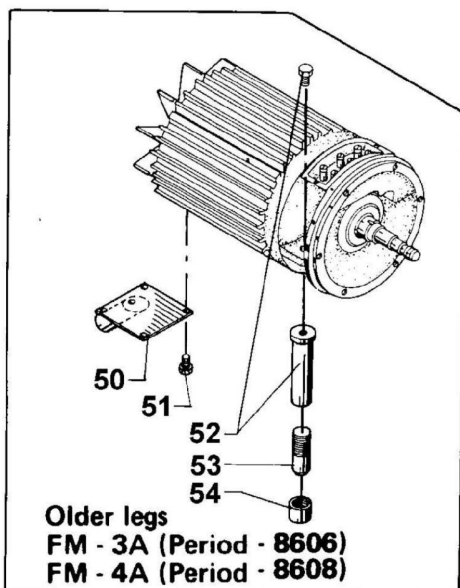
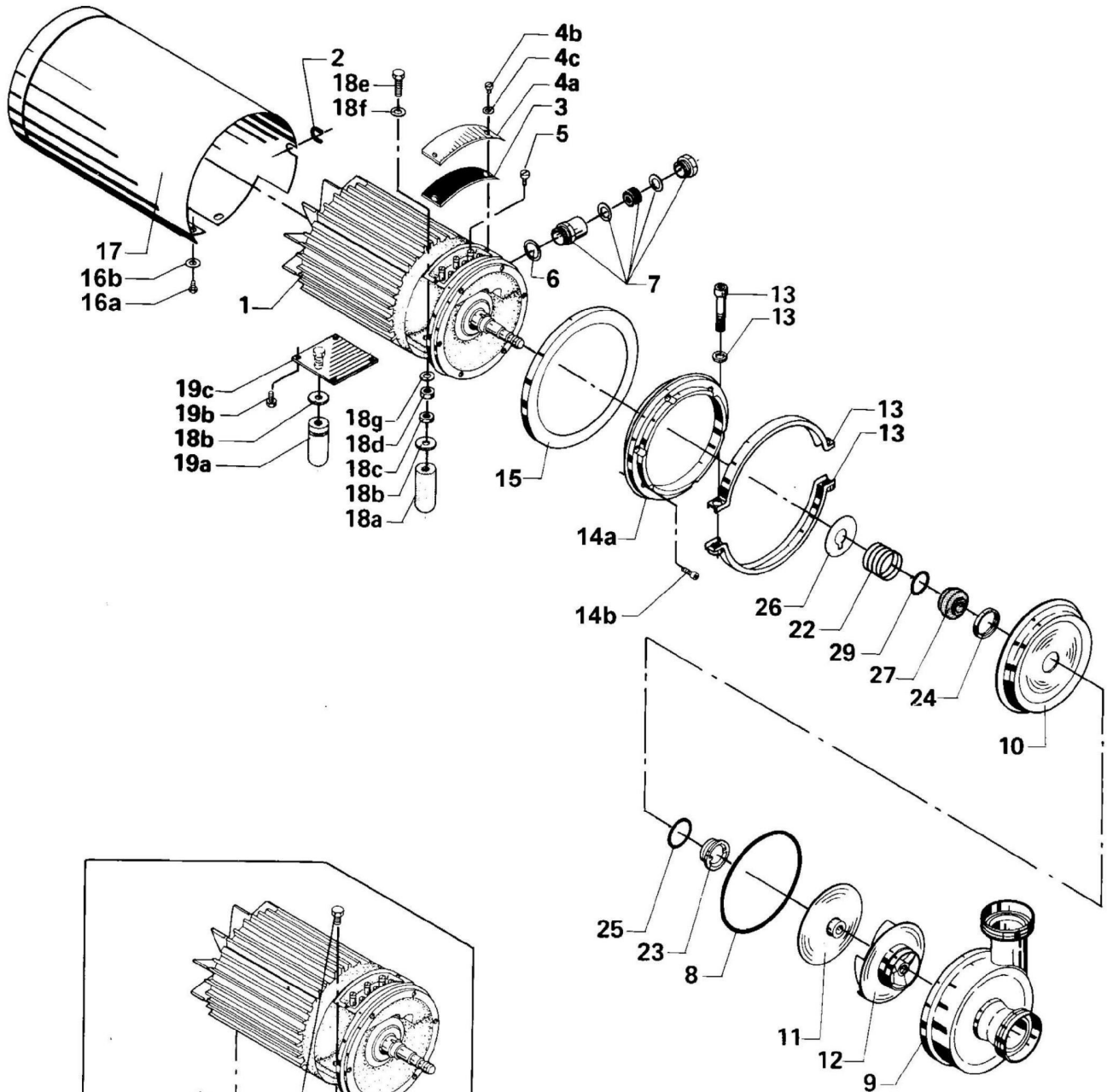


