

**BUFFALO
NAVY
AND
MARINE
PUMPS**

BULLETIN 924

Navy and Marine Pumps

Background

Meeting liquid moving requirements for Navy and Marine vessels has been a Buffalo specialty for over fifty years. As a result, Buffalo is thoroughly experienced with the problems inherent in Marine installations. Talented engineering personnel and Buffalo's commitment to Navy and Marine liquid pumping for over fifty years, is your assurance of satisfactory performance on virtually any shipboard installation.

Objective

This Bulletin is designed to provide our customers with the ability to quickly select the correct Buffalo Navy or Marine Pump for a specific application. Curves and dimensions may be used to approximate performance, and space requirements of these pumps. As Navy specifications are revised, our pumps will be brought into compliance. Therefore, Buffalo reserves the right to alter performance and design as required.

Repair Service

Buffalo Pumps provides a comprehensive repair service for all Buffalo Pumps supplied over the past 50 years for Navy and Marine service. This service includes all operations necessary to return a Buffalo Pump to as new performance. Our repair program is well known by organizations such as NAVSEA, PERA (SS) and various Navy and commercial shipyards. Buffalo Pumps has been involved in Navy programs such as Basic Ordering Agreement (BOA's) and Advance Equipment Repair Program (AERP). Please contact us for full details.

NPSH

Buffalo's concentration of pump design is focused on minimizing NPSH requirements. In Navy and Marine pumping applications, space is a premium. Buffalo Pumps NPSH requirements are designed to reduce this premium cost.

Testing

Buffalo Pumps offers full range testing such as:

NPSH

Performance

Hydrostatic

Shock Test

Noise

A. Structureborne

B. Airborne

Vibration

A. Internally excited

B. Externally excited

Endurance

Materials of Construction

Copper Nickel

Gun Metal

Alloy 20

Nickel Aluminum Bronze

Stainless Steels

Cast Iron

Ductile Iron

Bronze

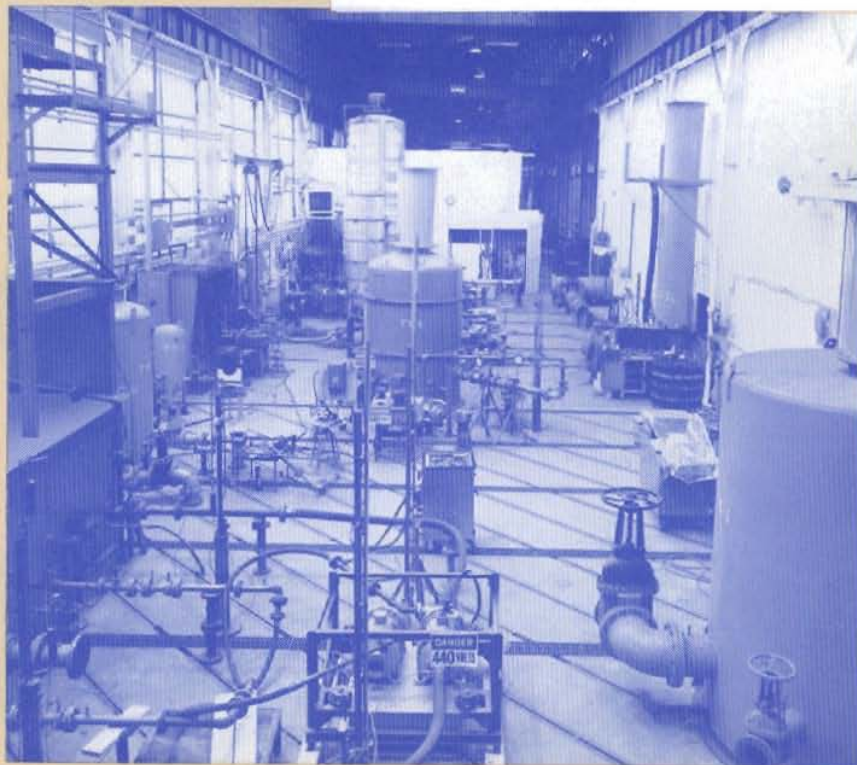
Monel

Other Machinable Alloys

For all Marine, Maritime Administration, and Navy applications contact:

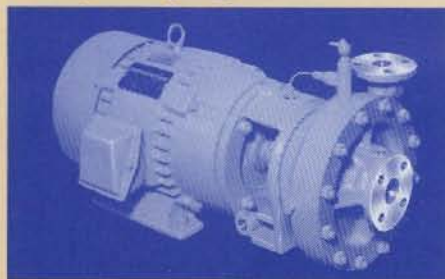
Buffalo Pumps
Marine Sales and Engineering
Department
874 Oliver Street
North Tonawanda, NY 14120
PHONE 716-693-1850
FAX 716-693-6303

Buffalopumps



Index for fast selection

Navy ■: pages 4-11



Class N

Applications: coolwater, condensate, distiller feedwater, saltwater, etc.

Pg. 4: Curves

Pg. 5: Dimensional Data



Class VF

Applications: condensate, feed booster, distilling, etc.
Pg. 6: Curves
Pg. 7: Dimensional Data

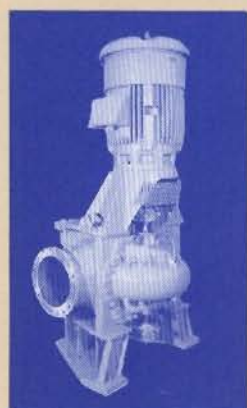


Class VC

Applications: fresh water, distilling, boiler feed, etc.

Pg. 8: Curves

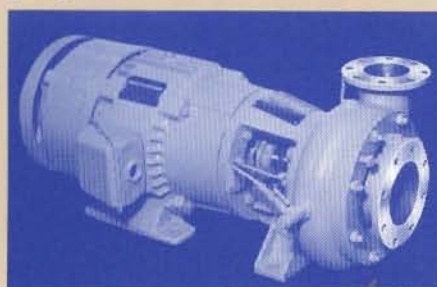
Pg. 9: Dimensional Data



Class DH & DV

Applications: saltwater circulating, fire pump, etc.
Pg. 10: Curves
Pg. 11: Dimensional Data

Navy/Marine ■: pages 12-15



Class CC

Applications: reserve feed transfer, distillate, battery water condensate, etc.

Pg. 12: Curves

Pg. 13: Dimensional Data



Can-O-Matic hermetically sealed pump

Applications: refrigerant, toxic, volatile/corrosive liquids, etc.

Pg. 14: Curves

Pg. 15: Dimensional Data

Marine ■: pages 16-25

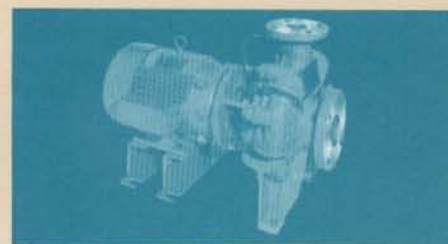


Class HSM & VHSM

Applications: sea water cooling, auxiliary bilge, ballast, etc.

Pg. 16: Curves

Pg. 17, 18: Dimensional Data



Class CCRE



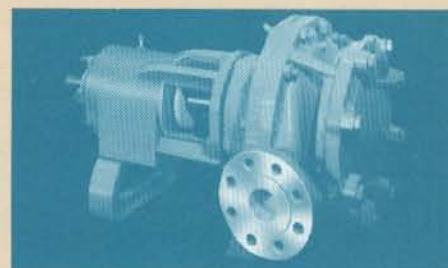
Class CRE/CRO

Class VCRO

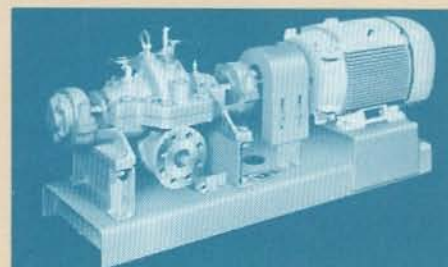
Applications: hot potable water, waste water, sea water, condensate, chill water, tank dewatering, etc.

Pg. 19: Curves

Pg. 20, 21: Dimensional Data



Class FF



Class RR

Applications: process liquids, boiler feed, condensate, refrigerants, etc.

Curves

Pg. 22: FF

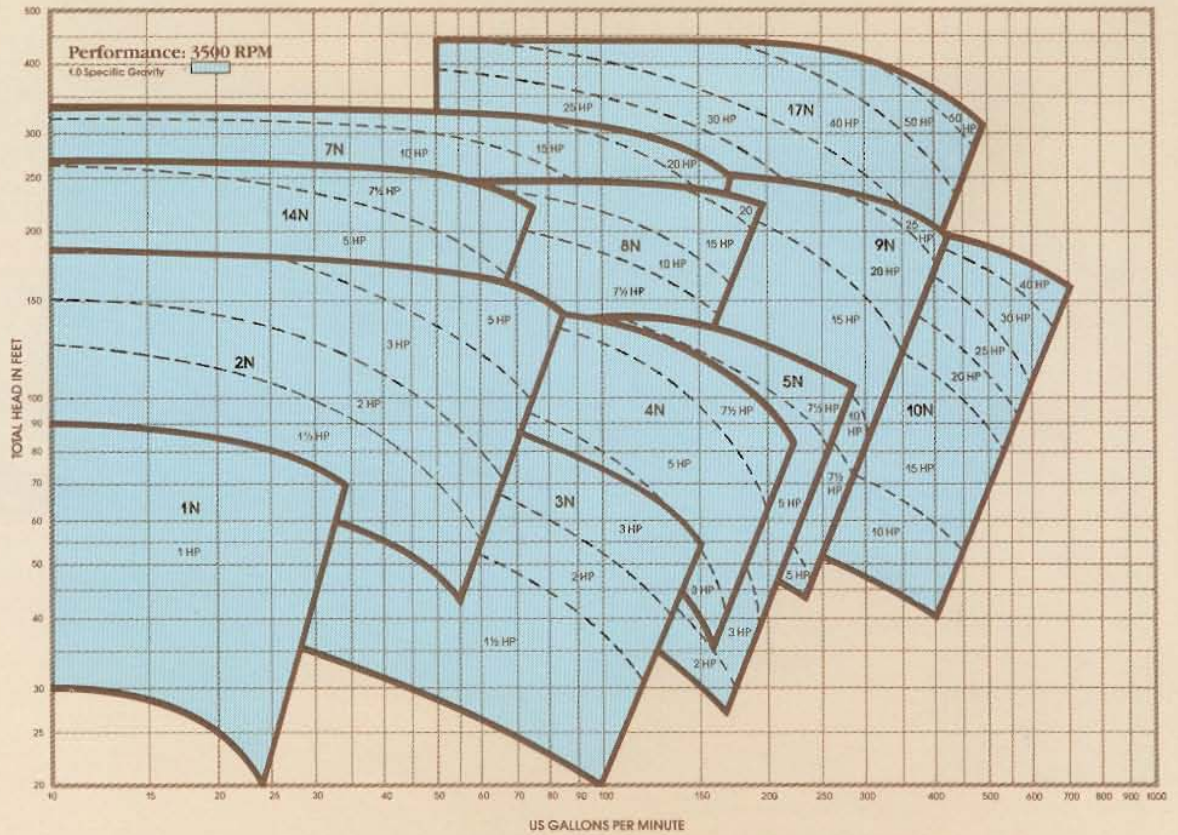
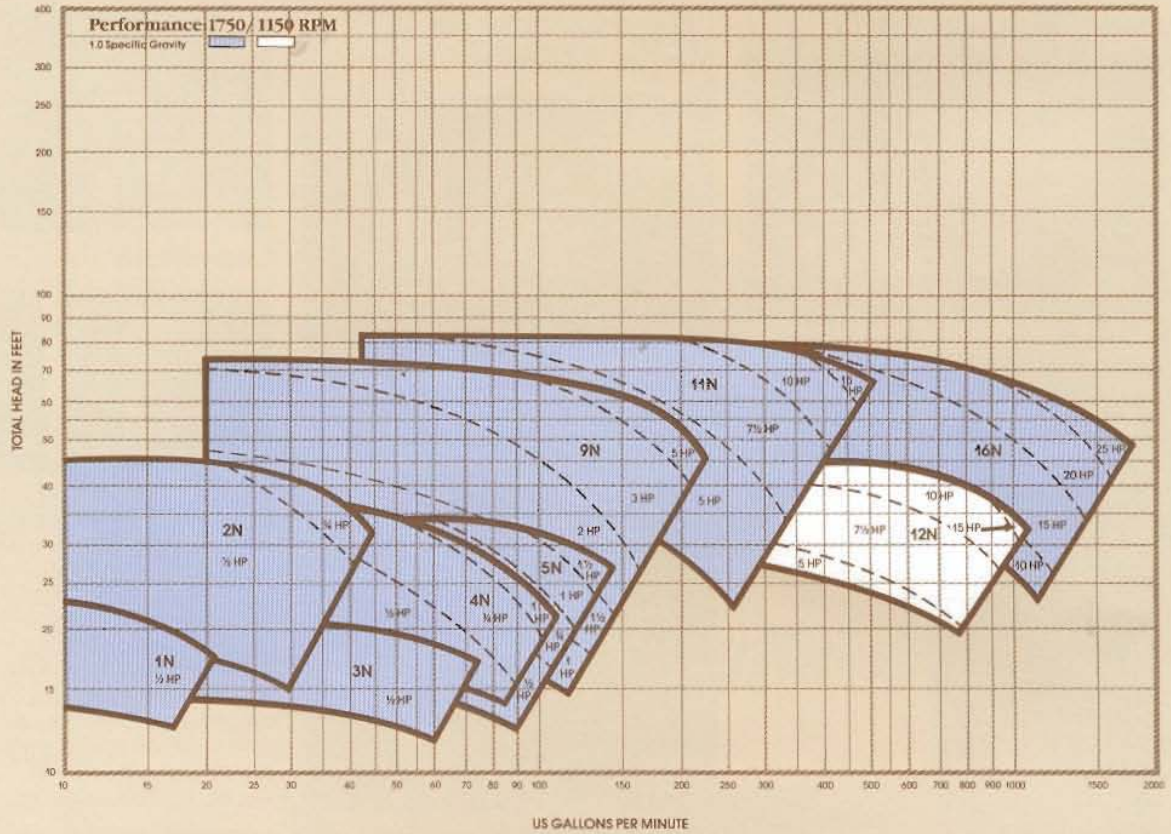
Pg. 24: RR

Dimensional Data

Pg. 23: FF

Pg. 25: RR

Class 'N' Pumps





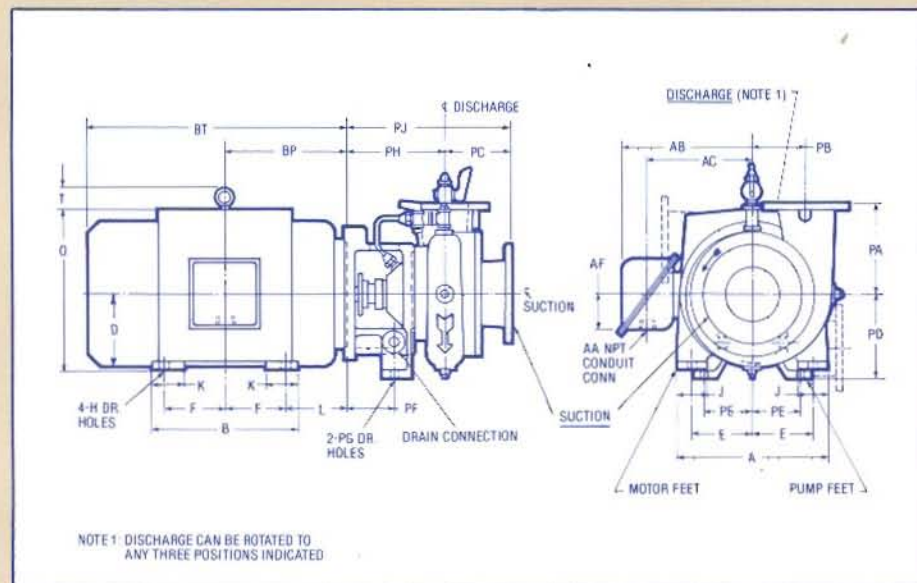
Pump Description

The close coupled N Pump is built to Specification MIL-P-17840.

