



ECCENTRIC SCREW **DRUM PUMPS**



- To transfer or split high-viscosity organic and inorganic chemicals from drum or container.
- To transfer or split high-viscosity liquids in plating plant and chemical plant.
- To transfer or split liquids in chemical warehouse.
- To transfer or split high-viscosity liquids safely in research laboratory and hospital.
- To transfer or split high-viscosity liquids in cosmetic and food industry.
- To transfer or split lubricants and high-viscosity liquids in various manufacturing plants.
- To transfer flammable materials in paint and resin factory.

Motor Specification

Electric Motor



- Dual prevention of motor from damage caused by overload through installing Thermal Protection device(TP) and over-current breaker internally.
- Dual wall type motor housing prevents damage from external impacts.
- By installing low voltage release device(Optional), preventing motor damage caused by low voltage.
- 5m long power cable is equipped with plug as standard item.

Motor	Power	Voltage	Frequency	Current	Protection Grade	Insulation Grade	Weight
U4	420~430W	220~230VAC	50/60Hz	2.8A	IP44	B	3.0kg
U8	800W	220~230VAC	50/60Hz	4A	IP44	B	3.9kg

Air Motor



- Simple structure
- Can be used for dangerous area of explosion (Ex II 2G)
- Lighter than electric motor
- Easy speed control by supply pressure
- Suction Dia. : Rc1/4, Discharge Dia. : Rc1/2

Motor	Power	Supply Pressure	Air Consumption	Weight
A4	460W	3~6bar	920L/min	1.2kg

※ Explosion Proof Grade : Ex II G2 cp IIC T6 (Cert No. : 0425 ATEX 2535)

Ex. Proof Motor



- Can be used for dangerous area of explosion. (Ex de IIC T6)
- Dual prevention of motor from damage caused by overload through installing Thermal Protection device(TP) and over-current breaker internally.
- By installing low voltage release device(Optional), preventing motor damage caused by low voltage.
- Dual wall type motor housing prevents damage from external impacts.
- 5m long power cable is equipped with plug as standard item. (Non-Ex. Proof)

Motor	Power	Voltage	Frequency	Current	Protection Grade	Insulation Grade	Weight
E4	420~430W	220~230VAC	50/60Hz	2.8A	IP54	F	5.2kg

※ Explosion Proof Grade : Ex de IIC T6 (Cert No. : 18-GA280-0494X)

Model Code

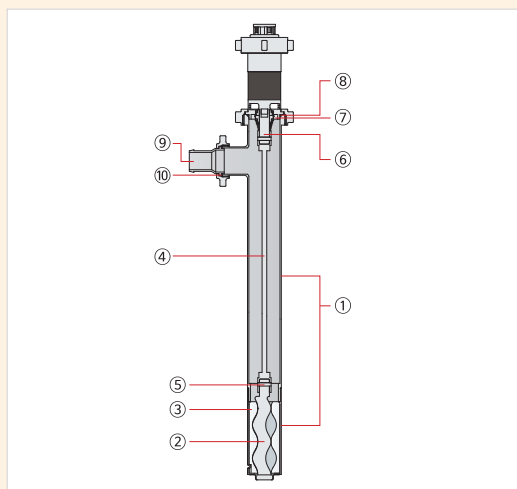
VDR – ^①**3** ^②**1** ^③**T** – ^④**10** – ^⑤**U** ^⑥**8** ^⑦**S** – ^⑧**S**

① Max. Flow Rate	3 : 30L/min	⑤ Motor Type	U : Electric Motor A : Air Motor E : Ex. Proof Motor
② Stages	1 : 1-Stage	⑥ Motor Power	4 : 400W Class 8 : 800W Class
③ Stator Material	T : PTFE	⑦ Motor Option	S : Standard
④ Pipe Length	10 : 1,000mm 12 : 1,200mm	⑧ Voltage	S : 1ϕ 220~230V 50/60Hz 1 : Ball Valve

Specification

Specifications		VDR-31T-U4	VDR-31T-E4	VDR-31T-U8	VDR-31T-A4
Max. Flow Rate(L/min)		30			
Max. Discharge Pressure(bar)		8			
Max. Viscosity(mPa·s)		10,000		30,000	10,000
Dia. of Insertion(mm)		51			
Dia. for Hose Connection(mm)		32			
Limit of liquid Temp.(℃)		140			
Noise(dB)		85(11,000RPM) 기준			
Weight(kg)	1000mm	8.2	10.4	9.1	6.4
	1200mm	8.7	10.9	9.6	6.9

