

SERVICE & OPERATING MANUAL

AIR OPERATED DOUBLE DIAPHRAGM PUMP

B50 & X50

50 Series 2" Model

**This pump is Atex approved for use
in potentially explosive atmospheres
Group II category 2**



This Manual covers the following models :-

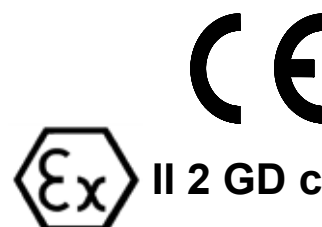
5005AA....	All Aluminium
5005CA....	Cast Iron / Aluminium
5005CC....	All Cast Iron
5005SA....	Stainless Steel / Aluminium
5005SC....	Stainless Steel / Cast Iron
5005SS....	All Stainless Steel

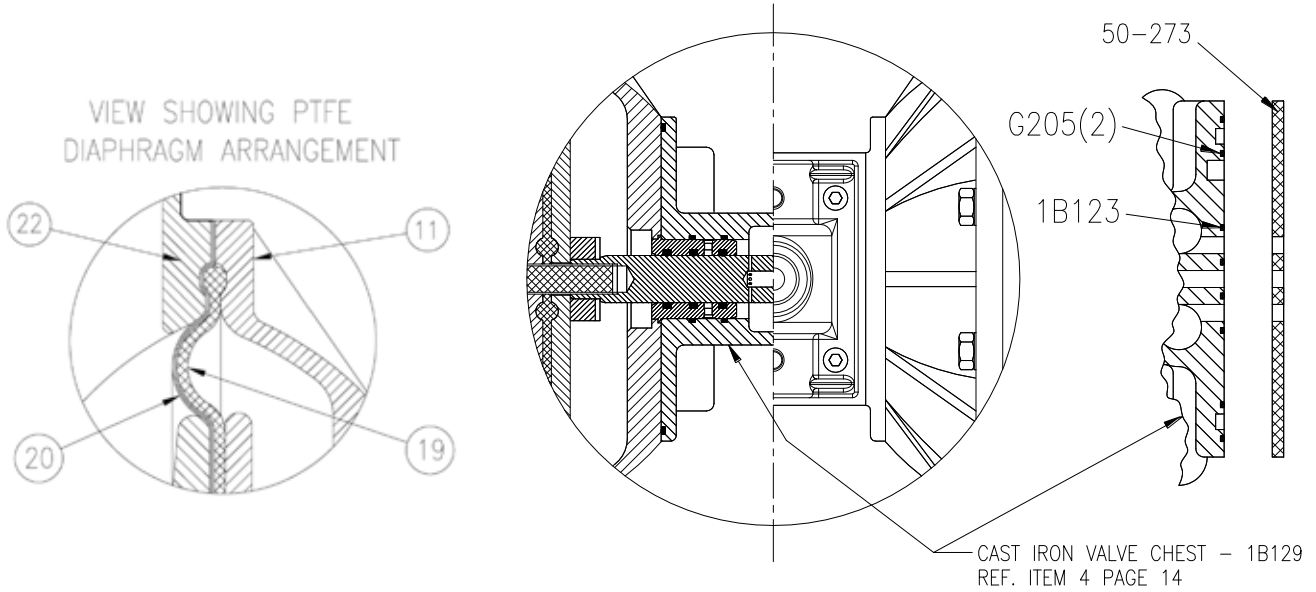
All Standard & Lube Free models, BSP & NPT
Flanged models :- ANSI 150, PN16 etc.
Private labelled models.
Atex Certified models.

NOTE! Refer to pump Typical Code matrix on page 3 to determine the full Model No. of your pump.

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TORQUE SETTINGS

(A)	FRONTPLATE - 108 Nm (79 lbs/ft)
(B)	OUTER COVERS - 24.3 Nm (17.8 lbs/ft)
(C)	MANIFOLDS - 24.3 Nm (17.8 lbs/ft)
(D)	VALVE BLOCK - (21.6 Nm (16 lbs/ft)

NOTE! Pumps fitted with all Cast Iron Valve Chests 1B129 prior to 04 series release, require additional items :-

- Transition Plate - 50-273
- Port Seal - 1B123
- O-Rings - G205 2 off
- For remaining Valve Block parts see page 14.

