

AXIAL-PISTON UNITS ARE PRODUCED UNDER THE LICENCE SAUER – SUNDSTRAND SINCE 1980



TO PROLONG THE LIFE OF OUR UNITS
IN AFTER WARRANTY PERIOD
WE OFFER ORIGINAL

SPARE PARTS

to ГCT 33, ГCT 71, ГCT 90, ГCT 112,
SPV 20, SPV 22, SPV 23,
SMF 20, SMF 22, SMF 23



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21	Cylinder Block HP71-01.000
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Spare parts for hydrostatic transmissions
ГCT 33, ГCT 71, ГCT 90, ГCT 112, SPV 20,
SPV 22, SPV 23, SMF 20, SMF 22, SMF 23

- **Seal frame**
- **Bearing plate**
- **Piston**
- **Valve plate**
- **Thrust plate**
- **Valve**
- **Swash plate**
- **Covers**
- **Gaskets**
- **Housing details and many others**

High precision details are achieved by means of high technologies and special equipment, such as:

Vibroabrasive machining is applied for foot face

High precision “Peter Wolters” machines provide up to 0,4 micron nonflatness level of surface finishing

Ultrasonic machining with “Ultrasons” and KLN

Cold treatment for setting metal structure.

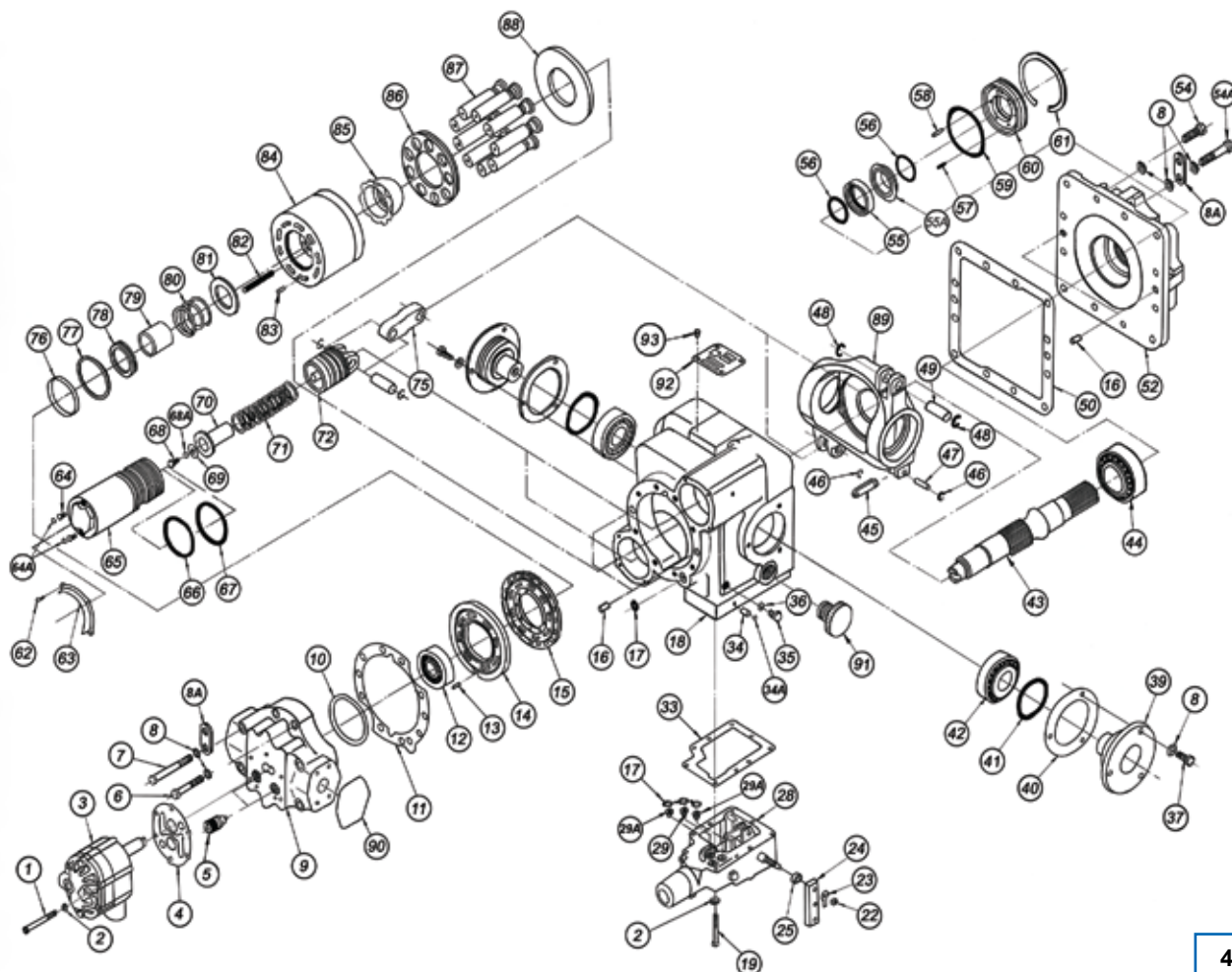
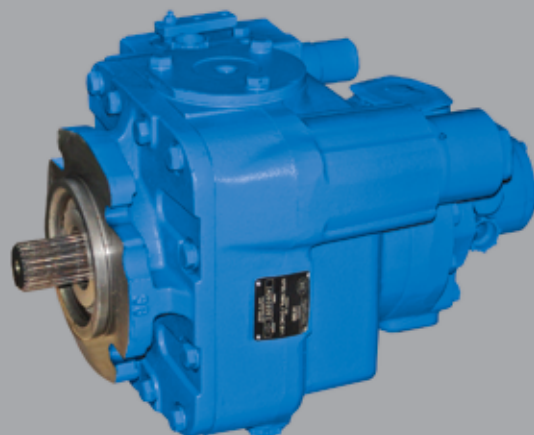


VARIABLE DISPLACEMENT AXIAL PISTON PUMP
HP90-00.000(Sauer SPV23)

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	HP90-00.040	001891	Hexagonal Bolt	4
2	HP90-00.044	002295	Washer	13
3	HP90-05.000 СБ	007104	Charge Pump	1
4	HP90-00.016	007377	Gasket	1
5	HP90-07.000СБ	006650	Check Valve	2
6	HP90-00.032	002030	Hexagonal Bolt	4
7	HP90-00.031	002048	Hexagonal Bolt	4
8	HP90-00.046	002337	Washer	27
8A	HP90-00.007		U-bolt	2
9	HP90-00.005	004366	Back Cover	1
10	HP90-00.019	004267	Shim	5*
11	HP90-00.015	004119	Gasket	1
12		050641	Bearing 6-7406A ISO 355:1977	1
13	HP90-00.023	001255	Cylindrical Pin	1
14	HP90-00.001	004333	Valve Plate	1
15	HP90-01.002	004242	Bearing Plate	1
16	HP90-00.022	001289	Cylindrical Pin	4
17	HP90-00.011-01	001032	Seal Ring	4
18	HP90-00.004	004192	Housing	1
19	HP90-00.038	001867	Hexagonal Bolt	9
22	HP90-00.043	000786	Hexagonal Nut	1
23	HP90-00.045	002451	Toothed Lock Washer	1
24	HP90-00.010	006874	Control Handle	1
25	HP90-00.009	006882	Spacer Control	1
28	HP90-06.000СБ	014027	Control Valve	1
29	HP90-00.013-02	006478	Orifice	1
29A	HP90-00.013-01		Orifice	2
33	HP90-00.017	007393	Gasket	1
34	HP90-00.008	007435	Expander	1
34A			Ball 7.938-80 ГОСТ 3722-81	1
35	HP90-12.001	001552	Expander	1
36	HP90-00.011-06	001123	Seal Ring	1
37	HP90-00.037	002006	Hexagonal Bolt	6
39	HP90-08.002	004036	Trunnion	2
40	HP90-00.018	004044	Shim Pack	4*
40	HP90-00.018-01		Shim Pack	2*
40	HP90-00.018-02		Shim Pack	4*
41	HP90-00.011-10	000950	Seal Ring	2

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
42		050666	Bearing 6-7409A ISO 355:1977	2
43	HP90-02.001	004317	Shaft	1
44		050658	Bearing 6-7410A ISO 355:1977	1
45	HP90-09.010	006288	Connecting Link	1
46	HP90-09.012	007401	Thrust Washer	2
47	HP90-09.011-01	001362	Pin	1
48	HP90-09.008	013649	Thrust Washer	8
49	HP90-09.007	013680	Pin	4
50	HP90-00.014	004101	Gasket	1
52	HP90-03.001	004127	Cover	1
54	HP90-00.036	002014	Hexagonal Bolt	3
54A	HP90-00.034	002022	Hexagonal Bolt	9
55	HP90-00.002	051946	Bushing	1
55A	HP90-04.003		Bushing	1
56	HP90-00.011	008979	Seal Ring	2
57	HP90-04.004	003566	Spring	8
58	HP90-04.002	001206	Cylindrical Pin	1
59	HP90-00.011-04	000984	Seal Ring	1
60	HP90-04.001	004655	Seal Frame	1
61	HP90-00.028	001727	Retaining Ring	1
62	HP90-00.042	007419	Screw	4
63	HP90-00.006	003608	Sleeve Retainer	2
64	HP90-10.002	007427	Expander	4
64A			Ball 3.969-60 ГОСТ 3722-81	4
65	HP90-10.001	003798	Servo Sleeve	2
66	HP90-00.011-02	000885	Seal Ring	2
67	HP90-00.011-03	000877	Seal Ring	2
68		007526	Bolt M8 - 6g x 55.58.05 ГОСТ 7795-70	2
68A			Washer 8 65Г 019 ГОСТ 6402-70	2
69	HP90-09.005	007500	Washer	2
70	HP90-09.004	003657	Spring Guide	2
71	HP90-09.003	004390	Servo Spring	2
72	HP90-09.001	003970	Servo Piston	2
75	HP90-09.006	008995	Link	2
76	HP90-01.007	004325	Pilot Ring	1
77		001768	Ring B-62 ГОСТ 13943-86	1

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
78	HP90-01.006	004010	Washer	1
79	HP90-01.005	004028	Spring Guide	1
80	HP90-01.009	014753	Spring	1
81	HP90-01.004	004002	Washer	1
82	HP90-01.010	014902	Spring	6
83	HP90-01.008	004804	Cylindrical Pin	1
84	HP90-01.200CB	014910	Cylinder Block	1
85	HP90-01.001	004143	Retainer Guide	1
86	HP90-01.003	004176	Slipper Retainer	1
87	HP90-01.100CB	014621	Piston Assembly	9
88	HP90-00.003	004184	Thrust Plate	1
89	HP90-09.002	004168	Swash Plate	1
90	HP90-00.024		Expander	2
91	HP90-00.025		Shipping Screw Plug	2
92	HP90-00.026		Nameplate	1
93	HP90-00.027		Fastener	4

