



EKİN ENDÜSTRİYEL

Dino Drum and Container Pumps
Operation and Service Guide



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**The first condition of innovation is to question.
And the first condition of sustainable innovation is to question
constantly.**

The journey of innovation has started with a question for us too: "How can we develop value-added technologies in Turkey?". First turning point in this long journey was the birth of MIT (Made in Turkey) brand. MIT made us the first plate heat exchanger producer of Turkey and it's founding vision was not to become a local alternative, it was to build a high-quality brand that can compete on a global level.

While we are working towards this goal in the past 15 years, our products and processes deemed worthy for documentation by many national and international quality assessment institutions such as ISO, TSE, CE, GOST and many more. This was the natural outcome of our constant questioning of the status-quo and our desire to outperform ourselves.

New Generation Engineering

With our engineering approach that focuses on the process, not the problem, we do not just specialize in a product, we consider the entire ecosystem of that product. Ergo, we produce all the other components of a system in addition to plate heat exchangers and we focus on the constant development of engineering staff required to provide an end-to-end application.

We provide a "solution" rather than a product with our business development, presales, sales and after sales services provided by our expert engineers.

In our 15th year, we continue to grow as a solution partner for projects that need high technology in more than 60 countries with our internationally approved high-quality plate heat exchangers; components such as accumulation tanks, boilers, industrial pumps and installation materials that completes these exchangers to form a system; and complementary services provided by our expert engineer staff.



APPLICATION FIELDS



HEAT TRANSFER PRODUCTS

- Gasketed Plate Heat Exchangers • Brazed Heat Exchangers • Shell & Tube Heat Exchangers • Air Fan Oil Cooler • Economizers • Coils and Radiators



PRESSURE VESSELS

- Water Heater Tanks • Water Storage Tanks • Buffer Tanks • Expansion Tanks • Stainless Steel Process Tanks • Balance Tanks / Dirt Separators / Air Separators • Vapour Separator • Pressured Air Tanks • Neutralization Tanks • Air Tubes • Steel IBC Tanks with ADR



COMPLETE SYSTEMS UNITS

- Heat Stations • Steam Package Systems • Special Designed Systems • Dosing Systems • Substations • Thermoregulators



FOOD GRADE SYSTEMS

- Pasteurizers with plate heat exchangers • Hygienic Pasteurizers with Shell & Tube Heat Exchangers • Cheese and Whey Systems • UHT - Sterilization Systems • CIP Systems • Hygienic Storage and Process Tanks • Homogenizers • Standardization Systems • Evaporators • Turn-key Projects



FLUID TRANSFER PRODUCTS

- Lobe Pumps • Hygienic Centrifuge Pumps • Turbo / Roots / Centrifuge Blowers • Drum Pumps • Acid Pumps • Dosing Pumps • Monopumps • Air Operated Double Diaphragm Pumps (AODD)



FLOW CONTROL UNITS

- Butterfly Valves • Ball Valves • Globe Valves • Knife Gate Valves • Actuators • Check Valves • Strainers • Thermoplastic Valves • Plastomatic Valves



ENERGY SYSTEMS

- Boiler Systems • Solar Collectors • Water Heater Tanks For Solar

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GENERAL INFORMATION



Read and understand operation and service guide before commissioning.

General Information

1. Check chemical chart to match the suitable material of the pump to the liquid you wish to pump. When selecting a pump, please take into account of criteria such as capacity, head, temperature, viscosity, liquid, solid size and chemical resistance before ordering.
2. Check power, voltage, fitting conditions, electrical connections and working conditions before commissioning.
3. 1"(25mm) discharge size is standard hose barb. 3/4" (22mm) and 1 1/4"(31.75mm) size are special size.

Upon Receiving

1. Please check if pump model on the name plate corresponds to your order.
2. Check motor and pump for any damages upon receiving.
3. Make sure motor and pump has been fully installed and all connections and pipes have been connected.

OPERATING INSTRUCTIONS

1. Set the switch "OFF" position before installation of motor and pump.
2. Make sure hand wheel and all connections are securely fastened.
3. Wear on eyes and hearing protection before operating.
4. Make sure air supply line clean.
5. Do not store pump in a humid and corrosive environment.
6. Do not use combustible gases to drive this motor.
7. Handle motor and pump with care.
8. Make sure the voltage is connected according to correct electrical specification.
9. Do not run the air motor at high speeds with no load. This will result in excessive internal heat that cause air motor damage.
10. Install pressure regulator or simple shut-off valve to regulate the air motor's speed and torque, and turn on from low to high until request.
11. Install air filter, regulator for HD-A series air line that closed air motor.
12. The maximum particle size must not exceed 3 mm. Please install strainer for size over 3mm.
13. Turn on the air or power only after pump and pipes are in place.
14. Always start the air from low to high to extend the life time of the pump.
15. Motor is equipped with overload protection switch to allow dry running.

16. Do not leave pump unattended during operation.
17. With viscosity fluid up to 800 CPS and up to 1200 CBS, please use the high pressure model. Use high viscosity screw pump or air operated double-diaphragm pump for transferring high viscosity fluids.
18. If strange noise occurs, please turn off the motor first and check the troubleshooting in operating book.
19. For safety, please properly bond and ground when hand li g solvent or flammable fluids.
20. Make sure pump and motor is properly and securely taste , or otherwise, could result in serious damage to the couplings.
21. Never submerge motor in liquid or SRLash motor with liquid.

