

Parts Manual

Rotary Vacuum Pump *E1M175S, E1M275S, E2M175S* *E2M275S, E2M175AE, E2M275AE*

<i>Description</i>	<i>Item Number</i>
<i>E1M175S Rotary Vacuum Pump, 230-240/380-415V, 50Hz 3-phase</i>	<i>A34601935</i>
<i>E1M175S Rotary Vacuum Pump, 230/460V, 60Hz 3-phase</i>	<i>A34603982</i>
<i>E1M275S Rotary Vacuum Pump, 220-240/380-415V, 50Hz 3-phase</i>	<i>A34701935</i>
<i>E1M275S Rotary Vacuum Pump, 230/460V, 60Hz 3-phase</i>	<i>A34703982</i>
 <i>E2M175S Rotary Vacuum Pump, 230-240/380-415V, 50Hz 3-phase</i>	 <i>A36601935</i>
<i>E2M175S Rotary Vacuum Pump, 230/460V, 60Hz 3-phase</i>	<i>A36603982</i>
<i>E2M275S Rotary Vacuum Pump, 220-240/380-415V, 50Hz 3-phase</i>	<i>A36701935</i>
<i>E2M275S Rotary Vacuum Pump, 230/460V, 60Hz 3-phase</i>	<i>A36703982</i>
 <i>E2M175AE Rotary Vacuum Pump, 220-240/380-415V, 50Hz 3-phase</i>	 <i>A36615982</i>
<i>E2M175AE Rotary Vacuum Pump, 230/460V, 60Hz 3-phase</i>	<i>A36616982</i>
<i>E2M275AE Rotary Vacuum Pump, 220-240/380-415V, 50Hz 3-phase</i>	<i>A36715982</i>
<i>E2M275AE Rotary Vacuum Pump, 230/460V, 60Hz 3-phase</i>	<i>A36716982</i>



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E1/E2M175S, E1/E2M275S, and E2M175AE/275AE ROTARY VACUUM PUMPS PARTS INFORMATION

This manual provides information about the component parts of the Edwards E1 /E2M175S, E1 /E2M275S and E2M175AE /275AE Rotary vacuum pumps.

The exploded views of the E1 /E2M175S, E1 /E2M275S and E2M175AE /275AE pumps are shown in Figures 3 to 13, the component parts referenced on these figures are listed in Tables 3 to 18. When you read Table 3 take note of the following:

The 'Item' number is the number of the component part on Figure 3. The Item Numbers used on Figure 3 and in Table 3 are the same numbers as used in the E1 /E2M175S, E1 /E2M275S and E2M175AE /275AE pumps General Assembly (GA) drawings.

The entries in the 'Kit No.(s)' column are cross references to the kits in Table 1. If a part has an entry in this column, then the component part is included in the referenced maintenance kit(s).

If a part has an entry in the 'Item Number' column, then the part is available as a spare and the entry defines the Item Number of the spare part.

The notation A /R means as required.

Table 2 Cross reference.	Description	Item No
1	Seal kit E1M175S / E2M275S	A34601840
2	Seals kit E2M175S / E2M275S	A36601840
3	Maintennace kit E1M175S	A34601831
4	Maintennace kit E1M275S	A34701831
5	Maintennace kit E2M175S	A36601831
6	Maintennace kit E2M275S	A36701831

Table 1 - Maintenance kits

E1M175S/275S, E2M175S/275S AND E2M175AE/275AE PUMP DATA TABLES

Item No.	Motor assy.	Voltage (V)	Phase	Frequency (Hz)	Power (kW)	Enclosure rating
A34601935	A07116001	(230-240)	3	50	5.5kW	IP54
A34603982	A07116003	(380-415) 230 / 460	3	60	6.5kW	IP54

Table 2a - E1M175S

Item No.	Motor assy.	Voltage (V)	Phase	Frequency (Hz)	Power (kW)	Enclosure rating
A34701935	A07117003	(220-240)	3	50	7.5kW	IP54
A34703982	A07117004	(380-415) 230 / 460	3	60	8.5kW	IP54

Table 2b - E1M275S

Item No.	Motor assy.	Voltage (V)	Phase	Frequency (Hz)	Power (kW)	Enclosure rating
A36601935	A07116001	(230-240)	3	50	5.5kW	IP54
A36603982	A07116003	(380-415) 230 / 460	3	60	6.5kW	IP54

Table 2c - E2M175S

Item No.	Motor assy.	Voltage (V)	Phase	Frequency (Hz)	Power (kW)	Enclosure rating
A36701935	A07117003	(220-240)	3	50	7.5kW	IP54
A36703982	A07117004	(380-415) 230 / 460	3	60	8.5kW	IP54

Table 2d - E2M275S

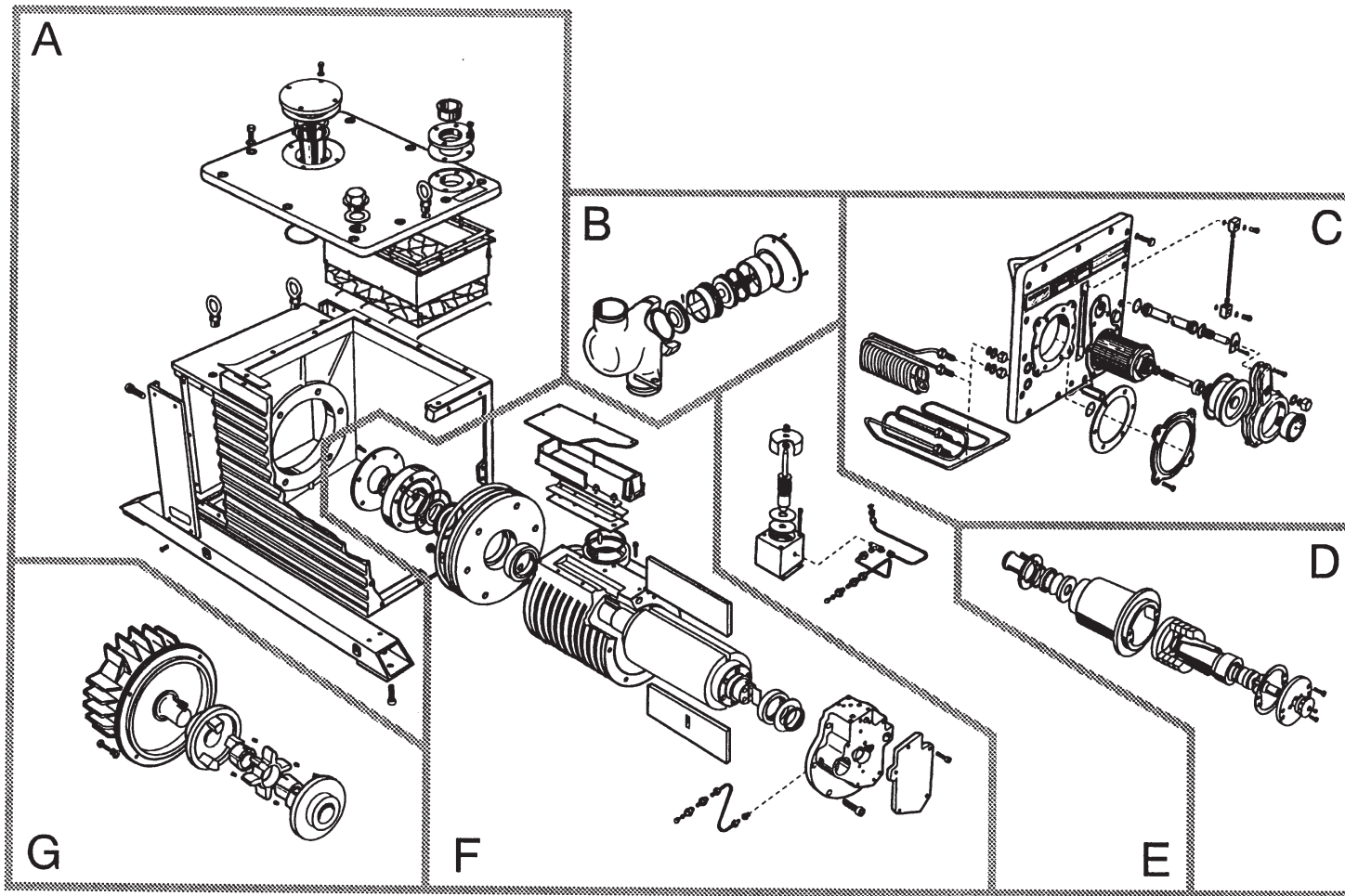
Item No.	Motor assy.	Voltage (V)	Phase	Frequency (Hz)	Power (kW)	Enclosure rating
A36615982	A07116001	(220-240)	3	50	5.5kW	IP54
A36616982	A07116003	(380-415) 230 / 460	3	60	6.5kW	IP54

Table 2e - E2M175AE

Item No.	Motor assy.	Voltage (V)	Phase	Frequency (Hz)	Power (kW)	Enclosure rating
A36715982	A07117003	(220-240)	3	50	7.5kW	IP54
A36616982	A07117004	(380-415) 230 / 460	3	60	8.5kW	IP54