**Centrifugal Pumps – Single Shaft Seal
 Types FM-3A & FM-4A**



**Centrifugal Pumps – Single Shaft Seal
 Types FM-3A & FM-4A**



Single Shaft Seal

Pos.	Qty.	Denomination	FM-3A/4A
1	1	Motor 7.5 kW 220/380 V	31801-1107-1
	1	Motor 7.5 kW 230-260/400-440 V	31801-1107-2
	1	Motor 7.5 kW 380/660 V	31801-1107-3
	1	Fan	31438-0203-2
	1	Rotor with shaft	31458-0054-1
2	1	Cable protection	31438-0161-1
3	1	Packing	31458-0018-1
4a	1	Cover	31458-0017-1
4b	2	Screw	2211721-08
4c	2	Washer	9611-99-0752
5	1	Set screw for earth cable	9611-99-2035
6	1	Packing	31439-0049-1
7	1	Compression gland, 22.5 mm	31801-0154-4
8Δ	1	O-ring, NBR (Standard)	31439-0112-1
	1	O-ring, EPDM	31439-0112-4
	1	O-ring, FPM	31439-0112-5
	1	O-ring, PTFE	31439-0112-3
9	1	Pump casing with sanitary fittings. 76 mm inlet and outlet	
		ISO male	31458-0060-1
		SMS	31458-0060-2
		DIN	31458-0060-3
		ISO clamp	31458-0060-4
		BS	31458-0060-5
10	1	Back plate	31439-0101-1
13	1	Clamp set	9611-92-1001
14a	1	Flange	31458-0014-1
14b	6	Screw	2217751-22
15	1	Lining	31458-0025-1
16a	2	Screw	2210938-23
16b	2	Washer	9611-99-1831
17	1	Shroud	31458-0053-1
18a	2	Front leg	31460-1248-5
18b	3	Washer	31460-0104-1
18c	2	Nut	9611-99-1829
18d	2	Nut	9611-99-1829
18e	2	Screw	9611-99-1833
18f	2	Washer	9611-99-0706
18g	2	Spring washer	9611-99-0676
19a	1	Back leg	31458-0078-1
19b	4	Screw	221030-13
19c	1	Bracket for leg	31458-0079-1
24	1	Nut	31437-0120-1
26	1	Thrower	31439-0037-1

Pos.	Qty.	Denomination	FM-3A	FM-4A
11	1	Impeller cover	31439-0099-1	31459-0004-1
12*	1	Impeller (ø210)		31459-0002-1
	1	Impeller (ø185)		31459-0002-2
	1	Impeller (ø165)	31458-0015-1	31459-0002-3
	1	Impeller (ø145)	31458-0015-3	

* Sometimes reduced impeller diameter. Check the diameter of the original impeller.

Accessories (delivered with every new pump)
 1 Spanner for impeller

- Δ **Service kit, NBR.** 9611-92-1058
- Δ **Service kit, EPDM.** 9611-92-1059
- Δ **Service kit, FPM.** 9611-92-1060
- Δ **Service kit, PTFE.** 9611-92-1061

Parts marked with Δ are included in the Service kits.

Recommended spare parts: Service kits

Pos.	Qty.	Denomination	FM-3A/4A
Δ		Shaft seal, complete, NBR (Standard)	9612-4392-01
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-1
27	1	Rotating seal ring	31439-0165-1
29	1	O-ring	31439-0168-1
Δ		Shaft seal, complete, EPDM	9612-4392-03
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-3
27	1	Rotating seal ring	31439-0165-1
29	1	O-ring	31439-0168-4
Δ		Shaft seal, complete, FPM	9612-4392-04
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-3
27	1	Rotating seal ring	31439-0165-1
29	1	O-ring	31439-0168-5
Δ		Shaft seal, complete, PTFE	9612-4392-02
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-3
27	1	Rotating seal ring	31439-0165-1
29	1	O-ring	31439-0168-3

