

OPERATOR'S MANUAL



3/8" Aluminum Alloy Advanced Coating Transport Set DSP03-AOBRF-03



➡ **OPERATION, INSTALLATION & MAINTENANCE**

➡ **PARTS LIST**

▲STOP▲

**READ THIS MANUAL CAREFULLY BEFORE INSTALLING, OPERATING, OR SERVICING
THIS EQUIPMENT TO AVOID UNNECESSARY LOSS.**

DYI SHENG INDUSTRY CO., LTD.

No.288, Ln. 58, Nanyang Rd., Fengyuan Dist., Taichung City 420087, Taiwan

TEL: +886-4-2524-1051 FAX: +886-4-2525-7046

E-mail: service@tdspump.com Website: <https://www.tdspump.com/>



INSTALLATION AND ASSEMBLY CONSIDERATIONS

- ◆ Connect the suction and discharge ports of the pump with hose or flexible pipe to avoid damage caused by vibration of the pump.
- ◆ Never step on the diaphragm pump or use other methods to apply weight to the pump body, or the pump body is suspended. Otherwise, there is a danger of personal injury or equipment failure.
- ◆ The suction head of inlet should be less than six meter (For water).
- ◆ When installing the pump, please consider absorb vibration and install it in an appropriate manner.
 - 〈 1 〉 Installation location—Horizontal installation to avoid installation in a slanted position.
 - 〈 2 〉 Installation orientation—When install the pump, please keep the fixing feet below.
 - 〈 3 〉 Installation method—When fixing the stand, please install a rubber gasket between to reduce the vibration and avoid the pump body, piping or connected machine to be damaged due to vibration.
- ◆ The direction of pipe (inlet and outlet) can be turned, but please pay attention to the O-ring when disassembling and installing it and locking pipe well to prevent leakage.
- ◆ The choice of piping should consider the appropriate pipe diameter, chemical resistance and pressure resistance, to avoid the possibility of liquid leakage and damage caused by wrong selection.
- ◆ When transportation, recommend to set the suction filter (the aperture can refer to the allowable particle size limit) and check the pipeline before use. Be sure that there must be no foreign objects entering the pipe, otherwise the pump will malfunction.
- ◆ Please consider the strength of the pipe. Avoid damage the pipe due to the pressure generated by the pump's conveying work.
- ◆ Please choose the caliber suitable of inlet tube, or larger caliber will cause the suction insufficient when you use the pump.
- ◆ Precautions for connection of high air pressure :
 - 〈 1 〉 Don't use too small caliber of tube for air inlet, or the pumping efficiency may be affected.
 - 〈 2 〉 We suggest that you can install the air filter、regulator and lubricator (FRL) on air inlet of pump. They can supply the cleanly air and lubricating oil.
 - 〈 3 〉 The supply air pressure used shall not exceed the maximum operating pressure of 8.0 Kg/cm² (Bar).
 - 〈 4 〉 Please choose the lubricating oil for cold-resistant and high pressure resistant.

PRECAUTIONS DURING OPERATION

- ◆ Please check up the installation if it's correct before start the pump. If the pump operated while the screw is loose, it will be a danger of personal injury and damage to the surrounding equipment.
- ◆ If the fluid is flammable chemical, we suggest linking the ground wire to avoid the fire accident or explosion and then make the damage to the people or others possibility.
- ◆ The pump should be placed on a stable site or firmly fixed on the work platform to avoid accidents caused by vibration.
- ◆ The piping at the suction end and the outlet end need to be fixed separately, and the connection between the pump and the piping should be locked without looseness.
- ◆ When starting the operation, the supplied air pressure should be gradually increased from the minimum starting pressure. After confirming that there is no abnormality in the operation of the pump, increase the pressure to the operating pressure value required.
- ◆ It is recommended not to idle or input excess air pressure for a long time to avoid shortening the service life of the parts. Adjust the appropriate air pressure input <recommended below 3.5 Kg/cm² (Bar)> to avoid excessive friction caused by friction between parts.
- ◆ It is recommended to adjust and fix the required air pressure input value when running. After confirming that the operation is normal, adjust the outlet switch valve to adjust the flow rate to the required value.
- ◆ When the pump is running and full of the fluid inside, if you close the outlet switch, and then pump will stop. This isn't danger, but we still suggest don't keep this state in a long time or don't have the overseer beside. Avoid making the loss or the danger unnecessary because of the fluid to leak. When you want to stop the pump working, you should close the supply of air、open the outlet switch and release the pressure remaining inside the pump and pipe.
- ◆ If you want to transfer the fluid which has precipitation or easy to solidify, you should transfer the

solvent to wash the pump inside after stop working. To avoid the pump from being unable to be transported normally or parts deformation and damage due to sedimentation or agglomeration at the next startup.

