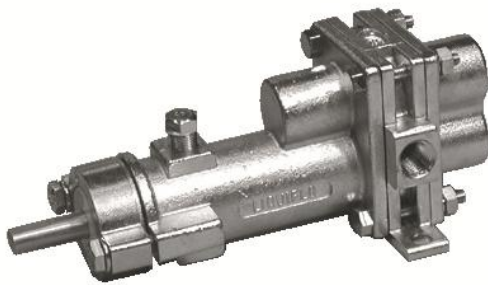




# CONSOLIDATED BILL OF MATERIALS (BOM) FOR STANDARD H-SERIES GEAR PUMPS



**Models H1F & H3F  
Sealed, Long-Coupled**



**Models H1F & H3F  
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 H1F & H3F
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H1F	H3F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	S	316 SS	320001	320001
Center Housing, Flanged (ANSI 150# RF)	21	L	316 SS	320007	320007
Center Housing, BSPT	21	X	316 SS	320003	320003
Pin, Housing Alignment	12	S, L, X	316 SS	360801 (4)	360801 (4)
Bolt, Housing (#10-32 x 1.50 HHCS)	4	S, L, X	18-8 SS	322005 (4)	322005 (4)
Nut, Housing (#10-32)	10	S, L, X	18-8 SS	342101 (4)	342101 (4)
Lockwasher, Housing (#10)	15	S, L, X	18-8 SS	5018 (4)	5018 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	310680	320608
Gear	22	3	Teflon	X	320600
Gear	22	6	316 SS	310685	320605
Gear	22	K	Kynar	310666	320666
Gear	22	P	PEEK	310684	320603
Key, Gear (HY)	23A	1, 6, P	316 SS	321903	321903
Key, Gear (LY)	23A	3, K	316 SS	X	321901
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	310680	320608
Gear	6	2	Carbon	X	320611
Gear	6	3	Teflon	X	320600
Gear	6	6	316 SS	310685	320605
Gear	6	8	Ryton	310682	320601
Gear	6	K	Kynar	310666	320666
Gear	6	P	PEEK	310684	320603
Key, Gear (HY)	23B	1, 2, 6, 8, P	316 SS	321903	321903
Key, Gear (LY)	23B	3, K	316 SS	X	321901
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	310590 (4)	340521 (4)
Wear Plate, Relieved	7	4	SiC	310597 (4)	340582 (4)
Wear Plate, Relieved	7	E	Carbon 60	310596 (4)	340523 (4)
Wear Plate, Relieved	7	P	PEEK	310591 (4)	340524 (4)
<b>Position 7 – Bearings</b>					
Bearing, Short	3A	3	Teflon	340402 (3)	340402 (3)
Bearing, Long	3B	3	Teflon	340401 (1)	340401 (1)
Bearing, Short	3A	B	SiC	340413 (3)	340413 (3)
Bearing, Long	3B	B	SiC	340424 (1)	340424 (1)
Bearing, Short	3A	E	Carbon 60	340416 (3)	340416 (3)
Bearing, Long	3B	E	Carbon 60	340423 (1)	340423 (1)
Bearing, Short	3A	P	PEEK	340417 (3)	340417 (3)
Bearing, Long	3B	P	PEEK	340418 (1)	340418 (1)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Internal	11	U	316 SS/Carbon	A-347016	A-347016
Mechanical Seal, Single Internal	11	S	316 SS/Teflon	A-347010	A-347010
Mechanical Seal, Double	11	F	316 SS/Carbon	A-347014	A-347014
Mechanical Seal, Double	11	H	316 SS/Teflon	A-347020	A-347020
Seal Seat, Outer	24	U, S, F, H	SiC	351534	351534
Seal Seat, Inner	25	F, H	SiC	351547	351547
Gland Plate, SMS & DMS	17	U, S, F, H	316 SS	351724	351724
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	356501 (5)	356501 (5)
Packing Ring	18	R	Graphoil	356409 (5)	356409 (5)
Lantern Ring	11	L, R	316 SS	357110	357110
Gland Plate, PS	17	L, R	316 SS	351504	351504
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 H1F &amp; H3F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H1F	H3F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, Standard – SMS/PS	8	0 (Pos. 8 = U, S, L, R)	316 SS	350109	350109
Front Housing, EBF – SMS/PS	8	1 (Pos. 8 = U, S, L, R)	316 SS	350115	350115
Front Housing, IBF – SMS/PS	8	2 (Pos. 8 = U, S, L, R)	316 SS	350111	350111
Front Housing, Standard – DMS	8	0 (Pos. 8 = F, H)	316 SS	350209	350209
Front Housing, EBF – DMS	8	1 (Pos. 8 = F, H)	316 SS	350215	350215
Front Housing, IBF – DMS	8	2 (Pos. 8 = F, H)	316 SS	350211	350211
Rear Housing, Standard	2	0	316 SS	340214	340214
Rear Housing, External Bearing Flush	2	1	316 SS	340212	340212
Rear Housing, Internal Bearing Flush	2	2	316 SS	340240	340240
Plug, 1/8 NPT	9	1	316 SS	362304 (3)	362304 (3)
<b>Position 10 – Shafts</b>					
Drive Shaft, Uncoated (Excluding EMS)	20	0	316 SS	320301	320301
Drive Shaft, CO-Coated (Excluding EMS)	20	1	316 SS/CO	320301-CO	320301-CO
Drive Shaft, TC-Coated (Excluding EMS)	20	2	316 SS/TC	320301-TC	320301-TC
Drive Shaft, Uncoated (EMS only)	20	0	316 SS	320305	320305
Drive Shaft, CO-Coated (EMS only)	20	1	316 SS/CO	320305-CO	320305-CO
Drive Shaft, TC-Coated (EMS only)	20	2	316 SS/TC	320305-TC	320305-TC
Idler Shaft, Uncoated	1	0	316 SS	320302	320302
Idler Shaft, CO-Coated	1	1	316 SS/CO	320302-CO	320302-CO
Idler Shaft, TC-Coated	1	2	316 SS/TC	320302-TC	320302-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing (2-033)	5	0	Teflon	341102 (2)	341102 (2)
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	0	Viton	310691	310691
O-ring, Housing (2-033)	5	6	Silicone/FEP	341113 (2)	341113 (2)
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	6	Kalrez	310694	310694
O-ring, Housing (2-033)	5	B	Buna-N	341105 (2)	341105 (2)
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	351105 (2)	351105 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	B	Buna-N	310693	310693
O-ring, Housing (2-033)	5	E	EPDM	341103 (2)	341103 (2)
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	351108 (2)	351108 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	E	EPDM	310692	310692
O-ring, Housing (2-033)	5	V	Viton	341108 (2)	341108 (2)
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	351109 (2)	351109 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	V	Viton	310691	310691
O-ring, Housing (2-033)	5	K	Kalrez	341109 (2)	341109 (2)
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	351110 (2)	351110 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	K	Kalrez	310694	310694
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	316 SS	346702 (4)	346702 (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>1</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - 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: SEALED, LC Models H1F & H3F
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H1F	H3F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	H	Alloy-C	320002	320002
Center Housing, Flanged (ANSI 150# RF)	21	C	Alloy-C	320008	320008
Center Housing, BSPT	21	Y	Alloy-C	320004	320004
Pin, Housing Alignment	12	H, C, Y	Alloy-C	360804 (4)	360804 (4)
Bolt, Housing (#10-32 x 1.50 HHCS)	4	H, C, Y	18-8 SS	322005 (4)	322005 (4)
Nut, Housing (#10-32)	10	H, C, Y	18-8 SS	342101 (4)	342101 (4)
Lockwasher, Housing (#10)	15	H, C, Y	18-8 SS	5018 (4)	5018 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	310680	320608
Gear	22	3	Teflon	X	320600
Gear	22	6	316 SS	X	X
Gear	22	K	Kynar	310666	320666
Gear	22	P	PEEK	310684	320603
Key, Gear (HY)	23A	1, P	Alloy-C	321904	321904
Key, Gear (LY)	23A	3, K	Alloy-C	X	321902
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	310680	320608
Gear	6	2	Carbon	X	320611
Gear	6	3	Teflon	X	320600
Gear	6	6	316 SS	X	X
Gear	6	8	Ryton	310682	320601
Gear	6	K	Kynar	310666	320666
Gear	6	P	PEEK	310684	320603
Key, Gear (HY)	23B	1, 2, 8, P	Alloy-C	321904	321904
Key, Gear (LY)	23B	3, K	Alloy-C	X	321902
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	310590 (4)	340521 (4)
Wear Plate, Relieved	7	4	SiC	310597 (4)	340582 (4)
Wear Plate, Relieved	7	E	Carbon 60	310596 (4)	340523 (4)
Wear Plate, Relieved	7	P	PEEK	310591 (4)	340524 (4)
<b>Position 7 – Bearings</b>					
Bearing, Short	3A	3	Teflon	340402 (3)	340402 (3)
Bearing, Long	3B	3	Teflon	340401 (1)	340401 (1)
Bearing, Short	3A	B	SiC	340413 (3)	340413 (3)
Bearing, Long	3B	B	SiC	340424 (1)	340424 (1)
Bearing, Short	3A	E	Carbon 60	340416 (3)	340416 (3)
Bearing, Long	3B	E	Carbon 60	340423 (1)	340423 (1)
Bearing, Short	3A	P	PEEK	340417 (3)	340417 (3)
Bearing, Long	3B	P	PEEK	340418 (1)	340418 (1)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Internal	11	U	Alloy-C/Carbon	A-347017	A-347017
Mechanical Seal, Single Internal	11	S	Alloy-C/Teflon	A-347018	A-347018
Mechanical Seal, Double	11	F	316 SS/Carbon	A-347014	A-347014
Mechanical Seal, Double	11	H	316 SS/Teflon	A-347020	A-347020
Seal Seat, Outer	24	U, S, F, H	SiC	351534	351534
Seal Seat, Inner	25	F, H	SiC	351547	351547
Gland Plate, SMS	17	U, S	Alloy-C	351726	351726
Gland Plate, DMS	17	F, H	316 SS	351724	351724
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	356501 (5)	356501 (5)
Packing Ring	18	R	Graphoil	356409 (5)	356409 (5)
Lantern Ring	11	L, R	Alloy-C	357111	357111
Gland Plate, PS	17	L, R	Alloy-C	351512	351512
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