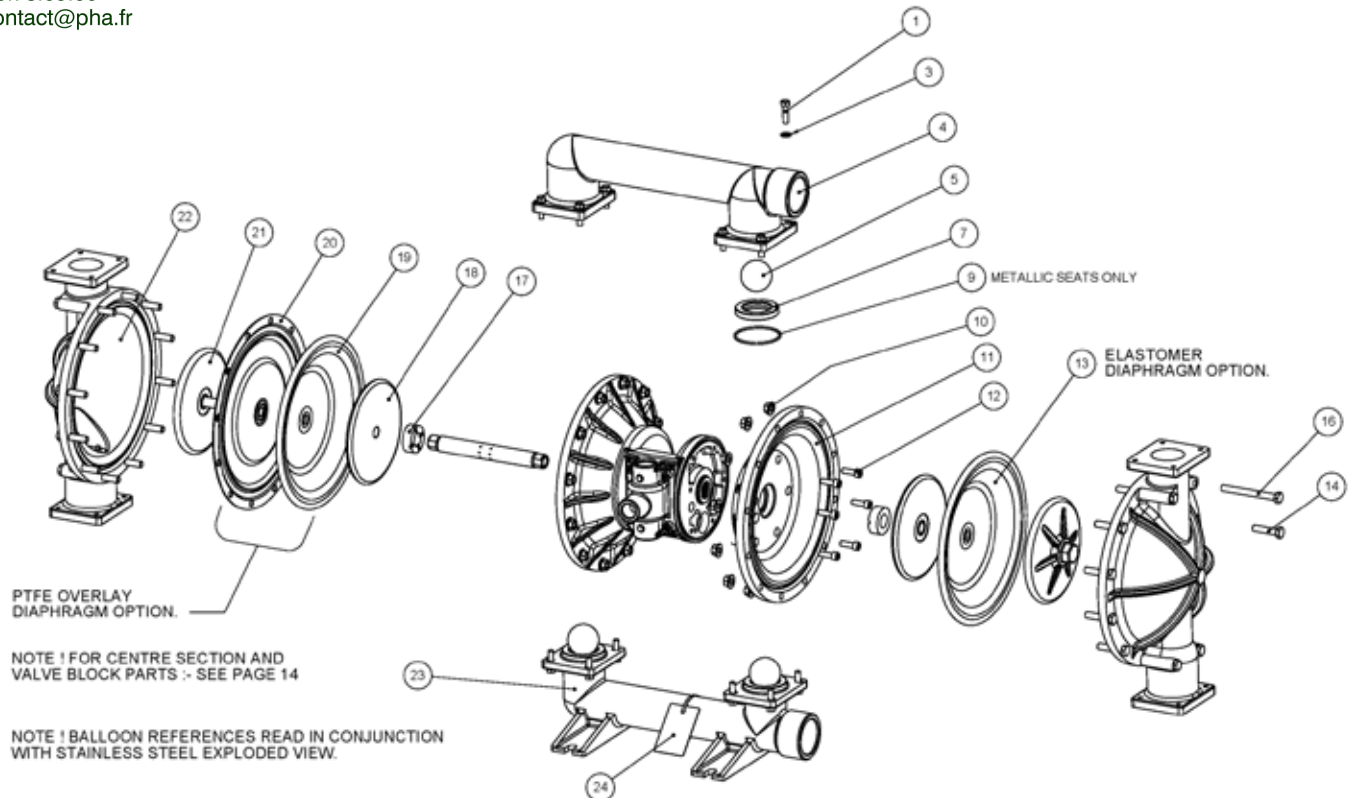
NOTE! 05 Series pumps with Cast Iron centre's no longer require the transition plate and additional seals, being built to same specification as Aluminium centre's.

