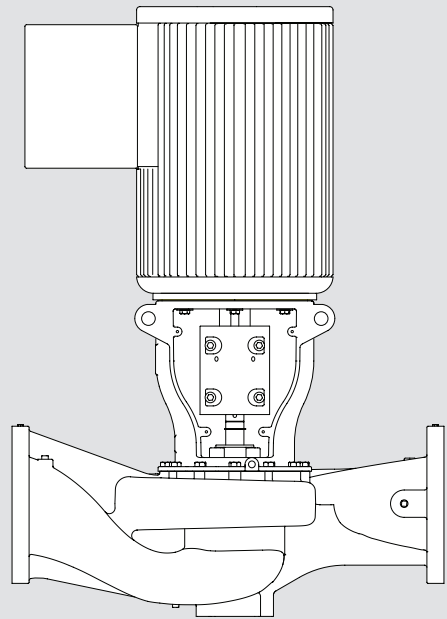
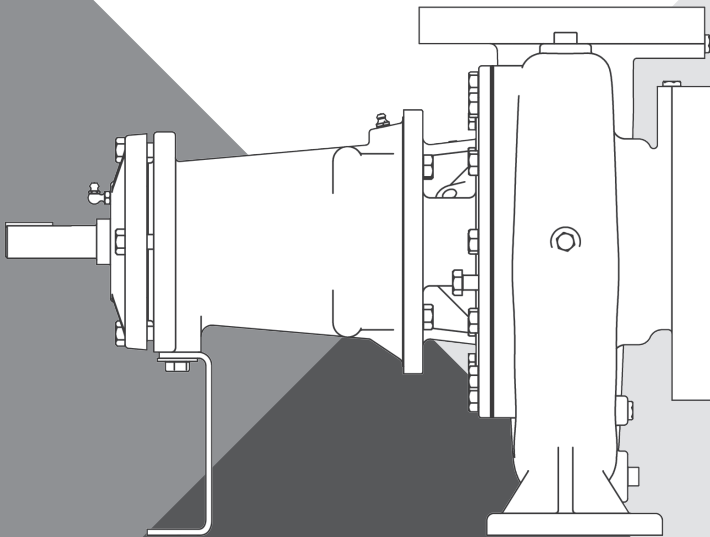




END SUCTION & IN-LINE PUMPS 1600(F), 1500(F) SERIES



REPAIR KITS AND PARTS GUIDE

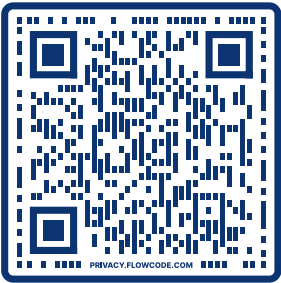
pentair.com/fairbanks-nijhuis

TABLE OF CONTENTS

SERIES	DESCRIPTION	PAGE NO.
	MATERIAL CODE INDEX	3
HVAC & WATER SUPPLY PUMPS		
END SUCTION		
1600	SEAL KIT	4
1600	POWER FRAME ASSEMBLY	5
1600 (1650)	KIT SELECTION TABLE	6
1600 (1620)	KIT SELECTION TABLE	7
IN-LINE		
1590 CC	SEAL KIT	8
1590 CC	KIT SELECTION TABLE	9
1590 SC	SEAL KIT (TYPE-21 & TYPE-1)	11
1590 SC	SEAL KIT (TYPE-8B2)	12
1590 SC	ROTATING KIT	13
1590 SC	ROTATING KIT (10" 1592, 12" 1591, 12" 1593, 14" 1591, 14" 1593 PUMPS)	14
1590 SC	ROTATING KIT (10" 1594 PUMP)	15
1590 SC	KIT SELECTION TABLE	16
FIRE PUMPS		
END SUCTION		
1620F	PACKING KIT	19
1620F	OVERHAUL KIT	20
1620F	KIT SELECTION TABLE	21
IN-LINE		
1590F	PACKING KIT	22
1590F	OVERHAUL KIT	23
1590F	OVERHAUL KIT (8" 1593F & 8" 1593AF)	24
1590F	ROTATING KIT (8" 1593F & 8" 1593AF)	25
1590F	KIT SELECTION TABLE	26
	WARRANTY	27

READY TO ORDER YOUR
KIT?

SCAN THIS CODE
TO LOCATE YOUR
NEAREST FAIRBANKS
NIJHUIS AUTHORIZED
DISTRIBUTOR



MATERIAL CODE INDEX

CODE	MATERIAL DESCRIPTION
010	Gray Cast Iron - Class 30
028	Malleable Cast Iron
053	Ductile Iron 60-45-10
058	Wrought Carbon Steel C1018
062	Carbon Steel C1040
063	Carbon Steel C1045
080	Steel Fasteners SAE #2
082	Steel Fasteners SAE #5
087	Wrought Steel Misc. Appl
088	Wrought Spring Steel
100	303 Stainless Steel
101	304 Stainless Steel
104	316 Stainless Steel
107	416 Stainless Steel
108	440C Stainless Steel Hardened
109	416 Stainless Steel - Heat Treated
111	Alloy 20 Stainless Steel
190	Bronze Fastener Hardware
199	Lead Semi-Red Brass 81-3-7-9
208	Lead Red Brass 85-5-5-5
225	Cast Silicon Brass
227	Low Zinc Silicon Bronze 92-4-4
243	Nickel Aluminum Bronze 81-5-4-9-1
319	Cast or Wrought Aluminum
360	Cadmium Plated Steel
370	Chrome Plated Cast Iron
387	Galvanized Malleable Iron
457	Buna-N
478	Neoprene
494	Viton
500	Nylon Resin Zytel ST801
503	Polyethylene Plastic
505	Polyvinyl Chloride Tubing

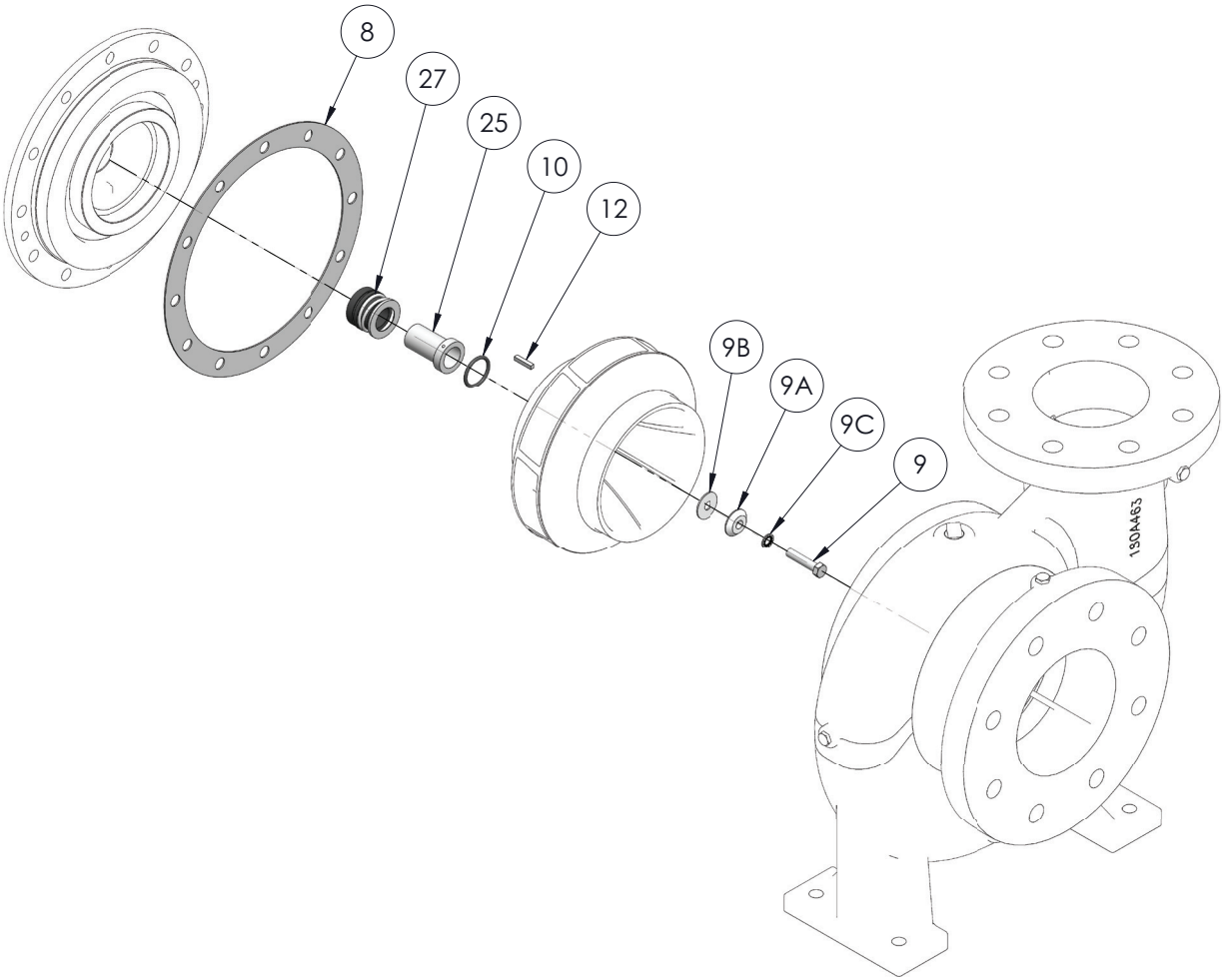
CODE	MATERIAL DESCRIPTION
507	Teflon Coated Steel
511	Nylon
512	25% Glass Filled Teflon
522	Glass Filled Teflon
548	Ceramic Coated 316SS
554	Bronze Ring Construction
598	Cellulose & Cork CN-705
603	Nitrile Butadiene
614	Victolex 258/N852 Accopac
621	Sealant (Liquid Gasket)- Loctite/STA-LOK
642	All Iron Construction
643	All Bronze Construction
644	Bronze Fitted Construction
645	Aluminum Construction
646	Stainless Steel Construction
647	Ball or Roller Bearings
651	Lube Fittings
652	Oilers
653	Grease or Oil Seals
656	Oil Breathers
660	Gland (Bronze/316 S/S)
661	Gland (Steel/Steel)
662	Gland (Bronze/Steel)
749*	Mechanical Seal, Buna-N/Carbon/Nickel
753*	Mechanical Seal, Buna-N/Carbon/Ceramic
754 [†]	Mechanical Seal, Buna-N/Carbon/Ceramic
755 [†]	Mechanical Seal, Buna-N/Carbon/Nickel
758	Mechanical Seal, Neoprene/Carbon/Nickel
764	Mechanical Seal, Viton/Carbon/Ceramic
802	Non Asbestos Packing
816	Graphited Teflon Fiber
999	Vendors Standard Material

NOTES

* CODES 749 & 753 REFER TO STAINLESS STEEL METAL PARTS IN THE SEAL.

[†] CODES 754 & 755 REFER TO BRASS METAL PARTS IN THE SEAL.

