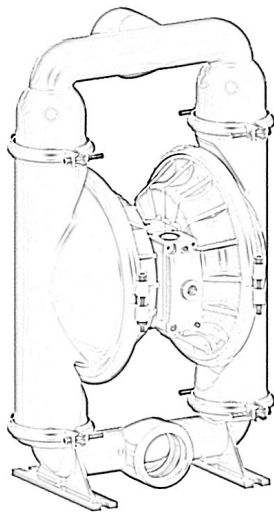
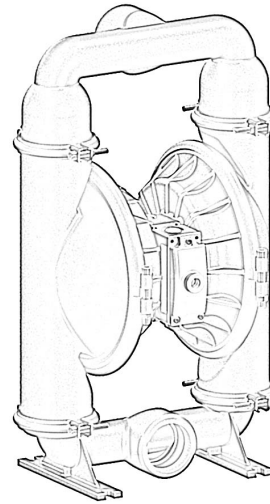


Operation and Maintenance Guide



SDP 75 AL N/B/S/H/V/T



SDP 75 CI N/B/S/H/V/T

SDP 75 Aluminum / Cast Iron Construction, All variants

Models	Descriptions
SDP 75 AL N/B/S/H/V/T	Aluminum with Neoprene, Buna N, Santoprene, Hytrel, Viton and PTFE fitments
SDP 75 CI N/B/S/H/V/T	Cast Iron with Neoprene, Buna N, Santoprene, Hytrel, Viton and PTFE fitments

Read this manual carefully before installing, operating or servicing this equipment. It's the responsibility of the employer to ensure this manual is read by the operator. Please preserve this manual.

This document is issued with Product Serial No

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Pump Nomenclature

XX	XX	XX	X	X	X
Air Valve Type	Pump Size	Material of Construction	Material of Diaphragm	Bolted or Clamped	Threading on Inlet and Outlet
DP - Classic ADP - Advanced SDP - MaxFlo	06 - 1/4"	AL - Aluminium	B - Nitrile N - Neoprene S - Santoprene T - PTFE V - Viton H - Hytrel	B - Bolted C - Clamped	R- NPT G - BSPT P - BSPP F - Flanged
	12 - 1/2"				
	15 - 1/2"	SS - Stainless Steel 316L			
	25 - 1"				
	40 - 1 - 1/2"	PP - Polypropylene			
	50 - 2 "	CI - Ductile Iron			
	75- 3"				
100 - 4"					

Operating and Safety Instructions

Warning: Static Electricity

Static sparks can cause explosion resulting in severe injury or death.

Ground the pump and the pump connections like hoses and containers into which or from the fluid is being transferred. Connect the grounding wire to any bolt on the pump.

Check continuity of electrical path to ground at regular intervals.

Consult local building and electrical codes for grounding requirements where needed.

Use hoses containing a grounding wire.

Warning: Pump Exhaust

In case of a diaphragm failure, fluid being pumped may spray out from the exhaust of the pump. This may cause severe injury depending on the fluid being pumped.

If the fluid is hazardous, pipe away the exhaust to a safe remote location using a generous diameter 3/4" pipe preferably with a grounding arrangement, and refit the muffler at the end of this arrangement.

Always wear safety glasses while in the vicinity

of an operating pump.

Warning: Overpressure / Hazardous Pressure

Do not exceed the max supply air pressure of 125 PSI.

Make sure all connected hoses and pipelines are rated to operate safely with the pressures generated by pump of 125 PSI.

Do not open or handle pump or hoses while pressurized.

Disconnect air supply line and relieve pressure from the system by carefully opening discharge and supply lines.

Warning: Hazardous Materials

Do not move a pump that contains hazardous fluids trapped inside it. Please observe prescribed handling and safety codes. Drain the pump safely, by turning it upside down and collecting the fluid safely, before moving the pump.

Warning :Explosion

Please check compatibility of fluids intended to be handled with the materials of construction of the pump. Severe reactions and explosions may occur if materials are incompatible. Caution: Chemical compatibility

Please check that the fluid being pumped is compatible with the wetted parts of the pump. Refer Cole Parmer compatibility (<http://www.coleparmer.in/Chemical-Resistance>) guide for details. Note that chemical compatibility may change with temperature; take this into account while selecting pump material.



Caution: Structural support

Please refer figure 1 and ensure that the piping system is independently supported and does not load the pump. The pumps are not designed to take the continuous and often pulsating load of a piping system. Important to use a flexible connection between rigid piping and pump casings.



Caution: Running dry, disconnection of hoses when not in use

Although these pumps can be run dry for long periods, it is advisable to avoid this as it causes unnecessary wear of wearing parts.



Caution: Operator understanding

Please ensure that all operators have read this manual and have the required understanding of safe working practices and are equipped with safety equipment when working on/ around the pump.



Caution: Using genuine teryair fittings & spares

Use genuine teryair parts to ensure correct pump operation and maximize life.



Warning Conditions for Certification

1. Control of Environmental humidity to minimize the generation of the static electricity.
2. Protection from direct airflow causing a charge transfer.
3. Touch with an insulating object to avoid electrostatic charge hazard.
4. Clean the surface with damp cloth only to avoid electrostatic charge hazard.

Operating Instructions

The Teryair Stroke diaphragm pump generates a alternate stroking of the diaphragms against the fluid in the liquid chambers of the Pump. This reciprocatory action is responsible for the fluid being pumped.







It is possible to control the output of the pump by controlling the supply air pressure.

It is also possible to control the output of the pump by throttling action on the fluid flowing in the outlet piping by means of a valve. if such a valve is shut completely the pressure in the discharge piping increases to a point when the pressure at pump discharge equals it and the pump comes to a stop. This causes no damage to the pump and the pump consumes no more energy.

Upon opening of the valve, the pump starts reciprocating once again and resumes fluid delivery.



Caution: Temperature limitations and diaphragm options

Neoprene		An excellent general-purpose diaphragm for use in non-aggressive applications such as water-based slurries, well water or sea water. Exhibits excellent flex life and low cost. Temperature range -18°C to +93°C (0°F to +20°F)
Nitile		Excellent for applications involving petroleum / oil-based fluids such as leaded gasolines, fuel oils, non-synthetic hydraulic oils, kerosene, turpentine and motor oils. Temperature range -12°C to +82°C (+10°F to +180°F)
Santoprene		Good abrasion resistance. Low cost. Can handle mild acids and alkalis well. Excellent low cost alternative to ptf. Excellent suction capabilities Excellent general purpose diaphragm. Temperature range -40°C to +107°C (-40F to +225°F)
Hytrel		Good abrasion resistance. Low cost. . Excellent suction capabilities Good general purpose diaphragm. Temperature range -29°C to +104°C (-20°F to +220°F)
Viton		Excellent for use in applications requiring extremely hot temperatures. May also be used with aggressive fluids such as aromatic or chlorinated hydrocarbons and highly aggressive acids. Especially where high suction lift is important. Temperature range -40°C to +175°C (-40°F to +350°F)
PTFE		Excellent choice when pumping highly aggressive fluids such as aromatic or chlorinated hydrocarbons, acids, caustics, ketones and acetates. Temperature range +4°C to +104°C (+40°F to +220°F)

