

Reciprocating Compressors for industrial refrigeration GEA Grasso (S)AC80R

Spare parts list

pador9110-PLSAC80R_4

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SAFETY INSTRUCTIONS



Hint!

This manual must be carefully read and understood prior to installing and servicing the compressor (package)

General Safety

All service operations described in this servicemanual are only to be carried out by well-trained/qualified personnel and even then only after this service manual has been read carefully and is fully understood.

Personal safety

Observe all (inter)national and/or local safety standards, measures and regulations during reinstalling, repairing and connecting the compressor (package).

Mechanical safety

If the compressor does not have to be removed from its base, it is advisable to put warning labels on vital parts of the compressor saying that the plant is out-of-operation and must not be started up.

If the compressor has to be opened for service, the refrigerant has to be pumped down and the electric supply has to be cut off.

After having run the initial 100 operating hours, it is essential (in both new and modified plants) to replace the red running-in discharge oil filter element with the permanent grey filter element. Also replace the running-in suction gas filter element.

Check the direction of rotation is correct before re-starting the compressor.

PREFACE

General

1. All documentation can be downloaded via our web site.
2. Grasso's technical manuals includes "generic paragraphs"; this means that ***it can occur*** that not all data as described is relevant for the current compressor series as mentioned in this manual. (For instance, not all compressor series are suitable for all mentioned refrigerants or not all compressor series includes two-stage compressors)

Directives

Equipment is based on Pressure Equipment Directive (PED 97/23/EG) regulations and according to Machine Directive (MD 2006/42/EG) regulations.

The applied standards are:

NEN-EN-IEC 60204, NEN-EN-ISO 12100, NEN-EN-ISO 13857, NEN-EN 378

CYLINDER NUMBERING

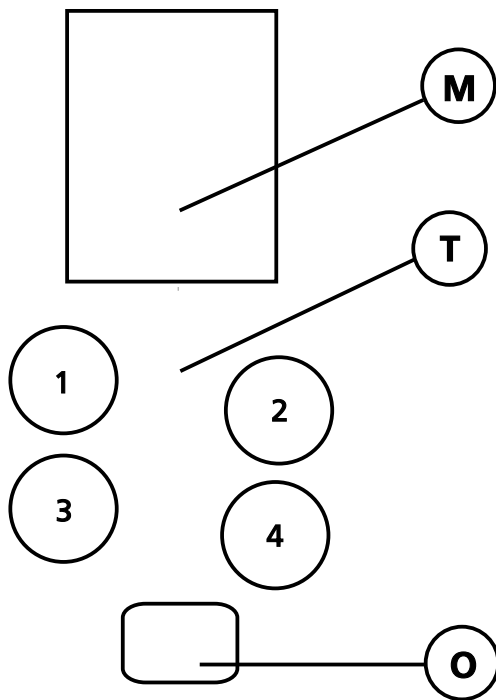


Fig.1: Cylinder numbering Grasso reciprocating compressors

Legend	
1, 2, 3, ...	Cylinder numbers
T	Top view of compressor
M	Motor/Drive end of compressor
O	Oil pump of compressor

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1 PARTS COMPRESSOR

1.1 Replacement piston rings and cylinder liners



Hint!

Recommendation/warning!

For major overhauls or every repair where piston rings are being replaced it is strongly recommended to replace the cylinder liners as well. This is very important for the next reasons:

For the best sealing between piston rings and cylinder liners, piston rings have to run in on the cylinder liner's inner surface. Therefore a new cylinder liner with a honing profile (crosshatching) in the best condition is absolutely required. Piston rings cannot run in properly on worn out or partly worn out cylinder liners. Without a decent honing profile no proper sealing between liners and rings can be achieved which may result in- or contribute to a bad performance of the compressor. Further on, this honing profile with the right crosshatching is demanded for a good lubrication between piston rings and liners and for the right oil distribution on the liner's inner surface.



Fig.2: New honing profile and crosshatching with the right angle

After being in operation for many running hours cylinder liners and piston rings will wear out and most cylinder liners will become unworn ridges (bumper rims or edges) due to the displacement of the piston rings inside the liner. The upper unworn ridge occurs at the upper death end and upper side of the upper piston ring and the lower ridge occurs at the death end of the lower side of the lower (oil scraper) ring. In many cases intermediate and oil scraper rings cause their own bumper ridges. (*Bumper steps*) Also, both upper and lower edge are set by the worn shape of the piston rings. This clearly explains why new piston rings can break when used in old/worn cylinder liners

due to hitting the unworn bumper ridges at high speed. (See also picture below)

Therefore: Never install new pistons with new piston rings in old cylinder liners. It is strongly recommended to replace the cylinder liners too.

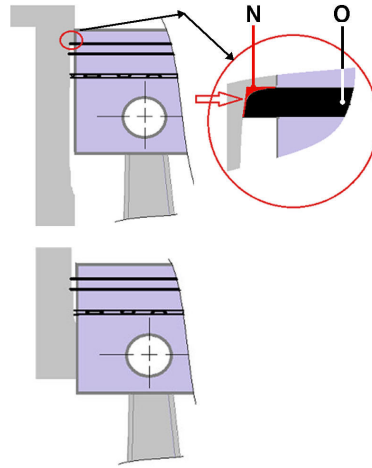


Fig.3: Don't use new piston rings on old cylinder liner

N	Shape of new piston ring (sharp)
O	Shape of old piston ring (rounded)

1.2 Running-in oil filter has to be installed after an overhaul or big repair



Hint!

This is why and when the running in oil filters are required:



Warning!

A running in oil filter has always to be installed after an overhaul or big repair for the 1st 100 hours of operation!

The oil and oil filters have to be replaced by new oil and filters.

Due to running-in wear of liners and piston rings, it's normal that the oil becomes grey during the 1st 100 operating hours.

After 100 operating hours, the oil could slightly become clear again.

1.3 ...

COMPRESSOR HOUSING AND GENERAL PARTS

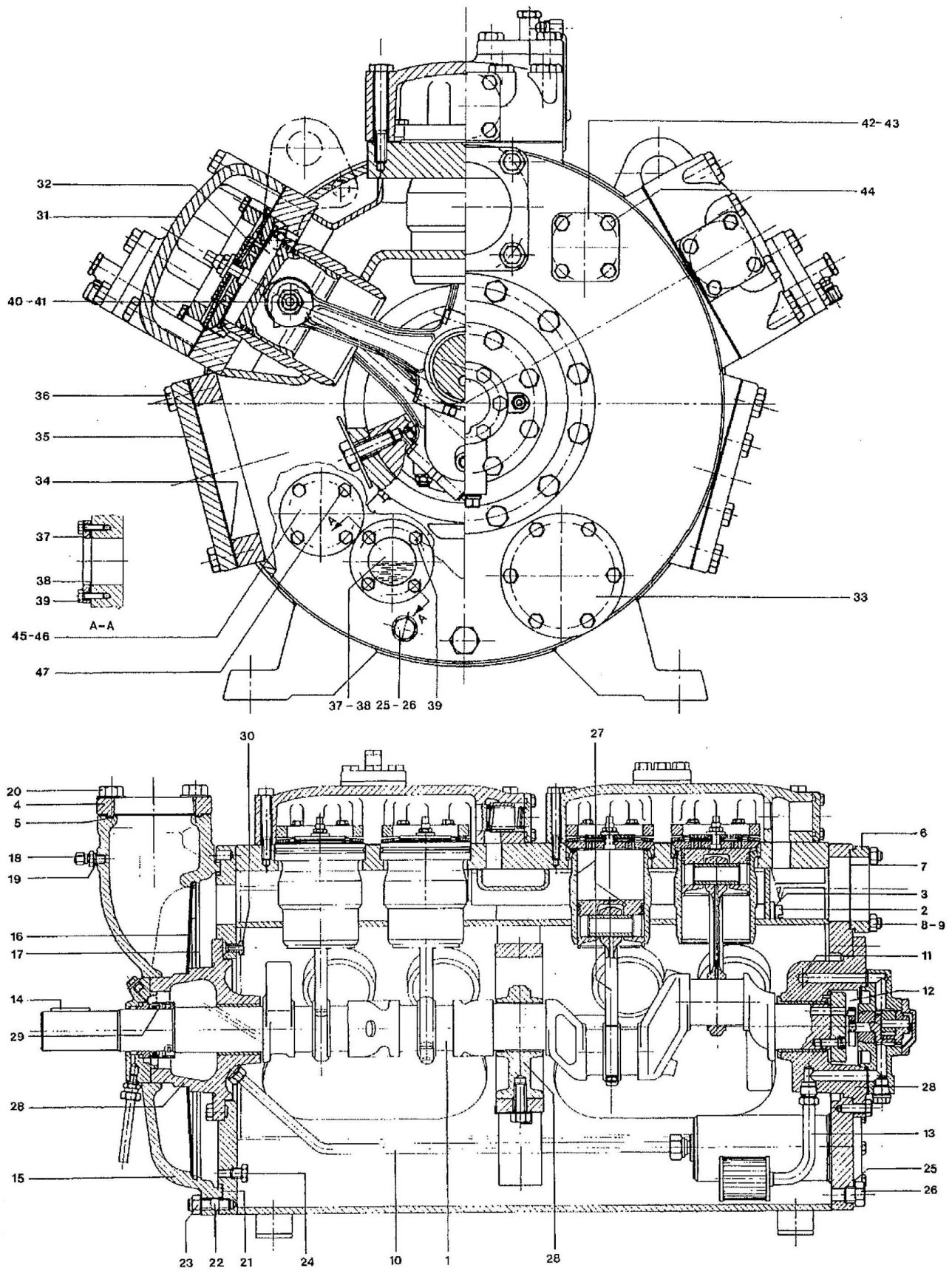


Fig. 4 COMPRESSOR HOUSING AND GENERAL PARTS

COMPRESSOR HOUSING AND GENERAL PARTS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1a	CRANKSHAFT	AC480R	2227401		
1b	CRANKSHAFT	AC680R	2227601		
1c	CRANKSHAFT	AC880R	2227801		
1d	CRANKSHAFT	AC1080R	2227101		
1e	CRANKSHAFT	AC1280R	2227201		
1f	CRANKSHAFT	AC1680R	2227301		
2	BY PASS SAFETY VALVE	27G27	1249327		
3	ALU.SEALING RING	27x 34x 1	0912027		
4a	WELDING FLANGE	60/108	0503408		
4b	WELDING FLANGE	76/10	0503308		
4c	WELDING FLANGE	89/10B	0503208		
4d	WELDING FLANGE	114B Sp.	0503114		
5	GASKET	117x 131x 1.5	0903117		
6a	WELDING FLANGE	48B	0501048		
6b	WELDING FLANGE	60B	0501060		
6c	WELDING FLANGE	76B	0501076		
6d	WELDING FLANGE	89B Sp.	0503589		
7a	GASKET	55x 65x 1.5	0903055		
7b	GASKET	67x 81x 1.5	0903067		
7c	GASKET	84x 98x 1.5	0903084		
7d	GASKET	99x 19x 1.5	0903099		
8a	HEXAGON HEAD BOLT	M10x 35	0110535	4	
8b	HEXAGON HEAD BOLT	M12x 35	0110635	4	
8c	STUD	M16x 40	0151840	4	
9	HEXAGON NUT	M16	0115810	4	
10a	OIL PRESSURE LINE	2x G23x 209	*		
10b	OIL PRESSURE LINE	2x G23x 234	*		
10c	OIL PRESSURE LINE	2x G23x 259	*		
10d	OIL PRESSURE LINE	2x G23x 309	*		
10e	OIL PRESSURE LINE	2x G23x 610	*		
10f	OIL PRESSURE LINE	2x G23x 685	*		
11	OIL PRESSURE LINE	162x 82	*		
12	OIL RETURN LINE	AC80R	*		
13	GAUZE STRAINER ELEMENT	310x 16R	0716311		
14	KEY	16x 10x 70	1102670		
15	SUCTION COVER	AC70	2124850		
16	STRAINER DISC	410x 638	0717064		
17	LOCKING RING	417x 12	1104417		
18	NIPPLE COUPLING	6G13	0338136		
19	ALU SEALING RING	13.5x 20x 1	0912014		Possibly to be replaced by 0941104
20	HEXAGON HEAD BOLT	M20x 60	0110160	4	