Alternatives

Shaft seal, complete, NBR (Standard)	9612-4392-05		
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-1
27	1	Rotating seal ring SiC.	31439-0165-1
29	1	O-ring	31439-0168-1

Shaft seal, complete, EPDM	9612-4392-07		
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-3
27	1	Rotating seal ring SiC.	31439-0165-1
29	1	O-ring	31439-0168-4

Shaft seal, complete, FPM	9612-4392-08		
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-3
27	1	Rotating seal ring SiC.	31439-0165-1
29	1	O-ring	31439-0168-5

Shaft seal, complete, PTFE	9612-4392-06		
22	1	Spring	31438-0057-1
23	1	Stationary seal ring SiC.	31437-0225-1
25	1	Seal	31437-0121-3
27	1	Rotating seal ring SiC.	31439-0165-1
29	1	O-ring	31439-0168-3

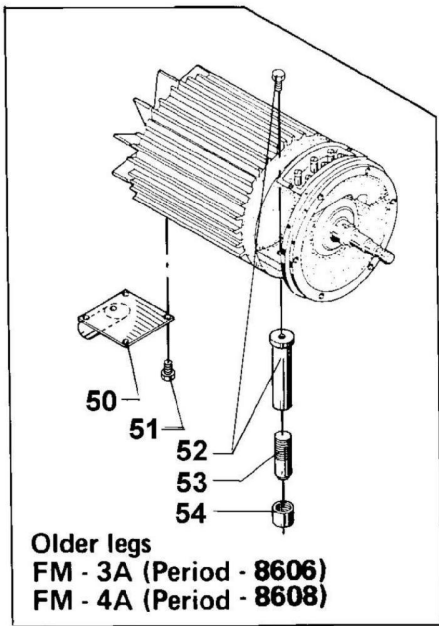
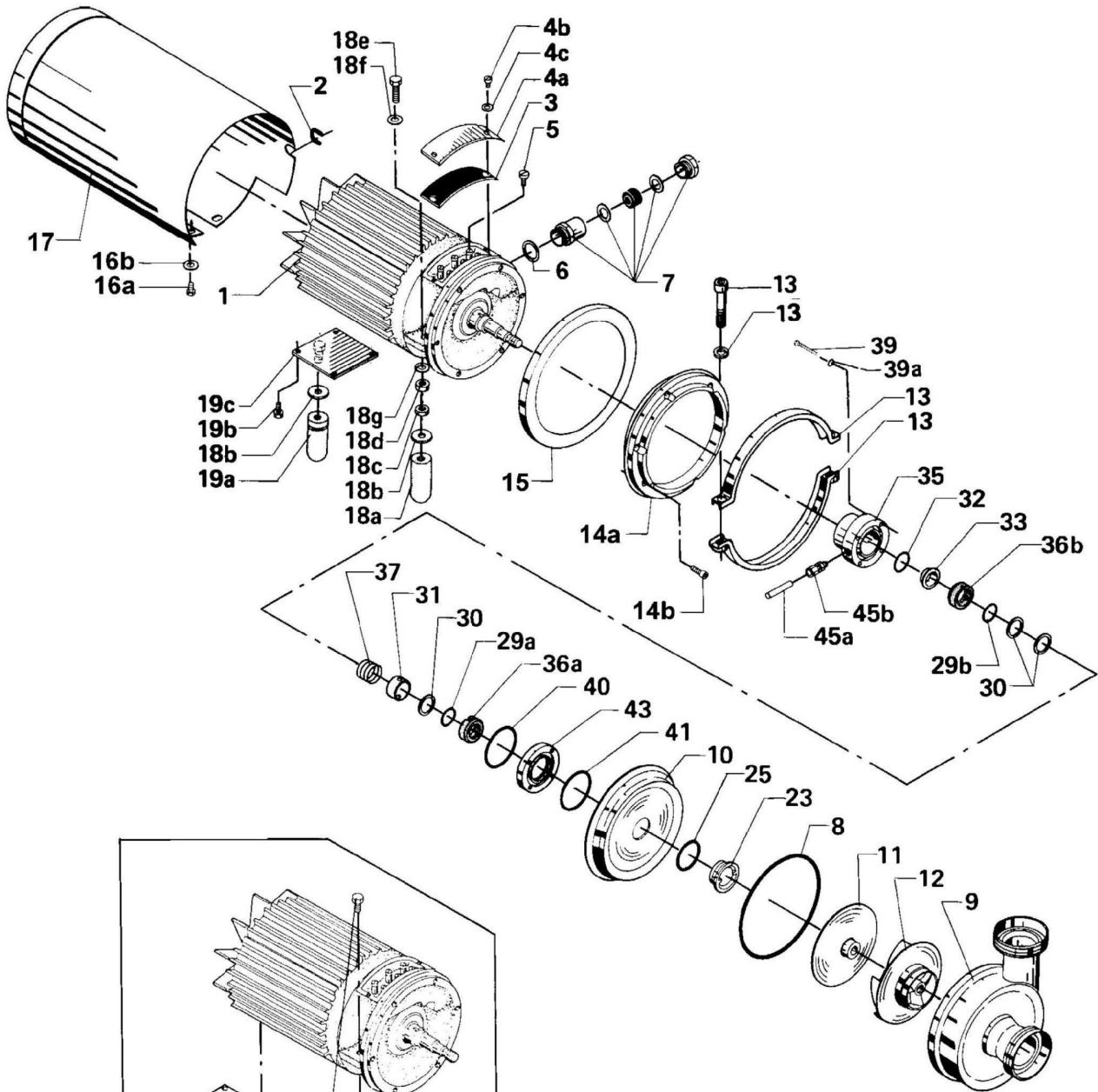
Older legs (Period -8608)