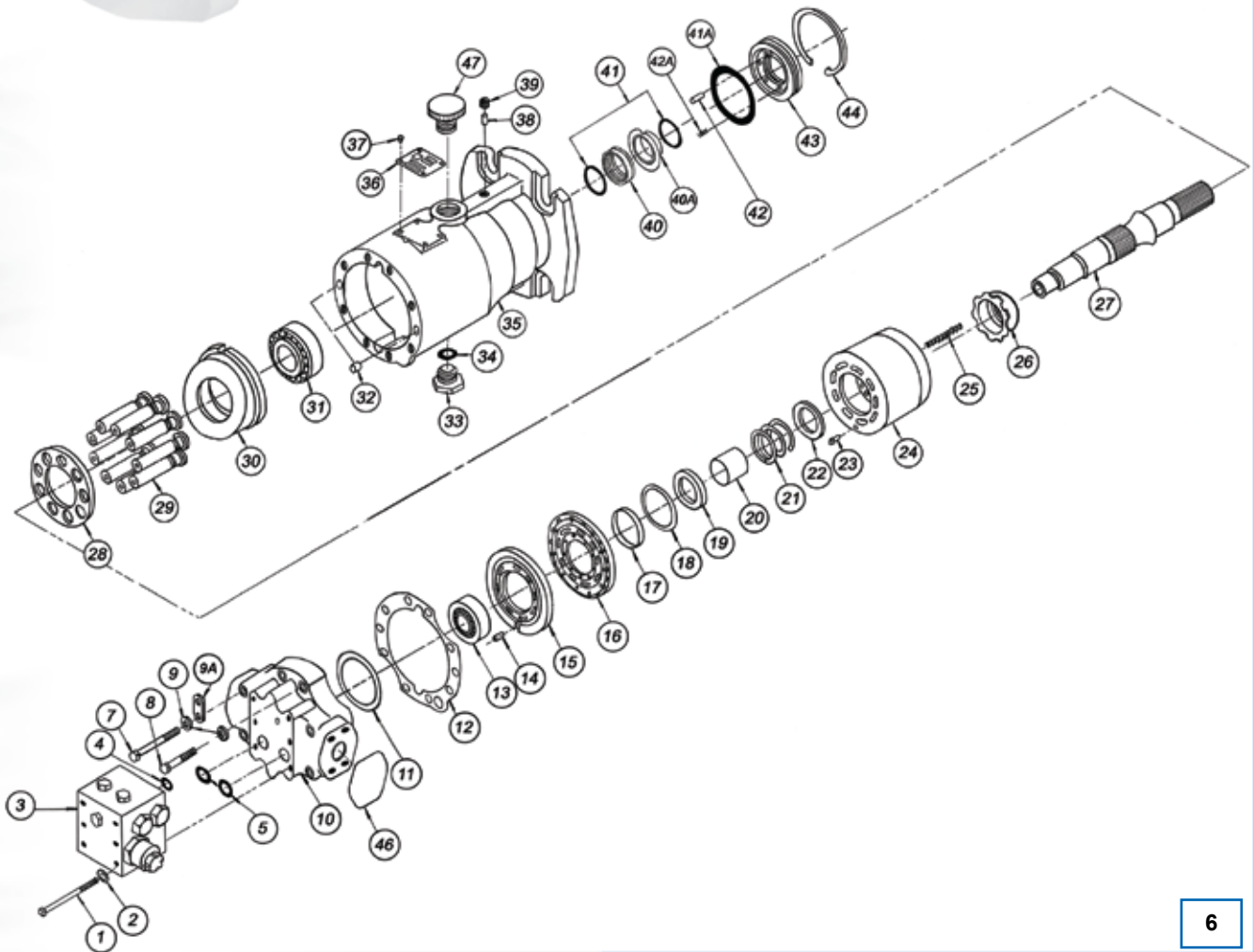


FIXED DISPLACEMENT AXIAL PISTON MOTOR
МП90-00.000(Sauer SMF23)

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	МП90-00.001	001917	Hexagonal Bolt	6
2		002311	Washer 8 65Г 019 ГОСТ 6402-70	6
3	МП90-02.000СБ	006619	Manifold Valve	1
4	МП90-00.012	000836	Seal Ring	1
5	МП90-00.003		Seal Ring	2
7	НП90-00.031	002048	Hexagonal Bolt	4
8	НП90-00.032	002030	Hexagonal Bolt	4
9	НП90-00.046	002337	Washer	8
9A	НП90-00.007		U-bolt	1
10	МП90-00.011	004374	Back Cover	1
11	НП90-00.019	004267	Shim	5*
12	НП90-00.015	004119	Gasket	1
13		050641	Bearing 6-7406A ISO 355:1977	1
14	НП90-00.023	001255	Cylindrical Pin	1
15	МП90-00.008	004358	Valve Plate	1
16	НП90-01.002	004242	Bearing Plate	1
17	НП90-01.007	004325	Pilot Ring	1
18		001768	Ring B-62 ГОСТ 13943-68	1
19	НП90-01.006	004010	Washer	1
20	НП90-01.005	004028	Spring Guide	1
21	НП90-01.009	014753	Spring	1
22	НП90-01.004	004002	Washer	1
23	НП90-01.008	004804	Cylindrical Pin	1
24	НП90-01.200СБ	014910	Cylinder Block	1
25	НП90-01.010	014902	Spring	6
26	НП90-01.001	004143	Retainer Guide	1
27	МП90-01.001	009514	Shaft	1
28	НП90-01.003	004176	Slipper Retainer	1
29	НП90-01.100СБ	014621	Piston	9
30	МП90-00.009	004234	Swash Plate	1
31		050658	Bearing 6-7410A ISO 355:1977	1
32	НП90-00.022	001289	Cylindrical Pin	2
33	МП90-03.001	008862	Expander	1
34	НП90-00.011-05	001149	Seal Ring	1
35	МП90-04.001	004135	Housing	1
36	НП90-00.026-02		Nameplate	1
37	НП90-00.027	008854	Fastener	4

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
38	МП90-00.005	001271	Cylindrical Pin	1
39	МП90-00.002	001479	Tapered Plug	1
40	НП90-00.002	051946	Bushing	1
40A	НП90-04.003		Bushing	1
41	НП90-00.011	008979	Seal Ring	2
41A	НП90-00.011-04	000984	Seal Ring	1
42	НП90-04.002	001206	Cylindrical Pin	1
42A	НП90-04.004	003566	Spring	8
43	НП90-04.001	004655	Seal Frame	1
44	НП90-00.028	001727	Retaining Ring	1
46	НП90-00.024		Shipping Plug	2
47	НП90-00.025		Shipping Screw Plug	1



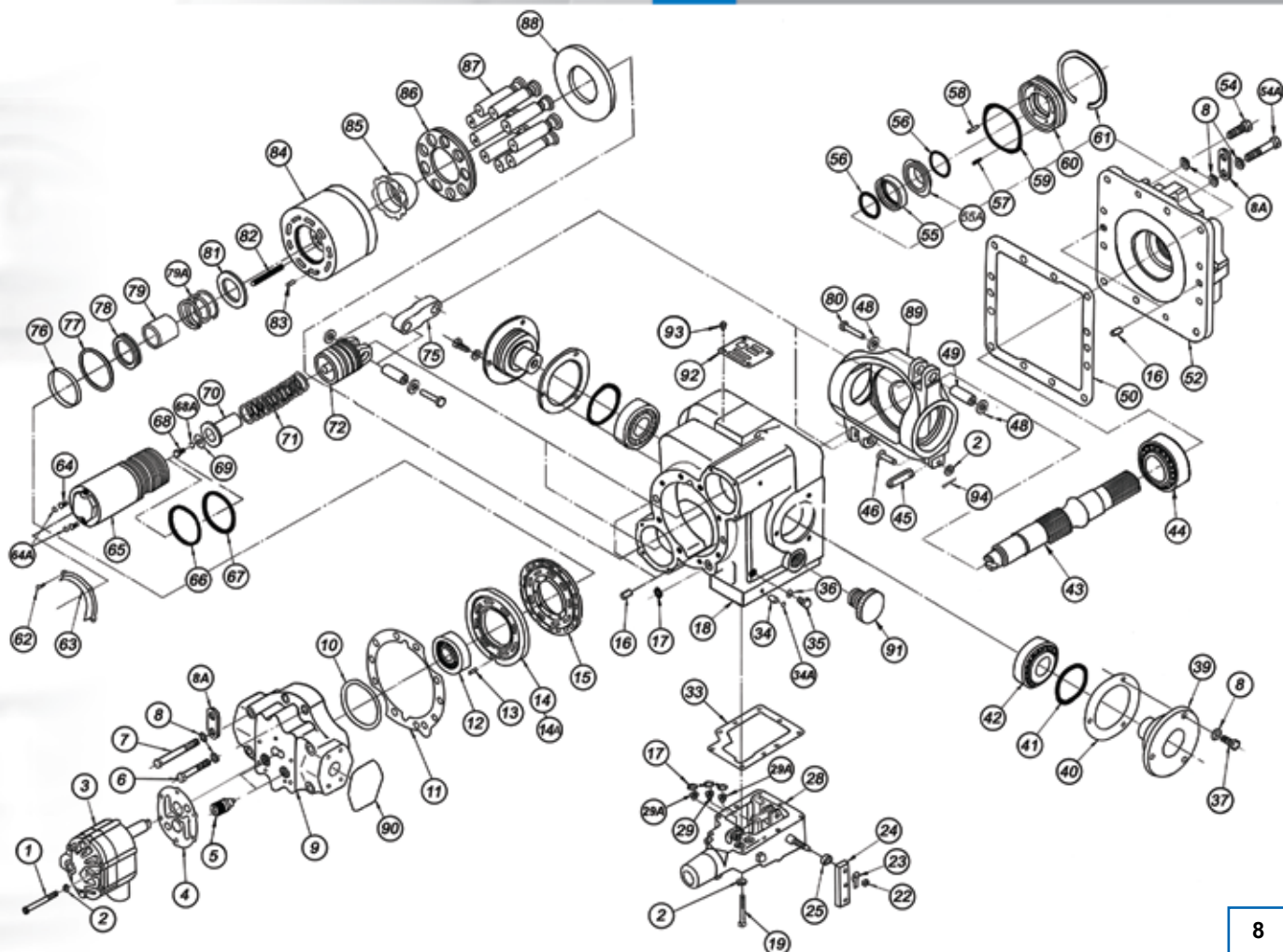
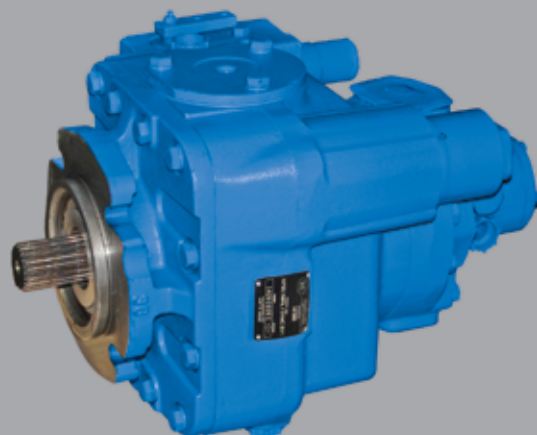


