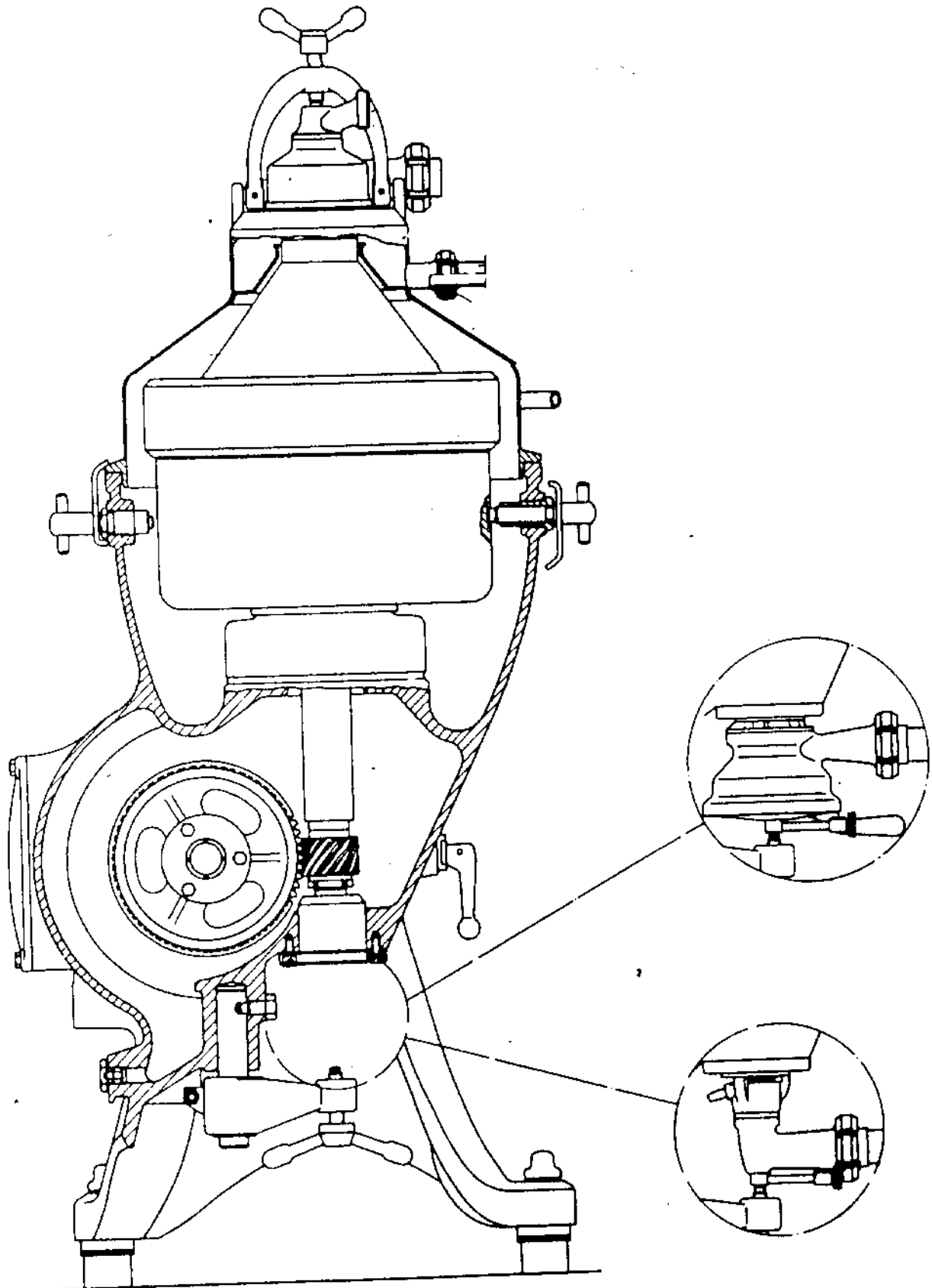
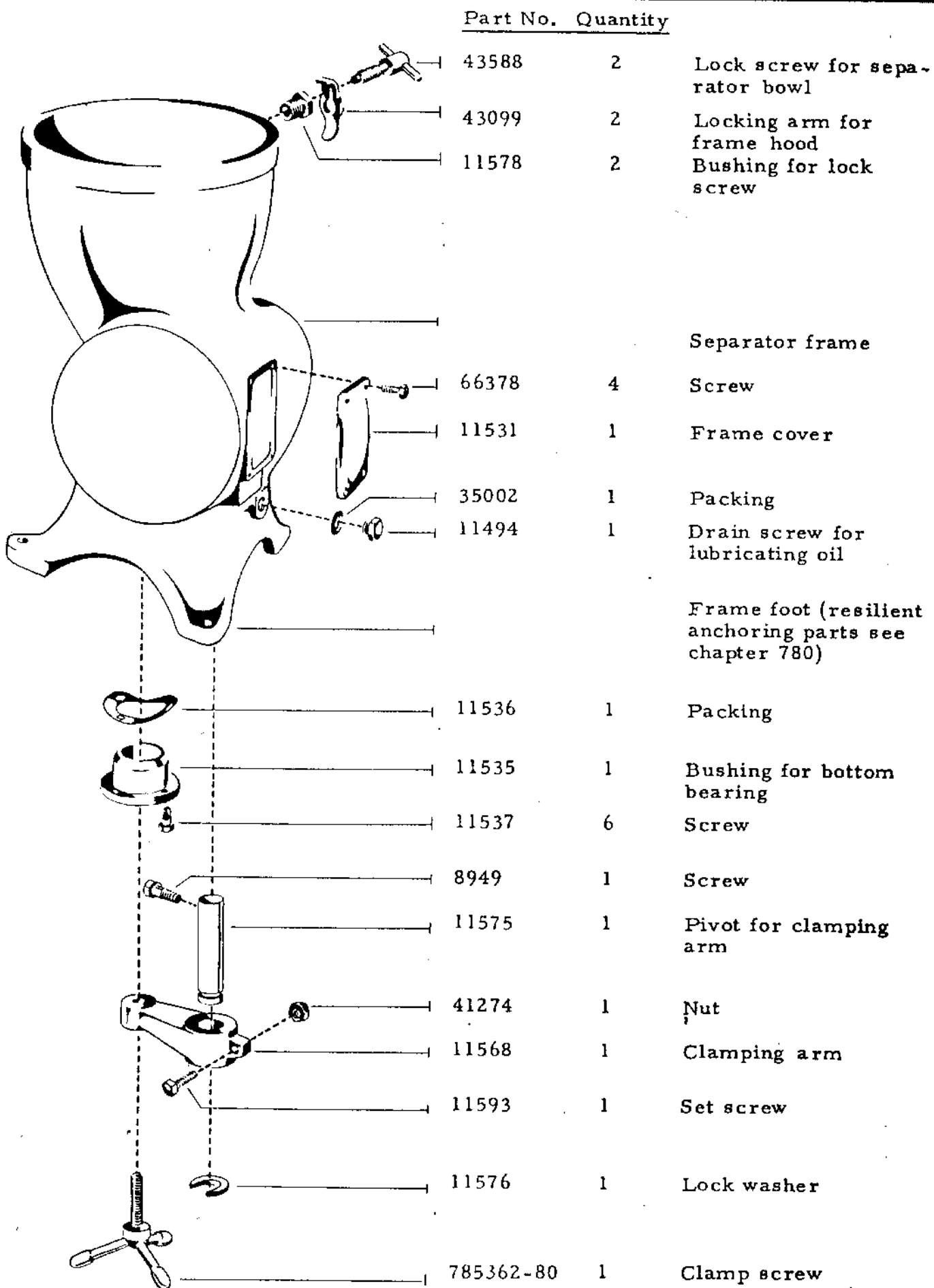