Suggested Lubricants

Brand	Above 27 Deg C (From 5 Deg C to 27 Deg C	Below 5 Deg C
Shell	Toona R 72	Toona R 41	Toona R 27
Mobil	Almo 529	Almo 527	Almo 525
Esso	--- --	Arox EP 65	Arox EP 45
Caltex	Rando Oil 150	Rando Oil 100	Rando Oil 46
Texaco	Regal Oil F	Regal Oil PE	Regal Oil B
Daltron	Silkolene 881	Silkolene 548	Silkolene 773
Burmah Castrol	RD Oil 3	RD Oil Light	Megna SPX
BP	RD 220 HP60C	RD150 HP20C	RD80 HP10C
Duckham	Garnet 7	Garnet 6	Zero Flo 5
Sternol	Merlin 87	Merlin 71	Merlin 54
Petrofina	Purifoc 53	Purifoc 46	Purifoc 32
Chevron	Vistac Oil 18X	Vistac Oil 19X	Vistac Oil 9X

Suggested site selection and installation recommendations

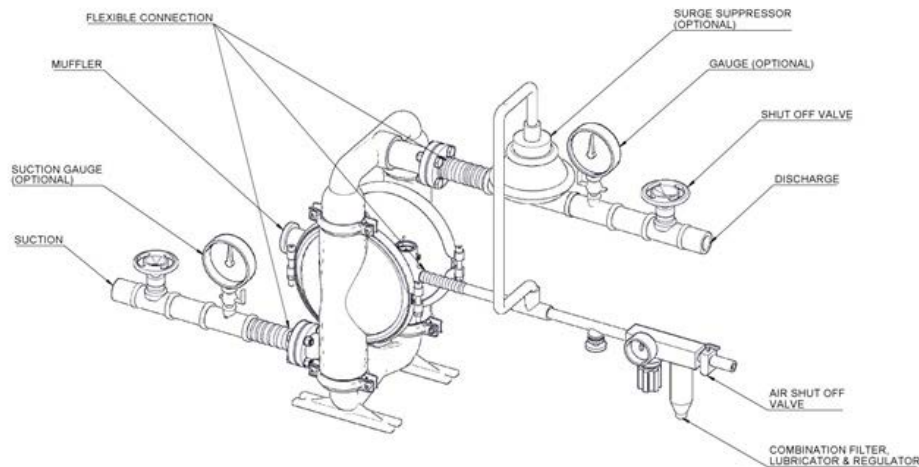


Figure 1

Location selection

Pump location must be easily accessible with reasonable space around for maintenance operations. Pump dimensional data for each variant is available in section showing exploded views

Air supply

Compressed air at 90 PSI (Stroke pumps can take a max of 125PSI), free from moisture and having an oil mist is essential. Use of a filter (50 microns), a lubricator and a regulator is highly recommended and should be installed as close as possible to the pump inlet. Ensure correct grade of oil is used in the lubricator bowl. Too thick oil may slow down the valve shifting mechanism and affect pump performance. See suggested lubricants below

Piping

see section on safety if used in hazardous area)
 See Figure 1.
 Suction side 3 inch or larger, non-collapsible
 Delivery side 3 inch or larger.
 A minimum number of bends and fittings to be used.
 A flexible connection between suction, delivery and air supply piping is highly recommended such that piping stresses and loads do not transfer to pump housing.
 Select piping materials such that chemical compatibility is

maintained with the fluid being pumped.

Suction

Ensure that the suction head after installation is well within the pumps suction capabilities

Muffler

Use of supplied muffler is recommended to bring pump operation sounds down to comfortable levels, in case of hazardous fluids handling, please read section of safety regarding piping away of exhaust see (Warning: Pump Exhaust) earlier in this manual.

Troubleshooting

Serial No	Description	Causes	Remedial Action
1	Pump stops and will not start	Insufficient Air Pressure	Check air pressure is as recommended at the pump air inlet
		Air Filter Blocked	Check if debris has clogged the inlet filter on the FRL unit/pump inlet air valve (some models have air filter on the air inlet valve) and ensure clear passage of air
		Internal damage or excessive wear on components	Proceed to dismantle the pump, examine component for wear, replace any worn components, re assemble carefully as instructed in this manual and re start the pump.
2	Pumps runs slowly, poor delivery	Cavitation	Check if cavitation is occurring in the suction side, if so reduce suction vacuum by slowing down the pump.
		Worn Balls and Seats	Check proper sealing action of balls against seals, these components need to be replaced as a set if they are worn.
		Insufficient or wrong lubricant in the air supply.	Ensure that the lubricant is as per the recommended chart, a thicker lubricant often makes the air valve work sluggishly
		Internal damage or excessive wear on components	Proceed to dismantle the pump, examine component for wear, replace any worn components, re assemble carefully as instructed in this manual and re start the pump.
3	Pump air valve freezes	Excessive moisture in supply air line.	Ensure that the dew point of the supplied air is low enough. Install a air dryer or moisture separator on the supply line
4	Air bubbles in pump discharge or product sprays out of exhaust vent	Broken Diaphragm	Proceed to dismantle the pump, examine component for wear, replace any worn components, re assembly carefully as instructed in this manual and re start the pump
		Improper seal between inner pistons, outer pistons and shaft.	
		Air leakage into product from balls / seats area	
		Air sucked into suction pipeline due to insufficiently tight joints on suction pipeline.	

Maintenance

Regular inspection and maintenance schedules will greatly enhance the life of the pump and will ensure a trouble free and safe working environment with little chance of breakdowns.

Follow the instructions clearly in “Disassembly and Reassembly” of the pump and in the troubleshooting section.

Use genuine Teryair spares and if possible mention the serial number of the pump when ordering spares.

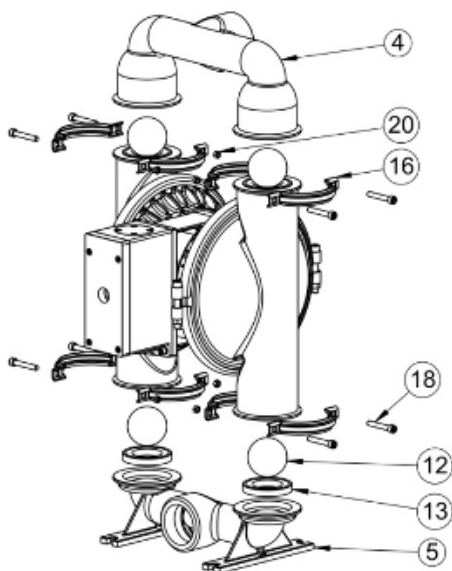
Always replace elastomers as a set, eg diaphragms, balls and seats.

Disassembly and Re assembly

- Shut off air supply and allow residual Pressure to bleed off.
- Disconnect air supply
- Disconnect suction and discharge piping
- Turn pump upside down allow process fluid to drain away. If fluid is hazardous due care should be taken.
- Make a mark to indicate the positioning of each liquid chamber relative to the housing.

NOTE: Replace worn parts with genuine TERYAIR parts for reliable performance.

