

Table 15: Parts list for 3180 and 3185 S, M, L, and XL groups (stainless steel or iron with stainless steel trim)

Item	Quantity	Part name	AI/316 SS trim	All 316 SS	316L SS	317 SS	317L SS	
100	1	Casing	1000	1203	1219	1209	1225	
101	1	Impeller (see note 4)	1203	1203	1219	1209	1225	
105	1	Lantern ring	PTFE					
106	1 set	Packing, packed box	Non-asbestos braid					
106	1 set	Packing, dynamic seal	Die-formed graphite					
107	2	Gland half	1203	1203	1203	1209	1225	
109A	1	Bearing end cover	1001					
112	1	Bearing (thrust)	Duplex angular contact (back to back)					
122	1	Shaft	2249					
125	1	Throttle bushing	3211	3211	2256	2232	2260	
126	1	Shaft sleeve	1226	1226	2256	2232	2260	
126A	1	Shearpeller™ sleeve	n/a	Carbon-filled PTFE	n/a	n/a	n/a	
134A	1	Bearing housing	1000					
136	1	Bearing locknut	Steel					
164	1	Casing wear ring (enclosed impeller)	1203	1203	1219	1209	1225	
176	1	Sideplate (open impeller)	1001	1203	1219	1209	1225	
178	1	Impeller key	2213					
184	1	Stuffing box cover/seal chamber	1000	1203	1219	1209	1225	
202	1	Impeller wear ring (for enclosed impeller)	1203	1203	1219	1209	1225	
222E	3	Set screw, casing wear ring	2210	2229	2256	2232	2260	
228	1	Bearing frame	1000					
230C	1	Vane particle ejector (VPE) ring	1362					
236A	See note 1	Screw, bearing retainer to housing	2239					
241	1	Frame foot	1001					
251	1	Sight oiler (optional)	Steel/glass					
253B	1	Bearing retainer	1000					
262	1	Repeller	1203	1203	1219	1209	1225	
264	1	Gasket, backplate	Non-asbestos aramid fiber					
265A	1	Stud, box to backplate	2226					
304	1	Impeller nut	1203	1203	1219	1209	1225	
319	1	Sight window (oil lube)	2226					
320	3	Socket head cap-screw, impeller wear ring	2210	2229	2256	2232	2260	

Item	Quantity	Part name	Al/316 SS trim	All 316 SS	316L SS	317 SS	317L SS	
332A	1	Labyrinth seal assembly (thrust)	Bronze with Viton O-rings					
333A	1	Labyrinth seal assembly (radial)	Bronze with Viton O-rings					
351	1	Gasket, casing	Non-asbestos aramid fiber					
353	See note 2	Stud, gland	2226					
355	See note 2	Nut, gland	2228					
356E	See note 1	Studs, sideplate	2226					
357A	See note 1	Nuts, sideplate	2228					
357J	See note 1	Nut, box to backplate	2228					
358	1	Plugs (casing drain, optional)	2210	2229	2256	2232	2260	
358D	1	Plug, casing vent (pumps with tangential discharge)	2210	2229	2256	2232	2260	
358M	3	Plugs (casing gauge, optional)	2210	2229	2256	2232	2260	
360P	1	Gasket, sideplate to casing	Non-asbestos aramid fiber					
370A	See note 1	Screw, hex head lug to casing	2239					
370B	8	Screw, hex (frame to box)	2210					
370C	See note 1	Screw, housing to frame	2210					
370D	2	Screw, frame foot to frame	2210					
370E	1	Screw, oil return (grease lube)	2210					
371A	See note 1	Bolt, adjusting	2210					
382	1	Bearing lockwasher	Steel					
383	1	Mechanical seal	Material varies					
400	1	Coupling key	2213					
408B	1	Plug (oil drain)	2210					
408C	2	Plug (grease relief)	2210					
408D	1	Plug (grease lube)	2210					
408E	4	Plug (oil lube)	2210					
408H	See note 3	Plug (stuffing box)	2210	2229	2260	2256	2380	
409	1	Bearing (radial)	Cylindrical roller, steel					
412A	1	O-ring, impeller	PTFE					
412C	1	O-ring, sideplate to casing	Viton					
412F	1	O-ring, sleeve	PTFE					