Buffalo's N Pump casing design minimizes radial and axial thrust to maximize motor bearing and stuffing box life.

The Buffalo N Pump is ideally suited for any close coupled single stage centrifugal application where space and NPSH is a premium.

Dimensional Data

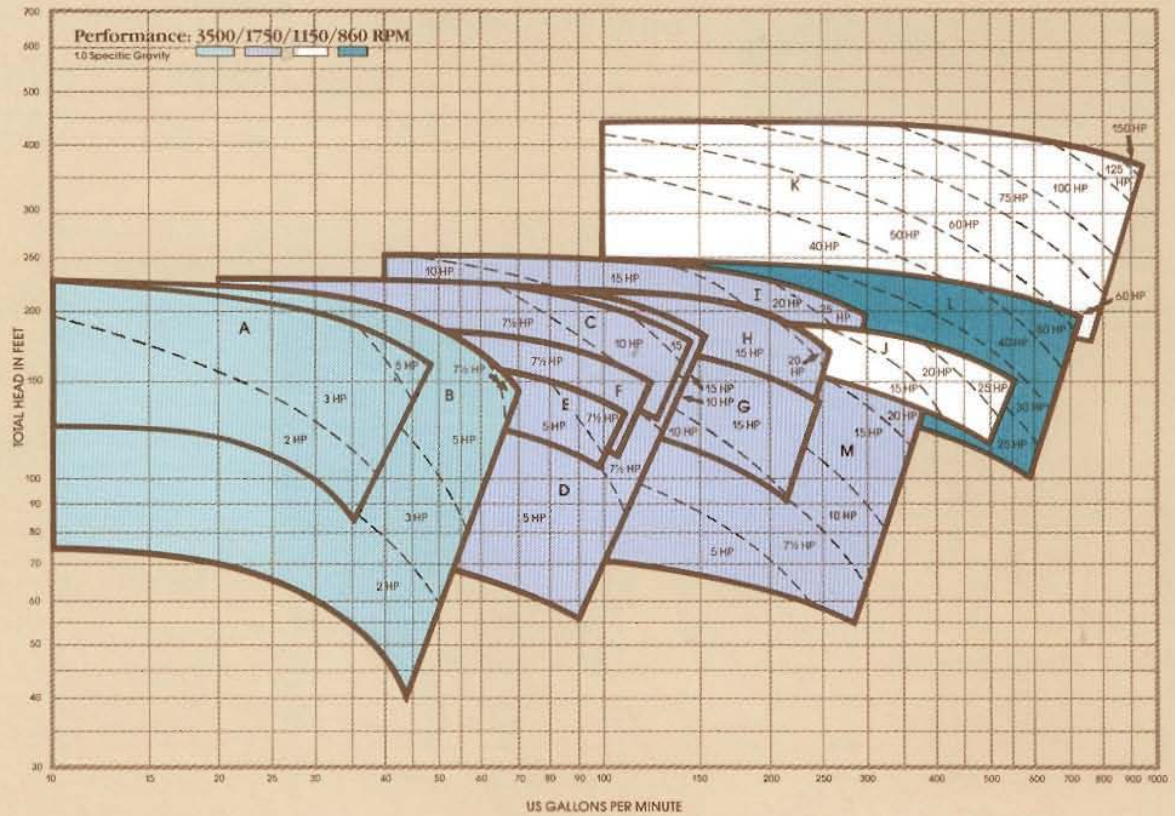


Pump Data												
PUMP SIZE	CALC. WT. (LBS)	NAVY SIZE FLANGE		PD	PA	PC	PB	PF	PH	PE	PG	PJ
		DIS	SUCT									
1N	73	1	1 1/4	3 1/2	4 1/4	3 1/4	3	2	5 1/8	2	1 1/32	9 1/8
1N	73	1	1 1/4	4 1/4	4 1/4	3 1/4	3	2 1/8	6 1/4	2 1/2	1 1/32	9 1/2
2N	101	1	1 1/4	4 1/4	5 1/4	3 1/4	3 1/4	2 1/8	6 1/4	2 1/2	1 1/32	9 1/2
3N	85	1 1/4	1 1/2	3 1/2	4 1/4	3 1/2	3 1/2	2	5 1/8	2	1 1/32	9 1/2
3N	85	1 1/4	1 1/2	4 1/4	4 1/4	3 1/2	3 1/2	2 1/8	6 1/4	2 1/2	1 1/32	9 1/2
4N	95	1 1/2	2	4 1/4	5 1/2	3 1/4	3 1/4	2 1/8	6 1/4	2 1/2	1 1/32	10
5N	110	2	2	4 1/4	5 1/4	4	3 1/4	2 1/8	6 1/4	2 1/2	1 1/32	10 1/4
6N	150	3 1/2	3 1/2	4 1/4	7	4 1/2	5	2 1/8	6 1/4	2 1/2	1 1/32	10 1/4
7N	200	1 1/4	2	7	6 1/4	4	5 1/4	4	8 1/8	4	1 1/32	12 1/4
8N	135	1 1/2	2 1/2	7	6 1/2	4	5	4	8 1/8	4	1 1/32	12 1/4
9N	170	2 1/2	3 1/2	7	8	4 1/4	5 1/4	4	8 1/8	4	1 1/32	12 1/4
10N	200	3 1/2	5	7	7 1/2	6	4 1/2	4	8 1/8	4	1 1/32	14 1/4
11N	300	5	5	7	8 1/2	6	5 1/2	4	8 1/8	4	1 1/32	14 1/4
12N	325	6	6	7	9 1/2	6	8	4	8 1/8	4	1 1/32	14 1/4
13N	600	8	8	14	10 1/2	8 1/2	10	15 1/2	9 1/2	4	1 1/32	18
14N	100	1	1 1/4	4 1/4	6	3 1/2	4 1/4	2 1/8	6 1/4	2 1/2	1 1/32	9 1/4
15N	130	2 1/2	3	4 1/4	6	4 1/2	3 1/4	2 1/8	6 1/4	2 1/2	1 1/32	10 3/4
16N	330	6	8	14	9 1/2	8 1/2	8	14 1/2	9 1/2	4	1 1/32	18
17N	160	2 1/2	3	7	8	4 1/4	5 1/2	4	8 1/8	4	1 1/32	12 1/4

Motor Data																		
MOTOR FRAME	A	B	D	E	F	H	J	K	L	O	T	AA	AB	AC	AF	BP	BT	MAX. WT. (LBS)
56	6 ³ / ₄	1 ¹ / ₄	3 ¹ / ₂	2 ¹ / ₄	1 ¹ / ₂	1 ¹ / ₂	—	—	3 ³ / ₄	7 ¹ / ₂	—	—	—	—	—	3 ¹ / ₂	13 ³ / ₄	50
182TNC	9	6	4 ¹ / ₂	3 ³ / ₄	2 ¹ / ₄	1 ¹ / ₂	1 ¹ / ₄	1 ¹ / ₄	3 ¹ / ₄	9 ¹ / ₂	2 ³ / ₄	3 ¹ / ₄	8 ¹ / ₈	6 ¹ / ₂	2 ¹ / ₂	5 ¹ / ₈	12 ³ / ₄	95
184TNC	9	7	4 ¹ / ₂	3 ³ / ₄	2 ¹ / ₄	1 ¹ / ₂	1 ¹ / ₄	1 ¹ / ₄	3 ¹ / ₄	9 ¹ / ₂	2 ³ / ₄	3 ¹ / ₄	8 ¹ / ₈	6 ¹ / ₂	2 ¹ / ₂	6 ¹ / ₈	13 ¹ / ₂	120
213TNC	10 ¹ / ₂	7	5	4 ¹ / ₄	2 ³ / ₄	1 ¹ / ₂	2	1 ¹ / ₂	4 ¹ / ₂	11 ¹ / ₄	2 ³ / ₄	3 ¹ / ₄	9	7	2 ¹ / ₂	7 ¹ / ₄	15 ¹ / ₄	155
215TNC	10 ¹ / ₂	8 ¹ / ₂	5 ¹ / ₄	4 ¹ / ₄	3 ¹ / ₂	1 ¹ / ₂	2	1 ¹ / ₂	4 ¹ / ₂	11 ¹ / ₄	2 ³ / ₄	3 ¹ / ₄	9	7	2 ¹ / ₂	8	16 ¹ / ₄	185
254TNC	12 ¹ / ₂	10 ¹ / ₂	6 ¹ / ₄	5	4 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	5	13 ¹ / ₄	2 ³ / ₄	1	10	8	2 ¹ / ₂	9 ¹ / ₈	19 ¹ / ₄	275
256TNC	12 ¹ / ₂	12	6 ¹ / ₄	5	5	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	5	13 ¹ / ₄	2 ³ / ₄	1	10	8	2 ¹ / ₂	10	21 ¹ / ₄	335
286TNC	13 ¹ / ₄	13	7	5 ¹ / ₂	5 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	5	14 ¹ / ₄	2 ¹ / ₄	1	10 ³ / ₄	8 ³ / ₄	2 ¹ / ₂	10 ¹ / ₂	23 ¹ / ₄	475
326TNC	15 ¹ / ₂	14 ³ / ₄	8	6 ¹ / ₄	6	2 ¹ / ₂	2 ¹ / ₂	2 ¹ / ₂	5 ¹ / ₂	16 ¹ / ₄	2 ¹ / ₄	1 ¹ / ₂	13 ¹ / ₈	11 ¹ / ₄	3 ¹ / ₂	11 ¹ / ₂	25 ¹ / ₄	670

Navy Flange Data									
NAVY SIZE	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	5	8
BORE	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5 1/2	8 1/2
OUTSIDE DIA	4 1/4	4 1/2	5 1/8	5 1/4	6 1/8	6 1/2	7 1/8	9 1/8	12 1/4
BOLT CIRCLE	3 1/8	3 3/8	3 7/8	4 1/8	5	5 1/2	6 1/8	7 1/8	11 1/8
NO. & SIZE HOLES	4-9/16	4-9/16	6-9/16	6-9/16	6-9/16	8-9/16	8-9/16	10-1 1/16	12-1 1/16
FLANGE THICKNESS	7/16	7/16	7/16	7/16	1/2	1/2	1/2	9/16	5/8

Class VF Pumps



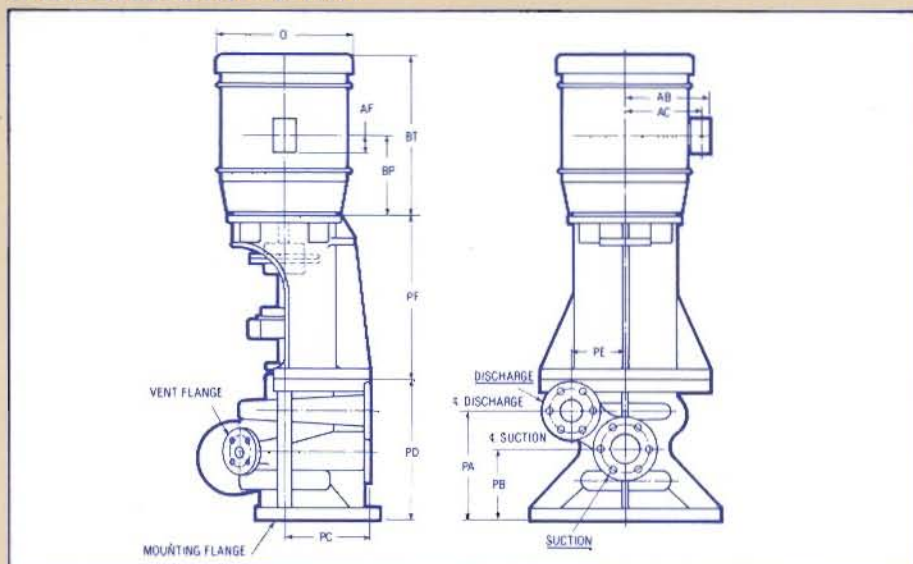
RPM	Code	Nomenclature
3500	A	VF 1520 B2
3500	B	VF 1520 M2
1750	C	VF 2550 E2
1750	D	VF 1530 C2
1750	E	VF 2040 D2
1750	F	VF 2040 L2
1750	G	VF 3060 A2
1750	H	VF 3550 P2
1750	I	VF 3040 N2
1150	J	VF 50100 H2 & G2
1150	K	VF 60100 J2
860	L	VF 60120 K2
1150	M	VF 4090 F2



Pump Description

VF Pumps are built to MIL-P-18472. They are available in vertical one-stage and two-stage configurations. Top suction design provides exceptionally low NPSH capability.