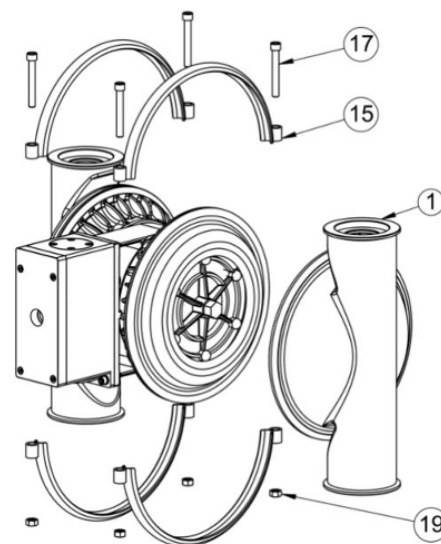
1. Replacement Of Diaphragms, Ball & Ball Seat.



- Unscrew both bolts (18) & nuts (20) as shown in the exploded view and proceed to remove the small clamp (16). Repeat for the other

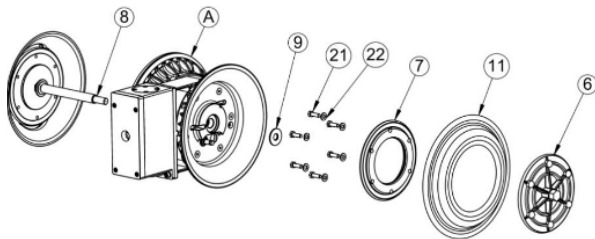
three small clamps. Remove the outlet (4), inlet (5) respectively & then replace the ball (12) & seal (13) with new one.

* For ALT series change the valve seal (13) & O-ring (13A) with new one.

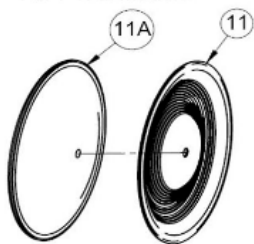


- Now unscrew socket head bolts (17) & nuts (19) of any one side and proceed to remove the big clamp (15). Now remove the outer chamber (1). Now repeat the same procedure to remove the second outer chamber (1).
- Now with the help of two spanner hold one of the across flat of one outer flange (6) and rotate the second outer flange (6) to disassemble it from the shaft (8) & spacer (9). Now open the screws (21) & washers (22) to separate the diaphragm (11) inner flange (7) & outer flange (6). Now pull out the shaft (8) out of the shaft housing assembly (A).
*For ALT series spanner hold one of the across flat of one outer flange (6) and rotate

the second outer flange (6) to disassemble it from the shaft (8) & spacer (9).to separate the diaphragm (11) inner flange (7) .Now pull out the shaft (8) out of the shaft housing assembly (A).



For PTFE Models



- d. For other side Diaphragm removal : Now hold the shaft (8) in a vice with proper packing. Care must be taken not to damage the shaft outer surface. Now remove the outer flange (6) with spanner to disassemble it from the shaft (8) & spacer (9). Now open the screws (21) & washers (22) to separate the diaphragm (11) inner flange (7) & outer flange (6).
*For ALT/SST series remove the outer flange (6) with spanner to separate the Backup diaphragm (11), & PTFE diaphragm (11A).
- e. Now replace the diaphragms (11). Ensure that diaphragm orientation is correct, i.e. For ALB/ALN/ALV the sticker side of the diaphragm (11) to be located in the outer chamber (1). Now assemble all parts in reverse manner (refer steps above d, c, b, & a) and remove the

half shaft assembly from vice.

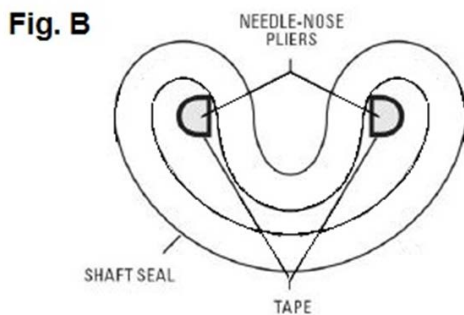
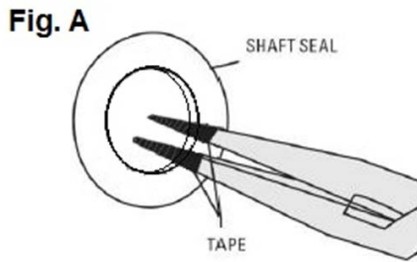
* Refer fig. A for ALT & SST model the convex side of outer ring PTFE diaphragm (11) to be located in outer chamber side. For the backup diaphragm (11A) the larger side of outer ring to be located in shaft housing (A) & small in the concave groove of PTFE diaphragm (A).

* For ALS/ ALH model AIR SIDE marking to be located toward the shaft housing (A).

- f. Lubricate the edge of the shaft with specified lubricant. Slowly insert the shaft with rotating motion. Care should be taken not to damage the O-Rings (14). (Refer Image of step “c”)
- g. Once the half shaft open portion comes out of the bush, follow the procedure in reverse manner as described in step (c),(b) & (a) and assemble the pump. (Refer Images of steps “c, b & a”)

2) Replacement Of Shaft O-Rings

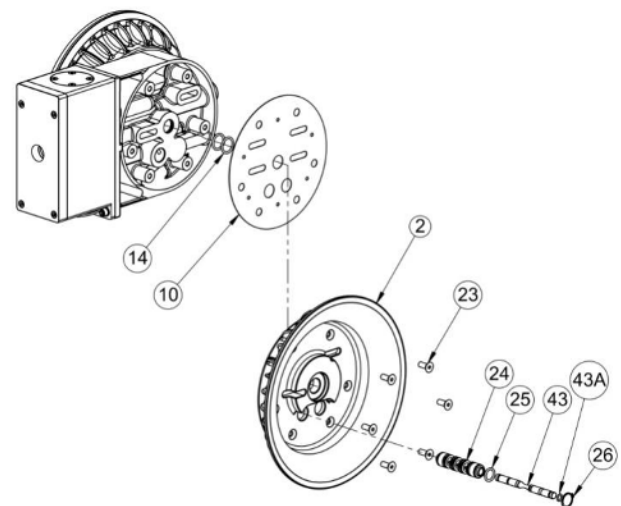
- a. For removing the rubber rings from bush, first follow the steps a, b c & d from the diaphragm replacement.
- b. Now remove the seals (14) with the help of needle Nose pliers. Care should be taken not to damage the inner face of bush.
- c. Once all the old seals are have been removed, the inside of the bushing should be cleaned to ensure no debris is left that may damage to new seals (Pressurized air is preferable).
- d. These following tools can be used to aid in the installation of new seals:
 - Needle Nose pliers
 - Phillips Screwdriver
 - Electrical Tape



- e. Wrap electrical tape around each leg of the needle nose pliers (heat shrink may also be used) . This is done to prevent damaging the inside portion of the new seals.
- f. With a new seal in hand, place the two legs of the nose pliers inside the seal ring. Open the pliers as wide as the seal diameter will allow, then two fingers pull down on the top portion of the seal to form kidney bean shape. (Refer Fig. A)
- g. Lightly clamp the pliers together to hold the seal into the kidney shape. Be sure to pull the seal into as tight of a kidney shape as possible, this will allow the seal to travel down the bushing bore easier. (Refer Fig. B)
- h. With the seal clamped in the pliers, insert the seal into the bushing bore and position the bottom of the seal into the correct groove. Once the bottom of the seal is seated in the groove, release the clamp pressure on the pliers. This will allow the seal to partially snap back to its original shape.