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Item	Quantity	Part name	Al/316 SS trim	All 316 SS	316L SS	317 SS	317L SS	
412U	1	O-ring, repeller	PTFE					
423B	See note 1	Nut, jam	2210					
444	1	Backplate	1000	1203	1219	1209	1225	
494	1	Cooler assembly	SS tube, brass fittings					
496	1	O-ring, housing	Buna N					
748	See note 1	Lug, casing	1011					

Table 16: Parts list for 3180 and 3185 S, M, L, and XL groups (non-stainless steel)

Item	Quantity	Part name	CD4 MCuN	Ferrallium	A743 CK3MCuN (6% to 7% Moly)	Alloy 20	Hastelloy B	Hastelloy C
100	1	Casing	1216	1040	1605	1204	1217	1215
101	1	Impeller (see note 4)	1216	1040	1605	1204	1217	1215
105	1	Lantern ring	PTFE					
106	1 set	Packing, packed box	Non-asbestos braid					
106	1 set	Packing, dynamic seal	Die-formed graphite					
107	2	Gland half	1203	1203	1605	1204	1217	1215
109A	1	Bearing end cover	1001					
112	1	Bearing (thrust)	Duplex angular contact (back to back)					
122	1	Shaft	2249					
125	1	Throttle bushing	3211	2380	2379	2230	2247	2248
126	1	Shaft sleeve	1226	2380	2379	2230	2247	2248
126A	1	Shearpeller™ sleeve	n/a	n/a	n/a	n/a	n/a	n/a
134A	1	Bearing housing	1000					
136	1	Bearing locknut	Steel					
164	1	Casing wear ring (for enclosed impeller option)	1216	1040	1605	1204	1217	1215
176	1	Sideplate (open impeller)	1216	1040	1605	1204	1217	1215
178	1	Impeller key	2213					
184	1	Stuffing box cover/seal chamber	1216	1040	1605	1204	1217	1215
193H	2	Grease fitting (grease lube)	Steel					
202	1	Impeller wear ring (for enclosed impeller option)	1216	1040	1605	1204	1217	1215
222E	3	Set screw, casing wear ring	2230	2380	2379	2230	2247	2248
228	1	Bearing frame	1000					

Item	Quantity	Part name	CD4 MCuN	Ferralium	A743 CK3MCuN (6% to 7% Moly)	Alloy 20	Hastelloy B	Hastelloy C
230C	1	Vane particle ejector (VPE) ring	1362					
236A	See note 1	Screw, bearing retainer to housing	2239					
241	1	Frame foot	1001					
251	1	Sight oiler (optional)	Steel/glass					
253B	1	Bearing retainer	1000					
262	1	Repeller	1216	1040	1605	1204	1217	1215
264	1	Gasket, backplate	Non-asbestos aramid fiber					
265A	1	Stud, box to backplate	2226					
304	1	Impeller nut	1216	1040	1605	1204	1217	1215
319	1	Sight window (oil lube)	2226					
320	3	Socket head screw, impeller wear ring	2230	2380	2379	2230	2247	2248
332A	1	Labyrinth seal assembly (thrust)	Bronze with Viton O-rings					
333A	1	Labyrinth seal assembly (radial)	Bronze with Viton O-rings					
351	1	Gasket, casing	Non-asbestos aramid fiber					
353	See note 2	Stud, gland	2226					
355	See note 2	Nut, gland	2228					
356E	See note 1	Studs, sideplate	2226					
357A	See note 1	Nuts, sideplate	2228					
357J	See note 1	Nut, box to backplate	2228					
358	1	Plugs (casing drain, optional)	2230	2380	2379	2230	2247	2248
358M	3	Plugs (casing gauge, optional)	2230	2380	2379	2230	2247	2248
360P	1	Gasket, sideplate to casing	Non-asbestos aramid fiber					
370A	See note 1	Screw, hex head lug to casing	2239					
370B	8	Screw, hex (frame to box)	2210					
370C	See note 1	Screw, housing to frame	2210					
370D	2	Screw, frame foot to frame	2210					
370E	1	Screw, oil return (grease lube)	2210					

