- APD-20SUS APD-20 APD-20N APD-25
- APDQ-25 APDQ-25G APDQ-25AS
- APDX-25 APDX-25G APDX-25AS
- KFC104A-N KFC103A-N DF4D-20G
- DF6D-20G DF4D-20AS DF6D-20AS APPQO
- APPQO400 APPQO550 AVC-50
- HR-2B HRD-25SUS HRD-25SUSH
- HRD-25SUSHM HF-1000

USEFULNESS
HAPPINESS
FORTITUDE

Japan



山椒は小粒でぴりりと辛い

“Small head, but great wit”

AQUASYSTEM Co., Ltd.

Japanese pump-maker

We strive to play an important role in the society, by delivering optimal solutions and excellent products. We want our customers to be satisfied. This is our greatest desire, as well as our corporate mission.

Since 1957, AQUASYSTEM Co., Ltd., company with a long tradition and experience, has been producing high quality pumps for oil, gasoline, chemicals and even edible liquids. All models and types are designed to be durable, efficient and safe – all in all to be helpful in industrial liquid management.

Located in Hikone city, close to the breathtakingly picturesque Biwako lake, AQUASYSTEM Co., Ltd. is one of the most trusted players on Japanese pump market.

Our motto is “usefulness, happiness, fortitude”, our aim is quality.



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Remember to visit our website:

<http://www.aqsys.co.jp>

• APDS, APDQS •

Air-operated pumps consisting of two separate parts. For: acids, alkalis, solvents, sanitary liquids, general oil.

• APD •

Air-operated delivery pumps. For: acids, alkalis, solvents, general oil.

• APDQ, APDX •

Air-operated multi-purpose pumps. For: general oil, solvents, gasoline, kerosene

• KFC, DF •

Air-driven motor and air diaphragm delivery pumps. For: acids, alkalis, solvents, oil, gasoline, kerosene.

• AVC-50, APP~ •

Air-operated vacuum pumps and cleaners. For: general oil, cutting liquid, sludge, metal chips, waste liquids.

• ACCESSORIES •

- Dedicated drum can lid
- Drum can carrier
- Pail can carrier
- A set of filters

• HR, HRD, HF •

Manually operated drum can pumps for oil, gasoline, kerosene, diesel and chemicals.

APDS APDQS

APD(Q)S SERIES FOR DRUMS

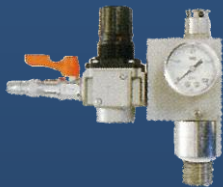
Separate Air Vacuum & Pressure Pumps

The following series are used to deliver or collect liquids from/into drum cans. Dispensation rate is exceptionally high. The construction of these devices is very simple – no moving parts. This allows transferring even contaminated liquids. It also guarantees very low failure and malfunction rate. Consisting of two parts, APD(Q)S pumps can be effortlessly attached, detached and cleaned. No electricity is required – these pumps are safe for use in hazardous areas.

Drum cans compatible with these pumps are in accordance with JIS Japanese Industrial Standards and international standards:

- G3/4" (approx. 20 mm)
- G2" (approx. 50 mm)