Dimensional Data



Pump Data

PUMP SIZE	NAVY SIZE FLANGE DIS	NAVY SIZE FLANGE SUC1	CALC WGT (lbs)	PA	PB	PC	PD	PE	PF	MOTOR FRAME SIZES
VF 1520B2	1½	2	310	8½	6	8½	11½	5	12	182TN - 184TN - 213TN
VF 1520M2	1½	2	350	9½	6½	7½	12½	4½	14½	182TN - 184TN - 213TN - 215TN
VF 1530C2	1½	3	600	11½	8½	9½	16½	6½	11½	215TN - 254TN
VF2040D2	2	4	355	12½	8½	7½	21½	6½	*	213TN - 215TN
VF2040L2	2	4	515	11	8	7½	16½	5½	12½	215TN
VF2550E2	2½	5	660	11½	8½	11½	16½	7½	10½	215TN - 254TN - 256TN
VF3040N2	3	4	710	11½	5½	10	14½	11½	17½	254TN - 256TN - 286TN
VF3060A2	3	6	800	9	9½	13½	19½	9	12½	254TN - 256TN
VF3550P2	3½	5	745	12½	9½	12	19½	9½	14	254TN - 256TN - 286TN
VF4090F2	4	9	1060	15½	11	15	22	15	14	256TN - 286TN - 326TN
VF50100G2	5	10	1200	15½	12	17½	22½	10½	14½	286TN - 326TN
VF50100H2	5	10	1200	15½	12	17	22½	10½	14½	286TN - 326TN
VF60100J2	6	10	2500	19½	14½	20½	26½	13½	16½	405TN - 445TN - 449TN
VF60120K2	6	12	2600	19½	14½	20½	26½	13½	16½	326TN - 365TN - 405TN

Motor Data

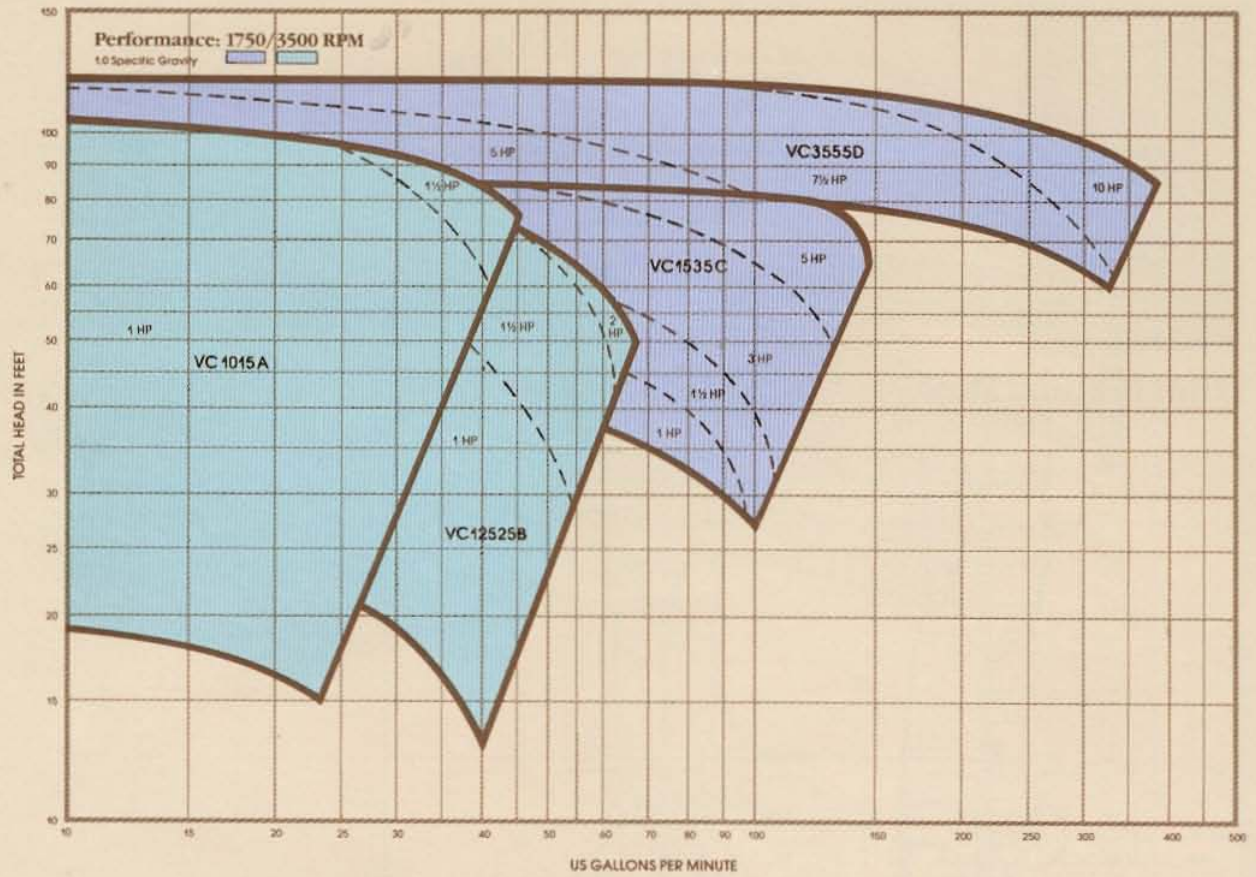
MOTOR FRAME	O	AA	AB	AC	AF	BP	BT	MAX WT (lbs)
182TN	9½	¾	8½	6½	2½	5½	12½	95
184TN	9½	¾	8½	6½	2½	6½	13½	120
213TN	11½	¾	9	7	2½	7½	15½	155
215TN	11½	¾	9	7	2½	8	16½	185
254TN	13½	1	10	8	2½	9½	19½	275
256TN	13½	1	10	8	2½	10	21½	335
286TN	14½	1	10½	8½	2½	10½	23½	475
326TN	16½	1½	13½	11½	3½	11½	25½	670
365TN	19½	1½	17½	13½	3½	12½	27½	1075
405TN	21½	1½	18½	15	3½	13½	31½	1275
445TN	23½	2	21½	17½	4½	16	36½	1950
449TN	22½	4	21½	17½	7	20	45½	2000

Navy Flange Data

NAVY SIZE	1½	2	2½	3	3½	4	5	6	8	10	12
BORE	2	2½	3	3½	4	4½	5½	6½	8½	10½	12½
OUTSIDE DIA.	5½	5½	6½	6½	7½	7½	9½	10½	12½	15	17½
BOLT CIRCLE	3½	4½	5	5½	6½	6½	7½	8½	11½	13½	16½
NO. & SIZE HOLES	6-¾	6-¾	6-¾	8-¾	8-¾	8-¾	10-1½	12-1½	14-1½	15-1½	18-1½
FLG. THICKNESS	¾	¾	½	½	½	½	¾	¾	¾	¾	¾

NOTE: SUCTION AND DISCHARGE FLANGE SIZES AND POSITIONS CAN BE MODIFIED TO SUIT EXISTING SYSTEMS OR PROPOSED PIPING SYSTEMS.

Class VC Pumps

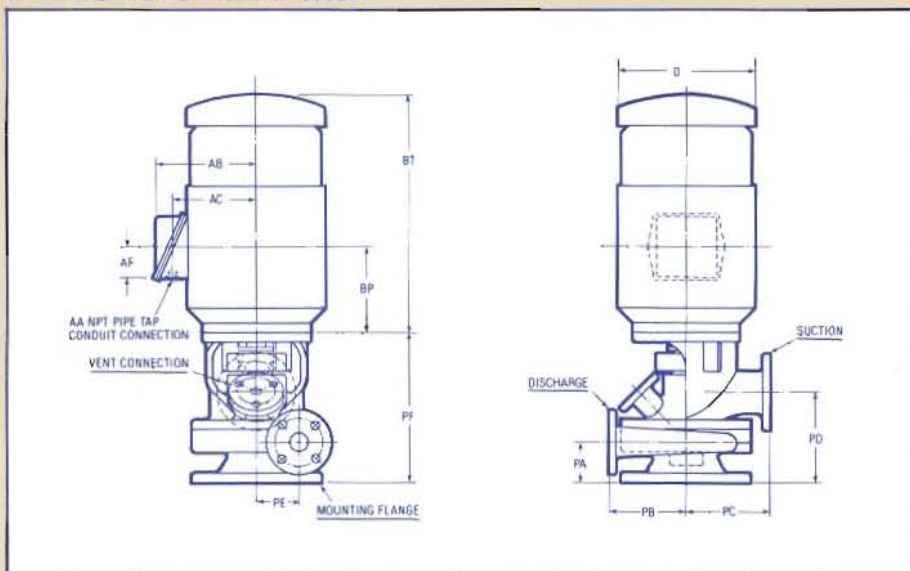




Pump Description

Dimensions: The VC is a vertical single stage close-coupled pump, with top suction for low NPSH. Meets MIL-P-18472.

Dimensional Data

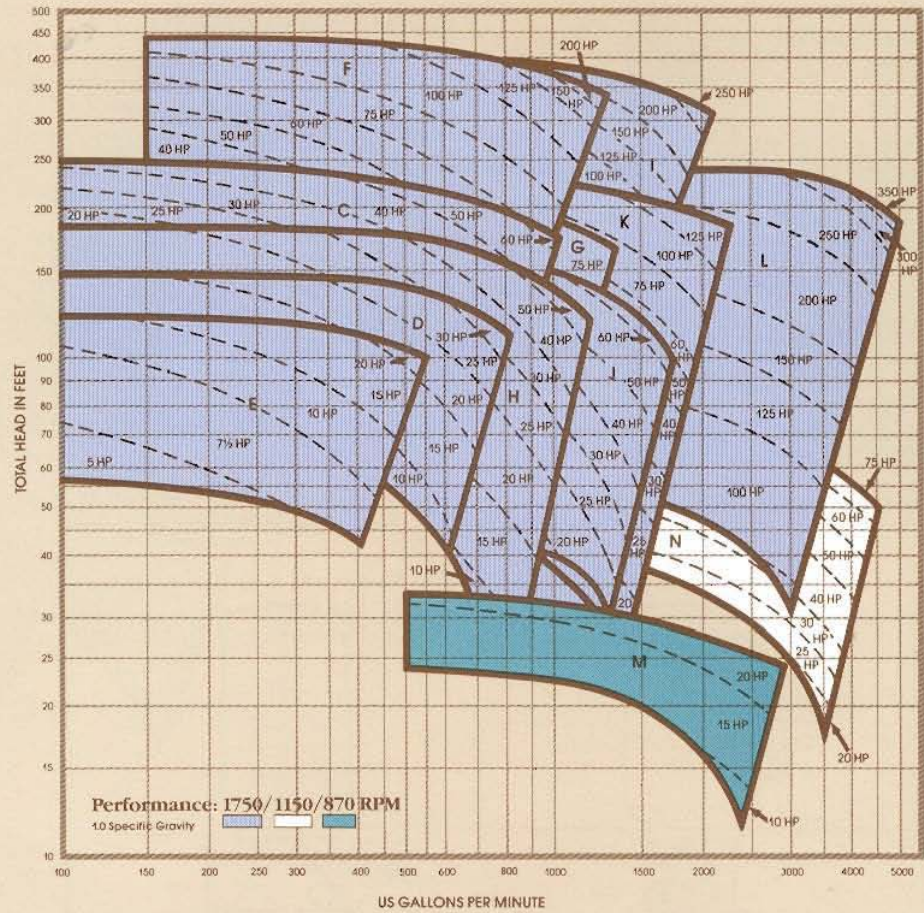


Motor Data							
MOTOR FRAME	O	AA	AB	AC	AF	BP	BT
182TNC	9	3/4	8 1/4	6 1/4	2 1/4	5 1/4	12 3/4
184TNC	9	3/4	8 1/4	6 1/4	2 1/4	6 1/4	13 3/4
213TNC	10 1/2	3/4	9	7	2 1/4	7 1/4	15 3/4
254TNC	12 1/2	1	10	8	2 1/4	9 1/4	19 3/4
256TNC	12 1/2	1	10	8	2 1/4	10	21 1/4
							MAX. WT (LBS)
							95
							120
							155
							275
							335

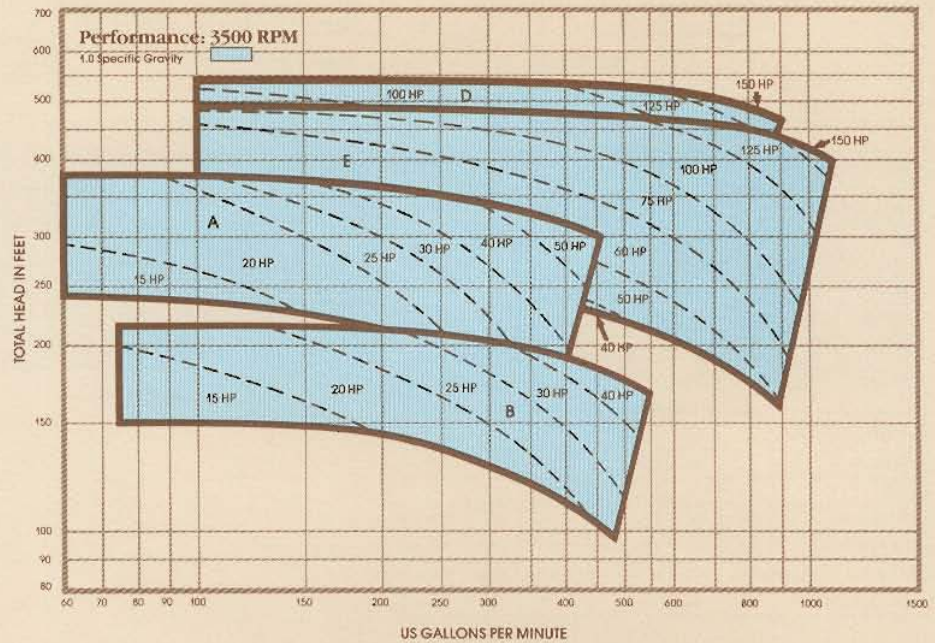
Pump Data									
PUMP SIZE	NAVY FLANGE		PA	PB	PC	PD	PE	PF	
	DIS	SUCT							
VC1015A	1	1 1/2	2 1/4	5 1/4	5 1/4	5 1/4	2 1/4	9 1/4	85
VC12525B	1 1/4	2 1/2	2 1/4	6	6	6 1/4	2 1/4	11	120
VC1535C	1 1/2	3 1/2	3 1/2	7 1/2	7	9 1/2	5 1/4	14 1/4	185
VC3555D	3 1/2	5 1/2	5	8	12	10 1/4	5 1/4	15 1/4	205

