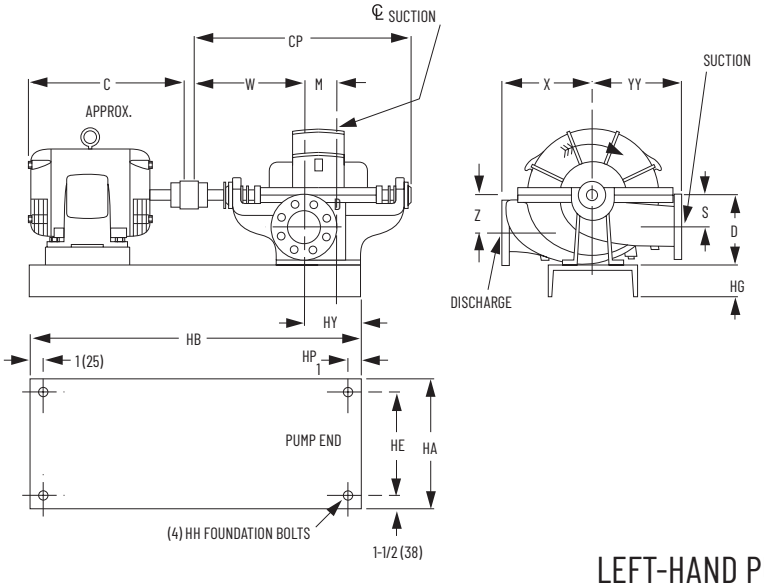
Dimensional Data – 1900 Series Multi-Stage Split Case Pumps Setting Plans



BASE	SIZE	HA	HB	HE	HG	HH	HP
4	12x34	12 (305)	34 (863)	9 (228)	3 (76)	1/2 (13)	20 (508)
5	12x38	12 (305	38 (964)	9 (228)	3 (76)	1/2 (13)	20 (508)
7	13x42	13 (330)	42 (1066)	10 (254)	4 (102)	5/8 (16)	24 (609)
9	15x44	15 (381)	44 (1117)	12 (305)	3-3/8 (86)	5/8 (16)	24 (609)
11	18x48	18 (457)	48 (1218)	15 (381)	4 (102)	5/8 (16)	1 (25)
12	18x54	18 (457)	54 (1371)	15 (381)	4 (102)	5/8 (16)	1 (25)
13	18x60	18 (457)	60 (1523)	15 (381)	4 (102)	5/8 (16)	24 (609)
15	22x60	22 (558)	60 (1523)	19 (482)	4 (102)	5/8 (16)	1 (25)
16	22x72	22 (558)	72 (1827)	19 (482)	4 (102)	5/8 (16)	1 (25)
17	22x84	22 (558)	84 (2134)	19 (482)	4 (102)	5/8 (16)	1 (25)

LEFT-HAND PUMP ON STANDARD STEEL BASE

☐ STANDARD 125# SUCTION FLANGE, 250# DISCHARGE FLANGE

☐ OPTIONAL 250# SUCTION AND DISCHARGE FLANGES

☐ STANDARD 5" 1924 & 6" 1924 150# SUCTION FLANGE, 300# DISCHARGE FLANGE

☐ OPTIONAL 5" 1924 & 6" 1924 300# SUCTION AND DISCHARGE FLANGES

Model	PUMP SIZE			POWER SERIES	D	M	S	W	Z	CP	HY	X	YY	C FRAME	145T	182T	184T	213T	215T	254T	256T	284TS	284T	286TS	286T	324TS	324T	326TS	326T	364TS	364T	365TS	365T	404TS	404T	405TS	405T	444TS	445TS	447TS	449TS
	DISCH.	SUCTION	CASE BORE												12 (305)	13 (330)	14 (355)	16 (406)	18 (457)	21 (533)	23 (584)	22 (558)	24 (609)	24 (609)	25 (635)	25 (635)	26 (660)	26 (680)	28 (711)	27 (685)	29 (736)	28 (711)	30 (761)	30 (761)	33 (838)	31 (787)	34 (863)	34 (863)	36 (914)	39 (991)	45 (1143)
2" 1923A/ 2" 1923B	2	2-1/2	12	2	9 (228)	4-3/4 (121)	4 (102)	13-1/4 (337)	5-1/2 (140)	26-1/4 (666)	6-1/4 (159)	10 (254)	10-1/4 (260)	BASE	4	4	4	5	5	9	9	9	9	9	11	11	11	11	11	11	11	11	11								
2-1/2" 1922A	2-1/2	3	12	2	9-3/4 (248)	5-3/8 (136)	4 (102)	13-1/8 (333)	5-1/2 (140)	26-1/4 (666)	6-3/8 (162)	11 (279)	11 (279)	BASE	4	4	4	5	5	9	9	9	9	9	11	11	11	11	11	11	11	11	11								
3" 1923A/ 3" 1923B	3	4	14	3	11 (279)	6-3/4 (171)	4-1/2 (114)	15-1/4 (387)	6 (152)	31 (787)	7-3/4 (197)	12 (305)	12-3/8 (314)	BASE		5	5	7	7	9	11	11	11	11	11	11	12	12	12	12	12	12	12	15		15		15			
4" 1922	4	5	15	3	11 (279)	7-1/8 (181)	5 (130)	15-1/8 (384)	6-1/2 (165)	31 (787)	7-7/8 (257)	13 (330)	13-1/2 (343)	BASE						9	11	11	11	11	11	11	12	12	12	12	12	12	12	15		15		15			
5" 1924	5	5	12	4A	14 (356)	6-5/8 (168)	7 (178)	18-1/8 (460)	7 (178)	35-3/8 (899)	13-7/8 (352)	13 (330)	13 (330)	BASE																				16		16		16	16	17	17
5" 1922	5	6	15	4	12-1/2 (317)	9-1/8 (232)	5-1/2 (140)	16-7/8 (536)	7-1/2 (190)	34-1/2 (876)	9-1/8 (232)	15 (381)	15-7/16 (392)	BASE						11	12	12	12	12	12	12	12	12	12	12	12	12	13	15		15		15	16		
6" 1924	6	6	12	5A	15 (381)	7-1/2 (191)	8 (203)	19-5/8 (498)	8 (203)	38-1/2 (978)	14-1/8 (359)	14 (356)	14 (356)	BASE																						16		16	16	17	17
6" 1922A/ 6" 1922B	6	8	17	5	14-3/4 (374)	11 (279)	7 (178)	17-1/2 (445)	9 (228)	38 (964)	10-1/2 (267)	16 (406)	16-1/2 (419)	BASE						12	12	12	12	12	12	12	12	12	13	13	13	13	13	15	15	15	16	16	16		
6" 1923/ 6" 1923B	6	8	16/ 16B	5	16-1/2 (419)	10-1/2 (267)	8-1/4 (210)	18-3/8 (467)	7-3/4 (197)	37-7/8 (962)	10-1/4 (260)	19 (483)	17 (432)	BASE																		13	13	16	16	16	16	16	16	16	17