## **Hutchison-Hayes Separators, Inc.**

### **Model BPM 209-70H-11 Parts List With Diagrams**

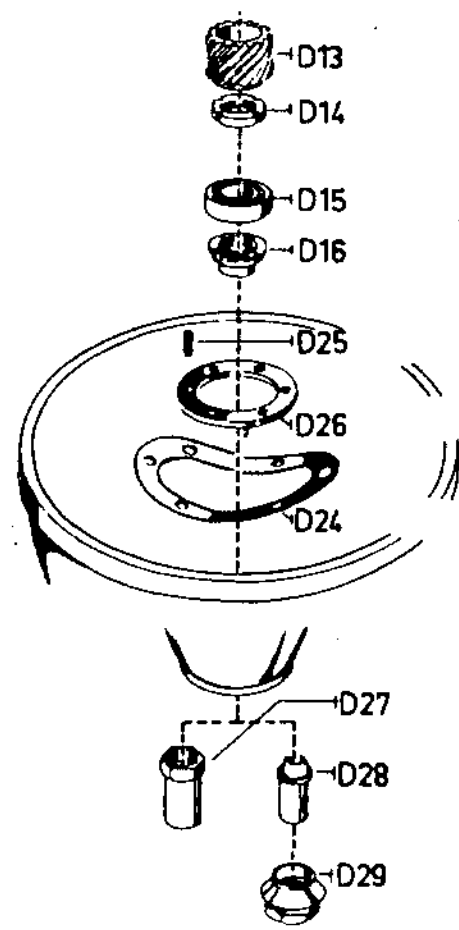
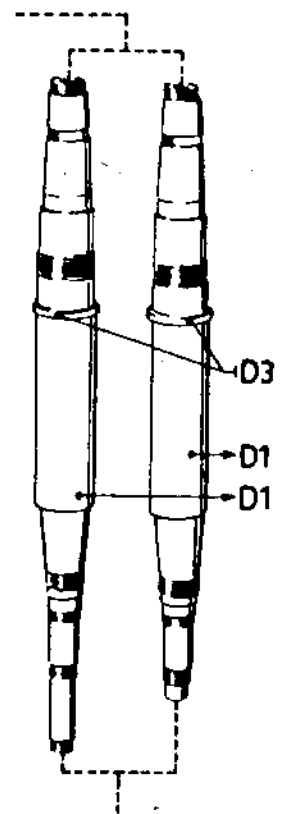
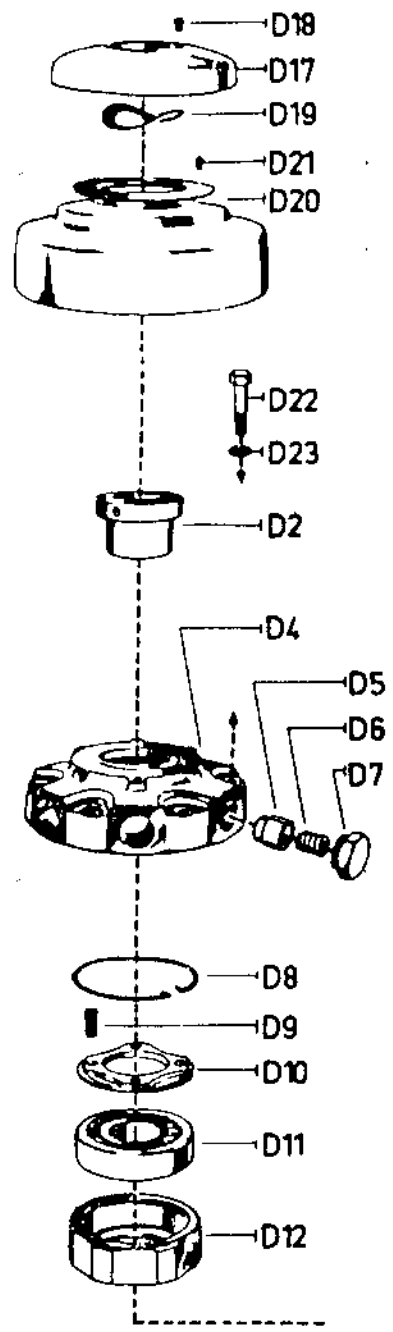
**P.O. Box 2965 ♦ Houston, Texas 77252**  
**3520 East Belt ♦ Houston, Texas 77015**  
**(713) 455-9600 ♦ Fax (713) 455-7753**





Part No. Quantity

43588	2	Lock screw for separator bowl
43099	2	Locking arm for frame hood
11578	2	Bushing for lock screw
		Separator frame
66378	4	Screw
11531	1	Frame cover
35002	1	Packing
11494	1	Drain screw for lubricating oil
		Frame foot (resilient anchoring parts see chapter 780)
11536	1	Packing
11535	1	Bushing for bottom bearing
11537	6	Screw
8949	1	Screw
11575	1	Pivot for clamping arm
41274	1	Nut
11568	1	Clamping arm
11593	1	Set screw
11576	1	Lock washer
785362-80	1	Clamp screw



Letter- ing	Part number	Quan- tity
----------------	----------------	---------------

D1	see table	1	Bowl spindle
			With built-in feed pump
			785822-01
			Without built-in feed pump
			11601

D2	11526	1	Lock nut for ball bearing D11
D3	9883	1	Stop ring
D4	11524	1	Spring casing
D5	10593	6	Buffer
D6	31366	6	Spring
D7	11525	6	Screw plug
D8	9878	1	Elastic ring for protecting disc D10
D9	9699	4	Stop spring
D10	10795	1	Protecting disc for ball bearing D11
D11	9876x)	1	Ball bearing for top bearing
D12	9880	1	Ball bearing sleeve

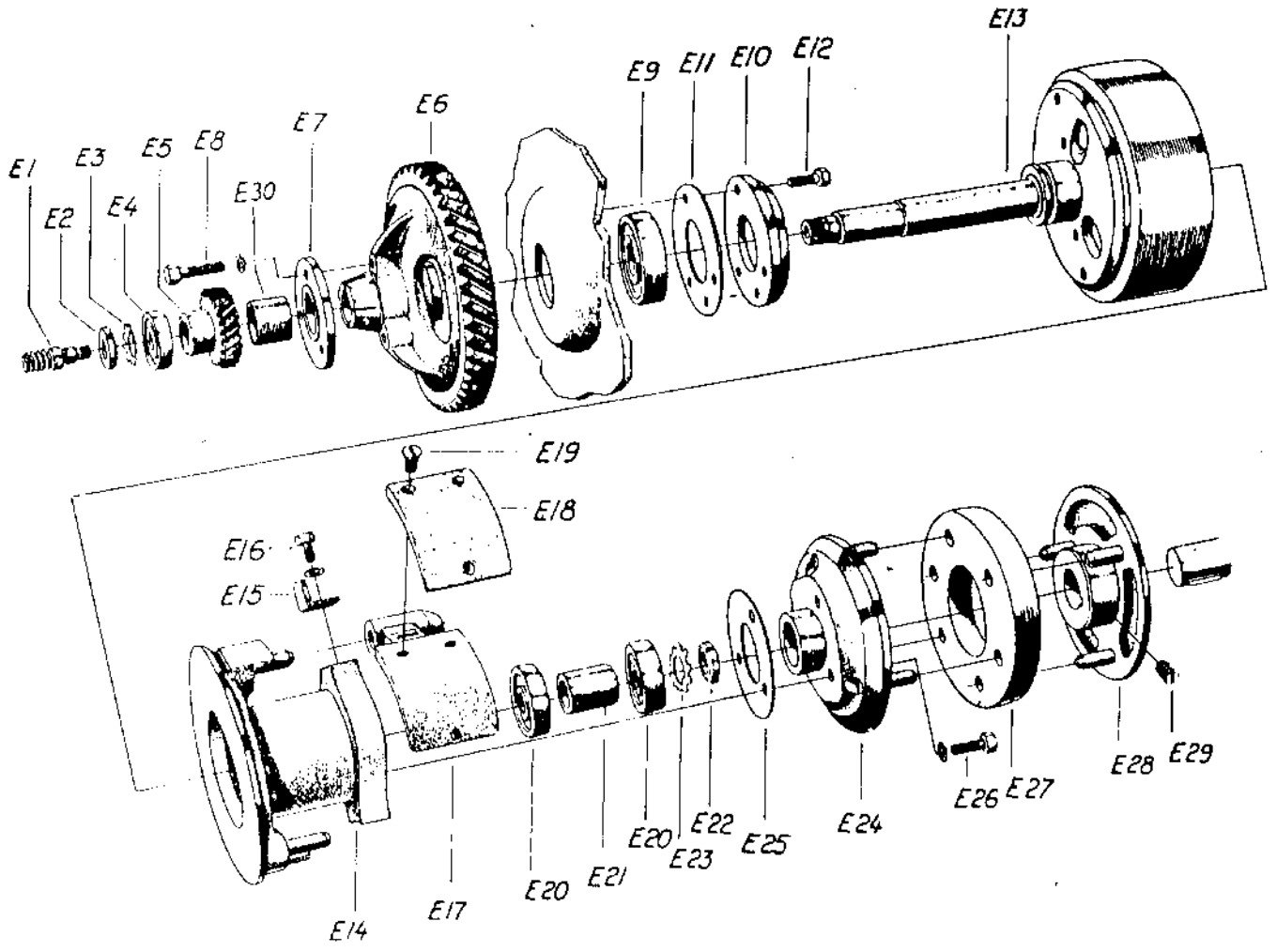
A. C.		D. C.
50 C/S	60 C/S	
11521	11737	11521

