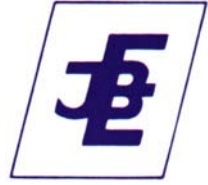


**H. HERMANN EHLERS GMBH**

**Fördern - Messen - Regeln - Dosieren - Verdichten**  
**Ingenieurbüro - Werksvertretungen**



**USE AND SERVICE MANUAL**

**OIL METER**

**P.D. METERS TYPE**

**LBM 1000 AND LBM 3000**



















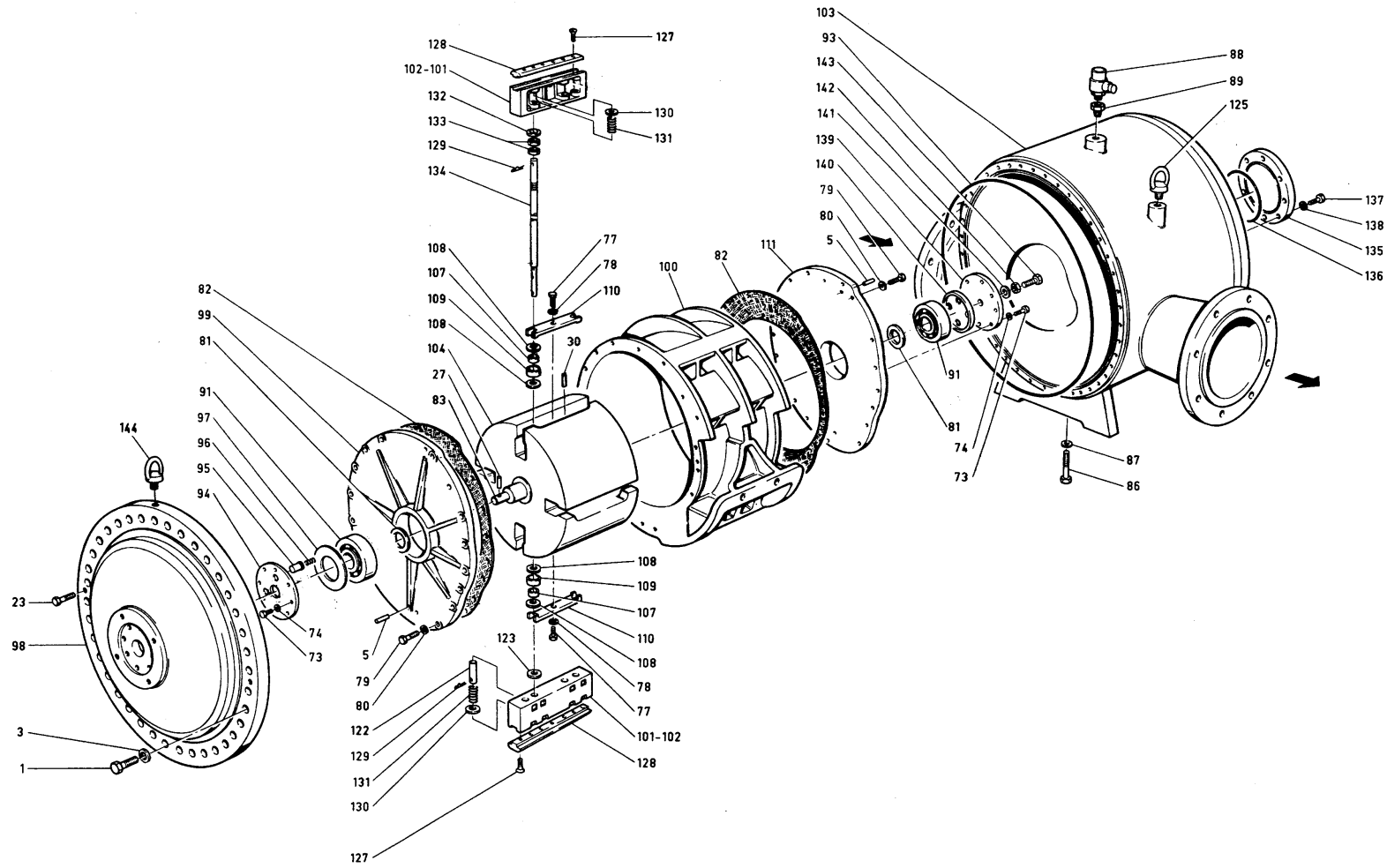








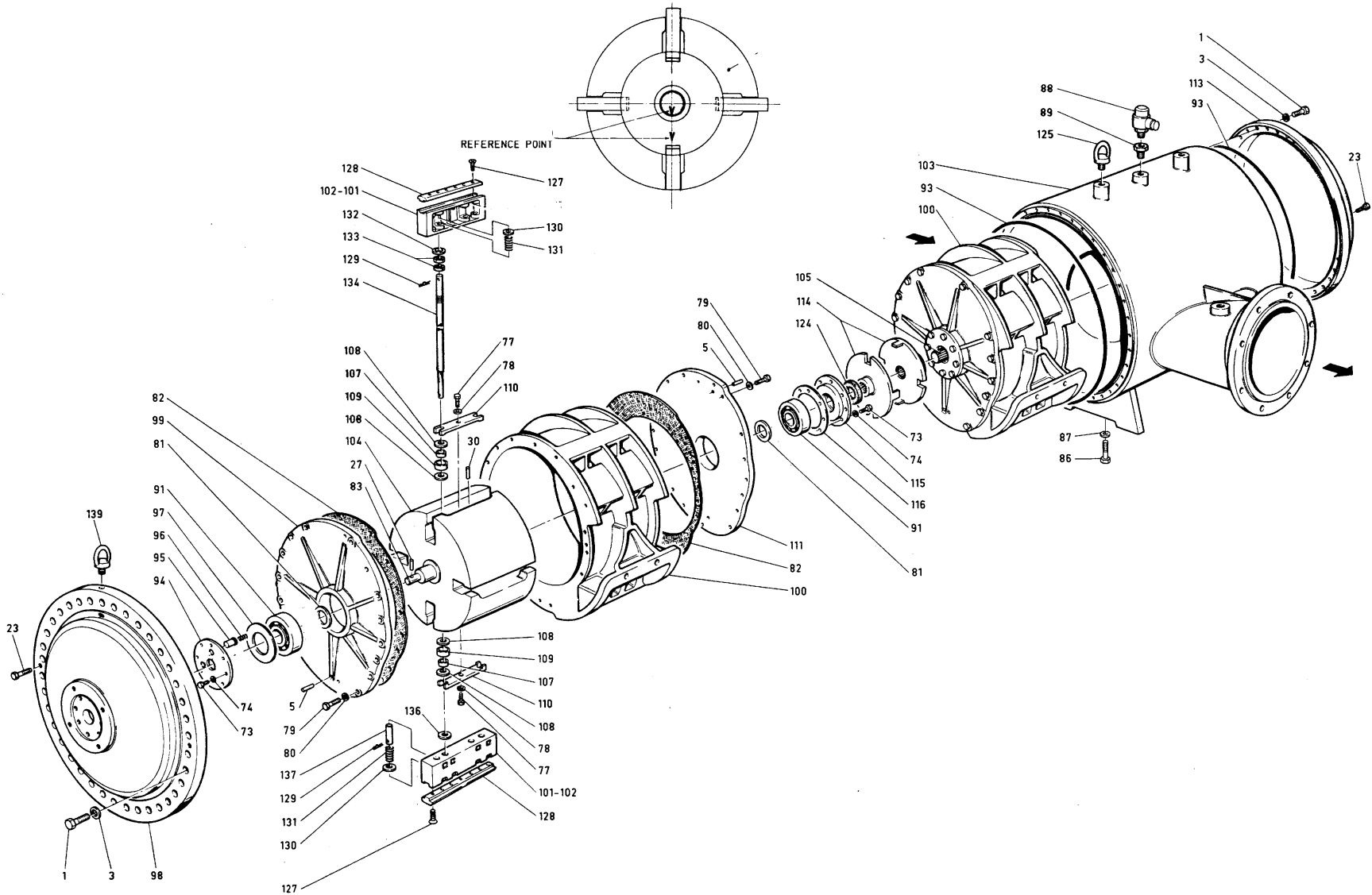




					<b>Dis. 3288</b>				
<b>P.D.METER LBM 1000</b>					<b>Page 1 of 2</b>				
<i>item</i>	<b>N° CODE</b>	<b>DESCRIPTION</b>	<b>Q.ty</b>	<b>MATERIAL</b>	<i>item</i>	<b>N° CODE</b>	<b>DESCRIPTION</b>	<b>Q.ty</b>	<b>MATERIAL</b>
1	<b>80VI2246</b>	Screw	38	Carbon steel	95	<b>80BU1063</b>	Spring bush	3	St. steel
3	<b>80RO1189</b>	Elastic washer	38	Carbon steel	96	<b>80MO0078</b>	Spring	3	St. steel
5	<b>80SP6026</b>	Cylindrical pin	4	Carbon steel	97	<b>80DI3165</b>	Load distributor disc	1	St. steel