NOTES

All dimensions are in inches.

Dimensions may vary ±3/8".

Not for construction purposes unless certified.

Coupling gap may vary 1/8" through 1".

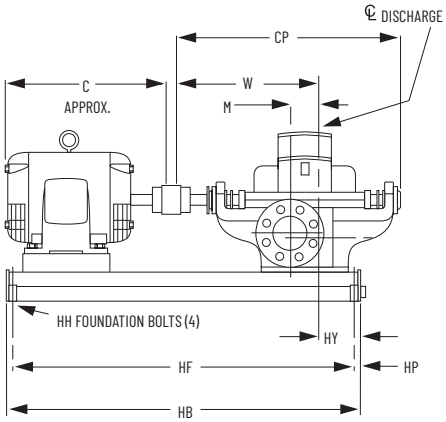
Conduit box is shown in approximate location.

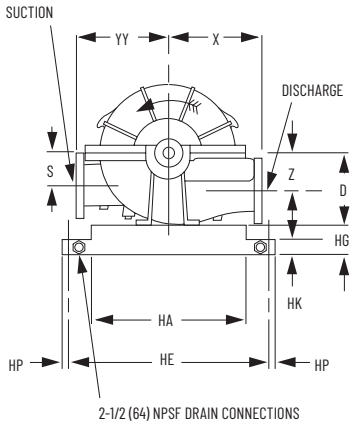
Dimensions are not specified as they vary with each motor manufacturer.

Suction and discharge flanges are ANSI standard flat face.

PENTAIR FAIRBANKS NIJHUIS®

Dimensional Data – 1900 Series Multi-Stage Split Case Pumps Setting Plans





BASE	SIZE	HA	HB	HE	HF	HG	HH	HK	HP
3	9x33	9 11x36	33-1/2 (851)	13-3/4 (349)	32-1/4 (826)	3 (76)	3/8 (10)	1-1/2 (38)	5/8 (16)
5	11x36	11 14x42	36-1/2 (927)	15-7/8 (403)	35-1/8 (892)	3 (76)	1/2 (13)	1-1/2 (38)	11/16 (17)
6	11x42	11 14x56	42-1/2 (1080)	15-7/8 (403)	41-1/8 (1045)	3 (76)	1/2 (13)	1-1/2 (38)	11/16 (17)
8	14x42	14 18x54	42-1/2 (1080)	19 (483)	41 (1041)	3 (76)	5/8 (16)	1-1/2 (38)	3/4 (19)
9	14x48	14 22x54	48-1/2 (1232)	19 (483)	47 (1194)	3 (76)	5/8 (16)	1-1/2 (38)	3/4 (19)
10	14x56	14 22x74	56-1/2 (1435)	19 (483)	55 (1397)	3 (76)	5/8 (16)	1-1/2 (38)	3/4 (19)
11	18x46	18 (457)	46-1/2 (1181)	25-1/8 (638)	44-7/8 (1140)	4 (102)	3/4 (19)	2 (51)	13/16 (21)
12	18x54	18 (457)	54-1/2 (1384)	25-1/8 (638)	52-7/8 (1343)	4 (102)	3/4 (19)	2 (51)	13/16 (21)
13	18x64	18 (457)	64-1/2 (1638)	25-1/8 (638)	62-7/8 (1597)	4 (102)	3/4 (19)	2 (51)	13/16 (21)
15	22x54	22 (559)	54-1/2 (1384)	29-1/8 (740)	52-7/8 (1343)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)
16	22x64	22 (559)	64-1/2 (1638)	29-1/8 (740)	62-7/8 (1597)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)
17	22x74	22 (559)	74-1/2 (1892)	29-1/8 (740)	72-7/8 (1851)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)
18	22x82	22 (559)	82-1/2 (2273)	29-1/8 (740)	80-7/8 (2054)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)