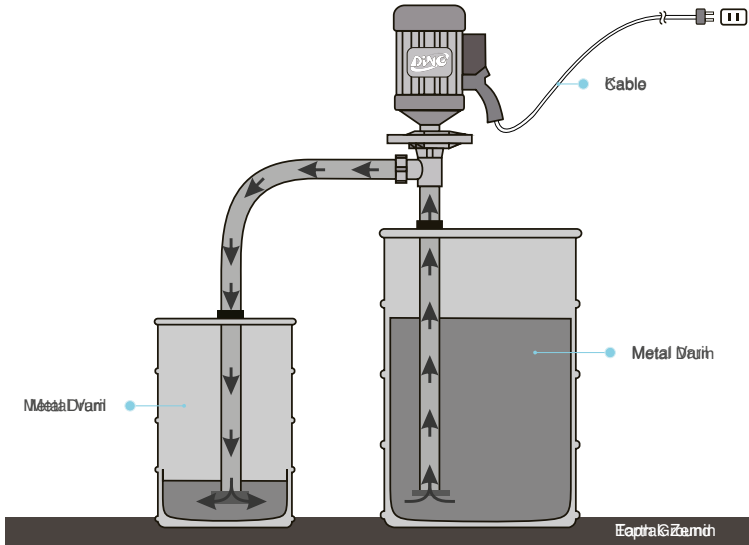
SUGGESTED INSTALLATION



For safety, please properly bond and ground when handling solvent or flammable fluids as a static electric discharge could result in fire, explosion, injury or death. Do not start the pump in case of any doubt, and contact with Ekin Endüstriyel.

Motor: Variable Speed Control Motor

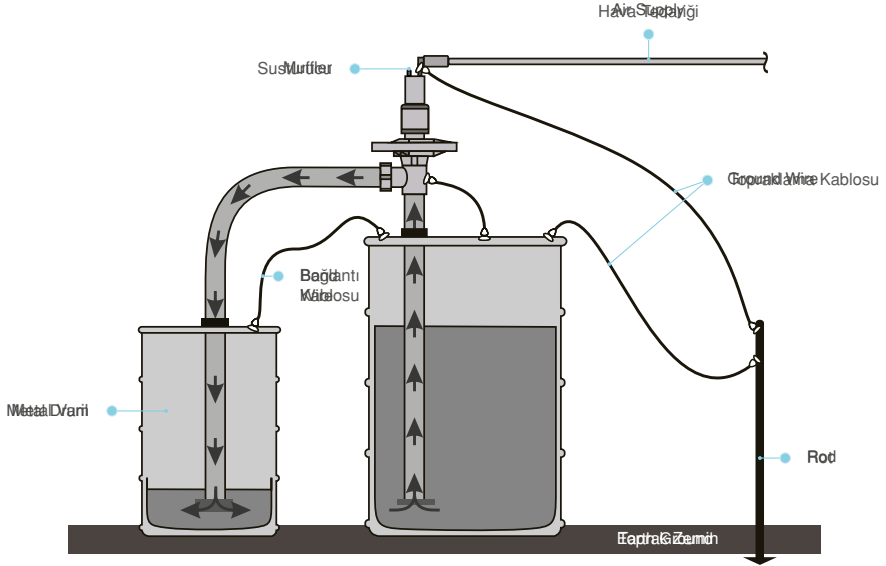
Pump Tube: HD-PPHT



Do not pump corrosive, flammable or explosive liquids.

Motor: Air Motor

Pump Tube: HD-SS



For pumping corrosive, flammable or explosive liquids.

COMMON APPLICATIONS

Ekin Endüstriyel Served

Automotive industry, chemical industry, electronic industry, food, beverages, waste water treatment, semi-conductor, refineries, pharmaceutical industry, agriculture, cosmetics, construction industry, pulp / paper industry, mining, ship industry, textile industry, paint and coating, plating, LCD industry.

Applications

Container Type	Model	Length
5GAL Bottles	HD-material 700	700 mm (27")
55GAL Drums (200 lt)	HD-material 1000	1000 mm (39")
Barrels & Tanks	HD-material 1200	1200 mm (47")
IBC's	HD-material 1500	1500 mm (60")
Large Storage Vessels	HD-material 1800	1800mm (72")

Common Applications

Material	Max. Temp	Common Applications
PPHT (Polypropylene)	80 °C / 175 °F	<ul style="list-style-type: none"> • Acetic Acid • Sulfuric Acid • Hydrochloric - 20% • Nitric Acid - 20% • Alkalies • Ferric Chloride
PVDF	100 °C / 212 °F	<ul style="list-style-type: none"> • Concentrated Nitric Acid • Sulfuric Acid-66 Baume • Sodium Hypochlorite • Propionic Acid • Stearic Acid • Hydrofluoric Acid
SS	100 °C / 212 °F	<ul style="list-style-type: none"> • Alcohol • Gasoline • Aqueous Ammonia • Isopropyl Ether • Solvents • Petroleum Products



For safety, please properly bond and ground when handling solvent or flammable fluids.

MODEL NUMBER KEY

Example

HD-SS1000 (High volume / Material: SS316)

HD-SS1000-HP (High pressure / Material: SS316)

HD-SS1000-HV (High viscosity / Material: SS316)

HD	-	SS	1000	-	HV
↓		↓	↓		↓
Dino Pumps		Material	Length		Model
		-SS	-700: 700 mm (27")		-HV: High Viscosity
		-PVDF	-1000: 1000 mm (39")		-HP: High Pressure
		-PPHT	-1200: 1200 mm (47")		
			-1500: 1500 mm (60")		
			-1800: 1800 mm (72")		



Motor Model Number Key

HD Dino Pumps	-	E <u>Model</u> E: Electric Motor 450 W	1-V <u>Voltage</u> 1-V: 1 Ø 110V 2-V: 1 Ø 220V	US <u>Plug</u> -US: -UK: -EU:
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HD Dino Pumps	-	A <u>Model</u> A: Air Motor	1 <u>Horsepower</u> 1. 420 W 2. 560 W
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Contact Ekin Endüstriyel in case of any doubt. **444 35 46 (EKİN)**

