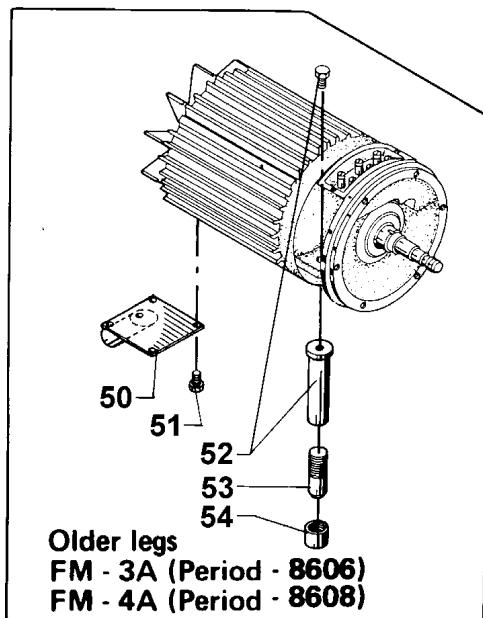
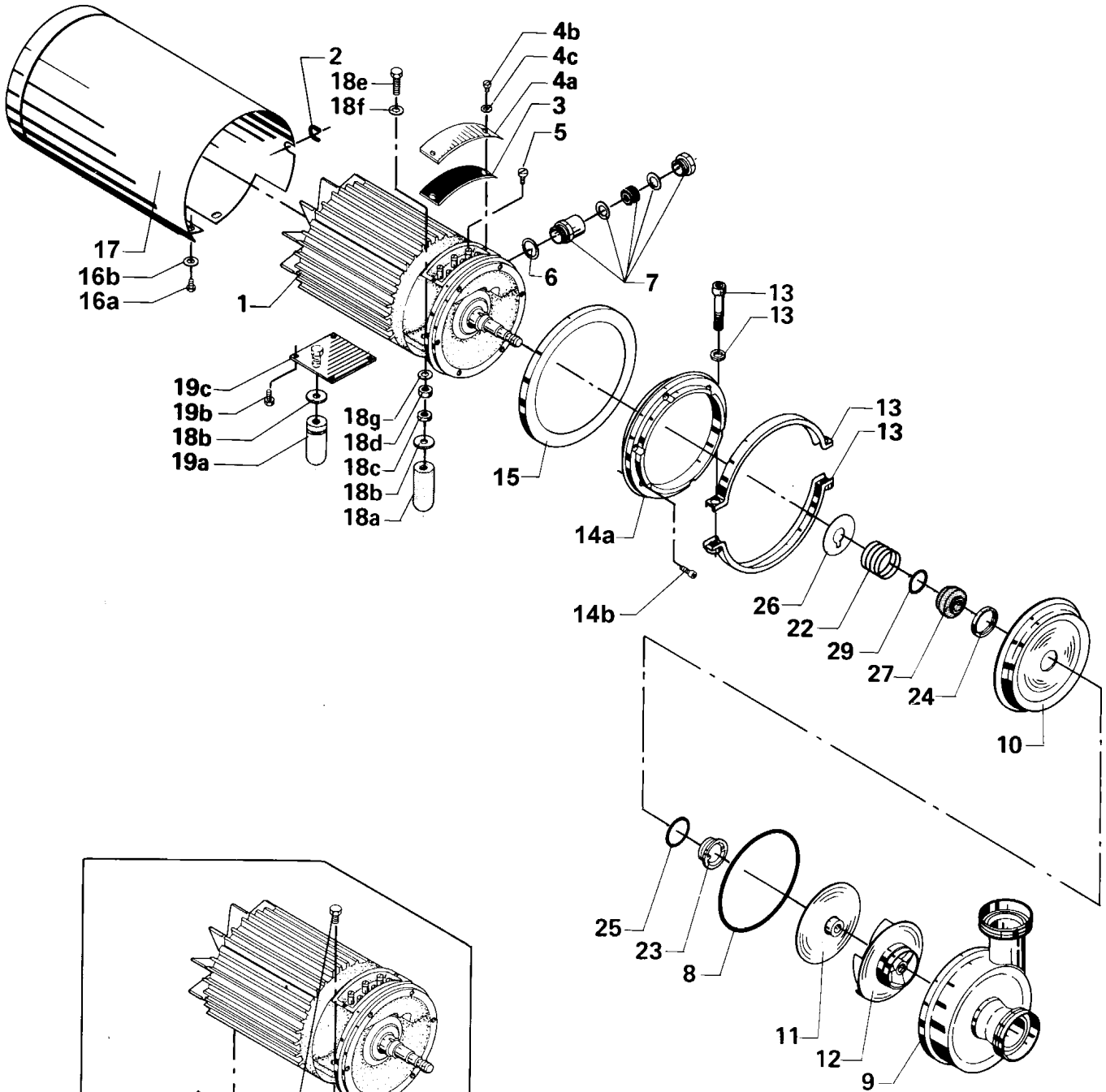