RIGHT-HAND PUMP ON STEEL DRIP RIM BASE

☐ STANDARD 125# SUCTION FLANGE, 250# DISCHARGE FLANGE

☐ OPTIONAL 250# SUCTION AND DISCHARGE FLANGES

☐ STANDARD 5" 1924 & 6" 1924 150# SUCTION FLANGE, 300# DISCHARGE FLANGE

☐ OPTIONAL 5" 1924 & 6" 1924 300# SUCTION AND DISCHARGE FLANGES

Model	PUMP SIZE DISCH.	PUMP SIZE SUCTION	PUMP SIZE CASE BORE	POWER SERIES	D	M	S	W	Z	CP	HY	X	YY	C FRAME	145T	182T	184T	213T	215T	254T	256T	284TS	284T	286TS	286T	324TS	324T	326TS	326T	364TS	364T	365TS	365T	404TS	404T	405TS	405T	444TS	444T	445TS	445T	447TS	449TS
															13 (330)	13 (330)	14 (355)	16 (406)	18 (457)	21 (533)	23 (584)	22 (558)	24 (609)	24 (609)	25 (635)	25 (635)	26 (660)	26 (660)	28 (711)	27 (685)	29 (736)	28 (711)	30 (761)	30 (761)	33 (838)	31 (787)	34 (863)	34 (863)	38 (965)	36 (914)	40 (1016)	39 (991)	45 (1143)
2" 1923A/ 2" 1923B	2	2-1/2	12	2	9 (228)	4-3/4 (121)	4 (102)	15-3/4 (400)	5-1/2 (140)	26-1/4 (666)	4-1/4 (108)	10 (254)	10-1/4 (260)	BASE		3	3	5	6	8	8	8	9	9	9	11	11	11	11	11	12	12	12										
2-1/2" 1922A	2-1/2	3	12	2	9-3/4 (248)	5-3/8 (136)	4 (102)	15-7/8 (403)	5-1/2 (140)	26-1/4 (666)	4-1/8 (105)	11 (279)	11 (279)	BASE		3	3	5	6	8	8	8	9	9	9	11	11	11	11	11	12	12	12										
3" 1923A/ 3" 1923B	3	4	14	3	10-3/4 (273)	6-3/4 (171)	4-1/2 (114)	18-3/4 (476)	6 (152)	31 (787)	4-3/4 (121)	12 (305)	12-3/8 (314)	BASE					6	9	9	9	9	9	9	12	12	12	12	12	12	12	12	15	16	15						
4" 1922	4	5	15	3	11 (279)	7-1/8 (181)	5 (130)	18-7/8 (479)	6-1/2 (165)	31 (787)	4-5/8 (117)	13 (330)	13-1/2 (343)	BASE								9	9	9	9	12	12	12	12	12	12	12	12	15	16	15	16	16	16			
5" 1924	5	5	12	4A	14 (356)	6-5/8 (168)	7 (178)	20-7/8 (530)	7 (178)	35-3/8 (899)	11-1/8 (283)	13 (330)	13 (330)	BASE																				17		17		17		18	18
5" 1922	5	6	15	4	12-1/2 (317)	9-1/8 (232)	5-1/2 (140)	21-1/8 (536)	7-1/2 (190)	34-1/2 (876)	5-3/8 (137)	15 (381)	15-7/16 (392)	BASE														12	12	12	12	12	13	16	16	16	16	16	16			
6" 1924	6	6	12	5A	15 (381)	7-1/2 (191)	8 (203)	22-7/8 (581)	8 (203)	38-1/2 (978)	10-7/8 (276)	14 (356)	14 (356)	BASE																					17		17		17		18	18
6" 1922A/ 6" 1922B	6	8	17	5	14-3/4 (374)	11 (279)	7 (178)	24-1/2 (622)	9 (228)	38 (964)	4 (102)	16 (406)	16-1/2 (419)	BASE								10	10	10	10	12	12	13	13	13	13	13	16	16	16	16	16	16	16	16	17	
6" 1923/ 6" 1923B	6	8	16/ 16B	5	16-1/2 (419)	10-1/2 (267)	8-1/4 (210)	23-5/8 (600)	7-3/4 (197)	37-7/8 (962)	5 (127)	19 (483)	17 (432)	BASE																				16	16	16	16	16	16	17	17	17	18

NOTES:

All dimensions are in inches.

Dimensions may vary ±3/8".

Not for construction purposes unless certified.

Coupling gap may vary 1/8" through 1".