APDS PUMPS DELIVERY TYPE



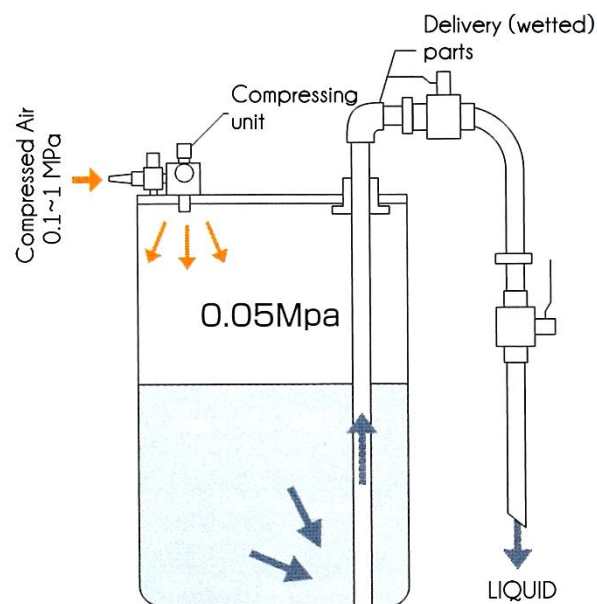
REQUIRED COMPRESSOR
POWER: 1 HP

APDQS PUMPS SUCTION TYPE



REQUIRED COMPRESSOR
POWER: 3 HP

THE DELIVERY TYPE APDS SERIES



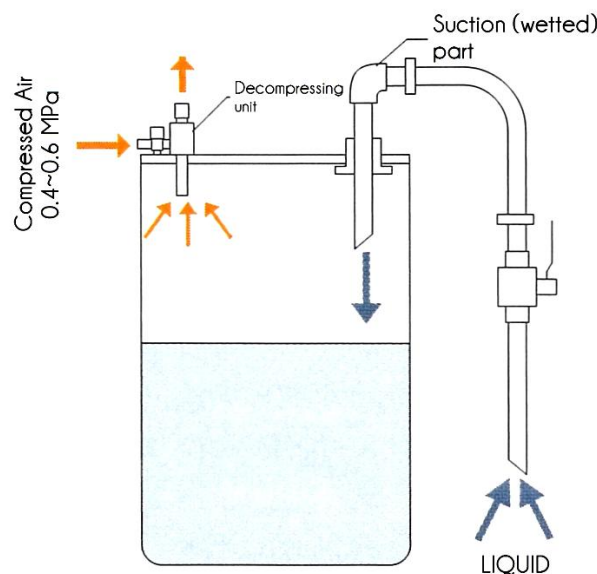
■ The compressing unit increases pressure inside of the drum allowing liquid delivery.

① The air (0.1~1 MPa) is let through a coupler connected to a compressor.

② The regulator safely increases the pressure inside of the drum can.

③ After opening the delivery valve, the liquid is delivered.

THE SUCTION TYPE APDQS SERIES



■ The decompressing decreases the pressure inside of the drum can, leading to liquid suction.

① The air (0.4~0.6 MPa) is let through the coupler connected to a compressor.

② Air quickly blows through the decompressing unit, decreasing the pressure inside of the drum.

③ After opening the valve, the liquid is sucked into the drum can.

TECHNICAL SPECIFICATIONS

Separate Air Vacuum & Pressure Pumps

APDS
APDQS

Model		APDS-25SUS EX	APDS-25PP EX	APDS-32 EX	APDS-32SUS EX	APDS-1s EX	APDS-1.5s EX
Function		Delivery					
Permitted Liquids		Acids, Alkalis, Solvents	Acids, Alkalis	General Oil	Acids, Alkalis, Solvents	Sanitary liq., Acids, Alkalis	
Pressure Regulator's Material		SUS, Teflon, Viton, Perfluoro		SUS, Brass, NBR	SUS, Teflon, Viton, Perfluoro		
Dispensation Parts Material	Main body, nozzle	SUS	PP	Aluminum	SUS	SUS (Sanitary Type)	
	Packing	Teflon, Perfluoro		NBR	Teflon, Perfluoro		
	Hose	SUS (ø25x2m)	PP (ø32x1.2m)	PVC (ø38x2m)	SUS (ø32x2m)	PP (ø25x1.2m)	PP (ø38x1.2m)
Max Delivery Rate (l/min)	1 cP	70	78	131	130	78	193
	100 cP	67	66	127	127	66	189
	500 cP	37	24	70	70	24	95
	1000 cP	24	19	47	49	19	49
	3000 cP	8	6	15	15	6	19
	5000 cP	5	4	9	10	4	16
Liquid Uplift (for water)		3 m max					
Delivery/Suction Pressure		Delivery: 0.05 MPa					