1600 SERIES SEAL KIT



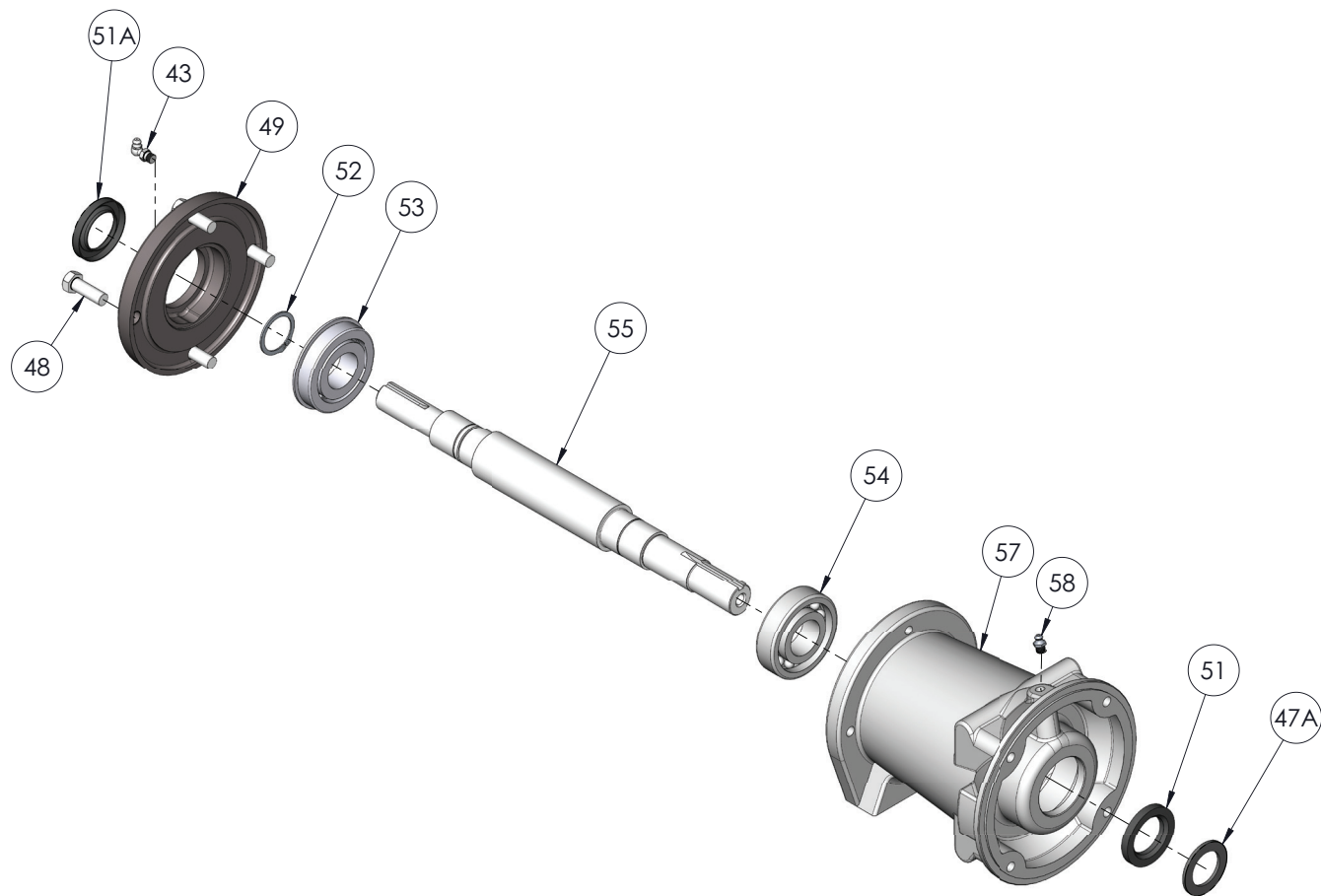
PARTS INCLUDED IN SEAL KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
8	Casing Gasket	603
9	Impeller Cap Screw	104
9A	Impeller Washer	101
9B	Impeller Gasket	603
9C	Impeller Seal	999
10	O-Ring	457
12	Impeller Key	087
25	Sleeve	104
27	Mechanical Seal	753

NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.

1600 SERIES POWER FRAME ASSEMBLY



PARTS INCLUDED IN POWER FRAME ASSEMBLY

NOTE: PRE-ASSEMBLED AT FACTORY PRIOR TO SHIPMENT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
43	Grease Fitting	651
47A	Slinger	478
48	Cap Screw	082
49	Bearing Cap	010
51	Leap Seal	653
51A	Leap Seal	653
52	Retaining Ring	088
53	Bearing	647
54	Bearing	647
55*	Shaft*	063
57	Frame	010
58	Grease Fitting	651

NOTES

* STAINLESS STEEL SHAFT OPTION AVAILABLE; REFER TO FACTORY.

1600 SERIES (1650) KIT SELECTION TABLE

KIT SELECTION TABLE 1 OF 2

PUMP SIZE	FRAME SIZE	SEAL KIT
1.25" 1651	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
1.5" 1651	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
2" 1651A	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
	254-256 JM	476-1252-644
2.5" 1651	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
	254-256 JM	476-1252-644
	284-326 JM	476-1252-644
3" 1651A	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
	254-256 JM	476-1252-644
	284-326 JM	476-1252-644
4" 1651A	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
	254-256 JM	476-1252-644
	284-326 JM	476-1252-644
5" 1651A	143-184 JM	476-1251-644
	213-215 JM	476-1251-644
	254-256 JM	476-1252-644
	284-326 JM	476-1252-644
	364-405 JP	476-1253-644
1.25" 1652	143-184 JM	476-1254-644
	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
1.5" 1654	143-184 JM	476-1254-644
	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
2" 1652	143-184 JM	476-1254-644
	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
2.5" 1652	143-184 JM	476-1254-644
	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
3" 1652	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
	364-405 JP	476-1259-644
4" 1652	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
	364-405 JP	476-1259-644

KIT SELECTION TABLE 2 OF 2

PUMP SIZE	FRAME SIZE	SEAL KIT
5" 1652A	213-215 JM	476-1254-644
	254-256 JM	476-1255-644
	284-326 JM	476-1255-644
6" 1651	254-256 JM	476-1256-644
	284-326 JM	476-1256-644
1.5" 1652	143-184 JM	476-1257-644
	213-215 JM	476-1257-644
	254-256 JM	476-1258-644
	284-326 JM	476-1258-644
2" 1653	143-184 JM	476-1257-644
	213-215 JM	476-1257-644
	254-256 JM	476-1258-644
	284-326 JM	476-1258-644
	364-405 JP	476-1260-644
3" 1653	143-184 JM	476-1257-644
	213-215 JM	476-1257-644
	254-256 JM	476-1258-644
	284-326 JM	476-1258-644
4" 1653A	364-405 JP	476-1260-644
	213-215 JM	476-1257-644
	254-256 JM	476-1258-644
	284-326 JM	476-1258-644
5" 1653	364-405 JP	476-1260-644
	254-256 JM	476-1258-644
6" 1652A	284-326 JM	476-1258-644
	254-256 JM	476-1258-644
1.5" 1653	143-184 JM	476-1261-644
	213-215 JM	476-1261-644
2" 1654	254-256 JM	476-1263-644
	284-326 JM	476-1263-644
2.5" 1653	213-215 JM	476-1262-644
	254-256 JM	476-1263-644
	284-326 JM	476-1263-644
3" 1654	254-256 JM	476-1263-644
	284-326 JM	476-1263-644
	254-256 JM	476-1263-644
4" 1654	284-326 JM	476-1263-644
	364-405 JP	476-1264-644
5" 1654	254-256 JM	476-1263-644
	284-326 JM	476-1263-644
6" 1653	254-256 JP	476-1263-644
	284-326 JP	476-1263-644
	364-405 JP	476-1264-644
8" 1652	254-256 JP	476-1263-644
	284-326 JP	476-1263-644
	364-405 JP	476-1264-644

1600 SERIES (1620) KIT SELECTION TABLE

KIT SELECTION TABLE 1 OF 2

PUMP SIZE	POWER FRAME NO.	SEAL KIT	POWER FRAME ASSEMBLY (PRE-ASSEMBLED)
1.25" 1621	1	476-1251-644	355-0006-644
1.5" 1621	1	476-1251-644	355-0006-644
2" 1621A	1	476-1251-644	355-0006-644
2.5" 1621	1	476-1251-644	355-0006-644
	2	476-1252-644	355-0008-644
3" 1621A	1	476-1251-644	355-0006-644
	2	476-1252-644	355-0008-644
4" 1621A	1	476-1251-644	355-0006-644
	2	476-1252-644	355-0008-644
5" 1621A	1	476-1251-644	355-0006-644
	2	476-1252-644	355-0008-644
	3	476-1252-644	355-0009-644
1.25" 1622	1	476-1254-644	355-0006-644
	2	476-1255-644	355-0008-644
1.5" 1624	1	476-1254-644	355-0006-644
	2	476-1255-644	355-0008-644
2" 1622	1	476-1254-644	355-0006-644
	2	476-1255-644	355-0008-644
2.5" 1622	1	476-1254-644	355-0006-644
	3	476-1255-644	355-0009-644
3" 1622	1	476-1254-644	355-0006-644
	3	476-1255-644	355-0009-644
4" 1622	1	476-1254-644	355-0006-644
	2	476-1255-644	355-0008-644
5" 1622A	1	476-1254-644	355-0006-644
	2	476-1255-644	355-0008-644
	3	476-1255-644	355-0009-644
6" 1621	2	476-1256-644	355-0008-644

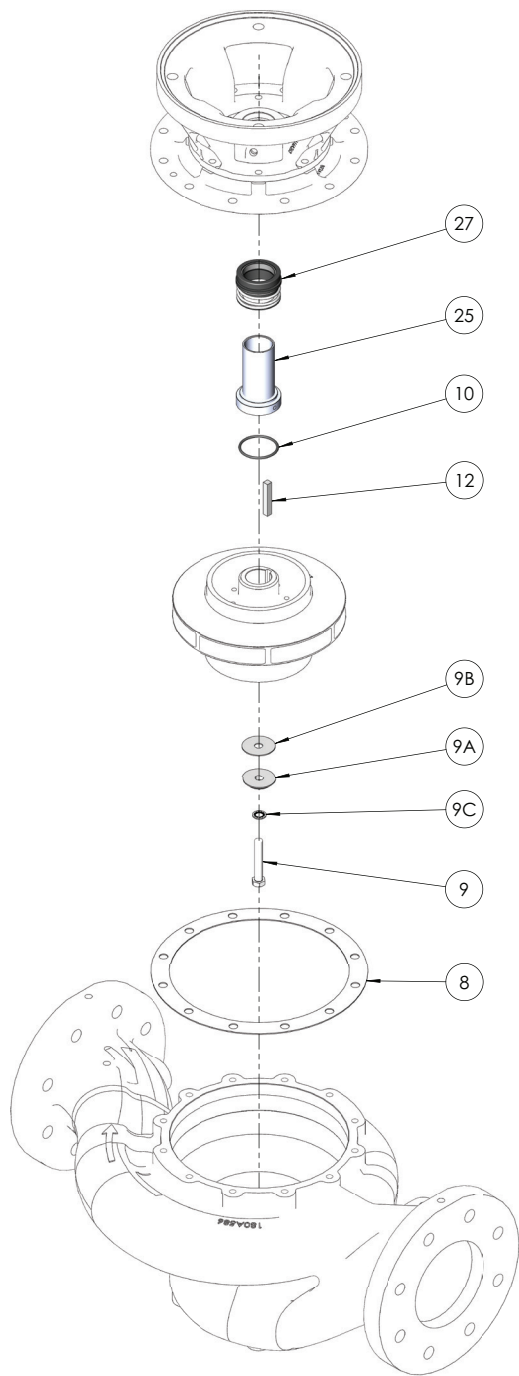
KIT SELECTION TABLE 2 OF 2

PUMP SIZE	POWER FRAME NO.	SEAL KIT	POWER FRAME ASSEMBLY (PRE-ASSEMBLED)
1.5" 1622	1	476-1257-644	355-0006-644
	2	476-1258-644	355-0008-644
2" 1623	1	476-1257-644	355-0006-644
	3	476-1258-644	355-0009-644
3" 1623	3	476-1258-644	355-0009-644
	3	476-1258-644	355-0009-644
4" 1623A	1	476-1257-644	355-0006-644
	2	476-1258-644	355-0008-644
	3	476-1258-644	355-0009-644
	21A	476-1260-644	355-0300-644
5" 1623	2	476-1258-644	355-0008-644
	3	476-1258-644	355-0009-644
6" 1622A	3	476-1258-644	355-0009-644
1.5" 1623	1	476-1261-644	355-0006-644
2" 1624	3	476-1263-644	355-0009-644
2.5" 1623	2	476-1263-644	355-0008-644
	2	476-1263-644	355-0008-644
	3	476-1263-644	355-0009-644
3" 1624	2	476-1263-644	355-0008-644
	3	476-1263-644	355-0009-644
4" 1624	2	476-1263-644	355-0008-644
	3	476-1263-644	355-0009-644
	21A	476-1264-644	355-0300-644
5" 1624	2	476-1263-644	355-0008-644
	3	476-1263-644	355-0009-644
	21A	476-1264-644	355-0300-644
6" 1623	21A	476-1264-644	355-0300-644
8" 1622	21A	476-1264-644	355-0300-644

NOTES

1. ALL KITS ARE NSF 372 (LOW LEAD). FOR NSF 61, REFER TO FACTORY.

1590 CLOSE COUPLED SERIES SEAL KIT



PARTS INCLUDED IN SEAL KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
8	Casing Gasket	603
9	Impeller Cap Screw	104
9A	Impeller Washer	101
9B	Impeller Gasket	603
9C	Impeller Seal	999
10	O-Ring	457
12	Impeller Key	087
25	Sleeve	104
27	Seal	753

NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.