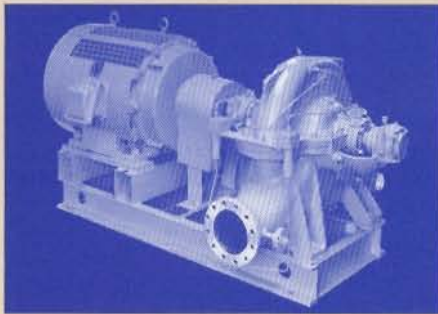
Flange Data							
NAVY SIZE	1	1 1/4	1 1/2	2	2 1/2	3 1/2	5 1/2
BORE	1 1/4	1 1/2	2	2 1/2	3	4	6
OUTSIDE DIA.	4 1/4	4 1/2	5 1/4	5 3/4	6 1/4	7 1/4	10 1/4
BOLT CIRCLE	3 1/8	3 3/8	3 7/8	4 7/8	5	6 1/8	8 1/8
NO. & SIZE HOLES	4-3/16	4-3/16	6-3/16	6-3/16	6-3/16	8-3/16	12-1/16
FLG. THICKNESS	3/16	7/16	7/16	1/2	1/2	1/2	9/16

Class DH and DV Pumps



Code	Size
A	DH & DV 2535 F
B	DH & DV 3040 G
C	DH & DV 4050 C
D	DH & DV 4060 J
E	DH & DV 5060 M
F	DH & DV 5060 N
G	DH & DV 5060 K
H	DH & DV 5060 L
I	DH & DV 6080 Q
J	DH & DV 6080 A
K	DH & DV 80100 T
L	DH & DV 100120 S
M	DH & DV 100120 U
N	DH & DV 120120 V





Pump Description

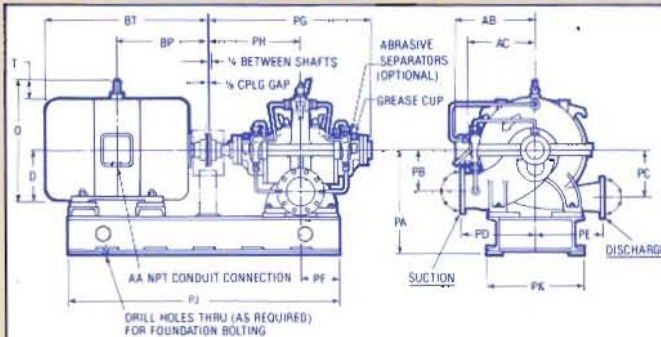
MIL-P-17639 & MIL-P-18144

The DH/DV pumps have been built to conform to Navy specifications for the past fifty years. Constantly updated, these pumps are tailored to current demanding performance of MIL-P-17639.

Current and past services include Brine Circulating, Flushing, Fire Pump, Fuel Oil, AC Chilled Water,

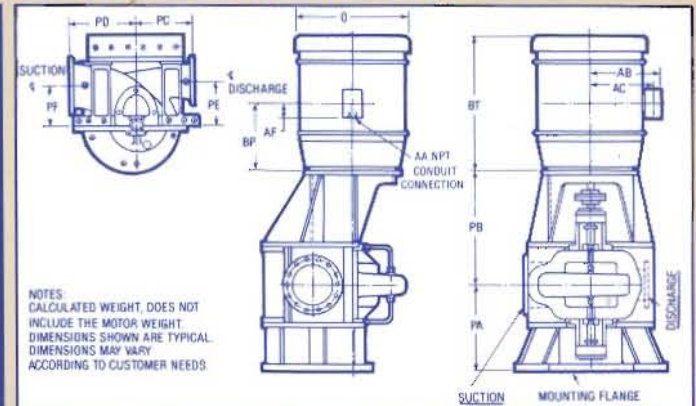
Condenser Sea Water Circulation, Salt Water Feed Pumps, A.C. Salt Water, Distiller, Circulation Water and Reserve Feed Transfer. Contact Buffalo for answers to your unusual liquid handling requirements.

Dimensional Data Horizontal



NOTE 1: CALCULATED WEIGHT INCLUDES THE BASE PLATE BUT DOES NOT INCLUDE THE MOTOR

Dimensional Data Vertical



NOTES:
CALCULATED WEIGHT, DOES NOT INCLUDE THE MOTOR WEIGHT.
DIMENSIONS SHOWN ARE TYPICAL.
DIMENSIONS MAY VARY ACCORDING TO CUSTOMER NEEDS.

Pump Data

PUMP SIZE	NAVY SIZE FLG.	PA	PH	PG	PD	PE	PF	PK	PH
DH253SF	2 1/2	3 1/2	18 1/2	3 1/2	4 1/2	8 1/2	3 1/2	25 1/2	14 1/2
DH30400	3	4	18 1/2	5 1/2	6 1/2	9 1/2	4 1/2	25 1/2	14 1/2
DH40500	4	5	18 1/2	7 1/2	8 1/2	12 1/2	5 1/2	25 1/2	14 1/2
DH40600	4	6	18 1/2	9 1/2	10 1/2	14 1/2	6 1/2	25 1/2	14 1/2
DH50600	5	6	18 1/2	11 1/2	12 1/2	16 1/2	7 1/2	25 1/2	14 1/2
DH50600	5	6	24 1/2	13 1/2	14 1/2	18 1/2	8 1/2	25 1/2	21 1/2
DH50600	5	6	18 1/2	11 1/2	12 1/2	16 1/2	7 1/2	25 1/2	21 1/2
DH50600	5	6	18 1/2	11 1/2	12 1/2	16 1/2	7 1/2	25 1/2	21 1/2
DH50600	5	6	21 1/2	13 1/2	14 1/2	18 1/2	8 1/2	25 1/2	21 1/2
DH50600	5	6	20 1/2	13 1/2	14 1/2	18 1/2	8 1/2	25 1/2	21 1/2
DH60100T	6	10	24 1/2	15 1/2	16 1/2	20 1/2	10 1/2	30 1/2	23 1/2
DH100120S	10	12	30 1/2	17 1/2	18 1/2	22 1/2	12 1/2	40 1/2	25 1/2
DH100120V	10	12	30 1/2	17 1/2	18 1/2	22 1/2	12 1/2	44 1/2	24 1/2
DH120120V	12	12	26 1/2	17 1/2	18 1/2	20 1/2	12 1/2	48 1/2	27 1/2

Motor Frame Sizes and Baseplate Data

PUMP SIZE	MOTOR FRAME SIZE	PJ	PK	PUMP WGT (NOTE 2)	PUMP SIZE	MOTOR FRAME SIZE	PJ	PK	PUMP WGT (NOTE 2)	PUMP SIZE	MOTOR FRAME SIZE	PJ	PK	PUMP WGT (NOTE 2)
DH253SF	250T	42	15	715	DH50600	400T	54	22	845	DH80100T	305T	59	20	1475
DH30400	250T	46 1/2	18	750	DH50600	443T	59	23	885	DH80100T	405T	63	21	1590
DH40500	250T	47	17	815	DH50600	443T	66 1/2	23 1/2	1280	DH80100T	443T	67	23	1530
DH40500	250T	49	18 1/2	730	DH50600	405T	60	21	1150	DH100120S	280T	64 1/2	25	1800
DH40500	365T	51	19 1/2	755	DH50600	365T	51	19	965	DH100120V	280T	64 1/2	25	1800
DH40600	254T	45	14	685	DH50600	320T	47	17	940	DH120120V	320T	66 1/2	23 1/2	2275
DH40600	280T	49 1/2	17	690	DH50600	443T	70	23	1185	DH120120V	405T	70	23 1/2	2295
DH40600	443T	60	23	730	DH50600	443T	70	23	1210	DH120120V	443T	75	23 1/2	3015
DH50600	213T	38	15	780	DH50600	280T	44	15	790					
DH50600	254T	44	15	790	DH50600	280T	44	15	790					
DH50600	280T	50 1/2	20	820	DH50600	365T	55	19 1/2	1055					

Motor Data

MOTOR FRAME	HP	ST (MAX)	D	O	T	AA	AB	AC	MAX WT (LBS)
213T	9 1/2	19 1/2	5 1/2	11 1/2	2 1/2	1 1/2	8	7	150
215T	10 1/2	20 1/2	5 1/2	11 1/2	2 1/2	1 1/2	8	7	165
254T	12 1/2	24 1/2	6 1/2	13 1/2	2 1/2	1 1/2	10	8	275
256T	13 1/2	26 1/2	6 1/2	13 1/2	2 1/2	1 1/2	10	8	335
260T	14 1/2	28 1/2	7 1/2	14 1/2	2 1/2	1 1/2	10 1/2	8 1/2	475
320T	16 1/2	31 1/2	8 1/2	16 1/2	2 1/2	1 1/2	13 1/2	11 1/2	670
365T	17 1/2	34 1/2	9 1/2	19 1/2	3 1/2	1 1/2	17 1/2	13 1/2	1095
405T	20 1/2	39 1/2	10 1/2	21 1/2	3 1/2	1 1/2	18 1/2	15	1225
443T	24 1/2	43 1/2	11 1/2	25 1/2	3 1/2	2	21 1/2	17 1/2	1850
449T	26 1/2	53 1/2	11 1/2	27 1/2	3 1/2	2	21 1/2	17 1/2	2000

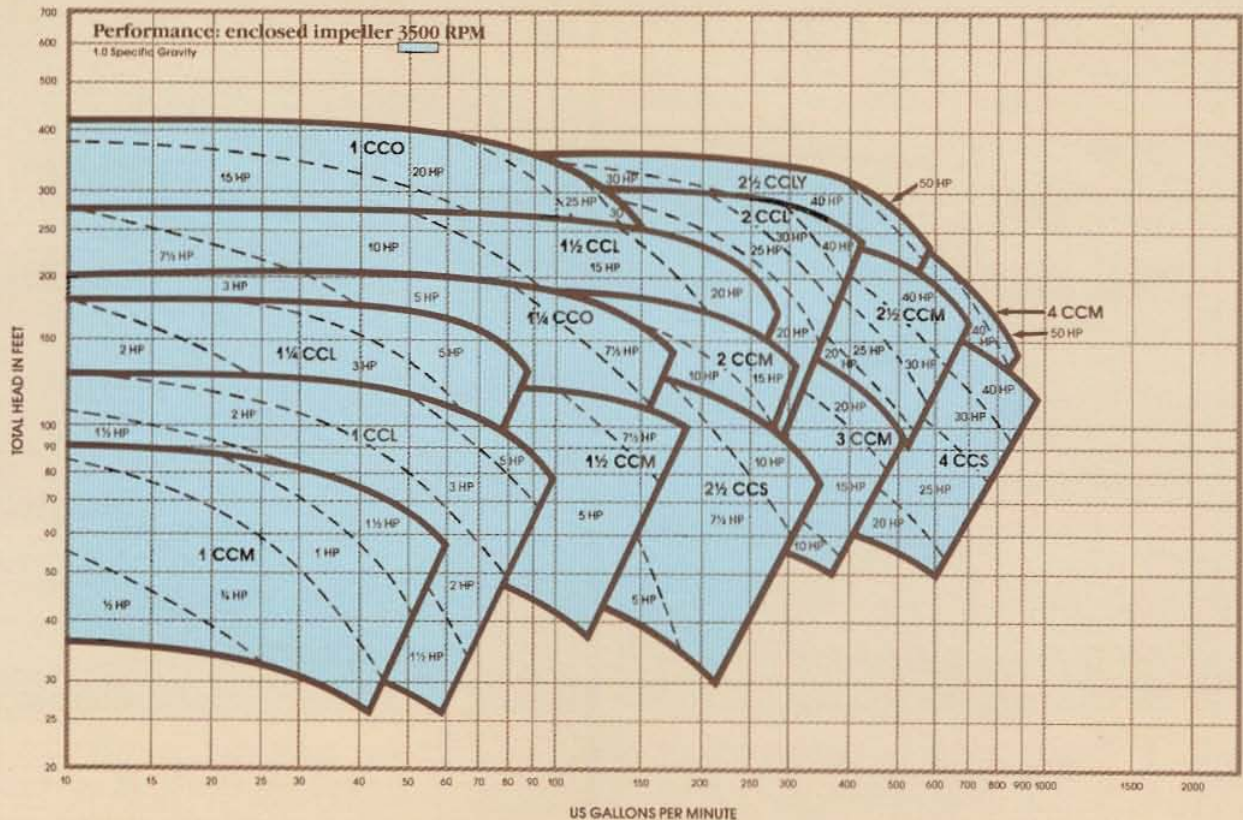
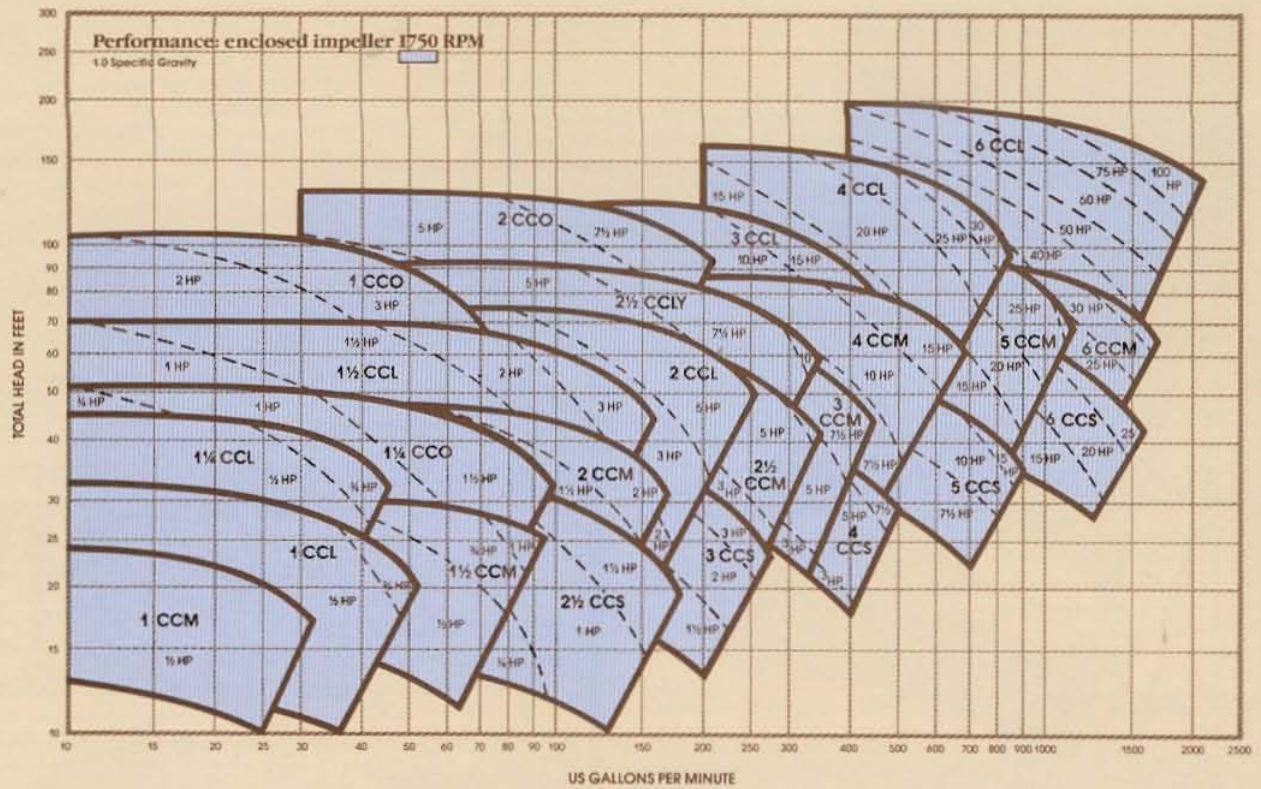
Navy Flange Data