COMPRESSOR HOUSING AND GENERAL PARTS

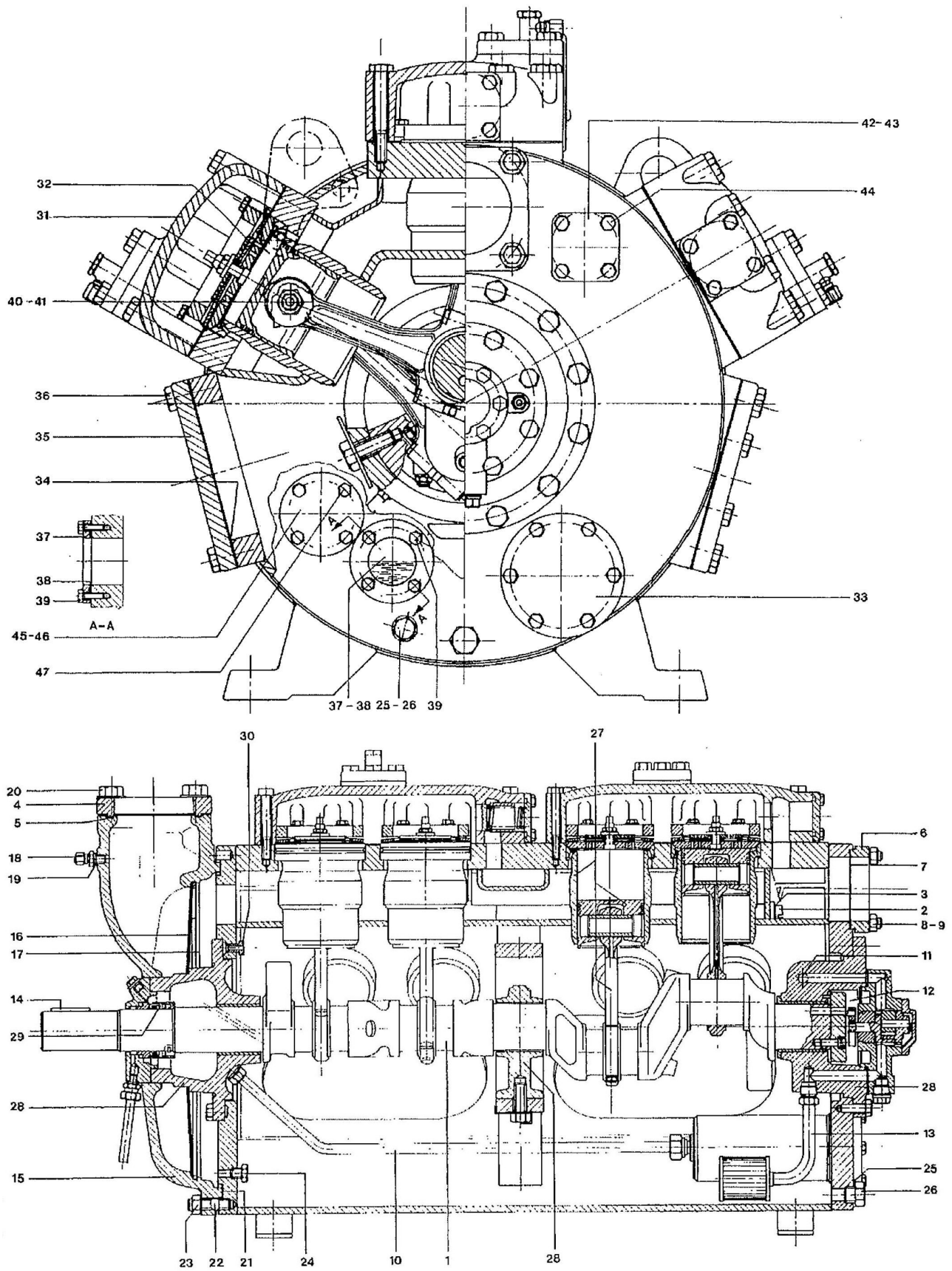


Fig. 4 COMPRESSOR HOUSING AND GENERAL PARTS

COMPRESSOR HOUSING AND GENERAL PARTS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
21	GASKET	443x 462x 1.5	0903443		
22	STUD	M16x 40	0151840	17	
23	HEXAGON NUT	M16	0115810	17	
24	NON-RETURN VALVE	5K	0627506		
25	ALU SEALING RING	21.5x 27x 1	0912022	2	
26	PLUG	G21	0136216	2	
27	CYLINDER LINER, PISTON AND CON ROD	AC80R	*		
28	BEARING COVERS, INTERMEDIATE BEARING AND OIL PUMP	AC80R	*		
29	ROTARY SHAFT SEAL	AC80R	*		
30	NIPPLE	G10x G13	0368610		
31	CYLINDER HEAD (WITH BY-PASS VALVE AND NON-RETURN VALVE-IF FITTED)	AC80R	*		
32	SUCTION AND DISCHARGE VALVE ASSEMBLY	AC80R	*		
33	OIL DISCHARGE FILTER	AC80R	*		
34	GASKET	194x 375x 1.0C	0907095	2	ex. 09.07.195
35	FLAT COVER	194x 375	0530194	4	
36	HEXAGON HEAD BOLT	M12x 30	0110630	15	
37	SIGHT GLASS	46x 80	1224046		
38	O-RING	2.5x 52	0952256		
39	HEXAGON HEAD BOLT	M6x 20	0110320	4	
40	ALU SEALING RING	13.5x 20x 1	0912014		Possibly to be replaced by 0941104
41	NIPPLE COUPLING	6G13	0338136		
42	COVER	66x 66	0533600		
43	O-RING	3.5x 44	0952350		
44	HEXAGON HEAD BOLT	M8x 25	0110425	4	
45	COVER	80x 6.8	0530080		
46	O-RING	2.5x 52	0952256		
47	HEXAGON HEAD BOLT	M6x 25	0110325		

1.4 ...

