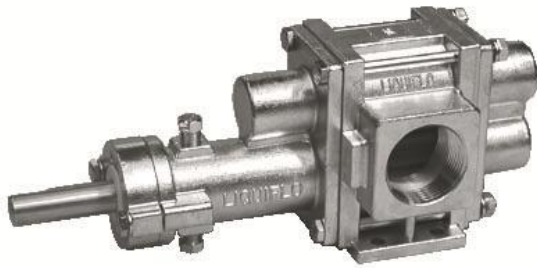




# CONSOLIDATED BILL OF MATERIALS (BOM) FOR STANDARD H-SERIES GEAR PUMPS



**Models H9R & H9F  
Sealed, Long-Coupled**



**Models H9R & H9F  
Sealed & Mag-Drive,  
Close-Coupled**

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<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: SEALED, LC Models H9R & H9F
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H9R	H9F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	S	316 SS	390001	3110005
Center Housing, Flanged (ANSI 150# RF)	21	L	316 SS	390026	3110004
Center Housing, BSPT	21	X	316 SS	390020	3110003
Pin, Housing Alignment	12	S, L, X	316 SS	360801 (4)	360801 (4)
Bolt, Housing (1/4-20 x 3.00/3.75 HHCS)	4	S, L, X	18-8 SS	390017 (4)	3112002 (4)
Nut, Housing (1/4-20)	10	S, L, X	18-8 SS	862108 (4)	862108 (4)
Lockwasher, Housing (1/4)	15	S, L, X	18-8 SS	863701 (4)	863701 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	390008	3150022
Gear	22	3	Teflon	390010	3150058
Gear	22	6	316 SS	390007	3150021
Gear	22	K	Kynar	390666	3150666
Gear	22	P	PEEK	390009	3150024
Key, Gear	23A	1, 3, 6, K, P	316 SS	3150054	3150019
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	390008	3150022
Gear	6	2	Carbon	390085	3150062
Gear	6	3	Teflon	390010	3150058
Gear	6	6	316 SS	390007	3150021
Gear	6	8	Ryton	390018	3150023
Gear	6	K	Kynar	390666	3150666
Gear	6	P	PEEK	390009	3150024
Key, Gear	23B	1, 2, 3, 6, 8, K, P	316 SS	3150054	3150019
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	360497 (4)	360497 (4)
Wear Plate, Relieved	7	4	SiC	360582 (4)	360582 (4)
Wear Plate, Relieved	7	E	Carbon 60	360534 (4)	360534 (4)
Wear Plate, Relieved	7	P	PEEK	360535 (4)	360535 (4)
<b>Position 7 – Bearings</b>					
Bearing	3A/3B	3	Teflon	3150057 (4)	3150057 (4)
Bearing	3A/3B	B	SiC	3150014 (4)	3150014 (4)
Bearing	3A/3B	E	Carbon 60	3150012 (4)	3150012 (4)
Bearing	3A/3B	P	PEEK	3150013 (4)	3150013 (4)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Internal	11	U	316 SS/Carbon	970032	970032
Mechanical Seal, Single Internal	11	S	316 SS/Teflon	970039	970039
Mechanical Seal, Double	11	F	316 SS/Carbon	970067	970067
Mechanical Seal, Double	11	H	316 SS/Teflon	970068	970068
Seal Seat, Outer	24	U, S, F, H	SiC	970123	970123
Seal Seat, Inner	25	F, H	SiC	970121	970121
Gland Plate, SMS & DMS	17	U, S, F, H	316 SS	970022	970022
Screw, Gland (1/4-28 x 1 HHCS)	16	U, S, F, H	18-8 SS	362005 (2)	362005 (2)
Lockwasher, Gland (1/4)	19	U, S, F, H	18-8 SS	863701 (2)	863701 (2)
Plug, 1/8 NPT	9	U, S	316 SS	362304 (2)	362304 (2)
Packing Ring	18	L	Teflon	970063 (5)	970063 (5)
Packing Ring	18	R	Graphoil	970062 (5)	970062 (5)
Lantern Ring	11	L, R	316 SS	970064	970064
Gland Plate, PS	17	L, R	316 SS	3150061	3150061
Screw, Gland (1/4-28 x 1 HHCS)	16	L, R	18-8 SS	362005 (2)	362005 (2)
Grease Fitting, 1/8 NPT	24	L, R	303 SS	867201	867201
Plug, 1/8 NPT	9	L, R	316 SS	362304	362304

See page 14 for Reference Drawing.

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: SEALED, LC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H9R	H9F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, Standard	8	0	316 SS	970026	970026
Front Housing, External Bearing Flush	8	1	316 SS	970030	970030
Front Housing, Internal Bearing Flush	8	2	316 SS	970028	970028
Rear Housing, Standard	2	0	316 SS	3150006	3150006
Rear Housing, External Bearing Flush	2	1	316 SS	3150010	3150010
Rear Housing, Internal Bearing Flush	2	2	316 SS	3150008	3150008
Plug, 1/8 NPT	9	1	316 SS	362304 (3)	362304 (3)
<b>Position 10 – Shafts</b>					
Drive Shaft, Uncoated	20	0	316 SS	390011	3150052
Drive Shaft, CO-Coated	20	1	316 SS/CO	390011-CO	3150052-CO
Drive Shaft, TC-Coated	20	2	316 SS/TC	390011-TC	3150052-TC
Idler Shaft, Uncoated	1	0	316 SS	390005	3150025
Idler Shaft, CO-Coated	1	1	316 SS/CO	390005-CO	3150025-CO
Idler Shaft, TC-Coated	1	2	316 SS/TC	390005-TC	3150025-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing <sup>1</sup>	5	0	Teflon	361101 (2)	361101 (2)
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	0	Viton	970120	970120
O-ring, Housing <sup>1</sup>	5	6	Silicone/FEP	371119 (2)	371119 (2)
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	6	Kalrez	970128	970128
O-ring, Housing (2-040)	5	B	Buna-N	361106 (2)	361106 (2)
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	970058 (2)	970058 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	B	Buna-N	970126	970126
O-ring, Housing (2-040)	5	E	EPDM	361105 (2)	361105 (2)
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	970059 (2)	970059 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	E	EPDM	970127	970127
O-ring, Housing (2-040)	5	V	Viton	361102 (2)	361102 (2)
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	970060 (2)	970060 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	V	Viton	970120	970120
O-ring, Housing (2-040)	5	K	Kalrez	361103 (2)	361103 (2)
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	970061 (2)	970061 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	K	Kalrez	970128	970128
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	316 SS	3150015 (4)	3150015 (4)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	13	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	13	6	316 SS	361807 (4)	361807 (4)
<b>Position 14 – Coupling Method</b>					
Long-Coupled	–	9	–	X	X
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>2</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - Size: 2.906" Inner Diameter x .070" Cross-Sectional Diameter

2 - T = Application Temperature in °F (e.g., -8(300) = Temperature Trim at 300°F).

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: SEALED, LC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H9R	H9F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	H	Alloy-C	390002	3110027
Center Housing, Flanged (ANSI 150# RF)	21	C	Alloy-C	390027	3110016
Center Housing, BSPT	21	Y	Alloy-C	390021	3110025
Pin, Housing Alignment	12	H, C, Y	Alloy-C	360804 (4)	360804 (4)
Bolt, Housing (1/4-20 x 3.00/3.75 HHCS)	4	H, C, Y	18-8 SS	390017 (4)	3112002 (4)
Nut, Housing (1/4-20)	10	H, C, Y	18-8 SS	862108 (4)	862108 (4)
Lockwasher, Housing (1/4)	15	H, C, Y	18-8 SS	863701 (4)	863701 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	390008	3150022
Gear	22	3	Teflon	390010	3150058
Gear	22	6	316 SS	X	X
Gear	22	K	Kynar	390666	3150666
Gear	22	P	PEEK	390009	3150024
Key, Gear	23A	1, 3, K, P	Alloy-C	3150055	3150020
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	390008	3150022
Gear	6	2	Carbon	390085	3150062
Gear	6	3	Teflon	390010	3150058
Gear	6	6	316 SS	X	X
Gear	6	8	Ryton	390018	3150023
Gear	6	K	Kynar	390666	3150666
Gear	6	P	PEEK	390009	3150024
Key, Gear	23B	1, 2, 3, 8, K, P	Alloy-C	3150055	3150020
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	360497 (4)	360497 (4)
Wear Plate, Relieved	7	4	SiC	360582 (4)	360582 (4)
Wear Plate, Relieved	7	E	Carbon 60	360534 (4)	360534 (4)
Wear Plate, Relieved	7	P	PEEK	360535 (4)	360535 (4)
<b>Position 7 – Bearings</b>					
Bearing	3A/3B	3	Teflon	3150057 (4)	3150057 (4)
Bearing	3A/3B	B	SiC	3150014 (4)	3150014 (4)
Bearing	3A/3B	E	Carbon 60	3150012 (4)	3150012 (4)
Bearing	3A/3B	P	PEEK	3150013 (4)	3150013 (4)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Internal	11	U	Alloy-C/Carbon	970033	970033
Mechanical Seal, Single Internal	11	S	Alloy-C/Teflon	970040	970040
Mechanical Seal, Double	11	F	316 SS/Carbon	970067	970067
Mechanical Seal, Double	11	H	316 SS/Teflon	970068	970068
Seal Seat, Outer	24	U, S, F, H	SiC	970123	970123
Seal Seat, Inner	25	F, H	SiC	970121	970121
Gland Plate, SMS	17	U, S	Alloy-C	970034	970034
Gland Plate, DMS	17	F, H	316 SS	970022	970022
Screw, Gland (1/4-28 x 1 HHCS)	16	U, S, F, H	18-8 SS	362005 (2)	362005 (2)
Lockwasher, Gland (1/4)	19	U, S, F, H	18-8 SS	863701 (2)	863701 (2)
Plug, 1/8 NPT	9	U, S	Alloy-C	362301 (2)	362301 (2)
Packing Ring	18	L	Teflon	970063 (5)	970063 (5)
Packing Ring	18	R	Graphoil	970062 (5)	970062 (5)
Lantern Ring	11	L, R	Alloy-C	970081	970081
Gland Plate, PS	17	L, R	Alloy-C	3150063	3150063
Screw, Gland (1/4-28 x 1 HHCS)	16	L, R	18-8 SS	362005 (2)	362005 (2)
Grease Fitting, 1/8 NPT	24	L, R	303 SS	867201	867201
Plug, 1/8 NPT	9	L, R	Alloy-C	362301	362301