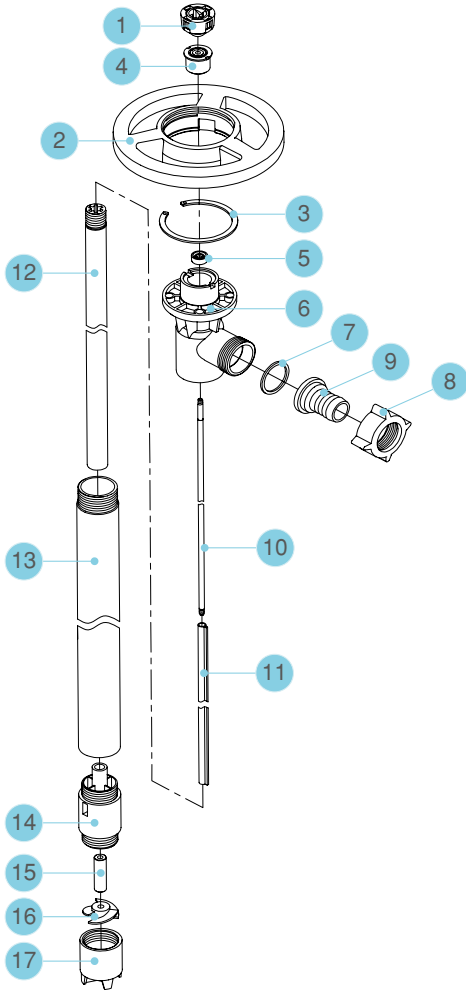
PUMP SERIES

Polypropylene Series

HD - PPHT Pump Series

Model	Length	Material	Shaft	Impeller
HD-PPHT700	700 mm (27")	Polypropylene	Hastelloy	High Volume
HD-PPHT1000	1000 mm (39")			
HD-PPHT1200	1200 mm (47")			
HD-PPHT1500	1500 mm (60")			
HD-PPHT1800	1800 mm (72")			
HD-PPHT700-HP	700 mm (27")	Polypropylene	Hastelloy	High Pressure
HD-PPHT1000-HP	1000 mm (39")			
HD-PPHT1200-HP	1200 mm (47")			
HD-PPHT1500-HP	1500 mm (60")			
HD-PPHT1800-HP	1800 mm (72")			

Max. Temperature	75 °F / 80 °C
Discharge Options	3/4" (22 mm) Hose Barb
	1" (25 mm) Hose Barb
	1 1/4" (31 mm) Hose Barb
Max. Viscosity	1,000cps (HD-E)
	700cps (HD-A1)
	1,200cps (H D-A2)



Item No	Description	Part No		
1	Pump Coupling	610-804		
2	Hand Wheel	618-842		
3	Snap Ring	615-808		
4	Bearing Unit Assembled	610-838		
5	V-seal (Viton)	640-800		
6	Discharge Housing (PP)	660-828		
7	O-Ring (PTFE)	621-895		
8	Wing Nut (PP)	661-806		
9	Hose Barb (PP)	3/4" (22 mm)	660-851	
		1" (25 mm)	660-882	
		1 1/4" (31.75 mm)	660-883	
10	Shaft (Hastelloy)	700 mm (27")	615-843	
		1000 mm (39")	615-844	
		1200 mm (47")	615-845	
		1500 mm (60")	615-846	
		1800 mm (72")	615-847	
11	Guide Sleeve (PTFE)	700 mm (27")	615-814	
		1000 mm (39")	615-815	
		1200 mm (47")	615-816	
		1500 mm (60")	615-817	
		1800 mm (72")	615-818	
12	Inner Tube (PP)	700 mm (27")	666-800	
		1000 mm (39")	666-801	
		1200 mm (47")	666-802	
		1500 mm (60")	666-815	
13	Outer Tube (PP)	700 mm (27")	666-804	
		1000 mm (39")	666-803	
		1200 mm (47")	666-805	
		1500 mm (60")	666-817	
		1800 mm (72")	666-818	
		14	Pump Housing (PP)	665-824
		15	Shaft Bushing (Rulon)	616-806-R
		16	Impeller (PVDF)	646-808
High Pressure Impeller (PVDF)	646-808HH			
17	Pump Foot (PP)	666-809		



Carbon shaft bushing is available for request.

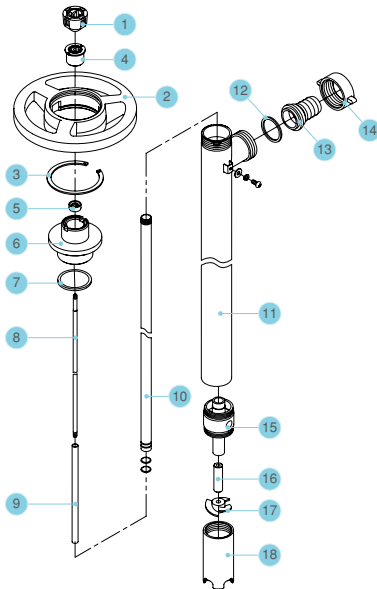


316 Stainless Steel Series

HD - SS Pump Series

Model	Length	Material	Shaft	Impeller
HD-8S700	700 mm (27")	SUS 316	Stainless 316	High Volume
HD-S81000	1000 mm (39")			
HD-S81200	1200 mm (47")			
HD-8S1500	1500 mm (60")			
HD-S81800	1800 mm (72")			
HD-S8700-HP	700 mm (27")	SUS 316	Stainless 316	High Pressure
HD-S81000-HP	1000 mm (39")			
HD-S81200-HP	1200 mm (47")			
HD-S81500-HP	1500 mm (60")			
HD-S81800-HP	1800 mm (72")			

Max. Temperature	212 °F / 100 °C
Discharge Options	3/4" (22 mm) Hose Barb
	1" (25 mm) Hose Barb
	1 1/4" (31 mm) Hose Barb
Max. Viscosity	1,000cps (HD-E)
	700cps (HD-A1)
	1,200cps (HD-A2)



Item No	Description	Part No	
1	Pump Coupling	610-804	
2	Hand Wheel	618-842	
3	Snap Ring	615-808	
4	Bearing Unit Assembled	610-838	
5	V-seal (Viton)	640-800	
6	Connection Flange (SUS316)	620-800	
7	Gasket (PTFE)	620-801	
8	Shaft (SUS316)	700 mm (27")	620-827
		1000 mm (39")	620-828
		1200 mm (47")	620-829
		1500 mm (60")	627-809
		1800 mm (72")	627-810
9	Guide Sleeve (PTFE)	700 mm (27")	620-831
		1000 mm (39")	627-815
		1200 mm (47")	820-832
		1500 mm (60")	827-811
		1800 mm (72")	627-812