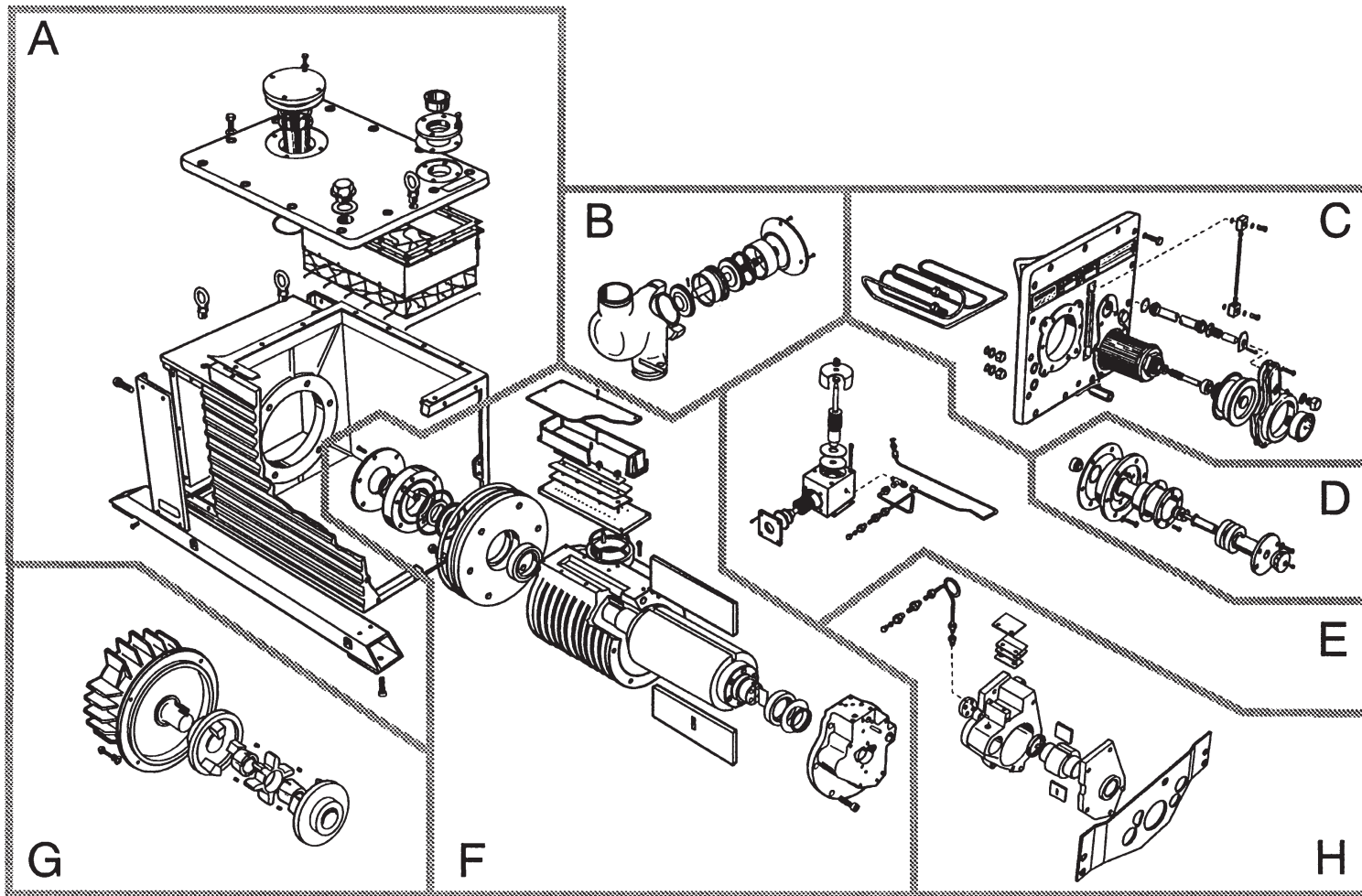
Table 2f - E2M275AE

E1M175S AND E1M275S MAJOR SUB ASSEMBLIES



- | | | | |
|----|--|----|----------------------------|
| A. | Main Oil Box Assembly | B. | Inlet Valve Assembly. |
| C. | Oil Box End-Plate and Oil Filter Assembly. | D. | Gas Ballast Valve Assembly |
| E. | Oil Distributor Assembly | F. | HV Rotor Assembly |
| G. | Motor Drive Assembly | | |

Figure 1 - E1M175S /E1M275S major sub-assemblies



- | | | | |
|----|---|----|----------------------------------|
| A. | Main Oil Box Assembly. | B. | Inlet Valve Assembly. |
| C. | Oil Box End-Plate and Oil Filter Assembly | D. | Gas Ballast Valve Assembly. |
| E. | Oil Distributor Assembly | F. | High Vacuum (HV) Rotor Assembly. |
| G. | Motor Drive Assembly. | H. | Low Vacuum (LV) Rotor Assembly |

Figure 2 - E2M175S / E2M275S major sub-assemblies

(A) Main oil box sub-assembly

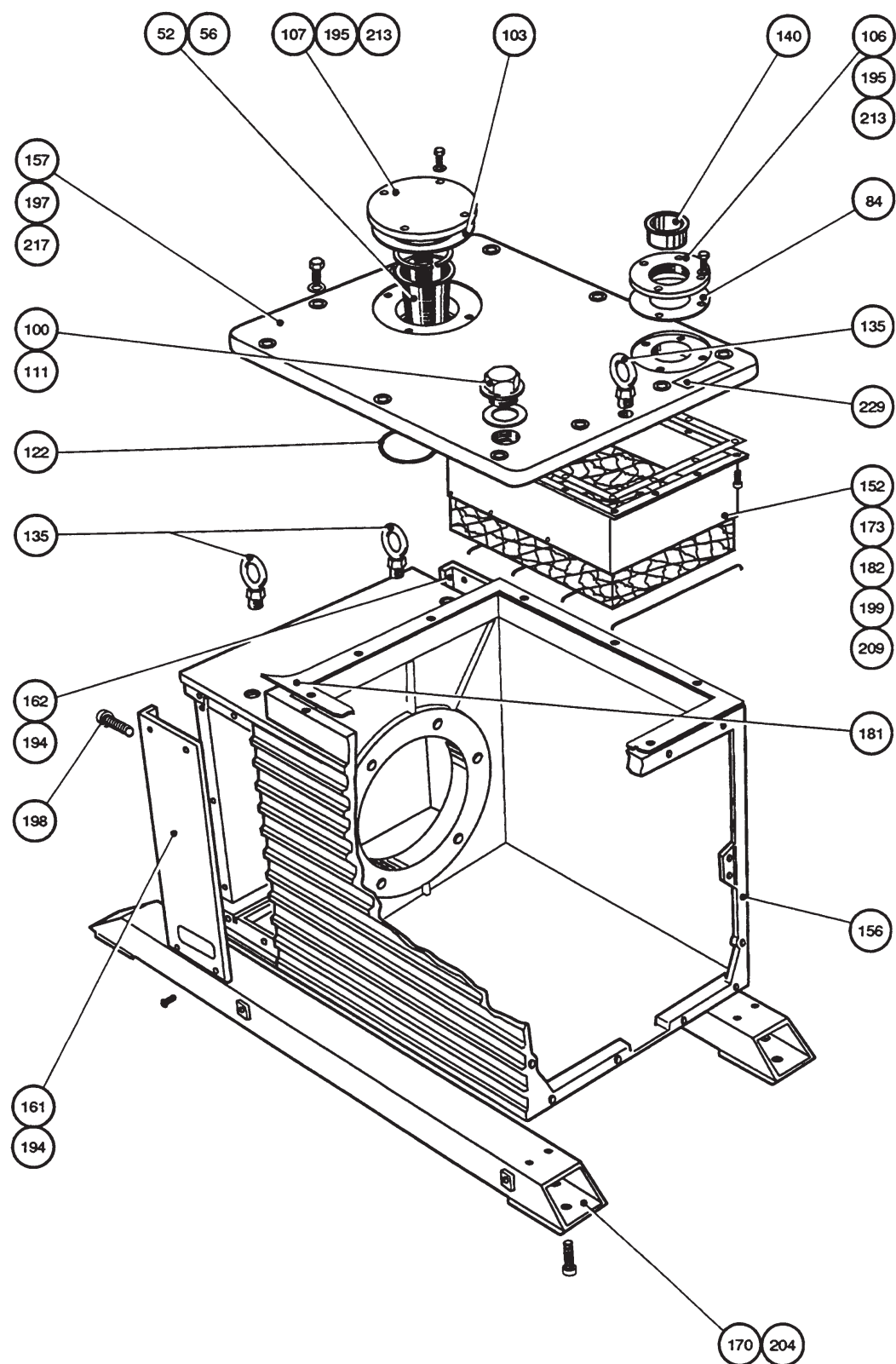


Figure 3 - (A) Main oil box sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No	
52	Filter assembly	1	1	1	1	A22305011	1,2,3,4,5,6	
56	Circlip	1	1	1	1	A22426006		
84	Exhaust gasket	1	1	1	1	A26002022		
100	Plug-1" BSP	1	1	1	1			
103	Trapped 'O' ring, 63mm	1	1	1	1	C10005005	2,3,4,5,6	
106	Flange, ISO 40x1.5 inch	1	1	1	1			
107	Blank flange ISO 63	1	1	1	1		A52803027	
111	Dowty seal, 1 inch BSP	1	1	1	1		218790007	1, 2,3,4,5,6 1, 2,3,4,5,6
122	'O' ring	1	1	1	1			
135	Eyebolt, M16	3	3	3	3	H01503015		
140	Red cap	1	2	1	1	A20499018		
170	Base runner	2	3	2	2	E20001084		
194	Pan hd screw,M8x20lg (m / stl)	8	8	8	8			
195	Hex hd screw, M8x30lg (m / stl)	8	8	8	8			
197	Hex hd bolt, M8x50lg (m / stl)	10	12	10	12			
198	Skt hd, cap screw, M110x45	6	6	6	6			
199	Skt hd cap screw, M6x16	14	18	14	18			
204	Smt hd cap screw, M16x25	4	4	4	4			
209	Wire l6 swg x 150mm (st stl)	4	6	4	6			
213	‘A’ form washer, M8, (m / stl)	8	8	8	8			
217	S coil spring washers	10	12	10	12			
229	Hazard warning label	1	1	1	1			

Table 3 - Main oil box sub-assembly - common items parts list

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S.	Item No.	Kit No
152	Box assy.	1	1	1	1	A36601004	1, 2,3,4,6 1, 2,3,4,5,6 1, 2,3,4,5,6 1, 2,3,4,5,6
156	Oil box	1		1	1	A34701004	
157	Lid	1	1	1	A34601028		
			1	1	A34701022		
161	Side panel, LH	1	1	1	A36601063		
			1	1	A36701063		
162	Side panel, RH	1	1	1	A36601064		
			1	1	A36701064		
173	Knitmesh	1	1	1	A22305014		
			1	1	A22305015		
181	Lid gasket	1	1	1			
182	Knitmesh gasket	1	1	1			