See page 14 for Reference Drawing.

<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: SEALED, LC Models H9R & H9F
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H9R	H9F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, Standard	8	0	Alloy-C	970027	970027
Front Housing, External Bearing Flush	8	1	Alloy-C	970031	970031
Front Housing, Internal Bearing Flush	8	2	Alloy-C	970029	970029
Rear Housing, Standard	2	0	Alloy-C	3150007	3150007
Rear Housing, External Bearing Flush	2	1	Alloy-C	3150011	3150011
Rear Housing, Internal Bearing Flush	2	2	Alloy-C	3150009	3150009
Plug, 1/8 NPT	9	1	Alloy-C	362301 (3)	362301 (3)
<b>Position 10 – Shafts</b>					
Drive Shaft, Uncoated	20	0	Alloy-C	390012	3150053
Drive Shaft, CO-Coated	20	1	Alloy-C/CO	390012-CO	3150053-CO
Drive Shaft, TC-Coated	20	2	Alloy-C/TC	390012-TC	3150053-TC
Idler Shaft, Uncoated	1	0	Alloy-C	390006	3150026
Idler Shaft, CO-Coated	1	1	Alloy-C/CO	390006-CO	3150026-CO
Idler Shaft, TC-Coated	1	2	Alloy-C/TC	390006-TC	3150026-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing <sup>1</sup>	5	0	Teflon	361101 (2)	361101 (2)
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	0	Viton	970120	970120
O-ring, Housing <sup>1</sup>	5	6	Silicone/FEP	371119 (2)	371119 (2)
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	6	Kalrez	970128	970128
O-ring, Housing (2-040)	5	B	Buna-N	361106 (2)	361106 (2)
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	970058 (2)	970058 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	B	Buna-N	970126	970126
O-ring, Housing (2-040)	5	E	EPDM	361105 (2)	361105 (2)
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	970059 (2)	970059 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	E	EPDM	970127	970127
O-ring, Housing (2-040)	5	V	Viton	361102 (2)	361102 (2)
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	970060 (2)	970060 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	V	Viton	970120	970120
O-ring, Housing (2-040)	5	K	Kalrez	361103 (2)	361103 (2)
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	970061 (2)	970061 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	K	Kalrez	970128	970128
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	Alloy-C	3150016 (4)	3150016 (4)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	13	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	13	1	Alloy-C	361806 (4)	361806 (4)
<b>Position 14 – Coupling Method</b>					
Long-Coupled	–	9	–	X	X
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>2</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - Size: 2.906" Inner Diameter x .070" Cross-Sectional Diameter

2 - T = Application Temperature in °F (e.g., -8(300) = Temperature Trim at 300°F).

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: SEALED, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H9R	H9F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	S	316 SS	390001	3110005
Center Housing, Flanged (ANSI 150# RF)	21	L	316 SS	390026	3110004
Center Housing, BSPT	21	X	316 SS	390020	3110003
Pin, Housing Alignment	12	S, L, X	316 SS	360801 (4)	360801 (4)
Bolt, Housing (1/4-20 x 3.00/3.75 HHCS)	4	S, L, X	18-8 SS	390017 (4)	3112002 (4)
Nut, Housing (1/4-20)	10	S, L, X	18-8 SS	862108 (4)	862108 (4)
Lockwasher, Housing (1/4)	15	S, L, X	18-8 SS	863701 (4)	863701 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	390008	3150022
Gear	22	3	Teflon	390010	3150058
Gear	22	6	316 SS	390007	3150021
Gear	22	K	Kynar	390666	3150666
Gear	22	P	PEEK	390009	3150024
Key, Gear	23A	1, 3, 6, K, P	316 SS	3150054	3150019
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	390008	3150022
Gear	6	2	Carbon	390085	3150062
Gear	6	3	Teflon	390010	3150058
Gear	6	6	316 SS	390007	3150021
Gear	6	8	Ryton	390018	3150023
Gear	6	K	Kynar	390666	3150666
Gear	6	P	PEEK	390009	3150024
Key, Gear	23B	1, 2, 3, 6, 8, K, P	316 SS	3150054	3150019
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	360497 (4)	360497 (4)
Wear Plate, Relieved	7	4	SiC	360582 (4)	360582 (4)
Wear Plate, Relieved	7	E	Carbon 60	360534 (4)	360534 (4)
Wear Plate, Relieved	7	P	PEEK	360535 (4)	360535 (4)
<b>Position 7 – Bearings</b>					
Bearing	3A/3B	3	Teflon	3150057 (4)	3150057 (4)
Bearing	3A/3B	B	SiC	3150014 (4)	3150014 (4)
Bearing	3A/3B	E	Carbon 60	3150012 (4)	3150012 (4)
Bearing	3A/3B	P	PEEK	3150013 (4)	3150013 (4)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Int. & Ext.	11	U, W	316 SS/Carbon	970032	970032
Mechanical Seal, Single Int. & Ext.	11	S, X	316 SS/Teflon	970039	970039
Mechanical Seal, Double	11	F	316 SS/Carbon	970067	970067
Mechanical Seal, Double	11	H	316 SS/Teflon	970068	970068
Seal Housing, SMS/DMS/PS	28	U, S, F, H	316 SS	390270	390270
Seal Housing, EMS	28	W, X	316 SS	390273	390273
Seal Seat, Outer	24	U, S, W, X, F, H	SiC	970123	970123
Seal Seat, Inner	25	F, H	SiC	970121	970121
Gland Plate, SMS/EMS/DMS	17	U, S, W, X, F, H	316 SS	970022	970022
Screw, Gland (1/4-28 x 1 HHCS)	16	U, S, W, X, F, H	18-8 SS	362005 (2)	362005 (2)
Lockwasher, Gland (1/4)	19	U, S, W, X, F, H	18-8 SS	863701 (2)	863701 (2)
Plug, 1/8 NPT	9	U, S, W, X	316 SS	362304 (2)	362304 (2)
Packing Ring	43	L	Teflon	970063 (5)	970063 (5)
Packing Ring	43	R	Graphoil	970062 (5)	970062 (5)
Seal Housing, SMS/DMS/PS	28	L, R	316 SS	390270	390270
Lantern Ring	44	L, R	316 SS	970064	970064
Gland Plate, PS	17	L, R	316 SS	3150061	3150061
Screw, Gland (1/4-28 x 1 HHCS)	16	L, R	18-8 SS	362005 (2)	362005 (2)
Grease Fitting, 1/8 NPT	45	L, R	303 SS	867201	867201
Plug, 1/8 NPT	9	L, R	316 SS	362304	362304

See page 15 for Reference Drawing.

