

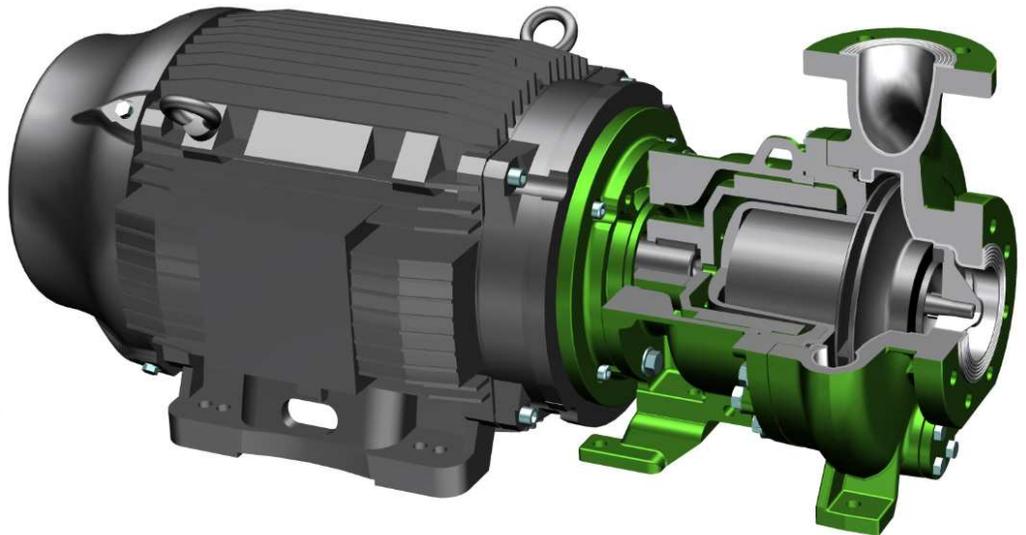


Specifications

Ansimag KF Series Pumps for Chemical Process

Models:

KF2110
KF31510
KF3210
KF4310
KF4310H
KF6410



DESCRIPTION

Sealless Horizontal, End Suction, Mag-drive Centrifugal Pump for Chemical Process built to ASME/ANSI B73.3 standards, featuring:

- Magnetic drive design for efficient, zero slip operation
- Fluoropolymer lined construction for wide chemical compatibility
- Silicon Carbide sleeve & thrust bearings for reliable, maintenance free operation
- Frame mounted for seamless B73.1 replacements
- Close Coupled configuration option for easy installation
- Powder Coated, Ductile Iron exterior for high durability
- Compact, “Dual” Back Pull Out design for easy servicing
- Non-metallic containment shell with zero eddy current loss
- Optional ISO PN16 or JIS 10kg/cm² flanges

GENERAL SPECIFICATIONS

- Maximum Particulate Concentration: 20% wt.
- Maximum Particulate Size: 1/4 inch (6.4 mm) diameter

Note: Maximum Particulate Concentration and Size given above is an approximate number and should be used a guideline. Please contact Sundyne Application Engineering if actual particulate concentration or size exceeds these figures.

- Maximum viscosity: 900 SSU (200 centistokes)

Note: Maximum viscosity given above is an approximate number. Pump performance (flow, head and efficiency) will be greatly affected by the viscosity of liquid pumped. Please refer to the ANSI/HI 9.6.7 “Viscosity Correction” chart to calculate actual performance. A pump should not be used, or should be used with caution, if efficiency with viscous liquid is less than 50% of efficiency with water.