BEARING COVERS, INTERMEDIATE BEARING AND OIL PUMP

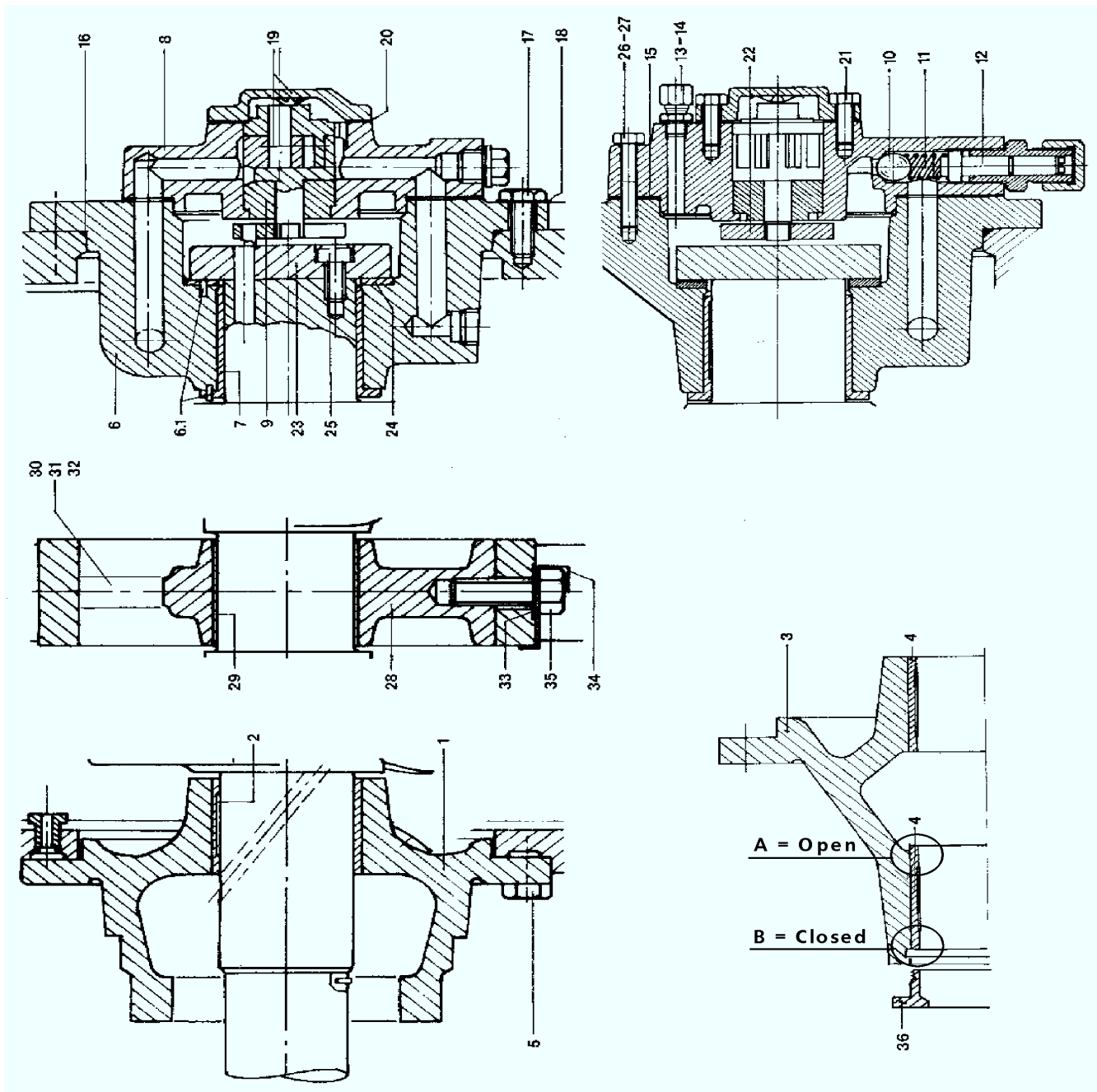


Fig. 5 BEARING COVERS, INTERMEDIATE BEARING AND OIL PUMP

BEARING COVERS, INTERMEDIATE BEARING AND OIL PUMP					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1a	OIL PRESSURE LINE	2x G23x 234	*		
1b	BEARING COVER	AC80R	2124911		
2	BEARING BUSH	65x 72x 60	1146764		
3a	BEARING COVER (COMPLETE)	SAC80RS	2125861		
3b	SAC80R	SAC80R	2124921		
4	BEARING BUSH	65x 72x 60	1146764		
5	HEXAGON HEAD BOLT	M12x 35	0110635		
6	BEARING COVER	AC80R	2124915		
6.1	DOWEL PIN	4x 8	1106408		
7	BEARING BUSH	65x 72x 65	1146766		ex. 11.46.765
8	PUMP HOUSING	AC80R	2624510		
9	BEARING BUSH	44.5x 12.7	1146412		
10	BEARING BALL	W16	1119010		
11	PRESSURE SPRING	1.25x 14x 9x 35.5	1131134		
12	PRESS. REGULATOR SET	G21	1241021		
13	NIPPLE COUPLING	6G10	0338106		
14	ALU SEALING RING	10x 18x 1	0912010		
15	GASKET	115x 136	0907115		
16	O-RING	3x 195	0952319		
17	HEXAGON HEAD BOLT	M12x 35	0110635	12	
18	FLAT WASHER	M12	1113601	12	
19	OIL PUMP ELEMENT	AC70	2625600		
20	GASKET	45.5x 80x 0.5	0905045		
21	HEXAGON HEAD BOLT	M8x 25	0110425	6	
22	CARRIER DISC	8x 55x 8	1125108		
23	CARRIER DISC	100M6	1125100		
24	THRUST RING	AC80R	1142080		
25	CAP SCREW	M8x 30	0104430	4	
26	HEXAGON HEAD BOLT	M12x 55	0110655	8	
27	FLAT WASHER	M12	1113601	8	
28a	BEARING BLOCK (COMPLETE)	65	1169650		
28b	BEARING BLOCK HALVES		*		
29	BEARING SHELL	65x 60	1144665		
30	CONNECTING ROD BOLT	MF12	0111601	2	
31	FLAT WASHER	M12	1113601	2	
32	LOCKING NUT	MF12x 1.5	0145605	2	
33	FLAT WASHER	M16	1113801	3	
34	LOCKING PLATE	M16S	1114152	3	
35	HEXAGON HEAD BOLT	M16x 40	0110840	3	
36	SEALING RING	65	2626565		
37	O-RING	1.78x 8.73	0952184		

BEARING COVERS, INTERMEDIATE BEARING AND OIL PUMP

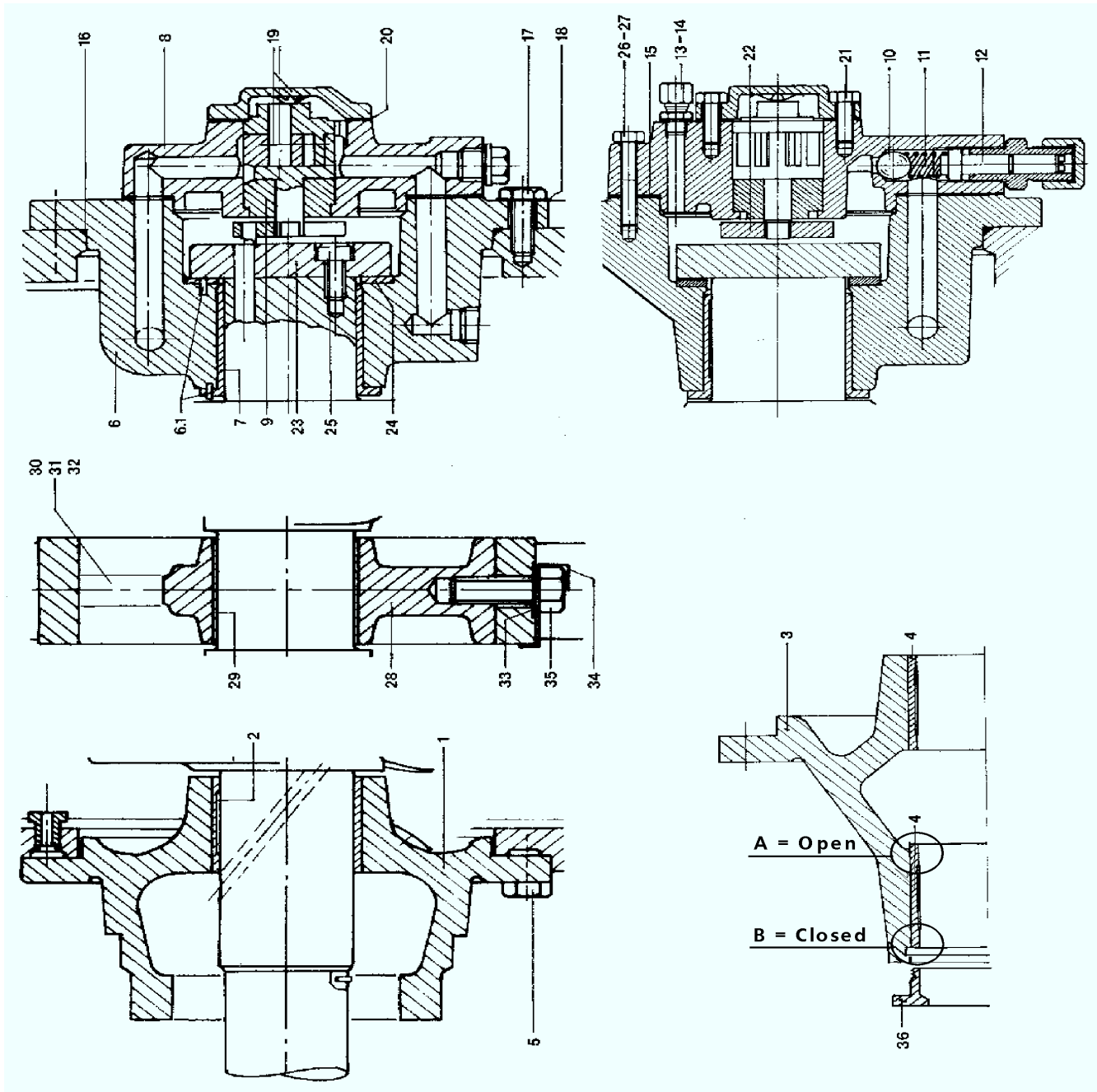


Fig. 5 BEARING COVERS, INTERMEDIATE BEARING AND OIL PUMP

1.5 ...

CYLINDER LINER AND VALVES

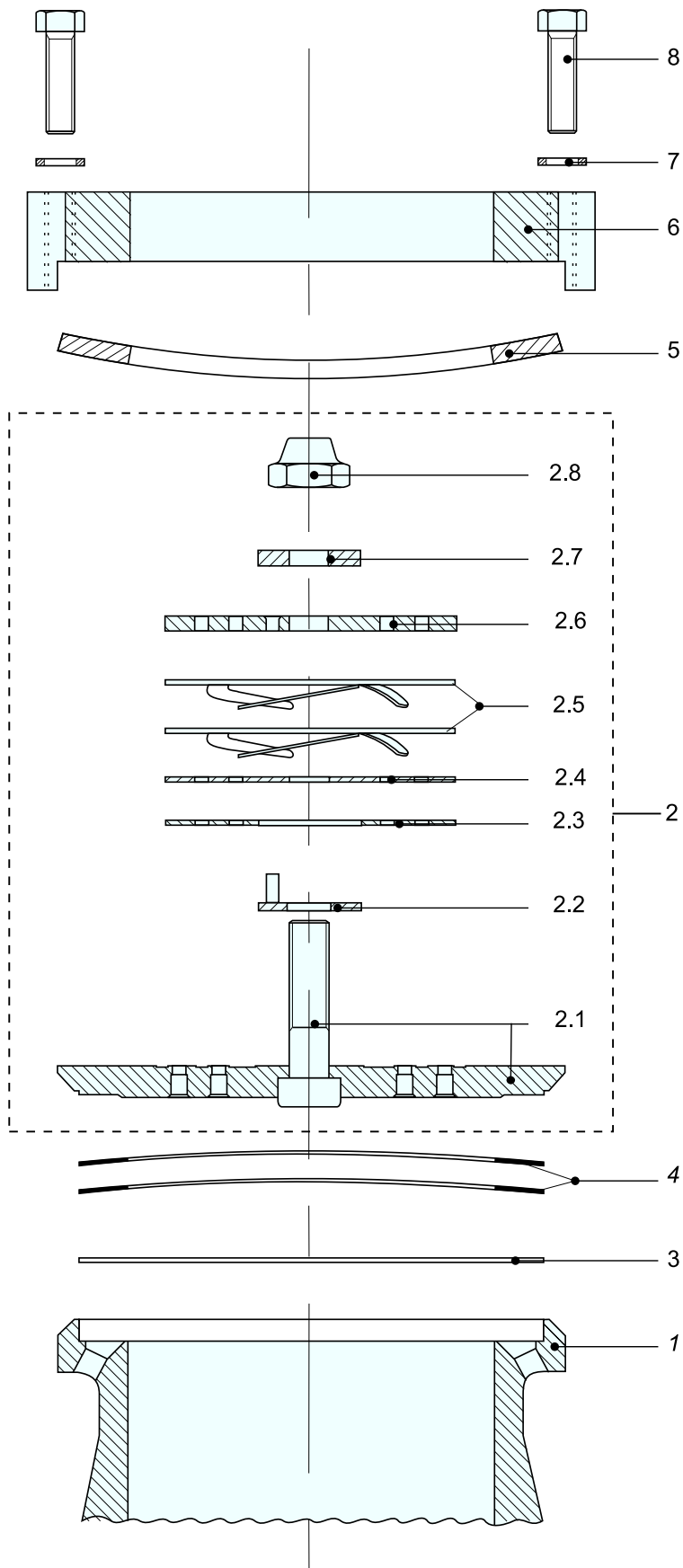


Fig. 6 CYLINDER LINER AND VALVES

CYLINDER LINER AND VALVES					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	CYLINDER LINER	AC80A	2326101		
2	DISCHARGE VALVE ASSEMBLY	AC80R	2725103		ex. 27.25.101 and 27.25.102
2.1	VALVE SEAT	70CE	*		
2.2	LOCKING RING	2.5x 2.8	*		
2.3	VALVE RING	75x 1.25	1134072		
2.4	VALVE RING	72x 0.5	1134073		
2.5	SPRING DISC	72x 0.8	1133072	2	
2.6	STROKE LIMITOR	70CE	*		
2.7	WASHER	M10	*		
2.8	LOCKING NUT	M10	0145550		
3	SUCTION VALVE RING	98x 115x 1	1134098		
4	SINUSOIDAL SPRING	98x 115	1133098	4	
5	SINUSOIDAL SPRING	87x 125x 4	1133087		
6	PRESSURE RING	AC80RV	2726411		
7	FLAT WASHER	M8	1113401	4	
8	HEXAGON HEAD BOLT	M8x 40	0110440	4	

1.6 ...