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: SEALED, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H9R	H9F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, CC, Standard & EBF	8	0, 1	316 SS	3150033	3150033
Front Housing, CC, IBF	8	2	316 SS	3150035	3150035
Rear Housing, Standard	2	0	316 SS	3150006	3150006
Rear Housing, EBF	2	1	316 SS	3150010	3150010
Rear Housing, IBF	2	2	316 SS	3150008	3150008
Plug, 1/8 NPT	9	0, 2	316 SS	362304 (1)	362304 (1)
Plug, 1/8 NPT	9	1	316 SS	362304 (3)	362304 (3)
<b>Position 10 – Shafts</b>					
Drive Shaft, Uncoated	20	0	316 SS	390011	3150052
Drive Shaft, CO-Coated	20	1	316 SS/CO	390011-CO	3150052-CO
Drive Shaft, TC-Coated	20	2	316 SS/TC	390011-TC	3150052-TC
Idler Shaft, Uncoated	1	0	316 SS	390005	3150025
Idler Shaft, CO-Coated	1	1	316 SS/CO	390005-CO	3150025-CO
Idler Shaft, TC-Coated	1	2	316 SS/TC	390005-TC	3150025-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing <sup>1</sup>	5	0	Teflon	361101 (2)	361101 (2)
O-ring, Seal Housing (2-042)	27	0	Teflon	S4000	S4000
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	0	Viton	970120	970120
O-ring, Housing <sup>1</sup>	5	6	Silicone/FEP	371119 (2)	371119 (2)
O-ring, Seal Housing (2-042)	27	6	Silicone/FEP	371118	371118
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	6	Kalrez	970128	970128
O-ring, Housing (2-040)	5	B	Buna-N	361106 (2)	361106 (2)
O-ring, Seal Housing (2-042)	27	B	Buna-N	S4003	S4003
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	970058 (2)	970058 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	B	Buna-N	970126	970126
O-ring, Housing (2-040)	5	E	EPDM	361105 (2)	361105 (2)
O-ring, Seal Housing (2-042)	27	E	EPDM	S4001	S4001
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	970059 (2)	970059 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	E	EPDM	970127	970127
O-ring, Housing (2-040)	5	V	Viton	361102 (2)	361102 (2)
O-ring, Seal Housing (2-042)	27	V	Viton	S4002	S4002
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	970060 (2)	970060 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	V	Viton	970120	970120
O-ring, Housing (2-040)	5	K	Kalrez	361103 (2)	361103 (2)
O-ring, Seal Housing (2-042)	27	K	Kalrez	S4004	S4004
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	970061 (2)	970061 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	K	Kalrez	970128	970128
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	316 SS	3150015 (4)	3150015 (4)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	13	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	13	6	316 SS	361807 (4)	361807 (4)
<b>Position 14 – Coupling Method</b>					
Close-Coupled (Additional Parts)	–	0-5, 8	–	<b>See Appendix 3</b>	
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>2</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - Size: 2.906" Inner Diameter x .070" Cross-Sectional Diameter  
 2 - T = Application Temperature in °F (e.g., -8(300) = Temperature Trim at 300°F).

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: SEALED, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H9R	H9F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	H	Alloy-C	390002	3110027
Center Housing, Flanged (ANSI 150# RF)	21	C	Alloy-C	390027	3110016
Center Housing, BSPT	21	Y	Alloy-C	390021	3110025
Pin, Housing Alignment	12	H, C, Y	Alloy-C	360804 (4)	360804 (4)
Bolt, Housing (1/4-20 x 3.00/3.75 HHCS)	4	H, C, Y	18-8 SS	390017 (4)	3112002 (4)
Nut, Housing (1/4-20)	10	H, C, Y	18-8 SS	862108 (4)	862108 (4)
Lockwasher, Housing (1/4)	15	H, C, Y	18-8 SS	863701 (4)	863701 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	390008	3150022
Gear	22	3	Teflon	390010	3150058
Gear	22	6	316 SS	X	X
Gear	22	K	Kynar	390666	3150666
Gear	22	P	PEEK	390009	3150024
Key, Gear	23A	1, 3, K, P	Alloy-C	3150055	3150020
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	390008	3150022
Gear	6	2	Carbon	390085	3150062
Gear	6	3	Teflon	390010	3150058
Gear	6	6	316 SS	X	X
Gear	6	8	Ryton	390018	3150023
Gear	6	K	Kynar	390666	3150666
Gear	6	P	PEEK	390009	3150024
Key, Gear	23B	1, 2, 3, 8, K, P	Alloy-C	3150055	3150020
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	360497 (4)	360497 (4)
Wear Plate, Relieved	7	4	SiC	360582 (4)	360582 (4)
Wear Plate, Relieved	7	E	Carbon 60	360534 (4)	360534 (4)
Wear Plate, Relieved	7	P	PEEK	360535 (4)	360535 (4)
<b>Position 7 – Bearings</b>					
Bearing	3A/3B	3	Teflon	3150057 (4)	3150057 (4)
Bearing	3A/3B	B	SiC	3150014 (4)	3150014 (4)
Bearing	3A/3B	E	Carbon 60	3150012 (4)	3150012 (4)
Bearing	3A/3B	P	PEEK	3150013 (4)	3150013 (4)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Int. & Ext.	11	U, W	Alloy-C/Carbon	970033	970033
Mechanical Seal, Single Int. & Ext.	11	S, X	Alloy-C/Teflon	970040	970040
Mechanical Seal, Double	11	F	316 SS/Carbon	970067	970067
Mechanical Seal, Double	11	H	316 SS/Teflon	970068	970068
Seal Housing, SMS/DMS/PS	28	U, S, F, H	Alloy-C	390271	390271
Seal Housing, EMS	28	W, X	Alloy-C	390272	390272
Seal Seat, Outer	24	U, S, W, X, F, H	SiC	970123	970123
Seal Seat, Inner	25	F, H	SiC	970121	970121
Gland Plate, SMS & EMS	17	U, S, W, X	Alloy-C	970034	970034
Gland Plate, DMS	17	F, H	316 SS	970022	970022
Screw, Gland (1/4-28 x 1 HHCS)	16	U, S, W, X, F, H	18-8 SS	362005 (2)	362005 (2)
Lockwasher, Gland (1/4)	19	U, S, W, X, F, H	18-8 SS	863701 (2)	863701 (2)
Plug, 1/8 NPT	9	U, S, W, X	Alloy-C	362301 (2)	362301 (2)
Packing Ring	43	L	Teflon	970063 (5)	970063 (5)
Packing Ring	43	R	Graphoil	970062 (5)	970062 (5)
Seal Housing, SMS/DMS/PS	28	L, R	Alloy-C	390271	390271
Lantern Ring	44	L, R	Alloy-C	970081	970081
Gland Plate, PS	17	L, R	Alloy-C	3150063	3150063
Screw, Gland (1/4-28 x 1 HHCS)	16	L, R	18-8 SS	362005 (2)	362005 (2)
Grease Fitting, 1/8 NPT	45	L, R	303 SS	867201	867201
Plug, 1/8 NPT	9	L, R	Alloy-C	362301	362301

See page 15 for Reference Drawing.

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: SEALED, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H9R	H9F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, CC, Standard & EBF	8	0, 1	Alloy-C	3150034	3150034
Front Housing, CC, IBF	8	2	Alloy-C	3150036	3150036
Rear Housing, Standard	2	0	Alloy-C	3150007	3150007
Rear Housing, EBF	2	1	Alloy-C	3150011	3150011
Rear Housing, IBF	2	2	Alloy-C	3150009	3150009
Plug, 1/8 NPT	9	0, 2	Alloy-C	362301 (1)	362301 (1)
Plug, 1/8 NPT	9	1	Alloy-C	362301 (3)	362301 (3)
<b>Position 10 – Shafts</b>					
Drive Shaft, Uncoated	20	0	Alloy-C	390012	3150053
Drive Shaft, CO-Coated	20	1	Alloy-C/CO	390012-CO	3150053-CO
Drive Shaft, TC-Coated	20	2	Alloy-C/TC	390012-TC	3150053-TC
Idler Shaft, Uncoated	1	0	Alloy-C	390006	3150026
Idler Shaft, CO-Coated	1	1	Alloy-C/CO	390006-CO	3150026-CO
Idler Shaft, TC-Coated	1	2	Alloy-C/TC	390006-TC	3150026-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing <sup>1</sup>	5	0	Teflon	361101 (2)	361101 (2)
O-ring, Seal Housing (2-042)	27	0	Teflon	S4000	S4000
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	0	Viton	970120	970120
O-ring, Housing <sup>1</sup>	5	6	Silicone/FEP	371119 (2)	371119 (2)
O-ring, Seal Housing (2-042)	27	6	Silicone/FEP	371118	371118
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	970024 (2)	970024 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	6	Kalrez	970128	970128
O-ring, Housing (2-040)	5	B	Buna-N	361106 (2)	361106 (2)
O-ring, Seal Housing (2-042)	27	B	Buna-N	S4003	S4003
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	970058 (2)	970058 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	B	Buna-N	970126	970126
O-ring, Housing (2-040)	5	E	EPDM	361105 (2)	361105 (2)
O-ring, Seal Housing (2-042)	27	E	EPDM	S4001	S4001
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	970059 (2)	970059 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	E	EPDM	970127	970127
O-ring, Housing (2-040)	5	V	Viton	361102 (2)	361102 (2)
O-ring, Seal Housing (2-042)	27	V	Viton	S4002	S4002
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	970060 (2)	970060 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	V	Viton	970120	970120
O-ring, Housing (2-040)	5	K	Kalrez	361103 (2)	361103 (2)
O-ring, Seal Housing (2-042)	27	K	Kalrez	S4004	S4004
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	970061 (2)	970061 (2)
O-ring, Seal Seat, Inner (2-023; DMS only)	26	K	Kalrez	970128	970128
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	Alloy-C	3150016 (4)	3150016 (4)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	13	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	13	1	Alloy-C	361806 (4)	361806 (4)
<b>Position 14 – Coupling Method</b>					
Close-Coupled (Additional Parts)	–	0-5, 8	–	See Appendix 3	
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>2</sup>	–	Consult Factory	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - Size: 2.906" Inner Diameter x .070" Cross-Sectional Diameter  
 2 - T = Application Temperature in °F (e.g., -8(300) = Temperature Trim at 300°F).