D13	see table	1	Worm
D14	11522	1	Round nut for worm
D15	11464	1	Ball bearing for bottom bearing
D16	11523	1	Lock nut for ball bearing D15
D17	11482	1	Top shield
D18	46026	4	Screw for top shield
D19	11529	1	Packing for top shield
D20	11485	1	Protecting cap for top bearing
D21	46026	6	Screw for protecting cap
D22	64740	6	Screw for top bearing
D23	41381	6	Spring washer for screw D22
D24	11528	1	Packing for top bearing
D25	9699	6	Supporting spring
D26	11527	1	Guide ring for supporting spring
D27	11530	1	Wear sleeve, for separator with built-in feed pump

For separator without built-in feed pump:

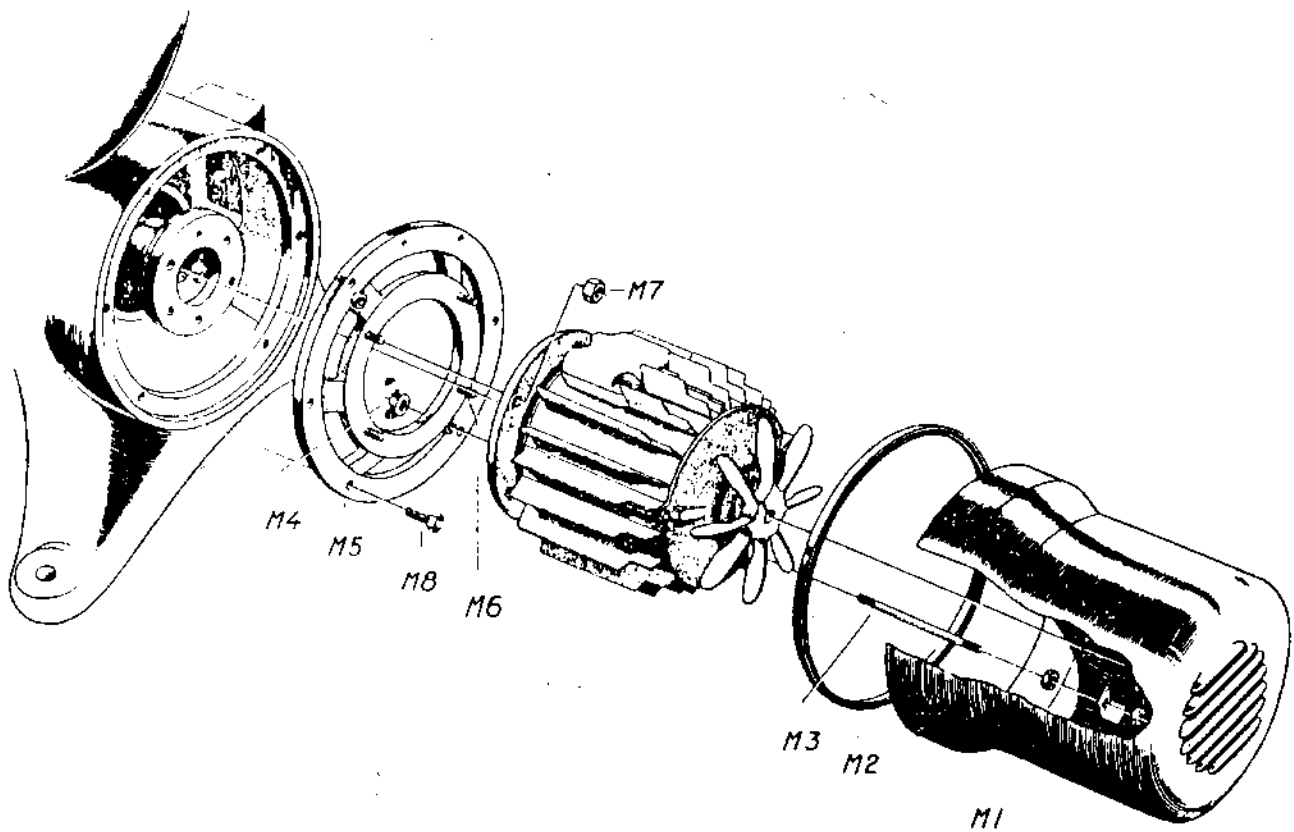
D28	9697	1	Inlet sleeve
D29	11690	1	Lock nut for inlet sleeve

x) Special design - can be ordered only from an authorized DE LAVAL representative.