23	<b>80VI2171</b>	Screw	2	Carbon steel	98	<b>80COB081</b>	Front cover	1	Carbon steel
27	<b>80SP5084</b>	Spirol pin	1	Carbon steel	99	<b>80COB105</b>	Rotor front cover	1	Cast iron
30		Supplied with item 104			100	<b>80CA1006</b>	Measuring chamber	1	Cast iron
73	<b>80VI2066</b>	Screw	16	Carbon steel	101*	<b>80PA1060</b>	Right vane	2	Aluminium
74	<b>80RO1204</b>	Spring washer	16	Carbon steel	102*	<b>80PA1060</b>	Left vane	2	Aluminium
77	<b>80VI2075</b>	Screw	4	Carbon steel	103	<b>80CA8078</b>	Lh ext.housing fl.ANSI 150	1	Carbon steel
78	<b>80RO1351</b>	Safety washer	4	Carbon steel	103	<b>80CA8079</b>	Lh ext.housing fl.ANSI 150	1	Carbon steel
79	<b>80VI2132</b>	Screw	36	Carbon steel	104	<b>80RO2027</b>	Rotor assembly	1	Cast iron
80	<b>80RO1207</b>	Spring washer	36	Carbon steel	107*	<b>80RO1084</b>	Bush	8	Teflon
81	<b>80RO1165</b>	Washer	2	St. steel	108*	<b>80RO1114</b>	Washer	16	Brass
82		Sheem	2		109*	<b>80BU1066</b>	Bush	8	AISI 304
82		Sheem	2		110	<b>80PI2006</b>	Locking plate	4	Brass
83		Supplied with item 104			111	<b>80COB387</b>	Rotor rear cover	1	Cast iron
86	<b>80VI2210</b>	Screw	7	Carbon steel	122*		Supplied with item 134		
87	<b>80RO1249</b>	Washer	7	Copper	123		Supplied with item 134		
88	<b>80VA6006</b>	Safety valve	1	Carbon steel	125	<b>80GO0018</b>	Eyebolt	2	Carbon steel
89	<b>80RI1075</b>	Reduction	1	Carbon steel	127	<b>80VI7031</b>	Screw	24	St. steel
91*	<b>80CU1018</b>	Bearing	2	St. steel	128*		Supplied with item 101		
93*	<b>80GU1168</b>	"O" ring seal	1	Nirile	129	<b>80COD006</b>	Split pin	8	St. steel
94	<b>80PI1033</b>	Plate	1	Carbon steel	<b>*Suggested spare parts</b>				