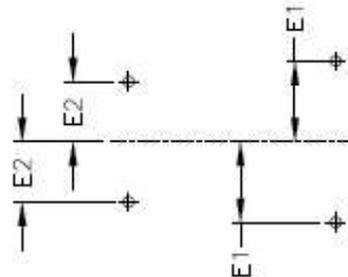
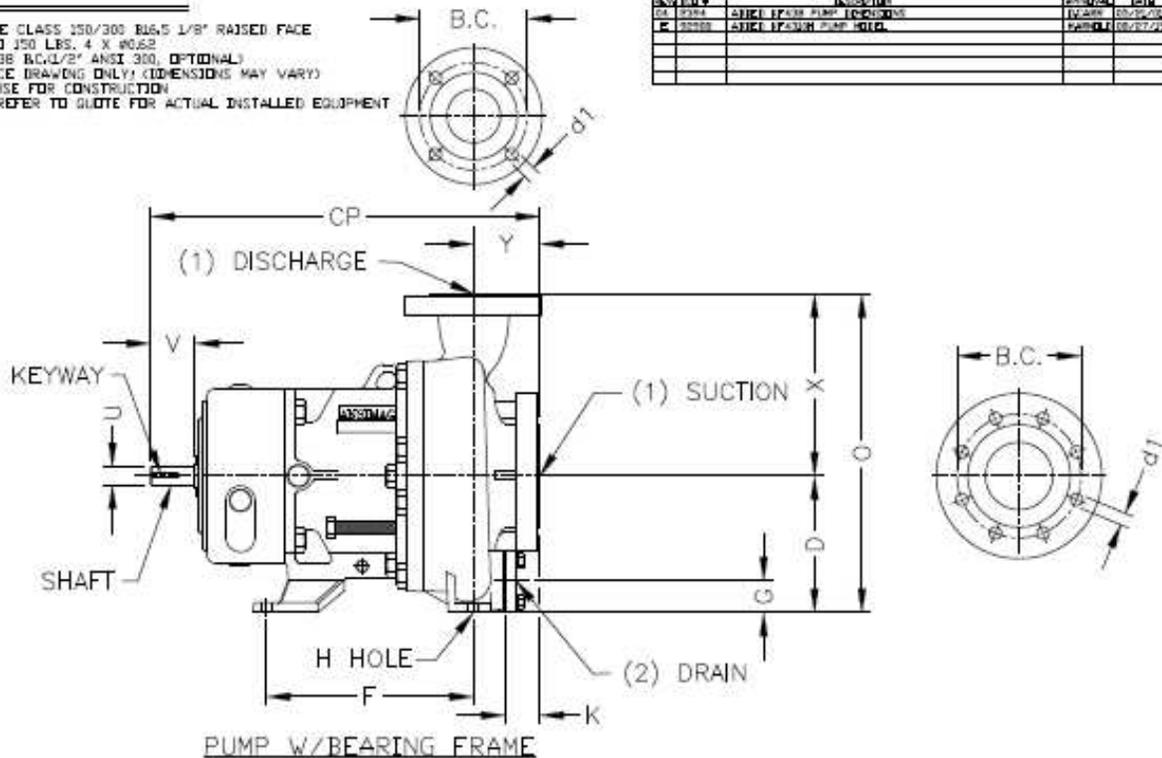
MODELS & DIMENSIONS

Model	Group	Dimensional Designation
KF2110	2	A05
KF31510	2	A50
KF3210	2	A60
KF4310	2	A70
KF4310H	2	A40
KF6410	2	A80

NOTES:

- (1) ANSI/ASME CLASS 150/300 B16.5 1/8" RAISED FACE
- (2) 1/2" ANSI 150 LBS. 4 X #6.3
- (3) IN A #6.3B B.C./2" ANSI 300, OPTIONAL
- (4) REFERENCE DRAWING ONLY; DIMENSIONS MAY VARY DO NOT USE FOR CONSTRUCTION
- (5) PLEASE REFER TO QUOTE FOR ACTUAL INSTALLED EQUIPMENT

REVISED			
REV. NO.	DESCRIPTION	DATE	BY
01	ASME B73.3 DIMENSIONS	12/28/97	WJW
02	ASME B73.3 DIM. CHG.	12/28/97	WJW



PUMP MODEL	SHAFT				PUMP										PUMP WEIGHT LBS.	
	U Ø	KEYWAY W X H	V		CP	D	2E1	2E2	F	G	H	K	O	X		Y
KF2110	1-1/8	1/4 X 1/8	2-5/8		23.50	8.25	9.75	7.25	12.50	2.85	5/8	2.12	18.75	8.50	4	309
KF31510	1-1/8	1/4 X 1/8	2-5/8		23.50	8.25	9.75	7.25	12.50	2.57	5/8	2.12	16.75	8.50	4	325
KF3210	1-1/8	1/4 X 1/8	2-5/8		23.50	8.25	9.75	7.25	12.50	2.09	5/8	2.12	16.75	9.50	4	346
KF438	1-1/8	1/4 X 1/8	2-5/8		23.50	8.25	9.75	7.25	12.50	1.88	5/8	2.12	16.75	11.00	4	350
KF4310	1-1/8	1/4 X 1/8	2-5/8		23.50	8.25	9.75	7.25	12.50	1.88	5/8	2.12	18.75	11.00	4	380
KF4310H	1-1/8	1/4 X 1/8	2-5/8		23.50	10	9.75	7.25	12.50	3.42	5/8	1.83	23.50	13.50	4	380
KF6410	1-1/8	1/4 X 1/8	2-5/8		23.50	10	9.75	7.25	12.50	1.88	5/8	0	23.50	13.50	4	395