<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: <b>MAG-DRIVE, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H9R	H9F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	S	316 SS	390001	3110005
Center Housing, Flanged (ANSI 150# RF)	21	L	316 SS	390026	3110004
Center Housing, BSPT	21	X	316 SS	390020	3110003
Pin, Housing Alignment	24	S, L, X	316 SS	360801 (4)	360801 (4)
Bolt, Housing (1/4-20 x 3.00/3.75 HHCS)	4	S, L, X	18-8 SS	390017 (4)	3112002 (4)
Nut, Housing (1/4-20)	29	S, L, X	18-8 SS	862108 (4)	862108 (4)
Lockwasher, Housing (1/4)	30	S, L, X	18-8 SS	863701 (4)	863701 (4)
Bolt, Front Housing (3/8-16 x 1.50 HHCS)	27	S, L, X	18-8 SS	620833 (4)	620833 (4)
Nut, Front Housing (3/8-16)	26	S, L, X	18-8 SS	S1003 (4)	S1003 (4)
Lockwasher, Front Housing (3/8)	31	S, L, X	18-8 SS	S1004 (4)	S1004 (4)
Bolt, Cont. Can (1/4-28 x 5/8 HHCS)	18	S, L, X	18-8 SS	S620013 (6)	S620013 (6)
Lockwasher, Cont. Can (1/4)	32	S, L, X	18-8 SS	863701 (6)	863701 (6)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	390008	3150022
Gear	22	3	Teflon	390010	3150058
Gear	22	6	316 SS	390007	3150021
Gear	22	K	Kynar	390666	3150666
Gear	22	P	PEEK	390009	3150024
Key, Gear	23A	1, 3, 6, K, P	316 SS	3150054	3150019
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	390008	3150022
Gear	6	2	Carbon	390085	3150062
Gear	6	3	Teflon	390010	3150058
Gear	6	6	316 SS	390007	3150021
Gear	6	8	Ryton	390018	3150023
Gear	6	K	Kynar	390666	3150666
Gear	6	P	PEEK	390009	3150024
Key, Gear	23B	1, 2, 3, 6, 8, K, P	316 SS	3150054	3150019
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	360497 (4)	360497 (4)
Wear Plate, Relieved	7	4	SiC	360582 (4)	360582 (4)
Wear Plate, Relieved	7	E	Carbon 60	360534 (4)	360534 (4)
Wear Plate, Relieved	7	P	PEEK	360535 (4)	360535 (4)
<b>Position 7 – Bearings</b>					
Bearing	3A/3B	3	Teflon	3150057 (4)	3150057 (4)
Bearing	3A/3B	B	SiC	3150014 (4)	3150014 (4)
Bearing	3A/3B	E	Carbon 60	3150012 (4)	3150012 (4)
Bearing	3A/3B	P	PEEK	3150013 (4)	3150013 (4)
<b>Position 8 – Outer Magnet Bore (Pedestal, Shims, Adapter &amp; Motor-Mounting Hardware)</b>					
Pedestal – 5/8" (NEMA 56C)	16	0	CI/Epoxy	SP000	SP000
Pedestal – 7/8" (NEMA 143/145TC)	16	1	CI/Epoxy	SP000	SP000
Pedestal – 14 mm (IEC 71 - B5)	16	2	CI/Epoxy	SP001	SP001
Pedestal – 19 mm (IEC 80 - B5)	16	3	CI/Epoxy	SP002	SP002
Pedestal – 24 mm (IEC 90 - B5)	16	4	CI/Epoxy	SP002	SP002
Pedestal – 1-1/8" (NEMA 182/184TC)	16	5	CI/Epoxy	SP000	SP000
Shim, Pedestal (NEMA 182/184TC)	-	5	303 SS	SHIM-S105 (4)	SHIM-S105 (4)
Adapter Plate (NEMA 182/184TC)	-	5	CS/Epoxy	SP0046	SP0046
Pedestal – 28 mm (IEC 100/112 - B5)	16	8	CI/Epoxy	SP002	SP002
Shim, Pedestal (IEC 100/112 - B5)	-	8	CS/Epoxy	SHIM-112 (2)	SHIM-112 (2)
Adapter Plate (IEC 100/112 - B5)	-	8	CS/Epoxy	SP0048	SP0048
Motor-Mounting Hardware	15/34	0-5, 8	18-8 SS	See Appendix 4	
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, MC, Standard & EBF	8	0, 1	316 SS	3150033	3150033
Front Housing, MC, IBF	8	2	316 SS	3150035	3150035
Rear Housing, Standard	2	0	316 SS	3150006	3150006
Rear Housing, EBF	2	1	316 SS	3150010	3150010
Rear Housing, IBF	2	2	316 SS	3150008	3150008
Plug, 1/8 NPT	9	0, 2	316 SS	362304 (1)	362304 (1)
Plug, 1/8 NPT	9	1	316 SS	362304 (3)	362304 (3)

See page 16 for Reference Drawing.