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Item	Quantity	Part name	CD4 MCuN	Ferralium	A743 CK3MCuN (6% to 7% Moly)	Alloy 20	Hastelloy B	Hastelloy C
371A	See note 1	Bolt, adjusting	2210					
382	1	Bearing lockwasher	Steel					
383	1	Mechanical seal	Material varies					
400	1	Coupling key	2213					
408B	1	Plug (oil drain)	2210					
408C	2	Plug (grease relief)	2210					
408D	1	Plug (grease lube)	2210					
408E	4	Plug (oil lube)	2210					
408H	See note 3	Plug (stuffing box)	2230	2379	2230	2230	2247	2248
409	1	Bearing (radial)	Cylindrical roller, steel					
412A	1	O-ring, impeller	PTFE					
412C	1	O-ring, sideplate to casing	Viton					
412F	1	O-ring, sleeve	PTFE					
412U	1	O-ring, repeller	PTFE					
423B	See note 1	Nut, jam	2210					
444	1	Backplate	1216	1040	1605	1204	1217	1215
494	1	Cooler assembly	SS tube, brass fittings					
496	1	O-ring, housing	Buna N					
748	See note 1	Lug, casing	1011					

Table 17: Parts list for 3180 and 3185 XL1, XL2-S, and XL2 groups

Item	Quantity	Part name	All 316SS	All CD4MCuN	Super Duplex A890 5A
100	1	Casing	1203	1216	1361
101	1	Impeller	1203	1216	1361
103	See note 5	Impeller wear ring (enclosed impeller)	N/A		
105	1	Lantern ring	PTFE		
106	Set	Packing, packed box	Non-asbestos braid		
106	See note 6	Packing, dynamic seal	N/A		
107	2	Gland half	1203	N/A	
108	1	Frame adapter	1011		
109A	1	Bearing end cover	3201		
112	2	Bearing, thrust	Duplex Angular Contact (Back to Back)		
122	1	Shaft	2249		
125	1	Throttle bushing, packed box	3211		N/A
126	1	Shaft sleeve / stub sleeve	1203	1216	1361
126A	See note 7	Shearpeller sleeve	N/A		
134A	1	Bearing housing	1003		
136	1	Bearing locknut	Steel		

Item	Quantity	Part name	All 316SS	All CD4MCuN	Super Duplex A890 5A
164	1	Case wear ring, enclosed impeller	1203	1216	1361
176	See note 8	Sideplate, open Impeller	N/A		
178	1	Impeller key	2213		
184	1	Stuffing box cover, seal chamber	1203	1216	1361
184	See note 6	Stuffing box cover, dynamic seal	N/A		
193H		Grease fitting, grease lube	Steel		
222E	See note 5	Setscrew, impeller wear ring	N/A		
228	1	Bearing frame	1003		
230C	1	Vane particle ejector (VPE) ring	1362		1361
236A	12	Screw, bearing retainer to housing	2239		
241	1	Frame foot	1003		
253B	1	Bearing retainer	1003		
262	See note 6	Repeller	N/A		
264	See note 6	Gasket, backplate	N/A		
265A	See note 6	Stud, box to backplate	N/A		
304	1	Impeller nut	1203	1216	1361
319	1	Sight window	Glass		
320	See note 9	Setscrew, casing wear ring	N/A		
332A	1	Laby seal, thrust	Bronze / Viton		
333A	1	Laby seal, radial	Bronze / Viton		
351	1	Casing gasket	Non-asbestos		
352B	3	Setscrew, VPE ring	2229		3280
353	See note 2	Stud, gland	2441		
355	See note 2	Nut, gland	2441		
356E	See note 1	Stud, casing wear ring to casing	2441		
357A	See note 1	Nuts, casing wear ring to casing	2441		
357J	See note 6	Nut, box to backplate	N/A		
358	1	Plug, casing drain (optional)	2229	2230	3280
358M	3	Plug , casing gauge (optional)	2229	2230	3280
360	1	Gasket, end cover	5163		
360P	1	Gasket, wear ring to casing	Non-asbestos		
370A	See note 1	Hex capscrew, adapter to casing	2442		
370B	8	Hex capscrew, frame to adapter	2442		
370C	4	Hex capscrew, housing to frame	2442		
370D	2	Hex capscrew, frame to frame foot	2442		
370E		Screw, oil return	2210		
370H	2	Hex capscrew, cover to adapter	2442		
370K	4	Screw, end cover to frame	2442		
371A	4	Hex tap bolt, adjusting	2442		
372T	1	Screw, monitor	2367		
382	1	Bearing lockwasher	Steel		
383	1	Mechanical seal	Material varies		
388K	3	Hex capscrew, casing to adapter, jacking	2442		
400	1	Coupling key	2213		
408B	1	Plug, oil drain	2210		
408C		Plug, grease relief	2210		