50*	1	Back leg	31458-0041-1
51	4	Screw	221030-13
52**	2	Front leg	31458-0022-1
	2	Screw for pos. 52	2217759-05
53**	2	Adjustable leg	31437-0074-1
54	2	Lock nut	31437-0073-1

* Can be replaced by 9611-92-1002, complete plast leg.

** Can be replaced by 9611-92-1003, complete plast leg.

**Centrifugal Pumps – Flushed Shaft Seal
 Types FM-3A & FM-4A**



**Centrifugal Pumps – Flushed Shaft Seal
Types FM-3A & FM-4A**



Pos.	Qty.	Denomination	FM-3A/4A	Pos.	Qty.	Denomination	FM-3A/4A	Pos.	Qty.	Denomination	FM-3A/4A
1	1	Motor 7.5 kW 220/380 V	31801-8515-1	Δ Shaft seal, complete, NBR (Standard)	9612-4393-01	Alternatives					
1	1	Motor 7.5 kW 230-260/400-440 V	31801-8515-2	23 1 Stationary seal ring SIC	31437-0225-1	Shaft seal, complete, NBR (Standard)	9612-4393-01	23 1	Stationary seal ring SIC	31437-0225-1	
1	1	Motor 7.5 kW 380/660 V	31801-8515-3	25 1 Seal	31437-0121-3	25 1 Seal	31437-0121-3	25 1	Seal	31437-0121-3	
1	1	Fan	31438-0203-2	29a 1 O-ring, front	31439-0168-1	29a 1 O-ring, front	31439-0168-1	29a 1	O-ring, front	31439-0168-1	
1	1	Rotor with shaft	31458-0054-2	29b 1 O-ring, back	31439-0168-1	29b 1 O-ring, back	31439-0168-1	29b 1	O-ring, back	31439-0168-1	
2	1	Cable protection	31438-0161-1	30 3 Washer	104125	30 3 Washer	104125	30 3	Washer	104125	
3	1	Packing	31458-0018-1	31 1 Spacer	31437-0212-1	31 1 Spacer	31437-0212-1	31 1	Spacer	31437-0212-1	
4a	1	Cover	31458-0017-1	32 1 O-ring	223406-51	32 1 O-ring	223406-51	32 1	O-ring	223406-51	
4b	2	Screw	2211721-08	33 1 Stationary seal ring	31450-0007-1	33 1 Stationary seal ring	31450-0007-1	33 1	Stationary seal ring	31450-0007-1	
4c	2	Washer	9611-99-0752	36a+b 2 Rotating seal ring	31437-0211-1	36a+b 2 Rotating seal ring	31437-0211-1	36a 1	Rotating seal ring SIC	31437-0211-1	
5	1	Set screw for earth cable	9611-99-2035	37 1 Spring	104154	37 1 Spring	104154	36b 1	Rotating seal ring	31437-0211-1	
6	1	Packing	31439-0049-1	40 1 O-ring	223406-60	40 1 O-ring	223406-60	36b 1	Rotating seal ring	31437-0211-1	
7	1	Compression gland, 22.5 mm	31801-0154-4	41 1 O-ring	223406-58	41 1 O-ring	223406-58	37 1	Spring	104154	
8Δ	1	O-ring, NBR (Standard)	31439-0112-1	Δ Shaft seal, complete, EPDM	9612-4393-03	41 1 O-ring	223406-60	40 1	O-ring	223406-58	
1	1	O-ring, EPDM	31439-0112-4	23 1 Stationary seal ring SIC	31437-0225-1	41 1 O-ring	223406-60	41 1	O-ring	223406-58	
1	1	O-ring, FPM	31439-0112-5	25 1 Seal	31437-0121-3	41 1 O-ring	223406-58	23 1	Stationary seal ring SIC	31437-0225-1	
1	1	O-ring, PTFE	31439-0112-3	29a 1 O-ring, front	31439-0168-4	23 1 Stationary seal ring SIC	31437-0225-1	25 1	Seal	31437-0121-3	