Item No	Description	Part No
10	Inner Tube (SUS316)	700 mm (27") 627-803
		1000 mm (39") 627-805
		1200 mm (47") 627-807
		1500 mm (60") 627-816
		1800 mm (72") 627-817
11	Outer Tube (SUS316)	700 mm (27") 627-800
		1000 mm (39") 627-801
		1200 mm (47") 627-802
		1500 mm (60") 627-813
		1800 mm (72") 827-814
12	O-Ring (PTFE)	621-895

Item No	Description	Part No
13	Hose Barb (SUS316)	3/4" (19.05 mm) 621-897
		1" (25 mm) 621-896
		1 1/4" (31.75 mm) 621-898
14	Wing Nut (SUS316)	620-868
15	Pump Housing (SUS316)	627-804
16	Shaft Bushing (Rulon)	616-806-R
17	Impeller (PVDF)	627-806
	High Pressure Impeller (PVDF)	627-806HH
18	Pump Foot (SUS316)	627-808



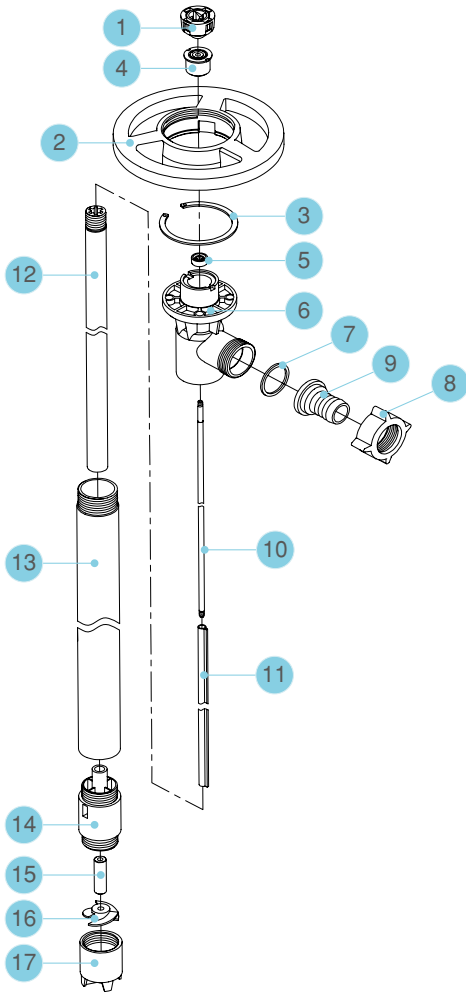
Carbon shaft bushing is available for request.

PVDF Serisi

HD - PVDF Pompa Serisi

Model	Length	Material	Shaft	Impeller
HD-PVDF700	700 mm (27")	PVDF	Hastelloy	High Volume
HD-PVDF1000	1000 mm (39")			
HD-PVDF1200	1200 mm (47")			
HD-PVDF1500	1500 mm (60")			
	1800 mm (72")			
HD-PVDF700-HP	700 mm (27")	PVDF	Hastelloy	High Pressure
HD-PVDF1000-HP	1000 mm (39")			
HD-PVDF1200-HP	1200 mm (47")			
HD-PVDF1500-HP	1500 mm (60")			
HD-PVDF1800-HP	1800 mm (72")			

Max. Temperature	212 °F / 100 °C
Discharge Options	3/4" (22 mm) Hose Barb
	1" (25 mm) Hose Barb
	1 1/4" (31.75 mm) Hose Barb
Max. Viscosity	1,000cps (HD-E)
	700cps (HD-A1)
	1,200cps (HD-A2)



Item No	Description	Part No	
1	Pump Coupling	610-804	
2	Hand Wheel	618-842	
3	Snap Ring	615-808	
4	Bearing Unit Assembled	610-838	
5	V-seal (Viton)	640-800	
6	Discharge Housing (PVDF)	640-728	
7	O-Ring (PTFE)	621-895	
8	Wing Nut (PVDF)	641-706	
9	Hose Barb	3/4" (22 mm), PTFE	640-752
		1" (25 mm), PVDF	640-882
		1 1/4" (31.75 mm), PTFE	640-753
10	Shaft (Hastelloy)	700 mm (27")	615-843
		1000 mm (39")	615-844
		1200 mm (47")	615-845
		1500 mm (60")	615-846
		1800 mm (72")	615-847
11	Guide Sleeve (PTFE)	700 mm (27")	615-814
		1000 mm (39")	615-815
		1200 mm (47")	615-816
		1500 mm (60")	615-817
		1800 mm (72")	615-818
12	Inner Tube (PVDF)	700 mm (27")	646-800
		1000 mm (39")	646-801
		1200 mm (47")	646-802
		1500 mm (60")	646-811
		1800 mm (72")	646-812
13	Outer Tube (PVDF)	700 mm (27")	646-804
		1000 mm (39")	646-803
		1200 mm (47")	646-805
		1500 mm (60")	646-813
		1800 mm (72")	646-814
14	Pump Housing (PVDF)	646-807	
15	Shaft Bushing (Rulon)	616-806-R	
16	Impeller (PVDF)	646-808	
	High Pressure Impeller (PVDF)	646-808HH	
17	Pump Foot (PVDF)	646-809	



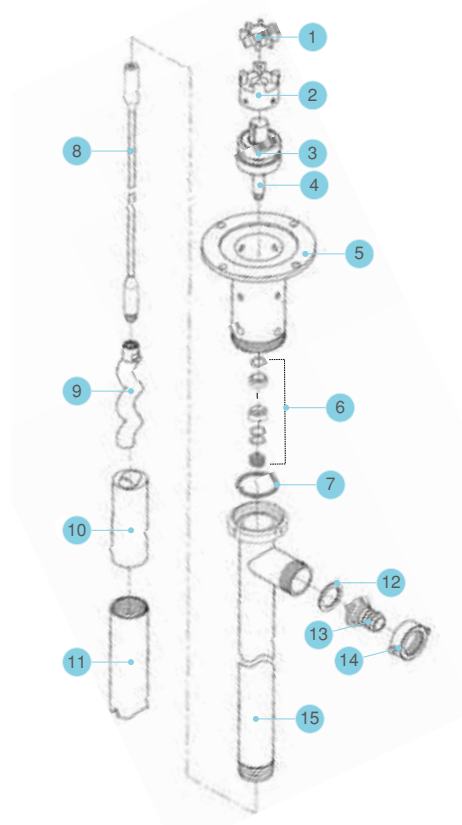
Carbon shaft bushing is available for request.