Table 4 - Main oil box sub-assembly - specific items part list

(B) Inlet valve sub-assembly

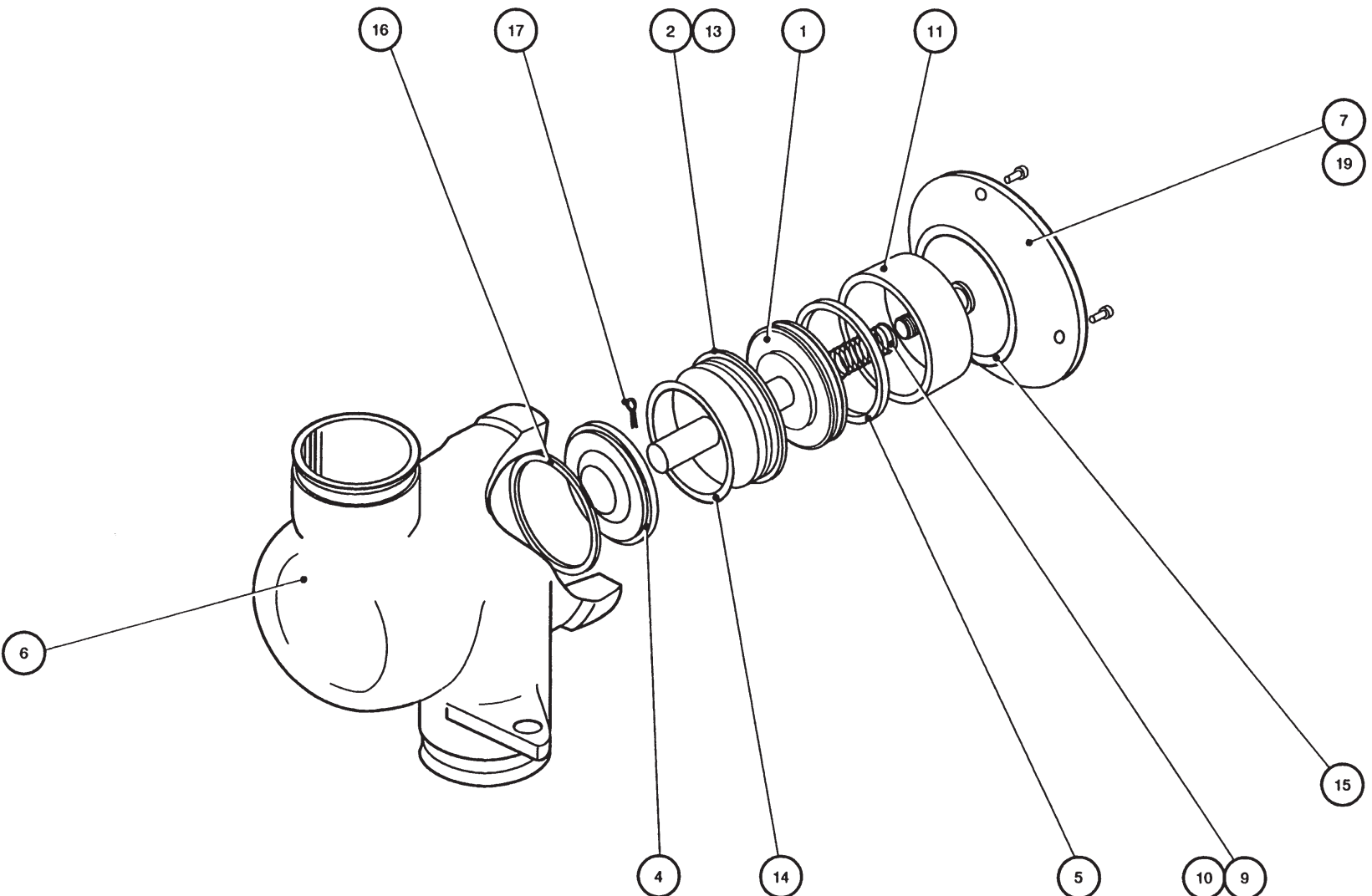
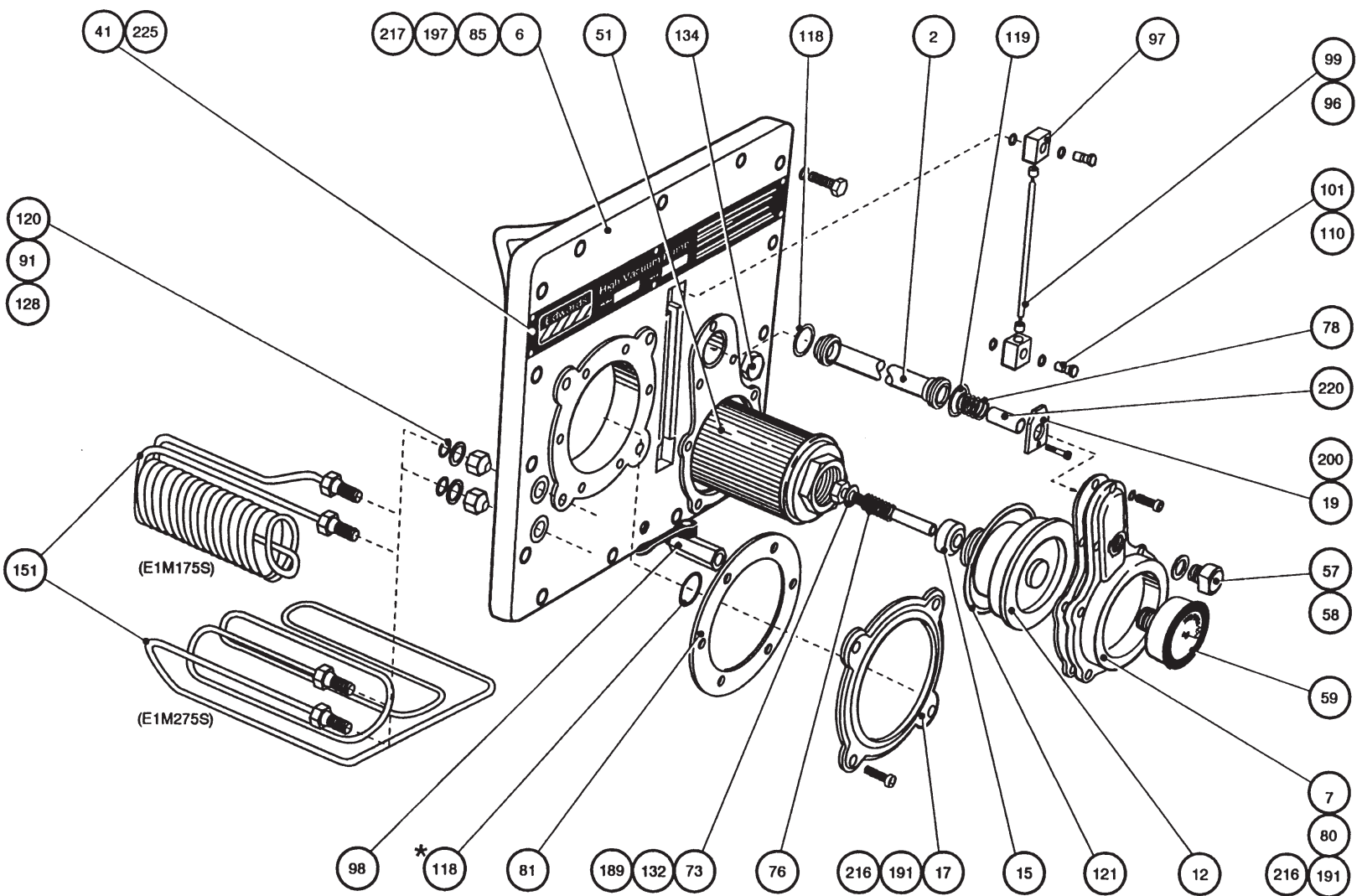


Figure 4 - (B) Inlet valve sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
1	Piston assy.	1	1	1	1	A44001001	1, 2,3,4,5,6
2	Bearing housing assy.	1	1	1	1	A44001002	
4	Valve pad	1	1	1	1	A44001004	
5	Piston ring	1	1	1	1		
6	Inlet valve body	1	1	1	1	A34601024	
7	Cover plate	1	1	1	1	A21049001	
9	Spring guide	1	1	1	1	A27220001	
10	Compression spring	1	1	1	1	A27102020	
11	Sleeve	1	1	1	1	A27806002	
13	'O' ring	1	1	1	1		
14	'O' ring	1	1	1	1		1, 2,3,4,5,6
15	'O' ring	1	1	1	1		1, 2,3,4,5,6
16	'O' ring	1	1	1	1		1, 2,3,4,5,6
17	Split pin 1/16" dia x1" lg s/s	1	1	1	1		1, 2,3,4,5,6
19	Skt hd cap screw, M6x10mm	4	4	4	4	218091368	

Table 5 - Inlet valve sub-assembly - common items

(C) Oil box end-plate and oil filter sub-assembly



Used on A34601000 - see Figure 5

Figure 5 - (C) Oil box end-plate and oil filter sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	QTY.
2	Oil tube assy.	1	1	1	1	A36601003	3,4,5,6
6	End plate	1	1	1	1	A34601034	
7	Filter head	1	1	1	1	A36615002	
12	Filter adaptor	1	1	1	1	A34601060	
15	Valve pad	1	1	1	1		
17	Bezel	1	1	1	1	A34601057	
19	Spring clamp	1	1	1	1	A34601061	3,4,5,6
41	Label	1	1	1	1	A20001066	
51	Filter element	1	1	1	1		
57	1/2" BSP plug	1	1	1	1	A26002021	
58	Dowty seal 1/2" BSP	1	1	1	1		
59	Vacuum gauge	1	1	1	1	A22906001	1, 2,3,4,5,6
73	Washer 2BA s/s	1	1	1	1	211813197	
76	Spring	1	1	1	1	A27102022	
78	Spring	1	1	1	1	A27102019	
80	Filter head gasket	1	1	1	1		
81	Ballast gasket	1	1	1	1		
85	End plate gasket	1	1	1	1		1, 2,3,4,5,6
91	Cooling coil spacer	2	2	2	2	A27802010	
96	End cap	2	2	2	2	A00906058	
97	Sight glass connector	2	2	2	2	A34601050	
98	Ball valve 1/2" BSP	1	1	1	1	A28702003	
99	Sight glass	1	1	1	1	A01601089	
101	Banjo bolt 1/4" BSP	2	2	2	2	A01601105	1, 2,3,4,5,6
110	Dowty seal 1/4" BSP	4	4	4	4		
118	'O' ring	2	2	2	2		
119	'O' ring	1	1	1	1		
120	'O' ring	2	2	2	2		
121	'O' ring	1	1	1	1		
128	Locknut 3/4" BSP	2	2	2	2	M01500011	1, 2,3,4,5,6
132	Spirol pin 5x50mm	1	1	1	1	212370643	
134	Taper press. plug 3/4" BSP	1	1	1	1	H03517001	
151	Cooling coil assembly	1				A34601007	
						A34701002	
189	Hex hd screw, M5x60 (cad)	1	1	1	1		
191	Ch hd screw. M6x25lg. (m/s cad)	11	11	7	7		1, 2,3,4,5,6
197	Hex hd bolt, M8x50 (m/s cad)	15	15	15	15		
200	Shakeproof washer, M6 (m/s cad)	11	11	7	7		
216	Skt hd cap screw, M6x25	15	15	15	15		
217	S/coil spring washer, M8	1	1	1	1		
220	Spring pin, 12 dia. x 22	1	1	1	1	212170235	
225	Rivet	6	6	6	6	211430301	