Model		APDQS-25SUS EX	APDQS-25PP EX	APDQS-32 EX	APDQS-32SUS EX	APDQS-1s EX	APDQS-1.5s EX
Function		Suction					
Permitted Liquids		Acids, Alkalis, Solvents	Acids, Alkalis	General Oil	Acids, Alkalis, Solvents	Sanitary liq., Acids, Alkalis	
Pressure Regulator's Material		SUS, Brass, Teflon, Aluminum		SUS, Brass, NBR, Aluminum	SUS, Brass, Teflon, Aluminum		
Dispensation Parts Material	Main body, nozzle	SUS	PP	Aluminum	SUS	SUS (Sanitary Type)	
	Packing	Teflon, Perfluoro		NBR	Teflon, Perfluoro		
	Hose	SUS (ø25x2m)	PP (ø32x1.2m)	PVC (ø38x2m)	SUS (ø32x2m)	PP (ø25x1.2m)	PP (ø38x1.2m)
Max Delivery Rate (l/min)	1 cP	68	74	128	139	74	197
	100 cP	64	60	119	131	60	180
	500 cP	43	28	84	93	28	125
	1000 cP	22	18	61	65	18	96
	3000 cP	7	6	20	20	6	34
	5000 cP	5	4	12	12	4	18
Liquid Uplift (for water)		3 m max					
Delivery/Suction Pressure		Suction: 0.04 MPa					

APD SERIES FOR DRUMS

Air Pressure Pumps

Did you know?

APD pumps utilize compressed air in order to deliver liquids stored in drum cans. The safety of this process, however, is not left unconsidered.

There are two parts that protect you from overpressure.

① Regulator

The regulator is set to change the pressure to levels required for the device to operate safely and with maximum efficiency.

② Safety Valve

The safety valve opens if the pressure unexpectedly reaches more than 0.7 MPa.

APD Pumps quickly and safely deliver various liquids (general oil, solvents, acids, alkalis) stored in drum cans. With an outstanding delivery rate, handiness and low emission of noise, these devices are perfect tools for industrial liquid transfer.

Explosion-proof

APD pumps do not require electric power. They are safe for use in hazardous areas. SUS type is additionally equipped with a ground wire for protection against static electricity.

Extremely low malfunction rate

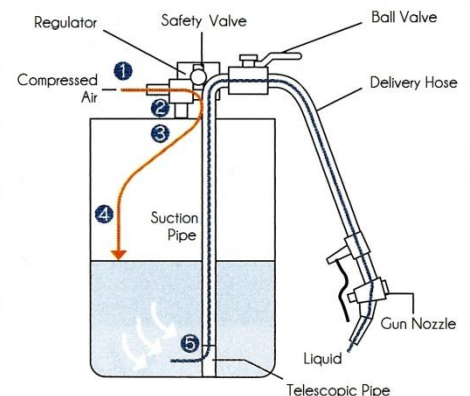
There are no moving parts in APD's structure. The device hardly ever breaks down. Transferring liquids contaminated with small particles is possible.

Outstandingly efficient

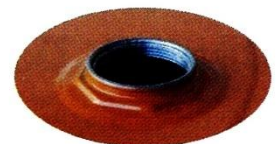
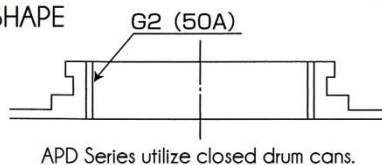
The devices can deliver liquids very fast, even up to 150 l/min. These pumps have been designed to save time and money. The liquid leftover in the drum can is less than 0.5 l. Very high quality of APD guarantees its long life and usability.

DELIVERY MECHANISM

- ① Compressed air of 0.1~1 MPa is let in.
- ② Regulator is set to decompress the air to 0.05 MPa.
- ③ Decompressed air enters the drum can.
- ④ The air pushes the surface of the liquids inside of the can.
- ⑤ The pushed liquid enters the suction pipe.
- ⑥ The liquid enters the hose and leaves through the nozzle.