VARIABLE DISPLACEMENT AXIAL PISTON PUMP **НП90-00.000(МНР)**

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	НП90-00.040	001891	Hexagonal Bolt	4
2	НП90-00.044	002295	Washer	14
3	НП90-05.000СБ	007104	Charge Pump	1
4	НП90-00.016	007377	Gasket	1
5	НП90-07.000СБ	006650	Check Valve	2
6	НП90-00.032	002030	Hexagonal Bolt	4
7	НП90-00.031	002048	Hexagonal Bolt	4
8	НП90-00.046	002337	Washer	27
8A	НП90-00.007		U-bolt	2
9	НП90-00.005	004366	Back Cover	1
10	НП90-00.019	004267	Shim	5*
11	НП90-00.015	004119	Gasket	1
12		050641	Bearing 6-7406A ISO 355:1977	1
13	НП90-00.023	001255	Cylindrical Pin	1
14	НП90-00.048		Control Valve	1
15	НП90-11.002		Bearing Plate	1
16	НП90-00.022	001289	Cylindrical Pin	4
17	НП90-00.011-01	001032	Seal Ring	4
18	НП90-00.004	004192	Housing	1
19	НП90-00.038	001867	Hexagonal Bolt	9
22	НП90-00.043	000786	Hexagonal Nut	1
23	НП90-00.045	002451	Toothed Lock Washer	1
24	НП90-00.010	006874	Control Handle	1
25	НП90-00.009	006882	Spacer Control	1
28	НП90-06.000СБ	014027	Control Valve	1
29	НП90-00.013		Orifice	1
29A	НП90-00.013-01		Orifice	2
33	НП90-00.017	007393	Gasket	1
34	НП90-00.008	007435	Expander	1
34A			Ball 7.938-80 ГОСТ 3722-81	1
35	НП90-12.001	001552	Expander	1
36	НП90-00.011-06	001123	Seal Ring	1
37	НП90-00.037	002006	Hexagonal Bolt	6
39	НП90-08.002	004036	Trunnion	2
40	НП90-00.018	004044	Shim Pack	4*
40	НП90-00.018-01		Shim Pack	2*
40	НП90-00.018-02		Shim Pack	4*
41	НП90-00.011-10	000950	Seal Ring	2

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
42		050666	Bearing 6-7409A ISO 355:1977	2
43	НП90-02.001	004317	Shaft	1
44		050658	Bearing 6-7410A ISO 355:1977	1
45	НП90-09.010	006288	Connecting Link	1
46	НП90-09.011		Pin	1
48	НП90-14.013		Washer	8
49	НП90-14.015		Spacer Control	4
50	НП90-00.014	004101	Gasket	1
52	НП90-03.001	004127	Cover	1
54	НП90-00.036	002014	Hexagonal Bolt	3
54A	НП90-00.034	002022	Hexagonal Bolt	9
55	НП90-00.002	051946	Bushing	1
55A	НП90-04.003		Bushing	1
56	НП90-00.011	008979	Seal Ring	2
57	НП90-04.004	003566	Spring	8
58	НП90-04.002	001206	Pin	1
59	НП90-00.011-04	000984	Seal Ring	1
60	НП90-04.001	004655	Seal Frame	1
61	НП90-00.028	001727	Retaining Ring	1
62	НП90-00.042	007419	Screw	4
63	НП90-00.006	003608	Sleeve Retainer	2
64	НП90-10.002	007427	Expander	4
64A			Ball 3,969-60 ГОСТ 3722-81	4
65	НП90-10.001	003798	Servo Sleeve	2
66	НП90-00.011-02	000885	Seal Ring	2
67	НП90-00.011-03	000877	Seal Ring	2
68		007526	Bolt M8 - 6g x 55.58.05 ГОСТ 7795-70	2
68A			Washer 8 65Г 019 ГОСТ 6402-70	2
69	НП90-09.005	007500	Washer	2
70	НП90-09.004	003657	Spring Guide	2
71	НП90-09.003	004390	Servo Spring	2
72	НП90-09.001	003970	Servo Piston	2
75	НП90-09.006	008995	Link	2
76	НП90-01.007	004325	Pilot Ring	1
77		001768	Ring B-62 ГОСТ 13943-86	1
78	НП90-01.006	004010	Washer	1

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
79	HP90-01.005	004028	Spring Guide	1
79A	HP90-01.009	014753	Spring	1
80	HP90-14.014		Pin	4
81	HP90-01.004	004002	Washer	1
82	HP90-01.010	014902	Spring	6
83	HP90-01.008	004804	Pin	1
84	HP90-01.200CB	014910	Cylinder Block	1
85	HP90-01.001	004143	Retainer Guide	1
86	HP90-01.003	004176	Slipper Retainer	1
87	HP90-01.100CB	014621	Piston Assembly	9
88	HP90-00.003	004184	Thrust Plate	1
89	HP90-09.002-01		Swash Plate	1
90	HP90-00.024		Shipping Plug	2
91	HP90-00.025		Shipping Screw Plug	2
92	HP90-00.026		Nameplate	1
93	HP90-00.027	008854	Fastener	4
94			Splint 1,6x12.019 ГОСТ 397-79	1

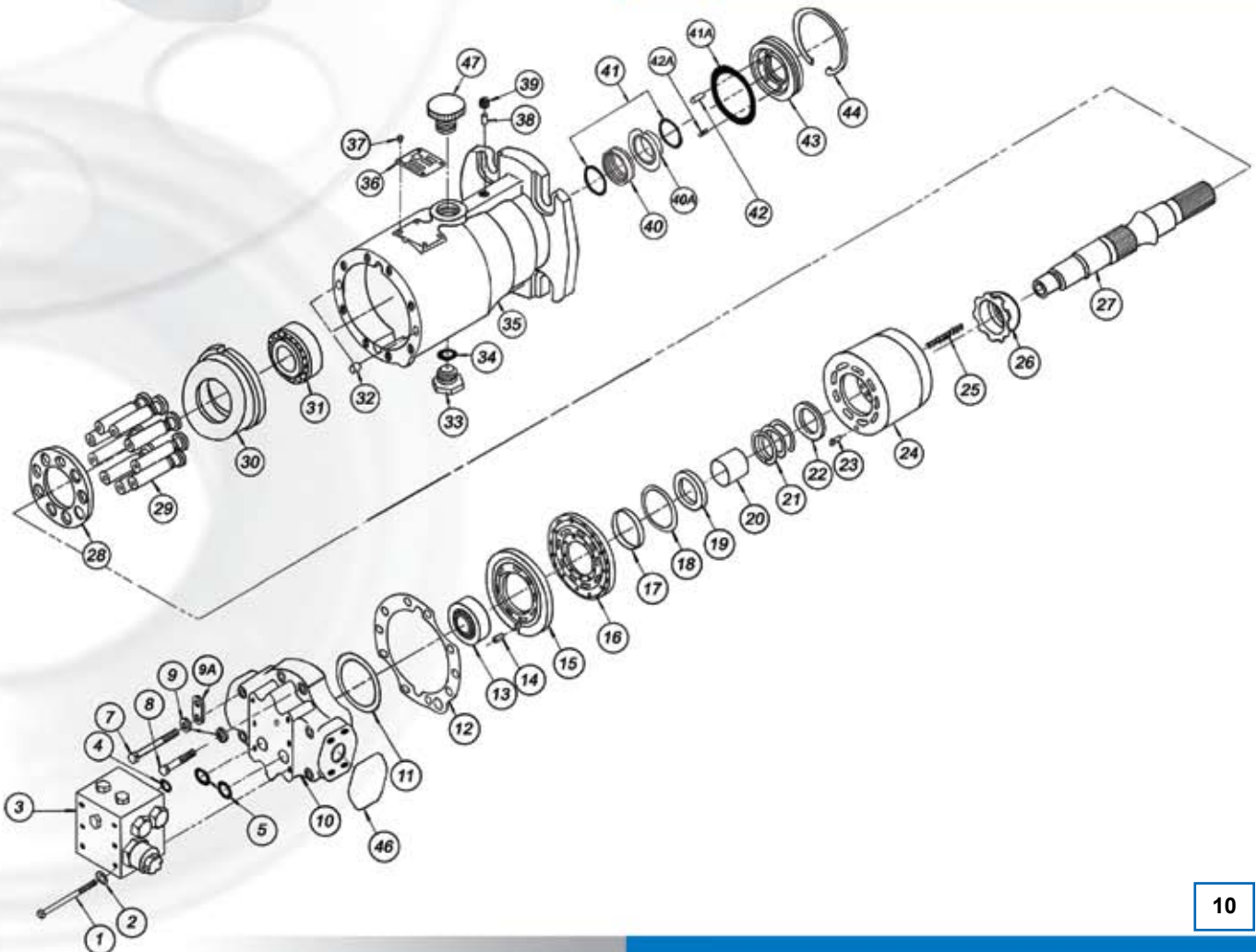


FIXED DISPLACEMENT AXIAL PISTON MOTOR **МП90-00.000 (МП)**

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	МП90-00.001	001917	Hexagonal Bolt	6
2		002311	Washer 8 65Г 019 ГОСТ 6402-70	6
3	МП90-02.000СБ	006619	Manifold Valve	1
4	МП90-00.012	000836	Seal Ring	1
5	МП90-00.003		Seal Ring	2
7	НП90-00.031	002048	Hexagonal Bolt	4
8	НП90-00.032	002030	Hexagonal Bolt	4
9	НП90-00.046	002337	Washer	8
9A	НП90-00.007		U-bolt	1
10	МП90-00.011	004374	Back Cover	1
11	НП90-00.019	004267	Shim	5*
12	НП90-00.015	004119	Gasket	1
13		050641	Bearing 6-7406A ISO 355:1977	1
14	НП90-00.023	001255	Cylindrical Pin	1
15	МП90-00.015		Valve Plate	1
16	НП90-11.002		Bearing Plate	1
17	НП90-01.007	004325	Pilot Ring	1
18		001768	Ring B-62 ГОСТ 13943-68	1
19	НП90-01.006	004010	Washer	1
20	НП90-01.005	004028	Spring Guide	1
21	НП90-01.009	014753	Spring	1
22	НП90-01.004	004002	Washer	1
23	НП90-01.008	004804	Cylindrical Pin	1
24	НП90-01.200СБ	014910	Cylinder Block	1
25	НП90-01.010	014902	Spring	6
26	НП90-01.001	004143	Retainer Guide	1
27	МП90-01.001	009514	Shaft	1
28	НП90-01.003	004176	Slipper Retainer	1
29	НП90-11.100СБ		Piston	9
30	МП90-00.009	004234	Swash Plate	1
31		050658	Bearing 6-7410A ISO 355:1977	1
32	НП90-00.022	001289	Cylindrical Pin	2
33	МП90-03.001	008862	Expander	1
34	НП90-00.011-05	001149	Seal Ring	1
35	МП90-04.001	004135	Housing	1
36	НП90-00.026-02		Nameplate	1
37	НП90-00.027	008854	Fastener	4