Elastomer Table

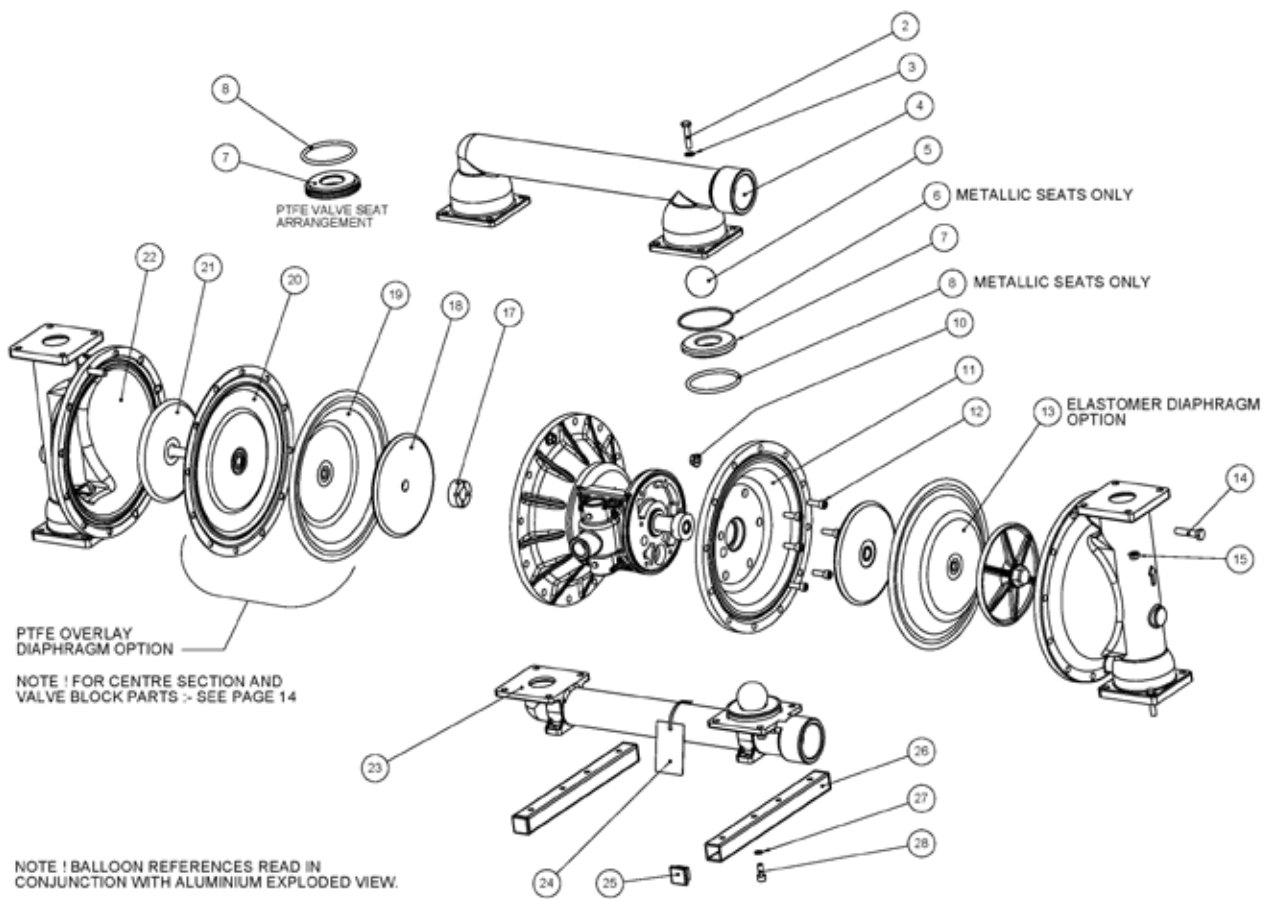
DESCRIPTION	ELASTOMER S COMMON TO ALL MODELS			AA, CA & CC		SA, SC & SS		
	VALVE BALL	VALVE BALL - WTD.	DIAPHRAGM	VALVE SEAT	O-RING	VALVE SEAT	O-RING	O-RING
REF. NO	5	5	13	7	9	7	8	6
QTY.	4	4	2	4	4	4	4	4
MATERIAL								
BUNA-N	1B010	1B079	1B004	50-276	G029	50-044	G420	G457
EPDM	1B052	1B080	1B002	50-277	G031	50-046	G418	G459
VITON	1B055	1B088	1B003	-	G119	50-047	G427	G460
NEOPRENE	1B056	1B027	1B001	50-275	G149	50-045	G426	G458
PTFE	1B053	-	SEE 19 & 20	-	G111	50-048	G416	G461
ONE-PIECE PTFE	-	-	50-221	-	-	-	-	-
POLYESTER	-	-	1B029	-	-	-	-	-
DELFIN	1B065	-	-	-	-	-	-	-
POLYURETHANE	-	-	1B048	-	-	-	-	-
SANTOPRENE	-	-	50-233	-	-	-	-	-
STAINLESS STEEL	1B109	-	-	1B051	-	50-072	-	-
ALUMINIUM	-	-	-	1B009	-	-	-	-

For details on ordering Wet-Side kits refer to items marked in main table and also to the details on page 16.

Sectional Drawings B5005



Sectional General Assembly:- B5005 All Aluminium Pump, refer to page 13 Parts List table for item Ref. Nos.



Sectional General Assembly:- B5005 Stainless Steel/Aluminium Pump, refer to page 13 Parts List table for item Ref. Nos.