9	1	Pump casing with sanitary fittings, 76 mm inlet and outlet		29b 1 O-ring, back	31439-0168-4	25 1 Seal	31437-0121-3	29a 1	O-ring, front	31439-0168-4	
		ISO male	31458-0060-1	30 3 Washer	104125	29b 1 O-ring, back	31439-0168-4	29b 1	O-ring, back	31439-0168-4	
		SMS	31458-0060-2	31 1 Spacer	31437-0212-1	30 3 Washer	104125	30 3	Washer	104125	
		DIN	31458-0060-3	32 1 O-ring	223406-51	31 1 Spacer	31437-0212-1	31 1	Spacer	31437-0212-1	
		ISO clamp	31458-0060-4	33 1 Stationary seal ring	31450-0007-1	32 1 O-ring	223406-51	32 1	O-ring	223406-51	
		BS	31458-0060-5	36a+b 2 Rotating seal ring	31437-0211-1	33 1 Stationary seal ring	31450-0007-1	33 1	Stationary seal ring	31450-0007-1	
10	1	Back plate	31439-0101-1	37 1 Spring	104154	36a 1 Rotating seal ring SIC	31437-0211-1	36a 1	Rotating seal ring SIC	31437-0211-1	
13	1	Clamp set	9611-92-1001	40 1 O-ring	223406-60	36b 1 Rotating seal ring	31437-0211-1	36b 1	Rotating seal ring	31437-0211-1	
14a	1	Flange	31458-0014-1	41 1 O-ring	223406-58	37 1 Spring	104154	40 1	O-ring	223406-60	
14b	6	Screw	2217751-22	Δ Shaft seal, complete, FPM	9612-4393-04	41 1 O-ring	223406-58	41 1	O-ring	223406-58	
15	1	Lining	31458-0025-1	23 1 Stationary seal ring SIC	31437-0225-1	41 1 O-ring	223406-58	41 1	O-ring	223406-58	
16a	2	Screw	2210938-22	25 1 Seal	31437-0121-3	41 1 O-ring	223406-58	23 1	Stationary seal ring SIC	31437-0225-1	
16b	2	Washer	9611-99-1831	29a 1 O-ring, front	31439-0168-5	23 1 Stationary seal ring SIC	31437-0225-1	25 1	Seal	31437-0121-3	
17	1	Shroud	31458-0053-1	29b 1 O-ring, back	31439-0168-5	25 1 Seal	31437-0121-3	29a 1	O-ring, front	31439-0168-5	
18a	2	Front leg	31460-1248-5	30 3 Washer	104125	29b 1 O-ring, back	31439-0168-5	29b 1	O-ring, front	31439-0168-5	
18b	3	Washer	31460-0104-1	31 1 Spacer	31437-0212-1	30 3 Washer	104125	30 3	Washer	104125	
18c	2	Nut	9611-99-1829	32 1 O-ring	223406-51	31 1 Spacer	31437-0212-1	31 1	Spacer	31437-0212-1	
18d	2	Nut	9611-99-1829	33 1 Stationary seal ring	31450-0007-1	32 1 O-ring	223406-51	32 1	O-ring	223406-51	
18e	2	Screw	9611-99-1833	36a+b 2 Rotating seal ring	31437-0211-1	33 1 Stationary seal ring	31450-0007-1	33 1	Stationary seal ring	31450-0007-1	
18f	2	Washer	9611-99-0706	37 1 Spring	104154	36a 1 Rotating seal ring SIC	31437-0211-1	36a 1	Rotating seal ring SIC	31437-0211-1	
18g	2	Spring washer	9611-99-0676	40 1 O-ring	223406-60	36b 1 Rotating seal ring	31437-0211-1	36b 1	Rotating seal ring	31437-0211-1	
19a	1	Back leg	31458-0078-1	41 1 O-ring	223406-58	37 1 Spring	104154	40 1	O-ring	223406-60	