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
38	МП90-00.005	001271	Cylindrical Pin	1
39	МП90-00.002	001479	Tapered Plug	1
40	НП90-00.002	051946	Bushing	1
40A	НП90-04.003		Bushing	1
41	НП90-00.011	008979	Seal Ring	2
41A	НП90-00.011-04	000984	Seal Ring	1
42	НП90-04.002	001206	Cylindrical Pin	1
42A	НП90-04.004	003566	Spring	8
43	НП90-04.001	004655	Seal Frame	1
44	НП90-00.028	001727	Retaining Ring	1
46	НП90-00.024		Shipping Plug	2
47	НП90-00.025		Shipping Screw Plug	1



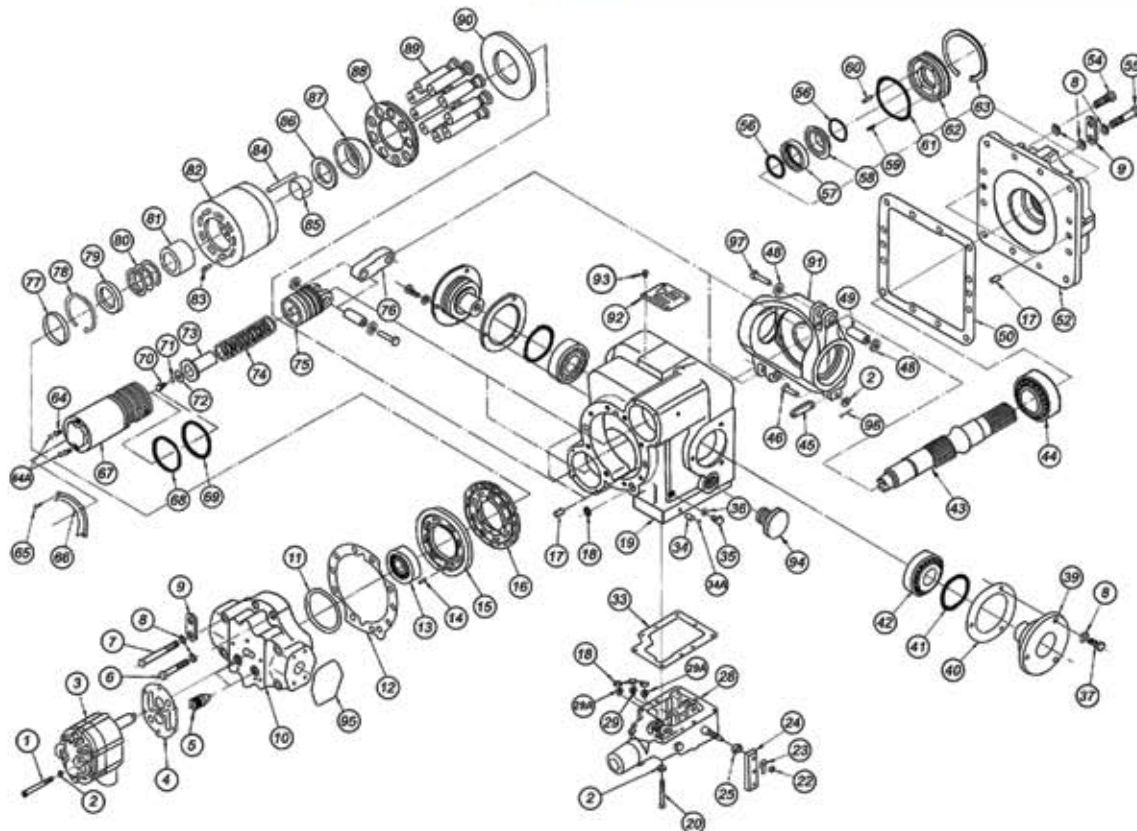


VARIABLE DISPLACEMENT AXIAL PISTON PUMP **HP112-1-00.000**

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	HP90-00.040	001891	Hexagonal Bolt	4
2	HP90-00.044	002295	Washer	14
3	HP90-05.000-01		Charge Pump	1
4	HP90-00.016	007377	Gasket	1
5	HP90-07.000	006650	Check Valve	2
6	HP90-00.032	002030	Hexagonal Bolt	4
7	HP90-00.031	002048	Hexagonal Bolt	4
8	HP90-00.046	002337	Washer	27
9	HP90-00.007		U-bolt	2
10	HP112-00.00.003		Back Cover	1
11	HP90-00.019	004267	Shim	5*
12	HP90-00.015	004119	Gasket	1
13		050641	Bearing 6-7406A ISO 355:1977	1
14	HP90-00.023	001255	Cylindrical Pin	1
15	HP112-00.00.006		Valve Plate Right	1
16	HP112-01.03.000		Bearing Plate	1
17	HP90-00.022	001289	Cylindrical Pin	4
18	HP90-00.011-01	001032	Seal Ring	4
19	HP90-00.004	004192	Housing	1
20	HP90-00.038	001867	Hexagonal Bolt	9
22	HP90-00.043	000786	Hexagonal Nut	1
23	HP90-00.045	002451	Toothed Lock Washer	1
24	HP90-00.010	006874	Control Handle	1
25	HP90-00.009	006882	Spacer Control	1
28	HP90-06.000	014027	Control Valve	1
29	HP90-00.013		Orifice	1
29A	HP90-00.013-01		Orifice	2
33	HP90-00.017	007393	Gasket	1
34	HP90-00.008	007435	Expander	1
34A			Ball 7.938-60 ГОСТ 3722-81	1
35	HP90-12.001	001552	Screw Plug	1
36	HP90-00.011-06	001123	Seal Ring	1
37	HP90-00.037	002006	Hexagonal Bolt	6
39	HP90-08.001		Trunnion	2
40	HP90-00.018	004044	Shim Pack	4*
40	HP90-00.018-01		Shim Pack	1*
40	HP90-00.018-02		Shim Pack	4*

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
41	HP90-00.011-10	000950	Seal Ring	2
42		050666	Bearing 6-7409A ISO 355:1977	2
43	HP112-1-15.001		Shaft	1
44		050658	Bearing 6-7410A ISO 355:1977	1
45	HP90-09.010	006288	Connecting Link	1
46	HP90-09.011		Pin	1
48	HP90-14.013		Washer	8
49	HP90-14.015		Spacer Control	4
50	HP90-00.014	004101	Gasket	1
52	HP90-03.001	004127	Cover	1
54	HP90-00.036	002014	Hexagonal Bolt	3
55	HP90-00.034	002022	Hexagonal Bolt	9
56	HP90-00.011	008979	Seal Ring	2
57	HP90-00.002	051946	Bushing	1
58	HP90-04.003		Bushing	1
59	HP90-04.004	003566	Spring	8
60	HP90-04.002	001206	Cylindrical Pin	1
61	HP90-00.011-04	000984	Seal Ring	1
62	HP90-04.001	004655	Seal Frame	1
63	HP90-00.028	001727	Retaining Ring	1
64	HP90-10.002	007427	Expander	4
64A			Ball 3,969-60 ГОСТ 3722-81	4
65	HP90-00.042	007419	Screw	4
66	HP90-00.006	003608	Sleeve Retainer	2
67	HP90-10.001	003798	Servo Sleeve	2
68	HP90-00.011-02	000885	Seal Ring	2
69	HP90-00.011-03	000877	Seal Ring	2
70		007526	Bolt M8 - 6g x 55.58.05 ГОСТ 7795-70	2
71			Washer 8 65Г 019 ГОСТ 6402-70	2
72	HP90-09.005	007500	Washer	2
73	HP90-09.004	003657	Spring Guide	2
74	HP90-09.003	004390	Servo Spring	2
75	HP90-09.001	003970	Servo Piston	2
76	HP90-09.006	008995	Link	2
77	HP112-01.00.005		Pilot Ring	1
78			Ring B-55 ГОСТ 13943-86	1
79	HP112-01.00.003		Washer	1

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
80	HP112-01.00.002		Spring	1
81	HP112-1.11.002		Spacer Control	1
82	HP112-1-11.200		Cylinder Block	1
83	HP90-01.008	004804	Cylindrical Pin	1
84	HP90-2-01.010		Finger	3
85	HP90-2-01.005		Spacer Sleeve	1
86	HP90-2-01.011		Retainer Washer	1
87	HP90-2-01.001		Retainer Guide	1
88	HP112-1-11.001		Slipper Retainer	1
89	HP112-1-11.100		Piston Assembly	9
90	HP90-00.003	004184	Thrust Plate	1
91	HP90-09.002-01		Swash Plate	1
92	HP90-00.026-05		Nameplate	1
93	HP90-00.027	008854	Fastener	4
94	HP90-00.025		Shipping Screw Plug	2
95	HP90-00.024		Shipping Plug	2
96			Splint 1,6x12.019 ГОСТ 397-79	1
97	HP90-14.014		Pin	4