<b>Liquiflo</b> <b>Chemical Processing Pumps™</b>	<b>H-Series Gear Pumps</b> <b>BOM: MAG-DRIVE, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H9R	H9F
<b>Position 10 – Shafts</b>					
Drive Shaft, MC, Uncoated	20	0	316 SS	390013	3150048
Drive Shaft, MC, CO-Coated	20	1	316 SS/CO	390013-CO	3150048-CO
Drive Shaft, MC, TC-Coated	20	2	316 SS/TC	390013-TC	3150048-TC
Idler Shaft, Uncoated	1	0	316 SS	390005	3150025
Idler Shaft, CO-Coated	1	1	316 SS/CO	390005-CO	3150025-CO
Idler Shaft, TC-Coated	1	2	316 SS/TC	390005-TC	3150025-TC
<b>Position 11 – O-Rings</b>					
O-ring, Housing <sup>1</sup>	5	0	Teflon	361101 (2)	361101 (2)
O-ring, Containment Can (2-042)	19	0	Teflon	S4000	S4000
O-ring, Housing <sup>1</sup>	5	6	Silicone/FEP	371119 (2)	371119 (2)
O-ring, Containment Can (2-042)	19	6	Silicone/FEP	371118	371118
O-ring, Housing (2-040)	5	B	Buna-N	361106 (2)	361106 (2)
O-ring, Containment Can (2-042)	19	B	Buna-N	S4003	S4003
O-ring, Housing (2-040)	5	E	EPDM	361105 (2)	361105 (2)
O-ring, Containment Can (2-042)	19	E	EPDM	S4001	S4001
O-ring, Housing (2-040)	5	V	Viton	361102 (2)	361102 (2)
O-ring, Containment Can (2-042)	19	V	Viton	S4002	S4002
O-ring, Housing (2-040)	5	K	Kalrez	361103 (2)	361103 (2)
O-ring, Containment Can (2-042)	19	K	Kalrez	S4004	S4004
<b>Position 12 – Retaining Rings</b>					
Retaining Ring (Gears & Inner Magnet)	28	0	316 SS	3150015 (6)	3150015 (6)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	25	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	25	6	316 SS	361807 (4)	361807 (4)
<b>Position 14 – Magnetic Coupling</b>					
Inner Magnet, MCU – 5/8" Bore	11	U	316 SS/SmCo	SIMCU-05	X
Outer Magnet, MCU – NEMA 56C	10	U (Pos. 8 = 0)	CS/ SmCo	SOMCU-5	X
Outer Magnet, MCU – NEMA 143/145TC	10	U (Pos. 8 = 1)	CS/ SmCo	SOMCU-7	X
Outer Magnet, MCU – IEC 71 (B5)	10	U (Pos. 8 = 2)	CS/ SmCo	SOMCU-71	X
Outer Magnet, MCU – IEC 80 (B5)	10	U (Pos. 8 = 3)	CS/ SmCo	SOMCU-80	X
Outer Magnet, MCU – IEC 90 (B5)	10	U (Pos. 8 = 4)	CS/ SmCo	SOMCU-90	X
Outer Magnet, MCU – NEMA 182/184TC	10	U (Pos. 8 = 5)	CS/ SmCo	SOMCU-9	X
Outer Magnet, MCU – IEC 100/112 (B5)	10	U (Pos. 8 = 8)	CS/ SmCo	SOMCU-112	X
Inner Magnet, MCB – 5/8" Bore	11	B	316 SS/SmCo	SIMCB-05	SIMCB-05
Outer Magnet, MCB – NEMA 56C	10	B (Pos. 8 = 0)	CS/ SmCo	SOMCB-5	SOMCB-5
Outer Magnet, MCB – NEMA 143/145TC	10	B (Pos. 8 = 1)	CS/ SmCo	SOMCB-7	SOMCB-7
Outer Magnet, MCB – IEC 71 (B5)	10	B (Pos. 8 = 2)	CS/ SmCo	SOMCB-71	SOMCB-71
Outer Magnet, MCB – IEC 80 (B5)	10	B (Pos. 8 = 3)	CS/ SmCo	SOMCB-80	SOMCB-80
Outer Magnet, MCB – IEC 90 (B5)	10	B (Pos. 8 = 4)	CS/ SmCo	SOMCB-90	SOMCB-90
Outer Magnet, MCB – NEMA 182/184TC	10	B (Pos. 8 = 5)	CS/ SmCo	SOMCB-9	SOMCB-9
Outer Magnet, MCB – IEC 100/112 (B5)	10	B (Pos. 8 = 8)	CS/ SmCo	SOMCB-112	SOMCB-112
Inner Magnet, MCV – 5/8" Bore	11	V	316 SS/SmCo	SIMCV-05	SIMCV-05
Outer Magnet, MCV – NEMA 56C	10	V (Pos. 8 = 0)	CS/ SmCo	SOMCV-5	SOMCV-5
Outer Magnet, MCV – NEMA 143/145TC	10	V (Pos. 8 = 1)	CS/ SmCo	SOMCV-7	SOMCV-7
Outer Magnet, MCV – IEC 71 (B5)	10	V (Pos. 8 = 2)	CS/ SmCo	SOMCV-71	SOMCV-71
Outer Magnet, MCV – IEC 80 (B5)	10	V (Pos. 8 = 3)	CS/ SmCo	SOMCV-80	SOMCV-80
Outer Magnet, MCV – IEC 90 (B5)	10	V (Pos. 8 = 4)	CS/ SmCo	SOMCV-90	SOMCV-90
Outer Magnet, MCV – NEMA 182/184TC	10	V (Pos. 8 = 5)	CS/ SmCo	SOMCV-9	SOMCV-9
Outer Magnet, MCV – IEC 100/112 (B5)	10	V (Pos. 8 = 8)	CS/ SmCo	SOMCV-112	SOMCV-112
Key, Inner Magnet	13	U, B, V	316 SS	3150054	3150054
<b>Position 15 – Containment Can</b>					
Containment Can, Single Wall (Domed)	12	S	316 SS	S2002	S2002
Dual Kan Option (Modified Parts)	12	D	316 SS	<b>Consult Factory</b>	
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>2</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - Size: 2.906" ID x .070" CSD

2 - T = Application Temperature in °F (e.g., -8(300) = Temperature Trim at 300°F).

<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: <b>MAG-DRIVE, CC Models H9R &amp; H9F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H9R	H9F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	H	Alloy-C	390002	3110027
Center Housing, Flanged (ANSI 150# RF)	21	C	Alloy-C	390027	3110016
Center Housing, BSPT	21	Y	Alloy-C	390021	3110025
Pin, Housing Alignment	24	H, C, Y	Alloy-C	360804 (4)	360804 (4)
Bolt, Housing (1/4-20 x 3.00/3.75 HHCS)	4	H, C, Y	18-8 SS	390017 (4)	3112002 (4)
Nut, Housing (1/4-20)	29	H, C, Y	18-8 SS	862108 (4)	862108 (4)
Lockwasher, Housing (1/4)	30	H, C, Y	18-8 SS	863701 (4)	863701 (4)
Bolt, Front Housing (3/8-16 x 1.50 HHCS)	27	H, C, Y	18-8 SS	620833 (4)	620833 (4)
Nut, Front Housing (3/8-16)	26	H, C, Y	18-8 SS	S1003 (4)	S1003 (4)
Lockwasher, Front Housing (3/8)	31	H, C, Y	18-8 SS	S1004 (4)	S1004 (4)
Bolt, Cont. Can (1/4-28 x 5/8 HHCS)	18	H, C, Y	18-8 SS	S620013 (6)	S620013 (6)
Lockwasher, Cont. Can (1/4)	32	H, C, Y	18-8 SS	863701 (6)	863701 (6)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	390008	3150022
Gear	22	3	Teflon	390010	3150058
Gear	22	6	316 SS	X	X
Gear	22	K	Kynar	390666	3150666
Gear	22	P	PEEK	390009	3150024
Key, Gear	23A	1, 3, K, P	Alloy-C	3150055	3150020
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	390008	3150022
Gear	6	2	Carbon	390085	3150062
Gear	6	3	Teflon	390010	3150058
Gear	6	6	316 SS	X	X
Gear	6	8	Ryton	390018	3150023
Gear	6	K	Kynar	390666	3150666
Gear	6	P	PEEK	390009	3150024
Key, Gear	23B	1, 2, 3, 8, K, P	Alloy-C	3150055	3150020
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	360497 (4)	360497 (4)
Wear Plate, Relieved	7	4	SiC	360582 (4)	360582 (4)
Wear Plate, Relieved	7	E	Carbon 60	360534 (4)	360534 (4)
Wear Plate, Relieved	7	P	PEEK	360535 (4)	360535 (4)
<b>Position 7 – Bearings</b>					
Bearing	3A/3B	3	Teflon	3150057 (4)	3150057 (4)
Bearing	3A/3B	B	SiC	3150014 (4)	3150014 (4)
Bearing	3A/3B	E	Carbon 60	3150012 (4)	3150012 (4)
Bearing	3A/3B	P	PEEK	3150013 (4)	3150013 (4)
<b>Position 8 – Outer Magnet Bore (Pedestal, Shims, Adapter &amp; Motor-Mounting Hardware)</b>					
Pedestal – 5/8" (NEMA 56C)	16	0	CI/Epoxy	SP000	SP000
Pedestal – 7/8" (NEMA 143/145TC)	16	1	CI/Epoxy	SP000	SP000
Pedestal – 14 mm (IEC 71 - B5)	16	2	CI/Epoxy	SP001	SP001
Pedestal – 19 mm (IEC 80 - B5)	16	3	CI/Epoxy	SP002	SP002
Pedestal – 24 mm (IEC 90 - B5)	16	4	CI/Epoxy	SP002	SP002
Pedestal – 1-1/8" (NEMA 182/184TC)	16	5	CI/Epoxy	SP000	SP000
Shim, Pedestal (NEMA 182/184TC)	-	5	303 SS	SHIM-S105 (4)	SHIM-S105 (4)
Adapter Plate (NEMA 182/184TC)	-	5	CS/Epoxy	SP0046	SP0046
Pedestal – 28 mm (IEC 100/112 - B5)	16	8	CI/Epoxy	SP002	SP002
Shim, Pedestal (IEC 100/112 - B5)	-	8	CS/Epoxy	SHIM-112 (2)	SHIM-112 (2)
Adapter Plate (IEC 100/112 - B5)	-	8	CS/Epoxy	SP0048	SP0048
Motor-Mounting Hardware	15/34	0-5, 8	18-8 SS	See Appendix 4	
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, MC, Standard & EBF	8	0, 1	Alloy-C	3150034	3150034
Front Housing, MC, IBF	8	2	Alloy-C	3150036	3150036
Rear Housing, Standard	2	0	Alloy-C	3150007	3150007
Rear Housing, EBF	2	1	Alloy-C	3150011	3150011
Rear Housing, IBF	2	2	Alloy-C	3150009	3150009
Plug, 1/8 NPT	9	0, 2	Alloy-C	362301 (1)	362301 (1)
Plug, 1/8 NPT	9	1	Alloy-C	362301 (3)	362301 (3)

See page 16 for Reference Drawing.