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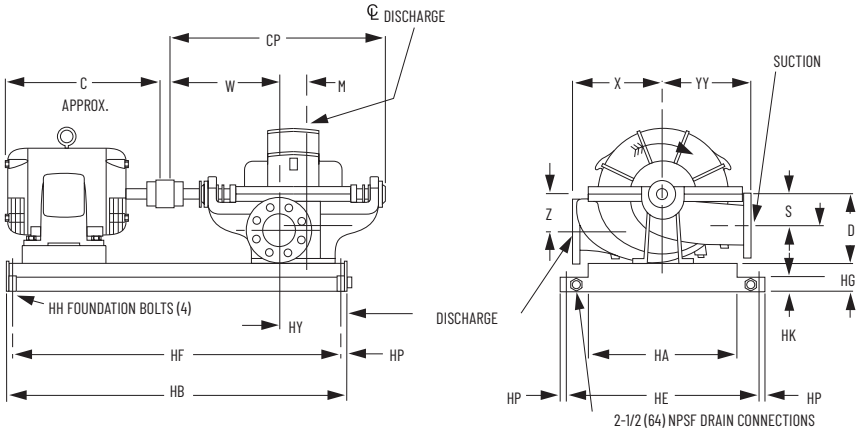
Dimensional Data – 1900 Series Multi-Stage Split Case Pumps Setting Plans



BASE	SIZE	HA	HB	HE	HF	HG	HH	HK	HP
3	9x33	9 (229)	33-1/2 (851)	13-3/4 (349)	32-1/4 (826)	3 (76)	3/8 (10)	1-1/2 (38)	5/8 (16)
5	11x36	11 (279)	36-1/2 (927)	15-7/8 (403)	35-1/8 (892)	3 (76)	1/2 (13)	1-1/2 (38)	11/16 (17)
6	11x42	11 (279)	42-1/2 (1080)	15-7/8 (403)	41-1/8 (1045)	3 (76)	1/2 (13)	1-1/2 (38)	11/16 (17)
8	14x42	14 (356)	42-1/2 (1080)	19 (483)	41 (1041)	3 (76)	5/8 (16)	1-1/2 (38)	3/4 (19)
9	14x48	14 (356)	48-1/2 (1232)	19 (483)	47 (1194)	3 (76)	5/8 (16)	1-1/2 (38)	3/4 (19)
10	14x56	14 (356)	56-1/2 (1435)	19 (483)	55 (1397)	3 (76)	5/8 (16)	1-1/2 (38)	3/4 (19)
11	18x46	18 (457)	46-1/2 (1181)	25-1/8 (638)	44-7/8 (1140)	4 (102)	3/4 (19)	2 (51)	13/16 (21)
12	18x54	18 (457)	54-1/2 (1384)	25-1/8 (638)	52-7/8 (1343)	4 (102)	3/4 (19)	2 (51)	13/16 (21)
13	18x64	18 (457)	64-1/2 (1638)	25-1/8 (638)	62-7/8 (1597)	4 (102)	3/4 (19)	2 (51)	13/16 (21)
15	22x54	22 (559)	54-1/2 (1384)	29-1/8 (740)	52-7/8 (1343)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)
16	22x64	22 (559)	64-1/2 (1638)	29-1/8 (740)	62-7/8 (1597)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)
17	22x74	22 (559)	74-1/2 (1892)	29-1/8 (740)	72-7/8 (1851)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)
18	22x82	22 (559)	82-1/2 (2273)	29-1/8 (740)	80-7/8 (2054)	4-1/2 (114)	3/4 (19)	2 (51)	13/16 (21)

LEFT-HAND PUMP ON STEEL DRIP RIM BASE

☐ STANDARD 125# SUCTION FLANGE, 250# DISCHARGE FLANGE

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☐ OPTIONAL 5" 1924 & 6" 1924 300# SUCTION AND DISCHARGE FLANGES

Model	PUMP SIZE DISCH.	PUMP SIZE SUCTION	PUMP SIZE CASE BORE	POWER SERIES	D	M	S	W	Z	CP	HY	X	YY	C FRAME	145T	182T	184T	213T	215T	254T	256T	284TS	284T	286TS	286T	324TS	324T	326TS	326T	364TS	364T	365TS	365T	404TS	404T	405TS	405T	444TS	444T	445TS	445T	447TS	449TS
															13 (330)	13 (330)	14 (355)	16 (406)	18 (457)	21 (533)	23 (584)	22 (558)	24 (609)	24 (609)	25 (635)	25 (635)	26 (660)	26 (660)	28 (711)	27 (685)	29 (736)	28 (711)	30 (761)	30 (761)	33 (838)	31 (787)	34 (863)	34 (863)	38 (965)	36 (914)	40 (1016)	39 (991)	45 (1143)
2" 1923A/ 2" 1923B	2	2-1/2	12	2	9 (228)	4-3/4 (121)	4 (102)	13-1/4 (337)	5-1/2 (140)	26-1/4 (666)	6-3/4 (171)	10 (254)	10-1/4 (260)	BASE		3	3	5	6	8	8	8	9	9	9	11	11	11	11	11	12	12	12										
2-1/2" 1922A	2-1/2	3	12	2	9-3/4 (248)	5-3/8 (136)	4 (102)	13-1/8 (333)	5-1/2 (140)	26-1/4 (666)	6-7/8 (175)	11 (279)	11 (279)	BASE		3	3	5	6	8	8	8	9	9	9	11	11	11	11	11	12	12	12										
3" 1923A/ 3" 1923B	3	4	14	3	10-3/4 (273)	6-3/4 (171)	4-1/2 (114)	15-1/4 (387)	6 (152)	31 (787)	8-1/4 (210)	12 (305)	12-3/8 (314)	BASE					6	9	9	9	9	9	9	12	12	12	12	12	12	12	12	15	16	15						
4" 1922	4	5	15	3	11 (279)	7-1/8 (181)	5 (130)	15-1/8 (460)	6-1/2 (165)	31 (787)	8-3/8 (213)	13 (330)	13-1/2 (343)	BASE								9	9	9	9	12	12	12	12	12	12	12	12	15	16	15	16	16	16			
5" 1924	5	5	12	4A	14 (356)	6-5/8 (168)	7 (178)	18-1/8 (460)	7 (178)	35-3/8 (899)	13-7/8 (352)	13 (330)	13 (330)	BASE																			17		17		17		17		18	18
5" 1922	5	6	15	4	12-1/2 (317)	9-1/8 (232)	5-1/2 (140)	16-7/8 (429)	7-1/2 (190)	34-1/2 (876)	9-5/8 (244)	15 (381)	15-7/16 (392)	BASE														12	12	12	12	12	13	16	16	16	16	16	16	16		
6" 1924	6	6	12	5A	15 (381)	7-1/2 (191)	8 (203)	19-5/8 (498)	8 (203)	38-1/2 (978)	14-1/8 (359)	14 (356)	14 (356)	BASE																					17		17		17		18	18
6" 1922A/ 6" 1922B	6	8	17	5	14-3/4 (374)	11 (279)	7 (178)	17-1/2 (445)	9 (228)	38 (964)	11 (279)	16 (406)	16-1/2 (419)	BASE								10	10	10	10	12	12	13	13	13	13	13	13	16	16	16	16	16	16	16	16	17		
6" 1923/ 6" 1923B	6	8	16/ 16B	5	16-1/2 (419)	10-1/2 (267)	8-1/4 (210)	18-3/8 (467)	7-3/4 (197)	37-7/8 (962)	10-1/4 (260)	19 (483)	17 (432)	BASE																			16	16	16	16	16	16	17	17	17	18