Table 6 - Oil box end-plate and oil filter sub-assembly common items

(D) Gas ballast valve sub-assembly

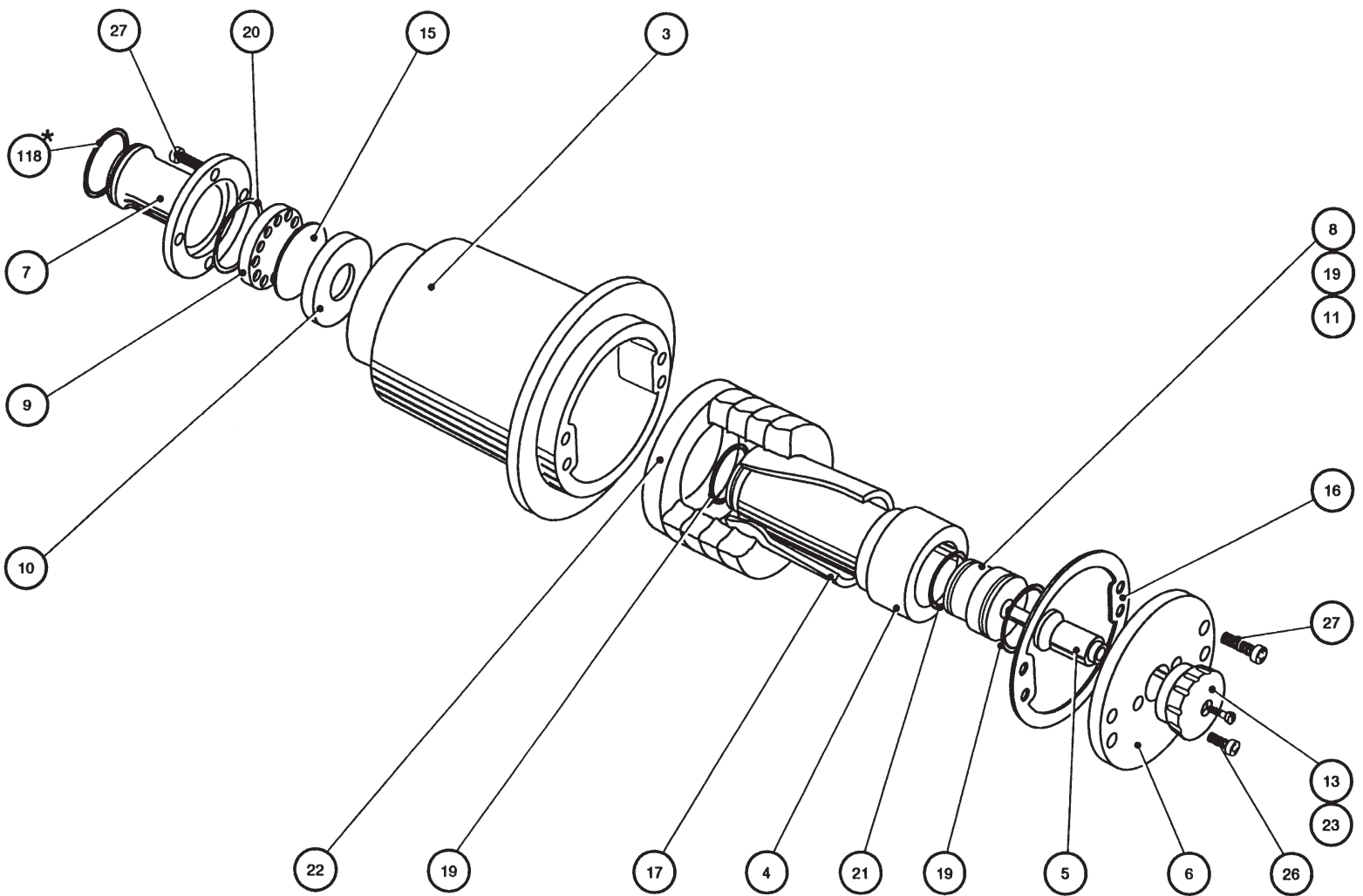


Figure 6 - (D) E1M175 / E1M275 Gas ballast valve sub-assembly

(D) Gas ballast valve sub-assembly

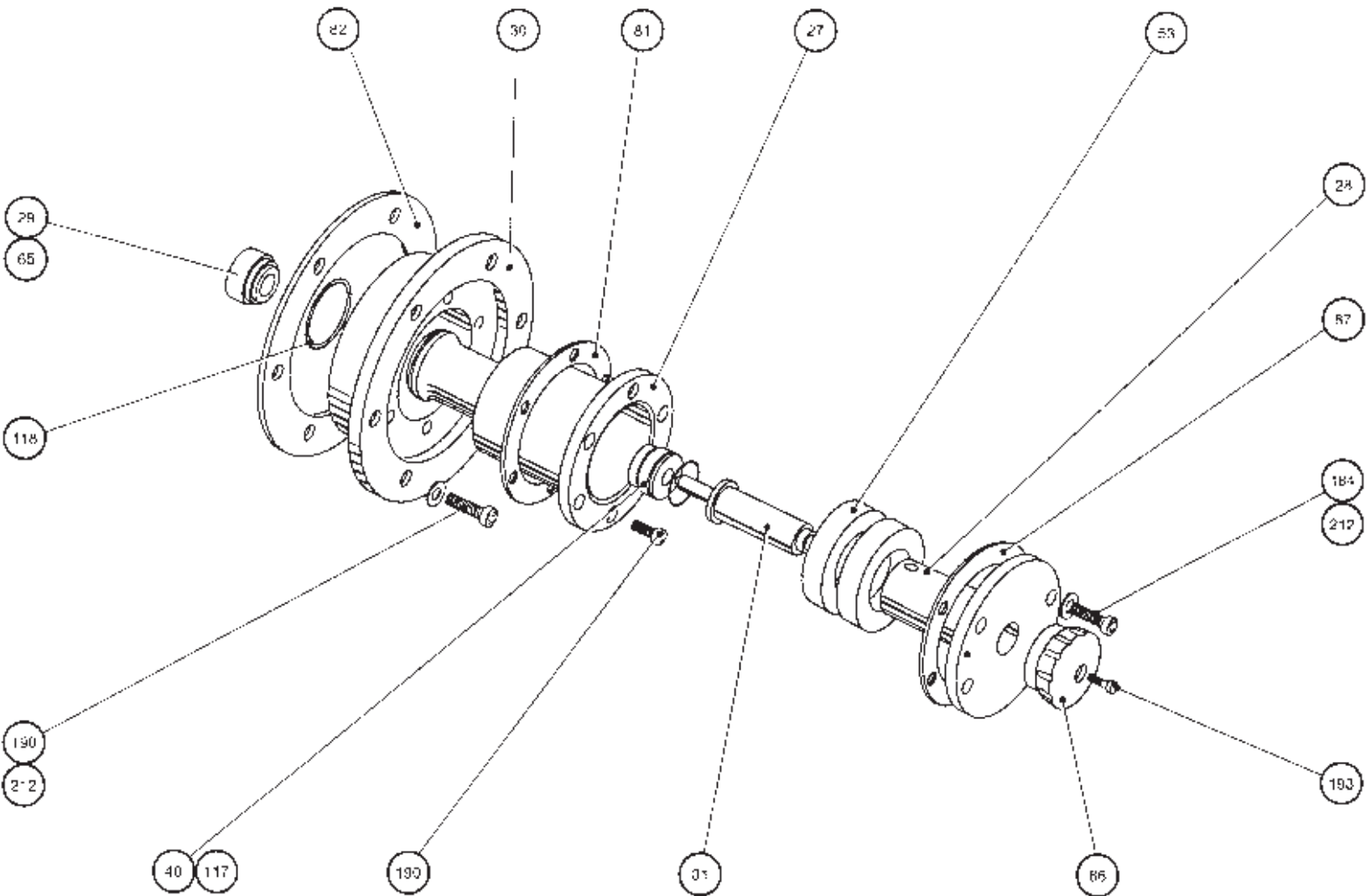


Figure 7 - (D) E2M175S / E2M275S Gas ballast valve sub-assembly

(E) Oil Distributor sub-assembly

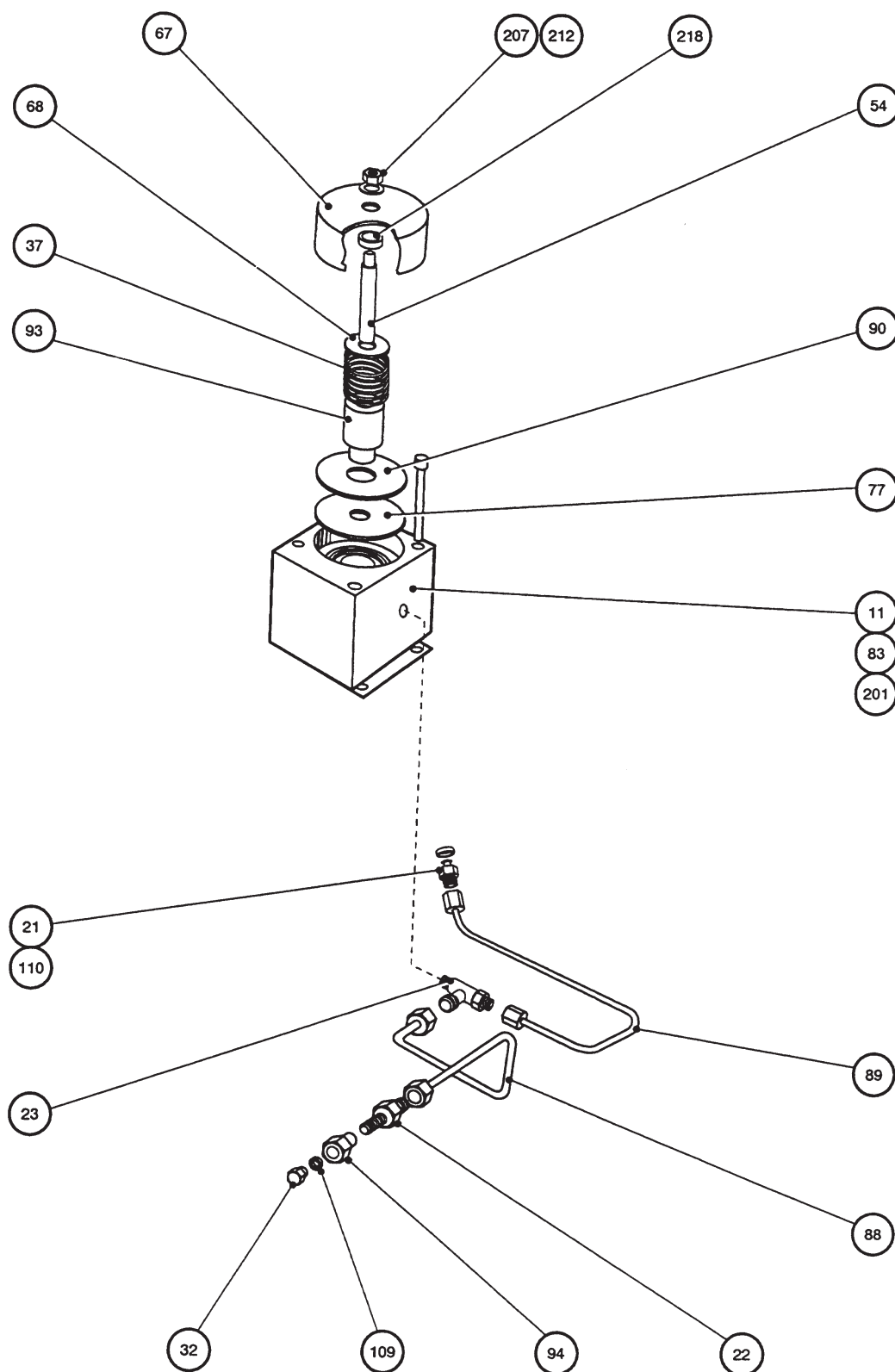


Figure 8 - (E) EM1175S/E1M275S Oil distributor sub-assembly

(E) Oil Distributor sub-assembly

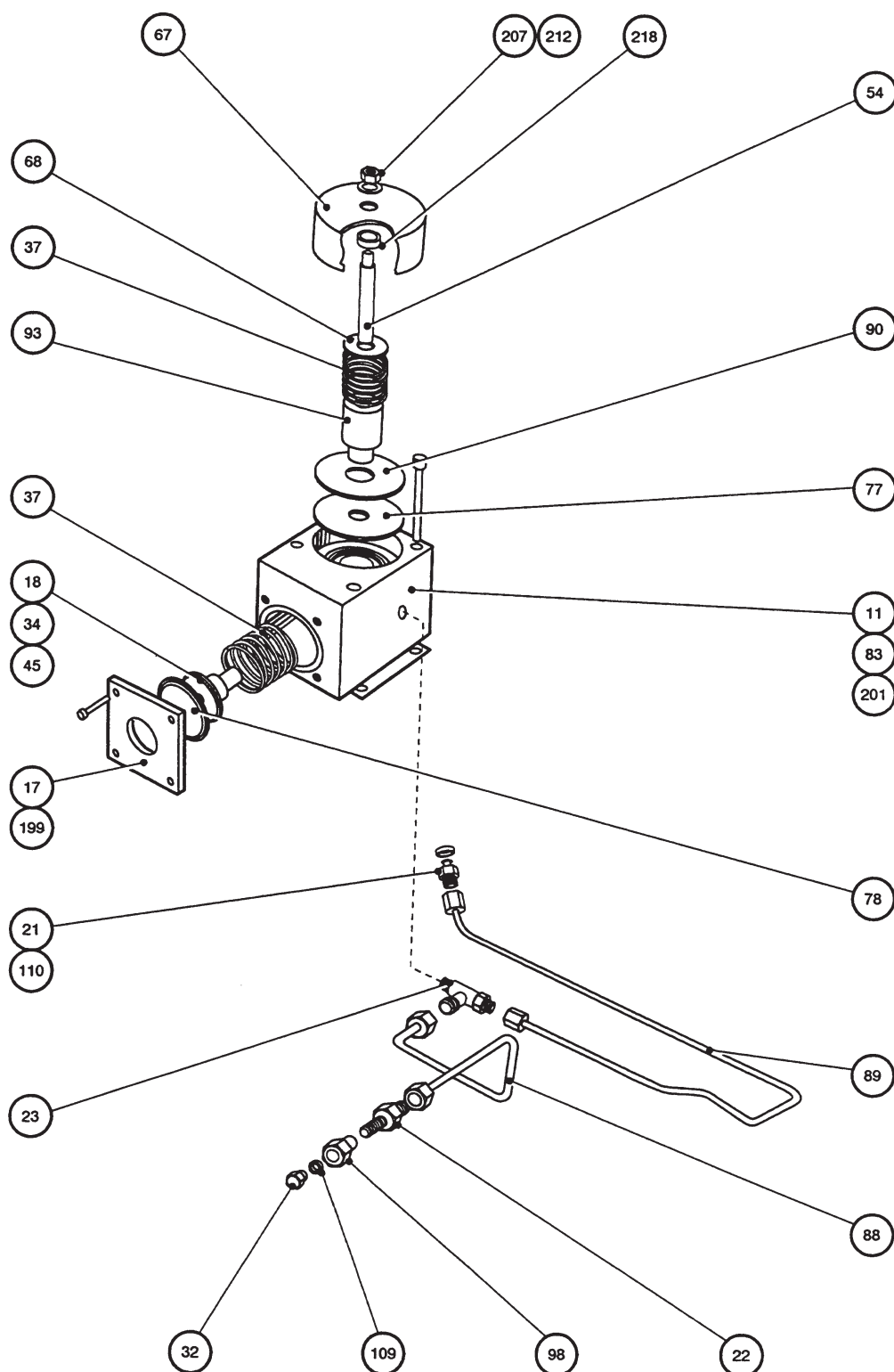


Figure 9 - (E) E2M175S / E2M275S Oil distributor sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No.
11	Distributor body	1	1	1	1	A34701038	3,4,5,6
21	Wade male stud coupling	1	1	1	1	H03505041	
22	Wade female stud coupling	1	1	1	1	H03505056	
23	Wade stud run tee	1	1	1	1	H03505180	
32	1/8" BSP plug	1	1	1	1	A00714012	
37	Spring	1	1	1	1	A27102023	
54	Stud	1	1	1	1	A22404007	
67	Distributor shroud	1	1	1	1	A25970025	
68	Distributor clamp washer	1	1	1	1	A25971012	
77	Distributor gasket	1	1	1	1		
83	Valve body gasket	1	1	1	1		1, 2,3,4,5,6
88	Tube	1	1	1	1	A27843018	1, 2,3,4,5,6
89	Tube	1	1	1	1	A27843019	
90	Distributor clamp plate	1	1	1	1	A27802007	
93	Distributor spring support	1	1	1	1	A27820009	
94	Connector 1/8" BSP	1	1	1	1	A27911002	
109	Dowty seal 1/8" BSP	1	1	1	1		
110	Dowty seal 1/4" BSP	1	1	1	1		
201	Skt hd cap screw, M6x35	4	4	4	4		
207	'oddie' nut M6 (m / s)	1	1	1	1		
212	'A' form washer, M6 (m / s cad)	1	1	1	1		
218	Hex nut, M6 (m / s cad)	1	1	1	1		

Table 9 - E1M175S/E1M275S Oil distributor sub-assembly - common items

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
11	Distributor body	1	1	1	1	A34601038	3,4,5,6
17	Clamp plate	1	1	1	1	A34601044	
18	Piston	1	1	1	1	A34601045	
21	Wade male stud coupling	1	1	1	1	H03505041	
22	Wade female stud coupling	1	1	1	1	H03505056	
23	Wade stud run tee	1	1	1	1	H03505180	
32	1/8" BSP plug	1	1	1	1	A00714012	
34	Piston face	1	1	1	1	A02800016	
37	Spring	2	2	2	2	A27102023	
45	Oilite bush	1	1	1	1	A20407004	
54	Stud	1	1	1	1	A22404007	1, 2,3,4,5,6
67	Distributor shroud	1	1	1	1	A25970025	