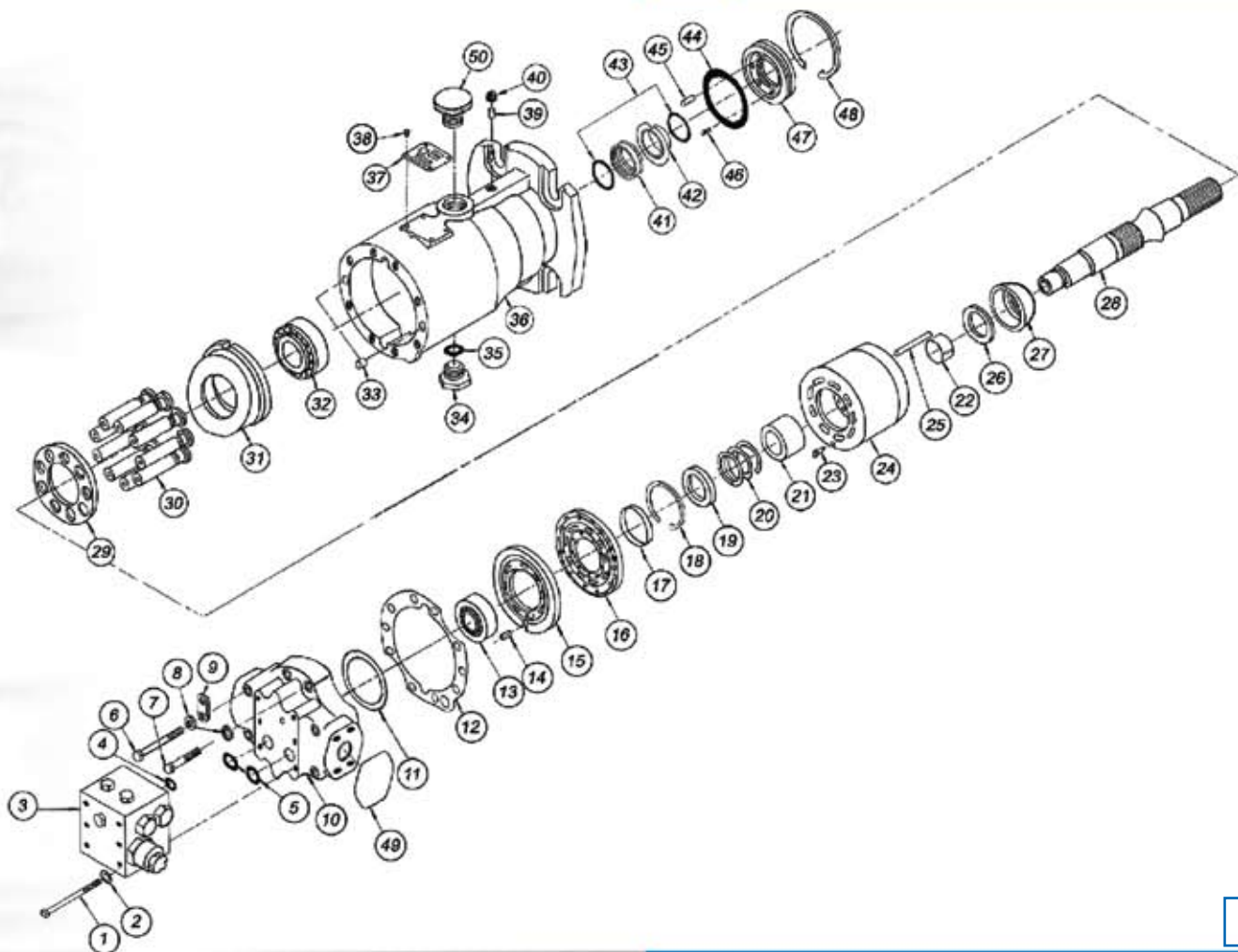


FIXED DISPLACEMENT AXIAL PISTON MOTOR **МП112-1-00.000**

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	МП90-00.001	001917	Hexagonal Bolt	6
2		002311	Washer 8 65Г 019 ГОСТ 6402-70	6
3	МП90-02.000-01		Manifold Valve	1
4	МП90-00.012	000836	Seal Ring	1
5	МП90-00.003		Seal Ring	2
6	НП90-00.031	002048	Hexagonal Bolt	4
7	НП90-00.032	002030	Hexagonal Bolt	4
8	НП90-00.046	002337	Washer	8
9	НП90-00.007		U-bolt	1
10	МП112-00.00.002		Back Cover	1
11	НП90-00.019	004267	Shim	5*
12	НП90-00.015	004119	Gasket	1
13		050641	Bearing 6-7406A ISO 355:1977	1
14	НП90-00.023	001255	Cylindrical Pin	1
15	МП112-00.00.001		Valve Plate	1
16	НП112-01.03.000		Bearing Plate	1
17	НП112-01.00.005		Pilot Ring	1
18			Ring B 55 ГОСТ 13943-86	1
19	НП112-01.00.003		Washer	1
20	НП112-01.00.002		Spring	1
21	НП112-1-11.002		Spring Guide	1
22	НП90-2-01.005		Spacer Sleeve	1
23	НП90-01.008	004804	Cylindrical Pin	1
24	НП112-1-11.200		Cylinder Block	1
25	НП90-2-01.010		Finger	3
26	НП90-2-01.011		Retainer Washer	1
27	НП90-2-01.001		Retainer Guide	1
28	МП112-1-03.001		Shaft	1
29	НП112-1-11.001		Slipper Retainer	1
30	НП112-1-11.100		Piston Assembly	9
31	МП90-00.009	004234	Swash Plate	1
32		050658	Bearing 6-7410A ISO 355:1977	1
33	НП90-00.022	001289	Cylindrical Pin	2
34	МП90-03.001	008862	Expander	1
35	НП90-00.011-05	001149	Seal Ring	1

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
36	МП90-04.001	004135	Housing	1
37	НП90-00.026-07		Nameplate	1
38	НП90-00.027	008854	Fastener	4
39	МП90-00.005	001271	Cylindrical Pin	1
40	МП90-00.002	001479	Plug КГ 1/8"40.05 ТУ 23.1.506-91	1
41	НП90-00.002	051946	Bushing	1
42	НП90-04.003		Bushing	1
43	НП90-00.011	008979	Seal Ring	2
44	НП90-00.011-04	000984	Seal Ring	1
45	НП90-04.002	001206	Cylindrical Pin	1
46	НП90-04.004	003566	Spring	8
47	НП90-04.001	004655	Seal Frame	1
48	НП90-00.028	001727	Retaining Ring	1
49	НП90-00.024		Shipping Plug	2
50	НП90-00.025		Shipping Screw Plug	1





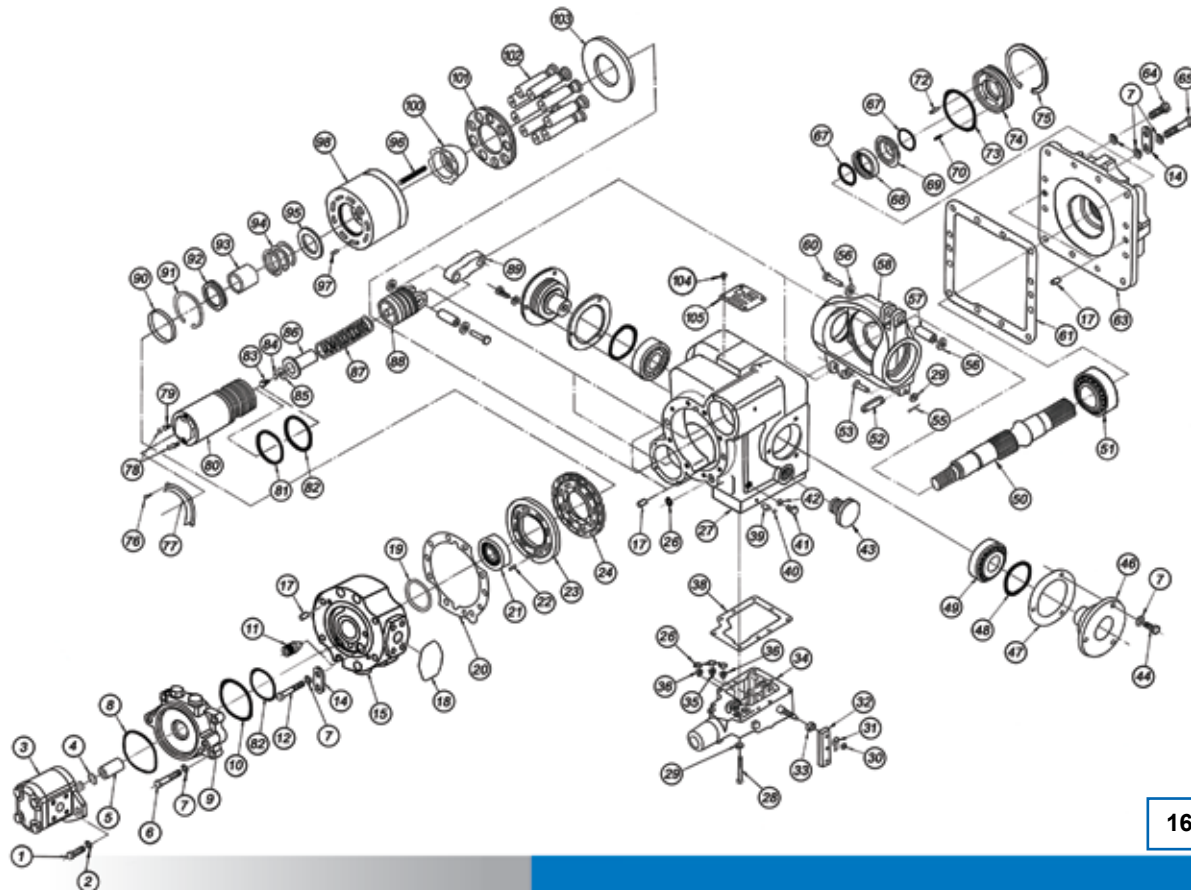
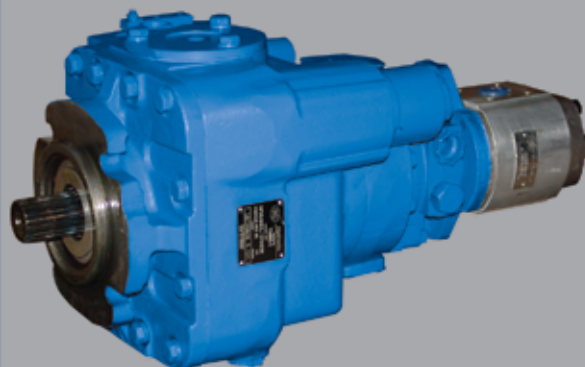
PUMP UNIT * *

TH90-1

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1			Bolt M12 x 40.88.019 ГОСТ 7798-70 или Bolt M12 x 40.88.016 ГОСТ 7796-70 или Bolt M10 x 25.88.019 ГОСТ 7798-70	2
2			Washer 12 65Г 019 ГОСТ 6402-70 или Washer 10 65Г 019 ГОСТ 6402-70	2
3	НШ32Д-10Д-3-00-00 или НШ32Д-10Д-3-00-00-01 или НШ32Д-4-00-00-02 или НШ32Д-4-00-00-03 или НШ12Д-8Д-3-00-00 или НШ12Д-8Д-3-00-00-01 или НШ8Д-3-00-00 или НШ8Д-3-00-00-01		Two-section Gear Pump or Gear Pump	1
4	TH112-2-00.001 или НП90-09.008		Lockring Ring	1
5	TH90-1-00.001 или TH90-1-00.001-01		Sleeve Pipe	1
6	НП90-1-00.003-01		Hexagonal Bolt	4
7	НП90-00.046	002337	Washer	27
8			Ring 108-112-25-2-6 ГОСТ 9833-73 / ГОСТ 18829-73	1
9	НПВ3-00.000		Inner Link Charge Pump	1
10			Ring 120-125-25-2-6 ГОСТ 9833-73 / ГОСТ 18829-73	1
11	НП90-07.000		Check Valve	2
12	НП90-1-00.003		Hexagonal Bolt	4
14	НП90-00.007		U-bolt	2
15	НП90-1-02.000		Back Cover	1
17	НП90-00.022	001289	Cylindrical Pin	6
18	НП90-00.024		Shipping Plug	2
19	НП90-00.019	004267	Shim	5*
20	НП90-00.015	004119	Gasket	1
21		050641	Bearing 6-7406A ISO 355:1977	1
22	НП90-00.023	001255	Cylindrical Pin	1
23	НП90-00.048		Valve Plate	1
24	НП90-11.002		Bearing Plate	1
26	НП90-00.011-01	001032	Seal Ring	4
27	НП90-00.004	004192	Housing	
28	НП90-00.038	001867	Hexagonal Bolt	9
29	НП90-00.044	002295	Washer	10
30	НП90-00.043	000786	Hexagonal Nut	1
31	НП90-00.045	002451	Toothed Lock Washer	1