Centrifugal Pumps – Single Shaft Seal
Types FM-3A & FM-4A



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
8A	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.

Accessorise (delivered with every new pump)

1	Spanner for impeller	31439-0104-1
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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

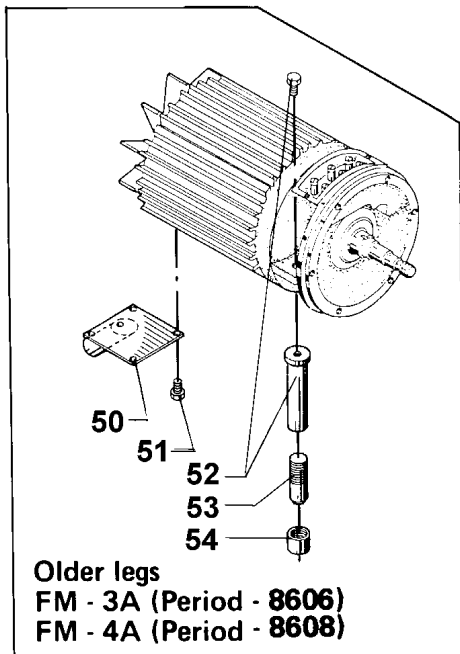
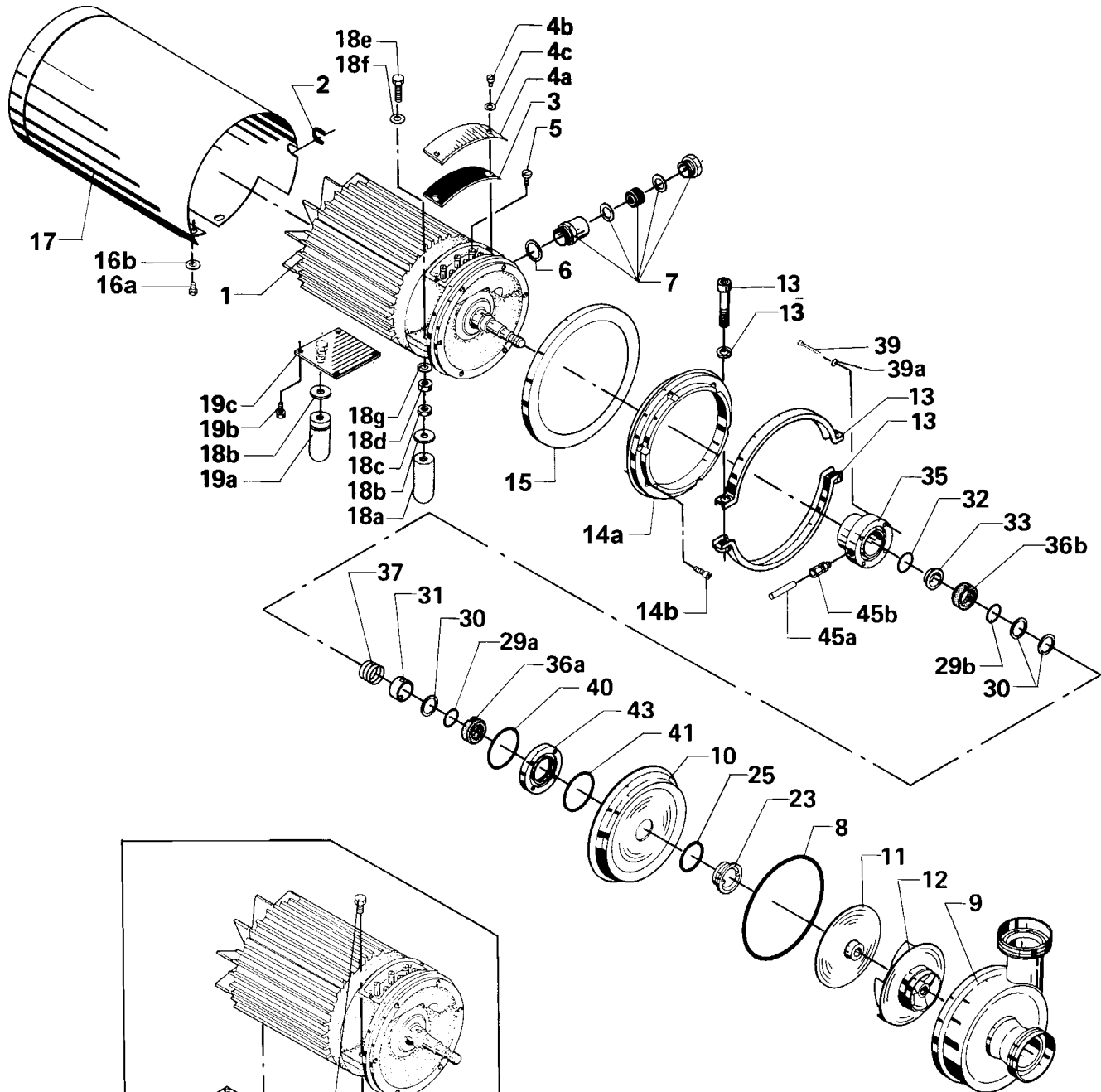
Older legs (Period -8608)