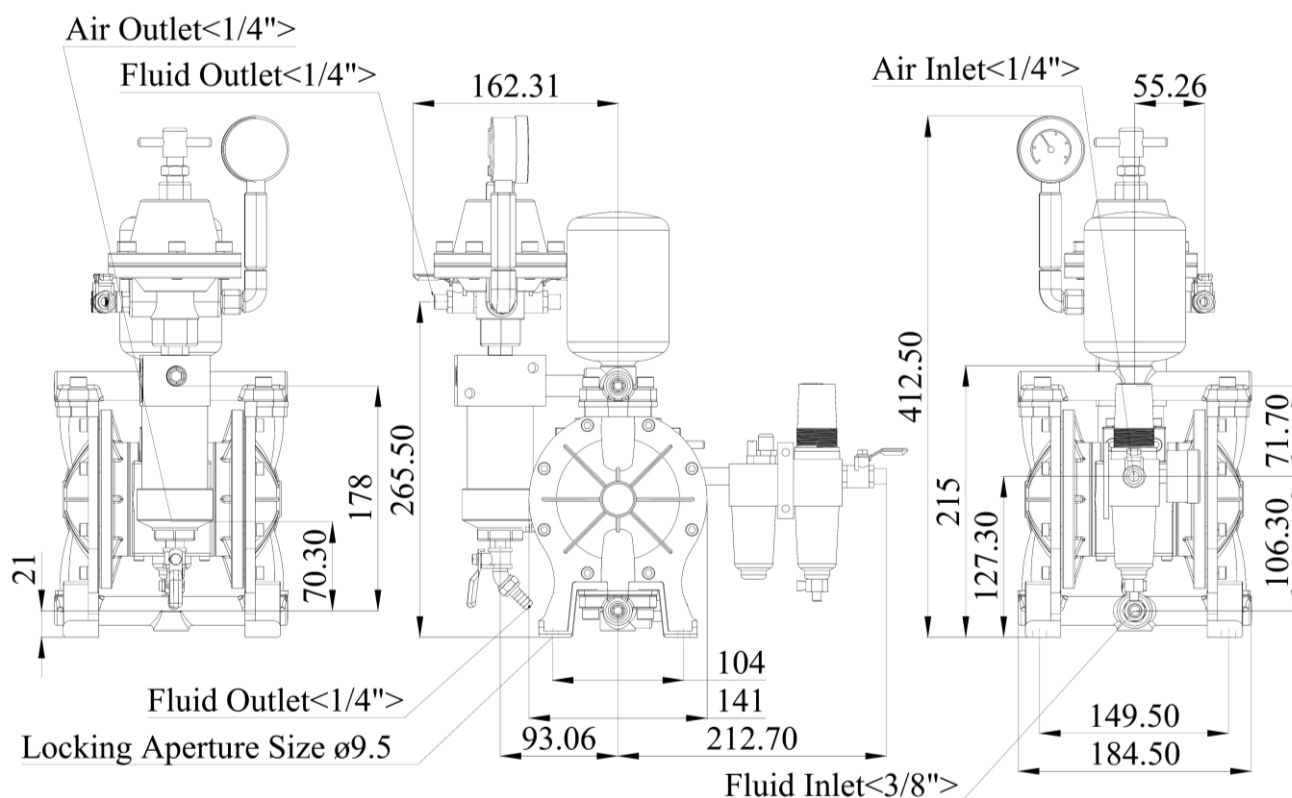
PRECAUTIONS DURING MAINTENANCE

- ◆ When the pump is in operation, it is absolutely impossible to perform maintenance, inspection and disassembly to avoid personal accidents caused by leakage or splashing.
- ◆ Before the maintenance, the supply of the air pressure source should be turned off, and the pressure inside the pump body and the pipeline should be completely released before inspection and disassembly.
- ◆ Please use the component produce from DYISHENG to service. Or it will be damage to other parts or reduce the efficiency.
- ◆ When locking the screws, refer to the specifications of the lock torque specifications of different specifications. If the screws are not locked or excessively applied, there may be problems such as leakage or cracking, which may cause an accident during the pump operation.
- ◆ Damages, accidents, and malfunctions caused by any of the above conditions are not covered by the company's warranty service.