					<b>Dis. 3287</b>				
					<b>P.D.METER LBM 3000</b>				
					<b>Page 1 of 2</b>				
<i>item</i>	<i>N° CODE</i>	<i>DESCRIPTION</i>	<i>Q.ty</i>	<i>MATERIAL</i>	<i>item</i>	<i>N° CODE</i>	<i>DESCRIPTION</i>	<i>Q.ty</i>	<i>MATERIAL</i>
1	<b>80VI2246</b>	Screw	76	Carbon steel	95	<b>80BU1063</b>	Spring bush	6	AISI 304
3	<b>80RO1189</b>	Elastic washer	76	Carbon steel	96	<b>80MO0078</b>	Spring	6	St. steel
5	<b>80SP6026</b>	Cylindrical pin	8	Carbon steel	97	<b>80DI3165</b>	Load distributor disc	2	AISI 304
23	<b>80VI2171</b>	Screw	4	Carbon steel	98	<b>80COB081</b>	Front cover	1	Carbon steel
27	<b>80SP5084</b>	Spirol pin	1	Carbon steel	99	<b>80COB105</b>	Rotor front cover	2	Cast iron
30		Supplied with item 104			100	<b>80CA1006</b>	Measuring chamber	2	Cast iron
73	<b>80VI2066</b>	Screw	32	Carbon steel	101*	<b>80PA1060</b>	Right vane	4	Aluminium
74	<b>80RO1204</b>	Spring washer	32	Carbon steel	102*	<b>80PA1060</b>	Left vane	4	Aluminium
77	<b>80VI2072</b>	Screw	8	Carbon steel	103	<b>80CA8087</b>	External housing	1	Carbon steel
78	<b>80RO1351</b>	Safety washer	8	Carbon steel	104	<b>80RO2015</b>	Ant. rotor assembly	1	Cast iron
79	<b>80VI2132</b>	Screw	72	Carbon steel	105	<b>80RO2018</b>	Rear rotor assembly	1	Cast iron
80	<b>80RO1207</b>	Spring washer	72	Carbon steel	107*	<b>80BO1084</b>	Bush	16	Teflon
81	<b>80RO1165</b>	Washer	4	St. steel	108*	<b>80RO1114</b>	Washer	32	Brass
82		Sheem	2		109*	<b>80BU1066</b>	Bush	16	AISI 304
82		Sheem	2		110	<b>80PI2006</b>	Locking plate	8	Brass
83		Supplied with item 104			111	<b>80COB387</b>	Rotor rear cover	2	Cast iron
86	<b>80VI2210</b>	Screw	14	Carbon steel	113	<b>80COV336</b>	Rear cover	1	Carbon steel
87	<b>80RO1249</b>	Washer	14	Copper	114	<b>80FL0216</b>	Coupling flange	2	Carbon steel
88	<b>80VA6006</b>	Safety valve	1	Carbon steel	115	<b>80AN1000</b>	Locking ring	1	Carbon steel
89	<b>80RI1075</b>	Reduction	1	Carbon steel	116		Sheem	2	
91*	<b>80CU1018</b>	Bearing	4	St. steel	125	<b>80GO0018</b>	Eyebolt	2	Carbon steel
93*	<b>80GU1168</b>	"O" ring seal	1	Nirile	127	<b>80VI7031</b>	Screw	48	St. steel
94	<b>80PI1033</b>	Plate	1	Carbon steel	<b>*Suggested spare parts</b>				









					Dis. 3291				
					MAGNETIC COUPLING FOR LBM 1000 - 3000 METERS				
					Page 1 of 1				
item	N° CODE	DESCRIPTION	Q.ty	MATERIAL	item	N° CODE	DESCRIPTION	Q.ty	MATERIAL
28	80VI4267	Screw	8	Carbon steel					
29	80RO1180	Spring washer	8	Carbon steel					
33*	80GU1459	O ring seal	1	Viton					
55	80SP5012	Spirol pin	4	Carbon steel					
145	80DA3048	Nut	1	Carbon steel					
146	80FL0186	Gap flange	1	St. steel					
147	80RO1147	Washer	1	St. steel					
148	80RO1141	Lock washer	1	St. steel					
149	80CU1027	Bearing	1	St. steel					
150	80SP5063	Spirol pin	1	Carbon steel					
154*	80MA0033	Protected magnet	1	Oxit 100					
156	80AL0024	Shaft	1	Carbon steel					
157*	80MA0027	External magnet	1	Oxit 100					
158	80AL0024	Shaft	1	St. steel					
158 A	80AL0015	Shaft	1	St. steel					
159	80AN2036	Elastic ring	1	Carbon steel					
160		Supplied with item 157							
161	80CU1066	Bearing	3	St. steel					
162	80AL0150	Shaft and coupling	1	St. steel					
163	80SP5069	Spirol pin	1	Carbon steel					
					* Suggested spare parts				