Wet Side Parts List - (Ref. Nos. are common to all models, pages 12)

REF No.	PART NUMBER				DESCRIPTION	QTY
	ALUMINUM (COMMON)	CAST IRON	STAINLESS STEEL	HIGH TEMPERATURE		
1	A041	-	A042	-	BOLT - HEX. HD. (C) M8 x 30	16
2	A005	-	A040	-	BOLT - HEX. HD. (C) M8 x 35	16
3	C013	-	C044	-	WASHER M8	16
4	50-255 50-274	50-260	50-032 50-130	-	DISCHARGE MANIFOLD - BSP DISCHARGE MANIFOLD - NPT	1 1
5	SEE TABLE	-	1B109	-	VALVE BALL	◆ 4
6	SEE TABLE	-	-	-	O-RING (METALLIC SEATS ONLY)	◆ 4
7	SEE TABLE	-	SEE TABLE	-	VALVE SEAT	◆ 4
8	SEE TABLE	-	-	-	O-RING (METALLIC & PTFE SEATS ONLY)	◆ 4
9	SEE TABLE	-	-	-	O-RING (METALLIC SEATS ONLY)	◆ 4
10	B507	-	B508	-	FLANGED NUT - SERRATED M10	24
11	1B026	1B073	50-303	-	INNER COVER	2
12	D028	-	D310	-	SOCKET CAP SCREW M8 x 25	12
13	SEE TABLE	-	-	-	DIAPHRAGM	◆ 2
14	A151	-	A145	-	BOLT - HEX. HD. (B) M10 x 45	24/16
15	B505	-	B506	-	FLANGED NUT - SERRATED M8	16
16	A496	-	-	-	BOLT - HEX. HD. (B) M10 x 100	8
17	1B015	-	-	1B177	BUMP STOP	2
18	1B021	-	50-055	-	BACKPLATE	2
19	1B054	-	-	1B003	SUPPORT DIAPHRAGM	◆ 2
20	1B039	-	-	-	DIAPHRAGM - PTFE OVERLAY	◆ 2
21	SA10042	SA10044	SA10044	-	FRONTPLATE ASSEMBLY (A)	2
22	50-253	50-258	50-052	-	OUTER COVER	2
23	50-254 50-265	50-259	50-033 50-129	-	SUCTION MANIFOLD - BSP SUCTION MANIFOLD - NPT	1 1
24	SP475	-	-	-	NAMEPLATE	1
25	-	-	1B034	-	BASE LEG CAP	4
26	-	-	50-074	-	BASE LEG	2
27	C165	-	C173	-	WASHER - SPRING M8	4
28	D490	-	D372	-	SOCKET CAP SCREW M8 x 16	4
Atex models only :-						
31	1A060	-	-	-	NAMEPLATE - SERIAL NO./MODEL NO. (REPLACES ITEM 27)	1
32	SA10528	-	-	-	GROUNDING LEAD ASSEMBLY	1
33	SP467	-	-	-	ATEX NAMEPLATE	1
34	SP474	-	-	-	TIE-LOK TIE	1

◆ - **Wet Side Kits** - These items are available in a recommended spares kit. Please refer to matrix on page 16 for details on part numbers for ordering purposes or refer to your local stockist / distributor for further details.

Note! Wet Side Kits only include valve seats if the original parts were rubber :- i.e. Buna-N, Neoprene etc.

(B) Indicates Torque setting required. See page 11 for details.

HIGH TEMPERATURE INSTALLATIONS

In situations where the temperature of the fluid to be pumped is likely to exceed 100°C, a high temperature pump code must be specified. This is signified using an 'X' in the last part of the pump code as shown.