Materials of Standard Liquid End

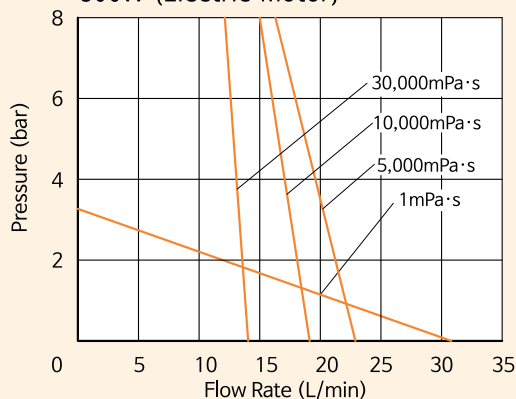


No.	Part Name	Material
①	Pipe	STS316
②	Rotor	STS316
③	Stator	PTFE
④	Drive Shaft	STS316
⑤	Pin	STS316
⑥	Counter Shaft	STS316
⑦	Mechanical Seal	CERAMIC / SIC / STS316
⑧	O-Ring	FEP(+SIL)
⑨	Hose Connector	SSC14
⑩	Packing	PTFE

Performance Curves

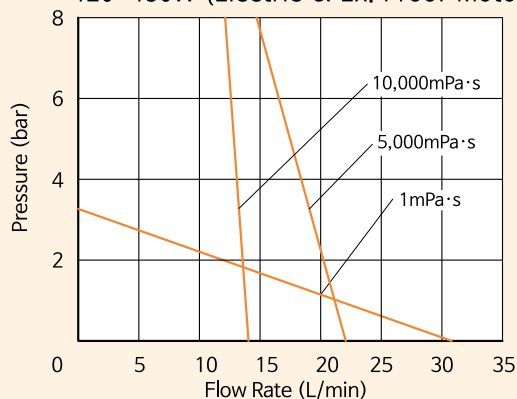
VDR-31T-U8S

800W (Electric Motor)



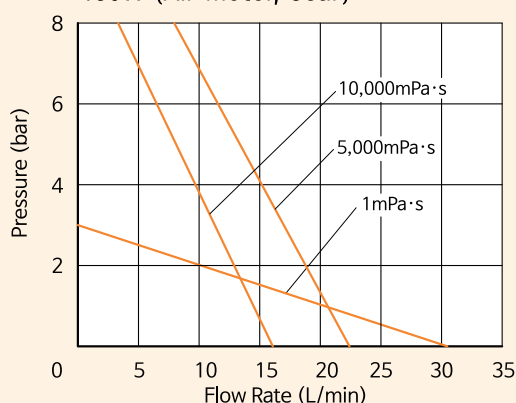
VDR-31T-U4S(E4S)

420~430W (Electric & Ex. Proof Motor)



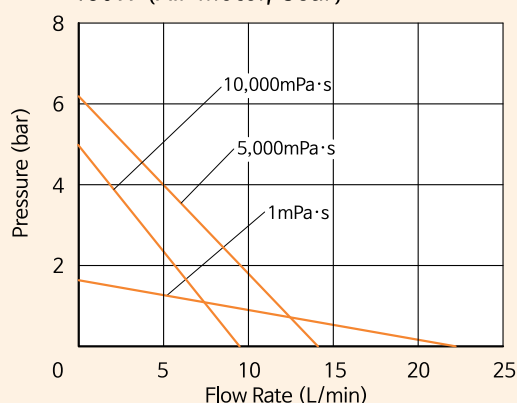
VDR-31T-A4S

460W (Air Motor, 6bar)