PUMP MODEL	PUMP SIZE	ANSI DESIGNATION	(1) SUCTION FLANGE 150 LBS.				(1) DISCHARGE FLANGE 150 LBS.				(1) SUCTION FLANGE 300 LBS.				(1) DISCHARGE FLANGE 300 LBS.			
			Ø	B.C.	Ø1	Ø2	Ø	B.C.	Ø1	Ø2	Ø	B.C.	Ø1	Ø2	Ø	B.C.	Ø1	Ø2
KF2110	2 X 1 X 10	A65	2	4.75	0.75	4	1	3.12	0.92	4	2	5.00	0.75	8	1	3.50	0.75	4
KF31510	3 X 1 1/2 X 10	A55	3	6	0.75	4	1 1/2	3.88	0.92	4	3	6.52	0.88	8	1 1/2	4.50	0.88	4
KF3210	3 X 2 X 10	A60	3	6	0.75	4	2	4.75	0.75	4	3	6.52	0.88	8	2	5.00	0.75	8
KF438	4 X 3 X 8	A70	4	7.50	0.75	8	3	6	0.75	4	4	7.88	0.88	8	3	6.62	0.88	8
KF4310	4 X 3 X 10	A70	4	7.50	0.75	8	3	6	0.75	4	4	7.88	0.88	8	3	6.62	0.88	8
KF4310H	4 X 3 X 10	A40	4	7.50	0.75	8	3	6	0.75	4	4	7.88	0.88	8	3	6.62	0.88	8
KF6410	6 X 4 X 10	A80	6	9.50	0.88	8	4	7.50	0.75	8	8	10.62	0.88	12	4	7.88	0.88	8