<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: SEALED, LC Models H1F & H3F
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H1F	H3F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, Standard – SMS/PS	8	0 (Pos. 8 = U, S, L, R)	Alloy-C	350110	350110
Front Housing, EBF – SMS/PS	8	1 (Pos. 8 = U, S, L, R)	Alloy-C	350117	350117
Front Housing, IBF – SMS/PS	8	2 (Pos. 8 = U, S, L, R)	Alloy-C	350112	350112
Front Housing, Standard – DMS	8	0 (Pos. 8 = F, H)	Alloy-C	350210	350210
Front Housing, EBF – DMS	8	1 (Pos. 8 = F, H)	Alloy-C	350217	350217
Front Housing, IBF – DMS	8	2 (Pos. 8 = F, H)	Alloy-C	350212	350212
Rear Housing, Standard	2	0	Alloy-C	340215	340215
Rear Housing, External Bearing Flush	2	1	Alloy-C	340234	340234
Rear Housing, Internal Bearing Flush	2	2	Alloy-C	340241	340241
Plug, 1/8 NPT	9	1	Alloy-C	362301 (3)	362301 (3)
<b>Position 10 – Shafts</b>					
Drive Shaft, Uncoated (Excluding EMS)	20	0	Alloy-C	320303	320303
Drive Shaft, CO-Coated (Excluding EMS)	20	1	Alloy-C/CO	320303-CO	320303-CO
Drive Shaft, TC-Coated (Excluding EMS)	20	2	Alloy-C/TC	320303-TC	320303-TC
Drive Shaft, Uncoated (EMS only)	20	0	Alloy-C	320307	320307
Drive Shaft, CO-Coated (EMS only)	20	1	Alloy-C/CO	320307-CO	320307-CO
Drive Shaft, TC-Coated (EMS only)	20	2	Alloy-C/TC	320307-TC	320307-TC
Idler Shaft, Uncoated	1	0	Alloy-C	320304	320304
Idler Shaft, CO-Coated	1	1	Alloy-C/CO	320304-CO	320304-CO
Idler Shaft, TC-Coated	1	2	Alloy-C/TC	320304-TC	320304-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing (2-033)	5	0	Teflon	341102 (2)	341102 (2)
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	0	Viton	310691	310691
O-ring, Housing (2-033)	5	6	Silicone/FEP	341113 (2)	341113 (2)
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	6	Kalrez	310694	310694
O-ring, Housing (2-033)	5	B	Buna-N	341105 (2)	341105 (2)
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	351105 (2)	351105 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	B	Buna-N	310693	310693
O-ring, Housing (2-033)	5	E	EPDM	341103 (2)	341103 (2)
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	351108 (2)	351108 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	E	EPDM	310692	310692
O-ring, Housing (2-033)	5	V	Viton	341108 (2)	341108 (2)
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	351109 (2)	351109 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	V	Viton	310691	310691
O-ring, Housing (2-033)	5	K	Kalrez	341109 (2)	341109 (2)
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	351110 (2)	351110 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	K	Kalrez	310694	310694
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	Alloy-C	346701 (4)	346701 (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>1</sup>	–	<b>Consult Factory</b>	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - 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: SEALED, CC Models H1F & H3F
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H1F	H3F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	S	316 SS	320001	320001
Center Housing, Flanged (ANSI 150# RF)	21	L	316 SS	320007	320007
Center Housing, BSPT	21	X	316 SS	320003	320003
Pin, Housing Alignment	12	S, L, X	316 SS	360801 (4)	360801 (4)
Bolt, Housing (#10-32 x 1.50 HHCS)	4	S, L, X	18-8 SS	322005 (4)	322005 (4)
Nut, Housing (#10-32)	10	S, L, X	18-8 SS	342101 (4)	342101 (4)
Lockwasher, Housing (#10)	15	S, L, X	18-8 SS	5018 (4)	5018 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	310680	320608
Gear	22	3	Teflon	X	320600
Gear	22	6	316 SS	310685	320605
Gear	22	K	Kynar	310666	320666
Gear	22	P	PEEK	310684	320603
Key, Gear (HY)	23A	1, 6, P	316 SS	321903	321903
Key, Gear (LY)	23A	3, K	316 SS	X	321901
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	310680	320608
Gear	6	2	Carbon	X	320611
Gear	6	3	Teflon	X	320600
Gear	6	6	316 SS	310685	320605
Gear	6	8	Ryton	310682	320601
Gear	6	K	Kynar	310666	320666
Gear	6	P	PEEK	310684	320603
Key, Gear (HY)	23B	1, 2, 6, 8, P	316 SS	321903	321903
Key, Gear (LY)	23B	3, K	316 SS	X	321901
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	310590 (4)	340521 (4)
Wear Plate, Relieved	7	4	SiC	310597 (4)	340582 (4)
Wear Plate, Relieved	7	E	Carbon 60	310596 (4)	340523 (4)
Wear Plate, Relieved	7	P	PEEK	310591 (4)	340524 (4)
<b>Position 7 – Bearings</b>					
Bearing, Short	3A	3	Teflon	340402 (3)	340402 (3)
Bearing, Long	3B	3	Teflon	340401 (1)	340401 (1)
Bearing, Short	3A	B	SiC	340413 (3)	340413 (3)
Bearing, Long	3B	B	SiC	340424 (1)	340424 (1)
Bearing, Short	3A	E	Carbon 60	340416 (3)	340416 (3)
Bearing, Long	3B	E	Carbon 60	340423 (1)	340423 (1)
Bearing, Short	3A	P	PEEK	340417 (3)	340417 (3)
Bearing, Long	3B	P	PEEK	340418 (1)	340418 (1)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Internal & External	11	U, W	316 SS/Carbon	A-347016	A-347016
Mechanical Seal, Single Internal & External	11	S, X	316 SS/Teflon	A-347010	A-347010
Mechanical Seal, Double	11	F	316 SS/Carbon	A-347014	A-347014
Mechanical Seal, Double	11	H	316 SS/Teflon	A-347020	A-347020
Seal Housing, SMS/DMS/PS	28	U, S, F, H	316 SS	350270	350270
Seal Housing, EMS	28	W, X	316 SS	350273	350273
Seal Seat, Outer	24	U, S, W, X, F, H	SiC	351534	351534
Seal Seat, Inner	25	F, H	SiC	351547	351547
Gland Plate, SMS/EMS/DMS	17	U, S, W, X, F, H	316 SS	351724	351724
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	356501 (5)	356501 (5)
Packing Ring	43	R	Graphoil	356409 (5)	356409 (5)
Seal Housing, SMS/DMS/PS	28	L, R	316 SS	350270	350270
Lantern Ring	44	L, R	316 SS	357110	357110
Gland Plate, PS	17	L, R	316 SS	351504	351504
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 H1F &amp; H3F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H1F	H3F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, CC, Standard & EBF	8	0, 1	316 SS	S3500	S3500
Front Housing, CC, IBF	8	2	316 SS	S3503	S3503
Rear Housing, Standard	2	0	316 SS	340214	340214
Rear Housing, EBF	2	1	316 SS	340212	340212
Rear Housing, IBF	2	2	316 SS	340240	340240
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	320301	320301
Drive Shaft, CO-Coated	20	1	316 SS/CO	320301-CO	320301-CO
Drive Shaft, TC-Coated	20	2	316 SS/TC	320301-TC	320301-TC
Idler Shaft, Uncoated	1	0	316 SS	320302	320302
Idler Shaft, CO-Coated	1	1	316 SS/CO	320302-CO	320302-CO
Idler Shaft, TC-Coated	1	2	316 SS/TC	320302-TC	320302-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing (2-033)	5	0	Teflon	341102 (2)	341102 (2)
O-ring, Seal Housing (2-042)	27	0	Teflon	S4000	S4000
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	0	Viton	310691	310691
O-ring, Housing (2-033)	5	6	Silicone/FEP	341113 (2)	341113 (2)
O-ring, Seal Housing (2-042)	27	6	Silicone/FEP	371118	371118