68	Distributor clamp washer	1	1	1	1	A25971012	
77	Distributor gasket	1	1	1	1	A27159416	
78	Diaphragm	1	1	1	1		
83	Valve body gasket	1	1	1	1	A27843018 A27843019 A27802007 A27820009 A27911002	
88	Tube	1	1	1	1		
89	Tube	1	1	1	1		
90	Distributor clamp plate	1	1	1	1		
93	Distributor spring support	1	1	1	1		
98	Connector 1/8" BSP	1	1	1	1		
109	Dowty seal 1/8" BSP	1	1	1	1		
110	Dowty seal 1/4" BSP	1	1	1	1		
199	Skt hd cap screw, M6x16	4	4	4	4		
201	Skt hd cap screw, M6x55	4	4	4	4		
207	Nut, M6 (m /s)	1	1	1	1		
212	‘A’ form washer, M6 (m /s cad)	1	1	1	1		
218	Hex nut, M6 (m /s cad)	1	1	1	1		

Table 10 - E2M175S / E2M275S Oil distributor sub-assembly - common items

(F) HV stator sub-assembly

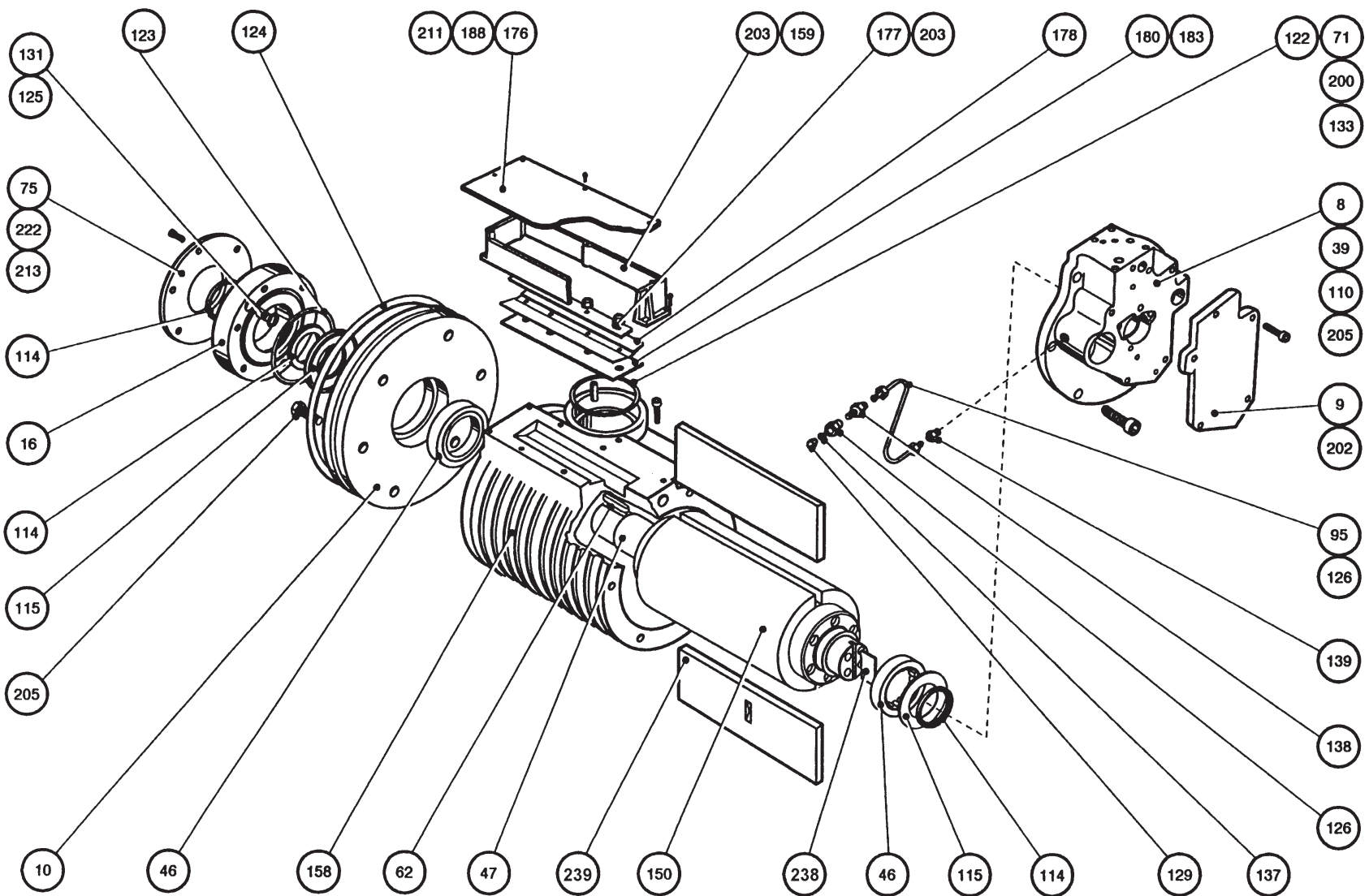


Figure 10 - (F) E1M175S/E1M275S HV stator sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No.	Kit No
8	Rear bearing	1	1	1	1	A34601027	3,4,5,6 3,4,5,6
9	Rear cover	1	1	1	1	A34601030	
10	Front bearing	1	1	1	1	A34601066	
16	Seal housing	1	1	1	1	A34601043	
39	Plug 1/4" BSP	1	1	1	1	A26002018	
46	Bearing	2	2	2	2		
47	Shaft seal sleeve	1	1	1	1		
62	Key	1	1	1	1	A24301009	
71	Washer	1	1	1	1	A25970027	
75	Retaining plate	1	1	1	1	A22308004	
95	Oil return tube assy.	1	1	1	1	A27879008	1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6 1,2,3,4,5,6
110	Dowty seal 1/4" BSP	1	1	1	1		
114	Oilseal - Viton	3	3	3	3		
115	Backup washer	2	2	2	2		
122	'O' ring	1	1	1	1		
123	'O' ring	1	1	1	1		
124	'O' ring	1	1	1	1		
125	'O' ring	1	1	1	1		
126	'O' ring	3	3	3	3		
129	Petrol union nut 3/8" BSP	1	1	1	1	M03400008	
131	Spirol pin 5x14mm	1	1	1	1	212370631	3,4,5,6
133	Spirol pin 6x16mm	1	1	1	1	212370657	
137	Blind tailpiece SC5	1	1	1	1	C11001062	
138	Bulkhead connector SC5	1	1	1	1	C11001080	
139	Adaptor SC5x1/8" BSP	1	1	1	1	C11001180	
183	Valve spacer	3	3	3	3	A27804004	
188	Ch hd screw, M5x10	4	4	4	4		
200	Skt hd cap screw, M6x25	1	1	1	1		
202	Skt hd cap screw, M8x25	5	5	5	5		
203	Skt hd cap screw, M6x20	7	7	7	7		
205	Skt hd cap screw, M10x30	12	12	12	12		3,4,5,6
211	Shakeproof washer M5, (m/s cad)	4	4	4	4		
213	'A' form washer, M8 (m/s cad)	6	6	6	6		
222	Hex hd bolt, M8x45 (m/s cad)	6	6	6	6		
238	Oil pump blade	1	1	1	1		