<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: <b>MAG-DRIVE, CC Models H9R &amp; H9F</b>
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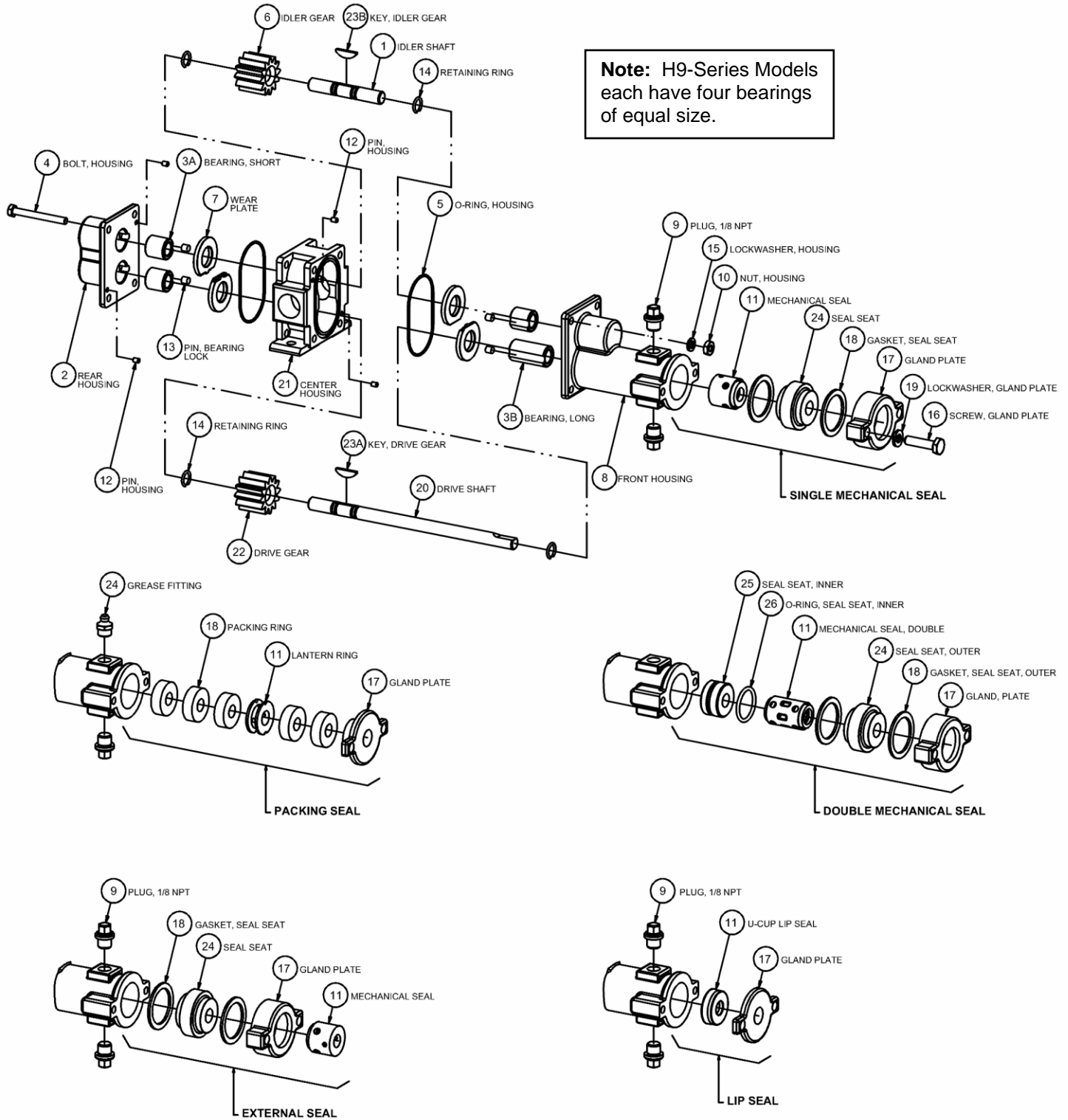
Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H9R	H9F
<b>Position 10 – Shafts</b>					
Drive Shaft, MC, Uncoated	20	0	Alloy-C	390014	3150049
Drive Shaft, MC, CO-Coated	20	1	Alloy-C/CO	390014-CO	3150049-CO
Drive Shaft, MC, TC-Coated	20	2	Alloy-C/TC	390014-TC	3150049-TC
Idler Shaft, Uncoated	1	0	Alloy-C	390006	3150026
Idler Shaft, CO-Coated	1	1	Alloy-C/CO	390006-CO	3150026-CO
Idler Shaft, TC-Coated	1	2	Alloy-C/TC	390006-TC	3150026-TC
<b>Position 11 – O-Rings</b>					
O-ring, Housing <sup>1</sup>	5	0	Teflon	361101 (2)	361101 (2)
O-ring, Containment Can (2-042)	19	0	Teflon	S4000	S4000
O-ring, Housing <sup>1</sup>	5	6	Silicone/FEP	371119 (2)	371119 (2)
O-ring, Containment Can (2-042)	19	6	Silicone/FEP	371118	371118
O-ring, Housing (2-040)	5	B	Buna-N	361106 (2)	361106 (2)
O-ring, Containment Can (2-042)	19	B	Buna-N	S4003	S4003
O-ring, Housing (2-040)	5	E	EPDM	361105 (2)	361105 (2)
O-ring, Containment Can (2-042)	19	E	EPDM	S4001	S4001
O-ring, Housing (2-040)	5	V	Viton	361102 (2)	361102 (2)
O-ring, Containment Can (2-042)	19	V	Viton	S4002	S4002
O-ring, Housing (2-040)	5	K	Kalrez	361103 (2)	361103 (2)
O-ring, Containment Can (2-042)	19	K	Kalrez	S4004	S4004
<b>Position 12 – Retaining Rings</b>					
Retaining Ring (Gears & Inner Magnet)	28	0	Alloy-C	3150016 (6)	3150016 (6)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	25	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	25	6	Alloy-C	361806 (4)	361806 (4)
<b>Position 14 – Magnetic Coupling</b>					
Inner Magnet, MCU – 5/8" Bore	11	U	Alloy-C/SmCo	SIMCU-15	X
Outer Magnet, MCU – NEMA 56C	10	U (Pos. 8 = 0)	CS/ SmCo	SOMCU-5	X
Outer Magnet, MCU – NEMA 143/145TC	10	U (Pos. 8 = 1)	CS/ SmCo	SOMCU-7	X
Outer Magnet, MCU – IEC 71 (B5)	10	U (Pos. 8 = 2)	CS/ SmCo	SOMCU-71	X
Outer Magnet, MCU – IEC 80 (B5)	10	U (Pos. 8 = 3)	CS/ SmCo	SOMCU-80	X
Outer Magnet, MCU – IEC 90 (B5)	10	U (Pos. 8 = 4)	CS/ SmCo	SOMCU-90	X
Outer Magnet, MCU – NEMA 182/184TC	10	U (Pos. 8 = 5)	CS/ SmCo	SOMCU-9	X
Outer Magnet, MCU – IEC 100/112 (B5)	10	U (Pos. 8 = 8)	CS/ SmCo	SOMCU-112	X
Inner Magnet, MCB – 5/8" Bore	11	B	Alloy-C/SmCo	SIMCB-15	SIMCB-15
Outer Magnet, MCB – NEMA 56C	10	B (Pos. 8 = 0)	CS/ SmCo	SOMCB-5	SOMCB-5
Outer Magnet, MCB – NEMA 143/145TC	10	B (Pos. 8 = 1)	CS/ SmCo	SOMCB-7	SOMCB-7
Outer Magnet, MCB – IEC 71 (B5)	10	B (Pos. 8 = 2)	CS/ SmCo	SOMCB-71	SOMCB-71
Outer Magnet, MCB – IEC 80 (B5)	10	B (Pos. 8 = 3)	CS/ SmCo	SOMCB-80	SOMCB-80
Outer Magnet, MCB – IEC 90 (B5)	10	B (Pos. 8 = 4)	CS/ SmCo	SOMCB-90	SOMCB-90
Outer Magnet, MCB – NEMA 182/184TC	10	B (Pos. 8 = 5)	CS/ SmCo	SOMCB-9	SOMCB-9
Outer Magnet, MCB – IEC 100/112 (B5)	10	B (Pos. 8 = 8)	CS/ SmCo	SOMCB-112	SOMCB-112
Inner Magnet, MCV – 5/8" Bore	11	V	Alloy-C/SmCo	SIMCV-15	SIMCV-15
Outer Magnet, MCV – NEMA 56C	10	V (Pos. 8 = 0)	CS/ SmCo	SOMCV-5	SOMCV-5
Outer Magnet, MCV – NEMA 143/145TC	10	V (Pos. 8 = 1)	CS/ SmCo	SOMCV-7	SOMCV-7
Outer Magnet, MCV – IEC 71 (B5)	10	V (Pos. 8 = 2)	CS/ SmCo	SOMCV-71	SOMCV-71
Outer Magnet, MCV – IEC 80 (B5)	10	V (Pos. 8 = 3)	CS/ SmCo	SOMCV-80	SOMCV-80
Outer Magnet, MCV – IEC 90 (B5)	10	V (Pos. 8 = 4)	CS/ SmCo	SOMCV-90	SOMCV-90
Outer Magnet, MCV – NEMA 182/184TC	10	V (Pos. 8 = 5)	CS/ SmCo	SOMCV-9	SOMCV-9
Outer Magnet, MCV – IEC 100/112 (B5)	10	V (Pos. 8 = 8)	CS/ SmCo	SOMCV-112	SOMCV-112
Key, Inner Magnet	13	U, B, V	Alloy-C	3150055	3150055
<b>Position 15 – Containment Can</b>					
Containment Can, Single Wall (Domed)	12	S	Alloy-C	S2003	S2003
Dual Kan Option (Modified Parts)	12	D	Alloy-C	<b>Consult Factory</b>	
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>2</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - Size: 2.906" ID x .070" CSD

2 - T = Application Temperature in °F (e.g., -8(300) = Temperature Trim at 300°F).