19b	4	Screw	221030-13	Δ Shaft seal, complete, PTFE	9612-4393-02	40 1 O-ring	223406-60	40 1	O-ring	223406-60	
19c	1	Bracket for leg	31458-0079-1	23 1 Stationary seal ring SIC	31437-0225-1	41 1 O-ring	223406-58	41 1	O-ring	223406-58	
35	1	Seal housing	31439-0114-1	25 1 Seal	31437-0121-3	41 1 O-ring	223406-58	23 1	Stationary seal ring SIC	31437-0225-1	
39	4	Screw	9611-99-0208	29a 1 O-ring, front	31439-0168-3	41 1 O-ring	223406-58	25 1	Seal	31437-0121-3	
39a	4	Washer	9611-99-0800	29b 1 O-ring, back	31439-0168-1	23 1 Stationary seal ring SIC	31437-0225-1	25 1	Seal	31437-0121-3	
43	1	Fastening ring	31439-0113-1	30 3 Washer	104125	23 1 Stationary seal ring SIC	31437-0225-1	29a 1	O-ring, front	31439-0168-3	
45a	2	Flushing tube	31439-0122-5	31 1 Spacer	31437-0212-1	29b 1 O-ring, back	31439-0168-1	29b 1	O-ring, back	31439-0168-1	
45b	2	Fitting	2525524-02	32 1 O-ring	223406-51	30 3 Washer	104125	30 3	Washer	104125	
46	1	Assembly mandrel (not shown)	31439-0118-1	33 1 Stationary seal ring	31450-0007-1	31 1 Spacer	31437-0212-1	31 1	Spacer	31437-0212-1	
				36a+b 2 Rotating seal ring	31437-0211-1	32 1 O-ring	223406-51	32 1	O-ring	223406-51	
				37 1 Spring	104154	33 1 Stationary seal ring	31450-0007-1	33 1	Stationary seal ring	31450-0007-1	
				40 1 O-ring	223406-60	36a 1 Rotating seal ring SIC	31437-0211-1	36a 1	Rotating seal ring SIC	31437-0211-1	
				41 1 O-ring	223406-58	36b 1 Rotating seal ring	31437-0211-1	36b 1	Rotating seal ring	31437-0211-1	
						37 1 Spring	104154	37 1	Spring	104154	
						40 1 O-ring	223406-60	40 1	O-ring	223406-60	
						41 1 O-ring	223406-58	41 1	O-ring	223406-58	
				Older legs (Period -8608)							
				50* 1 Back leg	31458-0041-1						
				51 4 Screw	221030-13						
				52** 2 Front leg	31458-0022-1						
				52** 2 Screw for pos. 52	2217759-05						
				53** 2 Adjustable leg	31437-0074-1						
				54 2 Lock nut	31437-0073-1						
				* Can be replaced by 9611-92-1002, complete plast leg.							
				** Can be replaced by 9611-92-1003, complete plast leg.							
						Accessories (delivered with every new pump)					
						1 Spanner for impeller	31439-0104-1				
						Δ Service kits, NBR	9611-92-1066				
						Δ Service kits, EPDM	9611-92-1067				
						Δ Service kits, FPM	9611-92-1068				
						Δ Service kits, PTFE	9611-92-1069				
						Parts marked with Δ are included in the service kits.					

* Sometimes reduced impeller diameter. Check the diameter of the original impeller.

Recommended spare parts: **Service kits.**