Item	Quantity	Part name	All 316SS	All CD4MCuN	Super Duplex A890 5A
408D		Plug, grease lube			2210
408E		Plug, grease relief			2210
408H	1	Plug, oil fill			2210
409	1	Bearing, radial			Deep groove ball
412A	1	O-ring, impeller			PTFE
412C	See note 8	O-ring, sideplate to casing			N/A
412F	1	O-ring, sleeve			PTFE
412U	See note 6	O-ring, repeller			N/A
418	2	Hex capscrew, cover to adapter, jacking			2442
423B	4	Nut, jam			2442
444	See note 6	Backplate			N/A
494	1	Cooler assembly			SS tube, brass fittings
496	1	O-ring, housing			Buna-N
748	See note 10	Lug, casing			N/A
761B	1	LCCM, vib/temp monitor			Stainless steel

Table 18: Materials cross-reference chart

Goolds Pumps Material Code	Material	ASTM	DIN	ISO	JIS
1000	Cast iron	A48 Class 25	—	—	—
1001	Cast iron	A48 Class 25B	—	—	—
1003	Cast iron	A48 Class 30B	0.6020	DR185/Gr200	G5501 (FC20)
1011	Ductile iron	A536 GR 60-40-18	0.7040	R1083/400-12	G5502 (FCD40)
1040	Ferralium	-	—	—	—
1203	316 SS	A743 CF-8M	1.4408	—	G5121 (SC514)
1204	Alloy 20	A743 CN-7M	1.4500	—	—
1209	317 SS	A743 CG-8M	1.4448	—	—
1215	Hastelloy C	A494 CW-7M	—	—	—
1216	CD4MCuN	A890 GR 1B	—	—	—
1217	Hastelloy B	A494 N-7M	—	—	—
1219	316L SS	A743 CF-3M	—	—	—
1220	Titanium	B367 Gr C-3	—	—	—
1225	317L SS	A73 CG3M	—	—	—
1226	316 SS	A743 CR-8M	—	—	—
1233	904L SS	-	—	—	—
1361	Super duplex (cast)	A890 GR 5A	1.4469	—	—
1362	Duplex SS	A890 GR 3A	—	—	—
1605	6% to 7% Moly Duplex	A743 CK3NCuN	—	—	—
2210	Carbon steel	A108 GR 1213	—	—	—
2213	Carbon steel	A108 GR 1018-B1112	—	—	—
2229	316SS	A276 Type 316	1.4462	—	—
2230	Carpenter 20	B473 (N08020)	—	—	—
2239	4140 steel	A193 GR B7	1.7225	—	64107, Class 2, SNB7
2247	Alloy B-2	B335 (N10665)	—	—	—
2248	Alloy C-276	B574 (N10276)	—	—	—
2249	Carbon steel	A322 GR 4340	—	—	—

Goulds Pumps Material Code	Material	ASTM	DIN	ISO	JIS
2255	17-4PH	A564, Type 630	1.4542	(SUS630)	(SUS630)
2256	316L SS	A276 316L	1.4542	—	SUS630
2260	317L SS	—	1.4404	—	SUS316L
2344	904L	—	1.4438	—	SUS317L
2379	6% to 7% Moly Duplex	A4709 (S31254)	—	—	—
2380	Ferralium	—	—	—	—
2441	Stainless steel	F738M	—	A1-50	—
2442	Carbon steel	—	—	898-1 Class 8.8	—
3201	Carbon steel (plate)	A283 GR D	—	—	—
3211	316SS	A240 Type 316	—	—	—
3265	Alloy 2205	A240	1.4462	—	—
3280	Alloy 2507	A479/A479M	1.4501	—	—