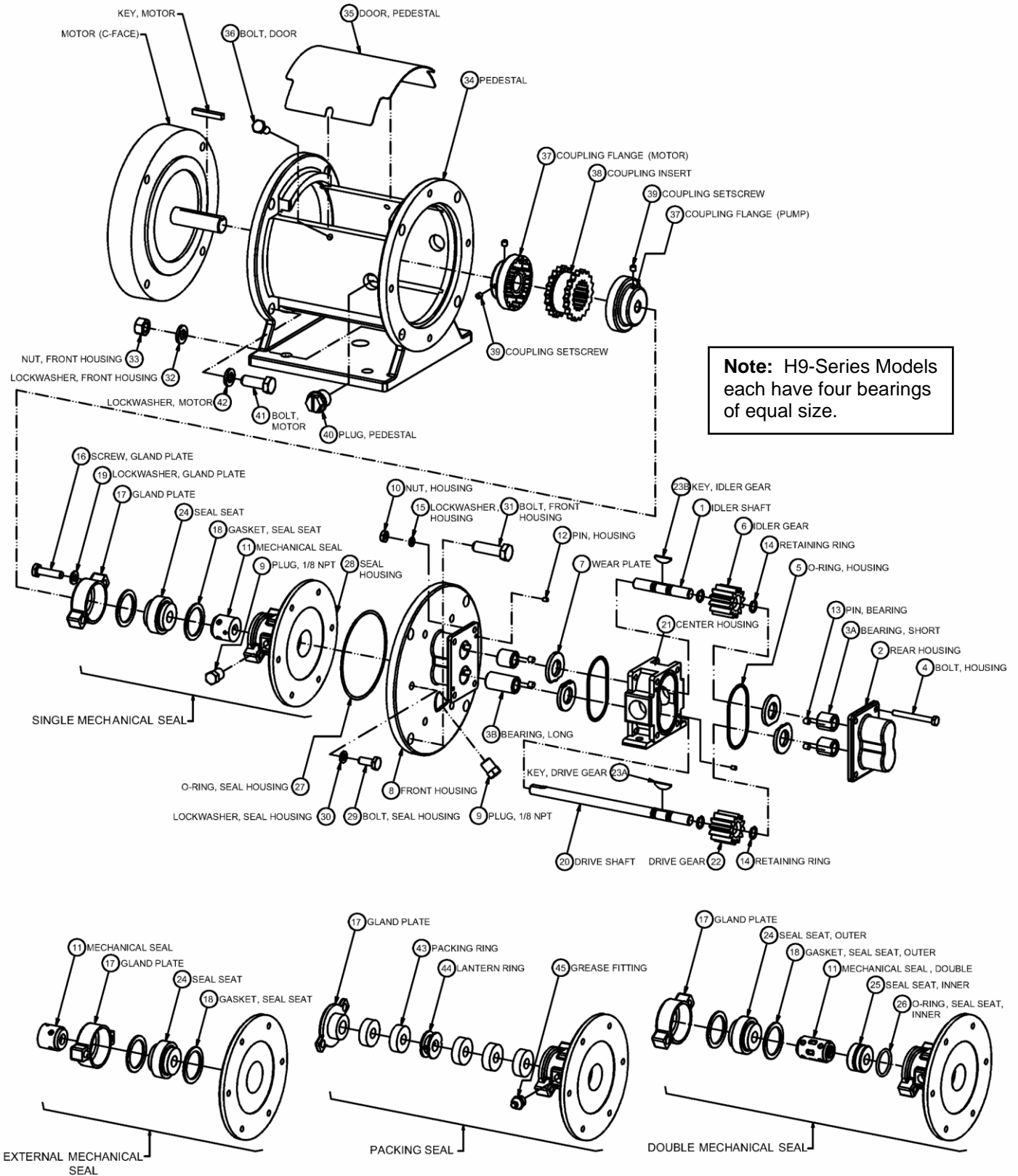
## Appendix 1: Exploded View Reference Drawings

### Models H9R & H9F – SEALED, Long-Coupled



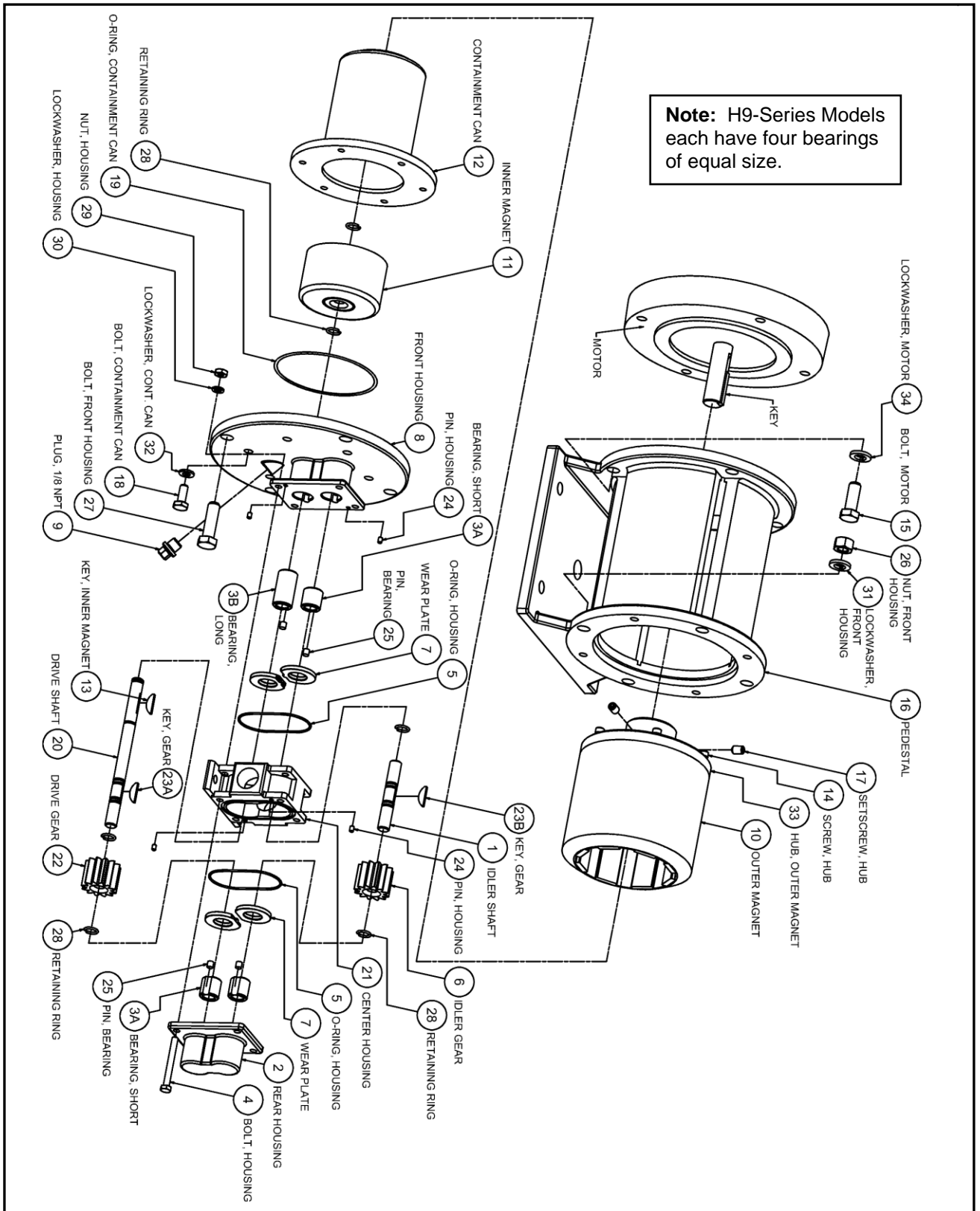
## Appendix 1: Exploded View Reference Drawings (continued)