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	6	Kalrez	310694	310694
O-ring, Housing (2-033)	5	B	Buna-N	341105 (2)	341105 (2)
O-ring, Seal Housing (2-042)	27	B	Buna-N	S4003	S4003
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	351105 (2)	351105 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	B	Buna-N	310693	310693
O-ring, Housing (2-033)	5	E	EPDM	341103 (2)	341103 (2)
O-ring, Seal Housing (2-042)	27	E	EPDM	S4001	S4001
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	351108 (2)	351108 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	E	EPDM	310692	310692
O-ring, Housing (2-033)	5	V	Viton	341108 (2)	341108 (2)
O-ring, Seal Housing (2-042)	27	V	Viton	S4002	S4002
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	351109 (2)	351109 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	V	Viton	310691	310691
O-ring, Housing (2-033)	5	K	Kalrez	341109 (2)	341109 (2)
O-ring, Seal Housing (2-042)	27	K	Kalrez	S4004	S4004
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	351110 (2)	351110 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	K	Kalrez	310694	310694
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	316 SS	346702 (4)	346702 (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	–	See Appendix 3	
<b>Suffix – Trim Options</b>					
Temperature Trim (Gears & Bearings)	–	-8(T) <sup>1</sup>	–	Consult Factory	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - 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: SEALED, CC Models H1F & H3F
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H1F	H3F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	H	Alloy-C	320002	320002
Center Housing, Flanged (ANSI 150# RF)	21	C	Alloy-C	320008	320008
Center Housing, BSPT	21	Y	Alloy-C	320004	320004
Pin, Housing Alignment	12	H, C, Y	Alloy-C	360804 (4)	360804 (4)
Bolt, Housing (#10-32 x 1.50 HHCS)	4	H, C, Y	18-8 SS	322005 (4)	322005 (4)
Nut, Housing (#10-32)	10	H, C, Y	18-8 SS	342101 (4)	342101 (4)
Lockwasher, Housing (#10)	15	H, C, Y	18-8 SS	5018 (4)	5018 (4)
<b>Position 4 – Drive Gear</b>					
Gear	22	1	Alloy-C	310680	320608
Gear	22	3	Teflon	X	320600
Gear	22	6	316 SS	X	X
Gear	22	K	Kynar	310666	320666
Gear	22	P	PEEK	310684	320603
Key, Gear (HY)	23A	1, P	Alloy-C	321904	321904
Key, Gear (LY)	23A	3, K	Alloy-C	X	321902
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	310680	320608
Gear	6	2	Carbon	X	320611
Gear	6	3	Teflon	X	320600
Gear	6	6	316 SS	X	X
Gear	6	8	Ryton	310682	320601
Gear	6	K	Kynar	310666	320666
Gear	6	P	PEEK	310684	320603
Key, Gear (HY)	23B	1, 2, 8, P	Alloy-C	321904	321904
Key, Gear (LY)	23B	3, K	Alloy-C	X	321902
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	310590 (4)	340521 (4)
Wear Plate, Relieved	7	4	SiC	310597 (4)	340582 (4)
Wear Plate, Relieved	7	E	Carbon 60	310596 (4)	340523 (4)
Wear Plate, Relieved	7	P	PEEK	310591 (4)	340524 (4)
<b>Position 7 – Bearings</b>					
Bearing, Short	3A	3	Teflon	340402 (3)	340402 (3)
Bearing, Long	3B	3	Teflon	340401 (1)	340401 (1)
Bearing, Short	3A	B	SiC	340413 (3)	340413 (3)
Bearing, Long	3B	B	SiC	340424 (1)	340424 (1)
Bearing, Short	3A	E	Carbon 60	340416 (3)	340416 (3)
Bearing, Long	3B	E	Carbon 60	340423 (1)	340423 (1)
Bearing, Short	3A	P	PEEK	340417 (3)	340417 (3)
Bearing, Long	3B	P	PEEK	340418 (1)	340418 (1)
<b>Position 8 – Seal Type</b>					
Mechanical Seal, Single Internal & External	11	U, W	Alloy-C/Carbon	A-347017	A-347017
Mechanical Seal, Single Internal & External	11	S, X	Alloy-C/Teflon	A-347018	A-347018
Mechanical Seal, Double	11	F	316 SS/Carbon	A-347014	A-347014
Mechanical Seal, Double	11	H	316 SS/Teflon	A-347020	A-347020
Seal Housing, SMS/DMS/PS	28	U, S, F, H	Alloy-C	350271	350271
Seal Housing, EMS	28	W, X	Alloy-C	350272	350272
Seal Seat, Outer	24	U, S, W, X, F, H	SiC	351534	351534
Seal Seat, Inner	25	F, H	SiC	351547	351547
Gland Plate, SMS & EMS	17	U, S, W, X	Alloy-C	351726	351726
Gland Plate, DMS	17	F, H	316 SS	351724	351724
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	356501 (5)	356501 (5)
Packing Ring	43	R	Graphoil	356409 (5)	356409 (5)
Seal Housing, SMS/DMS/PS	28	L, R	Alloy-C	350271	350271
Lantern Ring	44	L, R	Alloy-C	357111	357111
Gland Plate, PS	17	L, R	Alloy-C	351512	351512
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 H1F &amp; H3F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H1F	H3F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, CC, Standard & EBF	8	0, 1	Alloy-C	S3501	S3501
Front Housing, CC, IBF	8	2	Alloy-C	S3504	S3504
Rear Housing, Standard	2	0	Alloy-C	340215	340215
Rear Housing, EBF	2	1	Alloy-C	340234	340234
Rear Housing, IBF	2	2	Alloy-C	340241	340241
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	320303	320303
Drive Shaft, CO-Coated	20	1	Alloy-C/CO	320303-CO	320303-CO
Drive Shaft, TC-Coated	20	2	Alloy-C/TC	320303-TC	320303-TC
Idler Shaft, Uncoated	1	0	Alloy-C	320304	320304
Idler Shaft, CO-Coated	1	1	Alloy-C/CO	320304-CO	320304-CO
Idler Shaft, TC-Coated	1	2	Alloy-C/TC	320304-TC	320304-TC
<b>Position 11 – O-Rings/Gaskets</b>					
O-ring, Housing (2-033)	5	0	Teflon	341102 (2)	341102 (2)
O-ring, Seal Housing (2-042)	27	0	Teflon	S4000	S4000
Gasket, Seal Seat, Outer (MS only)	18	0	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	0	Viton	310691	310691
O-ring, Housing (2-033)	5	6	Silicone/FEP	341113 (2)	341113 (2)
O-ring, Seal Housing (2-042)	27	6	Silicone/FEP	371118	371118
Gasket, Seal Seat, Outer (MS only)	18	6	Teflon	351106 (2)	351106 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	6	Kalrez	310694	310694
O-ring, Housing (2-033)	5	B	Buna-N	341105 (2)	341105 (2)
O-ring, Seal Housing (2-042)	27	B	Buna-N	S4003	S4003
Gasket, Seal Seat, Outer (MS only)	18	B	Buna-N	351105 (2)	351105 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	B	Buna-N	310693	310693
O-ring, Housing (2-033)	5	E	EPDM	341103 (2)	341103 (2)
O-ring, Seal Housing (2-042)	27	E	EPDM	S4001	S4001
Gasket, Seal Seat, Outer (MS only)	18	E	EPDM	351108 (2)	351108 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	E	EPDM	310692	310692
O-ring, Housing (2-033)	5	V	Viton	341108 (2)	341108 (2)
O-ring, Seal Housing (2-042)	27	V	Viton	S4002	S4002
Gasket, Seal Seat, Outer (MS only)	18	V	Viton	351109 (2)	351109 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	V	Viton	310691	310691
O-ring, Housing (2-033)	5	K	Kalrez	341109 (2)	341109 (2)
O-ring, Seal Housing (2-042)	27	K	Kalrez	S4004	S4004
Gasket, Seal Seat, Outer (MS only)	18	K	Kalrez	351110 (2)	351110 (2)
O-ring, Seal Seat, Inner (2-020; DMS only)	26	K	Kalrez	310694	310694
<b>Position 12 – Retaining Rings</b>					
Retaining Ring, Gear	14	0	Alloy-C	346701 (4)	346701 (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>1</sup>	–	Consult Factory	
Viscosity Trim (Gears)	–	-9D, -9T	–		