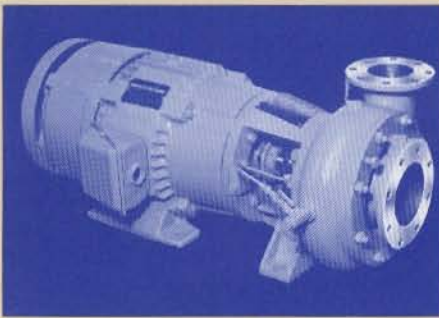
NAVY SIZE	2 1/2	3	3 1/2	4	5	6	8	10	12
BORE	3	3 1/2	4	4 1/2	5 1/2	6 1/2	8 1/2	10 1/2	12 1/2
OUTSIDE DIA.	6 1/2	8 1/2	9 1/2	10 1/2	12 1/2	14 1/2	16 1/2	18 1/2	20 1/2
BOB CIRCLE	5	5 1/2	6 1/2	7 1/2	8 1/2	9 1/2	11 1/2	13 1/2	15 1/2
NO. & SIZE HOLES	6-5/16	8-5/16	8-5/16	8-5/16	10-5/16	12-5/16	14-5/16	16-5/16	18-5/16
FLG. THICKNESS	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2

Pump Data

PUMP SIZE	NAVY SIZE FLG.		PA	PB	PC	PD	PE	PF	PUMP WGT (NOTE 1)	MOTOR FRAME SIZE
	DISC	SLUG								
DH253SF	2 1/2	3 1/2	17 1/2	18 1/2	9	8 1/2	4 1/2	3 1/2	425	250T
				18 1/2					435	280T
				18 1/2					445	320T
				25 1/2					455	365T
DH30400	3	4	14	15 1/2	8 1/2	8 1/2	6 1/2	5 1/2	470	241T
				15					505	260T
				19 1/2					580	320T
DH40500	4	5	14 1/2	21 1/2	12	13	8 1/2	7 1/2	600	280T
				21 1/2					615	320T
				22 1/2					630	365T
DH40600	4	6	14 1/2	22	9 1/2	12 1/2	7 1/2	5	730	254T
				22 1/2					745	280T
				23 1/2					760	320T
				26 1/2					775	445T
DH50600	5	6	15 1/2	21 1/2	9 1/2	12 1/2	8	5 1/2	600	213T
				22					615	234T
				25 1/2					630	320T
				23 1/2					645	365T
				25 1/2					660	405T
				26 1/2					675	445T
DH50600	5	6	19	27 1/2	15	22	11 1/2	11 1/2	1150	365T
				28 1/2					1165	405T
				30 1/2					1180	445T
DH50600	5	6	18	28 1/2	12 1/2	15 1/2	10	8	1205	405T
DH50600	5	6	18	30 1/2	13	15 1/2	8	6 1/2	1250	405T
				21 1/2					665	280T
				21 1/2					680	320T
				22 1/2					695	365T
DH100900	6	6	22	33 1/2	11	16 1/2	11	8 1/2	1290	445T
				35 1/2					1295	445T
DH100900	6	6	18	34 1/2	12	14	9 1/2	8 1/2	1160	260T
				24 1/2					1145	365T
				25 1/2					1180	365T
DH80100T	8	10	16 1/2	27 1/2	12 1/2	16	10 1/2	9 1/2	1500	365T
				28 1/2					1515	405T
				30 1/2					1535	445T
DH100120S	10	12	23	33	15	17 1/2	13 1/2	11 1/2	1940	405T
				34 1/2					1960	445T
				36 1/2					1980	445T
DH100120V	10	12	22	29 1/2	13	17 1/2	8 1/2	10	1900	280T
				29 1/2					1925	320T
				32 1/2					2350	365T
				34 1/2					2385	405T
				35 1/2					2405	445T

Class CCL, CCS, CCM Close Coupled Pumps





Pump Description

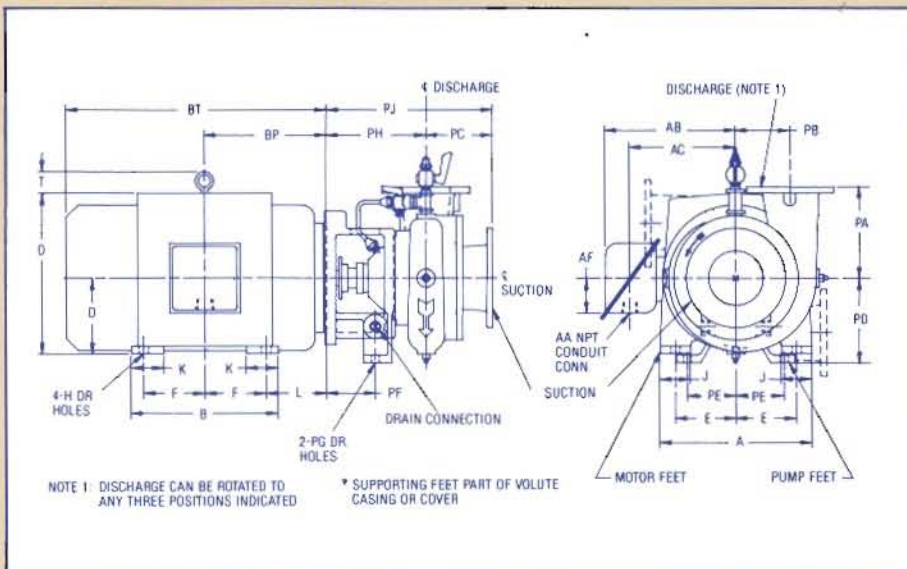
BUFFALO TYPE CC CLOSE COUPLED PUMP MIL-P-17639 & MIL-P-18472

Buffalo Pumps' reputation for quality and reliable equipment, earned over the past fifty years, is typified by the CC pump line. Built to MIL-P-17639 and MIL-P-18472, this pump has proven to be a work horse. Designed with vertically split casing, enclosed impeller, shaft

sleeve of step design, and bracket rabbeted for positive alignment. This construction allows for easy access to the stuffing box.

These pumps can be found on Reserve Feed Transfer, Distillate, Brine, Battery Water Condensate, and Cool Water, and many other applications.

Dimensional Data



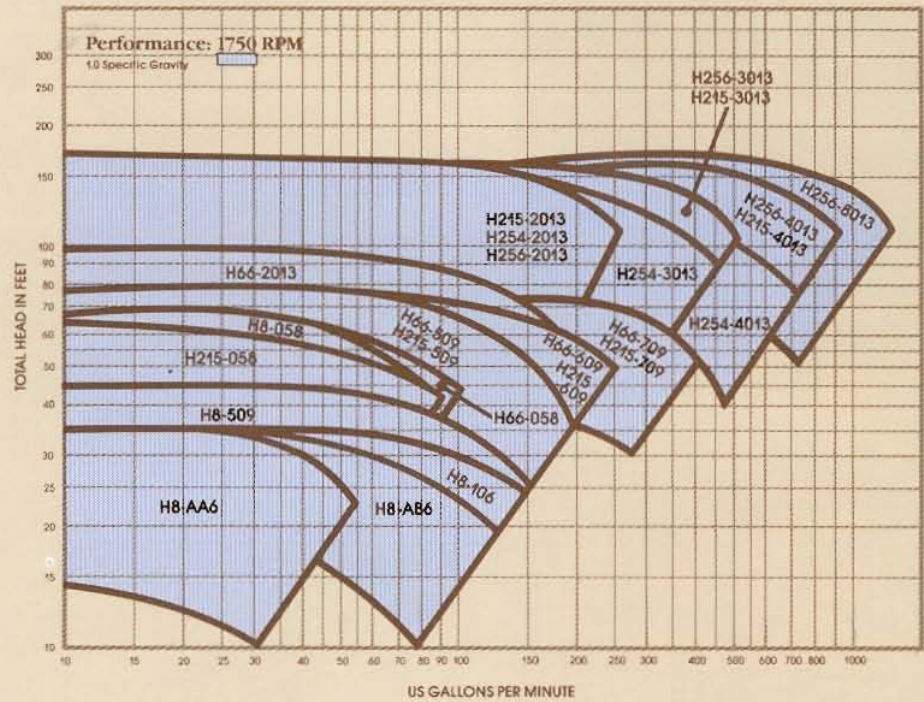
Pump Data												
PUMP SIZE	CALC. WT (LBS)	FLANGE DATA DIS	SUCT	PD	PA	PC	PB	PF	PH	PE	PG	PJ
2½CCS	110	2½	3	5½	6	5	3½	3	7½	4	1½	12½
3CCS	150	3	4	6½	7½	6½	4½	3½	7½	4	1½	12½
4CCS	190	4	5	7½	7½	5½	5½	11½	8½	2½	1½	13½
5CCS	240	5	6	9½	7½	7	6½	11½	8½	2½	1½	15½
6CCS	300	6	8	10	8	6½	6½	11½	8½	2½	1½	15½
1CCM	72	1	1½	4½	5	3	2½	3½	7½	4	1½	10½
1½CCM	90	1½	2	4½	5	4½	3½	3½	7½	4	1½	11½
2CCM	125	2	2½	5	5½	4½	4½	3½	7½	4	1½	11½
2½CCM	150	2½	4	7	6½	5½	5½	4½	8½	4	1½	13½
3CCM	170	3	4	7½	6½	5½	5½	3½	7½	4	1½	12½
4CCM	230	4	5	8½	7½	6½	6½	11½	8½	2½	1½	13½
5CCM	290	5	6	9½	8½	6½	6½	11½	8½	2½	1½	15½
6CCM	330	6	8	10½	7½	7	7½	11½	8½	2½	1½	15½
1CCL	80	1	2½	5	4½	3½	3½	3½	7½	4	1½	11½
1½CCL	95	1½	1½	5½	5½	3½	3½	3½	7½	4	1½	10½
1½CCL	120	1½	2	6½	6½	3½	5½	3½	7½	4	1½	11½
2CCL	135	2	2½	7½	6½	4½	5½	3½	7½	4	1½	14½
2½CCL	165	2½	4	7½	6½	5½	5½	3½	7½	4	1½	12½
3CCL	250	3	4	10½	8½	4½	6½	3½	8½	4	1½	12½
4CCL	320	4	6	11	9½	4½	9½	11½	8½	2½	1½	12½
6CCL	500	6	8	12½	11½	8½	9½	16½	10½	2½	1½	28½
1CCO	160	1	2½	7½	6½	4	5½	2½	7½	4	1½	11½
1½CCO	100	1½	2½	5½	5	4	4½	3½	7½	4	1½	11½
2CCO	170	2	3	7½	7½	4½	6½	3½	7½	4	1½	12½

Motor Data																
MOTOR FRAME	A	B	D	E	F	H	J	K	L	O	T	AA	AB	AC	AF	BP
50	6½	11½	3½	2½	1½	1½	—	—	3½	2½	—	—	—	—	—	3½
182INC	9	6	4½	3½	2½	1½	1½	1½	3½	9½	2½	1½	8½	6½	2½	5½
184INC	9	7	4½	3½	2½	1½	1½	1½	3½	9½	2½	1½	8½	6½	2½	6½
213INC	10½	7	5½	4½	2½	1½	2	1½	4½	11½	2½	1½	9	7	2½	7½
215INC	10½	8½	5½	4½	3½	1½	2	1½	4½	11½	2½	1½	9	7	2½	8
254INC	12½	10½	6½	5	4½	1½	2½	2½	5	13½	2½	1	10	8	2½	9½
256INC	12½	12	6½	5	5	1½	2½	2½	5	13½	2½	1	10	8	2½	10
286INC	13½	13	7	5½	5½	1½	2½	2½	5	14½	2½	1	10½	8½	2½	10½
326INC	15½	14½	8	6½	6	1½	2½	3½	5½	16½	2½	1½	13½	11½	3½	11½
365INC	17	15	9	7	6½	1½	2½	4½	6½	19½	3½	1½	17½	13½	3½	12½
405INC	19	16	10	8	6½	1½	3½	3½	6½	21½	3½	1½	18½	15	3½	13½
445INC	21	19	11	9	8½	1½	3½	3½	7½	23½	3½	2	21½	17½	4½	16