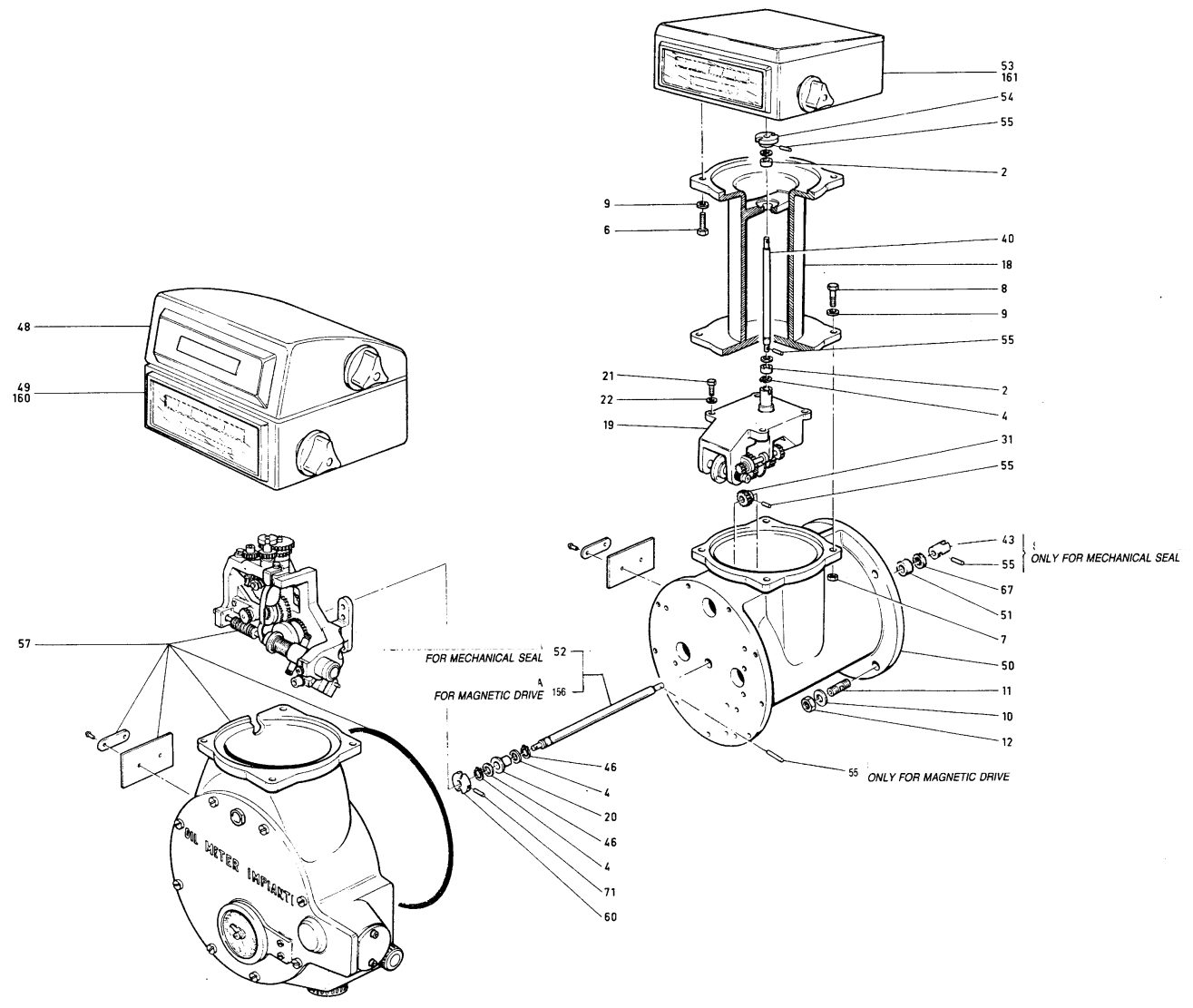
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		<b>SPACER AND CALIBRATION MECHANISM FOR APPLICATION WITHOUT TEMP. COMPENSATOR ON THE LBM 1000-3000 METERS</b>						<b>Dis.3289</b>	
<i>item</i>	<i>N° CODE</i>	<i>DESCRIPTION</i>	<i>Q.ty</i>	<i>MATERIAL</i>	<i>item</i>	<i>N° CODE</i>	<i>DESCRIPTION</i>	<i>Q.ty</i>	<i>MATERIAL</i>
2	<b>80CU1066</b>	<i>Bearing</i>	1	<i>St. steel</i>	70	<b>81PI1003</b>	<i>Gear pl.LBM 3000 LH</i>	1	
4	<b>80AN2036</b>	<i>Elastic ring</i>	2	<i>St. steel</i>					
6	<b>80VI4201</b>	<i>Screw</i>	2	<i>Carbon steel</i>					
7	<b>80DA1018</b>	<i>Nut</i>	1	<i>Carbon steel</i>					
8	<b>80VI4279</b>	<i>Screw</i>	1	<i>Carbon steel</i>					
9	<b>80RO1261</b>	<i>Plate washer</i>	1	<i>Carbon steel</i>					
10	<b>80RO1180</b>	<i>Spring washer</i>	4	<i>Carbon steel</i>					
11	<b>80PR3066</b>	<i>Stud</i>	4	<i>Carbon steel</i>					
12	<b>80DA1018</b>	<i>Nut</i>	4	<i>Carbon steel</i>					
13*	<b>80GU1243</b>	<i>Gasket</i>	1	<i>Viton</i>					
18	<b>80SC2000</b>	<i>Calibrat.mech.box</i>	1	<i>Aluminium</i>					
19	<b>80DI5006</b>	<i>Calibrating mechanism</i>	1						
21	<b>80VI4006</b>	<i>Screw</i>	3	<i>St. steel</i>					
22	<b>80FL0093</b>	<i>Flange</i>	1	<i>St. steel</i>					
43	<b>80MA1009</b>	<i>Sleeve</i>	1	<i>Carbon steel</i>					
49	<b>81TE0003</b>	<i>Net volume counter</i>	1						
50	<b>80COB402</b>	<i>Magnetic coupl.cover</i>	1	<i>Aluminium</i>					
52	<b>80AL0072</b>	<i>Shaft</i>	1	<i>St. steel</i>					
55	<b>80SP5012</b>	<i>Spirol pin</i>	3	<i>Carbon steel</i>					
67*	<b>82GU0033</b>	<i>Lip seal ring</i>	1	<i>Viton</i>					
70	<b>81PI1009</b>	<i>Gear plate LBM 1000</i>	1						
70	<b>81PI1006</b>	<i>Gear pl. LBM 3000 RH</i>	1						
70	<b>81PI1003</b>	<i>Gear pl.LBM 3000 LH</i>	1		<b>*Suggested spare parts</b>				