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	
1	1	Motor 7.5 kW 380/660 V	31801-8515-3	25 1 Seal		31437-0121-1		23 1 Stationary seal ring SiC		31437-0225-1	
1	1	Fan	31438-0203-2	29a 1 O-ring, front		31439-0168-1		25 1 Seal		31437-0121-1	
1	1	Rotor with shaft	31458-0054-2	29b 1 O-ring, back		31439-0168-1		29a 1 O-ring, front		31439-0168-1	
2	1	Cable protection	31438-0161-1	30 3 Washer		104125		29b 1 O-ring, back		31439-0168-1	
3	1	Packing	31458-0018-1	31 1 Spacer		31437-0212-1		30 3 Washer		104125	
4a	1	Cover	31458-0017-1	32 1 O-ring		223406-51		31 1 Spacer		31437-0212-1	
4b	2	Screw	2211721-08	33 1 Stationary seal ring		31450-0007-1		32 1 O-ring		223406-51	
4c	2	Washer	9611-99-0752	36a+b 2 Rotating seal ring		31437-0211-1		33 1 Stationary seal ring		31450-0007-1	
5	1	Set screw for earth cable	9611-99-2035	37 1 Spring		104154		36a 1 Rotating seal ring SiC		31437-0211-1	
6	1	Packing	31439-0049-1	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		37 1 Spring		104154	
8A	1	O-ring, NBR (Standard)	31439-0112-1	Δ Shaft seal, complete, EPDM		9612-4393-03		40 1 O-ring		223406-60	
1	1	O-ring, EPDM	31439-0112-4	23 1 Stationary seal ring SiC		31437-0225-1		41 1 O-ring		223406-58	
1	1	O-ring, FPM	31439-0112-5	25 1 Seal		31437-0121-3		Shaft seal, complete, EPDM		9612-4393-03	
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	
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	
		ISO male	31458-0060-1	30 3 Washer		104125		29a 1 O-ring, front		31439-0168-4	
		SMS	31458-0060-2	31 1 Spacer		31437-0212-1		29b 1 O-ring, back		31439-0168-4	
		DIN	31458-0060-3	32 1 O-ring		223406-51		30 3 Washer		104125	
		ISO clamp	31458-0060-4	33 1 Stationary seal ring		31450-0007-1		31 1 Spacer		31437-0212-1	
		BS	31458-0060-5	36a+b 2 Rotating seal ring		31437-0211-1		32 1 O-ring		223406-51	
10	1	Back plate	31439-0101-1	37 1 Spring		104154		33 1 Stationary seal ring		31450-0007-1	
13	1	Clamp set	9611-92-1001	40 1 O-ring		223406-60		36a 1 Rotating seal ring SiC		31437-0211-1	
14a	1	Flange	31458-0014-1	41 1 O-ring		223406-58		36b 1 Rotating seal ring		31437-0211-1	
14b	6	Screw	2217751-22	Δ Shaft seal, complete, FPM		9612-4393-04		37 1 Spring		104154	
15	1	Lining	31458-0025-1	23 1 Stationary seal ring SiC		31437-0225-1		40 1 O-ring		223406-60	
16a	2	Screw	2210938-23	25 1 Seal		31437-0121-3		41 1 O-ring		223406-58	