1590 CLOSE COUPLED SERIES KIT SELECTION TABLE

KIT SELECTION TABLE 1 OF 3

PUMP SIZE	FRAME SIZE	SEAL KIT
1.5" 1591	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
2.5" 1591A	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
5" 1591A	254-256JM	476-1252-644
	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
	254-256JM	476-1252-644
	284-286JM	476-1252-644
	324-326JM	476-1252-644
	364-365JP	476-1253-644
6" 1591A	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
	254-256JM	476-1252-644
	284-286JM	476-1252-644
	324-326JM	476-1252-644
10" 1591A	364-365JP	476-1253-644
	254-256JP	476-1263-644
	284-286JP	476-1263-644
	324-326JP	476-1263-644
	364-365JP	476-1264-644
1.5" 1592	404-405JP	476-1264-644
	143-145JM	476-1254-644
	182-184JM	476-1254-644
	213-215JM	476-1254-644
	254-256JM	476-1255-644
	284-286JM	476-1255-644
2" 1592A	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
	254-256JM	476-1252-644
2.5" 1592	182-184JM	476-1254-644
	213-215JM	476-1254-644
	254-256JM	476-1255-644
	284-286JM	476-1255-644
	324-326JM	476-1255-644
	364-365JP	476-1259-644
5" 1592	143-145JM	476-1254-644
	182-184JM	476-1254-644
	213-215JM	476-1254-644
	254-256JM	476-1255-644
	284-286JM	476-1255-644
	324-326JM	476-1255-644
	364-365JP	476-1259-644
	404-405JP	476-1259-644

KIT SELECTION TABLE 2 OF 3

PUMP SIZE	FRAME SIZE	SEAL KIT
6" 1592A	182-184JM	476-1254-644
	213-215JM	476-1254-644
	254-256JM	476-1255-644
	284-286JM	476-1255-644
8" 1592A	213-215JM	476-1257-644
	254-256JM	476-1258-644
	284-286JM	476-1258-644
	324-326JM	476-1258-644
2" 1593	364-365JP	476-1260-644
	143-145JM	476-1257-644
	182-184JM	476-1257-644
	213-215JM	476-1257-644
	254-256JM	476-1258-644
	284-286JM	476-1258-644
	324-326JM	476-1258-644
5" 1593A	143-145JM	476-1257-644
	182-184JM	476-1257-644
	213-215JM	476-1257-644
	254-256JM	476-1258-644
	284-286JM	476-1258-644
	324-326JM	476-1258-644
	364-365JP	476-1260-644
	404-405JP	476-1260-644
6" 1593	143-145JM	476-1257-644
	182-184JM	476-1257-644
	213-215JM	476-1257-644
	254-256JM	476-1258-644
	284-286JM	476-1258-644
3" 1594	324-326JM	476-1258-644
	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
5" 1594	254-256JM	476-1252-644
	284-286JM	476-1252-644
	254-256JM	476-1263-644
	284-286JM	476-1263-644
6" 1594	324-326JM	476-1263-644
	364-365JP	476-1264-644
	254-256JM	476-1263-644
	284-286JM	476-1263-644
8" 1594A	324-326JM	476-1263-644
	364-365JP	476-1264-644
	404-405JP	476-1264-644
	254-256JP	476-1263-644
	284-286JP	476-1263-644
	324-326JP	476-1263-644

NOTES

1. ALL KITS ARE NSF 372 (LOW LEAD). FOR NSF 61, REFER TO FACTORY.

1590 CLOSE COUPLED SERIES KIT SELECTION TABLE (CONTINUED)

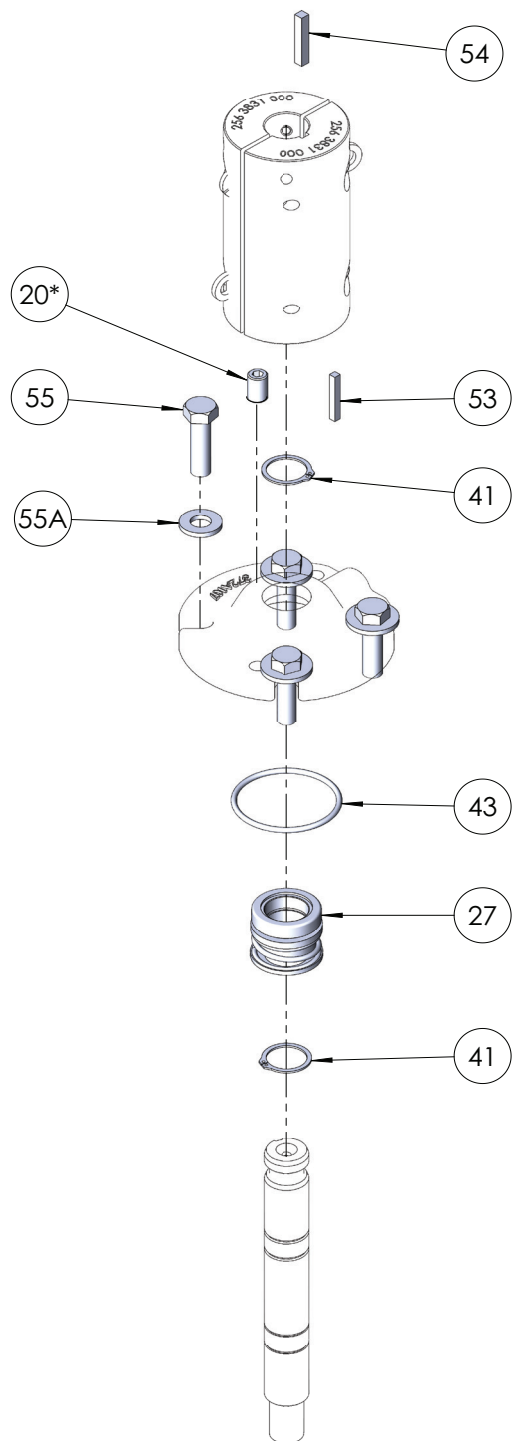
KIT SELECTION TABLE 3 OF 3

PUMP SIZE	FRAME SIZE	SEAL KIT
3" 1595	143-145JM	476-1254-644
	182-184JM	476-1254-644
	213-215JM	476-1254-644
	254-256JM	476-1255-644
	284-286JM	476-1255-644
	324-326JM	476-1255-644
	364-365JP	476-1259-644
4" 1595A	404-405JP	476-1259-644
	143-145JM	476-1251-644
	182-184JM	476-1251-644
	213-215JM	476-1251-644
	254-256JM	476-1252-644
	284-286JM	476-1252-644
3" 1596A	324-326JM	476-1252-644
	143-145JM	476-1257-644
	182-184JM	476-1257-644
	213-215JM	476-1257-644
	254-256JM	476-1258-644
	284-286JM	476-1258-644
	324-326JM	476-1258-644
4" 1596	364-365JP	476-1260-644
	404-405JP	476-1260-644
	143-145JM	476-1254-644
	182-184JM	476-1254-644
	213-215JM	476-1254-644
	254-256JM	476-1255-644
	284-286JM	476-1255-644
3" 1597	324-326JM	476-1255-644
	364-365JP	476-1259-644
	404-405JP	476-1259-644
	143-145JM	476-1262-644
	182-184JM	476-1262-644
	213-215JM	476-1262-644
4" 1597	254-256JM	476-1263-644
	284-286JM	476-1263-644
	324-326JM	476-1263-644
	182-184JM	476-1257-644
	213-215JM	476-1257-644
	254-256JM	476-1258-644
	284-286JM	476-1258-644
4" 1598	324-326JM	476-1258-644
	364-365JP	476-1260-644
	404-405JP	476-1260-644
4" 1598	254-256JM	476-1263-644
	284-286JM	476-1263-644
	324-326JM	476-1263-644

NOTES

1. ALL KITS ARE NSF 372 (LOW LEAD). FOR NSF 61, REFER TO FACTORY.

1590 SPLIT COUPLED SERIES (TYPE 21 & TYPE 1) SEAL KIT



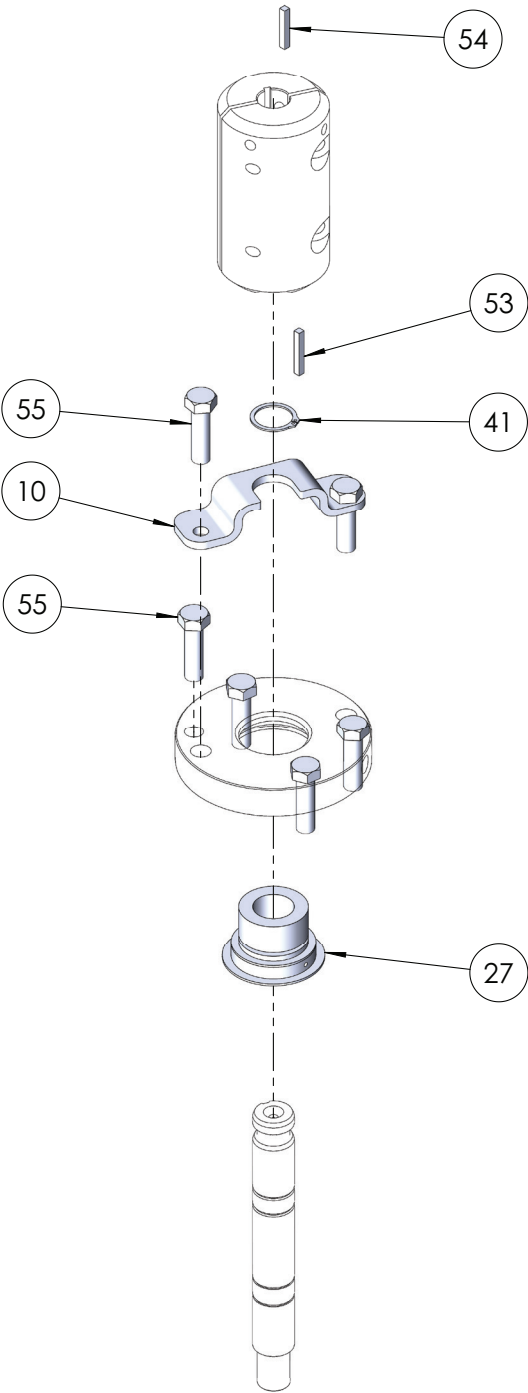
PARTS INCLUDED IN SEAL KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		646
20*	Set Screw	082
27	Seal	753
41	Retaining Ring	088
43	Gland O-Ring	457
53	Coupling Key (Pump)	087
54	Coupling Key (Motor)	087
55	Gland Cap Screw	082
55A	Gland Washer	364

NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.
- *PART NO. 20 IS USED FOR PUMP MODEL 10X10X14 ONLY.