- i. After the pliers are removed, you will notice a slight bump in the seal shape. Before the seal can be properly re-sized, the bump in the seal should be removed as much as possible. This can be done with either the Phillips screw driver or your finger, apply light pressure to the peak of the bump. This pressure will cause the bump to be almost completely eliminated.
- j. Lubricate the edge of the shaft with specified lubricant.
- k. Slowly insert the shaft with rotating motion. This will complete the re-sizing of the seals.
- l. Perform these steps for the remaining seals.

3. Replacement Of Secondary Shaft Assembly & Centre Piece Gasket

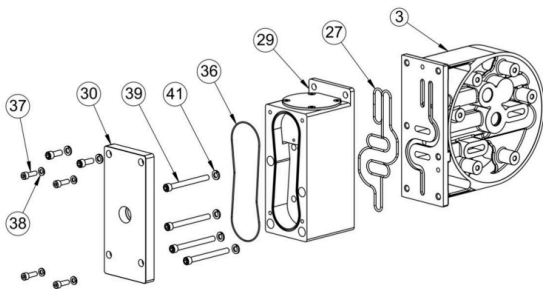


- a. For removing the secondary shaft assembly from center piece assembly, first follow the steps a, b, c, d from the diaphragm replacement and remove the outer chamber (1).
- b. Repeat the same above procedure to remove the other side also.
- c. Remove the Circlip (26) from both sides and push the Sleeve (24) out of the housing &

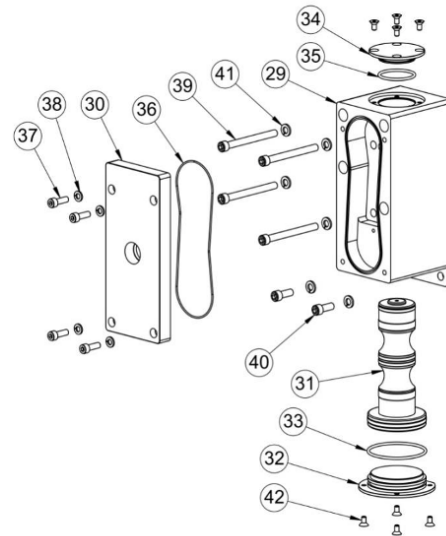
now remove the O-Rings (25) to replace it with new one.

- d. Remove the O-rings (43A) from both sides of secondary shaft assembly (43).
- e. Now if you see there is a center drill mark on one side of the secondary shaft assembly (43). Pull the secondary shaft assembly (43) from that side only.
Note: During assembly make sure to push the secondary shaft assembly (43) from the plain side only into the sleeve (24).
- f. Now open the screws (23) and separate the Center piece, Gasket (10) and Air disc (2). Inspect the gasket (10) and replace it with new one.
- g. Remove the O-Rings (14) from the center piece bore carefully as described above & replace with the new one.

4. Replacement Of Air Valve, Seals and O-Rings Of End Cap



- a. Open Screw (37) to remove washer (38), cover (30) and O-ring (36) from air valve body (29). Further, open Bolt (39) & washer (41) from Air valve body. Now remove the skeleton seal (27) from air valve body (29). Inspect the Seals & O-rings for cracks, damage or wear if found, replace it with new one.



- b. Remove the screws (42) with the help of suitable allen key from both ends. Now use a bolt with M10 thread to pull the End cap big (32) with its O-ring (33) out of the air valve body (29).
Now O-ring (33) can be replaced with the new one.
- c. Use the same M10 bolt to pull the air piston assembly (31) with all its seals. This piston assembly (31) need to replace as a single piece.
- d. In order to remove the End cap small (34) with O-ring (35), push it from internal bore of air valve body (29) to take it out. Now O-ring (33) can be replaced with the new one.

Re-Assembly

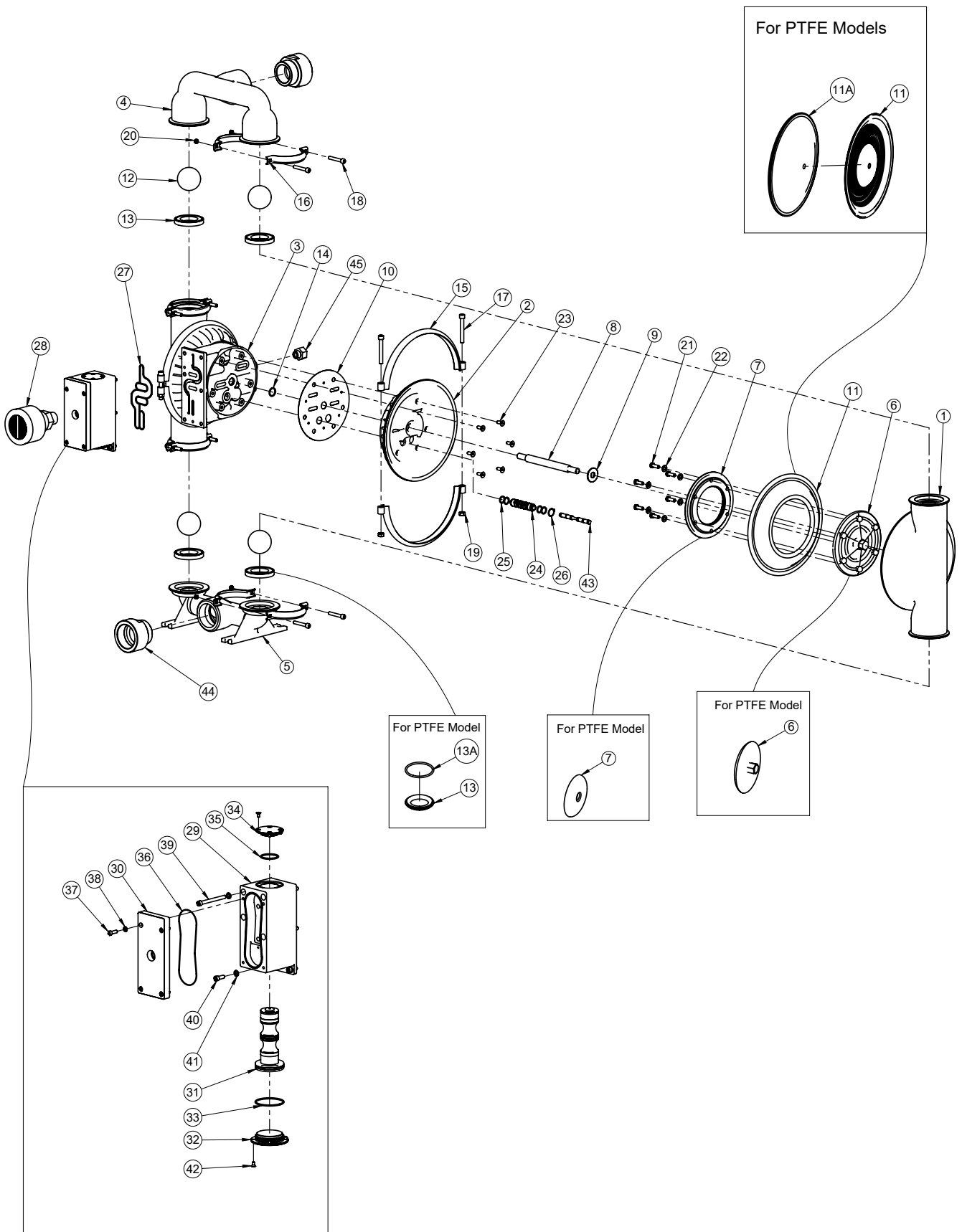
Upon performing applicable maintenance to the air distribution system, the pump can now be reassembled. Please refer to the dis-assembly instructions for photos and parts placement. To reassemble the pump, follow the dis-assembly instructions in reverse order. The air distribution system needs to be assembled first, then the Diaphragms and finally the wetted path. Please find the applicable torque specifications on this page. The following tips will assist in the assembly process.