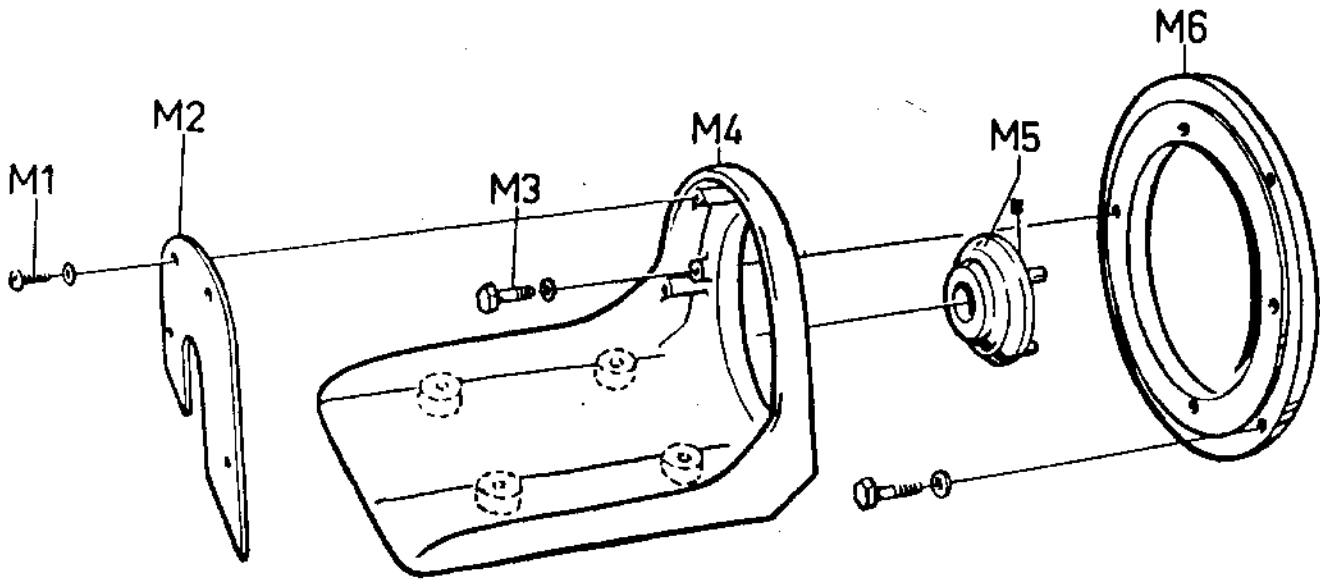
Letter- ing	Part number	Quan- tity															
E1	11545	1	Worm gear for revolution counter														
E2	38682	1	Round nut with lock washer E3														
E3	38159	1	Lock washer														
E4	11455	1	Ball bearing, loose														
E5	11548	1	Gear wheel for tachometer														
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">A. C.</th> <th rowspan="2">D. C.</th> </tr> <tr> <th>50 C/S</th> <th>60 C/S</th> </tr> </thead> <tbody> <tr> <td>11539</td> <td>11736</td> <td>11539</td> </tr> </tbody> </table>				A. C.		D. C.	50 C/S	60 C/S	11539	11736	11539						
A. C.		D. C.															
50 C/S	60 C/S																
11539	11736	11539															
E6	see table	1	Worm wheel														
E7	11540	1	Lock ring for worm wheel														
E8	32957	3	Screw for lock ring														
-	9488	3	Spring washer for lock ring														
E9	6611	1	Ball bearing, fixed														
E10	11546	1	Protecting cover for ball bearing E9														
E11	11547	1	Packing for protecting cover														
E12	34963	3	Screw for protecting cover														
E13	11541	1	Worm wheel shaft with conveyor pulley and round nuts E2 and E22														
E14	11504	1	Nave for coupling pulley E24														
E15	65157	2	Holding bracket, with screw E16 and spring washer														
E16	65159	2	Screw for holding bracket														
-	40040	2	Washer for holding bracket														
<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">A. C.</th> <th rowspan="2">D. C.</th> </tr> <tr> <th>50 C/S</th> <th>60 C/S</th> </tr> </thead> <tbody> <tr> <td>11510</td> <td>11783</td> <td>11510</td> </tr> <tr> <td>65397</td> <td>8956</td> <td>65397</td> </tr> <tr> <td>six</td> <td>four</td> <td>six</td> </tr> </tbody> </table>				A. C.		D. C.	50 C/S	60 C/S	11510	11783	11510	65397	8956	65397	six	four	six
A. C.		D. C.															
50 C/S	60 C/S																
11510	11783	11510															
65397	8956	65397															
six	four	six															
E17	see table	pair	Friction blocks														
E18	see table	2	Pad (with screws)														
E19	8341	see table	Screw for pad														
E20	11455	2	Ball bearing for nave E14														
E21	11506	1	Spacing sleeve for ball bearing E20														
E22	38682	1	Round nut, with lock washer, for ball bearing E20														
E23	38159	1	Lock washer														
E24	11507	1	Coupling pulley for worm wheel shaft														
E25	11509	1	Packing for coupling pulley E24														
E26	34963	3	Screw for coupling pulley E24														
-	9488	3	Spring washer														
E27	36121	1	Elastic plate														
E28	11516	1	Coupling pulley, with set screw, for motor shaft														
E29	34939	1	Set screw														
E30	43583	1	Spacing sleeve for worm wheel shaft														

DIRECT DRIVE - flange motor



Letter- ing	Part number	Quan- tity	
M1	see table	1	Motor hood
M2	11591	1	Sealing strip for hood
M3	11567	2	Stud bolt for hood
	41274	4	Nut for stud bolt M3
M4	40834	2	Wing nut for stud bolt M3
M5	11533	1	Motor adapter, complete
M6	22141	4	Stud bolt for motor adapter
M7	39824	4	Nut for stud bolt M6
M8	34963	6	Screw for motor adapter