1590 SPLIT COUPLED SERIES (TYPE 8B2) SEAL KIT

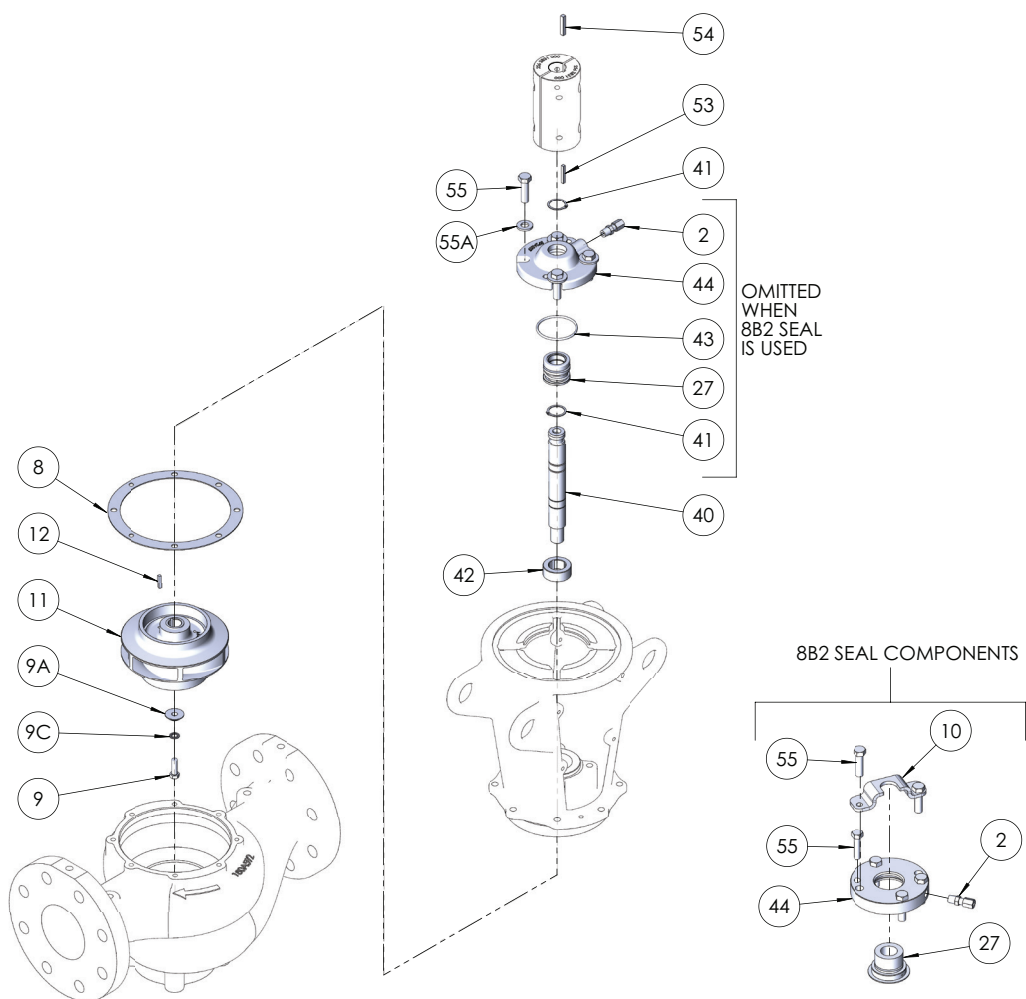


PARTS INCLUDED IN SEAL KIT		
PART NO.	PART DESCRIPTION	MATERIAL CODES
		646
10	Jacking Plate	087
27	Seal	753
41	Retaining Ring	088
53	Coupling Key (Pump)	087
54	Coupling Key (Motor)	087
55	Gland Cap Screw	082

NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.

1590 SPLIT COUPLED SERIES ROTATING KIT



PARTS INCLUDED IN ROTATING KIT

NOTE: UNASSEMBLED; LOOSE PARTS ONLY

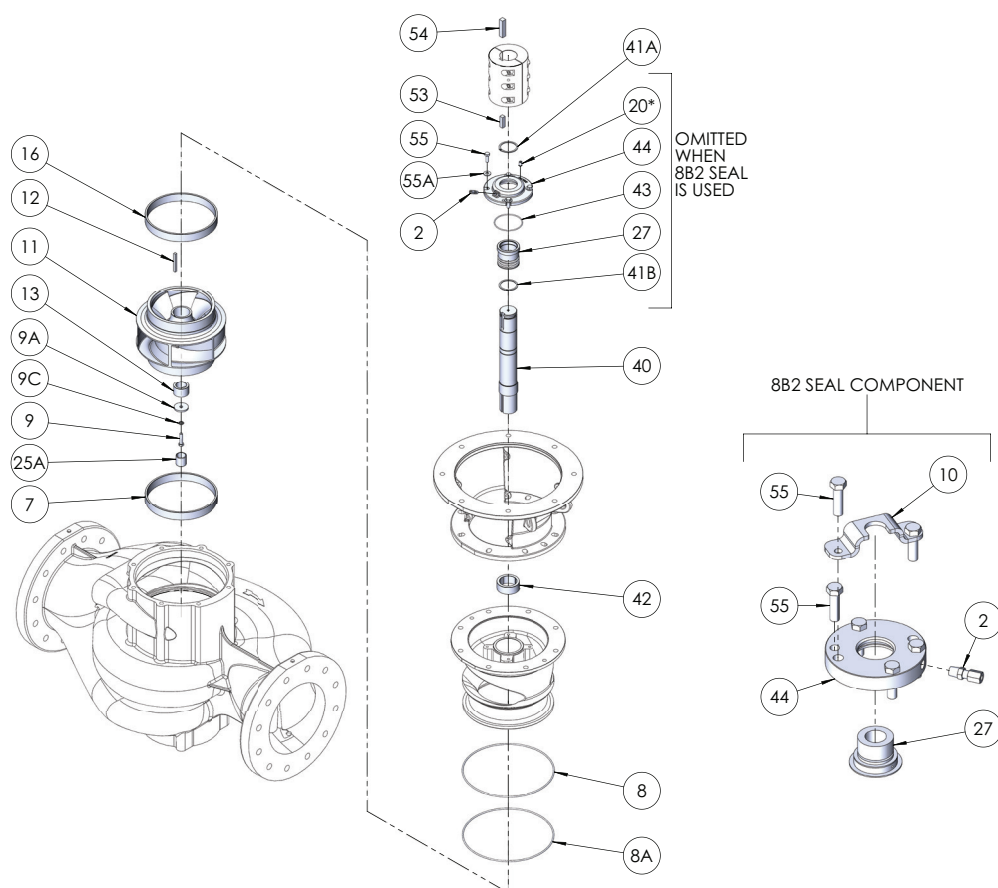
PART NO.	PART DESCRIPTION	MATERIAL CODES	PART NO.	PART DESCRIPTION	MATERIAL CODES
		646			646
2	Compression Connector	190	40	Shaft	107
8	Gasket (Casing)	603	41	Retaining Ring	088
9	Impeller Cap Screw	104	42	Throttle Bush	560
9A	Impeller Washer	101	43	Gland O-Ring	457
9C	Impeller Seal	999	44	Gland	010
10	Jacking Plate	087	53	Coupling Key (Pump)	087
11	Impeller	104	54	Coupling Key (Motor)	087
12	Impeller Key	087	55	Gland Cap Screw	082
27	Mechanical Seal	753	55A	Gland Washer	364

NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.

1590 SPLIT COUPLED SERIES ROTATING KIT

FOR 10" 1592, 12" 1591, 12" 1593, 14" 1591, 14" 1593 PUMPS



PARTS INCLUDED IN ROTATING KIT

NOTE: UNASSEMBLED; LOOSE PARTS ONLY

PART NO.	PART DESCRIPTION	MATERIAL CODES
		646
2	Compression Connector	190
7	Case Wear Ring	107
8	O-Ring (Casing Upper)	494
8A	O-Ring (Casing Lower)	494
9	Impeller Cap Screw	113
9A	Impeller Washer	104
9C	Impeller Seal	999
10	Jacking Plate	087
11	Impeller	104
12	Impeller Key	087
13	Spire Bush	613
16	Wear Ring	107
20*	Set Screw	082

PART NO.	PART DESCRIPTION	MATERIAL CODES
		646
25A	Spire Sleeve	107
27	Mechanical Seal	753
40	Shaft	107
41A	Retaining Ring	088
41B	Retaining Ring	088
42	Throttle Bushing	560
43	Gland O-Ring	457
44	Gland	010
53	Coupling Key (Pump)	087
54	Coupling Key (Motor)	087
55	Gland Cap Screw	082
55A	Gland Washer	082

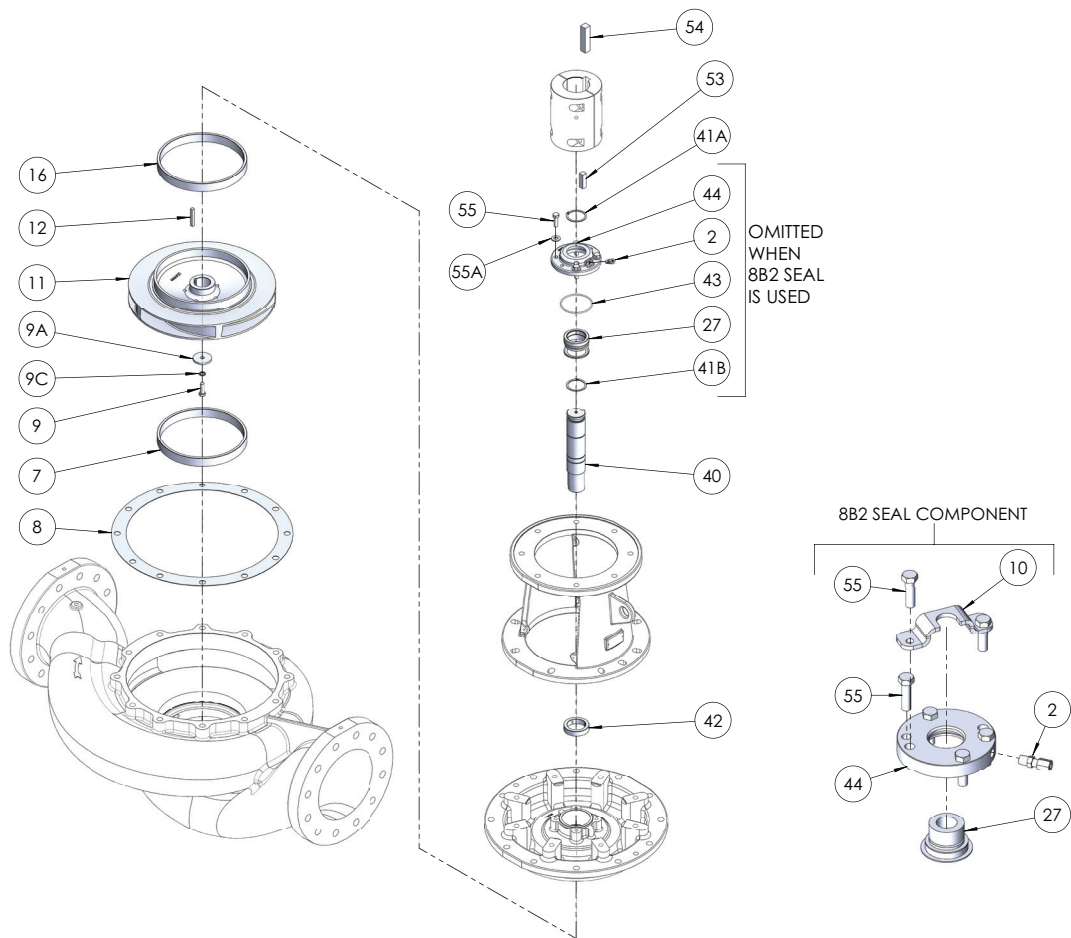
NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.