8.2 Assembly drawings (exploded views)

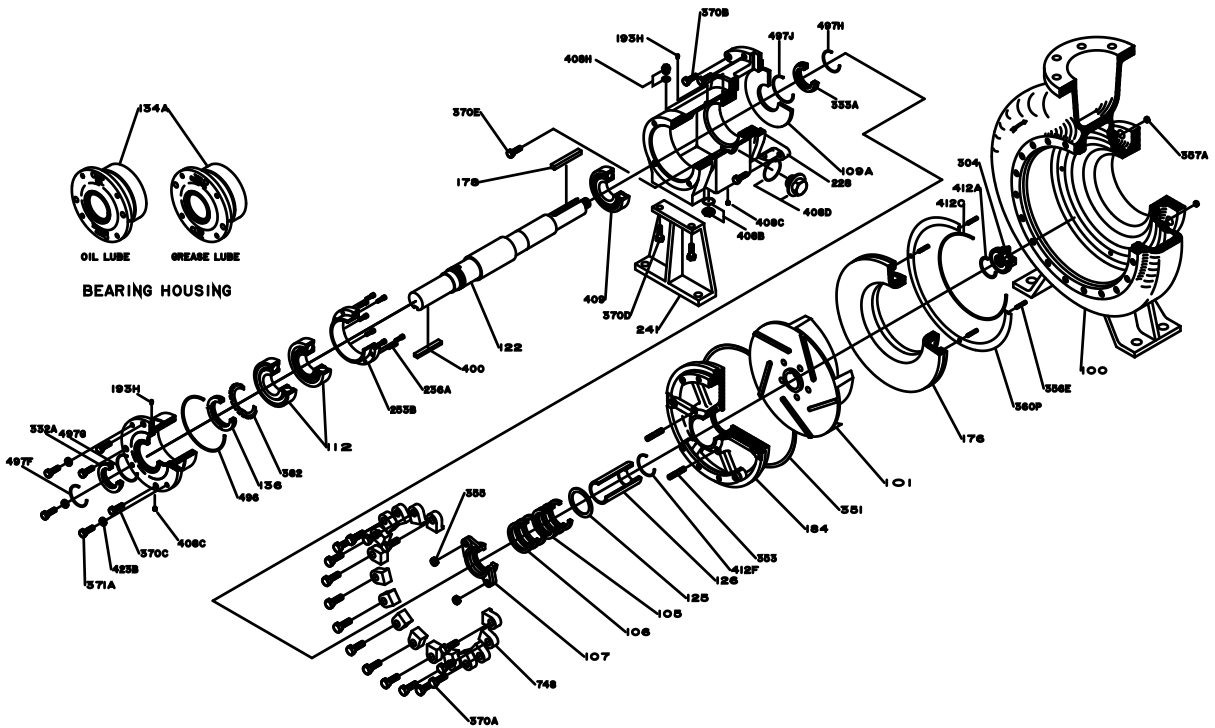


Figure 41: Exploded view of 3180 and 3185 S, M, L, and XL groups

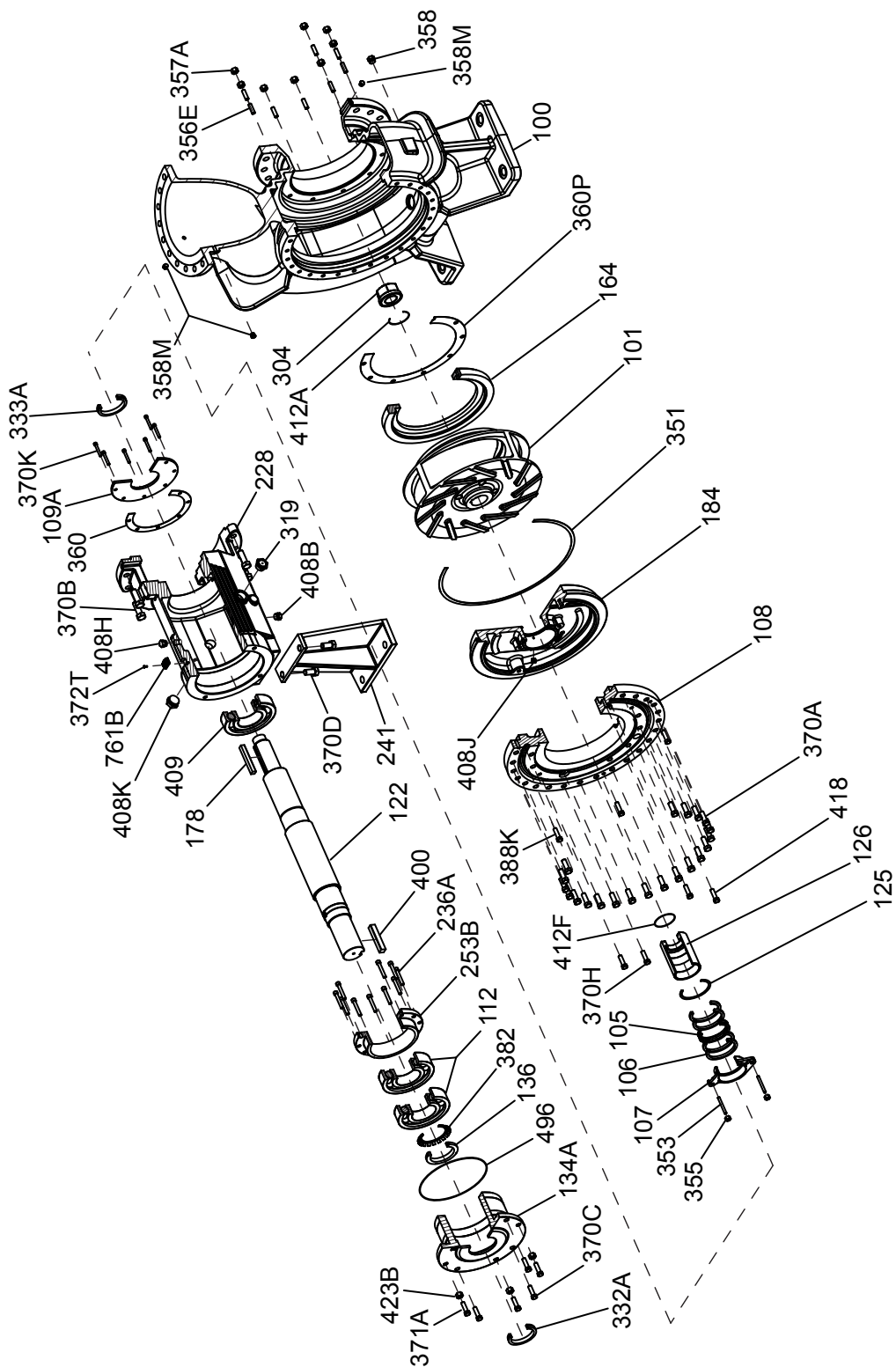