Length		No.
inch.	mm	
15 3/8	390	11488
17 1/8	435	11489

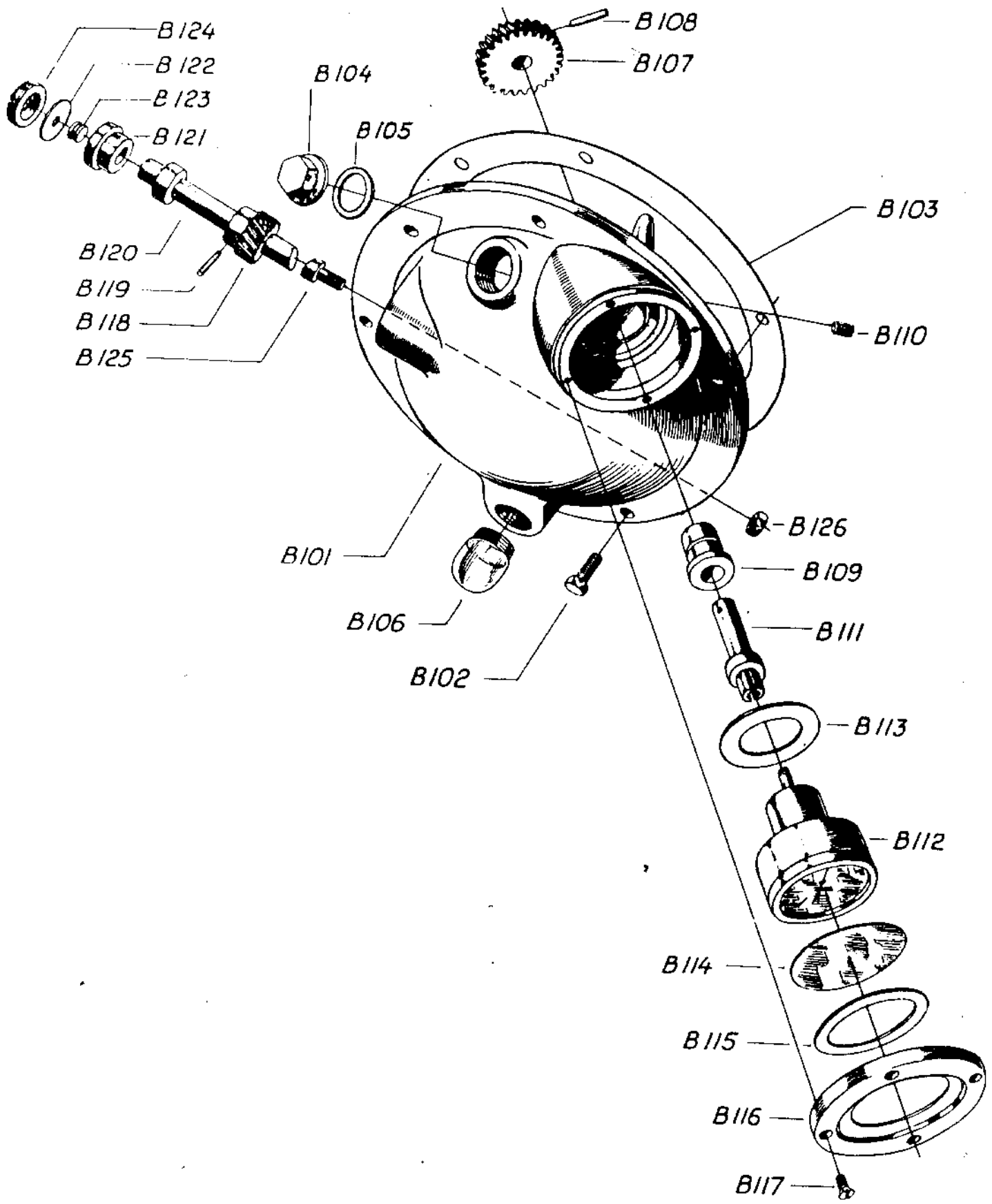


DIRECT DRIVE - MOTOR ON BRACKET

Letter- ing	Part number	Quan- tity
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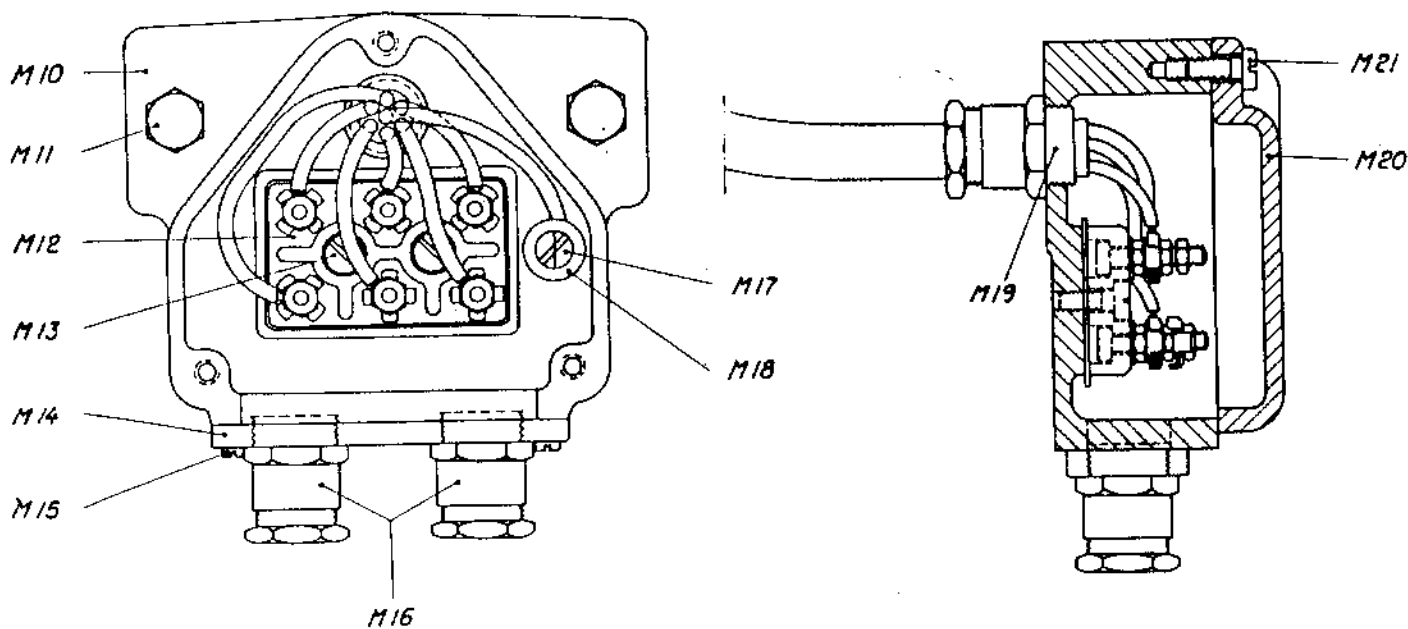
M4	see table	1	Motor bracket
M1	see table	4	Screw
-	see table	3	Washer
M2	see table	4	Protecting shield
M3	see table	3	Screw
-	see table	4	Washer
M6	74297	1	Motor bracket adapter
-	34963	6	Screw for M6
-	20758	6	Washer for screw

Height to shaft center		
146 mm	175 mm	210 mm
62029	36215	60473
2194	2194	2194
223101- -48	223101- -48	223101- -48
62030	36311	36311
65193	65231	65231
70492	70492	70492



