



FIRE PUMP SYSTEMS

1580 Vertical Inline Fire Pump
Engineering Data

A-C Fire Pump Systems

FP 2.5

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Supersedes all previous issues

Pump Size ①	1.5x1.5x7F 1580	2.5x2.5x7F 1580	2.5x2.5x9.5F 1580	3x3x7F 1580	3x3x9.5F 1580	4x4x7F 1580	H4x4x7F 1580	4x4x9.5F 1580	H4x4x9.5F 1580	6x6x9.5F-L 1580
Number of Stages	1	1	1	1	1	1	1	1	1	1

Casing Design Data

Flange Rating ASA Standard	Suction	125	125	125	125	125	125	125	125	125
	Discharge	125	125	125	125	125	125	250	125	250
Casing Material	Cast Iron									
Max. Working Pressure	175	175	175	175	175	175	300	175	300	225
Max. Hydrostatic Pressure	262	262	262	262	262	262	450	262	450	338
Casing Wall Thickness	11/32	11/32	7/16	3/8	3/8	1/2	1/2	1/2	1/2	5/8

Impeller Design Data

No. of Vanes	7	7	7	7	7	7	7	7	7	5
Inlet Area (Sq. Inches)	1.77	1.96	5.96	4.9	8.94	15.54	15.54	15.54	15.54	22.7
Maximum Diameter	7	7	9.5	7	9.5	7	7	9.5	9.5	9.5
Minimum Diameter	5	4.125	7	4.125	7.25	5.5	5.5	7	7	6.85
Maximum Sphere	0.34	0.31	0.28	0.47	0.41	0.56	0.56	0.59	0.59	0.78
WR ² for Max Dia. (Lbs.-Ft ²)	0.29	0.22	0.53	0.37	0.62	0.37	0.37	1.04	1.04	1.33
Wear Ring Clearance-Diam.	.016-.021	.016-.021	.016-.021	.016-.021	.016-.021	.016-.021	.016-.021	.016-.021	.016-.021	.016-.021

Stuffing Box Data

143JP-184JP Motor Frame	Bore	1.998/2.002	1.998/2.002	-	1.998/2.002	-	-	-	-	-
	Depth	2.370/2.380	2.370/2.380	-	2.370/2.380	-	-	-	-	-
	Packing:No. Rings Size Squares	4 3/8 x 3/8	4 3/8 x 3/8	-	4 3/8 x 3/8	-	-	-	-	-
	Seal Cage Width	5/8	5/8	-	5/8	-	-	-	-	-
	Shaft Sleeve O.D.	1.251/1.249	1.251/1.249	-	1.251/1.249	-	-	-	-	-

213JP-215JP Motor Frame	Bore	-	2.373/2.377	-	2.373/2.377	-	2.373/2.377	2.373/2.377	-	-
	Depth	-	2.370/2.380	-	2.370/2.380	-	2.370/2.380	2.370/2.380	-	-
	Packing:No. Rings Size Squares	-	4 3/8 x 3/8	-	4 3/8 x 3/8	-	4 3/8 x 3/8	4 3/8 x 3/8	-	-
	Seal Cage Width	-	5/8	-	5/8	-	5/8	5/8	-	-
	Shaft Sleeve O.D.	-	1.626/1.624	-	1.626/1.624	-	1.626/1.624	1.626/1.624	-	-

254JP-256JP Motor Frame	Bore	-	-	2.373/2.377	2.373/2.377	-	2.373/2.377	2.373/2.377	2.373/2.377	2.373/2.377
	Depth	-	-	2.370/2.380	2.370/2.380	-	2.370/2.380	2.370/2.380	2.370/2.380	2.370/2.380
	Packing:No. Rings Size Squares	-	-	4 3/8 x 3/8	4 3/8 x 3/8	-	4 3/8 x 3/8	4 3/8 x 3/8	4 3/8 x 3/8	4 3/8 x 3/8
	Seal Cage Width	-	-	5/8	5/8	-	5/8	5/8	5/8	5/8
	Shaft Sleeve O.D.	-	-	1.626/1.624	1.626/1.624	-	1.626/1.624	1.626/1.624	1.626/1.624	1.626/1.624

284JP-326JP Motor Frame	Bore	-	-	2.373/2.377	-	2.373/2.377	2.373/2.377	2.373/2.377	2.373/2.377	2.373/2.377
	Depth	-	-	2.370/2.380	-	2.370/2.380	2.370/2.380	2.370/2.380	2.370/2.380	2.370/2.380
	Packing:No. Rings Size Squares	-	-	4 3/8 x 3/8	-	4 3/8 x 3/8				
	Seal Cage Width	-	-	5/8	-	5/8	5/8	5/8	5/8	5/8
	Shaft Sleeve O.D.	-	-	1.626/1.624	-	1.626/1.624	1.626/1.624	1.626/1.624	1.626/1.624	1.626/1.624

364JP-405JP Motor Frame	Bore	-	-	-	-	-	-	2.998/3.002	2.998/3.002	2.998/3.002
	Depth	-	-	-	-	-	-	2.433/2.443	2.433/2.443	2.433/2.443
	Packing:No. Rings Size Squares	-	-	-	-	-	-	4 .44 x .44	4 .44 x .44	4 .44 x .44
	Seal Cage Width	-	-	-	-	-	-	3/8	3/8	3/8
	Shaft Sleeve O.D.	-	-	-	-	-	-	1.995/2.005	1.995/2.005	1.995/2.005