NOTES:

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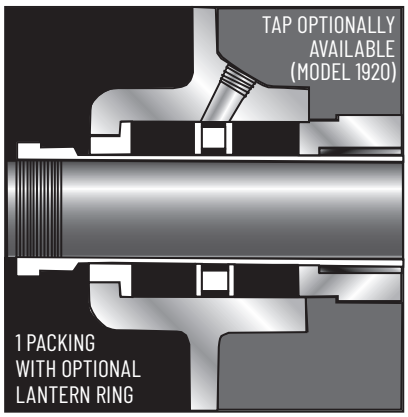
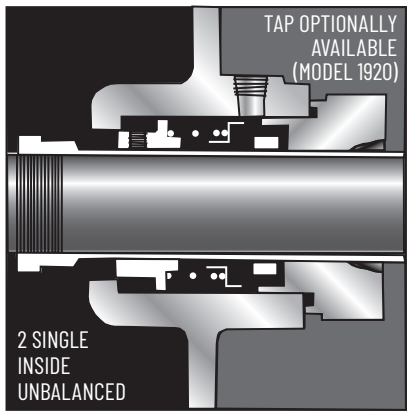
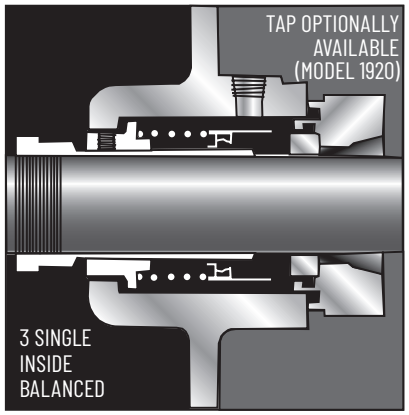
PENTAIR FAIRBANKS NIJHUIS®

Technical Data – 1900 Series Multi-Stage Split Case Pumps Engineering Data
MECHANICAL SEALS AND PACKING

Standard packing on horizontal pumps and the standard mechanical seals on vertical pumps are suitable for most applications. Special sealing arrangements may, however, be required due to higher pressure or temperature requirements and the nature of the liquid to be pumped. Factory option seals are of high quality and supplied by leading mechanical seal manufacturers. Various seal arrangements and types that better suit your specific needs are available. Seal faces are carbon vs. Ni-Resist on standard seals and carbon vs. tungsten carbide on high temperature seals. Corrosion resistant alloy metal parts and Buna-N secondary sealing elements are provided. Various other metals are also available. Gland plates are cast iron and can be supplied in alternative materials. Recommendations and limitations are general. Specific selections can be offered only after rotating speeds, pressures, temperatures, type of equipment and liquid nature are known. The following illustrations describe the basic seal and packing options available. For options not shown, refer to the factory. For quick reference for the type of seal best suited to your application, refer to the condensed information that heads each option.







The following comments govern these recommendations:.

1. PACKING Standard on Model 1920. Not available on 1910 & 1940.
   PRESSURES (suction): Below atmospheric up to 250*psig (maximum pump limitation).
   A lantern ring is required on the first stage for suction lift applications.
   TEMPERATURES: From minus 100˚F up to 275˚F* with high temperature packing, or 225˚F with standard packing.
   LIQUIDS: All liquids that are compatible with graphited fiber packing. Other packings are available for special applications.

2. SINGLE – UNBALANCED Standard on Models 1910 and 1940. Optional on Model 1920.
   PRESSURES (suction): Below atmospheric up to 100 psig.
   TEMPERATURES: From minus 100˚F up to 275˚F with high temperature seals, or 225˚F with standard seals.
   LIQUIDS: All liquids that are compatible with the seal materials of construction and with a specific gravity higher than .6.