1 - 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 H1F &amp; H3F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H1F	H3F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	S	316 SS	320001	320001
Center Housing, Flanged (ANSI 150# RF)	21	L	316 SS	320007	320007
Center Housing, BSPT	21	X	316 SS	320003	320003
Pin, Housing Alignment	24	S, L, X	316 SS	360801 (4)	360801 (4)
Bolt, Housing (#10-32 x 1.50 HHCS)	4	S, L, X	18-8 SS	322005 (4)	322005 (4)
Nut, Housing (#10-32)	29	S, L, X	18-8 SS	342101 (4)	342101 (4)
Lockwasher, Housing (#10)	30	S, L, X	18-8 SS	5018 (4)	5018 (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	310680	320608
Gear	22	3	Teflon	X	320600
Gear	22	6	316 SS	310685	320605
Gear	22	K	Kynar	310666	320666
Gear	22	P	PEEK	310684	320603
Key, Gear (HY)	23A	1, 6, P	316 SS	321903	321903
Key, Gear (LY)	23A	3, K	316 SS	X	321901
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	310680	320608
Gear	6	2	Carbon	X	320611
Gear	6	3	Teflon	X	320600
Gear	6	6	316 SS	310685	320605
Gear	6	8	Ryton	310682	320601
Gear	6	K	Kynar	310666	320666
Gear	6	P	PEEK	310684	320603
Key, Gear (HY)	23B	1, 2, 6, 8, P	316 SS	321903	321903
Key, Gear (LY)	23B	3, K	316 SS	X	321901
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	310590 (4)	340521 (4)
Wear Plate, Relieved	7	4	SiC	310597 (4)	340582 (4)
Wear Plate, Relieved	7	E	Carbon 60	310596 (4)	340523 (4)
Wear Plate, Relieved	7	P	PEEK	310591 (4)	340524 (4)
<b>Position 7 – Bearings</b>					
Bearing, Short	3A	3	Teflon	340402 (3)	340402 (3)
Bearing, Long	3B	3	Teflon	340401 (1)	340401 (1)
Bearing, Short	3A	B	SiC	340413 (3)	340413 (3)
Bearing, Long	3B	B	SiC	340424 (1)	340424 (1)
Bearing, Short	3A	E	Carbon 60	340416 (3)	340416 (3)
Bearing, Long	3B	E	Carbon 60	340423 (1)	340423 (1)
Bearing, Short	3A	P	PEEK	340417 (3)	340417 (3)
Bearing, Long	3B	P	PEEK	340418 (1)	340418 (1)
<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	