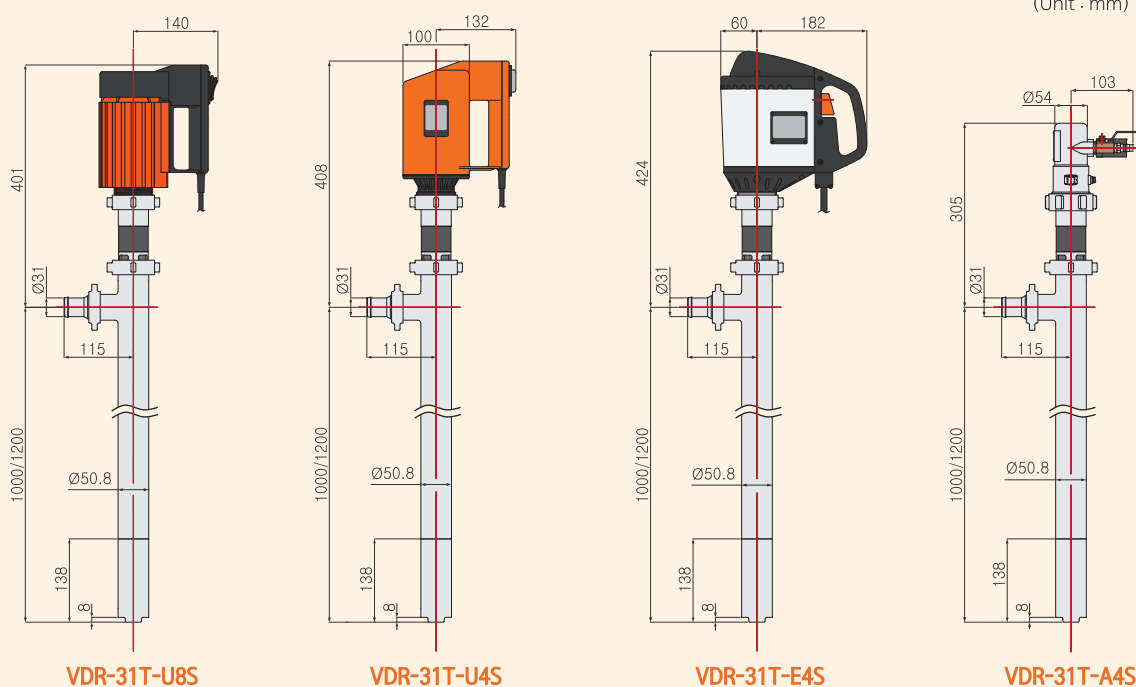


VDR-31T-A4S

460W (Air Motor, 3bar)



Pump Structure



- Note) 1. Do not run the pump in dry state. Stop the pump immediately when the container is empty.
2. The Performance curves show examples at our facility under regular conditions. Performance curves can be somewhat different according to the application of job site.

Accessories

General

A1 Hose Connector

Hose Connector, Packing, Union Nut
Thread G1½



A2 Hose(1.4m)

PVC Spring Hose



A3 Hose Clamp

For fixing the hose inserted into
the hose connector
Size Ø19~Ø40



A4 Drum Adaptor

For fixing the pump pipe to the
drum opening
Thread G2



A5 Wall Bracket

For safety storage of the pump



Air Motor Parts

B1 Air Unit

Filter, Regulator & Lubricator
Thread Rc½ Max. 10bar



B2 One Touch Fitting

Thread R½ or R¾
Size Ø12



B3 Air Hose

Polyurethane braided hose
Ø12×Ø8 Max. 9bar



B4 Air Coupler (Socket)

Size Ø12~Ø8



B5 Air Coupler (Plug)

