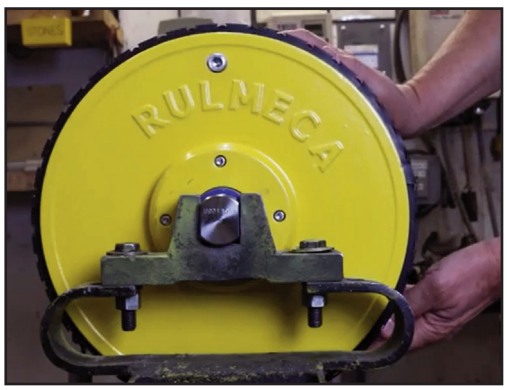
Motorized Pulleys
Checking and Changing Oil

How to Check Oil Level
The type and quantity of oil contained in each Rulmeca Motorized Pulley is specified on the product name plate. Pages 92 and 93 show the types and quantities available. All Rulmeca Motorized Pulleys are built with two drain holes in the end housing. To check the pulley's oil quantity, rotate the holes to the four o'clock and ten o'clock positions, as shown, and remove the plug from the lower hole. Use a clean strip of wood or cardboard to serve as a "dip stick" and insert it into the hole. The stick should indicate that the oil level is even with the bottom of the hole

Technical Precaution: When checking oil in a Motorized Pulley which is installed in the conveyor structure, use your plant's lock-out tag-out safety procedures and mechanically prevent the pulley from rotating during the test.

How to Take Oil Sample
To take an oil sample, rotate the oil holes as described above, remove the lower plug, and use a manual oil sucker (see photo) or a pump. This will enable a tribology technician to assess the quality of the oil and make a prediction of when the oil should be changed.

Technical Precaution: When taking an oil sample from a Motorized Pulley which is installed in the conveyor structure, use your plant's lock-out tag-out safety procedures and mechanically prevent the pulley from rotating during the test.



How to Remove Motorized Pulley Oil
To remove oil from a Rulmeca Motorized Pulley rotate the pulley so that the oil holes are located in the six o'clock and twelve o'clock positions, place a bucket beneath the lower hole, then remove both plugs, allowing all oil to drain.

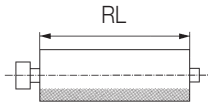
Technical Precaution: When removing oil from a Motorized Pulley which is installed in the conveyor structure, use your plant's lock-out tag-out safety procedures and mechanically prevent the pulley from rotating during the test.

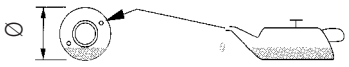
How to Refill Motorized Pulley with Oil
To refill a Rulmeca Motorized Pulley with oil, wipe off all sludge from each magnetized oil plug, wrap the plug threads with thread tape (see photo), replace the plug in the hole at the six o'clock position, then add the appropriate quantity of oil through the hole at the twelve o'clock position. Either an oil pump (see photo) or a bucket and funnel may be used to refill the oil.

Technical Precaution: Always check the name plate on the pulley terminal box prior to replacing the oil to insure that the correct oil type and quantity is used. When changing the type of oil after the old oil has been removed, it is necessary to add and then remove a clean-flush-lubricate (CFL) liquid prior to adding the new and different oil. When in doubt, contact your oil supplier.

Precautions for Design, Installation and Maintenance

32) Oil Quantities in Quarts for Standard Motorized Pulleys in Horizontal Applications