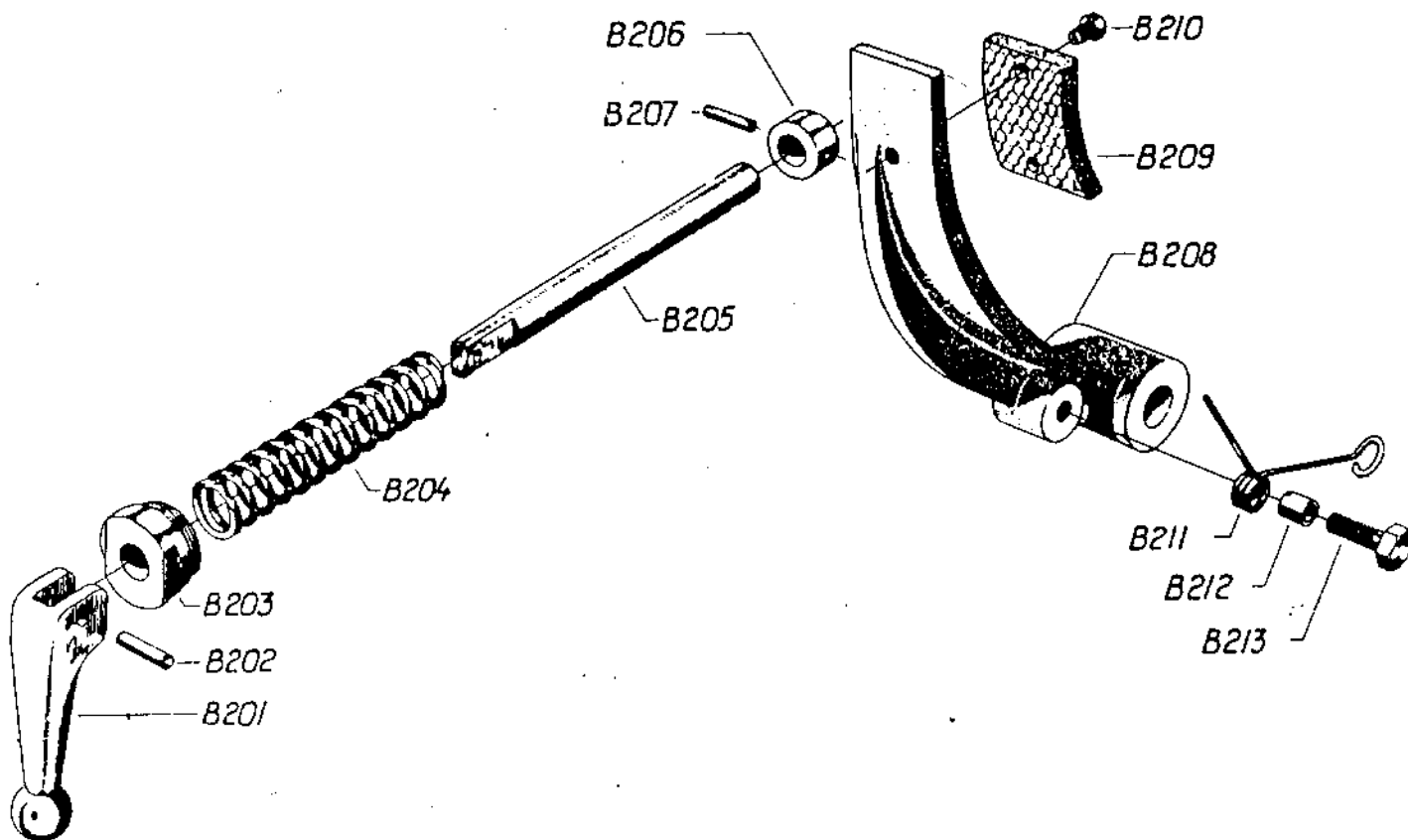
COVER FOR GEAR HOUSING,  
WITH CONTROL MEANS**ALFA-LAVAL**

Letter- ing	Part number	Quan- tity	
B101	11549	1	Cover
B102	66378	8	Screw
B103	11566	1	Packing
B104	65293	1	Screw plug for oil filling hole
B105	33787	1	Packing for screw plug
B106	11493	1	Gauge glass for lubricating oil
B107	11562	1	Gear wheel, with pin, for tachometer
B108	12526	1	Pin for B107
B109	11559	1	Bushing for B111
B110	60655	1	Stop screw for B109
B111	11560	1	Tachometer shaft
B112	8866	1	Tachometer
-	9491	1	Glass for B112
B113	11564	1	Packing for B112
B114	73204	1	Protecting glass
B115	8068	1	Packing
B116	8066	1	Lock ring for B112
B117	11565	4	Screw for B116
B118-120	11551		Revolution counter shaft, complete
B118	11553	1	Gear wheel with pin
B119	63796	1	Pin for gear wheel
B120	11552	1	Shaft
B121	11555	1	Bushing for B120
B122	11556	1	Packing for B120
B123	11557	1	Push-button for revolution counter
B124	11558	1	Lock ring for revolution counter
B125	11550	1	Plug for revolution counter
B126	22164	1	Nut for plug



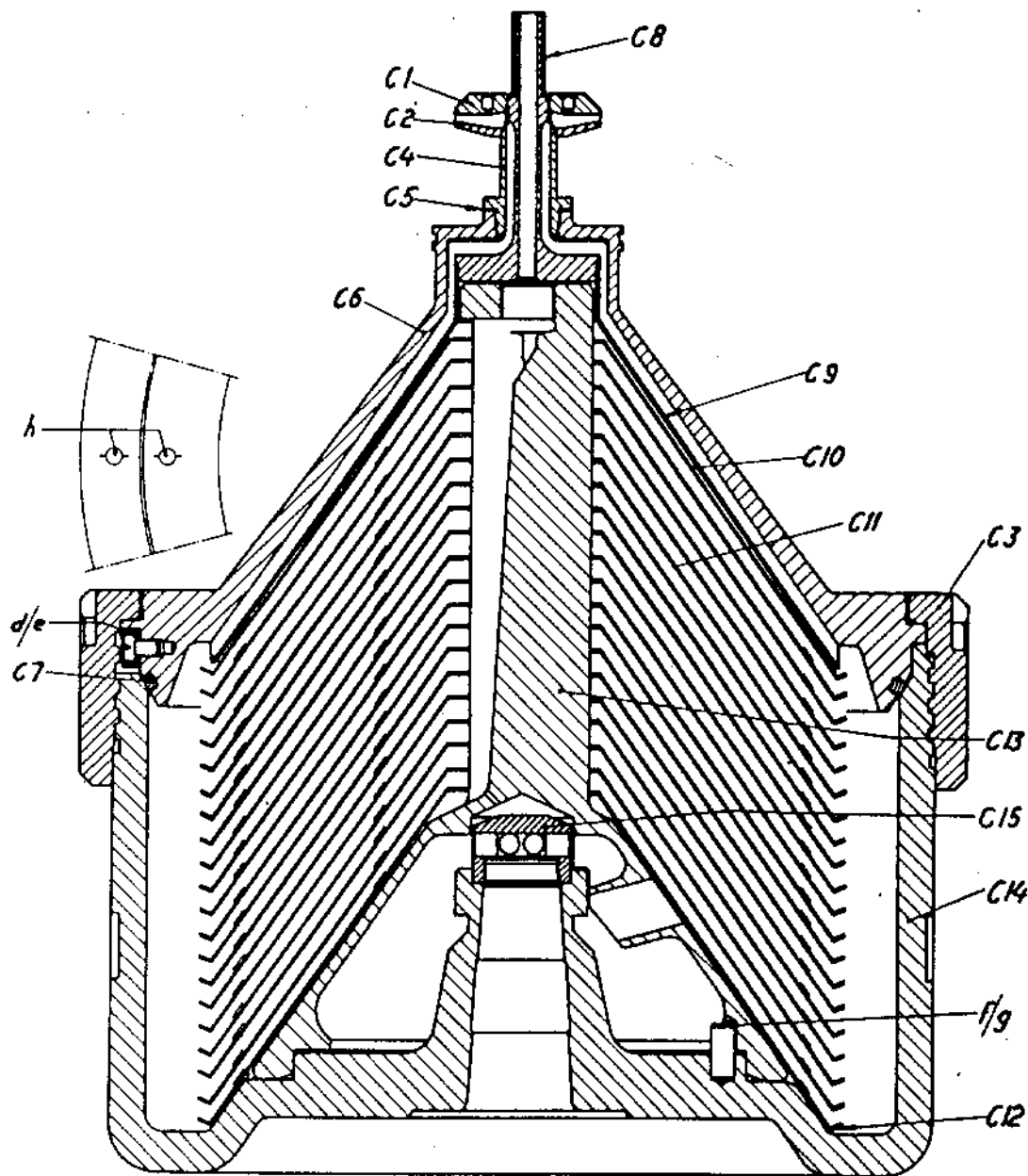
Letter- ing	Part number	Quan- tity
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	11952		Connection box for cable, complete, including parts M10, M12-M21
M10	11621	1	Connection box
M11	66378	2	Screw for connection box
M12	11623	1	Terminal block
M13	16483	2	Screw for terminal block
M14	o	1	Tube flange
M15	66442	4	Screw for tube flange
M16	o	2	Sealing sleeve
M17	14655	1	Grounding screw
M18	11622	1	Washer for grounding screw
M19	o	1	Sealing sleeve
M20	11624	1	Cover for connection box
M21	16483	3	Screw for cover