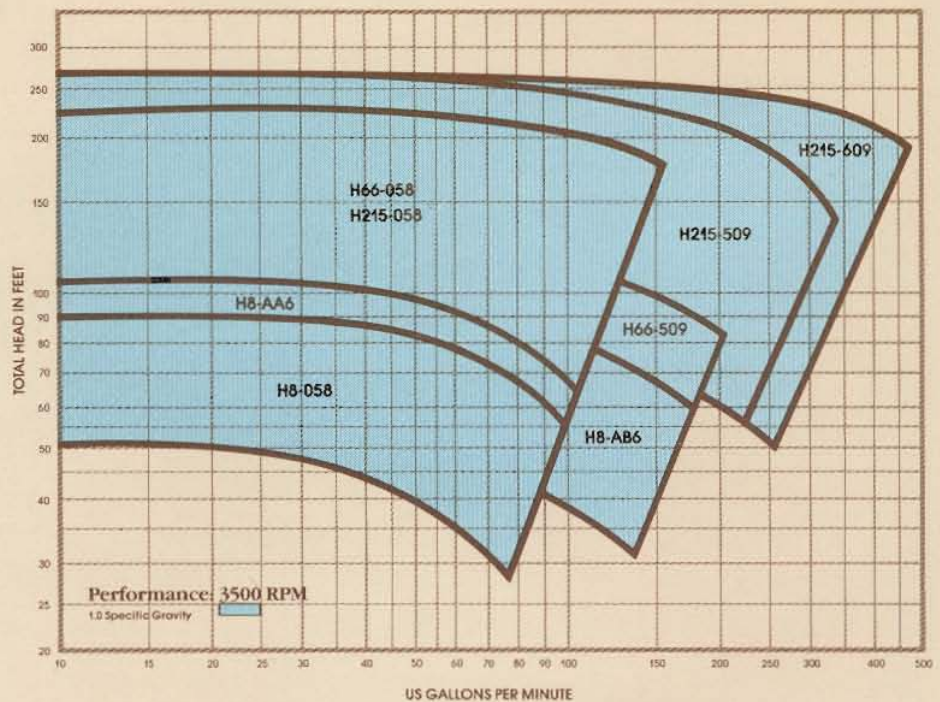
Navy Flange Data								
NAVY SIZE	1	1½	2	2½	3	4	5	6
BORE	1½	1½	2	2½	3	4½	5½	6½
OUTSIDE DIA	4½	4½	5½	5½	6½	7½	9½	10½
BOLT CIRCLE	3½	3½	3½	4½	5	5½	7½	8½
NO. & SIZE HOLES	4-½	4-½	6-½	6-½	6-½	8-½	8-½	10-½
FLANGE THICKNESS	¾	¾	¾	¾	1	1	1	1

Marine ANSI Std. Flange Data (125 lb. Std.)								
BORE	1	1½	2	2½	3	4	5	6
OUTSIDE DIA	4½	4½	5	5	7	7½	9	11
BOLT CIRCLE	3½	3½	3½	4½	5½	6	7½	8½
NO. & SIZE HOLES	4-½	4-½	4-½	4-½	4-½	6-½	8-½	8-½
FLANGE THICKNESS	¾	¾	¾	¾	1	1	1	1

Can-O-Matic® The Reliable Zero Leakage Pumps



FRAME	NOMINAL HP	RPM	RATED HP	WORKING PRESSURE PSI
				STD HIGH
H 8	1½ 3	1750 3600	1½ 3	200 300
H 66	5	1750	1 2 3 5	200 300
		3600	1 2 3 5	200 300
H 215	10	1750	5 7½ 10	200 400
		3600	5 7½ 10	200 400
HL 215	20	1750	7½ 10 15 20	400
		3500	7½ 10 15 20	400
H 254	15	1750	7½ 10 15	400
		1750	7½ 10 15	400
H 256X	25	1750	15 20 25	400
		1750	15 20 25	400
H 256Z	40	1750	25 30 40	400
		1750	25 30 40	400





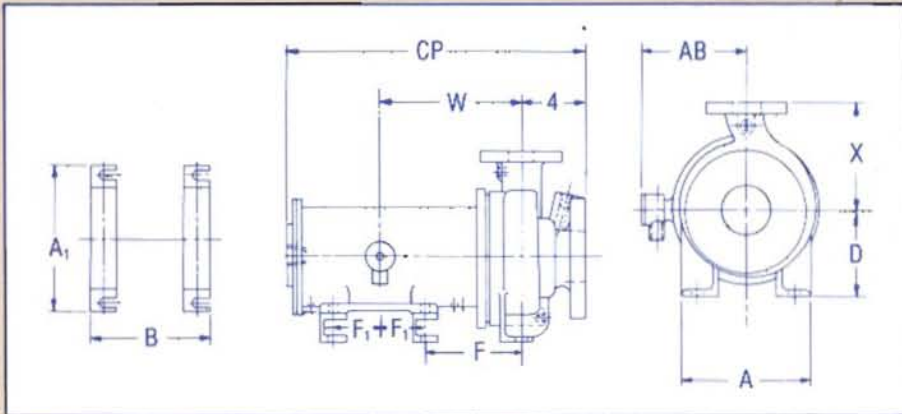
Pump Description

The Buffalo Hermetically Sealed Pump The Buffalo hermetically sealed pump can safely handle hot, cold, toxic, corrosive and generally troublesome liquids without the fear of leakage or outside contaminants entering the stuffing box area.

Buffalo's CAN-O-MATIC pump uses tapered spring loaded self-adjusting 712 brinnell carbon graphite bear-

ings to maintain years of maintenance free service. The unique design uses the pump fluid to lubricate bearings, balance rotating assembly, and cool the motor. Inherent in the design are minimal space requirements and extremely low noise levels. The pump can also be modified to meet Specification MIL-P-17639 and MIL-P-18472. Durability of design permits shock and vibration tests. The hermetically sealed pump is ideally suited for refrigerants, condensate, volatile and corrosive liquids. Temperature ranges from -120°F to 490°F, working pressures to 600 psi.

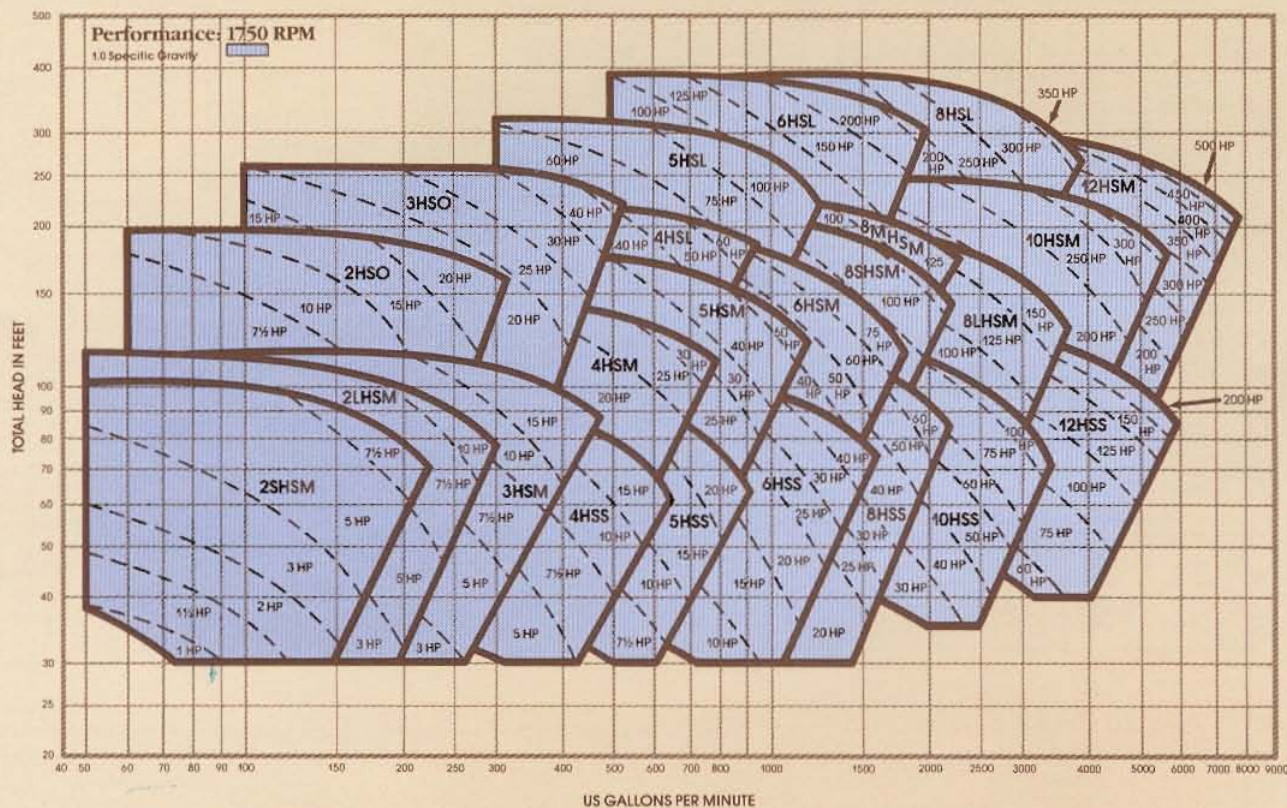
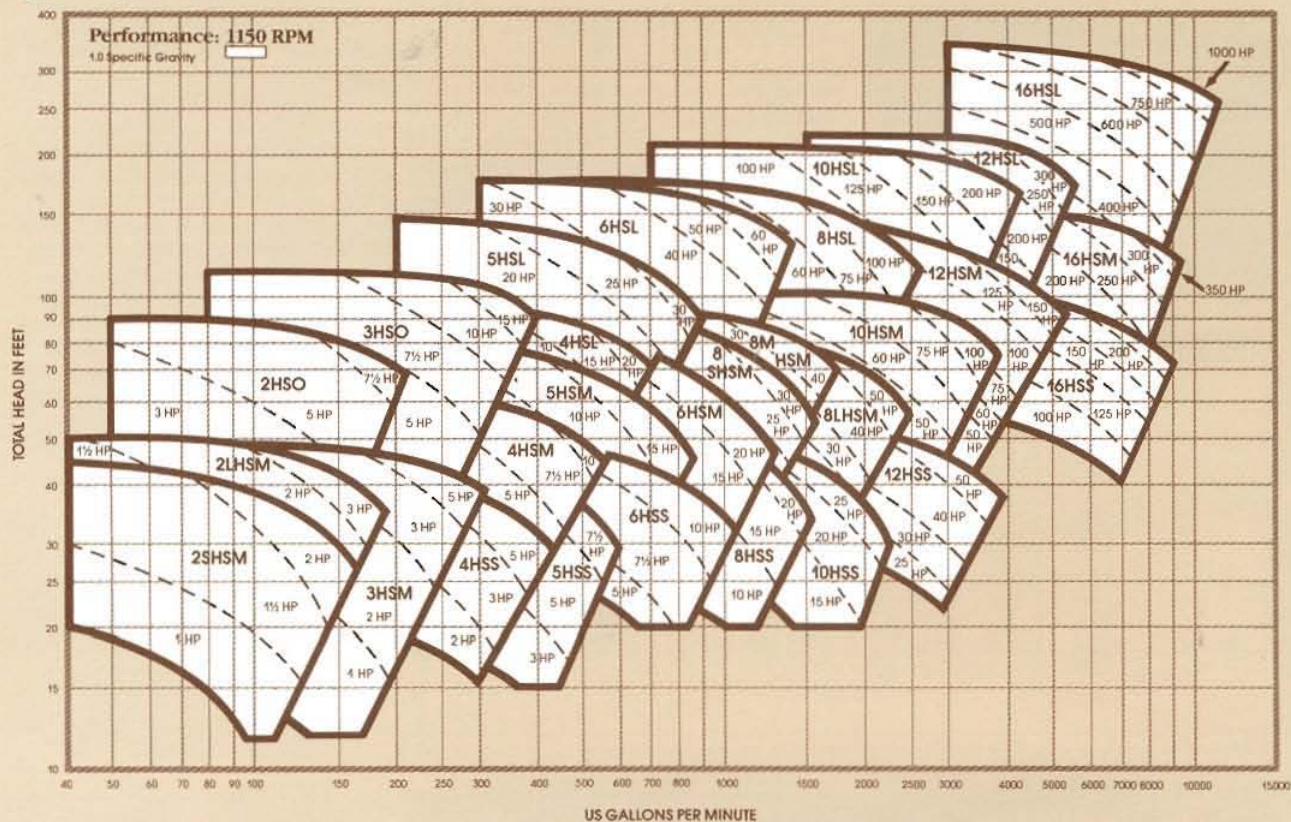
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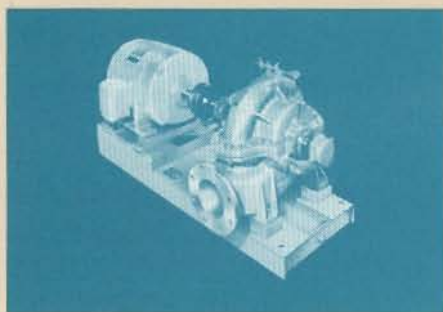