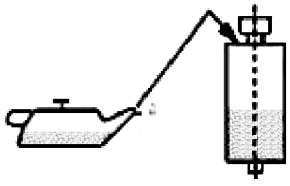
Quarts

RL (in.)	138LS all	165LS all	220M & 220H 0.5 HP to 2.0 HP	220M & 220H 3.0 HP to 7.5 HP	320L all	320M & 320H 1 HP to 4 HP	320M & 320H 5.5 HP to 7.5 HP	320M & 320H 10 HP to 15 HP	400L all	400M & 400H 3 HP to 15 HP	400M & 400H 20 HP	500L & 500M all	500H all	630M all	630H all	800M all	800H & 800HD all	1000HD all
11.81	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.78	1.0	1.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.75	1.2	1.5	3	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-
17.72	1.4	1.7	4	7	7	-	-	-	-	-	-	-	-	-	-	-	-	-
19.69	1.6	1.9	4	7	8	4	8	13	17	-	-	-	-	-	-	-	-	-
21.65	1.9	2.1	5	8	8	4	9	14	18	-	-	-	-	-	-	-	-	-
23.62	2.1	2.4	5	8	9	4	9	15	19	14	22	-	11	-	-	-	-	-
25.59	2.3	2.6	6	9	10	4	10	16	21	16	23	22	11	-	-	-	-	-
27.56	2.5	2.8	6	9	10	5	10	17	22	17	25	23	12	-	-	-	-	-
29.53	2.7	3.1	7	10	11	5	11	17	23	18	26	24	12	29	-	-	-	-
31.50	3.0	3.3	7	10	11	6	11	18	25	19	27	25	13	30	-	-	-	-
33.46	3.2	3.5	7	10	12	6	12	20	26	20	29	26	13	31	-	-	-	-
35.43	3.4	3.7	7	10	13	6	13	21	27	21	30	27	14	32	-	-	-	-
37.40	3.6	3.9	8	11	14	7	14	22	29	22	31	30	15	34	54	65	-	-
39.37	3.8	4.1	8	11	15	7	15	23	31	24	35	32	16	36	56	68	-	-
41.34	3.8	4.3	8	11	15	7	16	24	33	25	36	33	16	38	57	70	-	-
43.31	4.0	4.6	8	11	16	7	17	25	34	26	39	34	17	40	60	73	-	-
45.28	4.2	4.9	9	12	17	8	18	27	36	27	40	36	18	42	62	75	-	-
47.24	4.4	5.1	9	12	19	8	19	29	38	29	42	38	19	44	64	77	-	-
49.21	4.6	5.3	9	12	20	9	20	30	39	30	43	39	19	46	66	79	-	-
51.18	4.9	5.5	9	12	21	9	21	31	40	31	44	40	20	48	68	80	137	-
53.15	5.1	5.7	10	13	22	10	22	33	42	32	47	42	21	49	70	82	141	-
55.12	5.3	5.9	10	13	23	10	23	35	44	34	49	44	22	51	72	84	143	254
57.09	5.4	6.1	10	13	24	11	24	36	46	35	51	45	23	52	74	86	145	257
59.06	5.6	6.3	11	14	25	12	25	38	47	36	52	47	23	53	76	88	148	259
61.02	5.1	6.1	11	14	26	13	26	40	48	37	54	49	24	54	78	90	150	262
62.99	5.3	6.3	11	14	27	14	27	42	49	38	55	51	25	56	80	93	153	266
64.96	5.4	6.6	12	15	28	15	28	43	51	39	57	53	26	57	83	95	156	269
66.93	5.6	6.8	12	15	29	16	29	44	52	40	59	55	27	58	85	97	159	273
68.90	5.8	7.0	13	16	30	17	30	45	53	41	61	57	28	60	87	99	161	277
70.87	5.9	7.2	14	17	31	18	31	47	56	43	64	59	30	61	89	101	164	280
72.83	-	7.4	14	17	32	19	32	49	59	45	65	63	31	63	91	104	166	283
74.80	-	7.6	15	18	33	20	33	52	61	47	68	68	33	64	93	106	169	287
76.77	-	7.8	16	19	34	21	34	54	62	48	69	72	36	65	95	108	171	291
78.74	-	8.0	17	20	35	22	35	56	64	49	70	76	38	66	97	110	173	294

Note: The oil quantities shown above are valid for standard lagged Motorized Pulleys. For special options (e.g. certain types of special lagging, high duty cycle applications, etc) oil quantities may vary. Therefore, always refer to oil quantity listed on motor data plate or contact Rulmeca.

Precautions for Design, Installation and Maintenance

32) Oil Quantities in Quarts for Motorized Pulleys in "Special Vertical Shaft" Applications

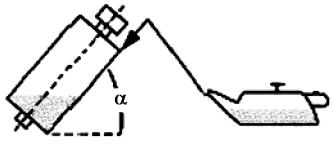


Note: Motorized Pulley shaft is perpendicular to horizontal plane.

Model	Oil Quantity Quarts	Specifications
138LS	1.5	Electrical connection to be located at the top
165LS	3.2	
220M	10.6	
220H	10.6	
320L	26.4	
320M	26.4	
320H	26.4	
400L	42.3	

Note:
The oil quantities shown are valid for standard vertical Motorized Pulleys. For special options (e.g. certain types of lagging, high duty cycle applications, etc) oil quantities may vary. Therefore, always refer to oil quantity listed on motor data plate.

32) Oil Quantities for "Special Inclined Shaft" Motorized Pulleys - Contact Rulmeca



Note: Motorized Pulley shaft is inclined more than 5 degrees above horizontal plane.

Model	Inclination Angle (α)	Typical applications	Precautions
138LS & 165LS 220M & 220H 320L, 320M & 320H 400L	5° to 90°	Magnetic Separators and Induction Conveyors	Special design & special oil quantity. Contact Rulmeca before placing order.

33) Oil Specifications

Motorized Pulley Model and Type of Oil	Motor Insulation Class	Allowable Ambient Temperature[1]	ISO 3498 Viscosity Grade[4]	DIN 51517-3 Performance Requirements	Castrol	BP	ESSO	Mobiloil	Shell	Texaco
Ø138-1000 Standard Oil	F	-13°F to +104°F	150	CLP	ALPHA SP 150	ENERGOL GR-XP 150	SPARTAN EP 150	MOBILGEAR 629	OMALA 150	MEROPA 150
Ø138-1000 Synthetic Oil[2]	F	-13°F to +104°F	220	CLP	ALPHA-SYNTH 220	-	SPARTAN Syn. EP 220	SHC 630	-	-
Ø138-1000 Synthetic Oil[2]	H	-13°F to +120°F	220	CLP	ALPHA-SYNTH 220	-	SPARTAN Syn. EP 220	SHC 630	-	-
Ø138-1000 Food Grade Oil[3]	F & H	-22°F to +104°F	220	-	-	-	-	-	Shell Cassida GL220	-

1 Allowable ambient temperature refers to temperature in the vicinity of Motorized Pulley. See Technical Precautions pages 81-82.

2 Synthetic oil is supplied with all Class H motors. It is also available with Class F motors to reduce oil change frequency (see page 88), reduce gear wear, and reduce noise.

3 This oil complies with food additive regulation 12 CPR.

4 ISO Viscosity Grades are shown in centistokes at +104°F. See also ISO 3498 and DIN 31519 for more information.