Table 11 - E1M175S / E1M275S HV stator sub-assembly common items

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
9	Rear bearing	1	1	1	1	A36601027	3,4,5,6 3,4,5,6
10	Front bearing	1	1	1	1	A34601066	
16	Seal housing	1	1	1	1	A34601043	
39	Plug 1/4" BSP	1	1	1	1	A26002018	
46	Bearing	2	2	2	2	A20404013	
47	Shaft seal sleeve	1	1	1	1	A20405021	
62	Key	1	1	1	1	A24301009	
71	Washer	1	1	1	1	A25970027	
75	Retaining plate	1	1	1	1	A22308004	
110	Dowty seal 1/4" BSP	2	2	2	2	H02104002	
114	Oilseal-Viton	3	3	3	3	H02109077	
115	Back-upwasher	2	2	2	2	A34601067	
122	'O' ring	1	1	1	1	212370631 212370657 A27804004 212174134 212181030 Ch hd screw, M5x10 (m/s) Csk hd screw, M6x16 (m/s) Skt hd cap screw, M6x16 Skt hd cap screw, M6x25 Skt hd cap screw, M10x30 NutM6 (m/s) Shakeproof washer, M5 (m/s cad) 'A' form washer, M8 (m/s cad) Hex hd bolt, M8x45 (m/s cad) Oil pump blade	
123	'O' ring	1	1	1	1		
124	'O' ring	1	1	1	1		
125	'O' ring	1	1	1	1		
131	Spirol pin 5x14mm	1	1	1	1		
133	Spirol pin 6x16mm	1	1	1	1		
183	Valve spacer	3	3	3	3		
185	5mm dia x 20 s/s spring pin	1	1	1	1		
186	6mm dia.x 20 lg. Parallel hardened dowel	2	2	2	2		
188	Ch hd screw, M5x10 (m/s)	4	4	4	4		
192	Csk hd screw, M6x16 (m/s)	1	1	1	1		
199	Skt hd cap screw, M6x16	1	1	1	1		
200	Skt hd cap screw, M6x25	8	8	8	8		
205	Skt hd cap screw, M10x30	12	12	12	12		
207	NutM6 (m/s)	3	3	3	3		
211	Shakeproof washer, M5 (m/s cad)	4	4	4	4		
213	'A' form washer, M8 (m/s cad)	6	6	6	6		
222	Hex hd bolt, M8x45 (m/s cad)	6	6	6	6		
238	Oil pump blade	1	1	1	1	A20402539	3,4,5,6

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
9	Rear bearing	1	1	1	1	A36601027	
10	Front bearing	1	1	1	1	A34601066	
16	Seal housing	1	1	1	1	A34601043	
39	Plug 1/4" BSP	1	1	1	1	A26002018	
46	Bearing	2	2	2	2	A20404013	3,4,5,6
47	Shaft seal sleeve	1	1	1	1	A20405021	3,4,5,6
62	Key	1	1	1	1	A24301009	
71	Washer	1	1	1	1	A25970027	
75	Retaining plate	1	1	1	1	A22308004	
110	Dowty seal 1/4" BSP	2	2	2	2	H02104002	1,2,3,4,5,6
114	Oilseal-Viton	3	3	3	3	H02109077	1,2,3,4,5,6
115	Back-upwasher	2	2	2	2	A34601067	
122	'O' ring	1	1	1	1		1,2,3,4,5,6
123	'O' ring	1	1	1	1		1,2,3,4,5,6
124	'O' ring	1	1	1	1		1,2,3,4,5,6
125	'O' ring	1	1	1	1		1,2,3,4,5,6
131	Spirol pin 5x14mm	1	1	1	1	212370631	
133	Spirol pin 6x16mm	1	1	1	1	212370657	
183	Valve spacer	3	3	3	3	A27804004	
185	5mm dia x 20 s/s spring pin	1	1	1	1	212174134	
186	6mm dia.x 20 lg. Parallel hardened dowel	2	2	2	2	212181030	
188	Ch hd screw, M5x10 (m/s)	4	4	4	4		
192	Csk hd screw, M6x16 (m/s)	1	1	1	1		
199	Skt hd cap screw, M6x16	1	1	1	1		
200	Skt hd cap screw, M6x25	8	8	8	8		
205	Skt hd cap screw, M10x30	12	12	12	12		
207	NutM6 (m/s)	3	3	3	3		
211	Shakeproof washer, M5 (m/s cad)	4	4	4	4		
213	'A' form washer, M8 (m/s cad)	6	6	6	6		
222	Hex hd bolt, M8x45 (m/s cad)	6	6	6	6		
238	Oil pump blade	1	1	1	1	A20402539	3,4,5,6

Table 12 - E2M175S/E2M275S Hv stator sub-assembly common items

TEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
150	HV rotor assy.	1	1	1	1	A26401057	
158	HV stator	1	1	1	1	A26401058	
						A34601026	
						A34701026	
						A36601026	
159	Valve box	1	1	1	1	A36701026	
						A34601047	
						A34701047	
						A36601047	
						A36701047	
176	Exhaust baffle	1	1	1	1	A25946002	
177	Clamp plate	1	1	1	1	A25946003	
						A25647003	
						A25947004	
						A25947002	
178	Exhaust valve plate	1	1	1	1	A25947001	
						A25976011	
						A25976012	
						A25976004	
180	Exhaust valve rubber	1	1	1	1	A25976003	1, 2,3 1, 2,4 5,6 6
						A27159505	
						A27159506	
239	HV blade	2	2	2	2	A20402632	3,5
						A20402634	4,6

Table 13 - HV stator sub-assembly specific items parts list

(G) Motor drive sub-assembly

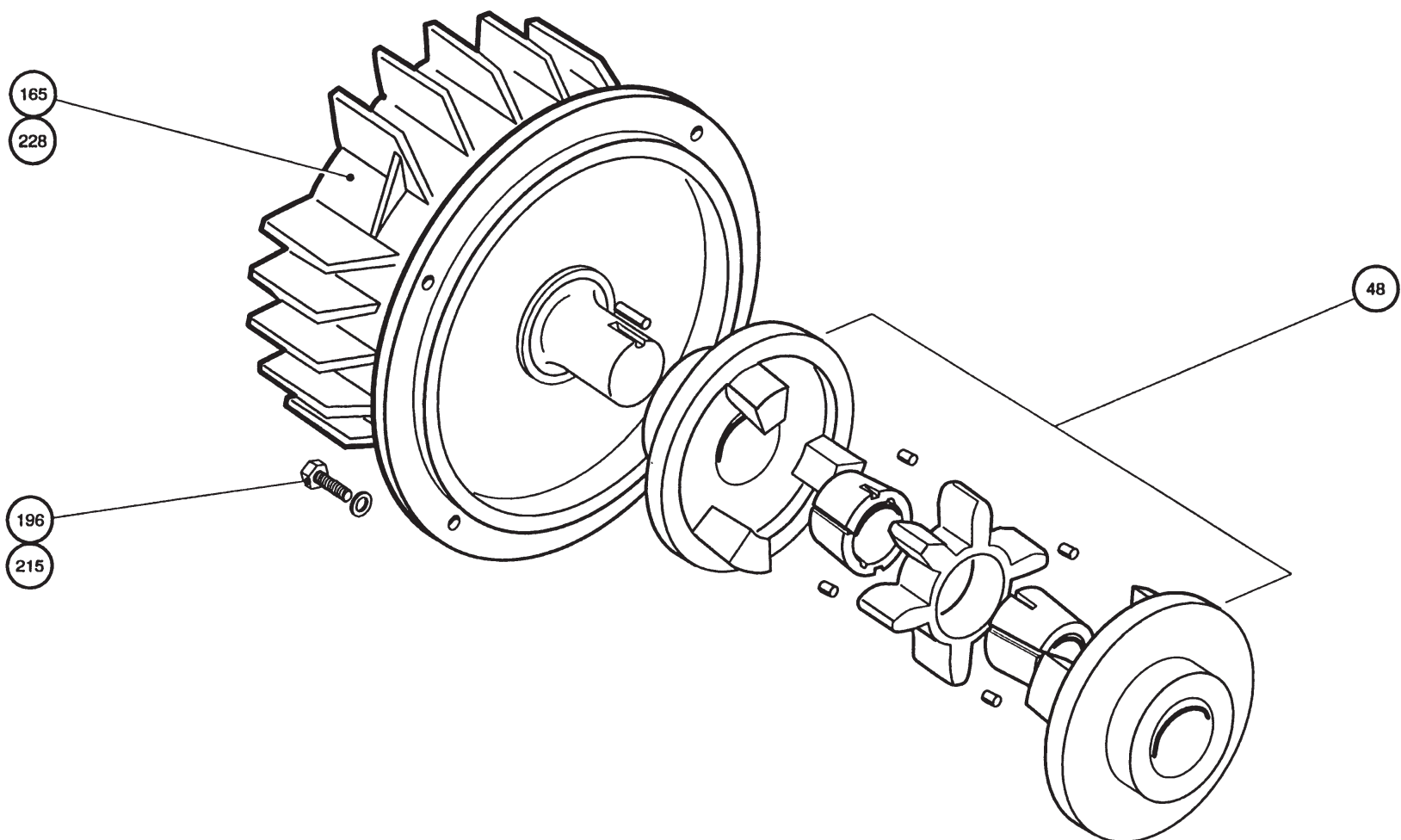


Figure 11 - (G) Motor drive sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
48	Flexible coupling	1	1	1	1	A21071025	
196	Hex hd screw, M12x40 (m / s)	4	4	4	4		
215	‘A’ form washer, M12 (m / s cad)	4	4	4	4		
228	Warning label electrical	1	1	1	1	E20001063	

Table 14 - Motor drive sub-assembly common items

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
165	Motor - see 'Item No.' Table 7	1	1	1	1		