DRUM CAN INLET'S SHAPE



TECHNICAL SPECIFICATIONS

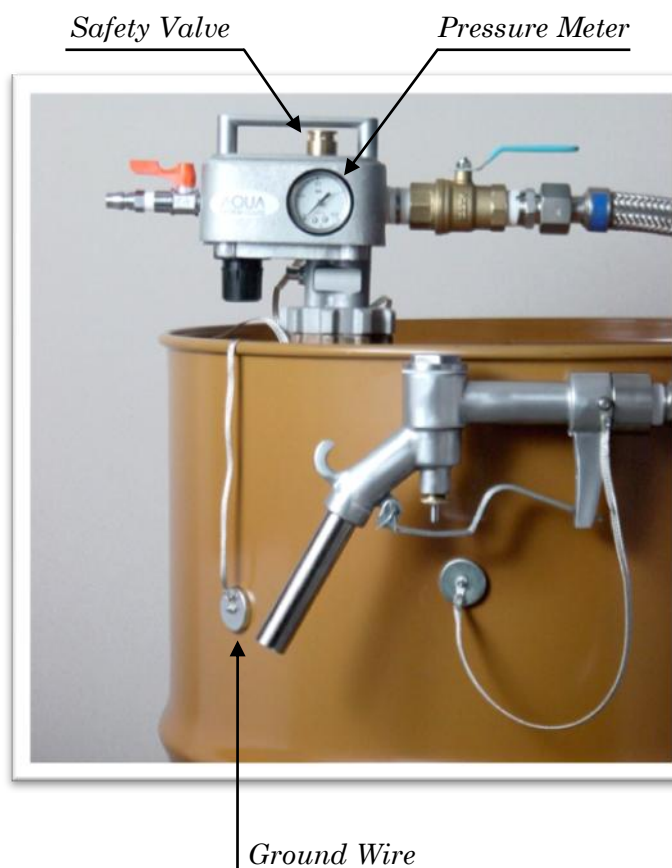
APD

Air Pressure Pumps

Model		APD-20SUS EX	APD-20 EX	APD-20N EX	APD-25 EX
Function		Delivery			
Permitted Liquids		Acids, Alkalis, Solvents	General Oil		
Adapter's Material		SUS303	CAC406 (Copper)		
Dispensation Parts Material	Main body, nozzle	SUS304	Aluminum		
	Packing	Teflon, Perfluoro	Fluororubber		
	Hose	SUS304 (ø20x2m)	PVC (ø25x2m)		PVC (ø32x2m)
Max Delivery Rate (l/min)	1 cP	40	65	55	150
	100 cP	30	55	45	125
	500 cP	15	30	20	60
	1000 cP	5.5	15	9.5	25
	3000 cP	1	2.5	1.5	5
	5000 cP	0.3	0.5	0.5	2.5
Liquid Uplift (for water)		2 m max			
Weight		7.8 kg	4.4 kg	4.3 kg	5.6 kg



APD-20SUS EX

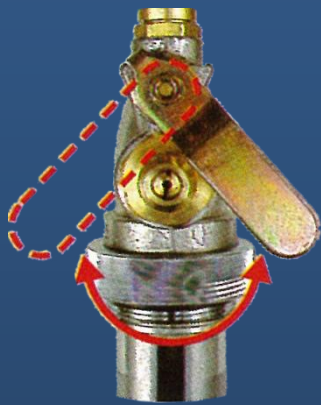


APDQ

APDX

Did you know?

APDX is capable of both suction and delivery. To change the function, simply use device's lever.



IN OUT



APDX-25

APDQ & APDX SERIES FOR DRUMS

Air Pressure & Vacuum Pumps

APDQ Series consists of special, professional liquid collection equipment. With an APDQ pump you can quickly collect various kinds of liquids into the drum can, quickly, safely and efficiently. APDX pumps are multifunctional – operating the switch changes the function from suction to delivery and the other way around.