PERIODIC INSPECTION

- ◆ Check the air filter at the air pressure input regularly to drain the accumulated waste water and impurities. If too much wastewater is introduced into the pump body, the wastewater and lubricating oil will emulsify and affect the lubrication of the parts, or block the pores, thereby affecting the operation performance of the pump or causing malfunction.
- ◆ O-rings, diaphragms, balls and ball seats are consumables. It is recommended to replace them in case of wear or over a certain period of use.
- ◆ The service life standard value of the diaphragm is 10 million reciprocating actions. The number of movements is not a guaranteed value. If the conveying fluid contains metal powder, chips, wear-resistant particles, etc., which will damage the impurities of the diaphragm, the life will be shortened.
- ◆ If the O.D. (About Ø12.7mm) of the ball less than 95% or deformation occurs. The tightness between the ball and the seat will be deteriorated. It should be replaced in time to avoid affecting the conveying efficiency.
- ◆ The ball seat and cover should be replaced if they are found to be worn or deformed. It is also recommended to replace them with the ball at the same time.

EXTERIOR SIZE — DSP03-AOBRF-03

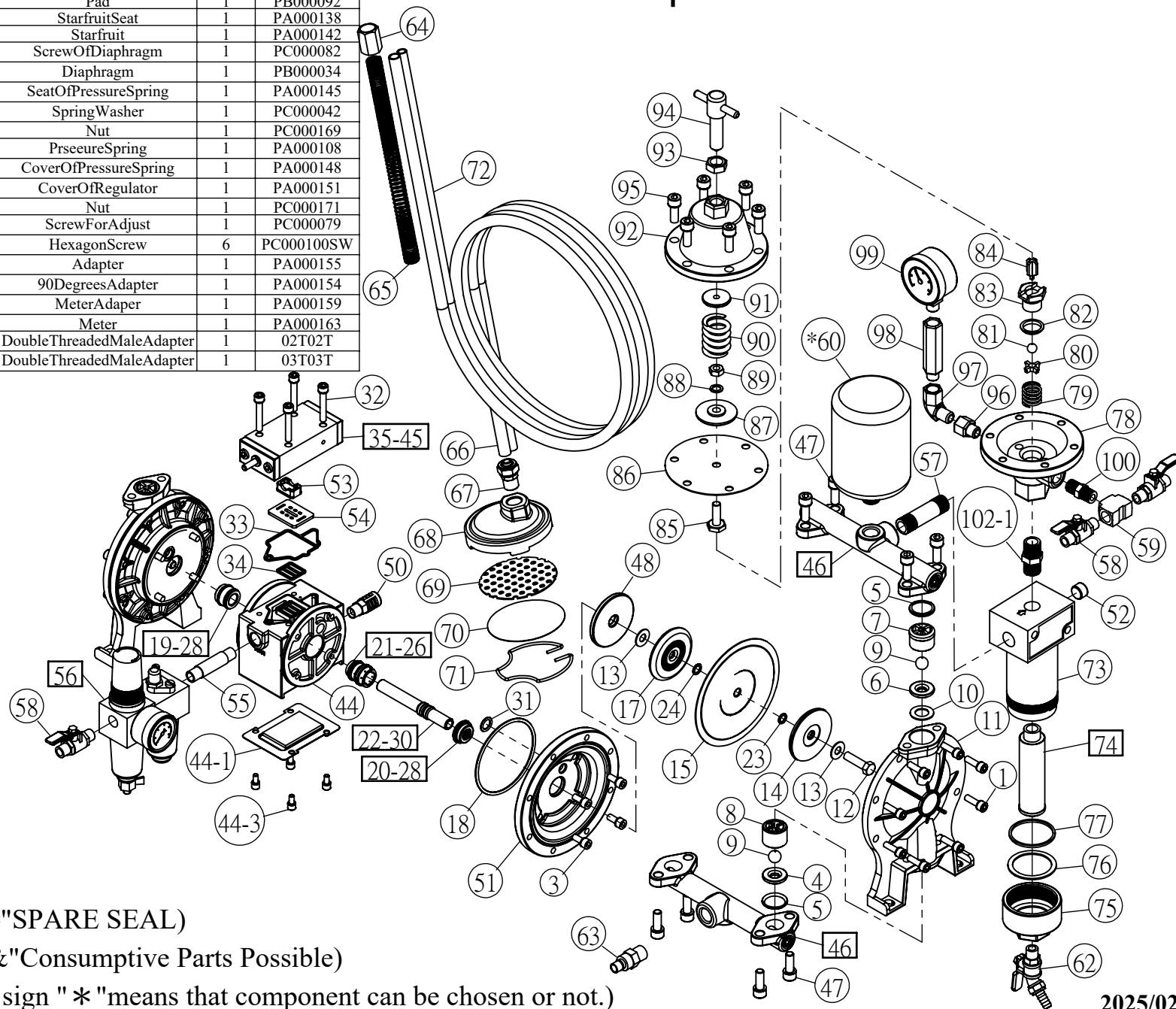


Unit : mm

No.	Component Name	Amount	ComponentNo.	No.	Component Name	Amount	ComponentNo.
1	HexagonScrew	16	PC000102SW	77	Oring	1	PB000104
3	HexagonScrew	8	PC000004SW	78	DownBaseOfRegulator	1	PA000132
&4	DownBallSeat(S303)	2	PA000009	&79	Spring	1	PA000107
#5	Oring	4	PB000108	80	SteelBallSeat	1	PA000135
&6	UpBallSeat(S303)	2	PA000009	&81	SteelBall	1	PA000005
&7	UpBallCover(E)	2	PB000158	&82	Pad	1	PB000092
&8	DownBallCover(E)	2	PB000159	&83	StarfruitSeat	1	PA000138
&9	Ball(S316)	4	PA000004	84	Starfruit	1	PA000142
#10	Pad	2	PB000006	85	ScrewOfDiaphragm	1	PC000082
11	Housing of Pump	2	PA000039	&86	Diaphragm	1	PB000034
12	SteelHexagonScrew	2	PC000176	87	SeatOfPressureSpring	1	PA000145