3. SINGLE – BALANCED Optional on all models.
   PRESSURES (suction): Up to 250 psig (max. pump limit)
   TEMPERATURES: Minus 100˚F up to 275˚F with high temperature seals, or 225˚F with standard seals.
   LIQUIDS: All that are compatible with the seal materials of construction and with a specific gravity of .6 or lower.

PRESSURES – The pressures referred to are those found at the pump suction. Most seal manufacturers recommend a flushing arrangement from the discharge to the stuffing box where "below atmospheric pressure" is encountered. The 1900 Series first stage stuffing box incorporates an internal bypass arrangement which permits flushing to the mechanical seal. External bypasses are available to both seal faces. An external bypass is standard on vertical pumps to the upper seal face.

TEMPERATURES – The temperature limitation of a mechanical seal is frequently determined by the shaft sealing material. The various elastomer O-ring materials have varying temperature limits, depending upon the chemical and/or physical properties of the process fluid. Filled PTFE Coating, shaft seal rings are available.

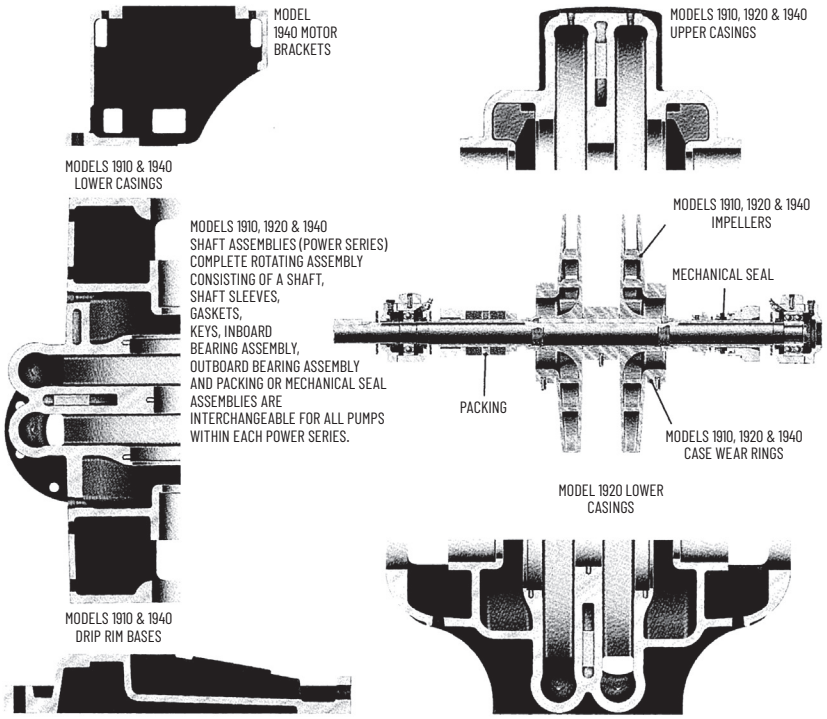
LIQUIDS – Due to varying degrees of resistance of various sealing compounds in different pumped liquids, the following mechanical seal sealing rings are available: Buna-N, neoprene, Viton, PTFE Coating and other synthetic elastomers.

*NOTE: Hardened stainless steel (450 minimum Brinell) shaft sleeves are available with this option and are required when the suction pressure is over 100 psig or when the temperature exceeds 225˚F.

Technical Data – 1900 Series Multi-Stage Split Case Pumps Engineering Data

INTERCHANGEABILITY AND POWER SERIES

Fairbanks Nijhuis® Models 1910, 1920 and 1940 were designed for maximum interchangeability. Each model is available in nine different sizes, offering a model and size precisely fitted to the installation requirements. The nine sizes are divided into four power series. Within each power series, all parts are completely interchangeable except for the impeller, casing and case wearing rings for either right-hand or left-hand rotation. See the illustrations below for all details.



MODEL 1910 POWER SERIES

POWER SERIES					
2	3	4A	4	5A	5
2" 1913A	3" 1913A	-	-	-	-
2" 1913B	3" 1913B	-	-	-	-
2-1/2" 1912A	-	-	-	-	-

MODEL 1920 POWER SERIES

POWER SERIES					
2	3	4A	4	5A	5
2" 1923A	3" 1923A	5" 1924	5" 1922	6" 1924	6" 1922A
2" 1923B	3" 1923B	-	-	-	6" 1922B
2-1/2" 1922A	4" 1922	-	-	-	-