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
32	НП90-00.010 или TH112-2-00.003	006874	Control Handle	1
33	НП90-00.009	006882	Spacer Control	1
34	НП90-06.000	014027	Control Valve	1
35	НП90-00.013		Orifice	1
36	НП90-00.013-01		Orifice	2
38	НП90-00.017	007393	Gasket	1
39	НП90-00.008	007435	Expander	1
40			Ball 7.938-60 ГОСТ 3722-81	1
41	НП90-12.001	001552	Screw Plug	1
42	НП90-00.011-06	001123	Seal Ring	1
43	НП90-00.025		Shipping Screw Plug	2
44	НП90-00.037	002006	Hexagonal Bolt	6
46	НП90-08.002	004036	Trunnion	2
47	НП90-00.018	004044	Shim Pack	4*
47	НП90-00.018-01		Shim Pack	1*
47	НП90-00.018-02		Shim Pack	4*
48	НП90-00.011-10	000950	Seal Ring	2
49		050666	Bearing 6-7409A ISO 355:1977	2
50	НП90-1-01.001		Shaft	1
51		050658	Bearing 6-7410A ISO 355:1977	1
52	НП90-09.010	006288	Connecting Link	1
53	НП90-09.011		Pin	1
55			Splint 1,6 x 12.019 ГОСТ 397-79	1
56	НП90-14.013		Washer	8
57	НП90-14.015		Spacer Control	4
58	НП90-09.002-01		Swash Plate	1
60	НП90-14.014		Pin	4
61	НП90-00.014	004101	Gasket	1
63	НП90-03.001	004127	Cover	1
64	НП90-00.036	002014	Hexagonal Bolt	3
65	НП90-00.034	002022	Hexagonal Bolt	9
67	НП90-00.011	008979	Seal Ring	2
68	НП90-00.002	051946	Bushing	1
69	НП90-04.003		Bushing	1
70	НП90-04.004	003566	Spring	8
72	НП90-04.002	001206	Cylindrical Pin	1
73	НП90-00.011-04	000984	Seal Ring	1
74	НП90-04.001	004655	Seal Frame	1
75	НП90-00.028	001727	Retaining Ring	1
76	НП90-00.042	007419	Screw	4
77	НП90-00.006	003608	Sleeve Retainer	2
78			Bal 3,969-60 ГОСТ 3722-81	4
79	НП90-10.002	007427	Expander	4
80	НП90-10.001	003798	Servo Sleeve	2
81	НП90-00.011-02	000885	Seal Ring	2

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
82	HP90-00.011-03	000877	Seal Ring	3
83		007526	Bolt M8 - 6g x 55.58.05 ГОСТ 7795-70	2
84			Washer 8T65Г 019 ГОСТ 6402-70	2
85	HP90-09.005	007500	Washer	2
86	HP90-09.004	003657	Spring Guide	2
87	HP90-09.003	004390	Spring	2
88	HP90-09.001	003970	Servo Piston	2
89	HP90-09.006	008995	Link	2
90	HP90-01.007	004325	Pilot Ring	1
91		001768	Ring B-62 ГОСТ 13943-86	1
92	HP90-01.006	004010	Washer	1
93	HP90-01.005	004028	Spring Guide	1
94	HP90-01.009	014753	Spring	1
95	HP90-01.004	004002	Washer	1
96	HP90-01.010	014902	Spring	6
97	HP90-01.008	004804	Cylindrical Pin	1
98	HP90-01.200	014910	Cylinder Block	1
100	HP90-01.001	004143	Retainer Guide	1
101	HP90-11.003		Slipper Retainer	1
102	HP90-11.100		Piston Assembly	9
103	HP90-00.003	004184	Thrust Plate	1
104	HP90-00.027	008854	Fastener	4
105	TH90-1-00.002-02		Nameplate	1



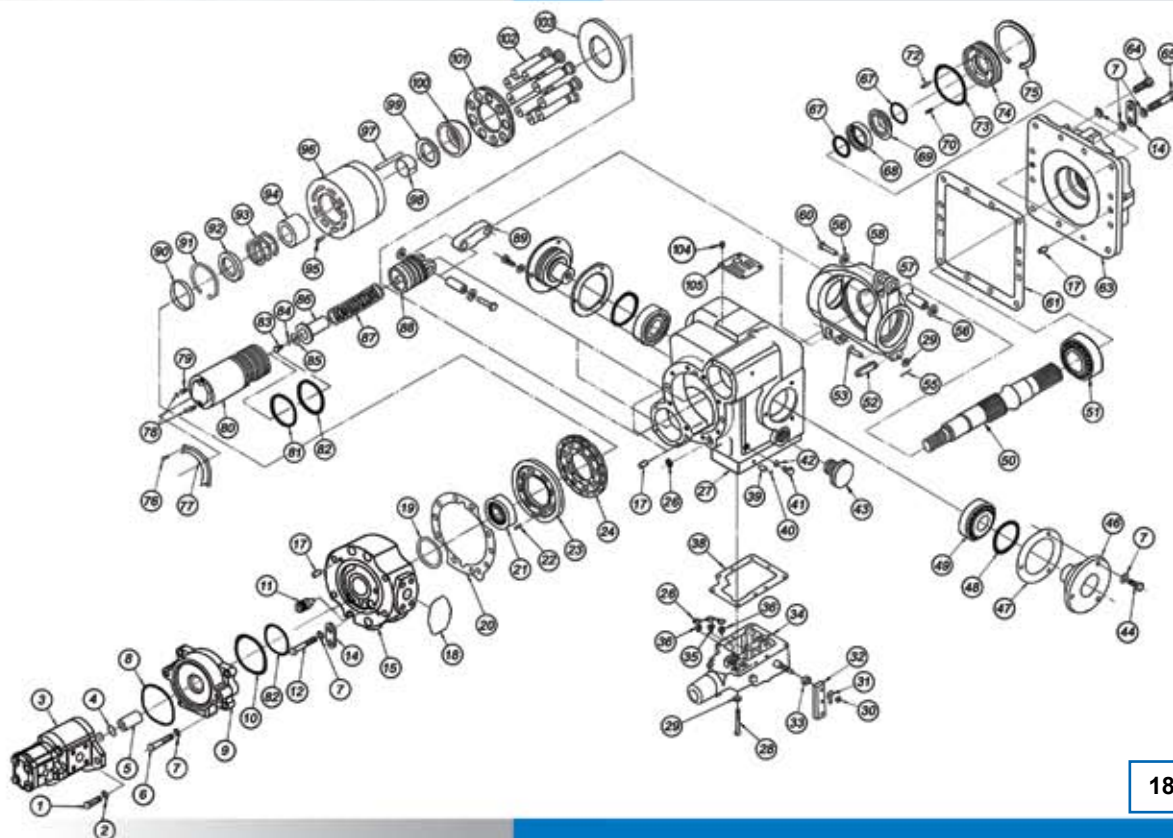
PUMP UNIT **

TH112-2

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1			Bolt M12 x 40.88.019 ГОСТ 7798-70 или Bolt M12 x 40.88.016 ГОСТ 7796-70 или Bolt M10 x 25.88.019 ГОСТ 7798-70 или Bolt M10 x 25.88.016 ГОСТ 7796-70	2
2			Washer 12 65Г 019 ГОСТ 6402-70 или Washer 10 65Г 019 ГОСТ 6402-70	2
3	НШ28Д-10Д-3-00-02 НШ32Д-4-00-00-03 НШ28Д-4-00-00-03 НШ32Д-10Д-3-00-01 НШ25Д-4-00-00-03 НШ25Д-10Д-3-00-01 НШ28Д-4-00-00-02 НШ8Д-3-00-00		Two-section Gear Pump or Gear Pump	1
4	TH112-2-00.001		Lockring	1
5	TH90-1-00.001 или TH90-1-00.001-01		Sleeve Pipe	1
6	HP90-1-00.003-01		Hexagonal Bolt	4
7	HP90-00.046	002337	Washer	27
8			Ring 108-112-25-2-6 или 088-092-25-2-6 ГОСТ 9833-73 / ГОСТ 18829-73	1
9	HPB3-00.000		Inner Link Charge Pump	1
10			Ring 120-125-25-2-6 ГОСТ 9833-73 / ГОСТ 18829-73	1
11	HP90-07.000	006650	Check Valve	2
12	HP90-1-00.003		Hexagonal Bolt	4
14	HP90-00.007		U-bolt	2
15	HP112-2-02.000-01		Back Cover	1
17	HP90-00.022	001289	Cylindrical Pin	6
18	HP90-00.024		Shipping Plug	2
19	HP90-00.019	004267	Shim	5*
20	HP90-00.015	004119	Gasket	1
21		050641	Bearing 6-7406A ISO 355:1977	1
22	HP90-00.023	001255	Cylindrical Pin	1
23	HP112-00.00.006		Valve Plate Right	1
24	HP112-01.03.000		Bearing Plate	1
26	HP90-00.011-01	001032	Seal Ring	4
27	HP90-00.004	004192	Housing	1
28	HP90-00.038	001867	Hexagonal Bolt	9
29	HP90-00.044	002295	Washer	10
30	HP90-00.043	000786	Hexagonal Nut	1