*PART NO. 20 IS USED FOR PUMP MODEL 10" 1592 ONLY.

1590 SPLIT COUPLED SERIES ROTATING KIT

FOR 10" 1594 PUMP



PARTS INCLUDED IN ROTATING KIT

NOTE: UNASSEMBLED; LOOSE PARTS ONLY

PART NO.	PART DESCRIPTION	MATERIAL CODES	PART NO.	PART DESCRIPTION	MATERIAL CODES
		646			646
2	Compression Connector	190	40	Shaft	107
7	Case Wear Ring	107	41A	Retaining Ring	088
8	Gasket	603	41B	Retaining Ring	088
9	Impeller Cap Screw	113	42	Throttle Bushing	560
9A	Impeller Washer	104	43	Gland O-Ring	457
9C	Impeller Seal	999	44	Gland	010
10	Jacking Plate	087	53	Coupling Key (Pump)	087
11	Impeller	104	54	Coupling Key (Pump)	087
12	Impeller Key	087	55	Gland Cap Screw	082
16	Wear Ring	107	55A	Gland Washer	082
27	Mechanical Seal	753			

NOTES

1. MATERIAL CODES MAY VARY WITH DIFFERENT PUMP SIZES AND SEAL OPTIONS.

1590 SPLIT COUPLED SERIES KIT SELECTION TABLE

KIT SELECTION TABLE 1 OF 3

PUMP SIZE	FRAME SIZE	SEAL KIT			ROTATING KIT (LOOSE PARTS ONLY)		
		TYPE-21	TYPE-1	TYPE-8B2	TYPE-21	TYPE-1	TYPE-8B2
1.5"1591	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1030-646	700-1093-646	700-1158-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1030-646	700-1093-646	700-1158-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1030-646	700-1093-646	700-1158-646
2.5"1591A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1033-646	700-1096-646	700-1161-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1033-646	700-1096-646	700-1161-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1033-646	700-1096-646	700-1161-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1034-646	700-1097-646	700-1162-646
5"1591A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1039-646	700-1102-646	700-1167-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1039-646	700-1102-646	700-1167-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1039-646	700-1102-646	700-1167-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1040-646	700-1103-646	700-1168-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1040-646	700-1103-646	700-1168-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1040-646	700-1103-646	700-1168-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1041-646	700-1104-646	700-1169-646
6"1591A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1042-646	700-1105-646	700-1170-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1042-646	700-1105-646	700-1170-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1042-646	700-1105-646	700-1170-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1043-646	700-1106-646	700-1171-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1043-646	700-1106-646	700-1171-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1043-646	700-1106-646	700-1171-646
10"1591A	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1044-646	700-1107-646	700-1172-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1087-646	700-1150-646	700-1215-646
	284-286TC	476-1560-646	476-1563-646	476-1566-646	700-1087-646	700-1150-646	700-1215-646
	324-326TC	476-1560-646	476-1563-646	476-1566-646	700-1087-646	700-1150-646	700-1215-646
	364-365TC	476-1561-646	476-1564-646	476-1567-646	700-1088-646	700-1151-646	700-1216-646
	404-405TC	476-1561-646	476-1564-646	476-1567-646	700-1088-646	700-1151-646	700-1216-646
	444-445TC	476-1561-646	476-1564-646	476-1567-646	700-1088-646	700-1151-646	700-1216-646
12"1591	284-286TC	476-1450-646	476-1454-646	476-1460-646	700-1091-646	700-1154-646	700-1219-646
	324-326TC	476-1450-646	476-1454-646	476-1460-646	700-1091-646	700-1154-646	700-1219-646
	364-365TC	476-1450-646	476-1454-646	476-1460-646	700-1091-646	700-1154-646	700-1219-646
	404-405TC	476-1450-646	476-1454-646	476-1460-646	700-1091-646	700-1154-646	700-1219-646
	444-449TC	476-1450-646	476-1454-646	476-1460-646	700-1091-646	700-1154-646	700-1219-646
14"1591*	324-326TC	N.A.	476-1458-646	476-1464-646	N.A.	700-1156-646	700-1221-646
	364-365TC	N.A.	476-1458-646	476-1464-646	N.A.	700-1156-646	700-1221-646
	404-405TC	N.A.	476-1458-646	476-1464-646	N.A.	700-1156-646	700-1221-646
	444-449TC	N.A.	476-1458-646	476-1464-646	N.A.	700-1156-646	700-1221-646
	5010SD	N.A.	476-1458-646	476-1464-646	N.A.	700-1156-646	700-1221-646
1.5"1592	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1045-646	700-1108-646	700-1173-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1045-646	700-1108-646	700-1173-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1045-646	700-1108-646	700-1173-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1046-646	700-1109-646	700-1174-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1046-646	700-1109-646	700-1174-646
2"1592A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1031-646	700-1094-646	700-1159-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1031-646	700-1094-646	700-1159-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1031-646	700-1094-646	700-1159-646
2.5"1592	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1032-646	700-1095-646	700-1160-646
	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1047-646	700-1110-646	700-1175-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1047-646	700-1110-646	700-1175-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1047-646	700-1110-646	700-1175-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1048-646	700-1111-646	700-1176-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1048-646	700-1111-646	700-1176-646
5"1592	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1048-646	700-1111-646	700-1176-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1049-646	700-1112-646	700-1177-646
	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1056-646	700-1119-646	700-1184-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1056-646	700-1119-646	700-1184-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1056-646	700-1119-646	700-1184-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1057-646	700-1120-646	700-1185-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1057-646	700-1120-646	700-1185-646
5"1592	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1057-646	700-1120-646	700-1185-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1058-646	700-1121-646	700-1186-646
	404-405TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1058-646	700-1121-646	700-1186-646
	444-445TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1058-646	700-1121-646	700-1186-646

1590 SPLIT COUPLED SERIES KIT SELECTION TABLE (CONTINUED)

KIT SELECTION TABLE 2 OF 3

PUMP SIZE	FRAME SIZE	SEAL KIT			ROTATING KIT (LOOSE PARTS ONLY)		
		TYPE-21	TYPE-1	TYPE-8B2	TYPE-21	TYPE-1	TYPE-8B2
6"1592A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1059-646	700-1122-646	700-1187-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1059-646	700-1122-646	700-1187-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1059-646	700-1122-646	700-1187-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1060-646	700-1123-646	700-1188-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1060-646	700-1123-646	700-1188-646
8"1592A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1074-646	700-1137-646	700-1202-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1074-646	700-1137-646	700-1202-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1074-646	700-1137-646	700-1202-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1074-646	700-1137-646	700-1202-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1075-646	700-1138-646	700-1203-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1075-646	700-1138-646	700-1203-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1075-646	700-1138-646	700-1203-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1076-646	700-1139-646	700-1204-646
10"1592	324-326TC	476-1450-646	476-1454-646	476-1460-646	700-1089-646	700-1152-646	700-1217-646
	364-365TC	476-1450-646	476-1454-646	476-1460-646	700-1089-646	700-1152-646	700-1217-646
	404-405TC	476-1450-646	476-1454-646	476-1460-646	700-1089-646	700-1152-646	700-1217-646
	444-448TC	476-1450-646	476-1454-646	476-1460-646	700-1089-646	700-1152-646	700-1217-646
2"1593	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1061-646	700-1124-646	700-1189-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1061-646	700-1124-646	700-1189-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1061-646	700-1124-646	700-1189-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1062-646	700-1125-646	700-1190-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1062-646	700-1125-646	700-1190-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1062-646	700-1125-646	700-1190-646
5"1593A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1069-646	700-1132-646	700-1197-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1069-646	700-1132-646	700-1197-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1069-646	700-1132-646	700-1197-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1070-646	700-1133-646	700-1198-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1070-646	700-1133-646	700-1198-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1070-646	700-1133-646	700-1198-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1071-646	700-1134-646	700-1199-646
	404-405TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1071-646	700-1134-646	700-1199-646
	444-445TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1071-646	700-1134-646	700-1199-646
	5010SD	N.A.	476-1458-646	476-1464-646	N.A.	700-1157-646	700-1222-646
6"1593	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1072-646	700-1135-646	700-1200-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1072-646	700-1135-646	700-1200-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1072-646	700-1135-646	700-1200-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1073-646	700-1136-646	700-1201-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1073-646	700-1136-646	700-1201-646
12"1593	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1073-646	700-1136-646	700-1201-646
	364-365TC	476-1450-646	476-1454-646	476-1460-646	700-1092-646	700-1155-646	700-1220-646
	404-405TC	476-1450-646	476-1454-646	476-1460-646	700-1092-646	700-1155-646	700-1220-646
	444-449TC	476-1450-646	476-1454-646	476-1460-646	700-1092-646	700-1155-646	700-1220-646
14"1593*	5010SD	N.A.	476-1458-646	476-1464-646	N.A.	700-1157-646	700-1222-646
	404-405TC	N.A.	476-1458-646	476-1464-646	N.A.	700-1157-646	700-1222-646
	444-449TC	N.A.	476-1458-646	476-1464-646	N.A.	700-1157-646	700-1222-646
	5010SD	N.A.	476-1458-646	476-1464-646	N.A.	700-1157-646	700-1222-646
	5010SD	N.A.	476-1458-646	476-1464-646	N.A.	700-1157-646	700-1222-646
3"1594	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1035-646	700-1098-646	700-1163-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1035-646	700-1098-646	700-1163-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1035-646	700-1098-646	700-1163-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1036-646	700-1099-646	700-1164-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1036-646	700-1099-646	700-1164-646
5"1594	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1081-646	700-1144-646	700-1209-646
	284-286TC	476-1560-646	476-1563-646	476-1566-646	700-1081-646	700-1144-646	700-1209-646
	324-326TC	476-1560-646	476-1563-646	476-1566-646	700-1081-646	700-1144-646	700-1209-646
6"1594	364-365TC	476-1561-646	476-1564-646	476-1567-646	700-1082-646	700-1145-646	700-1210-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1083-646	700-1146-646	700-1211-646
	284-286TC	476-1560-646	476-1563-646	476-1566-646	700-1083-646	700-1146-646	700-1211-646
	324-326TC	476-1560-646	476-1563-646	476-1566-646	700-1083-646	700-1146-646	700-1211-646
	364-365TC	476-1561-646	476-1564-646	476-1567-646	700-1084-646	700-1147-646	700-1212-646
8"1594A	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1085-646	700-1148-646	700-1213-646
	284-286TC	476-1560-646	476-1563-646	476-1566-646	700-1085-646	700-1148-646	700-1213-646
	324-326TC	476-1560-646	476-1563-646	476-1566-646	700-1085-646	700-1148-646	700-1213-646
	364-365TC	476-1561-646	476-1564-646	476-1567-646	700-1086-646	700-1149-646	700-1214-646
	404-405TC	476-1561-646	476-1564-646	476-1567-646	700-1086-646	700-1149-646	700-1214-646
	444-445TC	476-1561-646	476-1564-646	476-1567-646	700-1086-646	700-1149-646	700-1214-646