PISTON AND CONNECTING ROD

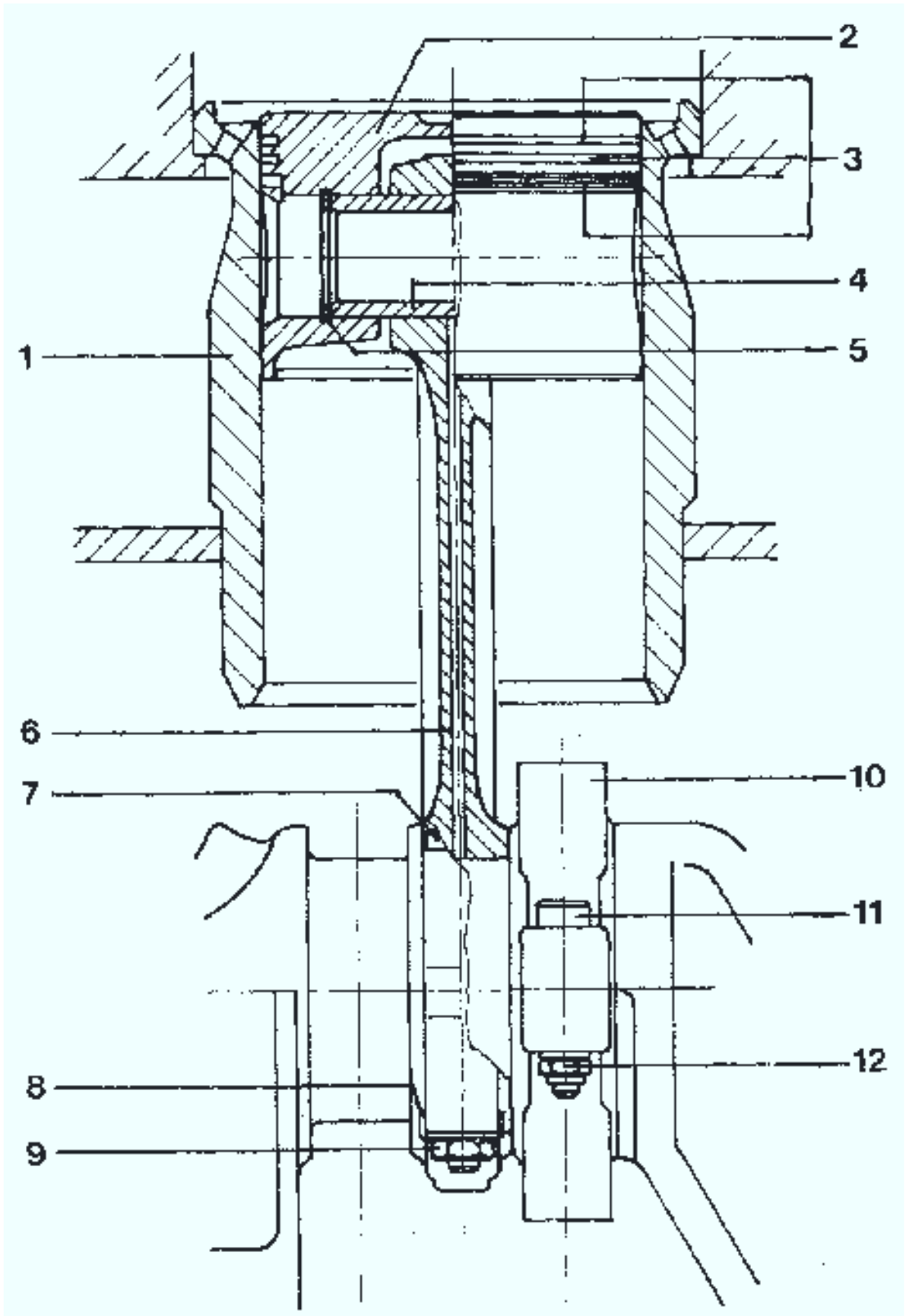


Fig. 7 PISTON AND CONNECTING ROD

PISTON AND CONNECTING ROD					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	CYLINDER LINER	AC80R	*		
2a	PISTON ASSY	AC80RS	2427011		
2b	PISTON	AC80R	*		
3	PISTON RING SET	AC80R	0974080		
4	GUDGEON PIN	AC80R	2424301		
5	LOCKING RING	30	1104030	2	
6	CONNECTING ROD	65x 180 AC80R	2427502		ex. 24.27.500 and 24.27.501
7	CONNECTING ROD BOLT	MF8	0111401		
8	LOCKING RING SET	M8	1139400	2	in two pieces
9	HEXAGON NUT	MF8x 1	0147405	2	
10	SPACER ASSY	65x 120x 25	1112165		
11	FITTED BOLT	M10x 12x 25	0124501	2	
12	LOCKING NUT (ZINC PLATED)	M10	0145500	2	

1.7 ...

OIL PRESSURE REGULATOR ASSEMBLY G21

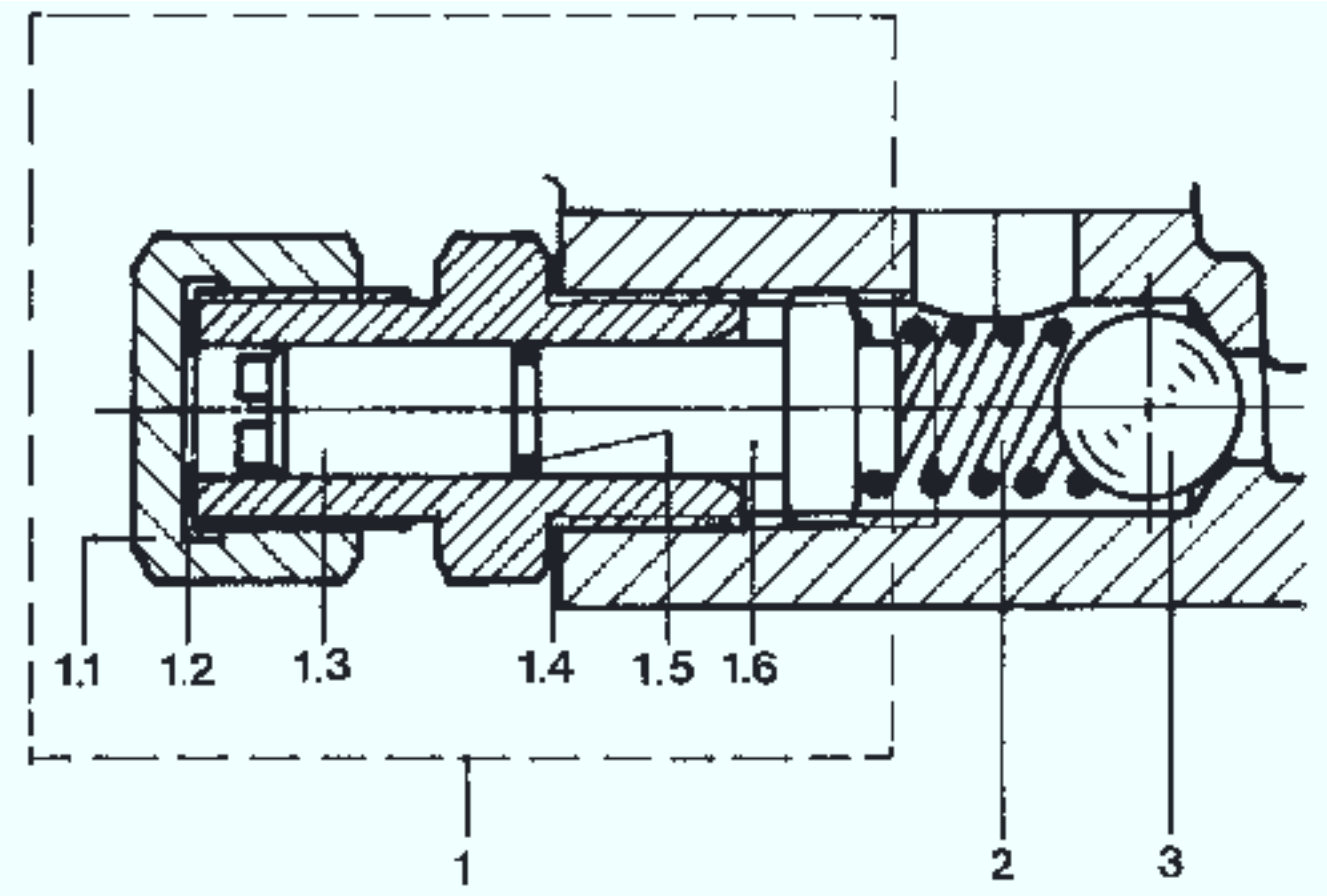


Fig. 8 OIL PRESSURE REGULATOR ASSEMBLY G21

OIL PRESSURE REGULATOR ASSEMBLY G21					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	PRESS. REGULATOR SET	G21	1241021		
1.1	CAP NUT	GK21R	0117021		
1.2	ALU SEALING RING	10x 18x 1	0912010		
1.3	THRUST BOLT	G21x 60S	0135218		
1.4	ALU SEALING RING	21.5x 27x 1	0912022		
1.5	O-RING	1.78x 8.73	0952184		
1.6	NIPPLE	G21Cx G21	0304921		
2	PRESSURE SPRING	1.25x 14x 9x 35.5	1131134		
3	BEAMING BALL	W16	1119010		

1.8 ...