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					SPACER AND TEMPERATURE COMPENSATOR FOR LBM 1000 - 3000					Dis.3290
item	N° CODE	DESCRIPTION	Q.ty	MATERIAL	item	N° CODE	DESCRIPTION	Q.ty	MATERIAL	
2	80BO1009	Bushes	2	Bronze	52	80AL0069	Shaft	1	Carbon steel	
4	80AN2036	Elastic ring	2	St. steel	53	81TE1003	Mechanical counter	1		
6	80VI9009	Screw	4	Carbon steel	54	80TR0012	Female coupling	1	Carbon steel	
7	80DA1099	Nut	4	Carbon steel	55	80SP5012	Spirol pin	4	Carbon steel	
8	80VI2081	Screw	4	Carbon steel	57	80CO2009	Temperature compens.	1		
9	80RO1204	Spring washer	4	Carbon steel	60	80TR0009	Female coupling	1	Carbon steel	
10	80RO1180	Spring washer	4	Carbon steel	67*	80AN1015	Lip seal ring	1	Rubber	
11	80PR3066	Stud	4	Carbon steel	71	80SP5024	Spirol pin	1	Carbon steel	
12	80DA1018	Nut	4	Carbon steel	156	80AL0024	Shaft	1	Carbon steel	
18	80PR4036	Extension	1	Aluminium	160	81PI1012	Gear plate	1		
19	80DI5006	Calibration mech.	1	Aluminium	161	81PI1006	Gear plate LBM 3000 LH	1		
20	80BO1012	Bush	1	Carbon steel	161	81PI1003	Gear plate LBM 3000 RH	1		
21	80VI2042	Screw	4	Carbon steel	161	81PI1012	Gear plate LBM 1000	1		
22	80RO1198	Spring washer	1	Carbon steel						
31	80VI3153	Gear	1	AISI 420						
40	80AL0030	Extension shaft	1	Carbon steel						
43	80MA1009	Female coupling	1	Carbon steel						
46	80RO1075	Washer	2	St. steel						
48	81ST1000	Accum. ticket printer	1							
48	81ST1003	Zero start ticket printer	1							
49	81TE1003	Mechanical counter	1							
50	80SC2021	Mechanism box	1	Aluminium						
51		Supplied with item 50	1		<b>*Suggested spare parts</b>					