1590 SPLIT COUPLED SERIES KIT SELECTION TABLE (CONTINUED)

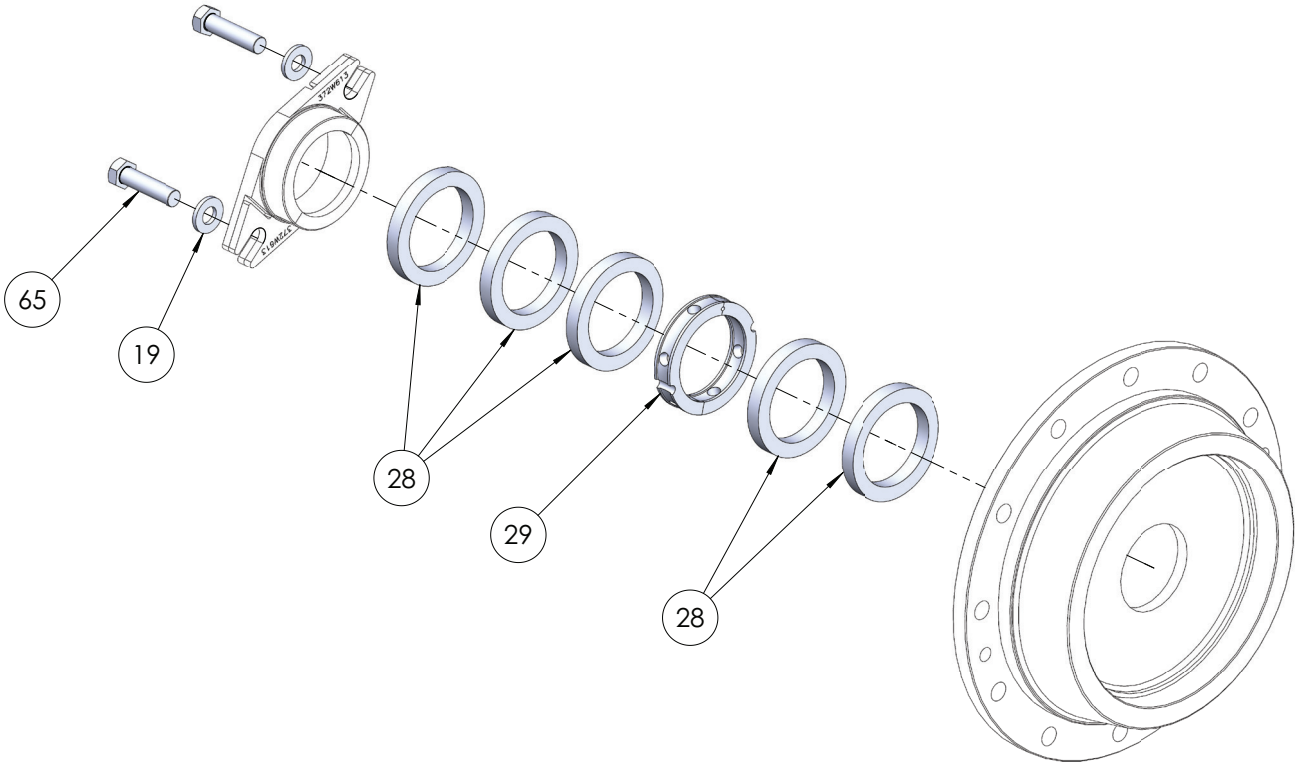
KIT SELECTION TABLE 3 OF 3

PUMP SIZE	FRAME SIZE	SEAL KIT			ROTATING KIT (LOOSE PARTS ONLY)		
		TYPE-21	TYPE-1	TYPE-8B2	TYPE-21	TYPE-1	TYPE-8B2
10"1594	364-365TC	476-1450-646	476-1454-646	476-1460-646	700-1090-646	700-1153-646	700-1218-646
	404-405TC	476-1450-646	476-1454-646	476-1460-646	700-1090-646	700-1153-646	700-1218-646
	444-449TC	476-1450-646	476-1454-646	476-1460-646	700-1090-646	700-1153-646	700-1218-646
	5010SD	476-1450-646	476-1454-646	476-1460-646	700-1090-646	700-1153-646	700-1218-646
3"1595	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1050-646	700-1113-646	700-1178-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1050-646	700-1113-646	700-1178-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1050-646	700-1113-646	700-1178-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1051-646	700-1114-646	700-1179-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1051-646	700-1114-646	700-1179-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1051-646	700-1114-646	700-1179-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1052-646	700-1115-646	700-1180-646
	404-405TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1052-646	700-1115-646	700-1180-646
4"1595A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1037-646	700-1100-646	700-1165-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1037-646	700-1100-646	700-1165-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1037-646	700-1100-646	700-1165-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1038-646	700-1101-646	700-1166-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1038-646	700-1101-646	700-1166-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1038-646	700-1101-646	700-1166-646
3"1596A	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1063-646	700-1126-646	700-1191-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1063-646	700-1126-646	700-1191-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1063-646	700-1126-646	700-1191-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1064-646	700-1127-646	700-1192-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1064-646	700-1127-646	700-1192-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1064-646	700-1127-646	700-1192-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1065-646	700-1128-646	700-1193-646
	404-405TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1065-646	700-1128-646	700-1193-646
4"1596	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1053-646	700-1116-646	700-1181-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1053-646	700-1116-646	700-1181-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1053-646	700-1116-646	700-1181-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1054-646	700-1117-646	700-1182-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1054-646	700-1117-646	700-1182-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1054-646	700-1117-646	700-1182-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1055-646	700-1118-646	700-1183-646
	404-405TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1055-646	700-1118-646	700-1183-646
3"1597	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1077-646	700-1140-646	700-1205-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1077-646	700-1140-646	700-1205-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1077-646	700-1140-646	700-1205-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1078-646	700-1141-646	700-1206-646
	284-286TC	476-1560-646	476-1563-646	476-1566-646	700-1078-646	700-1141-646	700-1206-646
	324-326TC	476-1560-646	476-1563-646	476-1566-646	700-1078-646	700-1141-646	700-1206-646
4"1597	143-145TC	476-1559-646	476-1562-646	476-1565-646	700-1066-646	700-1129-646	700-1194-646
	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1066-646	700-1129-646	700-1194-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1066-646	700-1129-646	700-1194-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1067-646	700-1130-646	700-1195-646
	284-286TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1067-646	700-1130-646	700-1195-646
	324-326TC/TSC	476-1560-646	476-1563-646	476-1566-646	700-1067-646	700-1130-646	700-1195-646
	364-365TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1068-646	700-1131-646	700-1196-646
	404-405TC/TSC	476-1561-646	476-1564-646	476-1567-646	700-1068-646	700-1131-646	700-1196-646
4"1598	182-184TC	476-1559-646	476-1562-646	476-1565-646	700-1079-646	700-1142-646	700-1207-646
	213-215TC	476-1559-646	476-1562-646	476-1565-646	700-1079-646	700-1142-646	700-1207-646
	254-256TC	476-1560-646	476-1563-646	476-1566-646	700-1080-646	700-1143-646	700-1208-646
	284-286TC	476-1560-646	476-1563-646	476-1566-646	700-1080-646	700-1143-646	700-1208-646
	324-326TC	476-1560-646	476-1563-646	476-1566-646	700-1080-646	700-1143-646	700-1208-646

NOTES

1. ALL KITS ARE NSF 372 (LOW LEAD). FOR NSF 61, REFER TO FACTORY.
*PUMP 14" 1591 AND 14" 1593 ARE OFFERED WITH SEAL TYPE-1 AS STANDARD OFFERING.

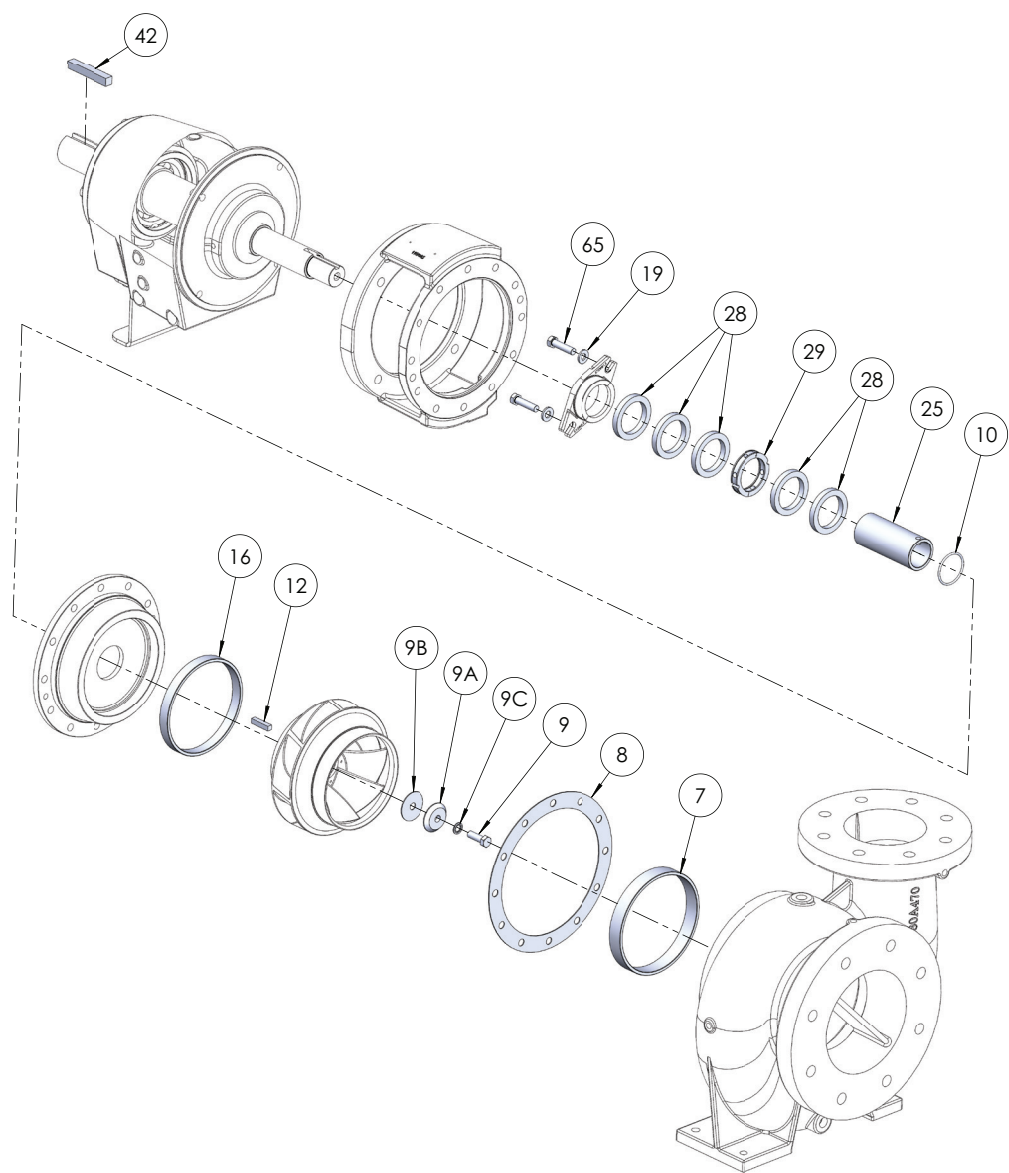
1620F SERIES PACKING KIT



PARTS INCLUDED IN PACKING KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
19	Gland Washer	104
28	Packing	816
29	Lantern Ring	512
65	Gland Cap Screw	104