High Viscosity Screw Series

HD-HV High Viscosity Screw Pump Series

Model	Length	Material	Mech. Seal	Stator	Rotor
HD-SS1000-HV	1000 mm (39")	SUS 316	SIC	PTFE	SUS316

Max. Temperature	248 °F / 120 °C
Max. Pressure	10 bar
Discharge Options	1.08" (27.5 mm) Hose Barb Pressure
	1.3" (33 mm) Hose Barb
Max. Viscosity (Max. Air)	10,000cps (HD-A4)
	20,000cps (HD-A6)
	40,000cps (HD-A8)
	100,000cps (HD-A16)



Item No	Description	Part No	
1	Coupling Insert	607-845	
2	Motor / Pump Coupling	607-840	
3	Bearing (2 required)	607-855	
4	Bearing Shaft	607-850	
5	Bearing Housing (SUS316)	607-854	
6	Mechanical Seal, SIC	607-803	
7	Gasket (PTFE)	607-838	
8	Shaft (SUS316)	1000 mm (39") 607-805	
9	Rotor (SUS316)	607-809	
10	Stator (PTFE)	607-820	
11	Stator Tube (SUS316)	607-875	
12	O-Ring (PTFE)	607-830	
13	Hose Barb	(SUS316)	
		1.08"(27.5 mm)	607-828
		1.3"(33 mm)	607-829
14	Wing Nut (SUS316)	607-827	
15	Outer Tube	(SUS316)	
		1000 mm (39")	607-871

MOTOR SERIES

Electric Motor Series

HD-E Variable Speed Control Motor Series

Model	Power
HD-E1-V	110 V / 1 ϕ / 50-60 Hz / 485 W
HD-E2-V	220 V / 1 ϕ / 50-60 Hz / 485 W

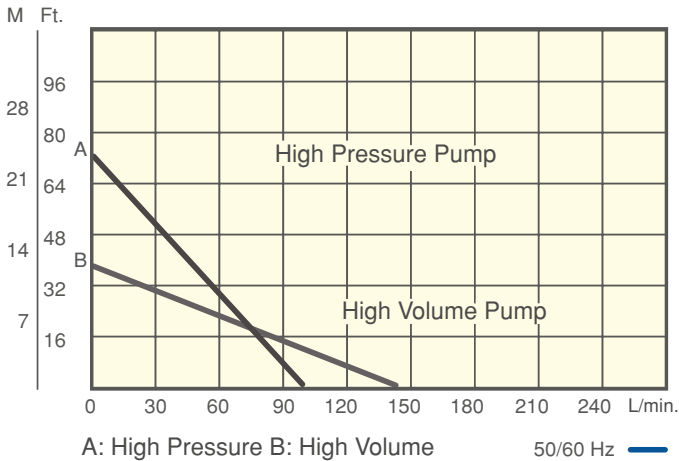
Max. Viscosity	1,000cps
Weight	4.2 kg (After package)
Max. RPM	20,000rpm (No-load)
Plug	USA, Euro, UK



Do not pump flammable or explosive fluids.

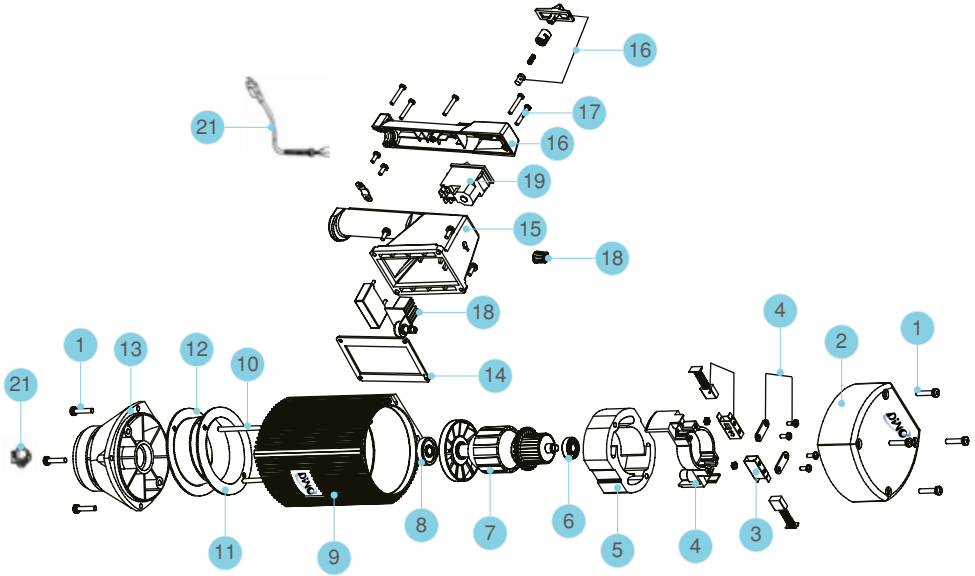


If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or Ekin Endüstriyel.



Test Conditions

- A: HD-SS10QQ.HP tube. B: HD-SS1000 tube.
- Pump tested in 25 °C water, 500 lt container with 1" discharge
- Performance curves may vary $\pm 10\%$ based on applications
- Max. head is obtained by closing outlet.