Explosion-proof

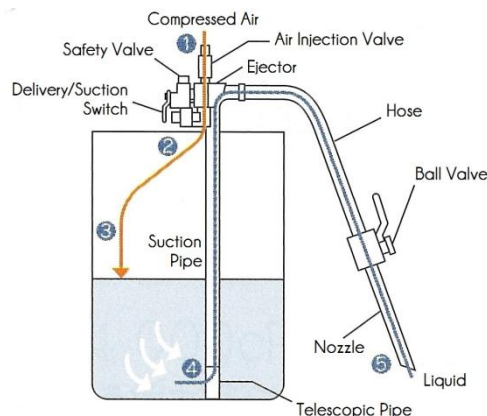
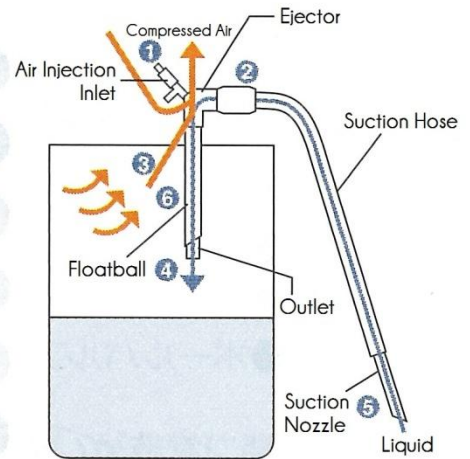
APDQ and APDX pumps do not require electric power. They are safe for use in hazardous areas.

Difficult liquid? Not anymore.

These devices are capable of high viscosity liquids transfer (up to 3000 cP). Liquids such as machine oil, waste water, paint booth wastes and even liquids contaminated with small particles are not a problem.

Suction mechanism (APDQ/APDX)

- ① Compressed air of 0.4~0.6 MPa is let in.
- ② Instead of entering the tank, the air blows through the ejector.
- ③ Negative pressure occurs in the ejector. The air is sucked out of the drum can.
- ④ Negative pressure occurs in the drum can. The external suction begins.
- ⑤ The liquid is sucked through the suction nozzle.
- ⑥ The liquid fills the drum. Once it is full, the suction stops.



Delivery mechanism (APDX)

- ① Compressed air of 0.1~1 MPa is let in.
- ② After decompression the air enters the drum can.
- ③ The air pushes the surface of the liquid.
- ④ Pushed liquid enters the suction pipe.
- ⑤ The liquid leaves the system through the nozzle.

TECHNICAL SPECIFICATIONS

Air Pressure & Vacuum Pumps

APDQ
APDX

Model		APDQ-25 EX	APDQ-25G EX	APDQ-25AS EX
Permitted Liquid		General Oil	Light Oil, Diesel Oil, Gasoline, Kerosene	Solvents
Viscosity		3000 cP max		
Liquid Uplift (for water)		2 m max		
Materials	Main body, nozzle	Aluminum		
	Packing	NBR		Teflon, EPT
	Adapter	Steel coated		
	Hose	PVC (ø32x2m)	Oil resistant rubber (ø25x2m)	SUS304 (ø25x2m)
Max Delivery Rate [for APDX only] (l/min)	1 cP	N/A		
	100 cP	N/A		
	500 cP	N/A		
	1000 cP	N/A		
	3000 cP	N/A		
	5000 cP	N/A		
Max Suction Rate (l/min)		80	50	

Model		APDX-25 EX	APDX-25G EX	APDX-25AS EX
Permitted Liquid		General Oil	Light Oil, Diesel Oil, Gasoline, Kerosene	Solvents
Viscosity		3000 cP max		
Liquid Uplift (for water)		2 m max		
Materials	Main body, nozzle	Aluminum		
	Packing	NBR		Teflon, EPT
	Adapter	Steel coated		
	Hose	PVC (ø32x2m)	Oil resistant rubber (ø25x2m)	SUS304 (ø25x2m)
Max Delivery Rate [for APDX only] (l/min)	1 cP	100	70	70
	100 cP	85	60	60
	500 cP	45	25	25
	1000 cP	20	10	10
	3000 cP	4	1.5	1.5
	5000 cP	1	0.5	0.5
Max Suction Rate (l/min)		80	50	50

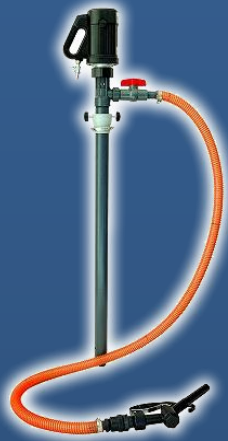
K F C
D F

KFC & DF SERIES FOR DRUMS

Air-driven Motor and Air-diaphragm Pumps

KFC pumps utilize the power of an air-driven motor. They have been specifically designed for transferring low viscosity liquids (below 100 cP). Equipped with a gun nozzle and a dedicated adapter – precise dispensation of liquids store in drum cans has never been easier.