- a. Clean the inside of the center section shaft bore to ensure no damage is done to new seals.
- b. Stainless bolts should be lubed to reduce the possibility of seizing during tightening.
- c. Level the water chamber side of the intake/discharge manifold to ensure a proper sealing surface. This is most easily accomplished by placing them on a flat surface prior to tightening their clamp bands to the desired torque (see below for Torque Specifications).
- d. Be sure to tighten outer pistons simultaneously on PTFE-fitted pumps to ensure proper torque values.
- e. Ensure proper mating of liquid chambers to manifolds prior to tightening vertical bolts. Overhang should be equal on both sides.
- f. Apply a small amount of Loctite 242 to the shaft interval threads before the diaphragm assembly.
- g. Concave side of disc spring in diaphragm assembly faces toward shaft.

Maximum Torque Specifications

DESCRIPTION OF PART	TORQUE
Air Valve	9.0 Nm (80 in-lbs)
Outer Flange	135.6 Nm (100 ft-lbs)
Small Clamp Band (PTFE-fitted)	15.5 Nm (137 in-lbs)
Small Clamp Band (Rubber-fitted)	5.6 Nm (50 in-lbs)
Big Clamp Band (All)	47.4 Nm (35 ft-lbs)
Air Disc	27.1 Nm (20 ft-lbs)
Center Block Assembly	27.1 Nm (20 ft-lbs)
2C-Ring Inner Piston	18.9 Nm (14 ft-lbs)
Metal Screen & Inlet Cover	9.0 Nm (80 in-lbs)
Polyurethane Screen & Inlet Cover	2.3 N•m (20 in-lbs)
Stallion Handles	40.7 N•m (30 ft-lbs)

Exploded View for SDP 75 Pump



Bill of Materials for SDP 75 ALN Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	211 20 06	OUTER SIDE CHAMBER	2
2	212 10 02	AIR DISC	2
3	212 10 01	CENTER PIECE	1
4	211 20 04	OUTLET	1
5	211 20 05	INLET BASE	1
6	210 10 07	OUTER FLANGE	2
7	210 10 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 40 02N	DIAPHRAGM (NEOPRENE)	2
12	210 40 19	BALL (NEOPRENE)	4
13	210 40 20	VALVE SEAL (NEOPRENE)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
25	160 40 22	O RING	4
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 10 03	AIR VALVE BODY	1
30	212 10 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps.
The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	210 10 14	Adaptor 3" BSPT(F)	2	
44	210 10 15	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 ALB Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	211 20 06	OUTER SIDE CHAMBER	2
2	212 10 02	AIR DISC	2
3	212 10 01	CENTER PIECE	1
4	211 20 04	OUTLET	1
5	211 20 05	INLET BASE	1
6	210 10 07	OUTER FLANGE	2
7	210 10 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 40 02B	DIAPHRAGM (BUNA-N)	2
12	210 40 19B	BALL (BUNA)	4
13	210 40 20B	VALVE SEAL (BUNA)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
25	160 40 22	O RING	4
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 10 03	AIR VALVE BODY	1
30	212 10 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps.
The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	210 10 14	Adaptor 3" BSPT(F)	2	
44	210 10 15	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 ALS Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	211 20 06	OUTER SIDE CHAMBER	2
2	212 10 02	AIR DISC	2
3	212 10 01	CENTER PIECE	1
4	211 20 04	OUTLET	1
5	211 20 05	INLET BASE	1
6	210 10 07	OUTER FLANGE	2
7	210 10 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 41 01	DIAPHRAGM (SANTOPRENE)	2
12	211 41 03	BALL (SANTOPRENE)	4
13	211 41 02	VALVE SEAL(SANTOPRENE)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 10 03	AIR VALVE BODY	1
30	212 10 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps.
 The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	210 10 14	Adaptor 3" BSPT(F)	2	
44	210 10 15	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 ALH Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	211 20 06	OUTER SIDE CHAMBER	2
2	212 10 02	AIR DISC	2
3	212 10 01	CENTER PIECE	1
4	211 20 04	OUTLET	1
5	211 20 05	INLET BASE	1
6	210 10 07	OUTER FLANGE	2
7	210 10 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 43 01	DIAPHRAGM (HYTREL)	2
12	211 43 03	BALL (HYTREL)	4
13	211 43 02	VALVE SEAL (HYTREL)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 10 03	AIR VALVE BODY	1
30	212 10 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps.
The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	210 10 14	Adaptor 3" BSPT(F)	2	
44	210 10 15	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 ALV Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	211 20 06	OUTER SIDE CHAMBER	2
2	212 10 02	AIR DISC	2
3	212 10 01	CENTER PIECE	1
4	211 20 04	OUTLET	1
5	211 20 05	INLET BASE	1
6	210 10 07	OUTER FLANGE	2
7	210 10 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 40 02V	DIAPHRAGM (VITON)	2
12	210 40 19V	BALL (VITON)	4
13	210 40 20V	VALVE SEAL (VITON)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 10 03	AIR VALVE BODY	1
30	212 10 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps. The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	210 10 14	Adaptor 3" BSPT(F)	2	
44	210 10 15	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 ALT Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	211 20 06	OUTER SIDE CHAMBER	2
2	212 10 02	AIR DISC	2
3	212 10 01	CENTER PIECE	1
4	211 20 04	OUTLET	1
5	211 20 05	INLET BASE	1
6	210 10 11	OUTER FLANGE	2
7	210 10 16	INNER FLANGE	2
8	212 21 04	PRIMARY SHAFT (T)	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11A	210 36 18T	DIAPHRAGM (PTFE)	2
11	210 40 35N	BACKUP DIAPHRAGM	2
12	210 36 19T	BALL (PTFE)	4
13	210 20 20A	VALVE SEAT	4
13A	210 36 37T	O- RING	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 10 03	AIR VALVE BODY	1
30	212 10 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps.
The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	210 10 14	Adaptor 3" BSPT(F)	2	
44	210 10 15	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 CIN Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	212 05 09	OUTER SIDE CHAMBER	2
2	212 05 02	AIR DISC	2
3	212 05 01	CENTER PIECE	1
4	212 05 06	OUTLET	1
5	212 05 05	INLET BASE	1
6	212 05 07	OUTER FLANGE	2
7	212 05 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 40 02N	DIAPHRAGM (NEOPRENE)	2
12	210 40 19	BALL (NEOPRENE)	4
13	210 40 20	VALVE SEAL (NEOPRENE)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4
26	212 90 02	EXT. CIRCLIP	2