Table 15 - Motor drive sub-assembly specific items

(H) LV stator sub-assembly

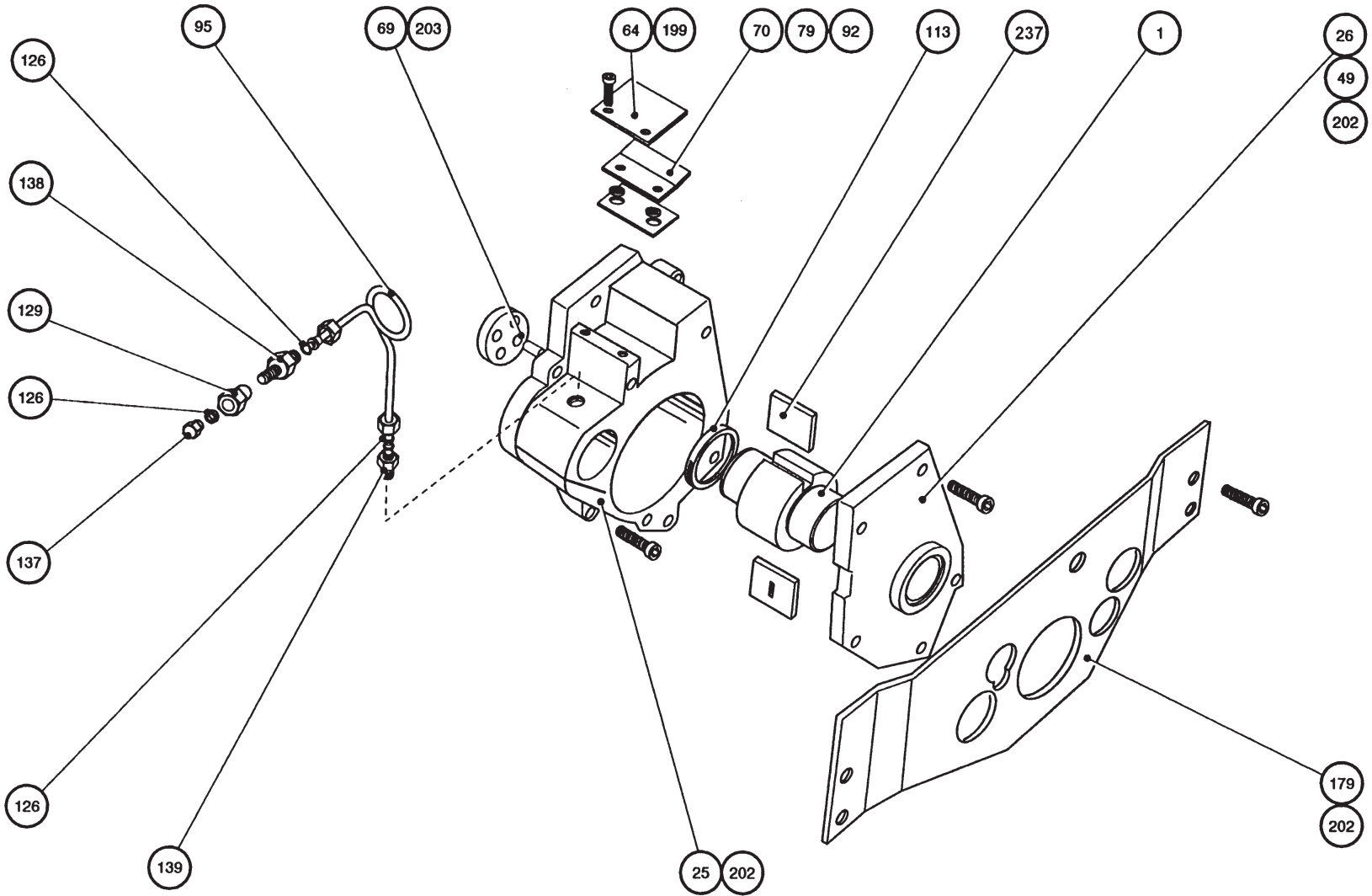


Figure 12 - (H) E2M175S/E2M275S LV stator sub-assembly

ITEM	DESCRIPTION	E1M 175S	E1M 275S	E2M 175S	E2M 275S	Item No	Kit No
1	LV Rotor assy	1	1	1	1	A26401050	
25	LV stator	1	1	1	1	A36601028	
26	Rear cover	1	1	1	1	A36601030	
49	Core plug - 38mm dia.	1	1	1	1	A21078002	
64	LV exh. baffle	1	1	1	1	A25946004	
69	Drive plate	1	1	1	1	A25972004	5,6
70	LV exh. valve plate	1	1	1	1	A25976002	5,6
79	LV exh. valve rubber	1	1	1	1	A27159504	
92	Outlet valve spacer	2	2	2	2	A27804004	
95	Oil return tube assy.	1	1	1	1	A27879006	
113	Oil seal - Viton	1	1	1	1	H02109076	5,6
126	'O' ring	3	3	3	3		3,4,5,6
129	Petrol union nut 3/8" BSP	1	1	1	1	M03400008	
137	Blind tailpiece SC5	1	1	1	1	C11001062	
138	Bulkhead connector SC5	1	1	1	1	C11001080	
139	Adaptor SC5 x 1/8" BSP	1	1	1	1	C11001180	
179	Support plate		1		1	A25970030	
199	Skt hd cap screw, M6x16	2	2	2	2		
202	Skt hd cap screw, M8x30	10	10	10	10		
203	Drive pin	4	4	4	4	A22425003	
237	LV blade	2	2	2	2	A20402636	5,6

Table 16 - E2M175S/E2M275S LV stator sub-assembly - common items

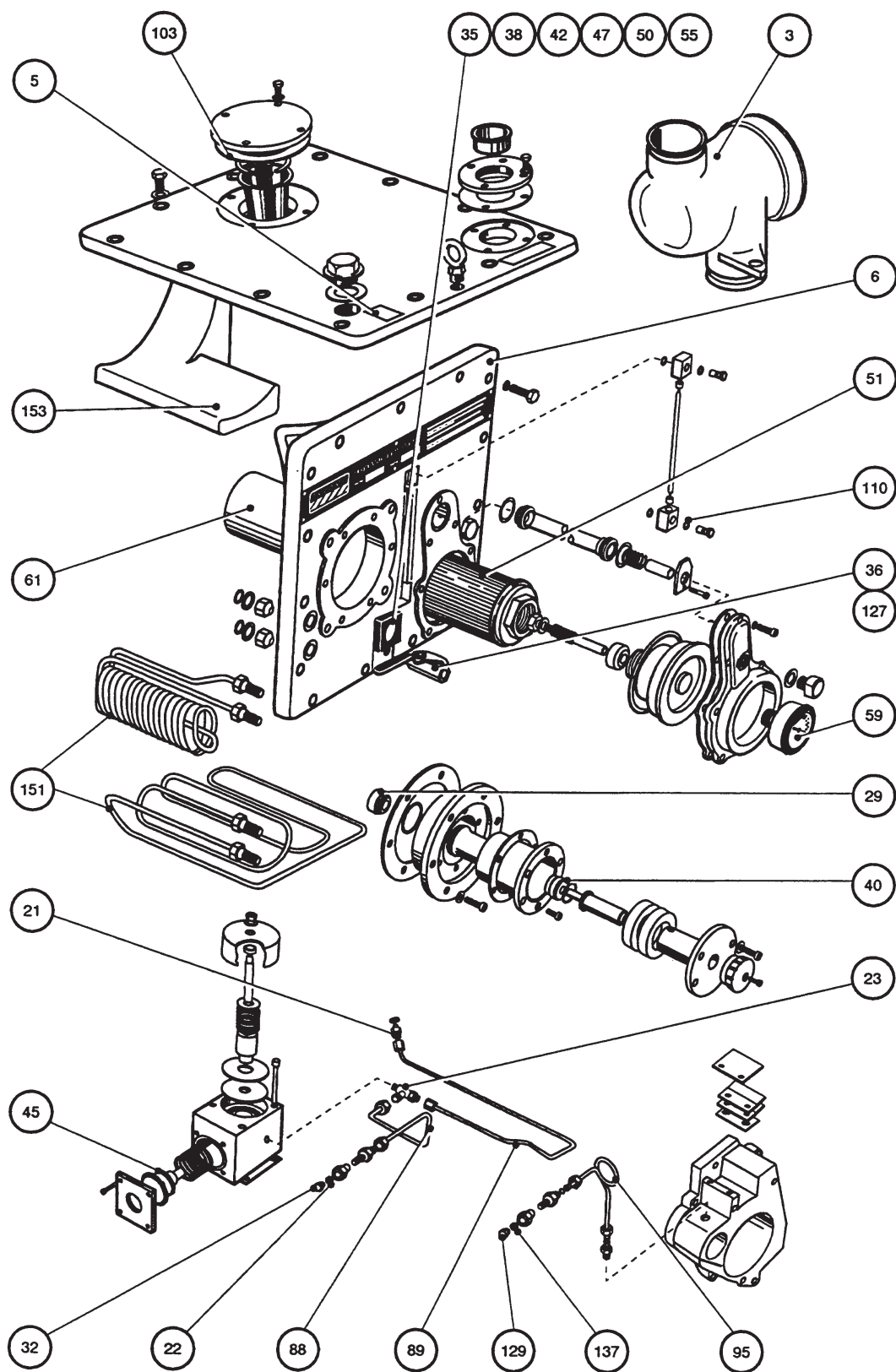


Figure 13 - E2M175AE and E2M275AE special items

ITEM	DESCRIPTION	E2M 175AE	E2M 275AE	Item No	Kit No
3	Inlet valve assy.	1	1	A44002000	1, 2 1, 2
5	Label (FOMBLIN OIL ONLY)	1	1	A20001082	
6	End plate	1	1	A36615001	
21	Male conn. 1/4" BSPT	1	1	H03527000	
22	Fem. conn. 1/8" BSPT	1	1	H03527001	
23	Male run tee 1/4" BSPT	1	1	H03527002	
29	Ballast plug	1	1	A36621004	
32	1/8" BSP plug	1	1	A26002010	
35	Sight glass bezel	1	1	A25908100	
36	Ball valve	1	1	A28702007	
*38	'O'-ring	2	2	H02125028	
40	Ballast piston assy.	1	1	A36621001	
42	Compression ring	1	1	A27820008	
45	Bush	1	1	A20407007	
47	Sight glass reflector	1	1	A25976001	
*50	Sight glass	1	1	A29201004	
*51	Filter element	1	1	A22305043	
55	M5x10 pan hd sl s/s scr.	4	4	218221328	
59	Vacuum gauge	1	1	A22906003	
61	Cover (filter)	1	1	A36615003	
88	Tube	1	1	A27840038	
95	Oil return tube assy.	1	1	A27876002	
*103	63mm Co-seal - Viton	1	1		
110	Dowty seal 1/4" BSP	4	4		
127	Hex. nipple 1/2" BSP male	1	1	H03503023	
129	3/8" BSP nut	1	1	A25202002	
137	Blind tailpiece	1	1	C11001064	

Table 17 - E2M175AE and E2M275AE - common items

*Note: You must use a E2M175S or E2M275S Maintenance Kit when servicing E2M175AE or E2M275AE pumps. You must use additional items marked ' * ' in Table 17.*

ITEM	DESCRIPTION	E2M 175AE	E2M 275AE	E2M275AE CODE No.	Kit No
89	Tube	1	1	A27840037 A27840009	
151	Cooling coil assy.	1	1	A34621002 A36721002	
153	Ballast casting	1	1	A21035082 A21035083	

Table 18 - E2M175AE and E2M275AE - specific items

SEALS KITS

E1M175S/275S and E2M175/275 seals kit

This seals kit (item number A34601840) applies to both the E1M175S and E1M275S rotary vacuum pump and is detailed in Table 19 below.