See page 16 for Reference Drawing.

<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: <b>MAG-DRIVE, CC Models H1F &amp; H3F</b>
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Part Description	Drwg. Item #	316 Stainless Steel Construction			
		Code	Material	H1F	H3F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, MC, Standard & EBF	8	0, 1	316 SS	S3500	S3500
Front Housing, MC, IBF	8	2	316 SS	S3503	S3503
Rear Housing, Standard	2	0	316 SS	340214	340214
Rear Housing, EBF	2	1	316 SS	340212	340212
Rear Housing, IBF	2	2	316 SS	340240	340240
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, MC, Uncoated	20	0	316 SS	S3330B	S3330B
Drive Shaft, MC, CO-Coated	20	1	316 SS/CO	S3330B-CO	S3330B-CO
Drive Shaft, MC, TC-Coated	20	2	316 SS/TC	S3330B-TC	S3330B-TC
Idler Shaft, Uncoated	1	0	316 SS	320302	320302
Idler Shaft, CO-Coated	1	1	316 SS/CO	320302-CO	320302-CO
Idler Shaft, TC-Coated	1	2	316 SS/TC	320302-TC	320302-TC
<b>Position 11 – O-Rings</b>					
O-ring, Housing (2-033)	5	0	Teflon	341102 (2)	341102 (2)
O-ring, Containment Can (2-042)	19	0	Teflon	S4000	S4000
O-ring, Housing (2-033)	5	6	Silicone/FEP	341113 (2)	341113 (2)
O-ring, Containment Can (2-042)	19	6	Silicone/FEP	371118	371118
O-ring, Housing (2-033)	5	B	Buna-N	341105 (2)	341105 (2)
O-ring, Containment Can (2-042)	19	B	Buna-N	S4003	S4003
O-ring, Housing (2-033)	5	E	EPDM	341103 (2)	341103 (2)
O-ring, Containment Can (2-042)	19	E	EPDM	S4001	S4001
O-ring, Housing (2-033)	5	V	Viton	341108 (2)	341108 (2)
O-ring, Containment Can (2-042)	19	V	Viton	S4002	S4002
O-ring, Housing (2-033)	5	K	Kalrez	341109 (2)	341109 (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	346702 (6)	346702 (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 – 3/8" Bore	11	U	316 SS/SmCo	SIMCU-03	SIMCU-03
Outer Magnet, MCU – NEMA 56C	10	U (Pos. 8 = 0)	CS/ SmCo	SOMCU-5	SOMCU-5
Outer Magnet, MCU – NEMA 143/145TC	10	U (Pos. 8 = 1)	CS/ SmCo	SOMCU-7	SOMCU-7
Outer Magnet, MCU – IEC 71 (B5)	10	U (Pos. 8 = 2)	CS/ SmCo	SOMCU-71	SOMCU-71
Outer Magnet, MCU – IEC 80 (B5)	10	U (Pos. 8 = 3)	CS/ SmCo	SOMCU-80	SOMCU-80
Outer Magnet, MCU – IEC 90 (B5)	10	U (Pos. 8 = 4)	CS/ SmCo	SOMCU-90	SOMCU-90
Outer Magnet, MCU – NEMA 182/184TC	10	U (Pos. 8 = 5)	CS/ SmCo	SOMCU-9	SOMCU-9
Outer Magnet, MCU – IEC 100/112 (B5)	10	U (Pos. 8 = 8)	CS/ SmCo	SOMCU-112	SOMCU-112
Inner Magnet, MCB – 3/8" Bore	11	B	316 SS/SmCo	SIMCB-03	SIMCB-03
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
Key, Inner Magnet	13	U, B	316 SS	341906	341906
<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>1</sup>	-	<b>Consult Factory</b>	
Viscosity Trim (Gears)	-	-9D, -9T	-		