CYLINDER COVERS

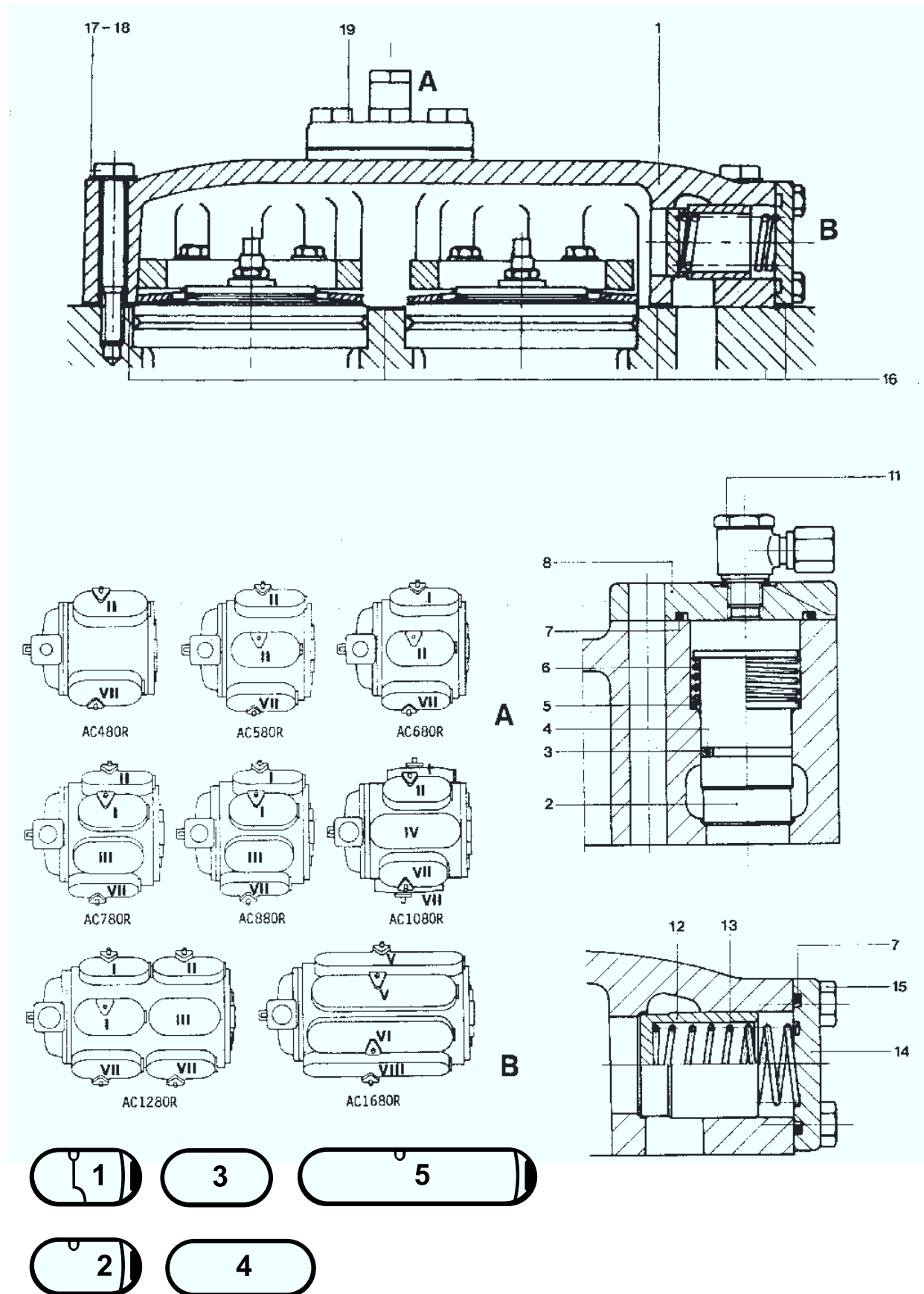


Fig. 9 CYLINDER COVERS

CYLINDER COVERS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1a	CYLINDER COVER	(S)AC80R	2324500		
1b	CYLINDER COVER	(S)AC80R	2324510		
1c	CYLINDER COVER	(S)AC80R	2324520		
1d	CYLINDER COVER	(S)AC80R	2324530		
1e	CYLINDER COVER	(S)AC80R	2324540		
1f	CYLINDER COVER	(S)AC80R	2324550		
1g	CYLINDER COVER	(S)AC80R	2324600		
1h	CYLINDER COVER	(S)AC80R	2324640		
2	PISTON BY-PASS VALVE	AC70	2724360		
3	PISTON RING	35x 30x 3	0970036		
4	EXPANDER SPRING	30x 28.7x 2.6	1136030		
5	PISTON FITTING RING	35x 41x 3	2724365		
6	PRESSURE SPRING	2x 37.5x 4.5x 97	1131207		
7	O-RING	3.5x 44	0952350	2	
8	COVER	G13x 74	0530600		
11a	SWIVEL COUPLING	6G13	0339136		
11b	PLUG	G13	0136136		
12	PISTON NON RETURN VALVE	AC70	2724370		
13	PRESSURE SPRING	1.9x 29x 8.5x 76.5	1131193		ex. 11.31.206
14	COVER	66x 66	0533600		
15	HEXAGON HEAD BOLT	M8x 25	0110425	4	
16s	GASKET		0907093		ex. 09.07.193
16b	GASKET		0907094		ex. 09.07.194
16c	GASKET	194x 375x 1.0C	0907095		ex. 09.07.195
16d	GASKET		0907096		ex. 09.07.196
16e	GASKET		0907097		ex. 09.07.197
17	HEXAGON HEAD BOLT	M12x 90	0110690		
18	FLAT WASHER	M12	1113601		
19	HEXAGON HEAD BOLT	M12x 120	0110612	3	

1.9 ...

ROTARY SHAFT SEAL

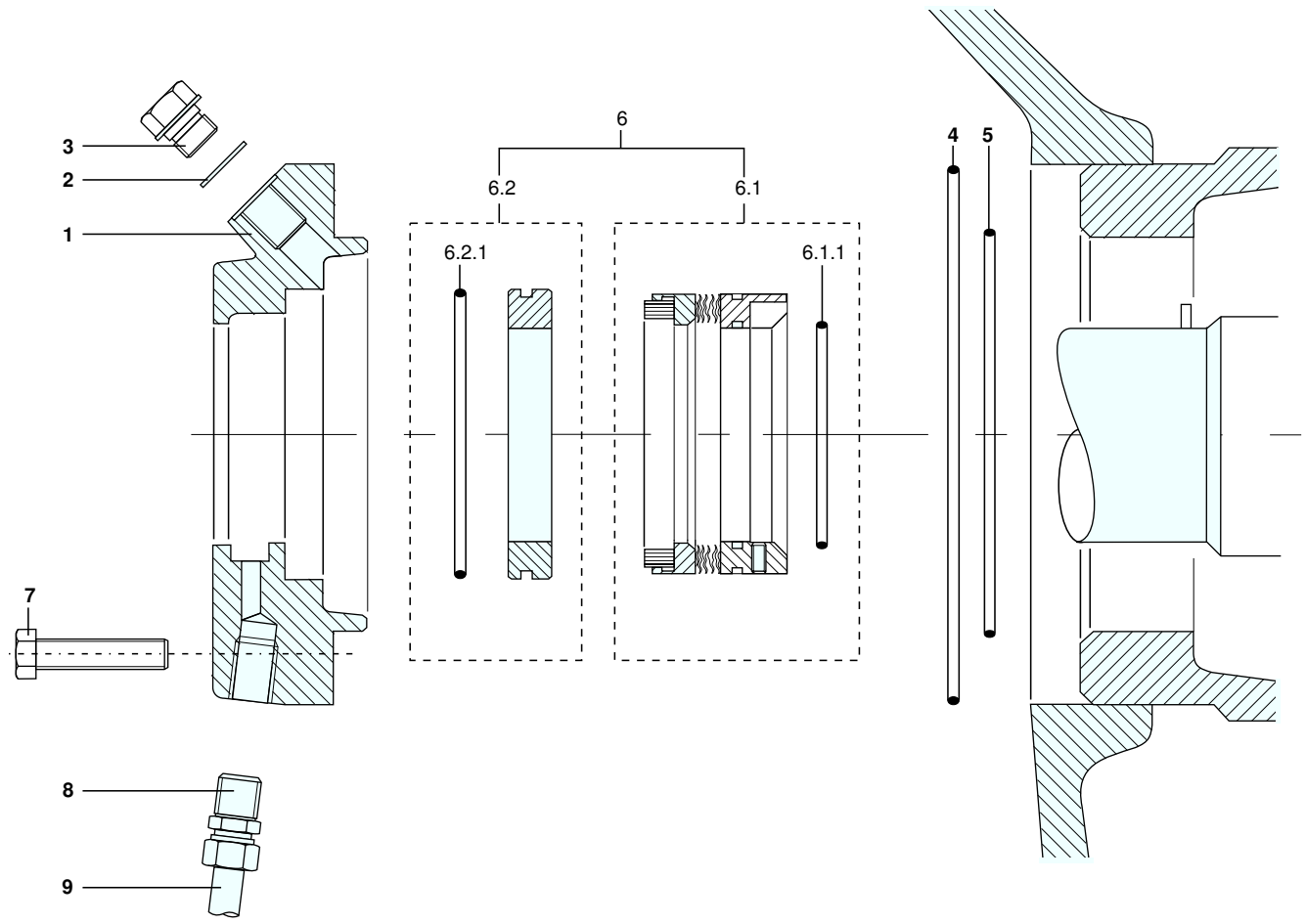


Fig. 10 ROTARY SHAFT SEAL

ROTARY SHAFT SEAL					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	SHAFT SEAL HOUSING	AC70	2624100		
2	ALU SEALING RING	13.5x 20x 1	0912014		Possibly to be replaced by 0941104
3	PLUG	G13S	0136134		
4	O-RING	142.47x 3.53	0952389		
5	O-RING	110x 3.5	0952382		
6	SHAFT SEAL ASSEMBLY	060-B	0962065		ex. 09.62.061/09.62.261/09.62.062
6.1	SLIP RING ASSEMBLY		*		
6.1.1	O-RING	3.53x 59.72	0952359		
6.2	COUNTER SLIP RING ASSEMBLY		*		
6.2.1	O-RING	3.53x 69.44	0952318		ex. 09.52.375
7	HEXAGON HEAD BOLT	M8x 25	0110425	8	
8	NIPPLE COUPLING	12G13	0338131		
9	STEEL PRECISION PIPE	12x 1.5	*		

1.10 ...