13	Steel Washer	4	PC000057	88	SpringWasher	1	PC000042
&14	Pad of Diaphragm	2	PA000059	89	Nut	1	PC000169
&15	Diaphram(U)	2	PB000029	90	PrseeureSpring	1	PA000108
&17	Pad of Diaphragm	2	PA000059	91	CoverOfPressureSpring	1	PA000148
#18	Oring	2	PD000011	92	CoverOfRegulator	1	PA000151
19-28	ShaftCover-A Set	1	A16-19-28	93	Nut	1	PC000171
20-28	ShaftCover-B Set	1	DS03-20-28	94	ScrewForAdjust	1	PC000079
21-26	AxisSwitch Set	1	DS03-21-26	95	HexagonScrew	6	PC000100SW
22-30	ShaftOfDiaphragm Set	1	DS03-22-30	96	Adapter	1	PA000155
#23	Pad	2	PB000001	97	90DegreesAdapter	1	PA000154
#24	Oring	2	PD000001	98	MeterAdaper	1	PA000159
#31	Oring	2	PD000006	&99	Meter	1	PA000163
32	HexagonScrew	4	PC000005SW	100	DoubleThreadedMaleAdapter	1	02T02T
#33	Abnormal Oring	1	PD000162	102-1	DoubleThreadedMaleAdapter	1	03T03T
#34	Abnormal Oring	1	PD000161				
35-45	Air-Valve Set	1	DS03-35-45				
44	BodyOfCylinderBase	1	PA000143N				
44-1	CoverOfCylinderBase	1	PA000359				
44-3	HexagonScrew	4	PC000114SW				
46	Pipe Set	2	PA000122T				
47	HexagonScrew	8	PC000100SW				
48	BufferPad	2	PD000056				
50	Silencer	1	PB000045				
51	AirPressureRoomOfPump	2	PA000172N				
52	HexagonBung	1	PC000413				
&53	SlitheryMassValve	1	PB000334				
&54	IncludePly	1	PB000072				
55	DoubleThreadedMaleAdapter	1	X102X2				
56	AirRegulatorValve	1	DS-ABC02				
57	DoubleThreadedMaleAdapter	1	X103X2				
&58	DoubleThreadedSwitch	3	PA000167				
59	ThreeWayBronzeTube	1	PA000258				
*60	PressureStorage	1	DS-00-O				
&62	45DegreesSwitch	1	PA000168				
63	AdapterOfFlexibleTube	1	PA000257				
64	AdapterOfProtectiveTube	1	PA000233				
65	SpringOfProtective Tube	1	PA000109				
66	FlexibleTube	1	PB000100				
67	SuckerAdapter	1	03T04N				
68	SuckerDisk	1	PA000240				
69	FilteringScreen	1	PB000110				
&70	FineFilteringScreen	1	PA000244				
71	RetainingRing	1	PA000170				
72	ReturnTube	1	PB000099				
73	BodyOfStrainer	1	PA000179				
&74	Filter Set	1	PA000177				
75	DownCoverOfStrainer	1	PA000175				
76	Pad	1	PB000167				