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 05 03	AIR VALVE BODY	1
30	212 05 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps. The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	212 07 01	Adaptor 3” BSPT(F)	2	
44	212 07 02	Adaptor 3” BSPP(F)		2
45	202 04 08	Adaptor 3/4” BSPT(F)	1	
45	202 04 05	Adaptor 3/4” BSPP(F)		1

Bill of Materials for SDP 75 CIB Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	212 05 09	OUTER SIDE CHAMBER	2
2	212 05 02	AIR DISC	2
3	212 05 01	CENTER PIECE	1
4	212 05 06	OUTLET	1
5	212 05 05	INLET BASE	1
6	212 05 07	OUTER FLANGE	2
7	212 05 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 40 02B	DIAPHRAGM (BUNA-N)	2
12	210 40 19B	BALL (BUNA)	4
13	210 40 20B	VALVE SEAL (BUNA)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 05 03	AIR VALVE BODY	1
30	212 05 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps.
The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	212 07 01	Adaptor 3" BSPT(F)	2	
44	212 07 02	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 CIS Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	212 05 09	OUTER SIDE CHAMBER	2
2	212 05 02	AIR DISC	2
3	212 05 01	CENTER PIECE	1
4	212 05 06	OUTLET	1
5	212 05 05	INLET BASE	1
6	212 05 07	OUTER FLANGE	2
7	212 05 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 41 01	DIAPHRAGM (SANTOPRENE)	2
12	211 41 03	BALL (SANTOPRENE)	4
13	211 41 02	VALVE SEAL (SANTOPRENE)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 05 03	AIR VALVE BODY	1
30	212 05 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps. The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	212 07 01	Adaptor 3” BSPT(F)	2	
44	212 07 02	Adaptor 3” BSPP(F)		2
45	202 04 08	Adaptor 3/4” BSPT(F)	1	
45	202 04 05	Adaptor 3/4” BSPP(F)		1

Bill of Materials for SDP 75 CIH Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	212 05 09	OUTER SIDE CHAMBER	2
2	212 05 02	AIR DISC	2
3	212 05 01	CENTER PIECE	1
4	212 05 06	OUTLET	1
5	212 05 05	INLET BASE	1
6	212 05 07	OUTER FLANGE	2
7	212 05 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 43 01	DIAPHRAGM (HYTREL)	2
12	211 43 03	BALL (HYTREL)	4
13	211 43 02	VALVE SEAL (HYTREL)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 05 03	AIR VALVE BODY	1
30	212 05 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps. The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	212 07 01	Adaptor 3" BSPT(F)	2	
44	212 07 02	Adaptor 3" BSPP(F)		2
45	202 04 08	Adaptor 3/4" BSPT(F)	1	
45	202 04 05	Adaptor 3/4" BSPP(F)		1

Bill of Materials for SDP 75 CIV Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	212 05 09	OUTER SIDE CHAMBER	2
2	212 05 02	AIR DISC	2
3	212 05 01	CENTER PIECE	1
4	212 05 06	OUTLET	1
5	212 05 05	INLET BASE	1
6	212 05 07	OUTER FLANGE	2
7	212 05 08	INNER FLANGE	2
8	212 21 02	PRIMARY SHAFT	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11	211 40 02V	DIAPHRAGM (VITON)	2
12	210 40 19V	BALL (VITON)	4
13	210 40 20V	VALVE SEAL (VITON)	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
21	210 90 28	HEX BOLT	12
22	210 90 36	PLAIN WASHER	12
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1
25	160 40 22	O RING	4

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 05 03	AIR VALVE BODY	1
30	212 05 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps. The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	212 07 01	Adaptor 3” BSPT(F)	2	
44	212 07 02	Adaptor 3” BSPP(F)		2
45	202 04 08	Adaptor 3/4” BSPT(F)	1	
45	202 04 05	Adaptor 3/4” BSPP(F)		1

Bill of Materials for SDP 75 CIT Pumps

ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
1	212 05 09	OUTER SIDE CHAMBER	2
2	212 05 02	AIR DISC	2
3	212 05 01	CENTER PIECE	1
4	212 05 06	OUTLET	1
5	212 05 05	INLET BASE	1
6	212 05 11	OUTER FLANGE	2
7	212 05 10	INNER FLANGE	2
8	212 21 04	PRIMARY SHAFT (T)	1
9	211 21 01	SPACER	2
10	212 40 01	GASKET	2
11A	210 36 18T	DIAPHRAGM (PTFE)	2
11	210 40 35N	BACKUP DIAPHRAGM	2
12	210 36 19T	BALL (PTFE)	4
13	212 21 01	VALVE SEAT	4
13A	210 36 37T	O- RING	4
14	212 40 12	O- RING	4
15	211 31 01	BIG CLAMP	4
16	211 31 02	SMALL CLAMP	8
17	211 90 01	ALLEN BOLT	4
18	211 90 04	ALLEN BOLT	8
19	342 90 19	HEX. NUT	4
20	211 90 03	HEX. NUT	8
23	212 90 01	CSK SCREW	12
24	212 27 01	SLEEVE	1

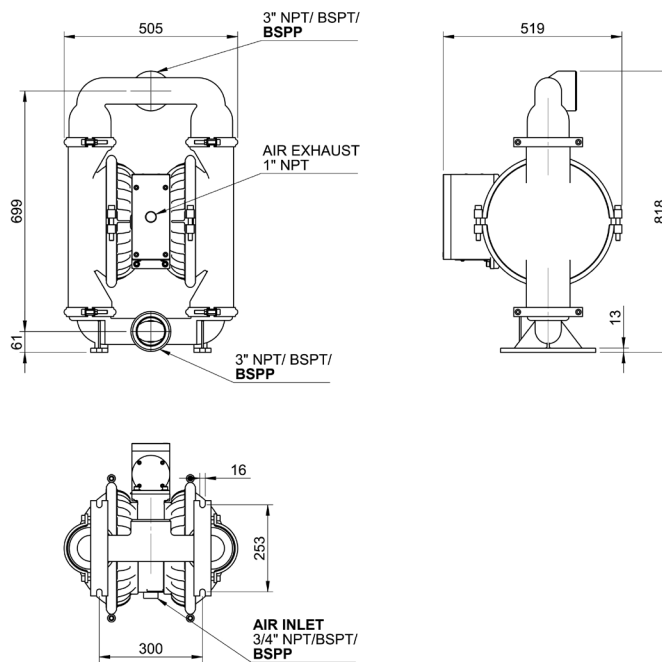
ILLU. NO.	PART NUMBER	DESCRIPTION	Qty
25	160 40 22	O RING	4
26	212 90 02	EXT. CIRCLIP	2
27	212 40 02	SKELETON SEAL	1
28	806 50 02	SILENCER	1
29	212 05 03	AIR VALVE BODY	1
30	212 05 04	AIR VALVE BODY COVER	1
31	212 98 01	PISTON ASSEMBLY	1
32	212 10 05	END CAP BIG	1
33	212 40 08	O RING- BIG END CAP	1
34	212 10 06	END CAP SMALL	1
35	212 40 09	O RING- SMALL END CAP	1
36	212 40 10	O RING- COVER	1
37	260 27 06S	ALLEN BOLT	4
38	171 27 20S	SPRING WASHER	6
39	212 90 06S	ALLEN BOLT	4
40	212 90 05S	ALLEN BOLT	2
41	212 90 07S	SPRING WASHER	6
42	212 90 04S	COUNTER SUNK BOLT	8
43	212 98 02	SECONDARY SHAFT ASSEMBLY	1

Note.