OIL DISCHARGE FILTER

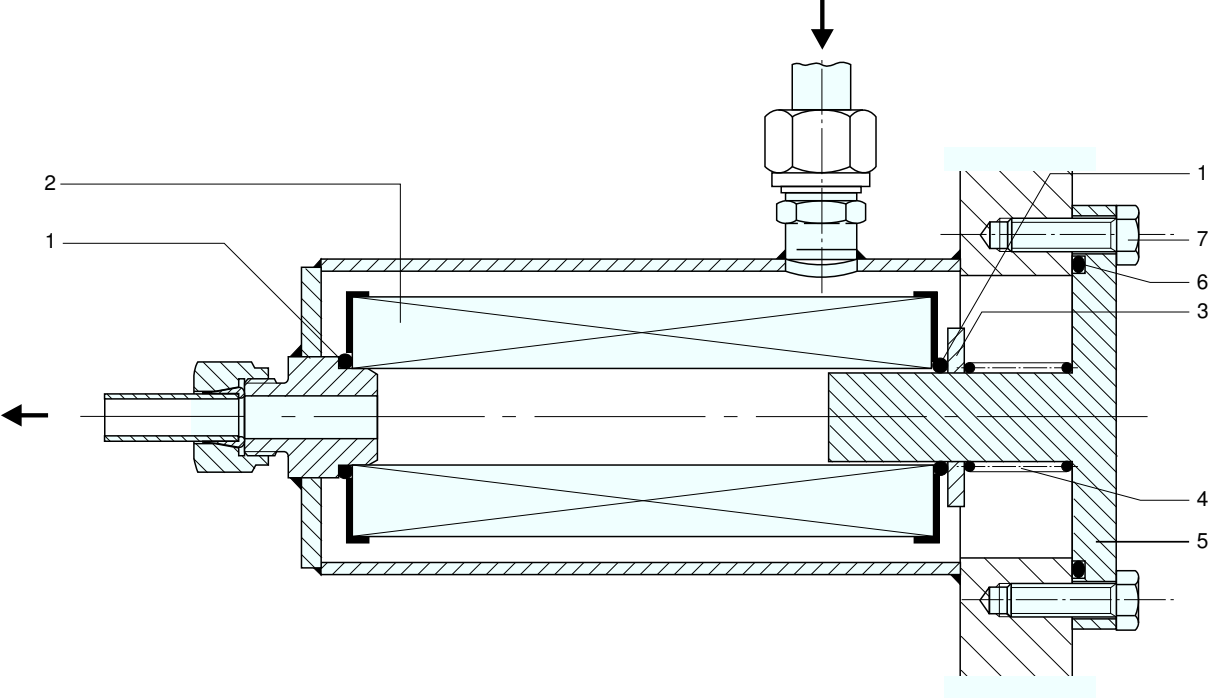


Fig. 11 OIL DISCHARGE FILTER

OIL DISCHARGE FILTER					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	O-RING	3.53x 158.34	0952364	2	
2	PAPER FILTER	1700x 15	0711170	1	
3	LOCKING DISC	M24x 38	1113738	1	
4	PRESSURE SPRING	1.9x 29x 8.5x 76.5	1131193	1	ex. 11.31.206
5	COVER	120P12	0530125	1	
6	O-RING	85x 3.5	0952378	1	
7	HEXAGON HEAD BOLT	M8x 25	0110425	6	

1.11 ...

SAFETY BY-PASS VALVE 27G27 (1249327)

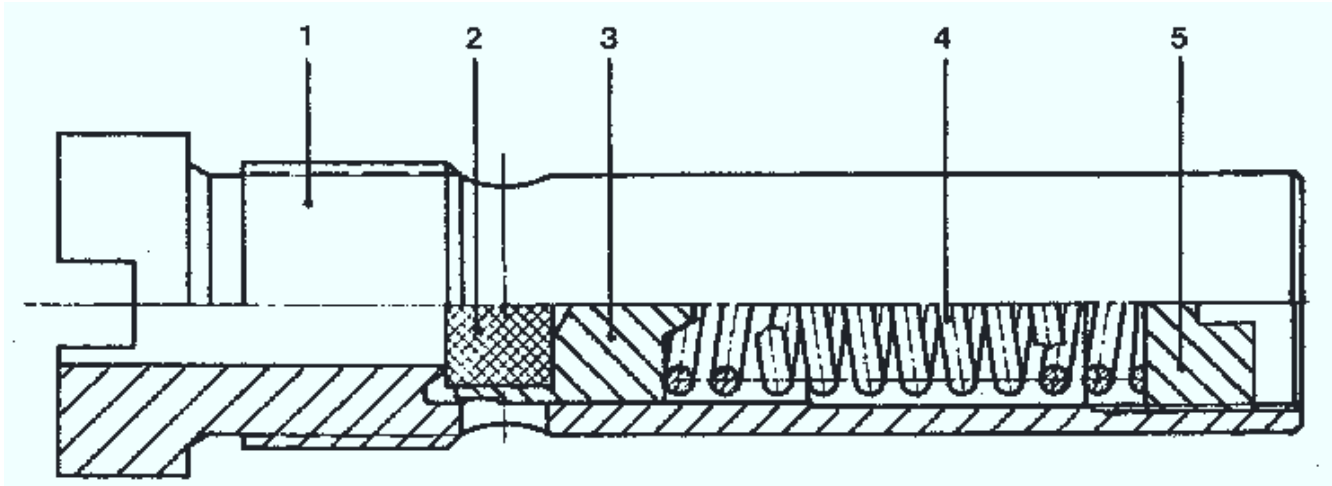


Fig. 12 SAFETY BY-PASS VALVE 27G27 (1249327)

SAFETY BY-PASS VALVE 27G27 (1249327)					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	VALVE HOUSING	G27x 119	4804929	1	
2	TEFLON RING	0x 15x 10	0942150	1	
3	PISTON	18x 21	4828219	1	
4	PRESSURE SPRING	2.8x 14x 11.5x 59	1131285	1	
5	SET SCREW	G21x 10	0123215	1	

1.12 ...

OIL LINES

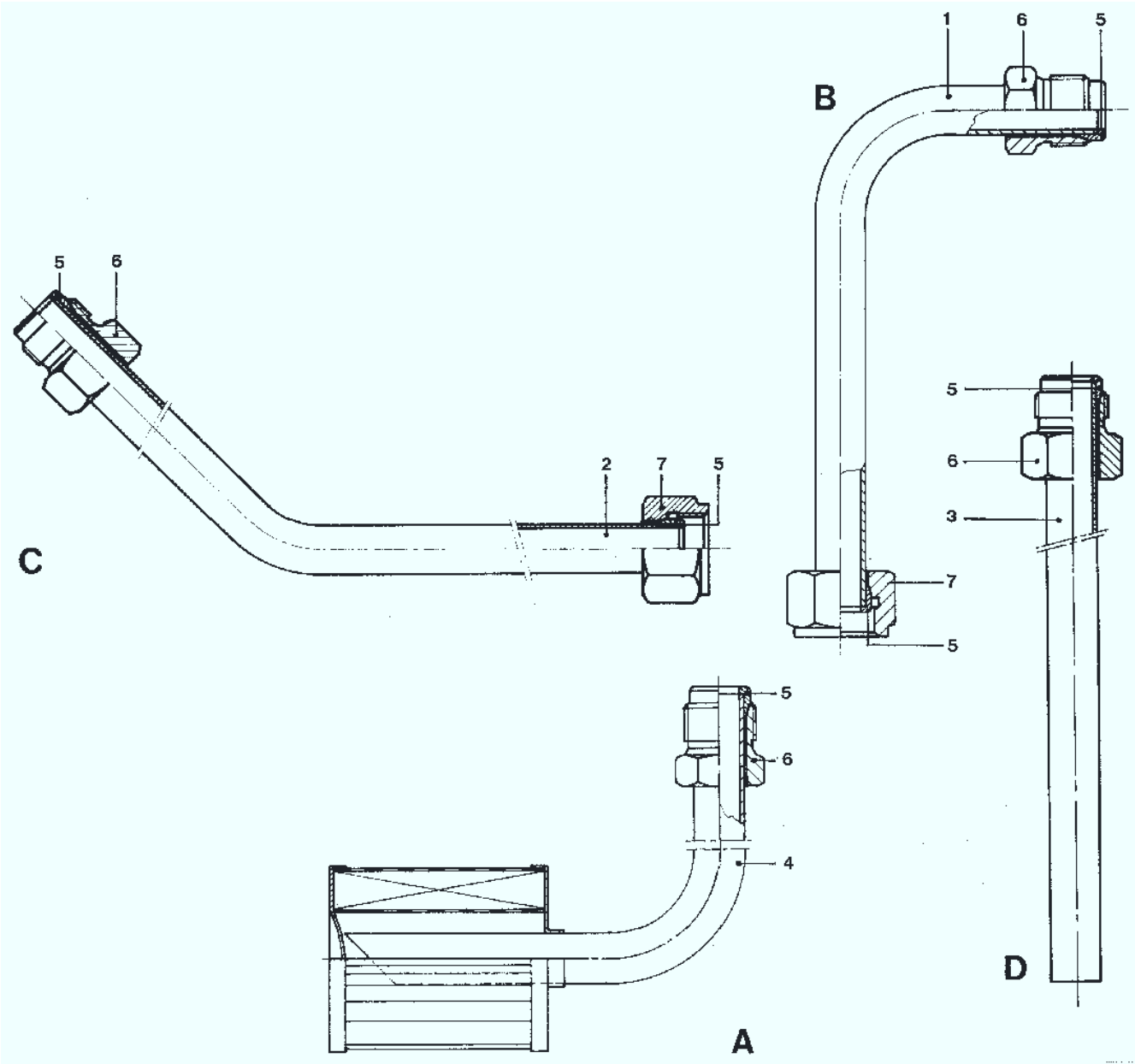


Fig. 13 OIL LINES

OIL LINES					
Pos	Description	Dims.	Item ref.	Qty	Remarks
A	GAUZE STRAINER ELEMENT	310x 16R	0716311	1	
B	OIL PRESSURE LINE	M24x 160	*	1	
C	OIL PRESSURE LINE	2x G23x 209 ? 685	*	1	
D	OIL RETURN LINE		*	1	
1	BENT TUBE	162x 82	0438555	1	
2a	BENT STEEL TUBE	137x 234x 16	0438500	1	(S)AC480
2b	BENT STEEL TUBE	137x 234x 16	0438510	1	(S)AC580/680
2c	BENT STEEL TUBE	137x 259x 16	0438520	1	(S)AC780/880
2d	BENT STEEL TUBE	137x 309x 16	0438540	1	(S)AC1080
2e	BENT STEEL TUBE	137x 610x 16	0438530	1	(S)AC1280
2f	BENT STEEL TUBE	137x 685x 16	0438545	1	AC1680
3	STEEL PRECISION PIPE	16x 2	*	1	
4	GAUZE STRAINER ELEMENT	310x 16R	0716311	1	
5	COUPLING RING	S16	0334116	-	
6	GLAND	16G23	0344223	-	
7	UNION NUT	MF24x 1.5	0351012	-	

1.13 ...

STANDARD SETS OF GASKETS AND SPARE PARTS

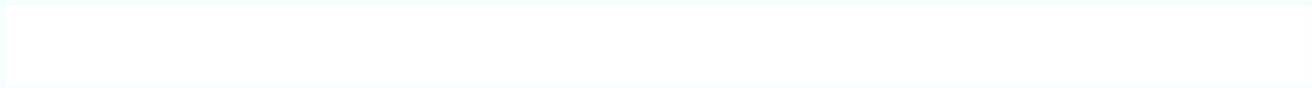


Fig. 14

STANDARD SETS OF GASKETS AND SPARE PARTS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1a	GASKETS (STANDARD SET)	(S)AC480R	0990048	1	without O-ring 09.52.743
1b	GASKETS (STANDARD SET)	(S)AC580R/ 680R	0990068	1	without O-ring 09.52.743
1c	GASKETS (STANDARD SET)	(S)AC780R/ 880R	0990088	1	without O-ring 09.52.743
1d	GASKETS (STANDARD SET)	(S)AC1080 R	0990108	1	without O-ring 09.52.743
1e	GASKETS (STANDARD SET)	(S)AC1280 R	0990128	1	without O-ring 09.52.743
1f	GASKETS (STANDARD SET)	AC1680R	0990168	1	
2a	BASIC SET OF SPARE PARTS	AC80	2026020	1	
2b	ADDITIONAL SET OF SPARE PARTS	AC80R	1134881	-	per two cylinders (S)ACR

1.14 ...