DF Air-diaphragm pumps allow dispensation of particularly difficult liquids. You can choose between a model dedicated to solvents transfer (DF4/6D-20G EX, 1000 cP max) and oil transfer (DF4D/6D-20AS EX, 4000 cP max). The main advantage of air-diaphragm pumps is their balanced delivery rate and liquid uplift.



KFC 103A-N

Explosion-proof

KFC and DF Series do not require electricity and are safe to use in hazardous areas.

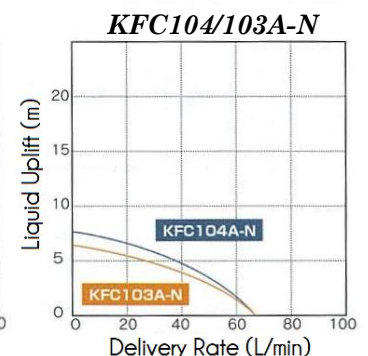
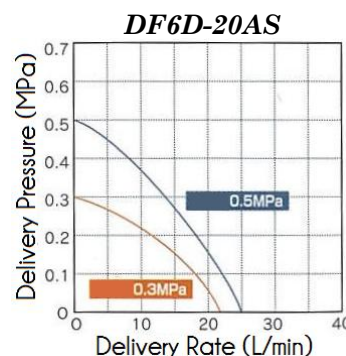
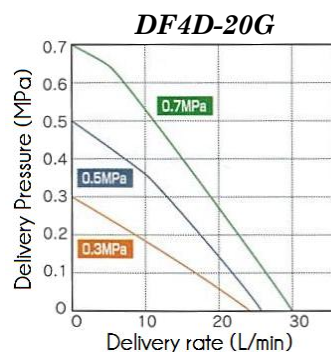
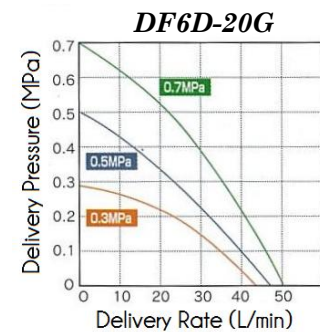
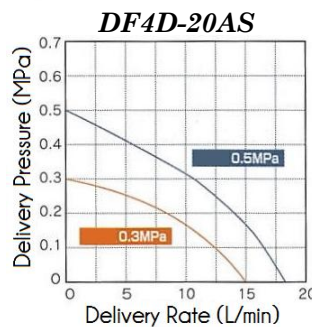
Designed for your needs

With a KFC pump you can quickly dispense a precise amount of low viscosity liquid. Solvents, acids and alkalis are not a problem. A DF pump offers significantly high uplift and copes with liquids of various viscosities.



DF4D-20G EX

KFC & DF Series do not have to be air-tightly connected to the drum can.



TECHNICAL SPECIFICATIONS

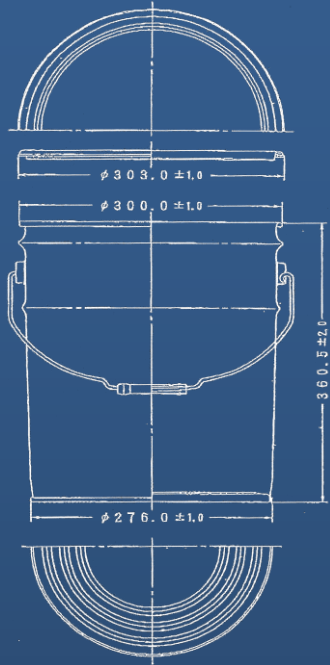
Air-driven Motor and Air-diaphragm Pumps