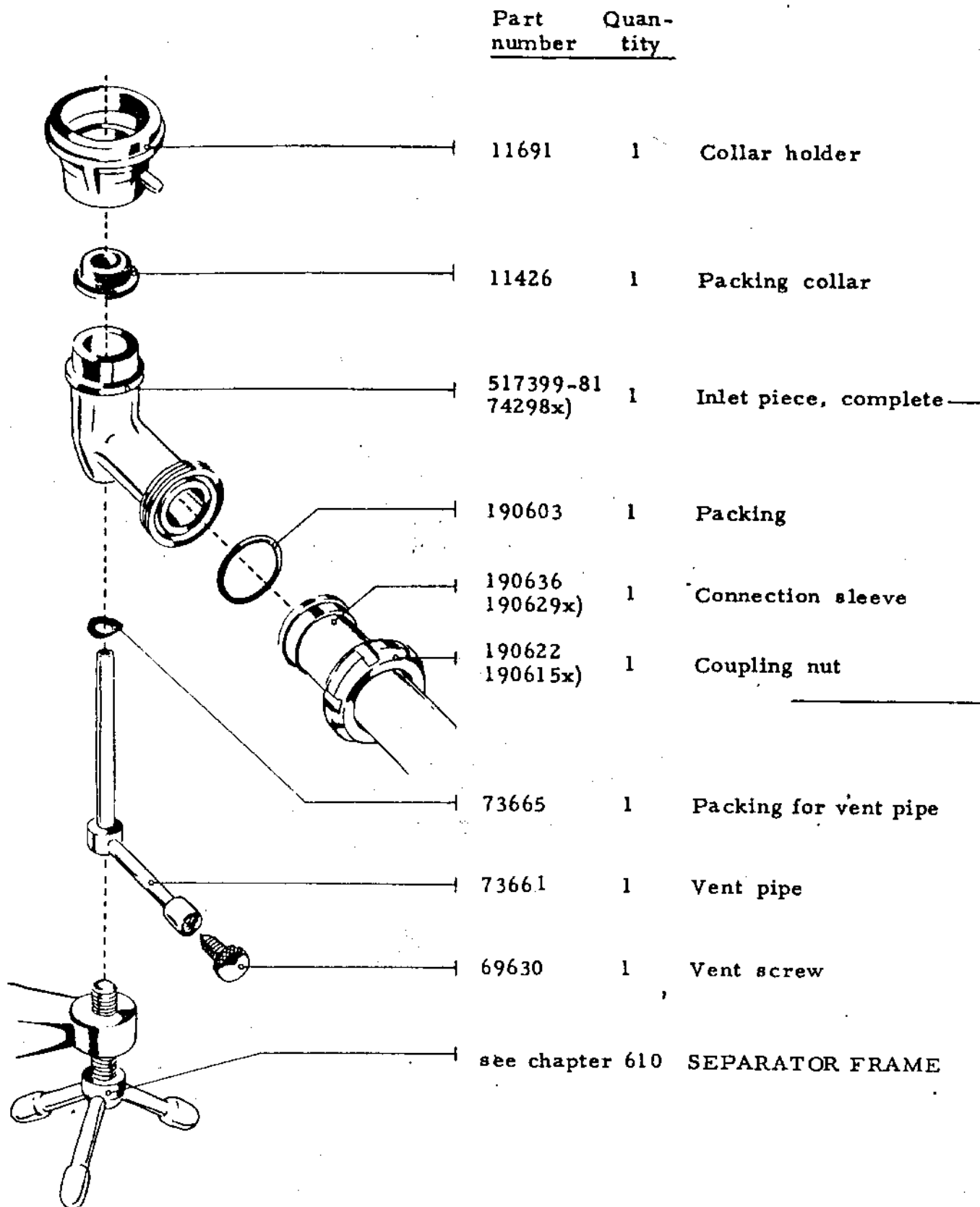
Letter- ing	Part number	Quan- tity
----------------	----------------	---------------

B201-207	11499		Operating means for brake
B201	67609	1	Brake handle
B202	11532	1	Pin for B201
B203	11503	1	Guide plug for brake spindle
B204	39096	1	Spring for brake spindle
B205	11500	1	Brake spindle
B206	11501	1	Collar for brake spindle
B207	11502	1	Pin for collar
B208-213	11495		Brake shoe, complete
B208	11496	1	Brake shoe
B209	66548	1	Lining for brake, with screws
B210	8341	2	Screw for B208
B211	11497	1	Stop spring
B212	11498	1	Spacing sleeve for B213
B213	40965	1	Screw for stop spring

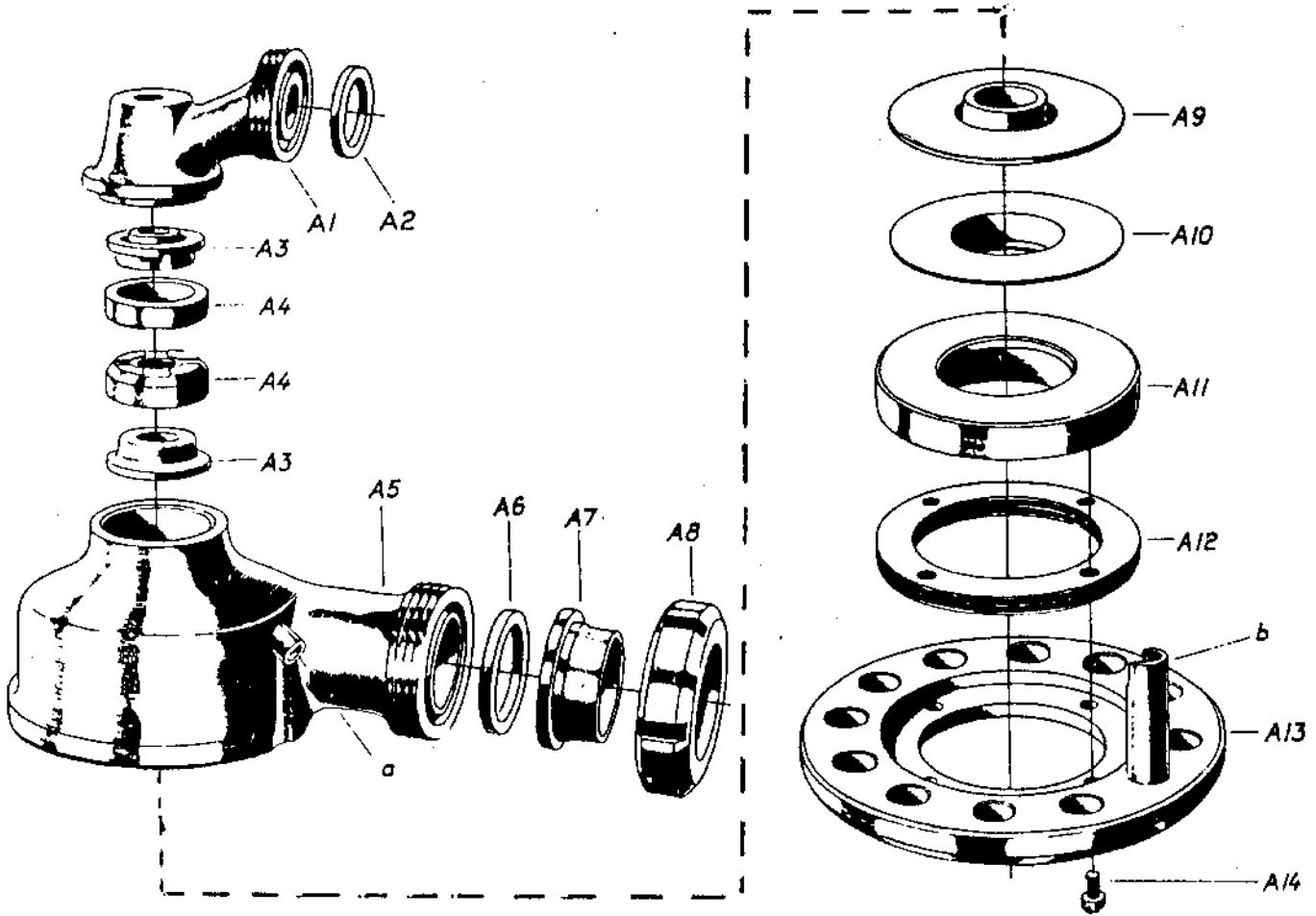


Letter- ing	Part number	Quan- tity		Letter- ing	Part number	Quan- tity	
C1	11815	1	Top part of pump wheel	C7	43764	1	Rubber ring
C2	11814	1	Pump wheel	C8	9728	1	Wear sleeve
C3	**	1	Lock ring	C9	785149-80	1	Top disc
C4	11742	1	Outlet sleeve	C10-12	9867		Bowl disc
C5	9733	1	Packing	C13	**	1	Distributor
C6	**	1	Bowl hood	C14	**	1	Bowl body
				C15	11951	1	Cap nut

\*\* ) Exchange makes rebalancing necessary  
 - send in the COMPLETE bowl to an  
 authorized ALFA-LAVAL/DE LAVAL  
 representative.



x) For INLET OF STAINLESS STEEL - supplied on SPECIAL REQUEST.