TYPICAL PARTS OF SAC80R-COMPRESSORS

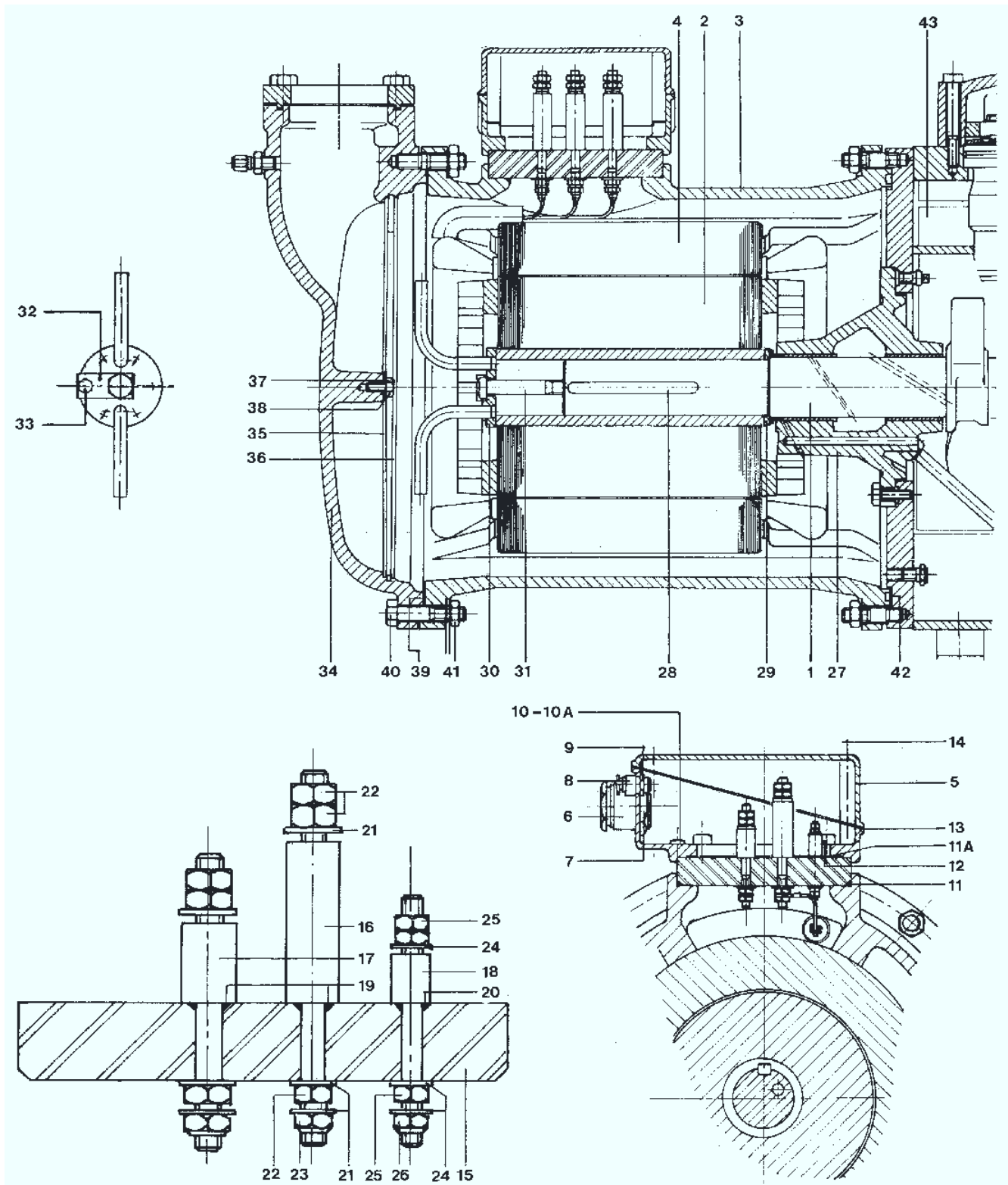


Fig. 15 TYPICAL PARTS OF SAC80R-COMPRESSORS

TYPICAL PARTS OF SAC80R-COMPRESSORS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1a	CRANKSHAFT	SAC480R	2227451	1	
1b	CRANKSHAFT	SAC680R	2227651	1	
1c	CRANKSHAFT	SAC880R	2227851	1	
1d	CRANKSHAFT	SAC1080R	2227151	1	
1e	CRANKSHAFT	SAC1280R	2227251	1	
2a	ROTOR	140- SAC80R	3019014	1	
2b	ROTOR	160- SAC80R	3019016	1	
2c	ROTOR	180- SAC80R	3019018	1	
2d	ROTOR	220- SAC80R	3019022	1	
2e	ROTOR	250- SAC80R	3019025	1	
2f	ROTOR	280- SAC80R	3019028	1	
2g	ROTOR	340- SAC80R	3019034	1	
3a	STATOR HOUSING	355x 380SAC70	3249073	1	
3b	STATOR HOUSING	355x 500SAC70	3249085	1	
3c	STATOR HOUSING	355x 560SAC70	3249056	1	
4a	STATOR	140-380 50SAC80R	3039014	1	
4b	STATOR	160-380 50SAC80R	3039016	1	
4c	STATOR	180-380 50SAC80R	3039018	1	
4d	STATOR	220-380 50SAC80R	3039022	1	
4e	STATOR	250-380 50SAC80R	3039025	1	
4f	STATOR	280-380 50SAC80R	3039028	1	
4g	STATOR	340-380 50SAC80R	3039034	1	
5a	MAIN TERMINAL BOX	200x 240x 115x 34	1365311	1	
5b	MAIN TERMINAL BOX	200x 240x 115x 43	1365411	1	
5c	MAIN TERMINAL BOX	200x 240x 49	1365511	1	
6a	SCREWED CABLE ENTRY	PG29Ex 19	0965129	2	
6b	SCREWED CABLE ENTRY	PG36Ex 25	0965237	2	
6c	SCREWED CABLE ENTRY	PG42Ex 35.5	0965342	2	
8	SCREWED CABLE ENTRY	G17x 13	0965176	1	
9	HEXAGON NUT	G17	0148173	1	
10	SOCKET HEAD SCREW	M10x 16	0104516	1	