KFC
D F

Model	KFC104A-N EX	KFC103A-N EX	DF4D-20G EX
Function	Delivery	Delivery	Delivery
Permitted Liquid	Acids, Alkalis, Solvents	Acids, Alkalis	Oil, gasoline, kerosene
Maximum Viscosity	100 cP	100 cP	4000 cP
Maximum Delivery Rate at 1 cP	65 L/min	65 L/min	30 L/min
Maximum Uplift (for water)	8 m	7.5 m	40 m
Materials	Main body, nozzle	SUS304/PVDF	PP/PVDF/PVC/Hastelloy C
	Diaphragm	N/A	N/A
	Packing	Teflon, Fluoro-rubber	Teflon, Fluoro-rubber
	Hose	SUS304 (ø25x2m)	Reinforced PVC (ø25x2m)
Operated By	Air-driven Motor	Air-driven Motor	Air-Diaphragm
Approx. Air Consumption	N/A	N/A	250 NL/min
Weight	9.9 kg	5.8 kg	7.5 kg

Model	DF6D-20G EX	DF4D-20AS EX	DF6D-20AS EX
Function	Delivery	Delivery	Delivery
Permitted Liquid	Oil, gasoline, kerosene	Solvents	Solvents
Maximum Viscosity	4000 cP	1000 cP	1000 cP
Maximum Delivery Rate at 1 cP	55 L/min	30 L/min	55 L/min
Maximum Uplift (for water)	40 m	40 m	40 m
Materials	Main body, nozzle	Aluminum	Aluminum
	Diaphragm	Hytrel	Teflon
	Packing	Teflon, Fluoro-rubber	Teflon
	Hose	Oil Resistant Rubber (ø20x2m)	SUS304 (ø20x2m)
Operated By	Air-Diaphragm	Air-Diaphragm	Air-Diaphragm
Approx. Air Consumption	250 NL/min	250 NL/min	250 NL/min
Weight	8.5 kg	6.1 kg	7.1 kg

AVC-50 APPQ~



Typical open pail can

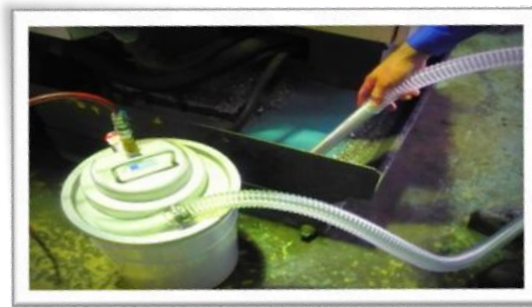
AVC-50 & APPQ~ SERIES

Industrial Vacuum Pumps and Cleaners

APPQO EX is an air operated vacuum pump with a built in oil stopper, which prevents liquid overflow. Energy saving – compressor of only 1 HP is enough to use the device. With its high suction capability (74 L/min at 1 cP) and ability to suck liquids contaminated by small particles, this device is a perfect choice when dealing with waste liquids of all kinds. APPQO EX utilizes “open” pail cans.

APPQO400 EX, APPQO550 EX and AVC-50 are air-operated vacuum cleaners designed for industrial use. Using a 5 HP compressor unleashes cleaner’s full potential – sucking liquids of up to 3000 cP! Whether it’s cutting liquid from CNC machines, sludge, drainage, waste oil or even cutting chips, these devices are an excellent choice when powerful cleaning is required. The above models utilize “open” pail cans.

Both APPQO and APPQO400/550/AVC-50 models are energy efficient, easy to clean and equipped with a **delivery hose, a nozzle and a float ball.**



APPQO
Vacuum Pump



AVC-50
Vacuum Cleaner



APPQO400
Vacuum Cleaner

TECHNICAL SPECIFICATIONS

Air Vacuum Pumps and Cleaners

AVC-50 APPQ~

Model		APPQO EX	APPQO400 EX	APPQO550 EX	AVC-50
Type		Vacuum Pump	Vacuum Cleaner		
Permitted Liquid		General oil, cutting liquid, sludge etc.	General oil, cutting liquid, sludge, cutting chips etc.		
Maximum Viscosity		1000 cP	3000 cP		
Suction Rate (L/min)		75	60	80	
Maximum Uplift		2 m			
Materials	Main body, nozzle	Aluminum			Steel
	Packing	NBR			
	Hose	PVC (ø25x2m)			
Net Weight		3.4 kg	4.9 kg	5.2	
Required Compressor Power		1 HP	3 HP	5 HP	
Noise Level (dB in 1 m)		110	90		
Filter		N/A	Optional	Included	Optional
Pail Can		N/A			Included
Nozzles		1 Round Nozzle		2 Nozzles: Round & Narrow	

■ Metal chips? No problem.