Thread R½



B6 Hose Clamp

Size Ø6~Ø16



B7 Hose Nipple

Thread R½
Hose Nozzle Ø8~Ø9



B8 Ball Valve

Open & close compressed air
Thread R½×Rc½

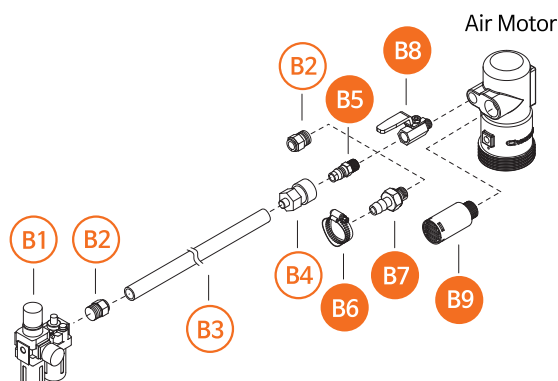
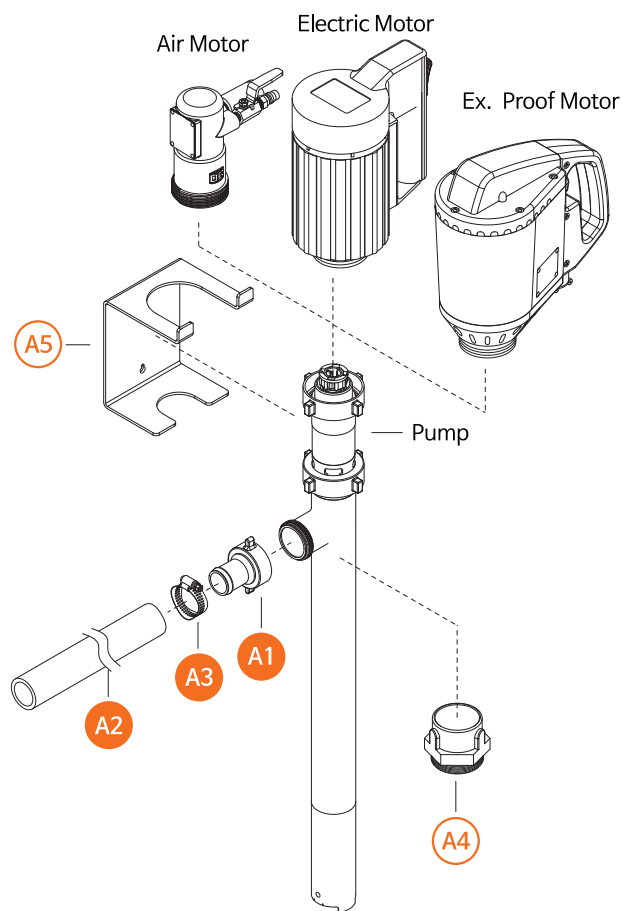


B9 Muffler

Device for reducing the noise caused by
releasing compressed air to atmosphere
Thread R½



● Standard Parts ○ Optional Parts



Viscosity Chart (Examples)

Viscosity Type : N(Newtonian), T(Non-Newtonian)

Liquid	Viscosity (mPa·s)	Temp. (C°)	Viscosity Type	Liquid	Viscosity (mPa·s)	Temp. (C°)	Viscosity Type
Biscuit Cream Premix	29200	18	T	Mayonnaise	20,000	20	T
Brewers Yeast	368	18	T	Milk	2	18	N
Castor Oil	580	27	N	Mousse Mix	1200	5	T
Chocolate	280	49	T	Olive Oil	40	38	N
Citrus Fruit Pulp	600	20	T	Orange Juice Concentrate	2410	20	N
Cocoa Butter	50	60	N	Paraffin Emulsion	3000	18	T
Coffee Liquor 30-40%	10-100	20	T	Plastisol	28000	18	T
Condensed Milk	40-80	40-50	N	Polyester	3000	30	T
Condensed Milk 75% Solids	2160	20	T	Polyisobutylene	12500	85	T
Corn Oil	28	57	N	Process Cheese	6500	80	T
Cream (Fat 35%)	14	16	N	Propylene	52	21	N
Cream (Fat 45%)	48	16	N	Resin	7140	18	T
Cream (Fat 50%)	112	16	N	SAE 10 Oil	79	20	T
Detergents	1470	70	T	SAE 20 Oil	170	20	T
Diethylene	32	21	N	SAE 30 Oil	310	20	T
Edible Oil	65	20	N	SAE 40 Oil	600	20	T
Ethylene	18	21	N	SAE 50 Oil	900	20	T
Fruit Juice	55-75	18	N	Salad Cream	1300-2600	18	T
Gasoline	0.8	18	N	Shampoo	3000	36	T
Glucose	8600	30	T	Soap Solution	82	60	T
Glycerine 100%	12000	0	N	Solvent	10	21	N
Glycerine 100%	1600	20	N	Soup	430	18	T
Glycerine 100%	250	40	N	Soya Bean Oil	60	24	N
Hair Gel	5000	21	T	Sperm Oil	24	38	N
Hand Cream	7800	18	T	Tomato Ketchup	1000	30	T
Hand Sanitizer	2000	21	T	Toothpaste	70000-100000	18	T
Honey	1500	65	T	Triethylene	40	21	N
Ink	550-2200	38	T	Varnish	140	65	N
Jam	8440	16	T	Vinegar	12-15	20	N
Latex Emulsion	200	24	T	Wax	500	93	T
Latex Emulsion	48	65	T	Whole Egg	150	45	T
Malt Extract	9500	18	T	Yoghurt	152	40	T

Note) 1. The liquid listed above have to be considered as examples only, as their viscosity may be changed substantially due to different composition or other temperatures.
 2. The viscosity of the Non-newtonian Fluids may be changed as time goes on.
 3. To check the viscosity of the fluid, please measure the viscosity before operating pump.