Pump Data	PUMP MODEL	SUC-TION	DIS-CHARGE	CP	A	D	X	W	AB	B	A1	F	F1
HCR	H8	AAA	1 1/2	1	18 1/2	8	5 1/2	6 1/2	12 1/2	6 1/2	—	—	—
"	H8	AB4	3	1 1/2	18 1/2	8	5 1/2	6 1/2	12 1/2	6 1/2	—	—	—
"	H8	106	3	2	18 1/2	8	5 1/2	8 1/2	12 1/2	6 1/2	—	—	—
"	H8	058	2	1	18 1/2	11 1/2	8 1/2	8 1/2	12 1/2	6 1/2	—	—	—
"	H8	509	3	1 1/2	18 1/2	11 1/2	8 1/2	8 1/2	12 1/2	6 1/2	—	—	—
"	H66	058	2	1	18 1/2	11 1/2	8 1/2	8 1/2	13	7 1/2	—	—	—
"	H66	509	3	1 1/2	18 1/2	11 1/2	8 1/2	8 1/2	13	7 1/2	—	—	—
"	H66	609	3	2	18 1/2	11 1/2	8 1/2	9 1/2	13	7 1/2	—	—	—
"	H66	709	4	3	18 1/2	11 1/2	8 1/2	11	13	7 1/2	—	—	—
"	H66	2013	3	1 1/2	18 1/2	11 1/2	10	10 1/2	13	7 1/2	—	—	—
HCR	H215	058	2	1	20 1/2	11 1/2	8 1/2	8 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	058	2	1	20 1/2	11 1/2	8 1/2	8 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	H215	509	3	1 1/2	20 1/2	11 1/2	8 1/2	8 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	509	3	1 1/2	20 1/2	11 1/2	8 1/2	8 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	H215	609	3	2	20 1/2	11 1/2	8 1/2	9 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	609	3	2	20 1/2	11 1/2	8 1/2	9 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	H215	709	4	3	20 1/2	11 1/2	8 1/2	11	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	709	4	3	20 1/2	11 1/2	8 1/2	11	9 1/2	9 1/2	14	5 1/2	3 1/2
"	H215	2013	3	1 1/2	20 1/2	11 1/2	10	10 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	2013	3	1 1/2	20 1/2	11 1/2	10	10 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	H215	3013	3	2	20 1/2	11 1/2	10	11 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	3013	3	2	20 1/2	11 1/2	10	11 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	H215	4013	4	3	20 1/2	11 1/2	10	12 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
"	HL215	4013	4	3	20 1/2	11 1/2	10	12 1/2	9 1/2	9 1/2	14	5 1/2	3 1/2
HCR	H254	2013	3	1 1/2	21 1/2	11 1/2	10	10 1/2	9 1/2	10 1/2	15 1/2	5 1/2	4 1/2
"	H254	3013	3	2	21 1/2	11 1/2	10	11 1/2	9 1/2	10 1/2	15 1/2	5 1/2	4 1/2
"	H254	4013	4	3	21 1/2	11 1/2	10	12 1/2	9 1/2	10 1/2	15 1/2	5 1/2	4 1/2
"	H254	8013	6	4	21 1/2	14	10	13 1/2	9 1/2	10 1/2	15 1/2	5 1/2	4 1/2
HCR	H256	2013	3	1 1/2	28	11 1/2	10	10 1/2	10 1/2	10 1/2	15 1/2	8 1/2	4 1/2
"	H256	3013	3	2	28	11 1/2	10	11 1/2	10 1/2	10 1/2	15 1/2	8 1/2	4 1/2
"	H256	4013	4	3	28	11 1/2	10	12 1/2	10 1/2	10 1/2	15 1/2	8 1/2	4 1/2
"	H256	8013	6	4	28	14	10	13 1/2	10 1/2	10 1/2	15 1/2	8 1/2	4 1/2

Suction and Discharge Flange Dimensions												
SIZE	STANDARD				HIGH (OPTIONAL)							
	1"	1 1/2"	2"	3"	4"	6"	1"	1 1/2"	2"	3"	4"	6"
FLANGE DIA.	4 1/2"	5"	6"	7 1/2"	9"	11"	4 1/2"	6 1/2"	8 1/2"	10"	12"	14 1/2"
THICKNESS	3/16"	1/4"	5/16"	3/4"	7/8"	1 1/8"	3/16"	1/4"	5/16"	3/4"	7/8"	1 1/8"
NO. & SIZE BOLTS	4-1/2"	4-1/2"	4-1/2"	4-1/2"	8-1/2"	8-1/2"	4-3/4"	8-3/4"	8-3/4"	8-3/4"	8-3/4"	12-3/4"
BOLT CIRCLE	3 1/4"	3 3/4"	4 1/4"	6"	7 1/2"	9 1/2"	3 1/2"	4 1/2"	5"	5 1/2"	7 1/2"	10 1/2"

Class HSM & VHSM



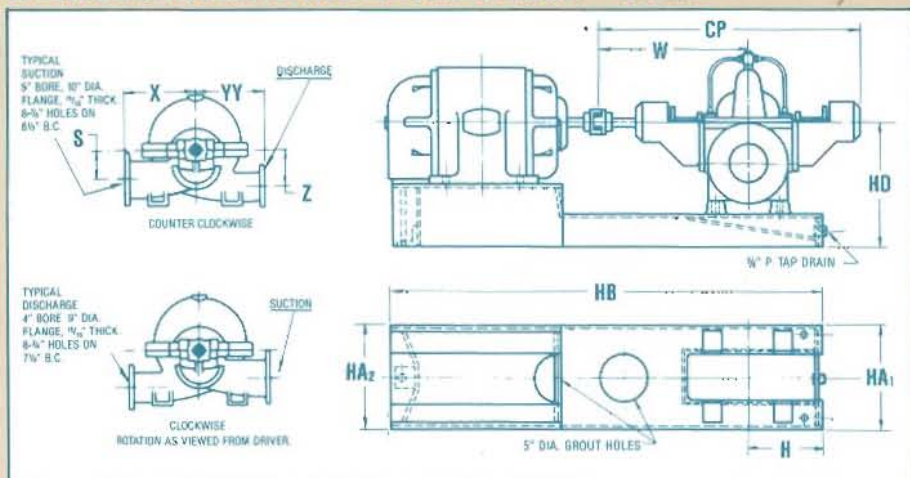


Pump Description

HSM Double Suction Pumps These horizontal split case double suction pumps cover capacities ranging to 20,000 GPM in 30 sizes. These pumps are designed for maximum interchangeability of shaft groups to reduce inventory requirements. Minimum average bearing life of 150,000 hours means fewer shut-downs. Flexibility of design permits

horizontal as well as vertical configurations for tight space requirements. The Type HSM pump is currently being used for generator sea water cooling, sea water pumping, auxiliary bilge, ballast pump, and after and main ballast pumps, as well as a variety of additional applications.

Dimensional Data Horizontal - HSM



Pump End Dimensions/Inches*									
CLASS	Discharge	Suction	Net Wt. Lbs.	CP	S	W	X	Y	Z
HSM	2	2½	140	23½	4½	13½	9	8½	5½
	3	4	185	23½	5½	13½	9½	8½	6½
	4	5	330	26½	5	14½	12½	9½	7½
	5	6	440	29	5½	17	13½	11	8
	6	8	610	29	8½	17	14	12	9½
	8	10	870	30½	9½	22½	16	12½	10½
	8M	10	880	30½	9½	22½	16	12½	10½
	8L	10	940	43½	9½	24½	16	12½	10½
	10	12	1000	43½	11½	24½	17½	15	11½
	12	14	1460	53½	11½	30½	19	15½	11½
HSO	16	18	2450	53½	12½	30½	23½	20	12½
	18	20	4900	70½	17½	39	33	23	17½
	20	24	5900	70½	18½	39	32	22½	18½
	24	24	5900	70½	18½	39	32	22½	18½
HSL	4	5	420	29	7½	17	13	12	8½
	5	8	710	39½	10	22½	15	11½	10
	6	8	1010	39½	8½	22½	16½	13½	11
	8	10	1530	43½	10½	24½	20	15	12½
	10	12	2040	43½	12	24½	23	18	13½
	12	14	2210	53½	12½	30½	25	19	15½
HSS	16	18	4200	59½	16½	34	28	24	18½
	4	6	275	26½	6	14½	11	9	6
	5	6	425	29	6½	17	12½	11½	6½
	6	8	580	26½	7½	14½	13½	11½	6½
	8	10	680	29	8½	17	15½	12½	8½
	10	12	900	39½	10	22½	18	14½	9½
	12	14	980	39½	11½	22½	20½	16	11½
	16	18	2300	56½	14½	30½	25½	20	14½
	20	24	5900	70½	18½	39	32	22½	18½

*Approximate - do not use for construction purposes.

Base Plate Dimensions/Inches*									
PUMP SIZE	NEMA Motor Frame	Net Wt. Lbs.	HA ₁	HA ₂	HB	HD	H		
2 HSM	145/215	90	13½	13½	40½	11½	7½		
3 HSM	145/215	90	13½	13½	40½	11½	7½		
	254/256	90	13½	13½	40½	12½	7½		
4 HSM	213/256	120	15½	15½	46½	14½	8½		
	284/286	120	15½	15½	46½	15	8½		
5 HSM	184/326S	200	18½	18½	51½	17	9½		
	324/365	210	18½	19½	56½	17	9½		
6 HSM	184/326S	200	18½	18½	51½	17½	9½		
	324/365	210	18½	19½	56½	17½	9½		
8 HSM	213/326	368	22½	22½	59½	22	12½		
	364S/445S	446	22½	22½	71½	22	12½		
10 HSM	364S/445	532	24½	24½	77½	26	15½		
2 HSO	182/256	90	13½	13½	40½	21½	7½		
	284S/326	100	13½	17½	47	21½	7½		
3 HSO	213/286	120	15½	15½	46½	15	8½		
	324S/324	156	15½	18	50½	15	8½		
4 HSL	184/326S	200	18½	18½	51½	17	9½		
	324/365	210	18½	19½	56½	17	9½		
5 HSL	256/326	400	21½	21½	62½	19½	14½		
	364S/405	450	21½	22½	72	19½	14½		
6 HSL	364S/405	446	22½	22½	71½	20	12½		
	444S/445	446	22½	22½	71½	21	12½		
8 HSL	364S/405	532	24½	24½	77½	24	15½		
	444S/445	550	24½	24½	77½	25	15½		
4 HSS	213/256	120	15½	15½	46½	14½	8½		
	284S/286	120	15½	15½	46½	15	8½		
5 HSS	184/286	200	18½	18½	51½	17	9½		
6 HSS	215/324	200	20	20	53½	17	10½		
8 HSS	184/326S	200	18½	18½	51½	17½	9½		
	324/365	210	18½	19½	56½	17½	9½		
10 HSS	364S/405	532	24½	24½	77½	25	15½		
12 HSS	364S/405	532	24½	24½	77½	25	15½		
	444S/445	550	24½	24½	77½	26	15½		

*Approximate - do not use for construction purposes.

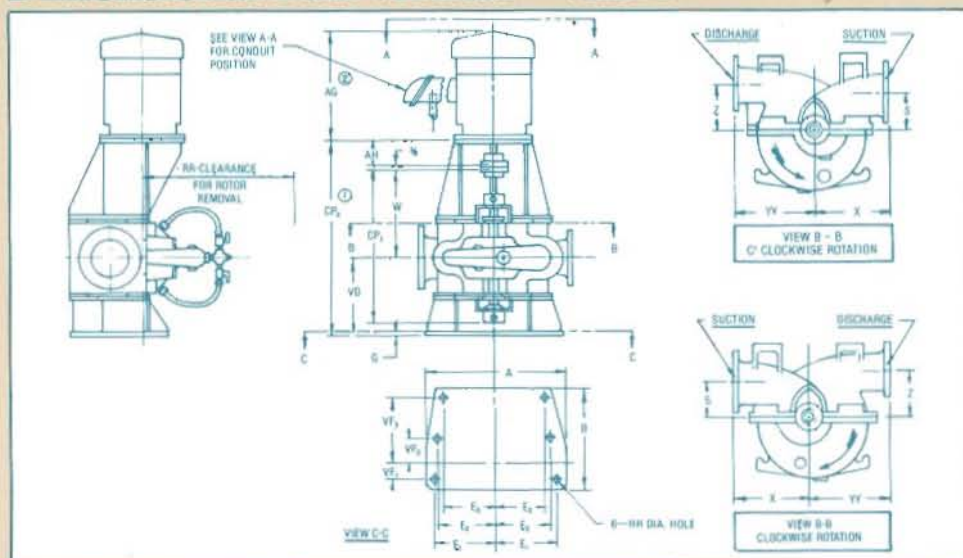
**These dimensions may also be used for "U" Frame Motors.

NOTE: Pumps 12 HSM and larger, or motor frames over 445L, require special base plates.

American Standard C.I. Flanges (125 Lb. Standard)

Nominal Size Inches	Dia. of Flange	Dia. of Bolt Circle	No. of Bolts	Flange Thickness	Size Bolts
1	4½	3½	4	¾	½
1½	4½	3½	4	¾	½
2	5	3½	4	¾	½
2½	6	4½	4	¾	¾
3	7½	5½	4	1½	¾
4	9	7½	8	1½	¾
5	10	8½	8	1½	¾
6	11	9½	8	1	¾
8	13½	11½	8	1½	¾
10	16	14½	12	1½	¾
12	19	17	12	1½	¾
14	21	18½	12	1½	1
16	23½	21½	16	1½	1
18	25	22½	16	1½	1½
20	27½	25	20	1½	1½
24	32	29½	20	1½	1½