AQUASYSTEM's vacuum cleaners are powerful enough to collect not only liquids but also particles such as metal chips.

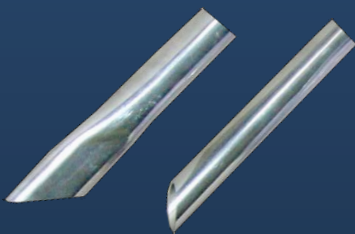
■ Vacuum pump vs. Vacuum cleaner

The main difference between vacuum pumps and vacuum cleaners is that vacuum pumps can suck only liquids (but due to the powerful vacuum they create, the suction power is very strong), while vacuum cleaners can additionally collect particles such as metal chips, and liquids contaminated by such particles (waste liquids etc.). If you are going to collect small particles such as dust or powder, consider purchasing a dedicated set of filters.

ACCESSORIES



A drum can equipped with a dedicated lid and a carry.



A narrow and a round nozzle.

A C C E S S O R I E S

Various accessories for vacuum cleaners

AQUASYSTEM also produces accessories, upgrading various devices' functionality. The accessories are available for sale separately.

■ *Drum can lid*

This dedicated lid allows using a regular drum can as a container for APPQ~ Series and AVC-50. Attaching the lid transforms the device into a biggest capacity cleaner!



■ *Drum can and pail can carriers*

Carriers improve devices mobility and stabilize them during movement – whether you use pail cans or drum cans as containers.



■ *A set of filters for vacuum cleaners*

Filters allow to use vacuum cleaners for dust collection.



HR, HRD, HF SERIES

Hand rotary pumps



HR-2B EX

*Gasoline,
kerosene, diesel
oil, A-type oil,
machine oil,
engine oil*

Versatile!



HRD

For solvents

*HRD-25 SUS EX
HRD-25 SUSH EX
HRD-25 SUSHM EX*

Resistant!



HF-1000 EX

*High Flow!
Gasoline,
kerosene, diesel
oil, A-type oil,
general oil*

Efficient!

Model		HR-2B EX	HRD-25 SUS EX	HRD-25 SUSH EX	HRD-25 SUSHM EX	HF-1000 EX
Equipment		Hose (PE, $\varnothing 25 \times 1.4\text{m}$)	N/A (Hose not included)	Hose (SUS304, $\varnothing 20 \times 1.2\text{m}$)	Hose (SUS304, $\varnothing 20 \times 1.2\text{m}$) Air-tight Adapter Ground Wire	Hose (PE, $\varnothing 32 \times 1.2\text{m}$)
Permitted Liquid		A-type Oil, Diesel Oil, Gasoline, Kerosene...	Solvents	Solvents	Solvents	A-type Oil, Diesel Oil, Gasoline, Kerosene...
Maximum Viscosity (cP)		500	500	500	500	500
Delivery Rate (cc/rotation)		240	220	220	220	1000
Maximum Uplift (m)		2	2	2	2	2
Materials	Main body	FC Casting	SCS13 (SUS304 Equivalent)	SCS13 (SUS304 Equivalent)	SCS13 (SUS304 Equivalent)	Aluminum Alloy Zinc Alloy
	Packing	NBR	Teflon	Teflon	Teflon	NBR
	Adapter	Aluminum Die Casting	SUS303	SUS303	SUS303	Aluminum Die Casting
Weight (kg)		7.0	7.4	8.0	8.7	8.0

Low viscosity & dangerous liquids

Our manually operated drum can pumps are capable of low viscosity liquids transfer. Pumps equipped with a ground wire additionally protect from static electricity when transferring dangerous liquids.

Siphon function

HRD-25SUSH and SUSHM models utilize the siphon function, which allows continuous flow without the need of constantly rotating the handle.

*Thank you for
reading our
catalogue!*

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