Above all parts are common for CR (NPT), CG (BSPT) & CP (BSPP) Pumps. The additional parts for CG (BSPT) & CP (BSPP) pumps model are as follows

ITEM NO	PART NUMBER	DESCRIPTION	CG MODELS	CP MODELS
44	212 07 01	Adaptor 3” BSPT(F)	2	
44	212 07 02	Adaptor 3” BSPP(F)		2
45	202 04 08	Adaptor 3/4” BSPT(F)	1	
45	202 04 05	Adaptor 3/4” BSPP(F)		1

Dimensional Data



SDP 75 AL/CI/ N/B/S/H/V/T

Repair Kits for SDP 75 ALX / CIX Pumps

Repair Kits consist of everything you need to quickly restore the pump. Repair Kits contain one set of Diaphragms, one set of balls, one set of seats or seats+Orings, secondary shaft complete with seals, air valve spool complete with fitted seals, all gaskets, end caps with fitted rings and other wear parts needed to rebuild the pump. Repair kits are threading independant.

Repair KIT Ordering No	Suitable for
212 97 02N	SDP 75 ALN / CIN
212 97 02B	SDP 75 ALB / CIB
212 97 02S	SDP 75 ALS / CIN
212 97 02H	SDP 75 ALH / CIH
212 97 02V	SDP 75 ALV / CIV
212 97 02T	SDP 75 ALT / CIT

Air Valve Replacement Kits for SDP 75 ALX Pumps

Air Valve Replacement Kit consists of a complete operational air valve assembly complete. Consisting of Air Valve Body, End Plates, Spool and all seals, o rings and gaskets.

Replacement KIT Ordering No	Suitable for
212 97 01	NPT Fitted ALX Pumps With Any Diaphragm Variant BSPT Fitted ALX Pumps With Any Diaphragm Variant BSPP Fitted ALX Pumps With Any Diaphragm Variant

Air Valve Replacement Kits for SDP 75 CIX Pumps

Air Valve Replacement Kit consists of a complete operational air valve assembly complete. Consisting of Air Valve Body, End Plates, Spool and all seals, o rings and gaskets.

Replacement KIT Ordering No	Suitable for
212 97 03	NPT Fitted CIX Pumps With Any Diaphragm Variant
	BSPT Fitted CIX Pumps With Any Diaphragm Variant
	BSPP Fitted CIX Pumps With Any Diaphragm Variant

Repair and Replacement Kits

ILLU. NO.	PART NUMBER	DESCRIPTION	AL / SS	CI	ALX / SSX & CIX Pumps						
			212 97 01 Replacement Kit	212 97 03 Replacement Kit SGI	Repair Kit 2129702B	Repair Kit 2129702N	Repair Kit 2129702V	Repair Kit 2129702S	Repair Kit 2129702H	Repair Kit 2129702T	
10	212 40 01	GASKET			2	2	2	2	2	2	2
11	211 40 02B	DIAPHRAGM (BUNA-N)			2						
11	211 40 02N	DIAPHRAGM (NEOPRENE)				2					
11	211 40 02V	DIAPHRAGM (VITON)					2				
11	211 41 01	DIAPHRAGM (SANTOPRENE)						2			
11	211 43 01	DIAPHRAGM (HYTREL)							2		
11A	210 36 18T	DIAPHRAGM (PTFE)									2
11	210 40 35N	BACKUP DIAPHRAGM									2
12	210 40 19B	BALL (BUNA)			4						
12	210 40 19	BALL (NEOPRENE)				4					
12	210 40 19V	BALL (VITON)					4				
12	211 41 03	BALL (SANTOPRENE)						4			
12	211 43 03	BALL (HYTREL)							4		
12	210 36 19T	BALL (PTFE)									4
13	210 40 20B	VALVE SEAL (BUNA)			4						
13	210 40 20	VALVE SEAL (NEOPRENE)				4					
13	210 40 20V	VALVE SEAL (VITON)					4				
13	211 41 02	VALVE SEAL (SANTOPRENE)						4			
13	211 43 02	VALVE SEAL (HYTREL)							4		
13A	210 36 37T	O- RING									4
14	212 40 12	O- RING			4	4	4	4	4	4	4
25	160 40 22	O RING			4	4	4	4	4	4	4
26	212 90 02	EXT. CIRCLIP			2	2	2	2	2	2	2
27	212 40 02	SKELETON SEAL	1	1	1	1	1	1	1	1	1
29	212 10 03	AIR VALVE BODY	1								
29	212 05 03	AIR VALVE BODY		1							
30	212 10 04	AIR VALVE BODY COVER	1								

ILLU. NO.	PART NUMBER	DESCRIPTION	AL / SS	CI	ALX / SSX & CIX Pumps						
			212 97 01 Replacement Kit	212 97 03 Replacement Kit SGI	Repair Kit 2129702B	Repair Kit 2129702N	Repair Kit 2129702V	Repair Kit 2129702S	Repair Kit 2129702H	Repair Kit 2129702T	
30	212 05 04	AIR VALVE BODY COVER		1							
31	212 98 01	PISTON ASSEMBLY	1	1	1	1	1	1	1	1	1
32	212 10 05	END CAP BIG	1	1	1	1	1	1	1	1	1
33	212 40 08	O RING- BIG END CAP	1	1	1	1	1	1	1	1	1
34	212 10 06	END CAP SMALL	1	1	1	1	1	1	1	1	1
35	212 40 09	O RING- SMALL END CAP	1	1	1	1	1	1	1	1	1
36	212 40 10	O RING- COVER	1	1	1	1	1	1	1	1	1
37	260 27 06S	ALLEN BOLT	4	4							
38	171 27 20S	SPRING WASHER	6	6							
39	212 90 06S	ALLEN BOLT	4	4							
40	212 90 05S	ALLEN BOLT	2	2							
41	212 90 07S	SPRING WASHER	6	6							
42	212 90 04S	COUNTER SUNK BOLT	8	8							
43	212 98 02	SECONDARY SHAFT ASSEMBLY			1	1	1	1	1	1	1
40	212 90 05S	ALLEN BOLT	2	2							
41	212 90 07S	SPRING WASHER	6	6							
42	212 90 04S	COUNTER SUNK BOLT	8	8							