1620F SERIES OVERHAUL KIT



PARTS INCLUDED IN OVERHAUL KIT

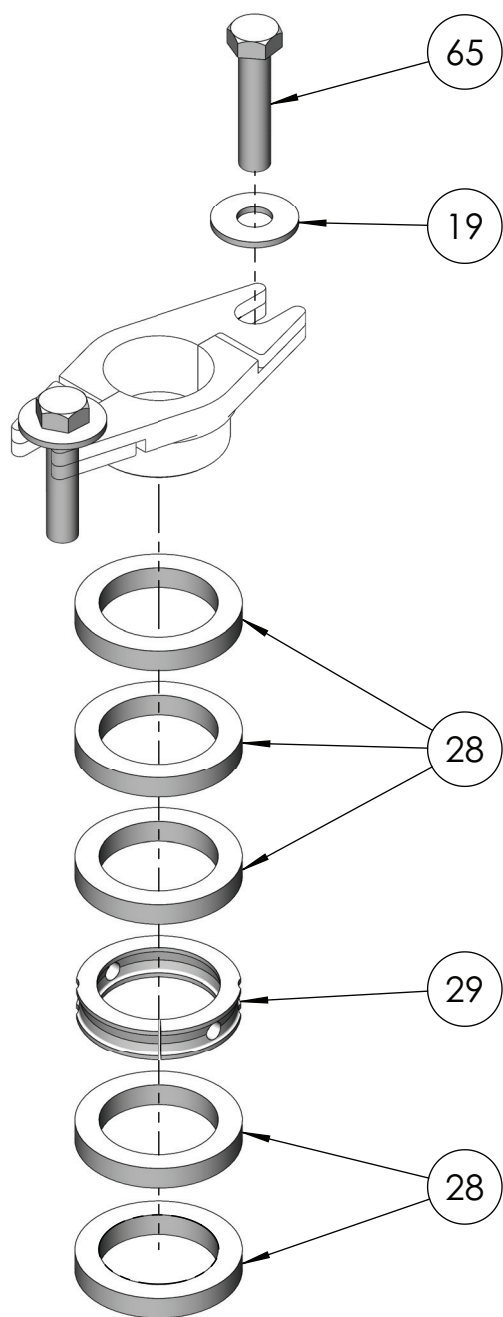
PART NO.	PART DESCRIPTION	MATERIAL CODES	PART NO.	PART DESCRIPTION	MATERIAL CODES
		644			644
7	Front Case Wear Ring	208	16	Back Case Wear Ring	208
8	Casing Gasket	603	19	Gland Washer	104
9	Impeller Cap Screw	104	25	Shaft Sleeve	208
9A	Impeller Washer	101	28	Packing	816
9B	Impeller Gasket	603	29	Lantern Ring	512
9C	Impeller Seal	118	42	Coupling Key	087
10	Sleeve O-Ring	457	65	Gland Cap Screw	104
12	Impeller Key	087			

1620F SERIES KIT SELECTION TABLE

PUMP SIZE	POWER FRAME	POWER FRAME ASSEMBLY (PRE-ASSEMBLED)		PACKING KIT	OVERHAUL KIT
		C1045 SHAFT	SS316 SHAFT		
2.5" 1621F	3	355-0014-644	355-0014-646	476-1065-644	476-1830-644
4" 1621F	3	355-0014-644	355-0014-646	476-1065-644	476-1831-644
4" 1622F	21	355-0301-644	N.A.	476-1066-644	476-1832-644
5" 1622F	21	355-0301-644	N.A.	476-1066-644	476-1833-644
2" 1623F	3	355-0014-644	355-0014-646	476-1065-644	476-1834-644
2.5" 1623F	3	355-0014-644	355-0014-646	476-1065-644	476-1836-644
3" 1623F	21	355-0301-644	N.A.	476-1066-644	476-1835-644
3" 1624F	21	355-0301-644	N.A.	476-1066-644	476-1837-644

NOTES

1. ALL KITS ARE NSF 372 (LOW LEAD). FOR NSF 61, REFER TO FACTORY.

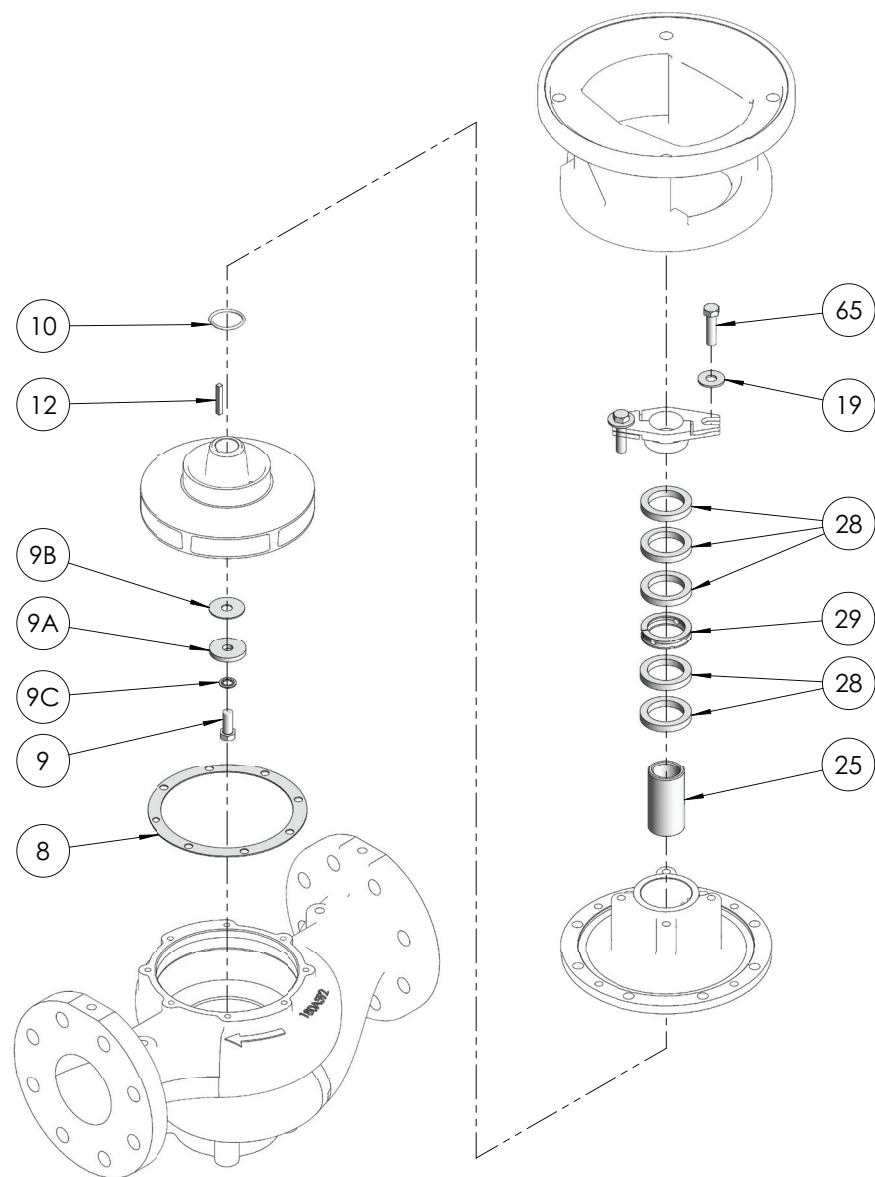


PARTS INCLUDED IN PACKING KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
19	Flat Washer	104
28	Packing	816
29	Lantern Ring	512
65	Gland Cap Screw	104

1590F SERIES OVERHAUL KIT

FOR ALL PUMP SIZES EXCEPT 8" 1593F & 8" 1593AF



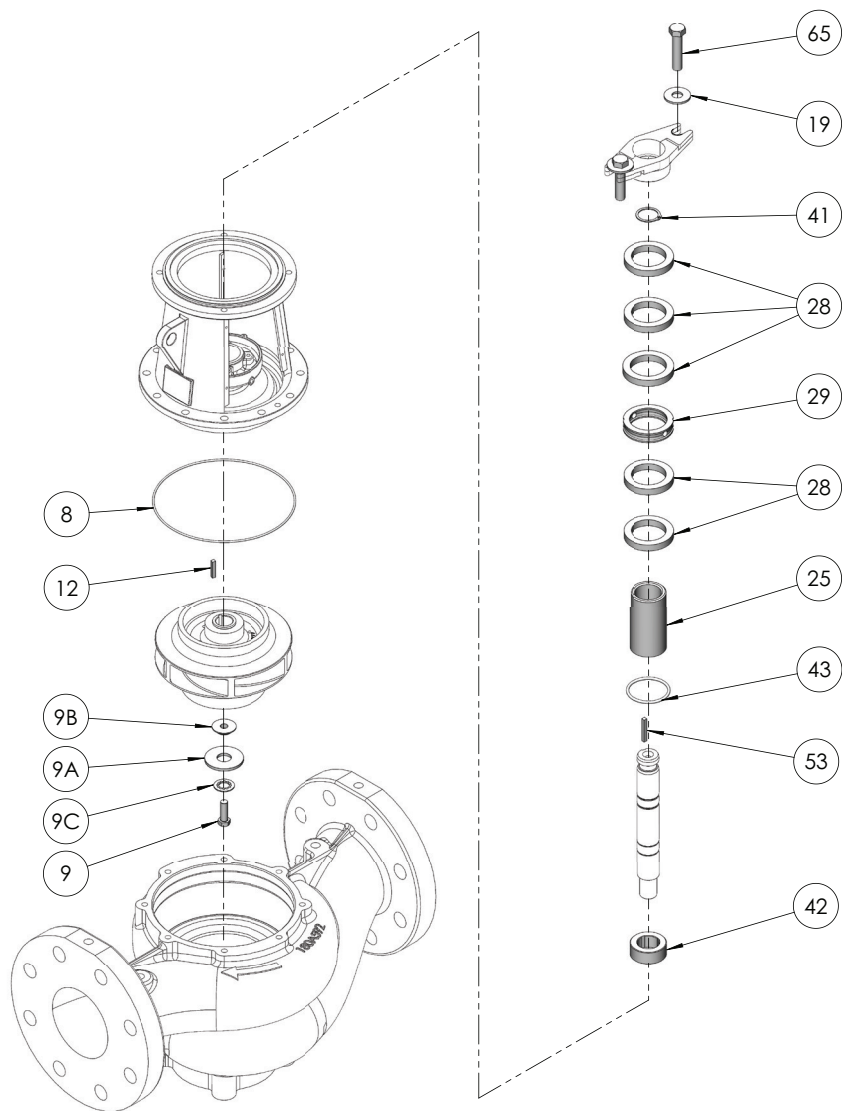
PARTS INCLUDED IN OVERHAUL KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
8	Casing Gasket	603
9	Impeller Cap Screw	104
9A	Impeller Washer	101
9B	Impeller Gasket	603
9C	Impeller Seal	118
10	Sleeve Gasket	457

PART NO.	PART DESCRIPTION	MATERIAL CODES
		644
12	Impeller Key	087
19	Flat Washer	104
25	Shaft Sleeve	208
28	Packing	816
29	Lantern Ring	512
65	Gland Cap Screw	104