MODEL 1940 POWER SERIES

POWER SERIES					
2	3	4A	4	5A	5
2" 1943A	3" 1943A	-	-	-	-
2" 1943B	3" 1943B	-	-	-	-
2-1/2" 1942A	-	-	-	-	-

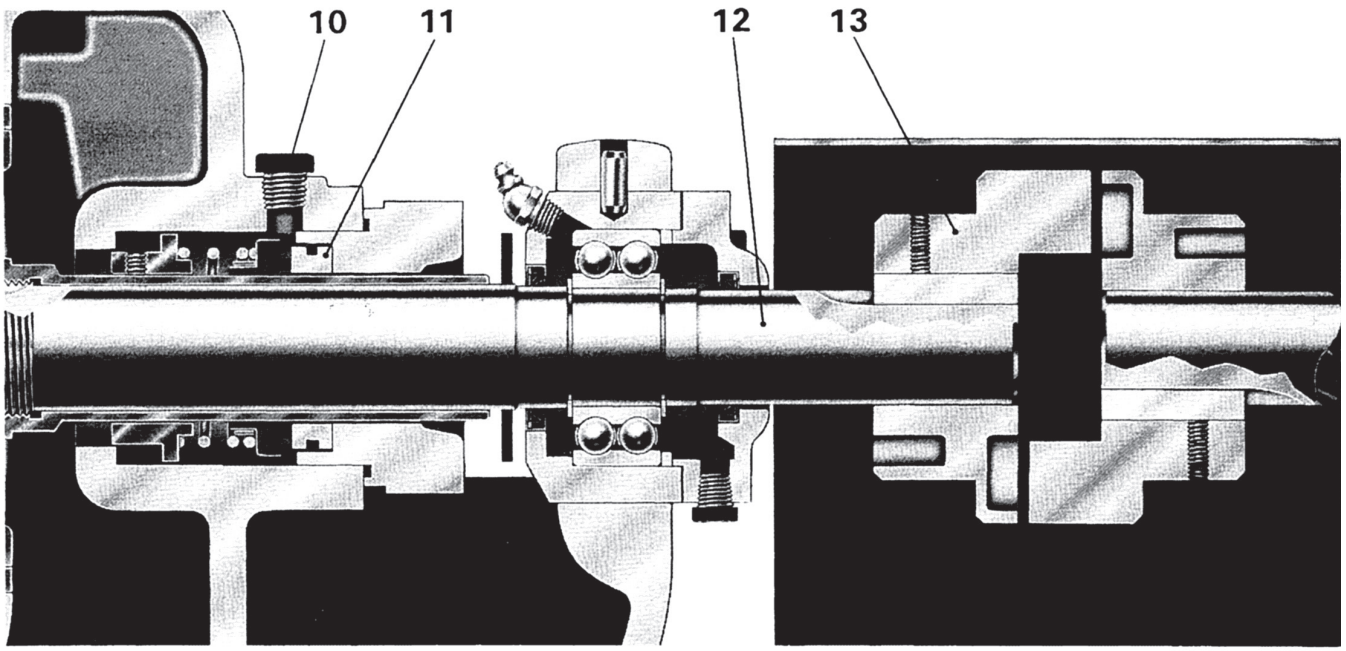
MATERIALS OF CONSTRUCTION

PUMP CONSTRUCTION				
Descrip.	Bronze Fitted	All Bronze	All Iron	Stainless Steel
Plug	Mall. Iron A197	Bronze Wrought	Mall Iron A197	Stainless Steel AISI 316
Plug				
Capscrew	Steel SAE2	Steel SAE2	Steel SAE2	Stainless Steel AISI 316
Capscrew				
Casing Half	Cast Iron A48	Bronze B62-4A	Cast Iron A48	Stain. Stl. ACI CF8M
Gasket	Buna-N Treated Cellulose			
Gr. Ftg.	Steel Zerk			
Plug	Malleable Iron ASTM A197			
Nut	Bronze Wrought		Steel SAE2	Stain. Stl. AISI 316
Washer	Cadmium Plated Steel	Bronze Wrought	Cadmium Plated Steel	Stain. Stl. AISI 316
Gland Clamp				
Gland	Cast Iron A48	Bronze B62-4A	Cast Iron A48	Stain. Stl. ACI CF8M
Swing Bolt	Cadmium Plated Steel	Silicon Bronze Wrought	Cadmium Plated Steel	Stain. Stl. AISI 316
Packing	Graphited Fiber			
Key	Steel Wrought			
Capscrew	Steel SAE 2	Bronze Wrought	Steel SAE 2	Stain. Stl. AISI 316
Bearing Cap	Cast Iron A48	Bronze B62-4A	Cast Iron A48	Stain. Stl. ACI CF8M
Pin	Cadmium Plated Steel	Stain. Stl. AISI 416	Cadmium Plated Steel	Stain. Stl. AISI 316
Case Ring	Bronze ASTM B62-4A		Cast Iron A48	Stain. Stl. ACI CF8M
Protector	Steel Wrought			
Capscrew	Steel SAE 2			
Cart. Cap	Cast Iron ASTM A48			
Gasket	Buna-N Treated Cellulose			
Ret. Ring	Spring Steel			
Cartridge	Cast Iron ASTM A48			
Gr. Seal	Buna-N and Steel			
Bearing	Steel Commercial			
Slinger	Neoprene			
Slinger	Neoprene			
Capscrew	Steel SAE 2			
Cart. Cap	Cast Iron ASTM A48			
Gr. Seal	Buna-N and Steel			
Gasket	Buna-N Treated Cellulose			
Cartridge	Cast Iron ASTM A48			
Gr. Seal	Buna-N and Steel			
Bearing	Steel Commercial			
Slinger	Neoprene			
Gland	Cast Iron A48	Bronze B62-4A	Cast Iron A48	Stain. Stl. ACI CF8M
O-ring	Buna-N			
Lantern Ring	Bronze ASTM B62-4A		Cast Iron A48	Stain. Stl. ACI CF8M
M. Seal	Stain. Stl. (1)	Stain. Stl. (2)	Stain. Stl. (1)	Stain. Stl. (2)
Collar	Bronze ASTM B62-4A		Cast Iron A48	Stain. Stl. AISI 316
Setscrew	Stainless Steel AISI 316			
Bushing	Bronze ASTM B62-4A		Cast Iron A48	Stain. Stl. AISI 316