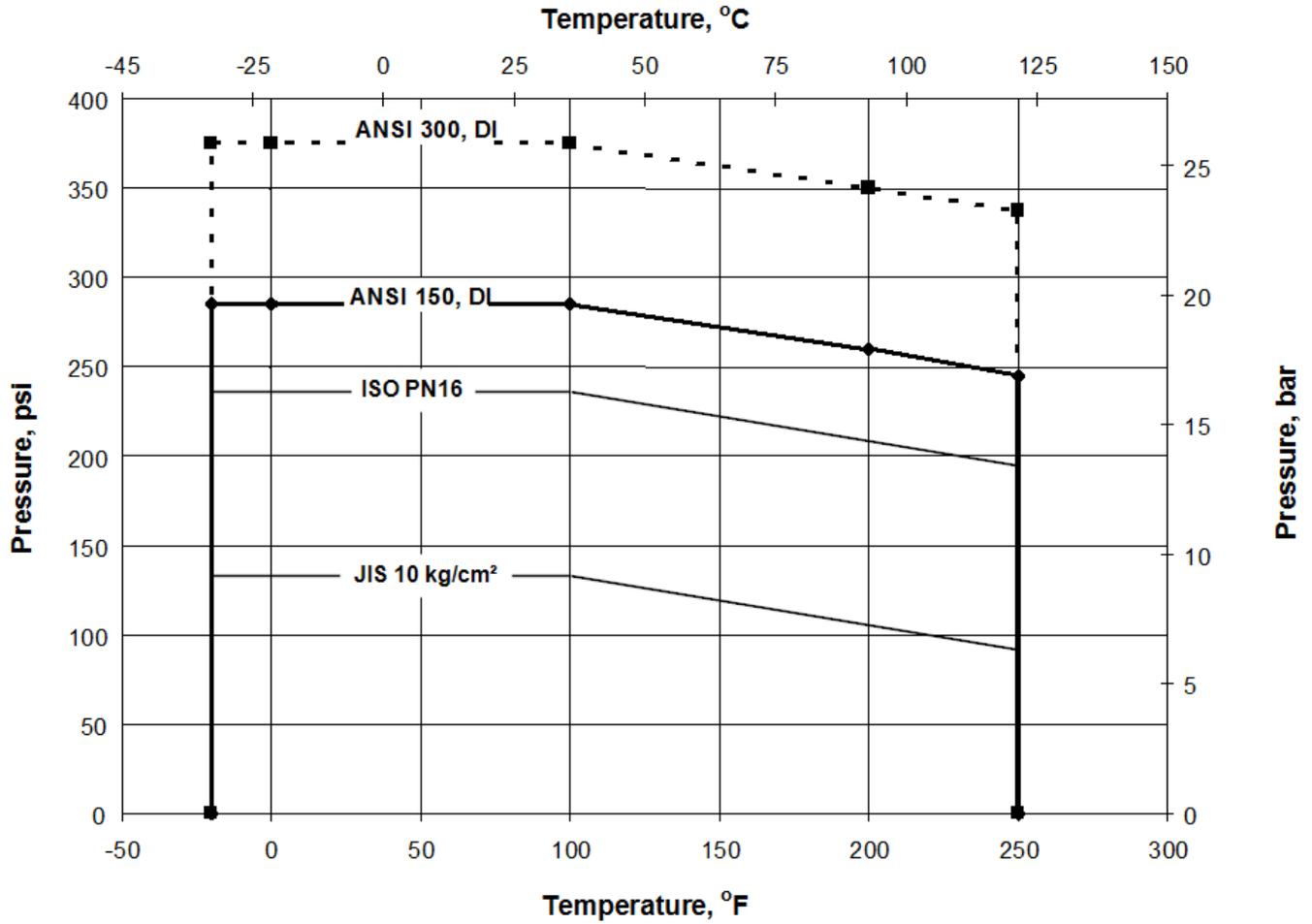
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APPROVALS:	DATE:	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DECIMALS FRACTIONS ANGLES XX ±.03 ±1/64 ±2°		ANSMAG INCORPORATED ELK GROVE, IL 60007 USA			
DESIGN BY: C. [NAME]	2-25-97	PRODUCTION: 		DESCRIPTION: KF L.C., DIM. DWG, PUMP ONLY PUMPS ANSI B73.3, FLNGS. ANSI			
ENG: MKLEDN	2/25/97	MATERIAL AND/OR PART #	REF. SIZE TYPE	REF. PART NO.	DWG. NO.	REV	
MRG: SVALOON	2/25/97	FINISH	IP	-	IP0640	E	
DRAWN BY: NRENT/ELDS	2/25/97		SCALE 1=1	DATE 2-25-97	SHEET 1 OF 1		

DESIGN and CONSTRUCTION

1. Pressure and Temperature Limits



- Vacuum: Primary containment capable of resisting a vacuum of 14.7 psi (760mmHG) at @ 68°F
- Temperature:
 - Maximum: 250°F (121°C)
 - Minimum: -20°F (-29°C)

2. Flanges

Flanged suction, discharge, and drain connections conforming to ASME Class 150# or 300#, ISO PN16, or JIS 10kg/cm²

Model	Standard			Optional					
	ASME 150#			ASME 300#			ISO PN16/JIS 10 kg/cm ²		
	Suction	Discharge	Drain	Suction	Discharge	Drain	Suction	Discharge	Drain
KF2110	2"	1"	½"	2"	1"	½"	50mm	25mm	10mm
KF31510	3"	1.5"	½"	3"	1.5"	½"	80mm	40mm	10mm
KF3210	3"	2"	½"	3"	2"	½"	80mm	50mm	10mm
KF4310	4"	3"	½"	4"	3"	½"	100mm	80mm	10mm
KF4310H	4"	3"	½"	4"	3"	½"	100mm	80mm	10mm
KF6410	6"	4"	½"	6"	4"	½"	150mm	100mm	10mm

3. Casing

- End suction, Top (centerline) discharge.
- One piece solid ductile iron casing, lined with .125" ETFE fluoropolymer
- Pure sintered silicon carbide thrust ring integral with front center support.
- Back Pullout design to permit removal of rotating elements without disturbing suction and discharge connections
- Casing Bolting: ASTM F593C

Minimum Continuous (mechanical) Flow:

Model	60 Hz		50 Hz	
	GPM @ 3600 RPM	GPM @ 1800 RPM	m3/hr @ 3000RPM	m3/hr @ 1500 RPM
KF2110	20	5	4	1
KF31510	55	15	12	3
KF3210	100	30	20	5
KF4310	170	50	30	10
KF4310H	N/A	80	N/A	15
KF6410	N/A	210	N/A	40

Minimum continuous (mechanical) flow data based on water (S.G=1.0, specific heat=1.0).