TEST CERTIFICATE OF MATERIALS, PERFORMANCE

DATE :
MODEL NUMBER :
PART DESCRIPTION & S.NO. :

We Hereby Certify That The Above Referenced Product Has Tested And Inspected In Accordance With Our Standard Test Procedures And Meets The Specifications For Material And Performance Values As Published In Our Literature. We Further Certify That The Product Has Been Given Our Standard Factory Test. This Product Is Certified To Be Produced In Our Factory, And Is Of Current Production. It Has Been Produced In A Workmanlike Manner And Meets All Quality And Performance Standards Established By The Company



Authorised Signatory

Q.A Manager

Place - Vasai, Maharashtra

EU DECLARATION OF CONFORMITY**Object of declaration**

PRODUCT : **AIR OPERATED DOUBLE DIAPHRAGM PUMP**

MODEL :

MANUFACTURER'S NAME : **TERYAIR EQUIPMENT PVT. LTD.**

ADDRESS : **SITE - 1 : BUILDING A - 1/2, 102 TO 105 & BUILDING C 12 & 13,
TIRUPATI UDYOG NAGAR, SATIVALI ROAD, VASAI (E),
PALGHAR: 401208.
SITE - 2: AUGUSTINE - II, COLACO INDUSTRIAL COMPLEX,
GALA NO - 101 TO 107, SATIVALI ROAD, VILLAGE WALIV,
VASAI (E), PALGHAR: 401208**

To provide presumption of conformity in order to directive 2014/34/EU; the following harmonized standards and/or other normative documents as referenced within the following official journals are applied:

APPLICABLE DIRECTIVE: ATEX DIRECTIVE (2014/34/EU)

APPLICABLE STANDARDS:

EN ISO 80079-36: 2016 : Explosive atmospheres —Part 36: Non-electrical equipment for explosive atmospheres —Basic method and requirements.

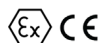
EN ISO 80079-37:2016 : Explosive atmospheres —Part 37: Non-electrical equipment for explosive atmospheres —Non- electrical type of protection constructional safety 'c', control of ignition sources 'b', liquid immersion 'k'.

Notified body to whom Technical file has logged with: - Technicka Inspekcia (Ref: 1354).

DECLARATION: - TERYAIR EQUIPMENT PVT. LTD., declare that under our sole responsibility for the supply of the product defined above, the said product complies with all the applicable Directives, Regulations and all essential Health and Safety requirements applying to it.

I, the undersigned, hereby declare that the product specified above conforms to the above standard(s).

ATEX MARKING APPLIED



Please Refer ATEX Rating for **Teryair Aodd Models Table**

Signed for and on behalf of

TERYAIR EQUIPMENT PVT. LTD.

Place of Issue:

Date:

SUMMARY FOR THE ATEX RATING FOR TERYAIR AODD MODELS

Pump Size	Series	Wetted Materials	Center Section	Diphragm Materials	ATEX Rating
06 (1/4")	SDP	Aluminium	Aluminium	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65)
				Hytrel	
		PTFE			
		Stainless Steel	Stainless Steel	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db I M2 Ex h I Mb (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65) I M2 Ex h I Mb (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65) I M2 Ex h I Mb (IP65)
Hytrel					
PTFE					
12 (1/2")	DP/SDP	Aluminium	Aluminium	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65)
				Hytrel	
	PTFE				
	SDP	Stainless Steel	Stainless Steel	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db I M2 Ex h I Mb (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65) I M2 Ex h I Mb (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65) I M2 Ex h I Mb (IP65)
Hytrel					
PTFE					
25 (1")	DP / SDP	Aluminium / Stainless Steel	Aluminium	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65)
				Hytrel	
PTFE					

SUMMARY FOR THE ATEX RATING FOR TERYAIR AODD MODELS

Pump Size	Series	Wetted Materials	Center Section	Dipharagm Materials	ATEX Rating
40 (1-1/2")	DP / SDP	Aluminium / Stainless Steel	Aluminium	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65)
				Hytrel	
				PTFE	
50 (2")	DP / SDP	Aluminium / Stainless Steel	Aluminium	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65)
				Hytrel	
				PTFE	
	SDP	Cast Iron	Cast Iron	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db I M2 Ex h I Mb (IP65)
				Buna-N	
				Viton-FKM	"II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65) I M2 Ex h I Mb (IP65)"
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65) I M2 Ex h I Mb (IP65)
				Hytrel	
				PTFE	
75 (3")	DP / SDP	Aluminium	Aluminium	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65)
				Hytrel	
				PTFE	
	SDP	Cast Iron	Cast Iron	Neoprene	II 2 GD Ex h IIC T6 Gb Ex h IIIC T85°C Db I M2 Ex h I Mb (IP65)
				Buna-N	
				Viton-FKM	II 2 GD Ex h IIC T3 Gb Ex h IIIC T200°C Db (IP65) I M2 Ex h I Mb (IP65)
				Sentoprene	II 2 GD Ex h IIC T5 Gb Ex h IIIC T100°C Db (IP65) I M2 Ex h I Mb (IP65)
				Hytrel	
				PTFE	



Warranty Certificate

Every product manufactured by Teryair is built to meet the highest standards of quality.

Teryair warrants that the Products, accessories and parts manufactured or supplied by the company be free from defects in material and workmanship for a period of six months from date of Teryair authorized dealer invoice to customer, or one year from date of Teryair invoice to dealer, whichever is earlier. Failure due to normal wear, misapplication, or abuse is, of course, excluded from this warranty.

Since the use of Teryair products and parts is beyond our control, Teryair cannot guarantee the suitability of any product or part for a particular application and Teryair shall not be liable for any consequential damage or expense arising from the use or misuse of its products on any application. Teryair does not warranty bought out products or components such as electric motors and hardware but will assist in directing warranty queries to the dealer/manufacturer responsible. Teryair responsibility is limited solely to replacement or repair of defective Teryair products or components.

Dealer/End User shall have no right or remedy and Teryair shall have no liability or obligation under the warranty, if: (i) a Product is altered, changed, modified or tampered with in any way, (ii) a Product is damaged after deposit with the transporter for shipment; (iii) a Product is not properly preserved, packaged, stored, processed or handled after receipt; (iv) a Product is not used and maintained in accordance with Teryair's recommended operating and maintenance manuals, instructions and procedures, if any; (v) a Product is not properly incorporated or installed in, or not properly combined with, an Other Product; (vi) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, a failure, substandard performance or other issue with another product, material, component or part not supplied by Teryair; (vii) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, compliance with any design, specification or other specific requirement of Dealer/End User; (viii) a Product is used in a manner, with a substance or for a purpose other than the normal manner, substance and purpose for which it is intended or is otherwise subjected to abnormal use or service; (ix) a Product is subjected to a power surge, brown out or other similar occurrence; (x) the issue with a Product is directly or indirectly attributable to, or directly or indirectly results from or arises out of, normal wear and tear of such Product (including, without limitation, things such as worn seals, diaphragms, balls, O rings, gaskets, chisels, cutters, hoses and other such wearing components; (xi) the issue with a Product is directly or indirectly.

Dated :
 Product Model Number :
 Product Serial Number :

Ajay Bhagat, Q.A. Manager
 (Company Seal)