1 - 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 H1F &amp; H3F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H1F	H3F
<b>Position 3 – Basic Material &amp; Port Type (Center Housing, Alignment Pins &amp; Hardware)</b>					
Center Housing, NPT	21	H	Alloy-C	320002	320002
Center Housing, Flanged (ANSI 150# RF)	21	C	Alloy-C	320008	320008
Center Housing, BSPT	21	Y	Alloy-C	320004	320004
Pin, Housing Alignment	24	H, C, Y	Alloy-C	360804 (4)	360804 (4)
Bolt, Housing (#10-32 x 1.50 HHCS)	4	H, C, Y	18-8 SS	322005 (4)	322005 (4)
Nut, Housing (#10-32)	29	H, C, Y	18-8 SS	342101 (4)	342101 (4)
Lockwasher, Housing (#10)	30	H, C, Y	18-8 SS	5018 (4)	5018 (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	310680	320608
Gear	22	3	Teflon	X	320600
Gear	22	6	316 SS	X	X
Gear	22	K	Kynar	310666	320666
Gear	22	P	PEEK	310684	320603
Key, Gear (HY)	23A	1, P	Alloy-C	321904	321904
Key, Gear (LY)	23A	3, K	Alloy-C	X	321902
<b>Position 5 – Idler Gear</b>					
Gear	6	1	Alloy-C	310680	320608
Gear	6	2	Carbon	X	320611
Gear	6	3	Teflon	X	320600
Gear	6	6	316 SS	X	X
Gear	6	8	Ryton	310682	320601
Gear	6	K	Kynar	310666	320666
Gear	6	P	PEEK	310684	320603
Key, Gear (HY)	23B	1, 2, 8, P	Alloy-C	321904	321904
Key, Gear (LY)	23B	3, K	Alloy-C	X	321902
<b>Position 6 – Wear Plates</b>					
Wear Plate, Relieved	7	3	Teflon	310590 (4)	340521 (4)
Wear Plate, Relieved	7	4	SiC	310597 (4)	340582 (4)
Wear Plate, Relieved	7	E	Carbon 60	310596 (4)	340523 (4)
Wear Plate, Relieved	7	P	PEEK	310591 (4)	340524 (4)
<b>Position 7 – Bearings</b>					
Bearing, Short	3A	3	Teflon	340402 (3)	340402 (3)
Bearing, Long	3B	3	Teflon	340401 (1)	340401 (1)
Bearing, Short	3A	B	SiC	340413 (3)	340413 (3)
Bearing, Long	3B	B	SiC	340424 (1)	340424 (1)
Bearing, Short	3A	E	Carbon 60	340416 (3)	340416 (3)
Bearing, Long	3B	E	Carbon 60	340423 (1)	340423 (1)
Bearing, Short	3A	P	PEEK	340417 (3)	340417 (3)
Bearing, Long	3B	P	PEEK	340418 (1)	340418 (1)
<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	

See page 16 for Reference Drawing.