"XTS" in place of "TTS". Reference Pump Code matrix on page 3

This indicates the following specification amendments :-

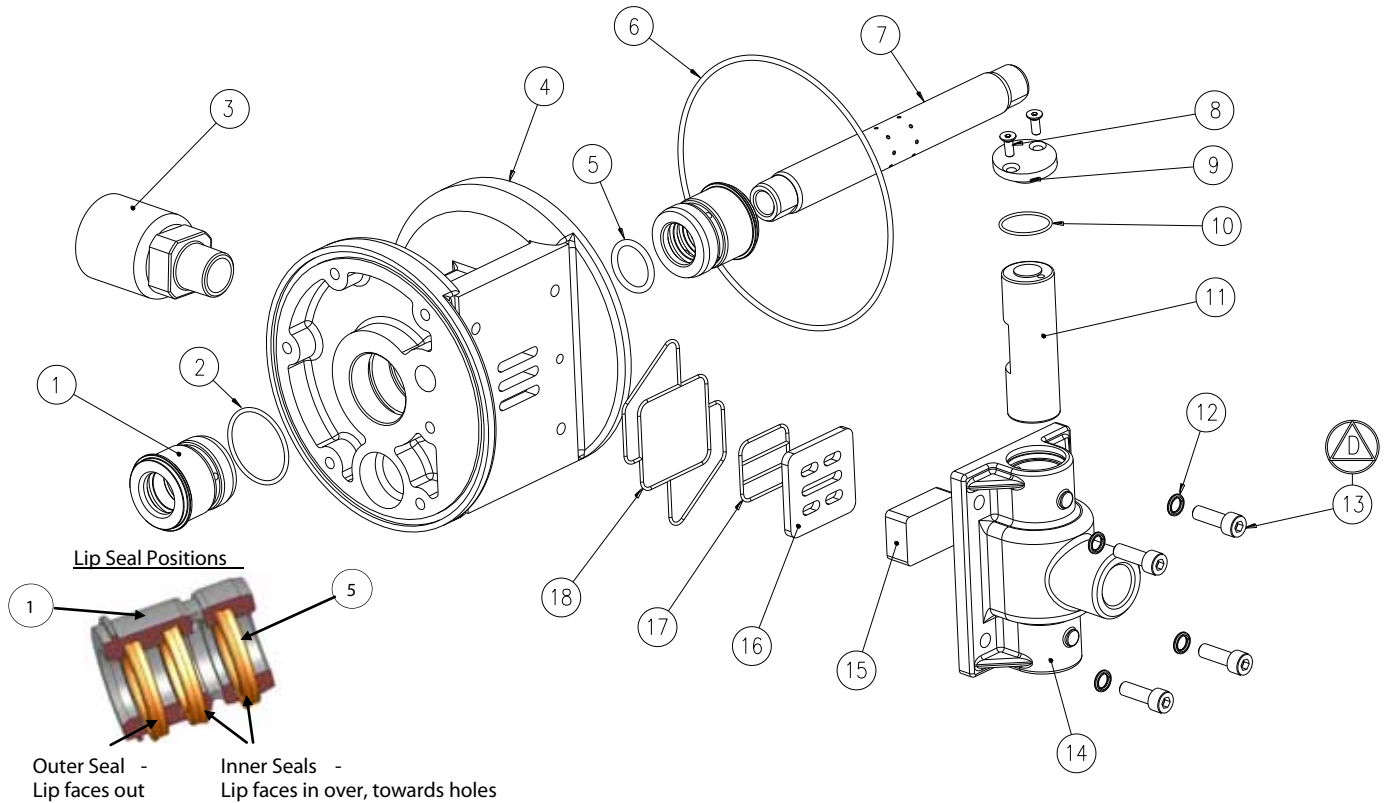
Diaphragm shaft seals will be changed from Polurethane to Viton. Back-up diaphragms and any bumpstops will be changed to Viton. In extreme cases only, any gaskets could be changed to a higher temperature spec., and the diaphragm shaft bushes could be changed from plastic to metal.

Refer to main table above and on page 14 for quantities / pump.

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Air Side Parts List - (Ref. Nos. are common to all models)

Centre Section / Valve Block components : -



REF. No.	PART NUMBER					DESCRIPTION	QTY
	ALUMINIUM (COMMON)	CAST IRON	STAINLESS STEEL	HIGH TEMPERATURE	LUBE FREE		
1	50-315	-	-	50-281	1B020	DIAPHRAGM SHAFT BUSH	2
2	G091	-	-	G324	-	O-RING	4
3	1B114	-	-	-	-	SILENCER	1
4	50-257	1B129	50-304	-	-	VALVE CHEST	1
5	50-207	-	-	G323	50-227	SHAFT SEAL	6
6	G112	-	-	-	-	O-RING	2
7	SA10041	-	-	-	-	DIAPHRAGM SHAFT	1
8	0341	-	-	-	-	M5 x 14 SOCKET CAP SCREW	2
9	50-341	-	-	-	-	VALVE BLOCK	2
10	G130	-	-	G329	-	O-RING	2
11	1B124	-	-	-	-	VALVE CARRIER	1
12	C165	-	C173	-	-	SPRING WASHER M8	4
13	D028	-	D310	-	-	SOCKET CAP SCREW (D) M8 x 25	4
14	-	-	50-342 50-345	-	-	VALVE BLOCK - BSP VALVE BLOCK - NPT	1 1
15	50-251	-	-	-	-	SLIDE VALVE	1
16	50-248	-	-	-	-	SLIDE VALVE PLATE	1
17	1B123	-	-	1B176	-	PORT SEAL	1
18	50-261	-	-	50-282	-	VALVE BLOCK SEAL	1

Spares Kits

- Air Side Kits - See page 16 for all available kits
- Valve Block Sub -Assemblies - See page 16 for all available kits

(D) Indicates torque setting required. See page 11 for details.

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