Item No	Description	Part No	
1	Screw For Plastic Housing (8 Required)	681-830	
2	Motor Cover	680-800	
3	Carbon Brush 110 V / 220 V	685-809	
4	Brush Holder	685-808	
5	Stator	110 V	685-803
		220 V	687-802
6	Ball Bearing (609-2RU)	683-831	
7	Armature	110 V	685-802
		220 V	687-801
8	Ball Bearing (6000-2RUP)	681-826	
9	Motor Housing (Plastic)	685-810	
10	Rod Connector	685-806	
11	Gasket	685-804	
12	Guide Disc	685-804-1	

Item No	Description	Part No	
13	Lower Housing	681-800	
14	Gasket, Switch Housing	681-867	
15	Switch Housing	680-801	
16	Switch Cover With Pull Rod	680-802	
17	Screw (5 Required)	682-820	
18	Variable Speed Controller (Includes Knob)	110V	680-804
		220V	680-805
19	Overload Switch 110 / 220V	687-804	
20	Power Wire Relief & Plug	USA	683-860
		Euro	683-860-EU
		UK	683-860-UK
21	Motor Coupling	683-833	



Air Motor Series

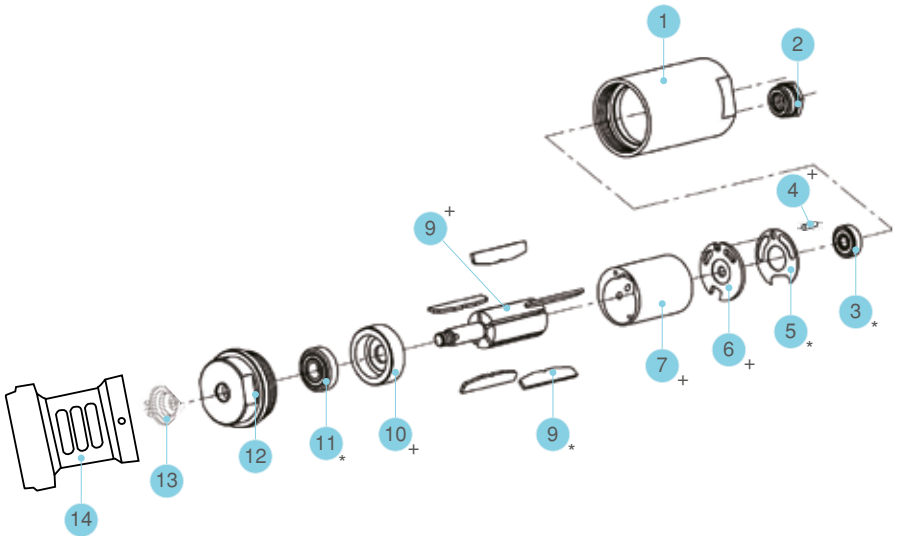
HD-A1 Oil Free Motor

Casing	Aluminum (Chromium)
Max. Inlet Air Pressure	87psi (6 Bar)
Air Consumption	0.55 Nm ³ /min@6 kg/cm ²
Joint (Air)	1/4"
Accessory	Muffler / Air Regulator

Max. Viscosity	700cps
RPM	15,000 (5 Bar Air Pressure)
RPM	16,000 (6 Bar Air Pressure)
Horsepower	420 W (0.56HP)
Weight	1 kg (After Package)



Please install the air filter for reduce moisture from the compressed air supply.

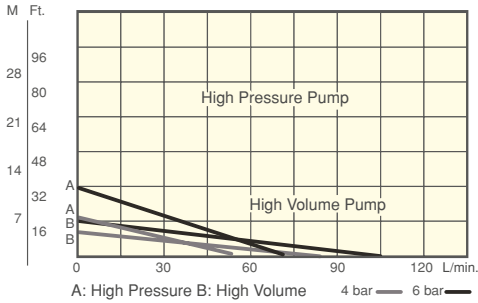


Item No	Description	Part No
1	Housing	101-201
2	Muffler	101-301
3 *	Ball Bearing	101-401
4 +	Pin	101-501
5 *	Gasket	101-601
6 +	Rear Plate	101-701
7 +	Cylinder	101-801

Item No	Description	Part No
8 *	Blade (5 required)	101-905
9 +	Rotor	101-100
10 +	End Plate	101-110
11 *	Ball Bearing	101-120
12	End Cap	101-130
13	Motor Coupling	683-833
14	Base	690-607



* These parts are included in air repair kit 101.811 which may only be purchased as a kit.
 + These parts are included in rotor repair kit 101.812 which may only be purchased as a kit.



Test Conditions

- A: with HD-S51000-HP tube.
B: with HD SS1000 tube.
- Pump tested in 25 °C water, 500 lt container, with 1" discharge.
- Performance curves may vary ±10% based on applications.
- Max. head is obtained by closing outlet.

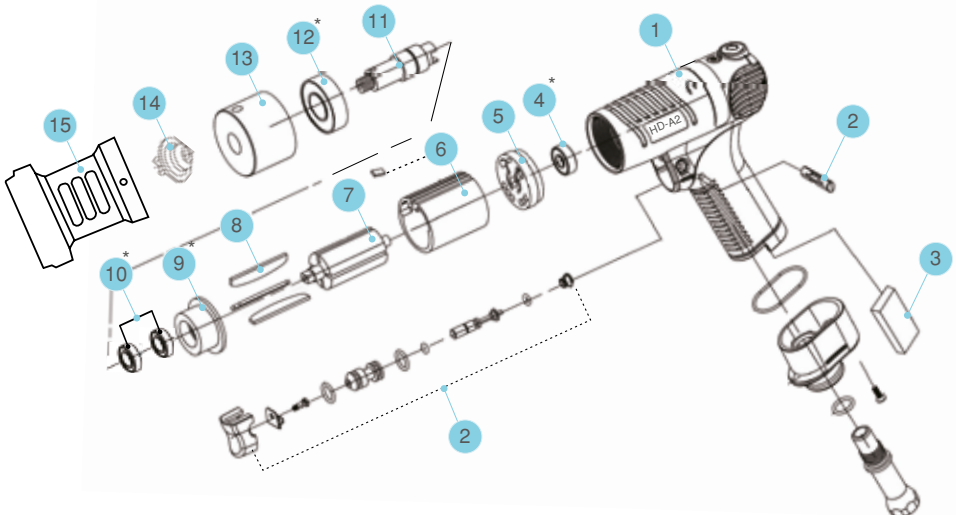
HD-A2 Oil Free Air Motor

Casing	Aluminum (Epoxy)
Max. Inlet Air Pressure	87psi (6 Bar)
Air Consumption	0.55N m³/min@6 kg/cm²
Joint (Air)	1/4"
Max. Viscosity	1200cps

RPM	15,000 (5 Bar Air Pressure)
RPM	18,000 (6 Bar Air Pressure)
Horsepower	560w (0. 75HP)
Weight	1.2kg (After Package)



Please install the air filter for reduce moisture from the compressed air supply.