Note: For continuous flow rates < 5GPM, Temperature rise should be calculated to determine Minimum continuous "thermal" flow. Use the greater of the two for Minimum Continuous Flow.

4. Impeller

- Closed type, one piece construction.

Model	Minimum Trim	Maximum Trim	Eye Area (in ²)
KF2110	6.5" (165 mm)	10.4" (264 mm)	5.03
KF31510	6.5" (165 mm)	10.4" (264 mm)	7.37
KF3210	6.5" (165 mm)	10.4" (264 mm)	7.37
KF4310	6.5" (165 mm)	10.4" (264 mm)	11.52
KF4310H	6.5" (165 mm)	10.3" (262 mm)	11.52
KF6410	7.25" (184 mm)	10.4" (264 mm)	26.80

- Manufactured with carbon fiber filled ETFE fluoropolymer.
- Replaceable, mouth ring, either carbon fiber filled PTFE or sintered silicon carbide.

5. Magnetic Drive

- Constructed with Neodymium Iron Boron magnets for maximum strength in four sizes
- Zero slip coupling design.
- Soft start devices not required.
- Fully "sheathed" Outer Drive

Maximum Driver Power:

Drive Size	60 Hz		50 Hz	
	HP @ 3600 RPM	HP @ 1800 RPM	kW @ 3000 RPM	kW @ 1500 RPM
PR	25	10	15	7.5
PS	50	25	30	15
QS	75	40	45	22
QT	100	50	55	30

6. Assembly Bearings

- Replaceable, press fit: cartridge assembly
- Manufactured from pure sintered silicon carbide (SiC).

7. Shaft

- Non-rotating, replaceable shaft design.
- Axial groove for improved lubrication and particulate bypass. (U.S. Patent 5,641,275)
- Fully supported at both ends (front shaft support and rear casing).

8. Containment

- Aramid reinforced vinyl ester lined with CFR-ETFE
- Integral carbon fiber filled PTFE back thrust ring.
- No energy losses due to eddy currents from magnetic coupling.
- 2000 psi (138 Bar) burst pressure.