T-3290.XLS



								Dis. 672/LBM	
CALIBRATION MECHANISM FOR LBM 1000-3000								Page 1 of 2	
item	N° CODE	DESCRIPTION	Q.ty	MATERIAL	item	N° CODE	DESCRIPTION	Q.ty	MATERIAL
1	80SC2000	Calibr.mechanism box	1	Aluminium	25	80AL0282	Drive shaft	1	Aisi 420
2	80VI2042	Support screw	4	Carbon steel	26	80RO1066	Washer	2	Carbon steel
3	80SU0012	Calibr.mech.support	1	Aluminium	27	80BO1009	Bush	1	Bronze
4	80AS0027	Friction wheel	1	Carbon steel	28*	80SP5009	Spirol pin	1	Carbon steel
5		Supplied with item 4			29	80IN3150	Z = 20 gear	1	St.steel
6*	80AS0129	Shaft with pinion	1	Carbon steel	30	80AL0270	Extension shaft	1	Carbon steel
7	80AS0258	Worm screw	1	Carbon steel	31	80AN2000	Circlip for shaft	1	Carbon steel
8*		Supplied with item 7			32	80PI5000	Bevel pinion	1	Carbon steel
9*	80CU1081	Bearing	2	St.steel	33		Supplied with item 17		
10	80VI4201	Screw	2	Carbon steel	34	80AS0084	Shaft/gear assy	1	Aisi 420
11	80TA1072	Oil discharge plug	1		35	80IN3165	Gear	1	Carbon steel
12	80TA1015	Oil charge plug	1		37		Supplied with item 34		
13	80VI5117	Screw	1	Carbon steel	38	80SP5009	Spirol pin	3	Carbon steel
14	80COB069	Calibrating cap	1	Aluminium	39	81IN0006	Oil level indicator	1	
15	80AN2018	Bearing circlip stop	1	Carbon steel	40	80MA1009	Transmission sleeve	1	Carbon steel
16	80RO1063	Washer	7	Carbon steel	41		Supplied with item 6		
17	80AS0069	Pinion assy	1	Carbon steel	42	80SP5000	Spirol pin	2	Carbon steel
19	80MO0228	Friction plate spring	1	Stainless steel	43	80RO1078	Wahser	2	Carbon steel
20	80PI1057	Friction plate	1	Carbon steel	44*	80GU1243	Gasket	1	Viton
21	80RO1042	Washer	1	Carbon steel	45	80AN2006	Circlip	1	Carbon steel
22*	80CU1045	Axial bearing	1	Carbon steel	46		Supplied with item 17		
23	80BO1000	Bush	2	Bronze	47	80BO1000	Bush	2	Bronze
24	80IN3234	Gear Z=66	1	Carbon steel	<b>*Suggested spare parts</b>				







		<b>GEARING BOX FOR ELECTR. COUNTER VEGA MOUNTING</b>						<b>Dis. 3958</b>	
								Page 1 of 1	
<b>Q</b>	<b>N° CODE</b>	<b>DESCRIPTION</b>	<b>Q.ty</b>	<b>MATERIAL</b>	<b>item</b>	<b>N° CODE</b>	<b>DESCRIPTION</b>	<b>Q.ty</b>	<b>MATERIAL</b>
1	80SC2030	Mechanism box	1	Aluminium	24	80IN3276	Gear	1	Carbon steel
2	80MA1009	Transmission coupling	1	Carbon steel	25	80SP5009	Spirol pin	1	Carbon steel
3	80SP5018	Spirol pin	1	Carbon steel	26	80AS0102	Entrainer	1	Carbon steel
4	80RO1078	Washer	4	Carbon steel					
5	80IN0006	Oil level indicator	1						
6	80SU0072	Mech.support for VEGA	1	Aluminium					
7	80BO1147	Bush	1	Bronze					
8	80AL0243	Shaft	1	St.steel					
9	80GR1093	Grain	1	St.steel					
10	80AN2006	Retaining ring	2	Carbon steel					
11	80AL0246	Shaft	1	St. steel					
12	80AN2000	Retaining ring	1	Carbon steel					
13	80TA1072	Oil discharge plug	1						
14	80BO1099	Bush	1	Bronze					
15	80RO1066	Washer	2	Carbon steel					
16	80VI2042	Screw	4	Carbon steel					
17	80RO1033	Exernal washer	4	Carbon steel					
18	80TA1015	Oil charge plug	1						
19	80GU0207	Gasket	1						
20	80VI5117	Screw	1	Carbon steel					
21	80COB069	Calibr.inlet cover	1	Aluminium					
22	80VI8048	Vite Screw	2	Carbon steel					
23	80IN3279	Gear	1	Carbon steel					

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