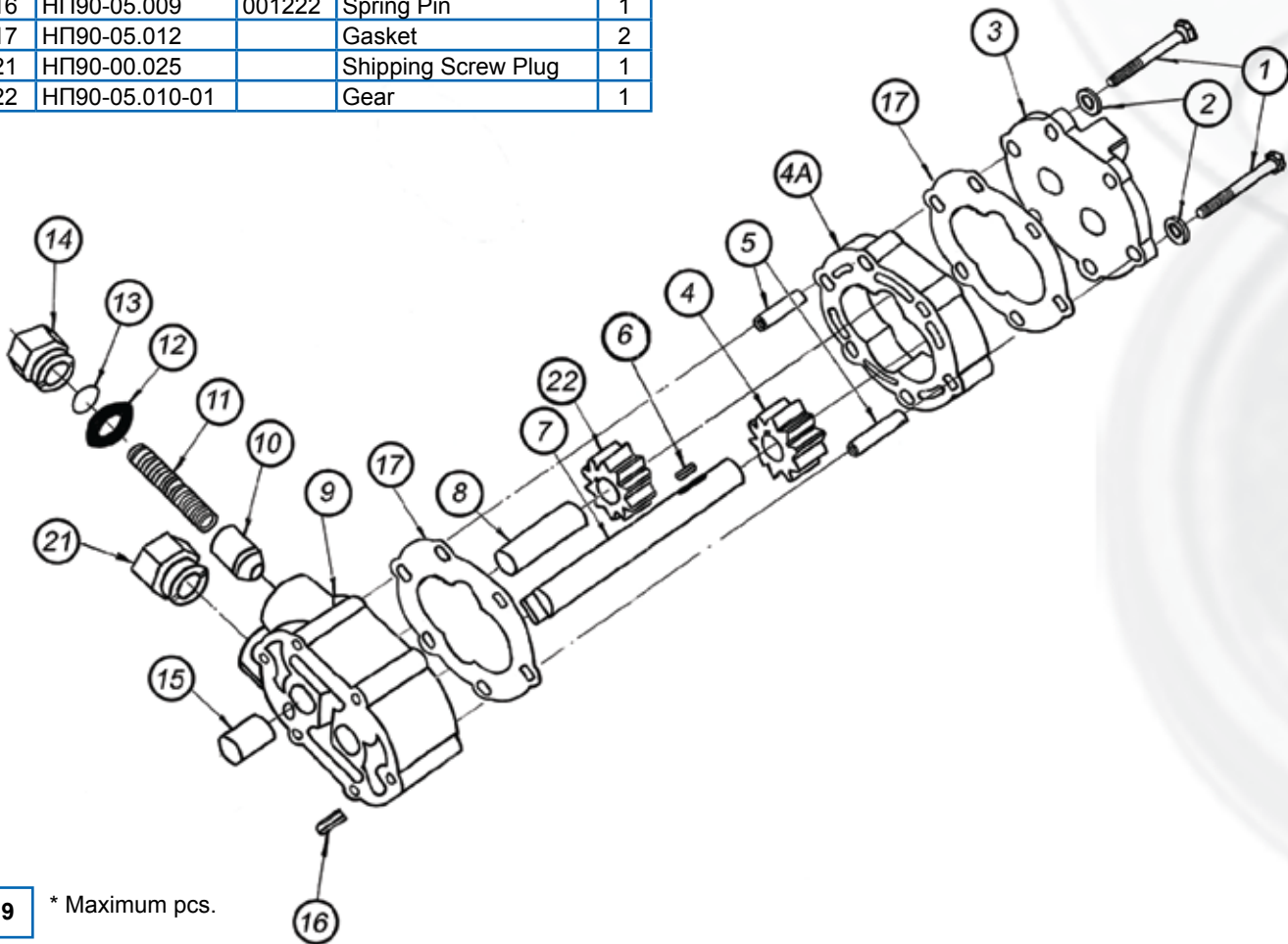
Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
31	HP90-00.045	002451	Toothed Lock Washer	1
32	TH112-2-00.003 или HP90-00.010	006874	Control Handle	1
33	HP90-00.009	006882	Spacer Control	1
34	HP90-06.000	014027	Control Valve	1
35	HP90-00.013		Orifice	1
36	HP90-00.013-01		Orifice	2
38	HP90-00.017	007393	Gasket	1
39	HP90-00.008	007435	Expander	1
40			Ball 7.938-60 ГОСТ 3722-81	1
41	HP90-12.001	001552	Screw Plug	1
42	HP90-00.011-06	001123	Seal Ring	1
43	HP90-00.025		Shipping Screw Plug	2
44	HP90-00.037	002006	Hexagonal Bolt	6
46	HP90-08.002		Trunnion	2
47	HP90-00.018	004044	Shim Pack	4*
47	HP90-00.018-01		Shim Pack	2*
47	HP90-00.018-02		Shim Pack	4*
48	HP90-00.011-10	000950	Seal Ring	2
49		050666	Bearing 6-7409A ISO 355:1977	2
50	HP112-2-03.001-16		Shaft	1
51		050658	Bearing 6-7410A ISO 355:1977	1
52	HP90-09.010	006288	Connecting Link	1
53	HP90-09.011		Pin	1
55			Splint 1,6x12.019 ГОСТ 397-79	1
56	HP90-14.013		Washer	8
57	HP90-14.015		Spacer Control	4
58	HP90-09.002-01		Swash Plate	1
60	HP90-14.014		Pin	4
61	HP90-00.014	004101	Gasket	1
63	HP90-03.001	004127	Cover	1
64	HP90-00.036	002014	Hexagonal Bolt	3
65	HP90-00.034	002022	Hexagonal Bolt	9
67	HP90-00.011	008979	Seal Ring	2
68	HP90-00.002	051946	Bushing	1
69	HP90-04.003		Bushing	1
70	HP90-04.004	003566	Spring	8
72	HP90-04.002	001206	Cylindrical Pin	1
73	HP90-00.011-04	000984	Seal Ring	1
74	HP90-04.001	004655	Seal Frame	1
75	HP90-00.028	001727	Retaining Ring	1
76	HP90-00.042	007419	Screw	4
77	HP90-00.006	003608	Sleeve Retainer	2
78			Ball 3.969-60 ГОСТ 3722-81	4
79	HP90-10.002	007427	Expander	4
80	HP90-10.001	003798	Servo Sleeve	2
81	HP90-00.011-02	000885	Seal Ring	2

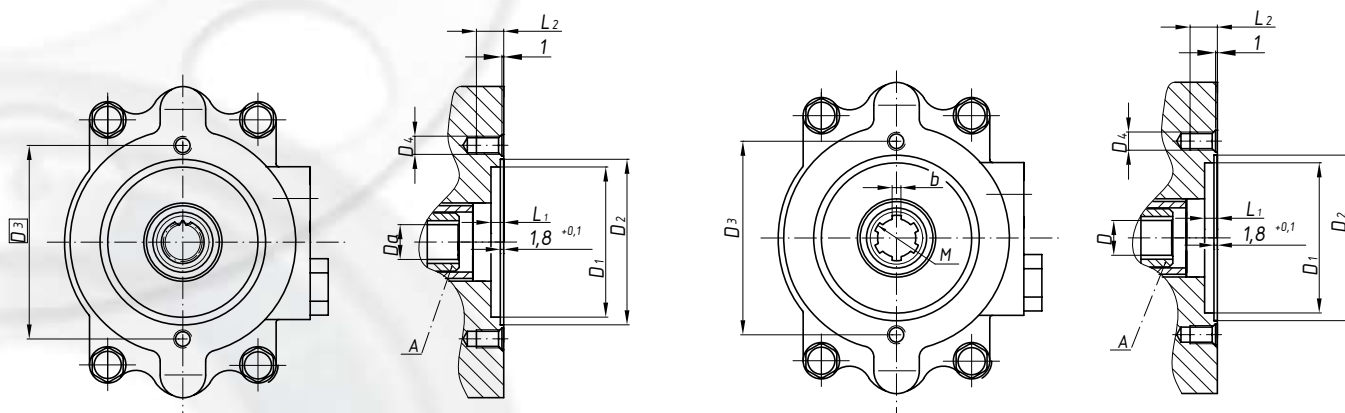
Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
82	HP90-00.011-03	000877	Seal Ring	3
83		007526	Bolt M8 - 6g x 55.58.05 ГОСТ 7795-70	2
84			Washer 8T 65Г 019 ГОСТ 6402-70	2
85	HP90-09.005	007500	Washer	2
86	HP90-09.004	003657	Spring Guide	2
87	HP90-09.003	004390	Spring	2
88	HP90-09.001	003970	Servo Piston	2
89	HP90-09.006	008995	Link	2
90	HP112-01.00.005		Pilot Ring	1
91			Ring B-55 ГОСТ 13943-86	1
92	HP112-01.00.003		Washer	1
93	HP112-01.00.002		Spring	1
94	HP112-1.11.002		Spring Guide	1
95	HP90-01.008	004804	Cylindrical Pin	1
96	HP112-1-11.200		Cylinder Block	1
97	HP90-2-01.010		Finger	3
98	HP90-2-01.005		Spacer Sleeve	1
99	HP90-2-01.011		Retainer Washer	1
100	HP90-2-01.001		Retainer Guide	1
101	HP112-1-11.001		Slipper Retainer	1
102	HP112-1-11.100		Piston Assembly	9
103	HP90-00.003	004184	Thrust Plate	1
104	HP90-00.027	008854	Fastener	4
105	TH112-2-00.002-02		Nameplate	1



CHARGE PUMP Sauer Series 23
HP90-05.000

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	HP90-05.002	002196	Hexagonal Bolt	2
2	HP90-00.044	002295	Washer	2
3	HP90-05.001	010405	Upper Cover	1
4	HP90-05.010		Gear	1
4A	HP90-05.004	007245	Housing	1
5	HP90-05.003	001446	Spacer Control	2
6	HP90-05.008	000752	Spline	1
7	HP90-05.007	007229	Shaft	1
8	HP90-05.006	001354	Axle	1
9	HP90-05.100	006742	Bottom Cover	1
10	HP90-05.011	006957	Valve	1
11	HP90-05.013-1	006965	Spring	1
12	HP90-00.011-05	001149	Seal Ring	1
13	HP90-05.016	006239	Shim	1*
13	HP90-05.016-02		Shim	1*
14	MP90-03.001-01	006437	Expander	1
15	HP90-05.005	007211	Expander	1
16	HP90-05.009	001222	Spring Pin	1
17	HP90-05.012		Gasket	2
21	HP90-00.025		Shipping Screw Plug	1
22	HP90-05.010-01		Gear	1





Mounting Dimensions for Tandem Combinations with Gear Pumps

E Code**	Z	Dimensions [mm]									
		D _a	M	D	b	D ₁	D ₂	D ₃	L ₁	D ₄	L ₂
1	9	12,926 ^{+0,11}	-	-	-	Ø82,57 ^{+0,04}	Ø91 ^{+0,22}	Ø106,4	7,5	M10-7H	15min
2	11	16,017 ^{+0,11}				Ø101,62 ^{+0,04}	Ø110 ^{+0,22}	Ø146,1	10	M12-7H	25min
3	13	19,133 ^{+0,11}				Ø82,57 ^{+0,04}	Ø91 ^{+0,22}	Ø106,4	7,5	M10-7H	15min
4	-	-	D-6×13×16H9×3,5D10	Ø13 ^{+0,11}	3,5 ^{+0,078} _{+0,030}	Ø82,57 ^{+0,04}	Ø91 ^{+0,22}	Ø106,4	7,5	M10-7H	15min
5	-	-	D-6×18×22H9×5D9	Ø18 ^{+0,11}	5 ^{+0,078} _{+0,030}	Ø101,62 ^{+0,04}	Ø110 ^{+0,22}	Ø146,1	10	M12-7H	25min
6	13	19,133 ^{+0,11}	-	-	-	Ø50,52 ^{+0,046}	Ø55,5 ^{+0,19}	Ø146,1	7,5	M12-7H	25min
7	-	-	D-6×18×22H9×5D9	Ø18 ^{+0,11}	5 ^{+0,078} _{+0,030}	Ø50,52 ^{+0,046}	Ø55,5 ^{+0,19}	Ø146,1	7,5	M12-7H	25min

* Inner Link Charge Pump displacement 19,5 cm³ can be applied for tandem combinations with axial piston pumps displacement 90 and 112 cm³.