Figure 42: Exploded view of 3180 and 3185 XL1, XL2-S, and XL2 groups

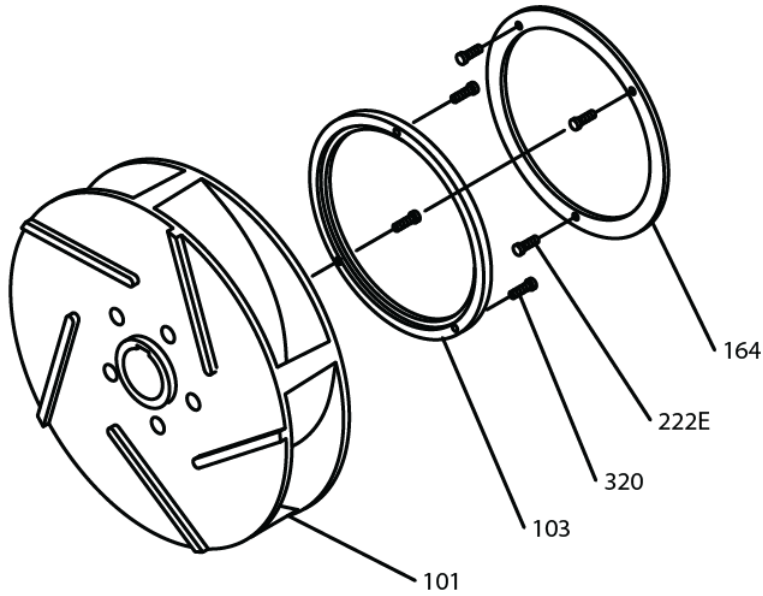


Figure 43: Enclosed impeller option for the S, M, L, and XL groups