16b	2	Washer	9611-99-1831	29a 1 O-ring, front		31439-0168-5		Shaft seal, complete, FPM		9612-4393-04	
17	1	Shroud	31458-0053-1	29b 1 O-ring, back		31439-0168-5		23 1 Stationary seal ring SiC		31437-0225-1	
18a	2	Front leg	31460-1248-5	30 3 Washer		104125		25 1 Seal		31437-0121-3	
18b	3	Washer	31460-0104-1	31 1 Spacer		31437-0212-1		29a 1 O-ring, front		31439-0168-5	
18c	2	Nut	9611-99-1829	32 1 O-ring		223406-51		29b 1 O-ring, back		31439-0168-5	
18d	2	Nut	9611-99-1829	33 1 Stationary seal ring		31450-0007-1		30 3 Washer		104125	
18e	2	Screw	9611-99-1833	36a+b 2 Rotating seal ring		31437-0211-1		31 1 Spacer		31437-0212-1	
18f	2	Washer	9611-99-0706	37 1 Spring		104154		32 1 O-ring		223406-51	
18g	2	Spring washer	9611-99-0676	40 1 O-ring		223406-60		33 1 Stationary seal ring		31450-0007-1	
19a	1	Back leg	31458-0078-1	41 1 O-ring		223406-58		36a+b 2 Rotating seal ring		31437-0211-1	
19b	4	Screw	221030-13	Δ Shaft seal, complete, PTFE		9612-4393-02		37 1 Spring		104154	
19c	1	Bracket for leg	31458-0079-1	23 1 Stationary seal ring SiC		31437-0225-1		40 1 O-ring		223406-60	
35	1	Seal housing	31439-0114-1	25 1 Seal		31437-0121-3		41 1 O-ring		223406-58	
39	4	Screw	9611-99-0208	29a 1 O-ring, front		31439-0168-3		Shaft seal, complete, PTFE		9612-4393-02	
39a	4	Washer	9611-99-0800	29b 1 O-ring, back		31439-0168-3		23 1 Stationary seal ring SiC		31437-0225-1	
43	1	Fastening ring	31439-0113-1	30 3 Washer		104125		25 1 Seal		31437-0121-3	
45a	2	Flushing tube	31439-0122-5	31 1 Spacer		31437-0212-1		29a 1 O-ring, front		31439-0168-3	
45b	2	Fitting	252524-02	32 1 O-ring		223406-51		29b 1 O-ring, back		31439-0168-1	
46	1	Assembly mandrel (not shown)	31439-0118-1	33 1 Stationary seal ring		31450-0007-1		30 3 Washer		104125	
				36a+b 2 Rotating seal ring		31437-0211-1		31 1 Spacer		31437-0212-1	
				37 1 Spring		104154		32 1 O-ring		223406-51	
				40 1 O-ring		223406-60		33 1 Stationary seal ring		31450-0007-1	
				41 1 O-ring		223406-58		36a 1 Rotating seal ring SiC		31437-0211-1	
								36b 1 Rotating seal ring		31437-0211-1	
								37 1 Spring		104154	
								40 1 O-ring		223406-60	
								41 1 O-ring		223406-58	
								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 a are included in the service kits.			

* Sometimes reduced impeller diameter. Check the diameter of the original impeller.
Recommended spare parts: **Service kits**.