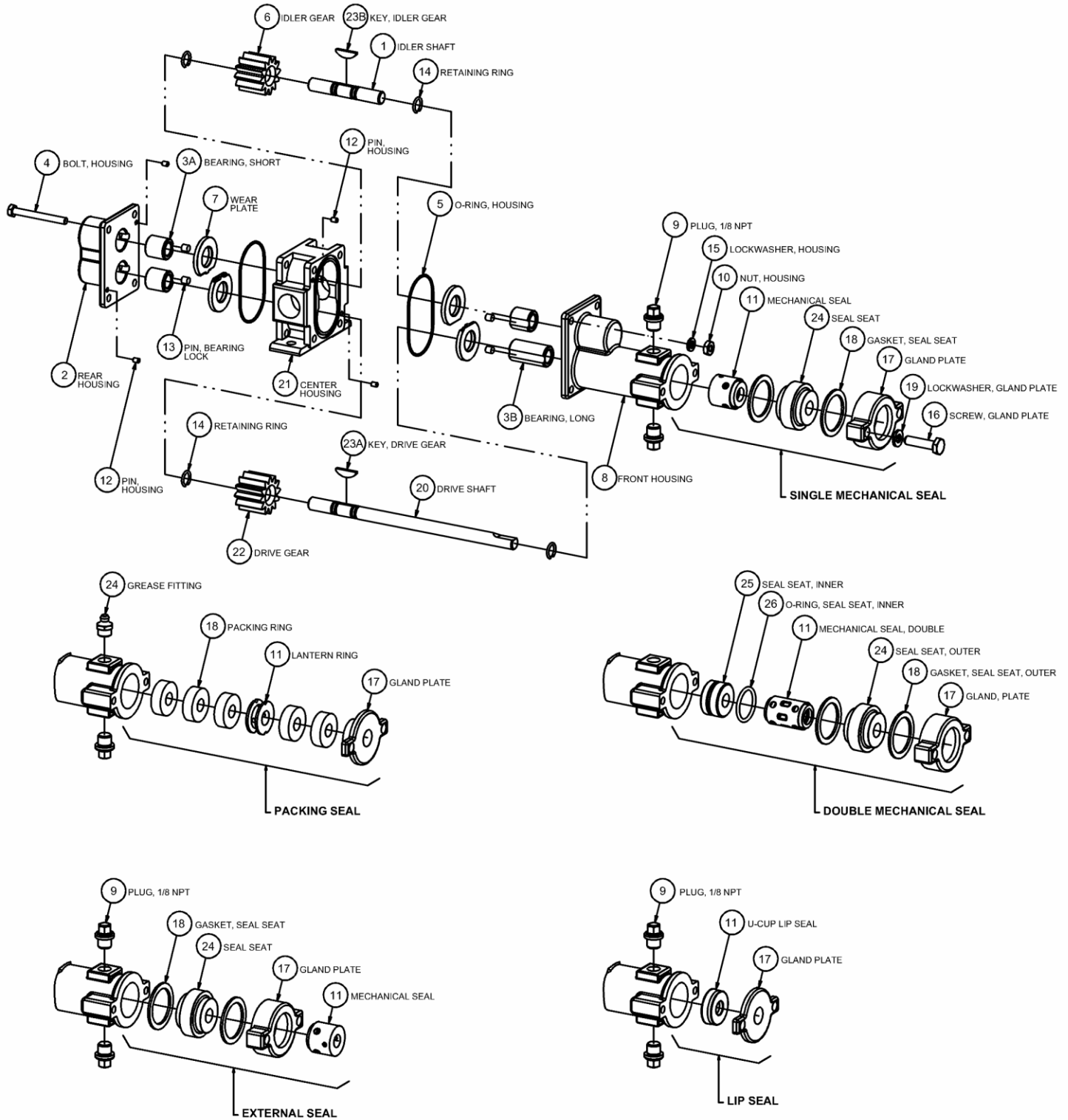
<b>Liquiflo</b> Chemical Processing Pumps™	<b>H-Series Gear Pumps</b> BOM: <b>MAG-DRIVE, CC Models H1F &amp; H3F</b>
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Part Description	Drwg. Item #	Alloy-C Construction			
		Code	Material	H1F	H3F
<b>Position 9 – Bearing Flush Option (Front &amp; Rear Housings)</b>					
Front Housing, MC, Standard & EBF	8	0, 1	Alloy-C	S3501	S3501
Front Housing, MC, IBF	8	2	Alloy-C	S3504	S3504
Rear Housing, Standard	2	0	Alloy-C	340215	340215
Rear Housing, EBF	2	1	Alloy-C	340234	340234
Rear Housing, IBF	2	2	Alloy-C	340241	340241
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, MC, Uncoated	20	0	Alloy-C	S3331B	S3331B
Drive Shaft, MC, CO-Coated	20	1	Alloy-C/CO	S3331B-CO	S3331B-CO
Drive Shaft, MC, TC-Coated	20	2	Alloy-C/TC	S3331B-TC	S3331B-TC
Idler Shaft, Uncoated	1	0	Alloy-C	320304	320304
Idler Shaft, CO-Coated	1	1	Alloy-C/CO	320304-CO	320304-CO
Idler Shaft, TC-Coated	1	2	Alloy-C/TC	320304-TC	320304-TC
<b>Position 11 – O-Rings</b>					
O-ring, Housing (2-033)	5	0	Teflon	341102 (2)	341102 (2)
O-ring, Containment Can (2-042)	19	0	Teflon	S4000	S4000
O-ring, Housing (2-033)	5	6	Silicone/FEP	341113 (2)	341113 (2)
O-ring, Containment Can (2-042)	19	6	Silicone/FEP	371118	371118
O-ring, Housing (2-033)	5	B	Buna-N	341105 (2)	341105 (2)
O-ring, Containment Can (2-042)	19	B	Buna-N	S4003	S4003
O-ring, Housing (2-033)	5	E	EPDM	341103 (2)	341103 (2)
O-ring, Containment Can (2-042)	19	E	EPDM	S4001	S4001
O-ring, Housing (2-033)	5	V	Viton	341108 (2)	341108 (2)
O-ring, Containment Can (2-042)	19	V	Viton	S4002	S4002
O-ring, Housing (2-033)	5	K	Kalrez	341109 (2)	341109 (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	346701 (6)	346701 (6)
<b>Position 13 – Bearing Pins</b>					
Pin, Bearing Lock	25	0	Teflon	361801 (4)	361801 (4)
Pin, Bearing Lock (High Temperature)	25	1	Alloy-C	361806 (4)	361806 (4)
<b>Position 14 – Magnetic Coupling</b>					
Inner Magnet, MCU – 3/8" Bore	11	U	Alloy-C/SmCo	SIMCU-13	SIMCU-13
Outer Magnet, MCU – NEMA 56C	10	U (Pos. 8 = 0)	CS/ SmCo	SOMCU-5	SOMCU-5
Outer Magnet, MCU – NEMA 143/145TC	10	U (Pos. 8 = 1)	CS/ SmCo	SOMCU-7	SOMCU-7
Outer Magnet, MCU – IEC 71 (B5)	10	U (Pos. 8 = 2)	CS/ SmCo	SOMCU-71	SOMCU-71
Outer Magnet, MCU – IEC 80 (B5)	10	U (Pos. 8 = 3)	CS/ SmCo	SOMCU-80	SOMCU-80
Outer Magnet, MCU – IEC 90 (B5)	10	U (Pos. 8 = 4)	CS/ SmCo	SOMCU-90	SOMCU-90
Outer Magnet, MCU – NEMA 182/184TC	10	U (Pos. 8 = 5)	CS/ SmCo	SOMCU-9	SOMCU-9
Outer Magnet, MCU – IEC 100/112 (B5)	10	U (Pos. 8 = 8)	CS/ SmCo	SOMCU-112	SOMCU-112
Inner Magnet, MCB – 3/8" Bore	11	B	Alloy-C/SmCo	SIMCB-13	SIMCB-13
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
Key, Inner Magnet	13	U, B	Alloy-C	341904	341904
<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>1</sup>	-	<b>Consult Factory</b>	
Viscosity Trim (Gears)	-	-9D, -9T	-		