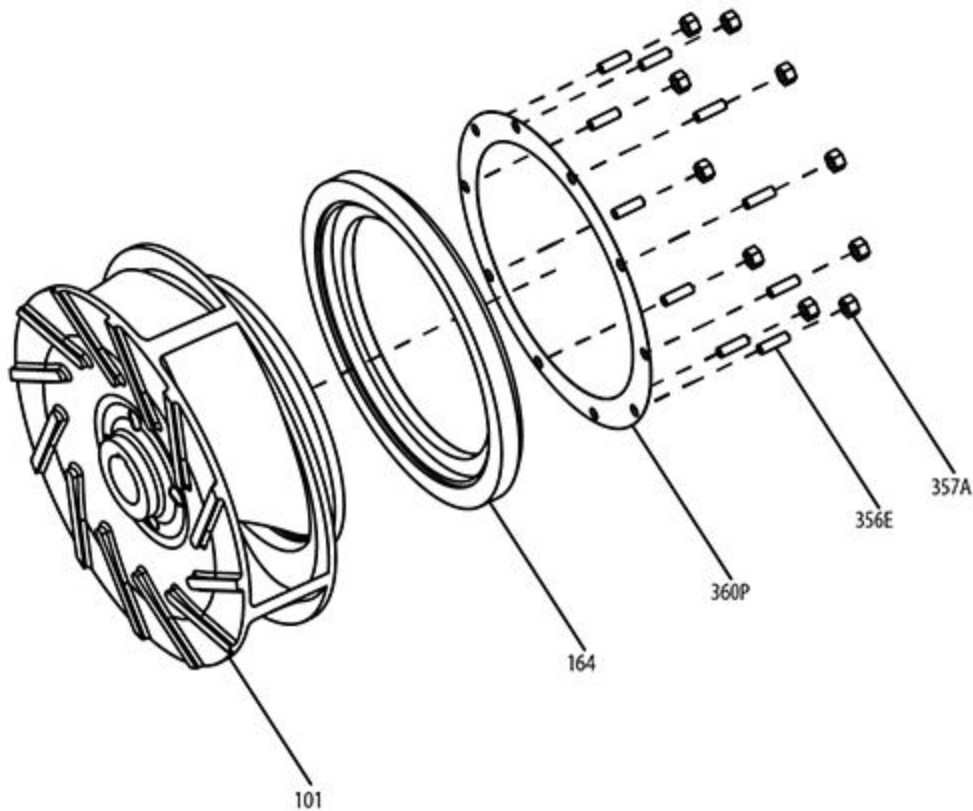


Figure 44: Enclosed impeller option for the XL1, XL2-S and XL2 groups

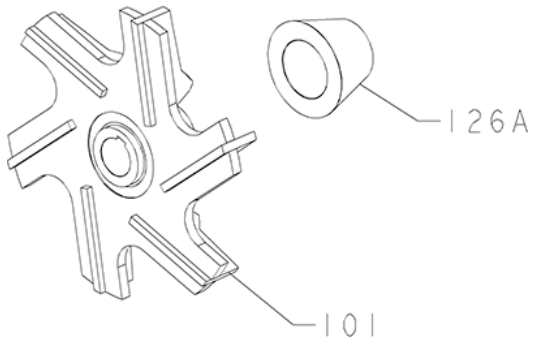


Figure 45: Shearpeller™