DSP03-AOBRF-03

Exploded View

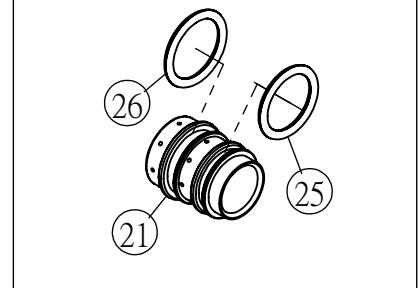


DSP03-AOBRF-03

Exploded View

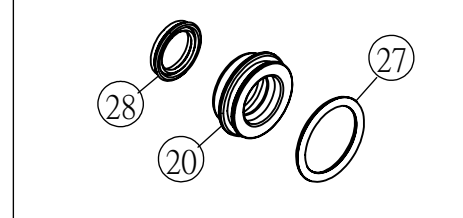
("#"SPARE SEAL)
("&"Consumptive Parts Possible)

21-26 AxisSwitch Set 1 DS03-21-26

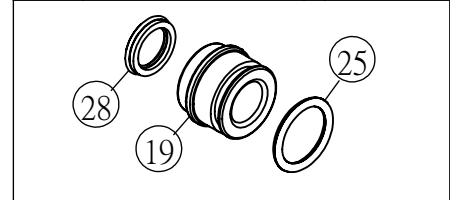


No.	Component Name	Amount	ComponentNo.
19	ShaftCover-A	1	PB000170
20	ShaftCover-B	1	PB000173N
21	AxisSwitch	1	PA000358
&22	ShaftOfDiaphragm	1	PA000357
#25	Oring	2	PD000023
#26	Oring	1	PD000050
#27	Oring	1	PD000054
#28	U-type Oring	2	PDAP0012
#29	Oring	2	PD000057
#30	Teflon Oring	2	PB000224

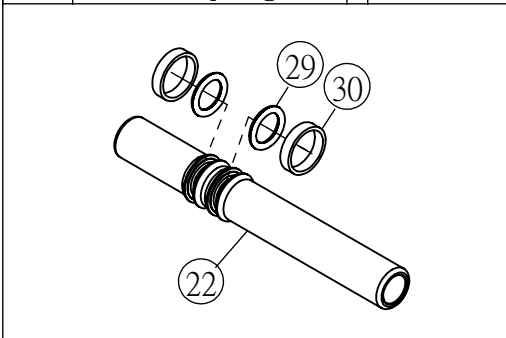
20-28 ShaftCover-B Set 1 DS03-20-28



19-28 ShaftCover-A Set 1 A16-19-28



22-30 ShaftOfDiaphragm Set 1 DS03-22-30



35-45 Air-Valve Set 1 DS03-35-45

No.	Component Name	Amount	ComponentNo.
&35	BodyOfSequential	1	PA000102N
&36	PistonOfAirValve	1	PA000141
#37	U-type Oring	1	PDAP0023
#38	U-type Oring	2	PDR00016
&39	StartingCopperLatch	1	PA000112
40	CoverOfSequential-A	1	PD000080
41	CoverOfSequential-B	1	PB000021
#42	Oring	1	PD000035
43	HousingOfSequential	2	PA000117
45	HexagonScrew	4	PC000004SW