### Models H9R & H9F – SEALED, Close-Coupled



## Appendix 1: Exploded View Reference Drawings (continued)

### Models H9R & H9F – MAG-DRIVE, Close-Coupled



## Appendix 2: Meaning of Abbreviated Terms

Term	Meaning	Notes
<b>ANSI</b>	American National Standards Institute	e.g., ANSI 150# flanges
<b>BSPT</b>	British Standard Pipe Threads	Type of threaded port
<b>Buna-N</b>	Buna Nitrile (rubber)	O-ring material; NBR; elastomer
<b>CC</b>	Close-Coupled	Method of pump-motor coupling
<b>CI</b>	Cast Iron	Pedestal structural material
<b>CO</b>	Chrome Oxide	Shaft coating material
<b>Cont. Can</b>	Containment Can	Part of Mag-drive pump
<b>CS</b>	Carbon Steel	Outer magnet and adapter structural material
<b>CSD</b>	Cross-Sectional Diameter	O-ring Dimension
<b>DMS</b>	Double Mechanical Seal	Internally mounted double seal
<b>Drwg.</b>	Drawing (Item #)	See corresponding exploded view reference drawing
<b>EBF</b>	External Bearing Flush	Housing option for H-Series pumps
<b>EMS</b>	External Mechanical Seal	Externally mounted single seal
<b>EPDM</b>	Ethylene-Propylene-Diene Monomer (rubber)	O-ring material; elastomer
<b>FH-SHCS</b>	Flat Head, Socket Head Cap Screw	Type of bolt
<b>HHCS</b>	Hex Head Cap Screw	Type of bolt
<b>HY</b>	High-Yield (key)	Type of gear key
<b>IBF</b>	Internal Bearing Flush	Housing option for H-Series pumps
<b>ID</b>	Inner Diameter	O-ring Dimension
<b>LC</b>	Long-Coupled	Method of pump-motor coupling
<b>LY</b>	Low-Yield (key)	Type of gear key
<b>MC</b>	Magnetically Coupled	Mag-drive pump
<b>MS</b>	Mechanical Seal	Includes single & double seals
<b>NPT</b>	National Pipe Threads	Type of threaded port
<b>PEEK</b>	Poly-Ether-Ether-Ketone (plastic)	Bearing Grade PEEK; material option for gears, bearings & wear plates
<b>Pos.</b>	Position (#)	Position number of model code
<b>PS</b>	Packing Seal	Comprised of Teflon or Graphoil packing rings
<b>RF</b>	Raised Face	Type of flange
<b>SHCS</b>	Socket Head Cap Screw	Type of bolt
<b>SiC</b>	Silicon Carbide	Bearing, wear plate and seal seat material
<b>Silicone/FEP</b>	Silicone Rubber (encapsulated with) Fluoro-ethylene-propylene (plastic)	O-ring material; suggested for temperature cycling applications
<b>SmCo</b>	Samarium Cobalt	Inner and outer magnet material
<b>SMS</b>	Single Mechanical Seal	Internally mounted single seal
<b>SS</b>	Stainless Steel	e.g., 303 SS, 316 SS, 18-8 SS
<b>TC</b>	Tungsten Carbide	Shaft coating material
<b>X</b>	Not Available or Not Applicable	Used in lieu of Part Number
<b>#</b>	Number or Pound	e.g., Position #, Part #, 150# flanges, etc.

## Appendix 3: Additional Parts for SEALED-CC Configuration

### Mechanical Coupling, Pedestal & Adapters

Model Code Pos. 14	Motor Frame	Mechanical Coupling <sup>1</sup>				Pedestal <sup>3</sup>	Adapter <sup>4</sup>
		Part #	Size	Type (Woods)	Max Torque <sup>2</sup>	Part #	Part #
0	NEMA 56C	A-5107	5/8" x 5/8"	4J	156	SP009	970045
1	NEMA 143/145TC	A-5108	5/8" x 7/8"	4J	156	SP009	970045
2	IEC 71–B5 Flange	A-5121	5/8" x 14 mm	4J	156	SP010	X
3	IEC 80–B5 Flange	A-5117	5/8" x 19 mm	4J	156	SP011	X
4	IEC 90–B5 Flange	A-5113	5/8" x 24 mm	4J	156	SP011	970046
5	NEMA182/184TC	A-5214	5/8" x 1-1/8"	5J	312	SP009	970045 & SP0046
8	IEC 100/112–B5 Flg.	A-5232	5/8" x 28 mm	5J	312	SP011	SP0048

1 – Coupling material is Steel flanges with EPDM insert. Coupling Temperature Range is -30°F to 275°F.

2 – Maximum Torque rating in inch-pounds at 75°F (24°C). Consult factory for couplings with higher torque ratings.

3 – Material is Cast Iron/Epoxy. Pedestal includes 303 SS door (Part # 865078) and two 1/4-20 x 5/8 bolts (Part # 620008).

4 – Material is Carbon Steel/Epoxy.

### Assembly Hardware

Model Code Pos. 14	Part Description	Material	Size	Bolt Type	Part #	Qty.
0-5, 8	Bolt, Seal Housing	18-8 SS	1/4-28 x 5/8	HHCS	S620013	6
	Lockwasher, Seal Housing	18-8 SS	1/4	–	863701	6
	Bolt, Front Housing	18-8 SS	3/8-16 x 1-1/2	HHCS	620833	4
	Nut, Front Housing	18-8 SS	3/8-16	–	S1003	4
	Lockwasher, Front Housing	18-8 SS	3/8	–	S1004	4
0, 1, 5	Bolt, Motor	18-8 SS	3/8-16 x 1-3/4	HHCS	620835	4
	Lockwasher, Motor	18-8 SS	3/8	–	S1004	4
5	Bolt, Adapter (NEMA 182/184TC) <sup>1</sup>	18-8 SS	1/2-13 x 1	SHCS	641105	4
2	Bolt, Motor	18-8 SS	3/8-16 x 1-1/2	SHCS	781117	4
	Nut, Motor	18-8 SS	3/8-16	–	S1003	4
	Lockwasher, Motor	18-8 SS	3/8	–	S1004	4
3, 4	Bolt, Motor	18-8 SS	M10 x 40	SHCS	S1011	4
	Nut, Motor	18-8 SS	M10 Std. Hex	–	S1013	4
	Lockwasher, Motor	18-8 SS	M10	–	S1012	4
8	Bolt, Motor	18-8 SS	1/2-13 x 2	FH-SHCS	S641111	4
	Nut, Motor	18-8 SS	1/2-13	–	641108	4
	Lockwasher, Motor	18-8 SS	1/2	–	641107	4
	Bolt, Adapter (IEC 100/112-B5) <sup>2</sup>	18-8 SS	3/8-16 X 1	SHCS	781118	4
	Lockwasher, Adapter <sup>2</sup>	18-8 SS	3/8	–	S1004	4

1 – For mounting adapter plate (Part # SP0046) to motor.

2 – For mounting adapter plate (Part # SP0048) to CC-pedestal (Part # SP011).

## Appendix 4: Mag-Drive Motor-Mounting Hardware

### Mag-Drive Motor-Mounting Hardware

Model Code Pos. 8	Part Description	Material	Size	Bolt Type	Part #	Qty.
0, 1, 5	Bolt, Motor	18-8 SS	3/8-16 x 1-1/4	HHCS	S1000	4
	Lockwasher, Motor	18-8 SS	3/8	–	S1004	4
5	Bolt, Adapter (NEMA 182/184TC) <sup>1</sup>	18-8 SS	1/2-13 x 1	SHCS	641105	4
2	Bolt, Motor	18-8 SS	3/8-16 x 1-1/2	SHCS	781117	4
	Nut, Motor	18-8 SS	3/8-16	–	S1003	4
	Lockwasher, Motor	18-8 SS	3/8	–	S1004	4
3, 4	Bolt, Motor	18-8 SS	M10 x 40	SHCS	S1011	4
	Nut, Motor	18-8 SS	M10 Std. Hex	–	S1013	4
	Lockwasher, Motor	18-8 SS	M10	–	S1012	4
8	Bolt, Motor	18-8 SS	1/2-13 x 2	FH-SHCS	S641111	4
	Nut, Motor	18-8 SS	1/2-13	–	641108	4
	Lockwasher, Motor	18-8 SS	1/2	–	641107	4
	Bolt, Adapter (IEC 100/112-B5) <sup>2</sup>	18-8 SS	3/8-16 X 1	SHCS	781118	4
	Lockwasher, Adapter <sup>2</sup>	18-8 SS	3/8	–	S1004	4

1 – For mounting adapter plate (Part # SP0046) to motor.

2 – For mounting adapter plate (Part # SP0048) to MC-pedestal (Part # SP002).