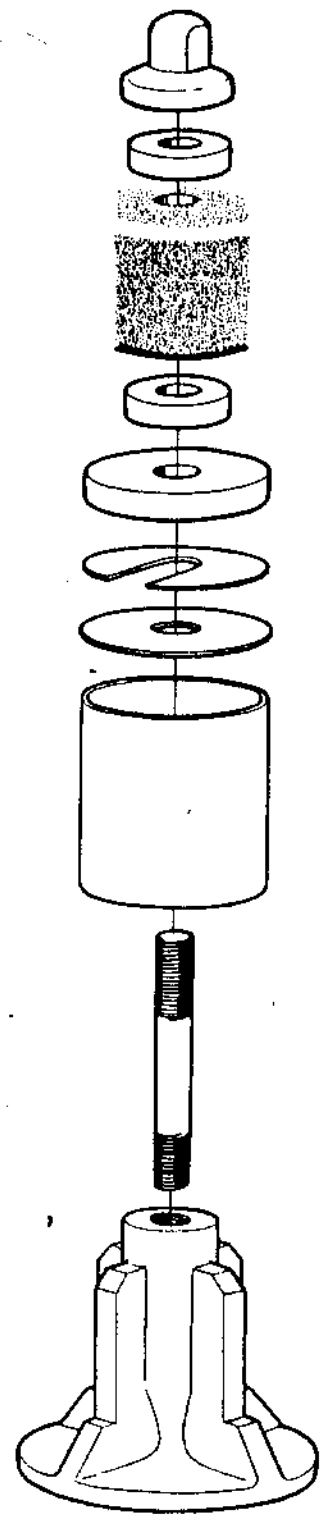
Letter- ing	Part number	Quan- tity	
A1	11682	1	Outlet piece, upper
A2	190601	1	Rubber ring
A3	11426	2	Packing collar
A4	11425	2	Spacing ring for packing collars
A5	11679	1	Outlet piece (incl. A6, A7, A8)
A6	190603	1	Rubber ring
A7	190636	1	Connecting sleeve
A8	190622	1	Coupling nut
A9	11595	1	Packing collar
A10	11678	1	Cup
A11	11676	1	Guide ring
A12	11675	1-3	Height adjusting ring
A13	11672	1	Bottom ring
A14	11677	4	Screw

a Drain pipe in lower outlet piece  
 b Drain pipe in bottom ring

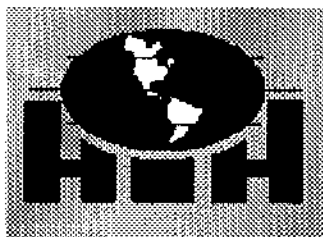
Part number      Quan-  
                         tity

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11669	3	Cup nut
11668	3	Small rubber cushion
11668	3	Small rubber cushion
11667	3	Large rubber cushion
11666	6	Spacing washer
11665	3	Steel washer
11664	3	Sleeve
11663	3	Anchor screw
11662	3	Anchoring foot



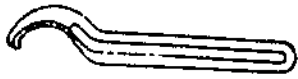
<u>Part number</u>	<u>Quantity</u>	
DRIVING DEVICE, HORIZONTAL		
<u>Separator equipped for drive from a 60 C/S supply</u>		
8956	2	Pad for friction block
8341	4	Screw for friction pad
<u>Separator equipped for drive from a 50 C/S or D.C. supply</u>		
65397	2	Pad for friction block
8341	6	Screw for friction pad
BOWL		
9867	1	Bowl disc
43764	1	Rubber ring
11742	1	Outlet sleeve
9733	1	Packing for outlet sleeve
INLET		
73665	2	Packing for vent pipe
190603	1	Packing for inlet piece
11426	4	Packing collar for inlet piece
<u>Separator with feed pump</u>		
30856	1	Rubber ring for pump housing cover
11530	1	Wear sleeve
11595	4	Packing collar
<u>Separator without feed pump</u>		
9697	1	Inlet sleeve
OUTLET		
785951-01	2	Height adjusting ring
11678	1	Cup for packing collar
11595	4	Packing collar for lower outlet piece
190603	1	Packing for outlet piece
11426	8	Packing collar for upper outlet piece
518859-80	1	Paint for retouches



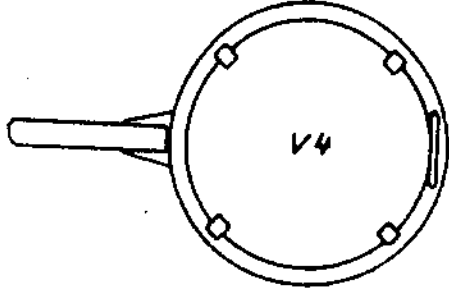
## **Hutchison-Hayes Separators, Inc.**

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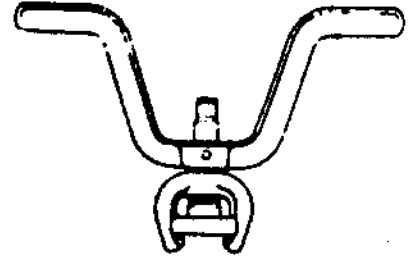
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**3520 East Belt ♦ Houston, Texas 77015**  
**(713) 455-9600 ♦ Fax (713) 455-7753**



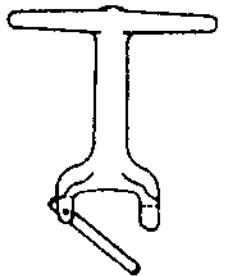
V1



V4



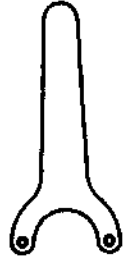
V5



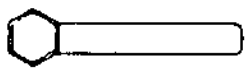
V6



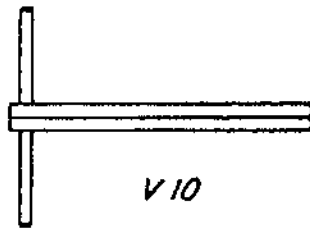
V7



V8



V9



V10



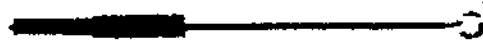
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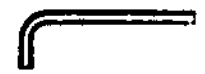
V12



V13



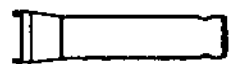
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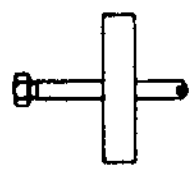
V15



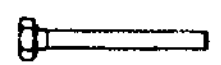
V16



V17



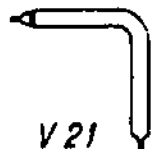
V18



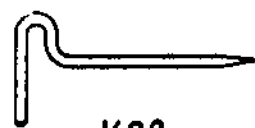
V19



V20



V21



V22



V23

Letter- ing	Part number	
<b>BOWL AND PIPE CONNECTIONS</b>		
V1	11782	Hook spanner 1" - 1 1/2" (25 & 38 mm)
V4	9139	Spanner for bowl lock ring
V5	11418	Lifting tool for distributor and bowl body
V6	11415	Spanner for cap nut
V7	20315	Brush for top disc
V8	3574	Pin spanner for discharge pump
-	9900	Drying stand for distributor
-	9894	Drying stand for bowl discs
<b>BOWL SPINDLE</b>		
V9	11653	Socket wrench 1 7/16" (36 mm)
V10	11647	Socket wrench 9/16" (15 mm)
V11	39033	Hook spanner 2 1/16" (52 mm)
V12	11738	Protecting sleeve for bowl spindle
V13	66988	Hook spanner 3 1/4" (82 mm)
V14	9689	Brush for bowl spindle
V15	66416	Hexagonal hole wrench 5/16" (8 mm )
<b>WORM WHEEL SHAFT AND COUPLING</b>		
V16	11649	Guide bolt (2 in number) for motor adapter
V17	62522	Pin spanner 1 1/2" (38 mm)
V18	11645	Puller tool for nave
V19	65389	Jack screw (2 in number) for ball bearing
V20	2279	Drift
V21	8594	Screw driver, small
V22	14486	Screw driver, large
V23	8432	Screw spanner, 7/8" - 1 7/32" (23 & 31 mm)