① (H) Prefix indicates high pressure casing

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Pump Size ①	6x6x11F-S 1580	H6x6x11F-S 1580	6x6x11F-L 1580	H6x6x11F-L 1580	8x8x9.5F 1580	H8x8x9.5F 1580	8x8x13.5F 1580	H8x8x13.5F 1580	8x8x18F 1580	H8x8x18F 1580
Number of Stages	1	1	1	1	1	1	1	1	1	1

Casing Design Data

Flange Rating	Suction	125	125	125	125	125	125	125	125	125
ASA Standard	Discharge	125	250	125	250	125	250	125	250	250
Casing Material	Cast Iron	Ductile Iron	Cast Iron	Ductile Iron	Cast Iron	Cast Iron	Cast Iron	Ductile Iron	Ductile Iron	
Max. Working Pressure	215	282	215	282	175	300	175	300	175	300
Max. Hydrostatic Pressure	323	423	323	423	262	450	262	450	262	450
Casing Wall Thickness	1/2	1/2	1/2	1/2	11/16	11/16	5/8	5/8	5/8	5/8

Impeller Design Data

No. of Vanes	7	7	5	5	5	5	7	7	6	6
Inlet Area (Sq. Inches)	20.63	20.63	20.63	20.63	28.26	28.26	35.78	35.78	44.18	44.18
Maximum Diameter	11	11	11	11	9.5	9.5	13.5	13.5	18.25	18.25
Minimum Diameter	9.84	9.840	7	7	5.75	5.75	12.1	12.1	14.5	14.5
Maximum Sphere	0.53	0.53	0.75	0.75	0.94	0.94	0.81	0.81	0.67	0.67
WR ² for Max Dia. (Lbs.-Ft ²)	2.13	2.13	1.97	1.97	2.05	2.05	2.11	2.11	2.61	2.61
Wear Ring Clearance-Diam.	.016-.021	.016-.021	.016-.021	.016-.021	.026-.036	.026-.036	.015-.022	.015-.022	.015-.022	.015-.022

Stuffing Box Data

143JP-184JP Motor Frame	Bore	-	-	-	-	-	-	-	-	-
	Depth	-	-	-	-	-	-	-	-	-
	Packing:No. Rings Size Squares	-	-	-	-	-	-	-	-	-
	Seal Cage Width	-	-	-	-	-	-	-	-	-
	Shaft Sleeve O.D.	-	-	-	-	-	-	-	-	-

213JP-215JP Motor Frame	Bore	-	-	-	-	-	-	-	-	-
	Depth	-	-	-	-	-	-	-	-	-
	Packing:No. Rings Size Squares	-	-	-	-	-	-	-	-	-
	Seal Cage Width	-	-	-	-	-	-	-	-	-
	Shaft Sleeve O.D.	-	-	-	-	-	-	-	-	-

254JP-256JP Motor Frame	Bore	2.373/2.377	2.373/2.377	-	-	-	-	-	-	-
	Depth	2.370/2.380	2.370/2.380	-	-	-	-	-	-	-
	Packing:No. Rings Size Squares	4 3/8 x 3/8	4 3/8 x 3/8	-	-	-	-	-	-	-
	Seal Cage Width	5/8	5/8	-	-	-	-	-	-	-
	Shaft Sleeve O.D.	1.626/1.624	1.626/1.624	-	-	-	-	-	-	-

284JP-326JP Motor Frame	Bore	2.373/2.377	2.373/2.377	2.373/2.377	2.373/2.377	2.373/2.377	2.373/2.377	-	-	-
	Depth	2.370/2.380	2.370/2.380	2.370/2.380	2.370/2.380	2.370/2.380	2.370/2.380	-	-	-
	Packing:No. Rings Size Squares	4 3/8 x 3/8	4 3/8 x 3/8	3/8 x 3/8	4 3/8 x 3/8	3/8 x 3/8	3/8 x 3/8	-	-	-
	Seal Cage Width	5/8	5/8	5/8	5/8	5/8	5/8	-	-	-
	Shaft Sleeve O.D.	1.626/1.624	1.626/1.624	1.626/1.624	1.626/1.624	1.626/1.624	1.626/1.624	-	-	-

364JP-405JP Motor Frame	Bore	2.998/3.002	2.998/3.002	2.998/3.002	2.998/3.002	2.998/3.002	2.998/3.002	2.998/3.002	2.998/3.002	2.998/3.002
	Depth	2.433/2.443	2.433/2.443	2.433/2.443	2.433/2.443	2.433/2.443	2.433/2.443	2.433/2.443	2.433/2.443	2.433/2.443
	Packing:No. Rings Size Squares	4 .44 x .44								
	Seal Cage Width	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
	Shaft Sleeve O.D.	1.995/2.005	1.995/2.005	1.995/2.005	1.995/2.005	1.995/2.005	1.995/2.005	1.995/2.005	1.995/2.005	1.995/2.005

① (H) Prefix indicates high pressure casing