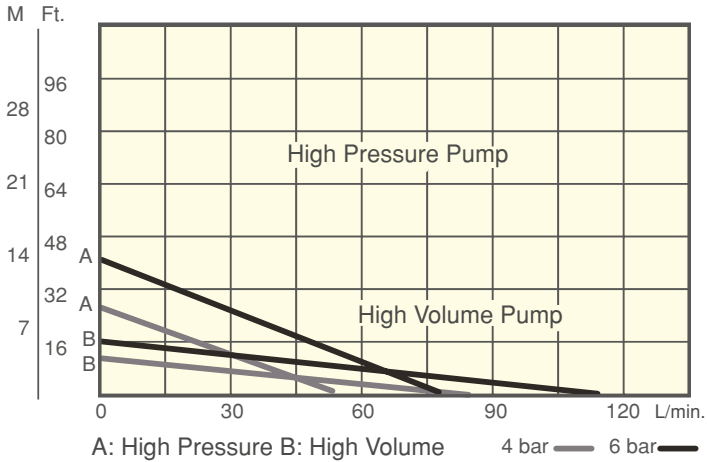


Item No	Description	Part No
1	Motor Housing	201-101
2	Trigger Assembly	202-216
3	Muffler	203-301
4 *	Ball Bearing	209-902
5	Front Plate	205-501
6	Stator	206-602
7	Rotor	207-701
8 *	Vane (6 Required)	211-113

Item No	Description	Part No
9	Rear Plate	209-901
10 *	Bearing (2 Required)	210-101
11	Shaft	212-121
12 *	Bearing	213-131
13	Front Housing	214-141
14	Motor Coupling	683-833
15	Base	690-607



*These parts are included in air repair kit 201.821 which may only be purchased as a kit.



Test Conditions

- A: HD-SS10QQ.HP tube. B: HD-SS1000 tube.
- Pump tested in 25 °C water, 500 lt container with 1" discharge
- Performance curves may vary ±10% based on applications
- Max. head is obtained by closing outlet.

OPTIONAL EQUIPMENT

Barrel Adaptor

Part No	Description	Material
690-800	D43xOD59.7mm	SUS316
690-801	ID43xOD59.7mm	PP



Air Leaking Adaptor

Part No	Description	Material
690-801-A	ID43xOD59.7mm	PP+VT
690-800-A	ID43xOD59.7mm	SS+VT

Wall Bracket

Part No	Description	Material
690-806		SUS316



Transfer Hose

Part No	Description	Material
700-101	3/4" / 700 mm	PFA
700-102	1" / 1,000 mm	PFA
700-103	1" / 11,500 mm	PFA
700-104	1" / 2,000 mm	PFA
700-105	1" / 3,000 mm	PFA



Strainer

Part No	Description	Material
690-802	3/4" / 700 mm	SUS316
690-803	1" / 1,000 mm	PVDF
690-804	1" / 11,500 mm	PP+GF



Hanger

Part No	Description	Material
607-881		SUS304



Ground Wire

Part No	Description	Material
690-815	Each 150 cm length with clip	

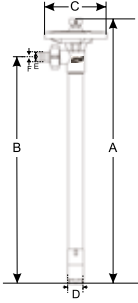


TROUBLESHOOTING

Malfunction	Possible Causes	Troubleshooting
Electronic motor fail to run.	Overcurrent / Motor burned.	Check and repair or replace.
	Power short circuit or plug falls out.	Check and reconnect.
	Bearing unit abrasion.	Check and replace.
	Stator worn due to erosion.	Check and replace.
	Bad power connection.	Check and repair or replace.
	Switch.	Check and replace.
	Unstable current / Motor overload.	Please install stabilizer or overload protector.
Pump suddenly stop in operating.	Electronic motor overheated.	Turn off the power and restart in 20 minutes.
	Fluid too viscous.	Check the viscosity for suitable pump.
	Pump clogged.	Check and remove blockage; install or change strainer.
	Air motor became slowly or stop.	Check the air supplier.
Pump rupture or deformed.	Liquid temperature too high.	Check temperature with suitable material and replace.
	Suction / Discharge line not properly stable and vibration.	Make the suction / discharge stability or replace.
In normal operating, but the flow rate is small in pumping.	Tube clogged.	Check and remove blockage from the bottom of tube; install or change strainer.
	Air pressure too low.	Check air supplier and regulator.
	Impeller damage or abrasion.	Check and replace.
	Connection not security tighten or damaged.	Check and repair or replace.
	Liquid should higher than pump foot 2 cm.	Check and replace drum.
	Vane of air motor abrasion.	Check and replace.
Excessive noise or vibration.	Connections not security tighten.	Check and repair.
	Motor / Pump coupling abrasion or damage.	Check and replace.
	Bearing unit abrasion.	Replace.
	Shaft / Guide sleeve abrasion.	Replace.
	Suction / Discharge line not properly stable and vibration.	Make the suction / discharge stability or replace.
	Shaft bushing abrasion.	Replace.
Fluid leaking.	Connections not security tighten.	Check and repair.
	Discharge leaking.	Check discharge O-ring and replace.
	Oil seal, shaft, bearing unit abrasion.	Replace.
Air motor fail.	No air supply.	Check and turn on the air regulator from low to high until request.
	Air pressure too low.	Check the air regulator.
	Overload cause vane damage.	Check and replace.
	Long operation cause vane abrasion.	Check and replace.