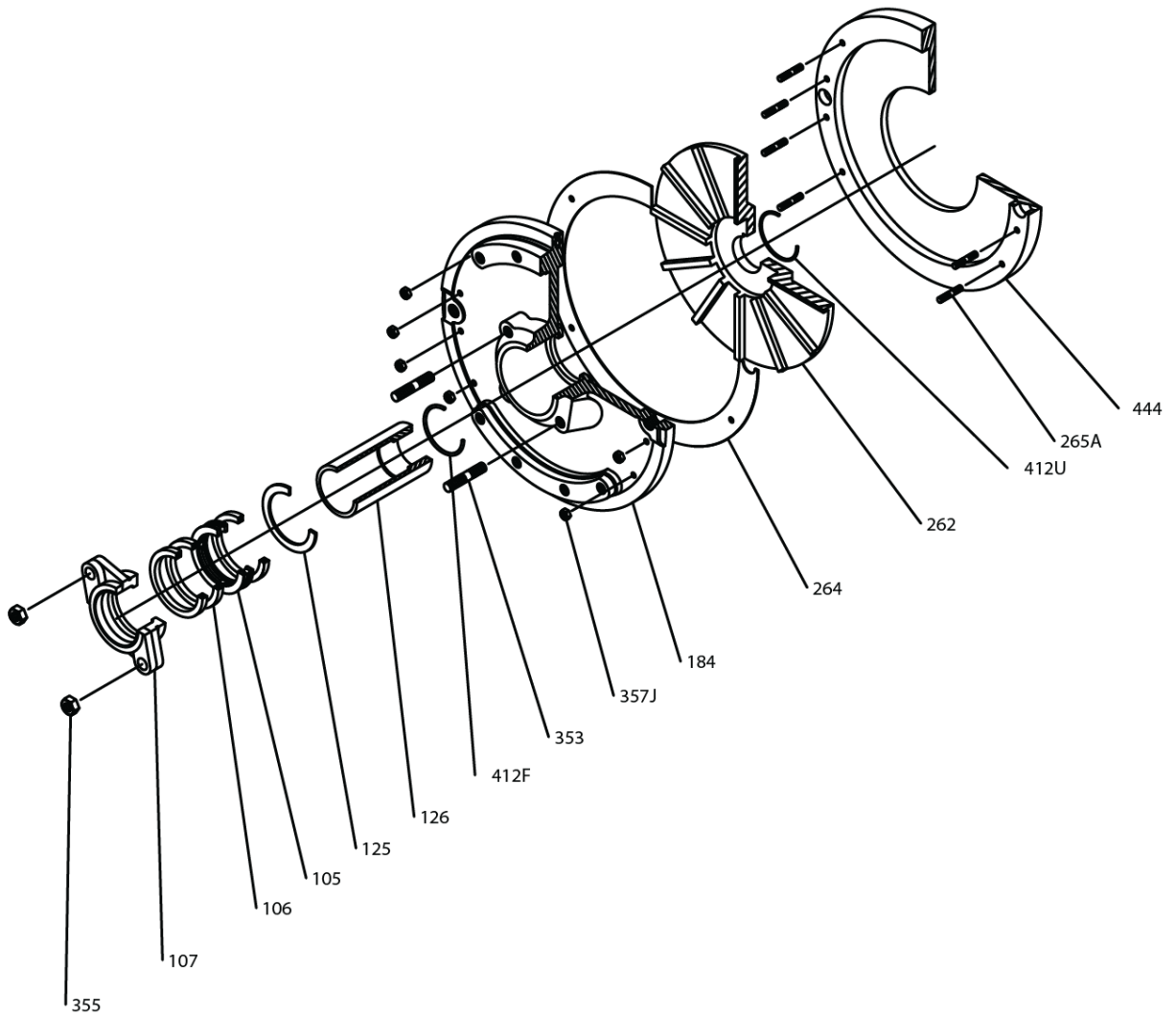


Figure 46: Dynamic seal option (3180/3185 S, M, L, and XL group only)

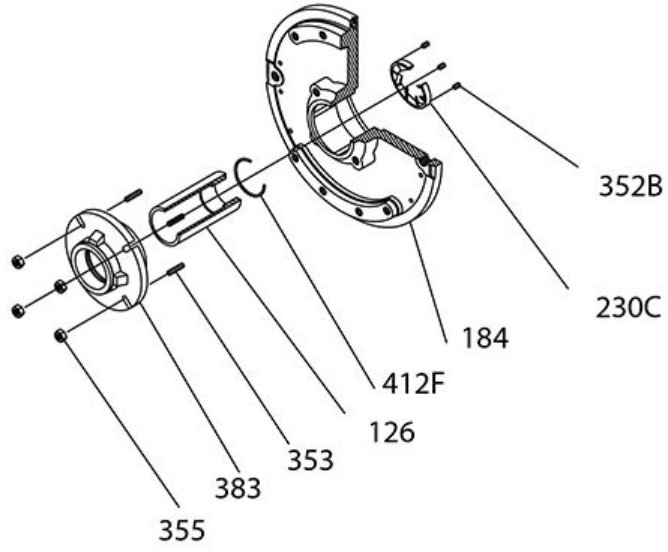


Figure 47: TaperBore™ PLUS seal chamber with VPE ring