** – displacement code acc. 'Hydrosila', JSC notification system.

CYLINDER BLOCK
HP90-01.000
(FOR SPV23 AND SMF23)

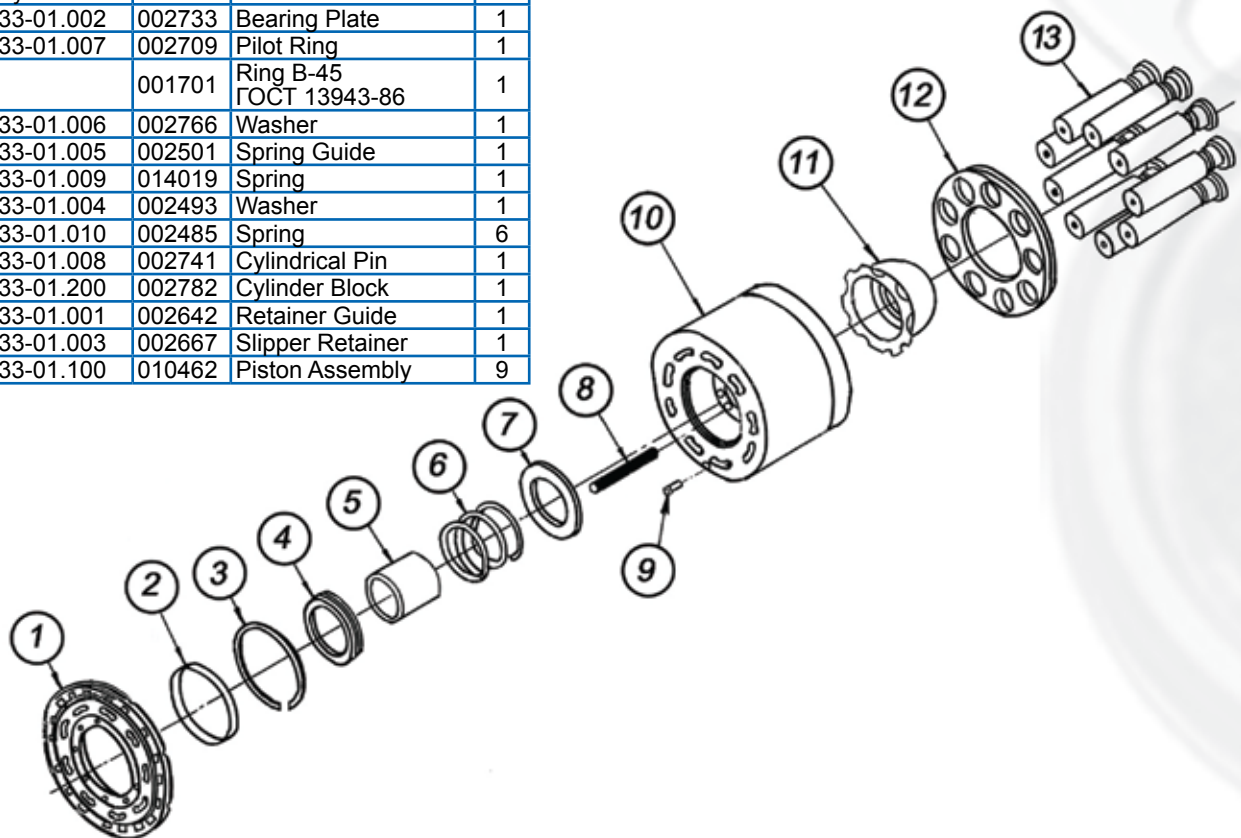
Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	HP90-01.002	004242	Bearing Plate	1
2	HP90-01.007	004325	Pilot Ring	1
3		001768	Ring B-62 ГОСТ 13943-86	1
4	HP90-01.006	004010	Washer	1
5	HP90-01.005	004028	Spring Guide	1
6	HP90-01.009	014753	Spring	1
7	HP90-01.004	004002	Washer	1
8	HP90-01.010	014902	Spring	6
9	HP90-01.008	004804	Cylindrical Pin	1
10	HP90-01.200	014910	Cylinder Block	1
11	HP90-01.001	004143	Retainer Guide	1
12	HP90-01.003	004176	Slipper Retainer	1
13	HP90-01.100	014621	Piston Assembly	9

CYLINDER BLOCK
HP71-01.000
(FOR SPV22 AND SMF22)

Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	HP71-01.002	003772	Bearing Plate	1
2	HP71-01.007	013862	Pilot Ring	1
3		001750	Ring B-58 ГОСТ 13943-86	1
4	HP71-01.006	003558	Washer	1
5	HP71-01.005	003467	Spring Guide	1
6	HP71-01.009	013797	Spring	1
7	HP71-01.004	003541	Washer	1
8	HP71-01.010	014860	Spring	6
9	HP90-01.008	004804	Cylindrical Pin	1
10	HP71-01.200	014878	Cylinder Block	1
11	HP71-01.001	003665	Retainer Guide	1
12	HP71-01.003	003707	Slipper Retainer	1
13	HP71-01.100	014845	Piston Assembly	9

CYLINDER BLOCK
HP33-01.000
(FOR SPV20 AND SMF20)

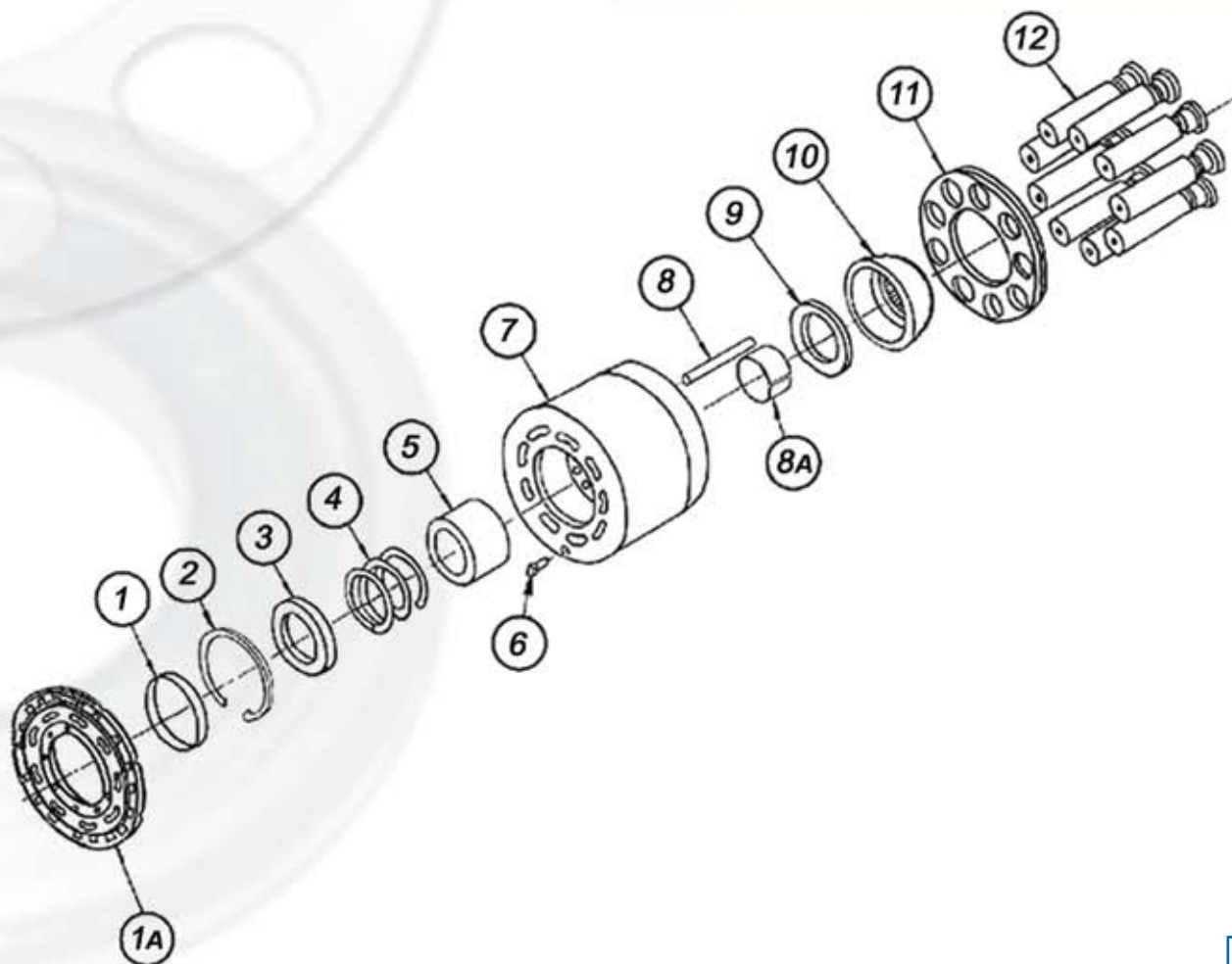
Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1	HP33-01.002	002733	Bearing Plate	1
2	HP33-01.007	002709	Pilot Ring	1
3		001701	Ring B-45 ГОСТ 13943-86	1
4	HP33-01.006	002766	Washer	1
5	HP33-01.005	002501	Spring Guide	1
6	HP33-01.009	014019	Spring	1
7	HP33-01.004	002493	Washer	1
8	HP33-01.010	002485	Spring	6
9	HP33-01.008	002741	Cylindrical Pin	1
10	HP33-01.200	002782	Cylinder Block	1
11	HP33-01.001	002642	Retainer Guide	1
12	HP33-01.003	002667	Slipper Retainer	1
13	HP33-01.100	010462	Piston Assembly	9



CYLINDER BLOCK
HP112-1-11.000



Pos.	Indication		Item	Q.
	Hydrosila	Sauer		
1A	HP112-01.03.000		Bearing Plate	1
1	HP112-01.00.005		Pilot Ring	1
2			Ring B-55 ГОСТ 13943-86	1
3	HP112-01.00.003		Washer	1
4	HP112-01.00.002		Spring	1
5	HP112-1.11.002		Spring Guide	1
6	HP112-1-11.200	004804	Cylinder Block	1
7	HP90-01.008		Cylindrical Pin	1
8	HP90-2-01.010		Finger	3
8A	HP90-2-01.005		Spacer Sleeve	1
9	HP90-2-01.011		Retainer Washer	1
10	HP90-2-01.001		Retainer Guide	1
11	HP112-1-11.001		Slipper Retainer	1
12	HP112-1-11.100		Piston Assembly	9





Provide the long the life of your machines, purchase original spare parts from our authorized representatives.



**Quality management system
conforms to ISO 9001:2000
standards (by Bureau Veritas).**

Hydrosila JSC
5, Bratislavskaya Str., Kirovograd,
Ukraine, 25006
RD Department
www.hydrosila.com, pk0@hydrosila.com

Sales Company Hydrosila, JSC
7, Ordzhonikidze, Str.,
25002 Kirovograd, Ukraine
tel./fax: +38 (0522) 35-83-14, 35-83-58, 35-83-16
e-mail: sales@kpk.net.ua
sales1@kpk.net.ua, sales2@kpk.net.ua