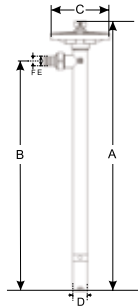
DIMENSIONS DRAWING

PPHT/ PVDF Tube



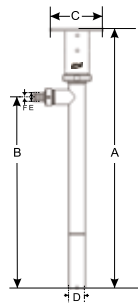
Length	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
700	810	700	170	41	19	27
1000	1100	1000	170	41	19	27
1200	1290	1200	170	41	19	27
1500	1590	1500	170	41	19	27
1800	1890	1800	170	41	19	27

SS Tube



Length	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
700	810	700	170	42	20	27
1000	1100	1000	170	42	20	27
1200	1300	1200	170	42	20	27
1500	1600	1500	170	42	20	27
1800	1900	1800	170	42	20	27

High Viscosity Tube



Length	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
700	1300	1025	1066	56	28	33



Dimensions may vary $\pm 10\%$ based on product. Please contact us if need more information. **444 35 46 (EKİN)**

CERTIFICATE OF WARRANTY



The Document's Confirmation Date And Number:

The use of this document has been authorized by T.C. Sanayi Ticaret Bakanlığı İl Müdürlüğü in accordance with the Law No. 4077 on the Protection of Consumers and the Communiqué on the Implementation of the Guarantee Certificate put into effect based on this Law.

WARRANTY CONDITIONS

1. Warranty period starts from the delivery date of the goods.
2. All parts of the goods are covered by our company's warranty.
3. In case of malfunction of the goods within the warranty period, the time spent in the repair is added to the warranty period. The repair period of the goods is maximum 30 working days. This period starts from the date of notification to the service station of the defect goods. In the absence of service station, this period starts from the date of notification to the seller, dealer, agent, representative, importer, or manufacturer of the goods.
4. In case of malfunction of the goods within the warranty period due to material, workmanship or assembly defects, the goods will be repaired at no cost and no additional cost will be asked from the buyer under the name of changed part price or any other name.
5. Malfunctions arising from the use of the product in contravention of the provisions in the user manual are not covered by the warranty.
6. For the problems that may arise in relation to the warranty certificate can be applied to the Sanayi ve Ticaret Bakanlığı Tüketicihin ve Rekabetin Korunması Genel Müdürlüğü.

For the product that was sold to LTD. ŞTİ. / AŞ / Legal Entity
on/...../20..... with stated model, brand and serial number, all kinds of
manufacturing and material defects are covered by the warranty of our company
for two years.

Brand: _____
Model: _____
Pump Serial Number: _____
Motor Serial Number: _____

SELLER _____ DEALER _____ END USER _____

PROFESSIONAL SYSTEM SOLUTION CENTER

From our MIT professional system solution center, you can get help with your problems with your pumps, heat exchangers and your system. Our solution center consisting of expert mechanical engineers will be happy to help you.

- Domestic hot water installations.
- Central and district heating systems.
- Milk, yoghurt, heating, cooling and pasteurization systems.
- Industrial cooling and heating systems.
- Oil cooling systems.
- Energy recovery systems.
- Pool heating systems.
- Steam installations.



+90 850 811 04 18

It is vital for your system to be designed and implemented correctly in the first installation in order to be able to operate at the desired capacity, smoothness and long life. For this reason, you can get first-hand the technical support you need during the installation phase of your system and the problems that may arise in the business; You can reach us **24 hours +90 (216) 232 24 12 in 7 days.**

We would like to reiterate that we will be happy to share our knowledge accumulated over many years with our valued customers in order for your system to work correctly and performance. Ekin will continue to be the best solution partner for you in all applications with all kinds of heating and cooling applications.

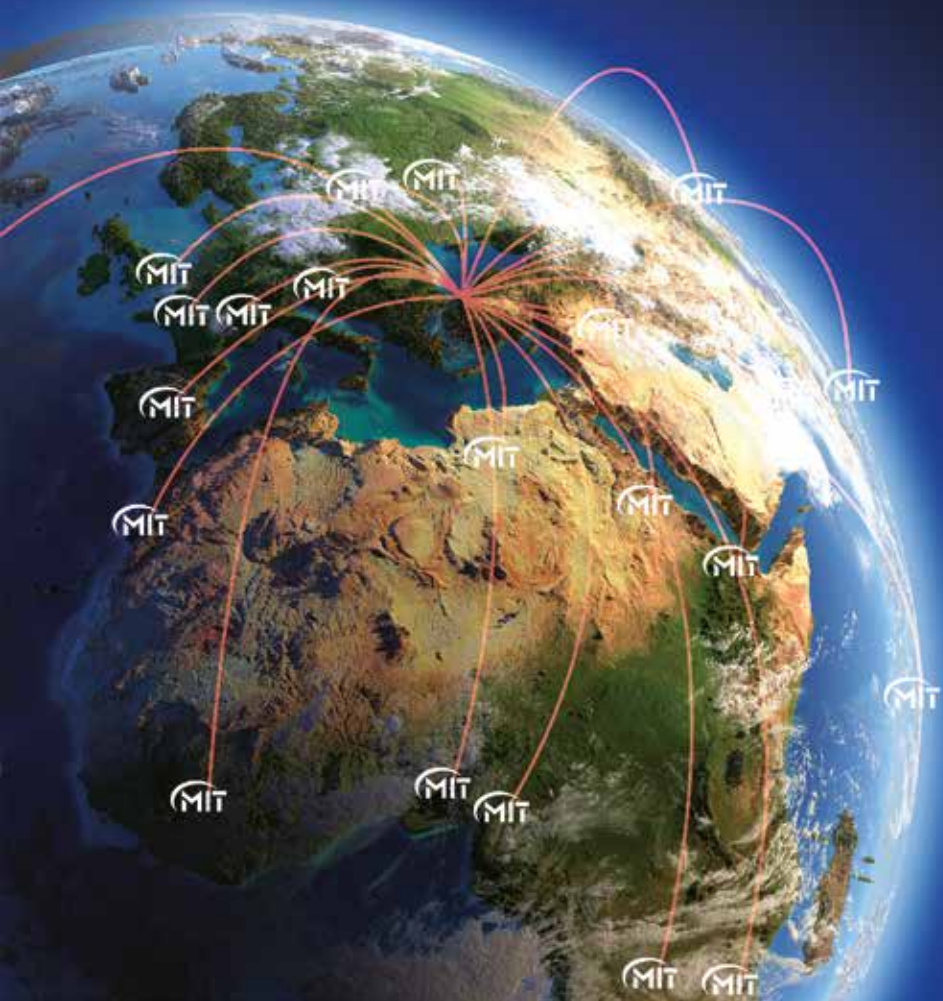


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Isıtma-Soğutma San. Tic. Ltd. Şti.

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