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

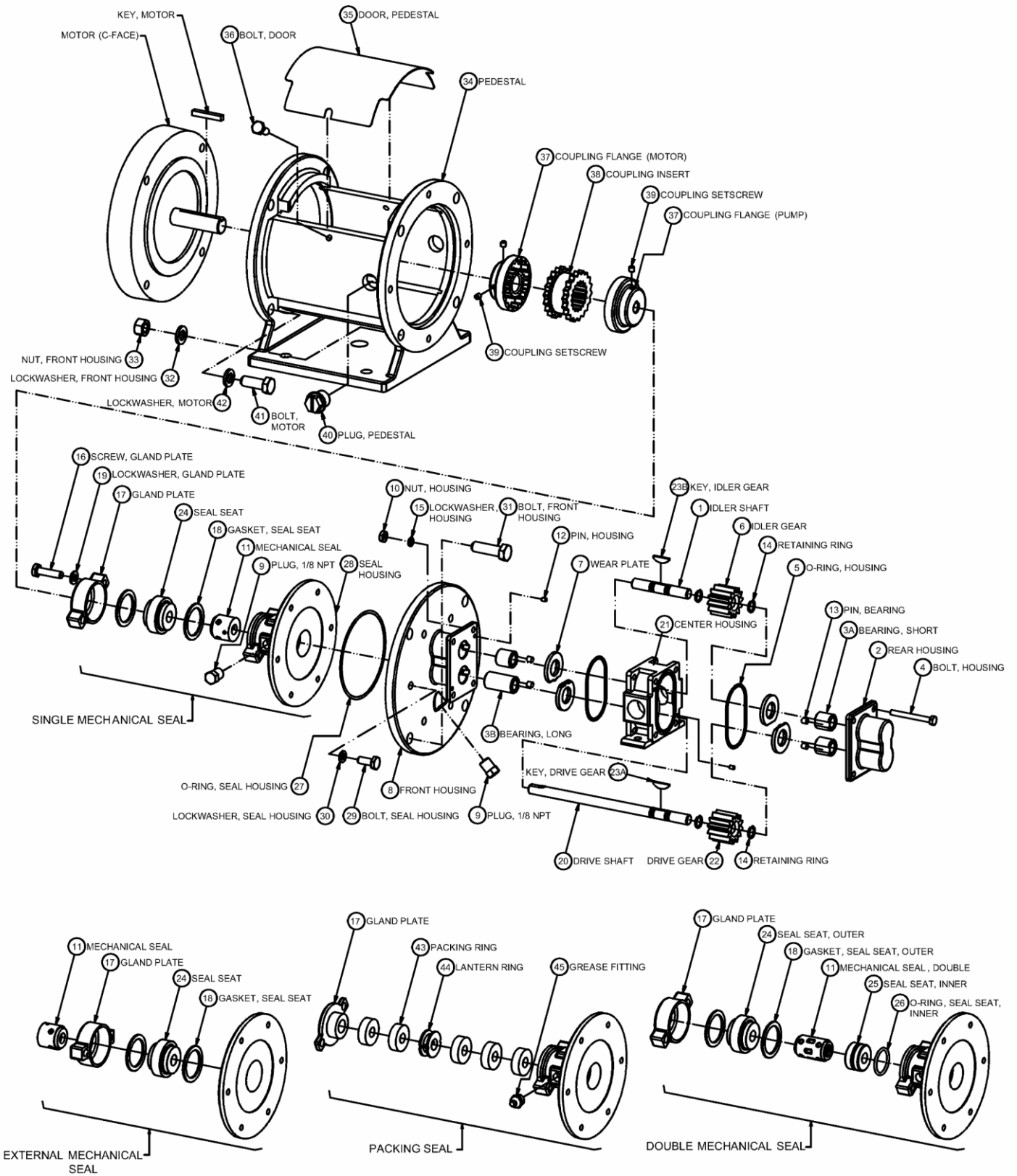
## Appendix 1: Exploded View Reference Drawings

### Models H1F & H3F – SEALED, Long-Coupled



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

### Models H1F & H3F – SEALED, 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>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>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 & Adapter

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-5001	3/8" x 5/8"	3J	78	SP009	X
1	NEMA 143/145TC	A-5016	3/8" x 7/8"	4J	156	SP009	X
2	IEC 71–B5 Flange	A-5120	3/8" x 14 mm	4J	156	SP010	X
3	IEC 80–B5 Flange	A-5123	3/8" x 19 mm	4J	156	SP011	X
4	IEC 90–B5 Flange	A-5115	3/8" x 24 mm	4J	156	SP011	X
5	NEMA182/184TC	A-5239	3/8" x 1-1/8"	5J	312	SP009	SP0046
8	IEC 100/112–B5 Flg.	A-5238	3/8" 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 1-1/4	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 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).