Secondary Containment or Control

- Available upon request

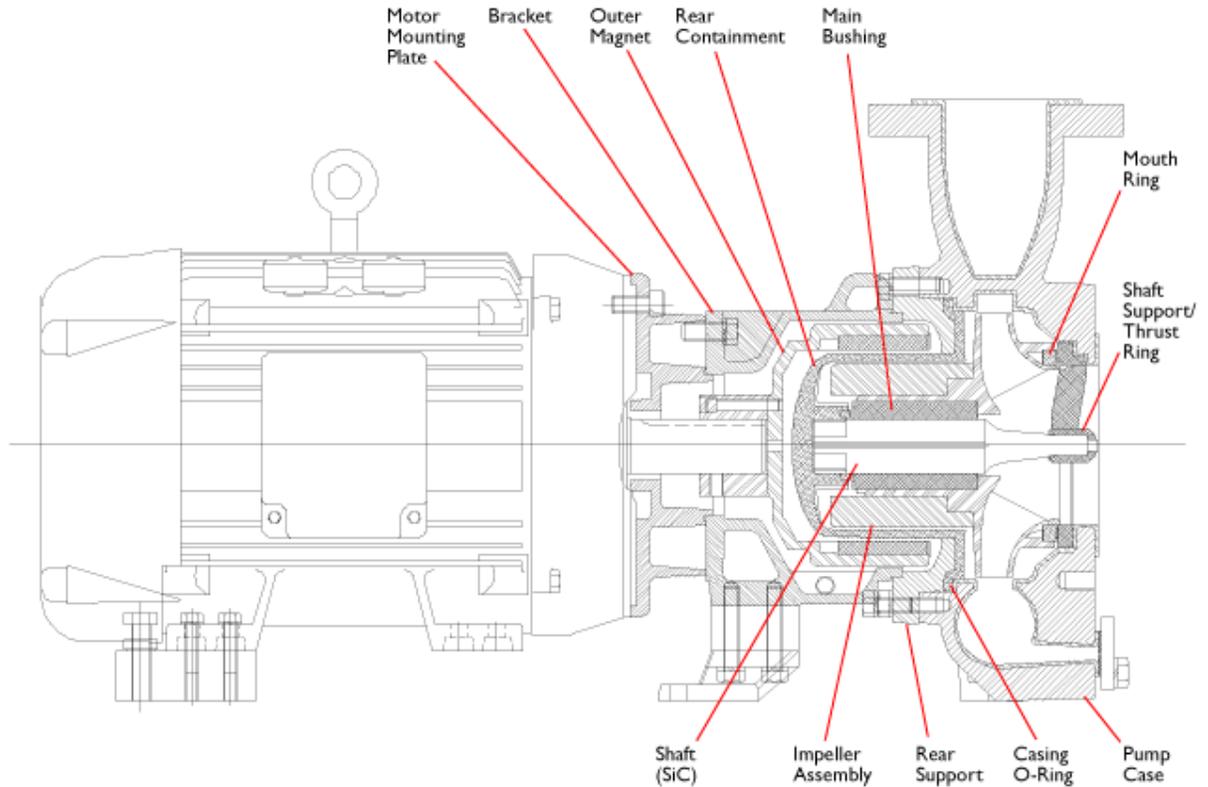
9. Bearing Frame

- Complies with ASME/ANSI B73.3 dimensional standards
- L₁₀ life of 30,000 hours
- Inpro Type VBX inboard and outboard seals
- Large oil reservoir for cool operation and long oil life.
- Large Oil Sight Glass for direct oil level indication.

Coupling Housing (Optional)

- Ductile Iron construction to provide rigid “monobloc” fit between motor and casing, eliminating the need for a bearing frame and flexible coupling.
- Designed to fit standard, off-the-shelf, NEMA C-Face & IEC B5 flange motors
- 3/8” NPT port for leak monitoring.

10. Materials of Construction



	ETFE Construction	Optional Materials
Casing	ETFE lined Ductile Iron	
Impeller	Carbon Fiber Reinforced ETFE	
Inner Drive	Carbon Fiber Reinforced ETFE / Neodymium Iron Boron	
Shaft	Silicon Carbide	
Main Bushing	Carbon Fiber Reinforced ETFE / Silicon Carbide	
Shaft Support	ETFE /Hastelloy C/ Silicon Carbide	
Mouth Ring	Carbon Fiber Reinforced PTFE	
O-Ring	FKM	EPDM, PTFE wrapped FEP/PFA encapsulated FKM, Silicone
Containment Shell	Carbon Fiber Reinforced ETFE lined aramid Reinforced Vinyl Ester	
Outer Drive	Carbon Steel / Neodymium Iron Boron	
Rear Casing Support	Ductile Iron	
Housing / Bearing Frame	Ductile Iron	

11. General

- Allowable Forces & Moments: in accordance with ANSI/HI 9.6.2-2015
- Vibration level below the limits specified in ANSI/HI 9.6.4-2009 Figure 9.6.4.2.5.1a
- Paint System: Powder Coat

Weights (Pump only, with Bearing Frame)

Model	Weight
KF2110	309 lbs (140 kg)
KF31510	325 lbs (147 kg)
KF3210	345 lbs (156 kg)
KF4310	360 lbs (163 kg)
KF4310H	380 lbs (172 kg)
KF6410	395 lbs (179 kg)

Specific Speeds

Model	Ns	Nss
KF2110	452	9031
KF31510	635	7424
KF3210	752	6677
KF4310	874	9015
KF4310H	1293	5899
KF6410	1929	13072

12. Tests

- Hydrostatic Test to ANSI/HI 14.6-2011, Appendix B
- Performance Test to ANSI/HI 14.6-2011, Acceptance Grade 2B
- NPSH Test to ANSI/HI 14.6-2011, 14.6.5.8
- Spark Test to Sundyne PN41.26-01 2594263



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