1590F SERIES OVERHAUL KIT

FOR 8" 1593F & 8" 1593AF

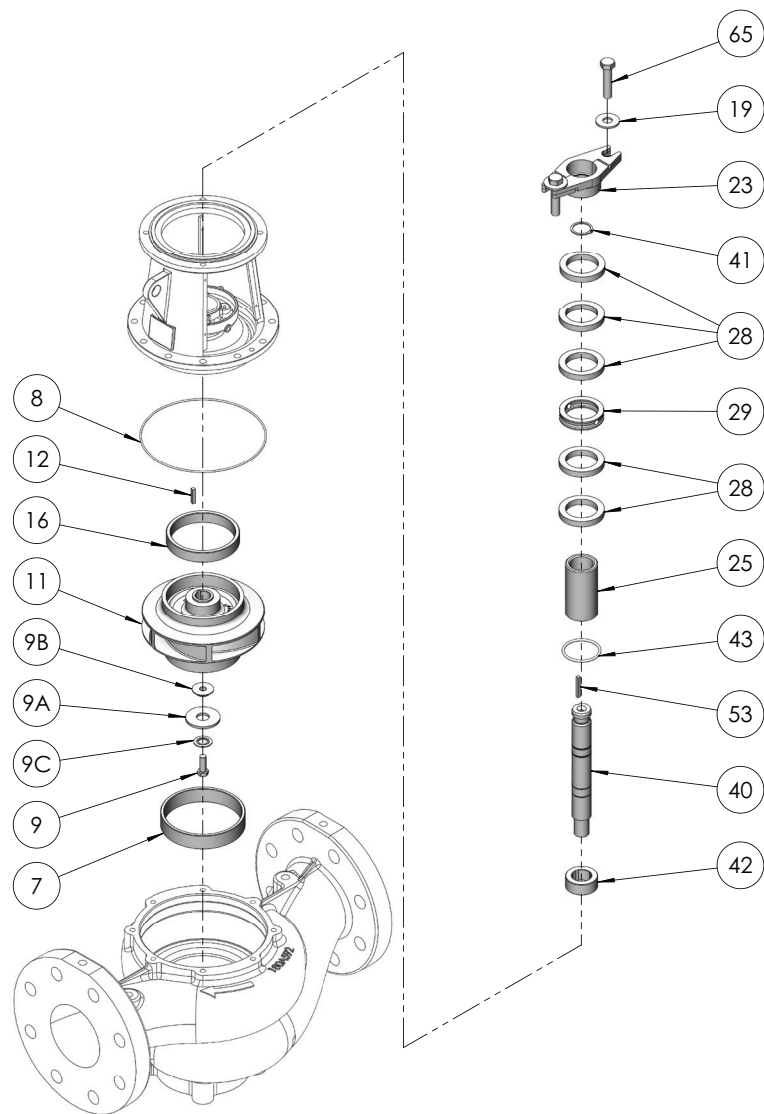


PARTS INCLUDED IN OVERHAUL KIT

PART NO.	PART DESCRIPTION	MATERIAL CODES	PART NO.	PART DESCRIPTION	MATERIAL CODES
		644			644
8	O-Ring	457	28	Packing	816
9	Impeller Cap Screw	104	29	Lantern Ring	512
9A	Impeller Washer	104	41	Retaining Ring	088
9B	Impeller Gasket	603	42	Throttle Bushing	560
9C	Impeller Seal	118	43	Gland O-Ring	457
12	Impeller Key	087	53	Coupling Key	087
19	Flat Washer	104	65	Gland Cap Screw	104
25	Shaft Sleeve	107			

1590F SERIES ROTATING KIT

FOR 8" 1593F & 8" 1593AF



PARTS INCLUDED IN ROTATING KIT

NOTE: UNASSEMBLED; LOOSE PARTS ONLY

PART NO.	PART DESCRIPTION	MATERIAL CODES	PART NO.	PART DESCRIPTION	MATERIAL CODES
		644			644
7	Front Case Wear Ring	208	23	Packing Gland	104
8	O-Ring	457	25	Shaft Sleeve	104
9	Impeller Cap Screw	104	28	Packing	816
9A	Impeller Washer	104	29	Lantern Ring	512
9B	Impeller Gasket	603	40	Shaft	063
9C	Impeller Seal	118	41	Retaining Ring	088
11	Impeller	208	42	Throttle Bushing	560
12	Impeller Key	087	43	Gland O-Ring	457
16	Back Case Wear Ring	208	53	Coupling Key	087
19	Flat Washer	104	65	Gland Cap Screw	104

1590F SERIES KIT SELECTION TABLE

PUMP SIZE	FRAME SIZE	BORE	PACKING KIT	OVERHAUL KIT	ROTATING KIT (LOOSE PARTS ONLY)
2"1591CF	143-184JP	SM BORE	476-1799-644	476-1803-644	N.A.
	213-326JP	LG BORE	476-1800-644	476-1804-644	N.A.
3"1591AF	143-184JP	SM BORE	476-1799-644	476-1805-644	N.A.
	213-326JP	LG BORE	476-1800-644	476-1806-644	N.A.
3"1591BF	213-326JP	LG BORE	476-1800-644	476-1807-644	N.A.
3"1591CF	213-256JP	LG BORE	476-1800-644	476-1808-644	N.A.
4"1591BF	213-326JP	LG BORE	476-1800-644	476-1814-644	N.A.
4"1591CF	284-326JP	LG BORE	476-1800-644	476-1815-644	N.A.
3"1592AF	143-184JP	SM BORE	476-1799-644	476-1809-644	N.A.
	213-326JP	LG BORE	476-1800-644	476-1810-644	N.A.
4"1592F	143-184JP	SM BORE	476-1799-644	476-1816-644	N.A.
	213-326JP	LG BORE	476-1800-644	476-1817-644	N.A.
3"1593F	143-184JP	SM BORE	476-1799-644	476-1811-644	N.A.
	213-326JP	LG BORE	476-1800-644	476-1812-644	N.A.
3"1593BF	284-326JP	LG BORE	476-1800-644	476-1813-644	N.A.
4"1593F	284-326JP	LG BORE	476-1800-644	476-1824-644	N.A.
	364-365JP	XL BORE	476-1801-644	476-1825-644	N.A.
4"1593BF	213-326JP	LG BORE	476-1800-644	476-1818-644	N.A.
4"1593CF	213-326JP	LG BORE	476-1800-644	476-1819-644	N.A.
8"1593F	364-445HP	XL BORE	476-1802-644	476-1826-644	700-1285-644
8"1593AF	364-445HP	XL BORE	476-1802-644	476-1826-644	700-1286-644
4"1594F	284-326JP	LG BORE	476-1800-644	476-1820-644	N.A.
	364-365JP	XL BORE	476-1801-644	476-1821-644	N.A.
4"1594BF	284-326JP	LG BORE	476-1800-644	476-1822-644	N.A.
	364-365JP	XL BORE	476-1801-644	476-1823-644	N.A.

NOTES

1. ALL KITS ARE NSF 372 (LOW LEAD). FOR NSF 61, REFER TO FACTORY.

STANDARD LIMITED WARRANTY

Seller warrants equipment (and its component parts) of its own manufacture against defects in materials and workmanship under normal use and service for one (1) year from the date of installation or start-up, or for eighteen (18) months after the date of shipment, whichever occurs first. Seller does not warrant accessories or components that are not manufactured by Seller; however, to the extent possible, Seller agrees to assign to Buyer its rights under the original manufacturer's warranty, without recourse to Seller. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the serial number, the type of equipment, and the date of purchase) within thirty (30) days of the discovery of such defect during the warranty period. No claim made more than 30 days after the expiration of the warranty period shall be valid. Guarantees of performance and warranties are based on the use of original equipment manufactured (OEM) replacement parts. Seller assumes no responsibility or liability if alterations, non-authorized design modifications and/or non-OEM replacement parts are incorporated. If requested by Seller, any equipment (or its component parts) must be promptly returned to Seller prior to any attempted repair, or sent to an authorized service station designated by Seller, and Buyer shall prepay all shipping expenses. Seller shall not be liable for any loss or damage to goods in transit, nor will any warranty claim be valid unless the returned goods are received intact and undamaged as a result of shipment. Repaired or replaced material returned to customer will be shipped F.O.B., Seller's factory. Seller will not give Buyer credit for parts or equipment returned to Seller, and will not accept delivery of any such parts or equipment, unless Buyer has obtained Seller's approval in writing. The warranty extends to repaired or replaced parts of Seller's manufacture for ninety (90) days or for the remainder of the original warranty period applicable to the equipment or parts being repaired or replaced, whichever is greater. This warranty applies to the repaired or replaced part and is not extended to the product or any other component of the product being repaired. Repair parts of its own manufacture sold after the original warranty period are warranted for a period of one (1) year from shipment against defects in materials and workmanship under normal use and service. This warranty applies to the replacement part only and is not extended to the product or any other component of the product being repaired. Seller may substitute new equipment or improve part(s) of any equipment judged defective without further liability. All repairs or services performed by Seller, which are not covered by this warranty, will be charged in accordance with Seller's standard prices then in effect.

THIS WARRANTY IS THE SOLE WARRANTY OF SELLER AND SELLER HEREBY EXPRESSLY DISCLAIMS AND BUYER WAIVES ALL OTHER WARRANTIES EXPRESSED, IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Seller's sole obligation under this warranty shall be, at its option, to repair or replace any equipment (or its component parts) which has a defect covered by this warranty, or to refund the purchase price of such equipment or part. Under the terms of this warranty, Seller shall not be liable for (a) consequential, collateral, special or liquidated losses or damages; (b) equipment conditions caused by normal wear and tear, abnormal conditions of use, accident, neglect, or misuse of said equipment; (c) the expense of, and loss or damage caused by, repairs or alterations made by anyone other than the Seller; (d) damage caused by abrasive materials, chemicals, scale deposits, corrosion, lightning, improper voltage, mishandling, or other similar conditions; (e) any loss, damage, or expense relating to or resulting from installation, removal or reinstallation of equipment; (f) any labor costs or charges incurred in repairing or replacing defective equipment or parts, including the cost of reinstalling parts that are repaired or replaced by Seller; (g) any expense of shipment of equipment or repaired or replacement parts; or (h) any other loss, damage or expense of any nature.

The above warranty shall not apply to any equipment which may be separately covered by any alternate or special warranties.

PERFORMANCE: In the absence of Certified Pump Performance Tests, equipment performance is not warranted or guaranteed. Performance curves and other information submitted to Buyer are approximate and no warranty or guarantee shall be deemed to arise as a result of such submittal. All testing shall be done in accordance with Seller's standard policy under Hydraulic Institute procedures.

LIABILITY LIMITATIONS: Under no circumstances shall the Seller have any liability under the Order or otherwise for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, regardless of the cause of such damages or losses. In any event, Seller's aggregate total liability under the Order or otherwise shall not exceed the contract price.

ACTS OF GOD: Seller shall in no event be liable for delays in delivery of the equipment or other failures to perform caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control.

COMPLIANCE WITH LAW: Seller agrees to comply with all United States laws and regulations applicable to the manufacturing of the subject equipment. Such compliance shall include: The Fair Labor Standards Acts of 1938, as amended; Equal Employment Opportunity clauses of Executive Order 11246, as amended; Occupational Safety and Health Act of 1970 and the standards promulgated thereunder, if applicable. Since compliance with the various Federal, State, and Local laws and regulations concerning occupational health and safety, pollution or local codes are affected by the use, installation and operation of the equipment and other matters over which Seller has no control, Seller assumes no responsibility for compliance with those laws and regulations, whether by way of indemnity, warranty, or otherwise. It is incumbent upon the Buyer to specify equipment which complies with local codes and ordinances.

[illegible]