TYPICAL PARTS OF SAC80R-COMPRESSORS

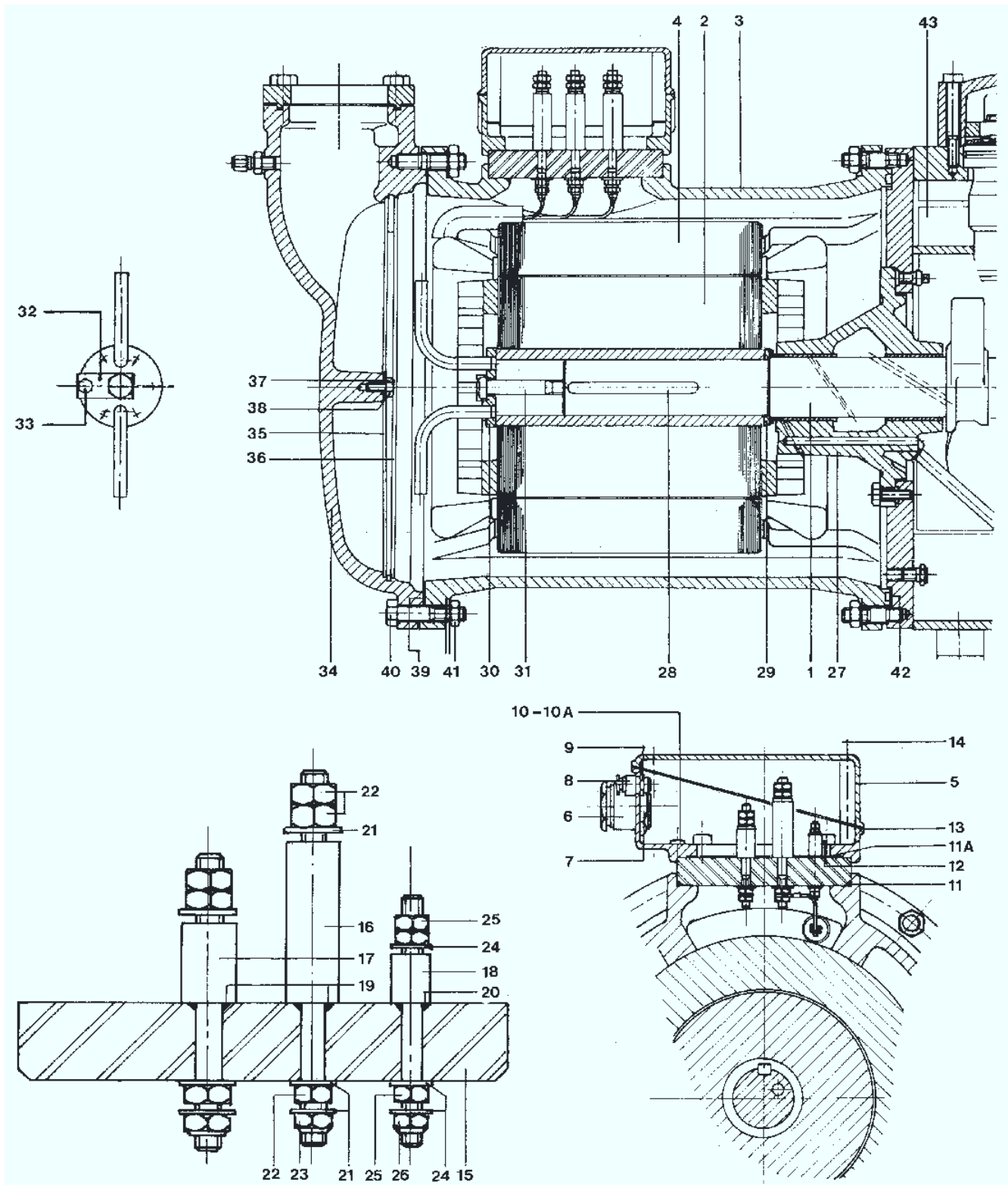


Fig. 15 TYPICAL PARTS OF SAC80R-COMPRESSORS

TYPICAL PARTS OF SAC80R-COMPRESSORS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
10A	FLAT WASHER	M10	1113501	2	
11	O-RING	5x 175	0952506	1	
11A	GASKET	143x 161x 1.5	0903143	1	
12	SOCKET HEAD SCREW	M12x 50	0104650	4	
13	RUBBER W-GASKET	208x 250x 2	0928278	1	
14	CYLINDER HEAD SCREW	M6x 25	0168325	4	
15	BOARD	185x 30A	1351186	1	
15.26	TERMINAL BOARD	6x 25	1350607	1	ex. 13.50.609
16	PILAR STUD	M10x M10x 142	0176515	3	
17	PILAR STUD	M10x M10x 112	0176512	3	
18	PILAR STUD	M5x M5x 80	0176280	3	
19	O-RING	2.5x 10	0952252	6	
20	O-RING	1.5x 5	0952155	3	
21	FLAT WASHER	M10	1113501	18	
22	HEXAGON NUT		0115515	18	
23	LOCKING NUT (ZINC PLATED)	M10	0145500	6	
24	FLAT WASHER	M 5B	1113001	9	
25	HEXAGON NUT (ZINC PLATED)	M5	0115915	9	
26	LOCKING NUT	M5	0145250	3	
27	BEARING COVER (COMPLETE)	SAC80RS	2125861	1	
28.1	KEY	14x 9x 80	1102580	1	
28.2	KEY	14x 9x 140	1102514	1	
29	SEALING RING	65	2626565	1	
30	ROTOR LOCKING DISC/SUCTION PIPE	200x 2	1843202	1	
31a	HEXAGON HEAD BOLT	M16x 70	0110870	1	
31b	HEXAGON HEAD BOLT	M16x 90	0110890	1	
31c	HEXAGON HEAD BOLT	M16x 120	0110812	1	
31d	HEXAGON HEAD BOLT	M16x 150	0110815	1	
31e	HEXAGON HEAD BOLT	M16x 180	0110818	1	
32	LOCKING PLATE	M8x M16	1114841	1	
33	HEXAGON HEAD BOLT	M8x 25	0110425	6	
34	SUCTION COVER	SAC70	2124860	1	
35	STRAINER DISC	410x 638x 16	0717132	1	
36	LOCKING RING	417x 12	1104417	1	
37	WASHER	M10x 160	1113517	1	
38	HEXAGON HEAD BOLT	M10x 20	0110520	1	
39	GASKET	443x 462x 1.5	0903443	1	
40a	HEXAGON HEAD BOLT	M16x 65	0110865	17	
40b	STUD	M16x 45	0151845	1	
41	HEXAGON NUT	M16	0115810	18	

TYPICAL PARTS OF SAC80R-COMPRESSORS

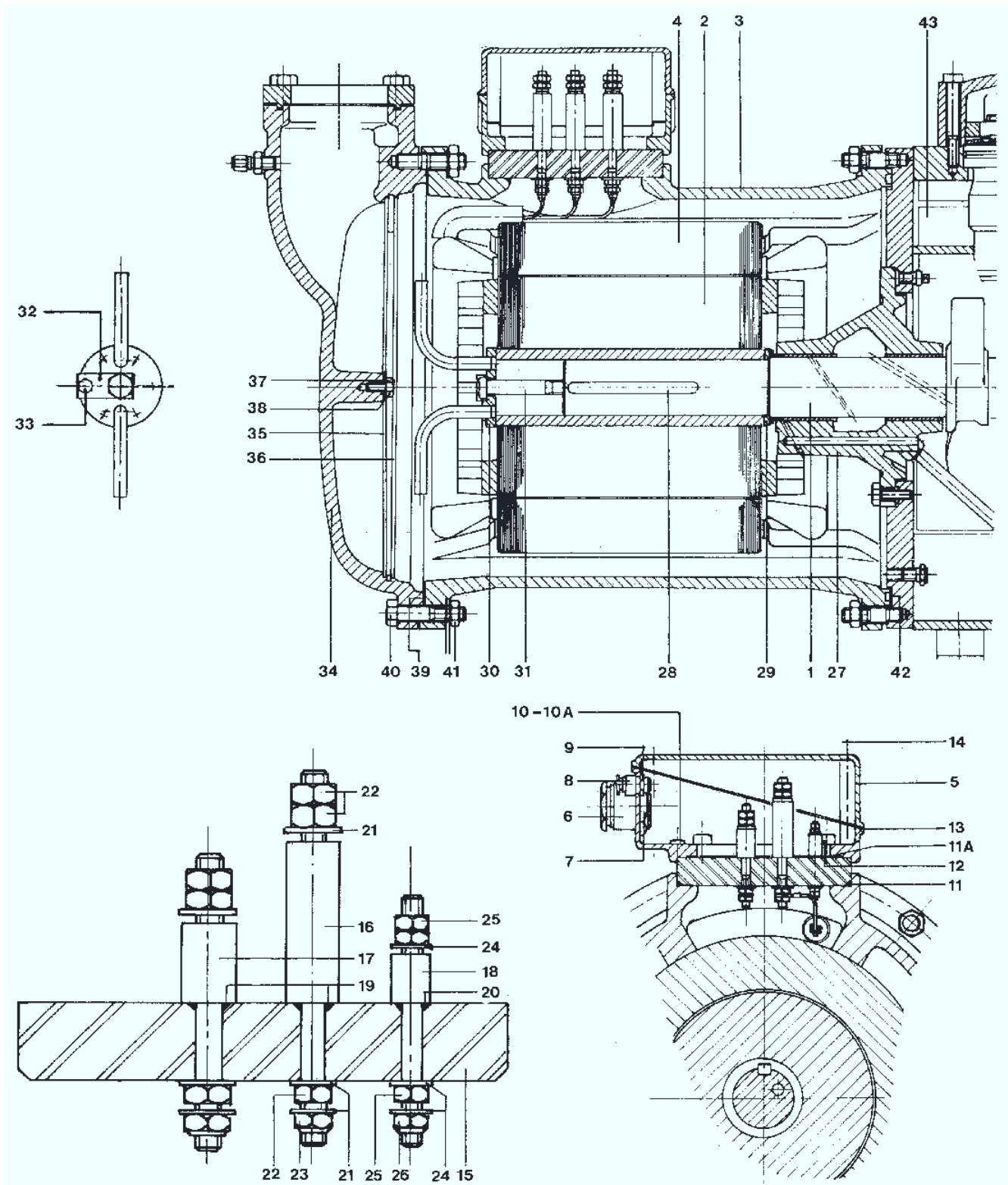


Fig. 15 TYPICAL PARTS OF SAC80R-COMPRESSORS

TYPICAL PARTS OF SAC80R-COMPRESSORS					
Pos	Description	Dims.	Item ref.	Qty	Remarks
42	O-RING	7x 430	0952743	1	
43	PLUG	G13	0365213	1	

1.15 ...

**ELECTRICALLY OPERATED CAPACITY CONTROL 220V / 50Hz ONLY (other voltages/
frequencies can be supplied on request)**

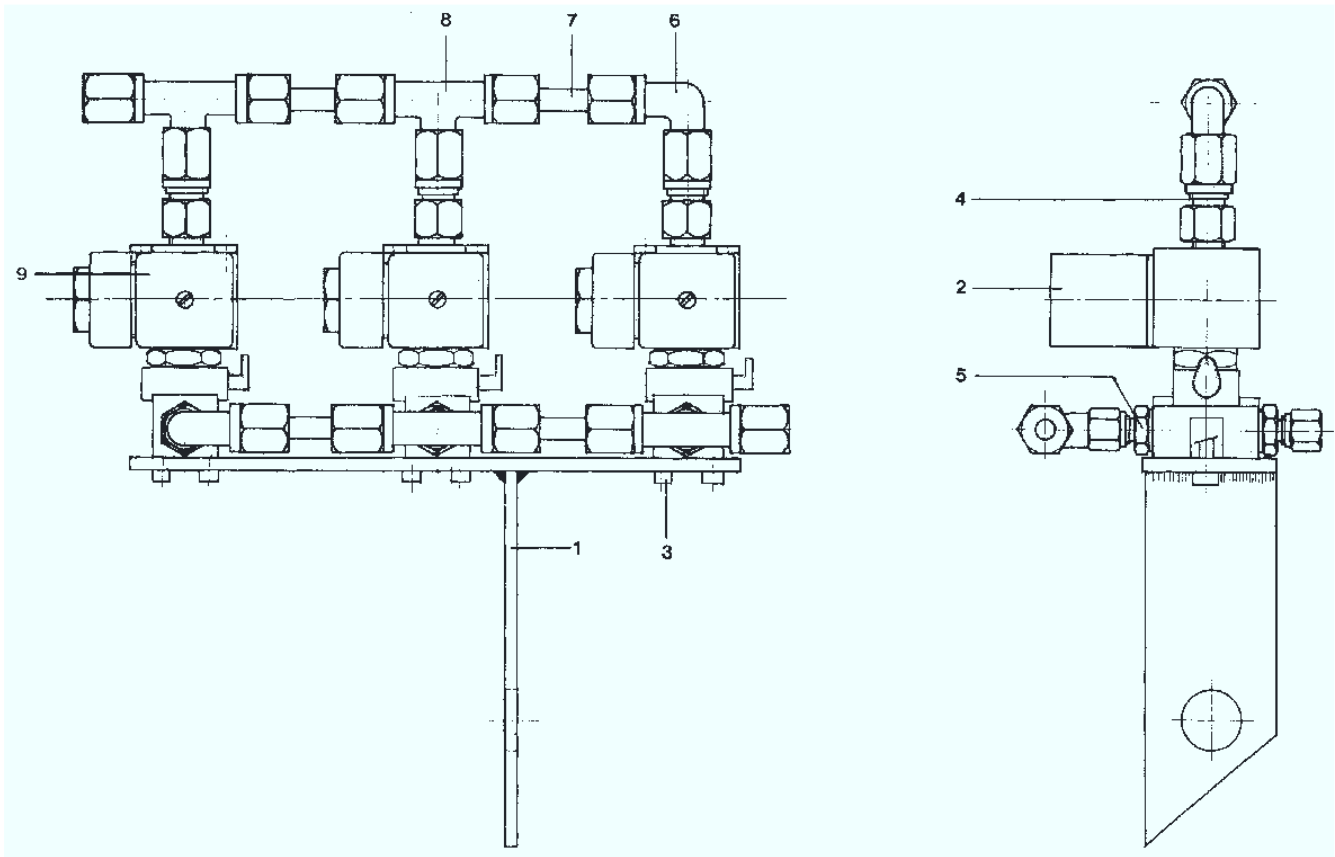


Fig. 16 ELECTRICALLY OPERATED CAPACITY CONTROL 220V / 50Hz ONLY (other voltages/frequencies can be supplied on request)

ELECTRICALLY OPERATED CAPACITY CONTROL 220V / 50Hz ONLY (other voltages/frequencies can be supplied on request)					
Pos	Description	Dims.	Item ref.	Qty	Remarks
1	SUPPORT	T112x 185A	*	1	
2	THREE-WAY SOLENOID VALVE	220HB	0680410	-	ex. 06.80.322/06.80.423
3	SOCKET HEAD SCREW	M5x 8	0104208	2	
4	SOCKET COUPLING	6G10	0337106	1	
5	NIPPLE COUPLING	6G10	0338106	2	
6	ANGLE COUPLING	EV6x 6	0352006	2	
7	STEEL PRECISION PIPE	DN 6x 1	*	-	
8	TEE-COUPLING	EV6x 6x 6	0354006	4	
9a	CONNECTOR	DIN	1316610	-	
9b	CONNECTOR	220/240 V AC/DC	1316611	-	DIN incl. LED



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