Sleeve	Bronze High Lead Tin		Stain. Stl. AISI 316	
Gasket	PTFE Coating			
Impeller	Bronze B119	Bronze B119	Cast Iron A48	Stain. Stl. ACI CF8M
Gasket	PTFE Coating			
Bushing	Bronze ASTM B62-4A		Cast Iron A48	Stainless Steel ACI CF8M
Sleeve				
Gasket	PTFE Coating			
Sleeve	Bronze High Lead Tin		Stain Stl. AISI 316	
Gasket	PTFE Coating			
Impeller	Bronze B584	Bronze B584	Cast Iron A48	Stain Stl. ACI CF8M
Key	Stain. Stl. AISI 416	Stain. Stl. AISI 316	Stain Stl. AISI 416	Stain Stl. AISI 316
Pin	Cadmium Plated Steel	Stain. Stl. AISI 416	Cadmium Plated Steel	Stain Stl. AISI 316
Impeller Ring	Bronze B584		Cast Iron A48	Stain Stl. AISI 316
Shaft	Stl. AISI C1045	Stain. Stl. AISI 316	Stl. AISI C1045	Stain. Stl. AISI 316
Pin	Cadmium Plated Steel	Stain. Stl. AISI 316	Cadmium Plated Steel	Stain Stl. AISI 316
Pin				
Casing Half	Cast Iron A48	Bronze B62-4A	Cast Iron A48	Stain Stl. ACI CF8M
Drive Screw	Steel Bronze Plated			
Nameplate	Stainless Steel AISI 303			
Capscrew	Steel SAE 2			
Capscrew	Steel SAE 2			
Bracket	Cast Iron ASTM A48			
Capscrew	Steel SAE 2			
Base	Cast Iron ASTM A48			

All material specifications are in accordance with ASTM unless otherwise noted.
(1) B30P66171(JC)
(2) XP661C1 (JC).

10. EXTERNAL PIPING can be provided when it is necessary to filter and regulate the flow of liquid to the stuffing box. With this option, piping is provided from the pump discharge to both stuffing boxes. If the pumped liquid is not suitable for sealing purposes, the standard internal passages can be plugged and external piping from a water seal unit can be provided directly to the stuffing box or seal chamber. Lantern rings are required with this option on packed pumps.
11. MECHANICAL SEALS are available for special applications or hazardous service in single, balanced, and unbalanced designs. Packing with a lantern ring is available.
12. DOUBLE EXTENDED SHAFT option provides for dual drive applications such as an electric motor prime driver and stand-by diesel or internal combustion engine.
13. FLEXIBLE COUPLING is required between the pump and driver. It compensates for minor misalignment and reduces the transmission of vibration from the driver to the pump system. Clutch type couplings are available for the dual drive systems.



STANDARD PUMP: Available in Bronze Fitted. Optional in All Bronze, All Iron, or Stainless Steel. Special materials are also available.

1. MECHANICAL SEALS
2. LANTERN RINGS: Available for packed pumps only, provides lubrication under pressure to each stuffing box to extend packing life. An internal water seal passage provides the necessary lubricant from the pumped liquid.
3. FLUSHING LINES
4. IMPELLER WEARING RINGS: Prevent rotational wear from occurring on the impeller and are easily replaced. The rings are press locked on the impeller.
5. CASE WEARING RINGS: Available in 316 Stainless Steel for longer life.

6. SHAFT SLEEVES: Minimum 450 Brinell Hardened 440C Stainless Steel is recommended for abrasive applications on packed pumps only. Pumps with mechanical seals are available with 316 Stainless Steel sleeves.
7. SHAFT MATERIAL: Standard pumps do not require alloy shafts as PTFE Coating sealed shaft sleeves protect the shaft from corrosion. On severe applications 316 Stainless Steel shafting is available. Alloy shaft is recommended when inside balanced seals are specified.
8. DOUBLE EXTENDED SHAFT
9. VERTICAL PUMPS. OIL LUBRICATION: Recommended for special applications such as remote installations, etc. Available only in Model 1920.
10. 250 PSI FLANGES: Suction and Discharge flanges machined to ASA flat face specifications. Special surface finishes such as raised face are available.
11. PETCOCK: Vents air manually from the upper casing during initial start up.
12. VENT TAPS: Oversize taps are available in either/or the upper casing or suction chambers.
13. BASES: Available in cast iron with drip rim, formed steel or structural steel.
14. ABRASIVE SEPARATORS: Available with option 3 to prevent entrained abrasives from entering the stuffing boxes via the recirculation or water seal liquid.
15. ORIFICE BY-PASS: Regulates a predetermined flow of liquid to the stuffing boxes where this is desired.
16. GLAND EYEBOLTS AND NUTS: For corrosive applications. Made of 316 Stainless Steel.
17. BRONZE PACKING GLANDS: For corrosive duty.
18. ENGINEERING TESTS: Several tests can be provided. (A) Certified Performance Test; (B) Certified Witness Performance Test; (C) Hydrostatic Test Submittal; (D) Vibration Test Submittal; (E) NPSH Test; (F) Witness NPSH Test.
19. COUPLING GUARD
20. DOUBLE ROW INBOARD BEARING: Recommended for severe service such as direct drive with internal combustion engines. ADDITIONAL MODIFICATIONS are also available.