Description	Quantity
Gas ballast valve	1
Piston ring	1
Distributor gasket	1
Exhaust valve rubber	1
Exhaust valve rubber	1
Filter head gasket	1
Valve body gasket	1
Exhaust gasket	1
End plate gasket	1
Ballast gasket	1
Lid gasket	1
Lid gasket	1
Knitmesh gasket	1
Knitmesh gasket	1
Valve pad	1
Dowty seal 1/8" BSP	1
Dowty seal 1/4" BSP	6
Dowty seal 1/2" BSP	1
Dowty seal 1" BSP	1
Oil seal - Viton	3
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	3
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
Split pin	1

Table 19 - E1M175S/275S seals kit contents

This seals kit (item number A36601840) applies to both the E2M175S and E2M275S rotary vacuum pump and is detailed in Table 20 below.

Description	Quantity
Piston face	1
Felt ballast filter	2
Ballast valve	1
Piston ring	1
Distributor gasket	1
Diaphragm	1
Body gasket	1
L.V. exhaust valve rubber	1
Exhaust valve rubber	1
Exhaust valve rubber	1
Filter head gasket	1
Ballast gasket	1
Ballast gasket	1
Valve body gasket	1
Exhaust gasket	1
End plate gasket	1
Lid gasket	1
Lid gasket	1
Knitmesh gasket	1
Knitmesh gasket	1
Valve pad	1
Dowty seal 1/8" BSP	1
Dowty seal 1/4" BSP	6
Dowty seal 1/2" BSP	1
Dowty seal 1" BSP	1
Oil seal - Viton	1
Oil seal - Viton	3
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	2
Split pin	1

Table 20 - E2M175S/275S seals kit contents

MAINTENANCE KITS

E1M175S maintenance kit

This maintenance kit (item number A34601831) is detailed in Table 21 below.

Description	Quantity
End cap	2
Sight glass	1
Oil pump blade	1
High vac. blade	2
Bearing	2
Shaft seal sleeve	1
Flexible coupling element	1
Filter element	1
Knitmesh	1
Inlet filter	1
Ballast filter	5
Gas ballast valve	1
Piston ring	1
Spring	1
Spring	1
Spring	1
Distributor gasket	1
Exhaust valve rubber	1
Filter head gasket	1
Valve body gasket	1
Exhaust gasket	1
End plate gasket	1
Lid gasket	1
Knitmesh gasket	1
Ballast gasket	1
Valve pad	1
Jet	1
Backup washer	2
63mm trapped 'O' ring	1
Dowty seal 1/8" BSP	1
Dowty seal 1/4" BSP	6
Dowty seal 1/2" BSP	1
Dowty seal 1" BSP	1
Oil seal - Viton	3
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	2
'O' ring	1
Split pin	1
Exhaust warning label	1

Table 21 - E1M175S maintenance kit contents

E1M275S maintenance kit

This maintenance kit (item number A34701831) is detailed in Table 22 below.

Description	Quantity
End cap	2
Sight glass	1
Oil pump blade	1
High vac. blade	2
Bearing	2
Shaft seal sleeve	1
Flexible coupling element	1
Filter element	1
Knitmesh	1
Inlet filter	1
Ballast filter	5
Gas ballast valve	1
Piston ring	1
Spring	1
Spring	1
Spring	1
Distributor gasket	1
Exhaust valve rubber	1
Filter head gasket	1
Valve body gasket	1
Exhaust gasket	1
End plate gasket	1
End gasket	1
Knitmesh gasket	1
Ballast gasket	1
Valve pad	1
Jet	1
Backup washer	2
63mm trapped 'O' ring	1
Dowty seal 1/8" BSP	1
Dowty seal 1/4" BSP	6
Dowty seal 1/2" BSP	1
Dowty seal 1" BSP	1
Oil seal - Viton	3
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	3
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
Split pin	1

Table 22 - E1M275S maintenance kit contents

E2M175S maintenance kit

This maintenance kit (item number A36601831) is detailed in Table 23 below.

Description	Quantity
End cap	2
Sight glass	1
Piston face	1
Ballast filter assy.	1
Low vac. blade	2
Oil pump blade	1
High vac. blade	2
Bearing	2
Shaft seal sleeve	1
Flexible coupling element	1
Filter element	1
Inlet filter	1
Knitmesh	1
Felt ballast filter	2
Ballast valve	1
Drive plate	1
Piston ring	1
Spring	1
Spring	1
Spring	2
Distributor gasket	1
Diaphragm	1
Body gasket	1
Low vac. exh. valve rubber	1
Exhaust valve rubber	1
Filter head gasket	1
Ballast gasket	1
Ballast gasket	1
Valve body gasket	1
Exhaust gasket	1
End plate gasket	1
Lid gasket	1
Knitmesh gasket	1
Valve pad	1
Backup washer	2
63mm trapped 'O' ring	1
Dowty seal 1/8" BSP	1

Table 23 - E2M175S maintenance kit contents

continued...

Description	Quantity
Dowty seal 1/4" BSP	6
Dowty seal 1/2" BSP	1
Dowty seal 1" BSP	1
Oil seal - Viton	1
Oil seal - Viton	3
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	2
Split pin	1
Exhaust warning label	1

Table 23 - E2M175S maintenance kit contents

E2M275S maintenance kit

This maintenance kit (item number A36701831) is detailed in Table 24 below.

Description	Quantity
End cap	2
Sight glass	1
Piston face	1
Ballast filter assy.	1
Low vac. blade	2
Oil pump blade	1
High vac. blade	2
Bearing	2
Shaft seal sleeve	1
Flexible coupling element	1
Filter element	1
Inlet filter	1
Knitmesh	1
Felt ballast filter	2
Filter element	1
Ballast valve	1
Drive plate	1
Piston ring	1
Spring	1
Spring	1
Spring	2
Distributor gasket	1
Diaphragm	1
Body gasket	1
Low vac. exh. valve rubber	1
Exhaust valve rubber	1
Filter head gasket	1
Ballast gasket	1
Ballast gasket	1
Valve body gasket	1
Exhaust gasket	1
End plate gasket	1
Lid gasket	1
Knitmesh gasket	1
Valve pad	1
Backup washer	2
63mm trapped 'O' ring	1

Table 24 - E2M275S maintenance kit contents

continued ...

Description	Quantity
Dowty seal 1/8" BSP	1
Dowty seal 1/4" BSP	6
Dowty seal 1/2" BSP	1
Dowty seal 1" BSP	1
Oil seal - Viton	1
Oil seal - Viton	3
'O' ring	3
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	1
'O' ring	2
'O' ring	1
'O' ring	2
Split pin	1
Exhaust warning label	1

Table 24 - E2M275S maintenance kit contents

Return of BOC Edwards Equipment - Procedure (Form HS1)

Introduction

Before you return your equipment you must warn your supplier if the substances you used (and produced) in the equipment can be dangerous. You must do this to comply with health and safety at work laws.

You must complete the Declaration (HS2) on the next page and send it to your supplier before you dispatch the equipment. If you do not, your supplier will assume that the equipment is dangerous and he will refuse to accept it. If the Declaration is not completed correctly, there may be a delay in processing your equipment.

Guidelines

Take note of the following guidelines:

- Your equipment is '**uncontaminated**' if it has not been used or if it has only been used with substances that are not dangerous. Your equipment is '**contaminated**' if it has been used with any dangerous substances.
- If your equipment has been used with radioactive substances, you must decontaminate it before you return it to your supplier. You must send independent proof of decontamination (for example a certificate of analysis) to your supplier with the Declaration (HS2). Phone your supplier for advice.
- We recommend that contaminated equipment is transported in vehicles where the driver does not share the same air space as the equipment.

PROCEDURE

Use the following procedure:

1. Contact your supplier and obtain a Return Authorisation Number for your equipment.
2. Turn to the next page(s), photocopy and then complete the Declaration (HS2).
3. Remove all traces of dangerous gases: pass an inert gas through the equipment and any accessories which will be returned to your supplier. Drain all fluids and lubricants from the equipment and its accessories.
4. Disconnect all accessories from the equipment. Safely dispose of the filter elements from any oil mist filters.
5. Seal up all of the equipment's inlets and outlets (including those where accessories were attached). You may seal the inlets and outlets with blanking flanges or heavy gauge PVC tape.
6. Seal contaminated equipment in a thick polythene bag. If you do not have a polythene bag large enough to contain the equipment, you can use a thick polythene sheet.
7. If the equipment is large, strap the equipment and its accessories to a wooden pallet. Preferably, the pallet should be no larger than 510mm x 915mm (20" x 35"); contact your supplier if you cannot meet this requirement.
8. If the equipment is too small to be strapped to a pallet, pack it in a suitable strong box.
9. If the equipment is contaminated, label the pallet (or box) in accordance with laws covering the transport of dangerous substances.
10. Fax or post a copy of the Declaration (HS2) to your supplier. The Declaration must arrive before the equipment.
11. Give a copy of the Declaration to the carrier. You must tell the carrier if the equipment is contaminated.
12. Seal the original Declaration in a suitable envelope; attach the envelope securely to the outside of the equipment package. **WRITE YOUR RETURN AUTHORISATION NUMBER CLEARLY ON THE OUTSIDE OF THE ENVELOPE OR ON THE OUTSIDE OF THE EQUIPMENT PACKAGE.**

Return of BOC Edwards Equipment - Declaration (Form HS2)

Return Authorisation Number: _____

You must:

- Know about all of the substances which have been used and produced in the equipment before you complete this Declaration
- Read the Procedure (HS1) on the previous page before you attempt to complete this Declaration
- Contact your supplier to obtain a Return Authorisation Number and to obtain advice if you have any questions
- Send this form to your supplier before you return your equipment

SECTION 1 : EQUIPMENT

Equipment model _____

Serial Number _____

Has the equipment been used, tested or operated?

yes ☐ Go to Section 2 no ☐ Go to Section 4

FOR SEMICONDUCTOR APPLICATIONS ONLY :

Tool Reference Number _____

Process _____

Failure Date _____

Serial Number of Replacement Equipment _____

SECTION 2 : SUBSTANCES IN CONTACT WITH THE EQUIPMENT

Are any of the substances used or produced in the equipment

- Radioactive yes ☐ no ☐
- Biologically active yes ☐ no ☐
- Dangerous to human health and safety? yes ☐ no ☐

If you have answered 'no' to all of these questions, go to Section 4.

Your supplier will not accept delivery of any equipment that is contaminated with radioactive substances, unless you:

- Decontaminate the equipment
- Provide proof of decontamination

YOU MUST CONTACT YOUR SUPPLIER FOR ADVICE BEFORE YOU RETURN SUCH EQUIPMENT

SECTION 3 : LIST OF SUBSTANCES IN CONTACT WITH THE EQUIPMENT

Substance name	Chemical symbol	Precautions required (for example, use protective gloves, etc.)	Action required after spillage or human contact
1			
2			
3			
4			
5			
6			

SECTION 4 : RETURN INFORMATION

Reason for return and symptoms of malfunction: _____

If you have a warranty claim:

- who did you buy the equipment from ? _____
- give the supplier's invoice number _____

SECTION 5 : DECLARATION

Print your name: _____ Print your job title: _____

Print your organisation: _____

Print your address: _____

Telephone number: _____ Date of equipment delivery: _____

I have made reasonable enquiry and I have supplied accurate information in this Declaration. I have not withheld any information. I have followed the Return of BOC Edwards Equipment Procedure (HS1) on the previous page.

Signed: _____ Date _____

Addresses

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