Dimensional Data Vertical - VHSM



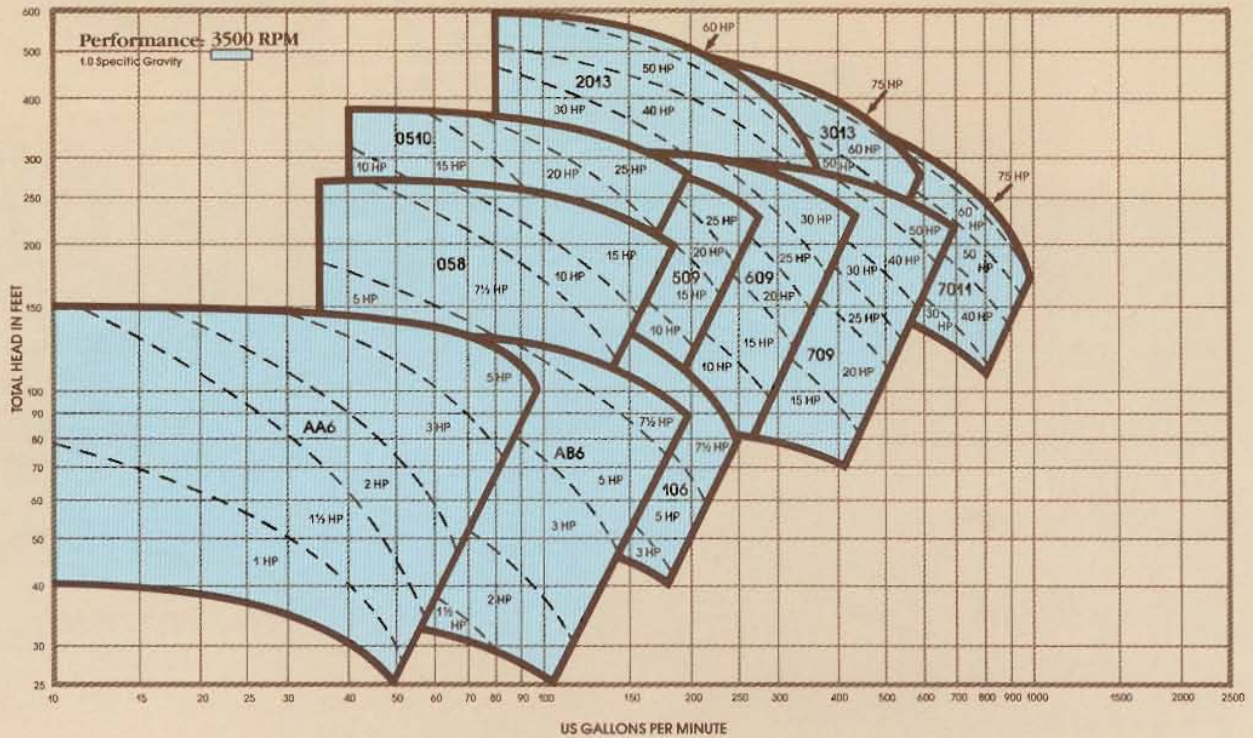
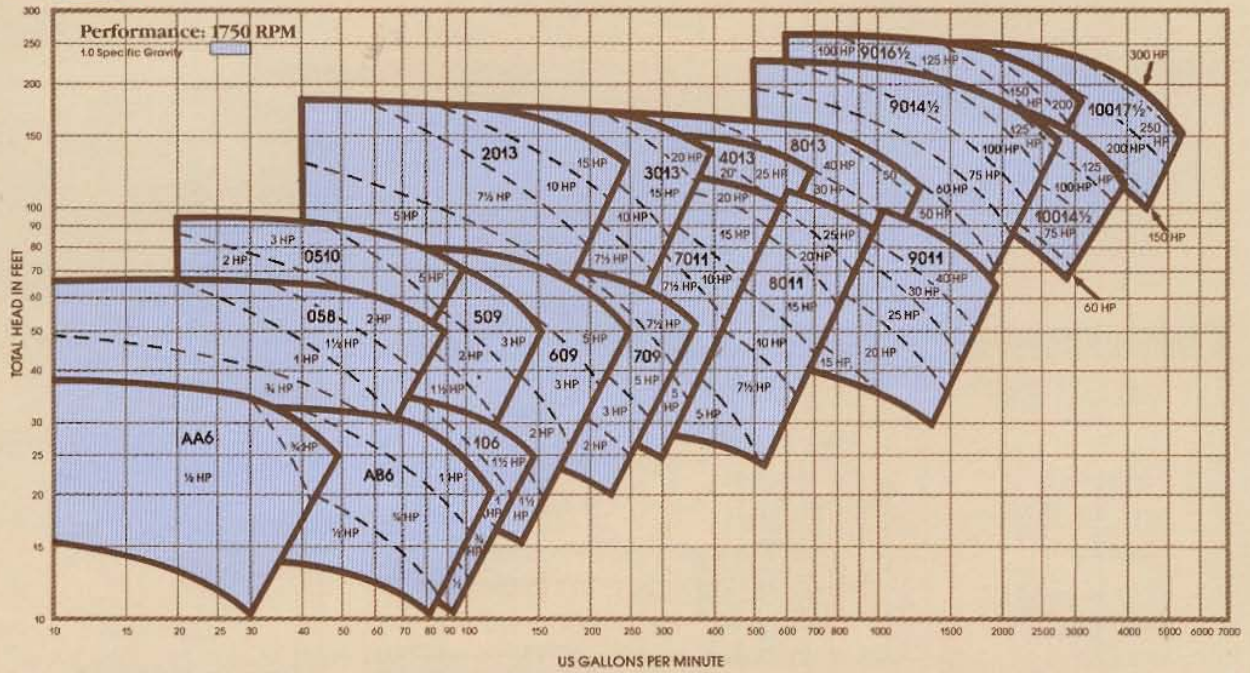
Pump Data										Unit Data														①	②
GP	DISCH	SUCT	CL	S	W	X	Z	CP ₁	YY	WGT	A	B	E ₁	E ₂	E ₃	VF ₁	VF ₂	VF ₃	HH	G	VD	CP ₂	RR	WGT	
1	2x2½	HSM	4½	13½		9	5½	23½	8½	164	16	13½	6½	6½	5	2¼	3¼	8½	1	½	10½		12		
	3x4	HSM	5½			9½	6½		8½	215											10½		12		
	2x2½	HSM	7			9½	7¼		8½	238											10½		15		
3	3x4	HSM	7¼	14½		12	8½	26½	10	390	19	15¼	7¼	7½	6¼	2½	3½	9½	1	½	13½		14		
	4x5	HSM	5			12½	7½		9½	395											14				
	4x6	HSS	6			11	6		9	320											12				
4	6x8	HSS	7¼	17		13½	6½	29	11½	580	19	16¼	7¼	7¼	7½	2½	4¼	11	1	½	14¼		12		
	4x5	HSL	7¼			13	8½		12	448											16				
	5x6	HSM	6½			13½	8		11	515											15				
5	5x6	HSS	6½	22½		12½	6½	30½	11½	500	21½	17½	8½	8	6½	1¼	5½	13	1	½	14¼		13		
	6x8	HSM	8½			14	9¼		12	711											16				
	8x10	HSS	8½			15½	8½		12½	850											13				
6	5x8	HSL	10	24½		15	10	43½	11½	900	34	26¼	14	13½	9½	4	7½	18½	1¼	¾	22½		23		
	6x8	HSL	8½			16½	11		13½	1100											17				
	8x10	M-HSM	9½			16	10½		12½	937											16				
7	10x12	HSS	10	24½		18	9¼	43½	14½	900	34	26¼	14	13½	9½	4	7½	18½	1¼	¾	22½		23		
	12x14	HSS	11½			20½	11½		16	980											17				
	8x10	HSL	10½			20	12¼		15	1530											22				
8	8x10	L-HSM	9½	24½		16	10½	43½	12½	940	34	26¼	14	13½	9½	4	7½	18½	1¼	¾	22½		23		
	10x12	HSL	12			23	13½		18	2060											17				
	10x12	HSM	11½			17½	11½		15	1000											23				
9	12x14	HSM	10½	24½		19	10½	43½	15½	1460	34	26¼	14	13½	9½	4	7½	18½	1¼	¾	22½		23		

Motor Data				①	②
FRAME	AH	AG	WGT		
143-STP		12			
182-4TP		13½			
213-STP	2¼	16½			
254-6TP		20½			
284-6TPH		21½			
324-6TP		23½			
364-5TP	4½	25½			
404-5TP		28½			
444-5TP		33			
449-TP		41½			

NOTE: ① DIMENSION AND UNIT WEIGHT WILL VARY DEPENDING ON MOTOR SUPPORT REQUIRED.
 ② DIMENSION AND WEIGHT WILL VARY WITH VARIOUS MOTOR MFG. & TYPE OF ENCLOSURE.
 ③ BOLT GROUP ALWAYS STRADDLE HORIZ. & VERTICAL CENTERLINES.

Flange Data										
DISCH. & SUCT. FLANGES (125 PSI ASA SERIES FLAT FACE)										
SIZE	2	2½	3	4	5	6	8	10	12	14
OUTSIDE DIA.	6	7	7½	9	10	11	13½	16	19	21
BOLT CIRCLE	4½	5½	6	7½	8½	9½	11¼	14¼	17	18½
NO. & SIZE OF BOLTS ①	4-½	4-½	4-½	8-½	8-¾	8-¾	8-¾	12-7/8	12-7/8	12-1
FLANGE THICKNESS	½	½	¾	1½	1½	1	1½	1½	1½	1½

CRE/CRO-VCRO-CCRE End Suction Pumps



Frame Mounted and Vertical



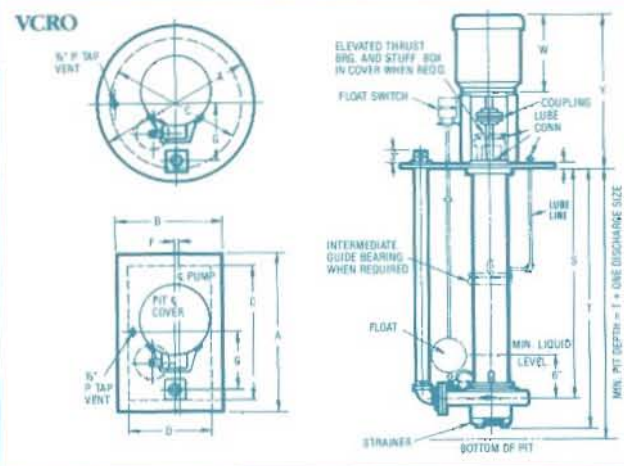
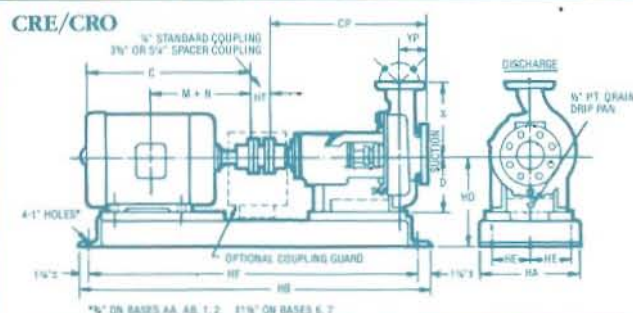
Pump Description

These Buffalo Pumps are designed for commercial and marine applications where maintaining continuous performance with minimum down time is essential. Standardized parts on the wetted end consist of casings, casing covers, impellers, and wear rings, reducing stock inventory requirements.

The three Classes of pumps have

the same performance. Volute/impeller design features exclusive balance thrust to reduce axial and radial loads, and provide low NPSH requirements. Quick release bolt lugs permit back pull out without disconnecting piping. Pumping applications include: hot potable water, waste water, sea water, chill water and tank dewatering.

Dimensional Data



Pump Length** (VC-1, VC-2 & VC-3)										
NO INTERMEDIATE GUIDE BEARING										
5'	20%	26%	32%	36%	44%	50%	56%	62%	68%	
1"	25%	31%	37%	43%	49%	55%	61%	67%	73%	
ONE INTERMEDIATE GUIDE BEARING										
5'	74%	80%	86%	92%	98%	104%	110%	116%		
1"	79%	85%	91%	97%	103%	109%	115%	121%		

Pump Length** (VC-4 & VC-5)									
NO INTERMEDIATE GUIDE BEARING									
S	16	22	28	34	40	46	52	58	64
T	24	30	36	42	48	54	60	66	72
ONE INTERMEDIATE GUIDE BEARING									
S	76%	76%	82%	88%	94%	100%	100%	112%	
T	78%	84%	90%	96%	102%	108%	114%	120%	

Pump Data															
Pump Size	Section x Discharge x Imp. Diam.	Flowing From	CP	YP	D	X	Pump Wgt.	Pump Size	Section x Discharge x Imp. Diam.	Flowing From	CP	YP	D	X	Pump Wgt.
A66	1 1/4 x 1 x 6	M1	17 1/2	4	5 1/4	6 1/4	65	7011	4 x 3 x 1 1/2	M2/M3	23 1/2	4	10	12 1/2	151/160
A86	3 x 1 1/2 x 6	M1	17 1/2	4	5 1/4	6 1/4	73	8011	6 x 4 x 1 1/2	M2/M3	23 1/2	4	10	13 1/2	167/173
106	4 x 2 x 6	M1	17 1/2	4	5 1/4	6 1/4	82	9011	8 x 6 x 1 1/2	M2/M3	23 1/2	6	10	13 1/2	179/181
106	3 x 2 x 6	M2/M3	23 1/2	4	8 1/4	8 1/4	108/108	2013	3 x 1/2 x 3/3	M2/M3	23 1/2	4	10	10 1/2	178/186
106	3 x 2 x 6	M2/M3	23 1/2	4	8 1/4	8 1/4	111/119	3013	3 x 1/2 x 3/3	M2/M3	23 1/2	4	10	11 1/2	190/193
509	3 1/2 x 1 1/2 x 9	M2/M3	23 1/2	4	8 1/4	8 1/4	114/122	4013	4 x 3 x 1 1/2	M2/M3	23 1/2	4	12 1/2	150/158	
609	3 x 2 x 9	M2/M3	23 1/2	4	8 1/4	8 1/4	123/126	8013	6 x 4 x 1 1/2	M2/M3	23 1/2	4	10	13 1/2	207/211
709	4 x 3 x 9	M2/M3	23 1/2	4	8 1/4	11	137/143	9014	8 x 6 x 1 1/4	M4	33 1/2	6	14 1/2	16	667
0510	5 x 1 1/2 x 10	M2/M3	23 1/2	4	8 1/4	8 1/4	128/132	1014	10 x 8 x 1 1/4	M4	33 1/2	6	14 1/2	18	794
5011	5 x 1 1/2 x 11	M2/M3	23 1/2	4	10	10 1/2	126/129	9015	9 x 8 x 1 1/2	M4	33 1/2	6	14 1/2	18	867
5011	5 x 1 1/2 x 11	M2/M3	23 1/2	4	10	10 1/2	128/146	9017	9 x 8 x 1 1/2	M4	33 1/2	6	14 1/2	18	867
5011	5 x 1 1/2 x 11	M2/M3	23 1/2	4	10	10 1/2	128/146	9017	9 x 8 x 1 1/2	M4	33 1/2	6	14 1/2	18	867
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5011	5 x 1 1/2 x 11	M2/M3	23 1/2	4	10	10 1/2	128/146	9017	9 x 8 x 1 1/2	M4	33 1/2	6	14 1/2	18	867
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5011	5 x 1 1/2 x 11	M2/M3	23 1/2	4	10	10 1/2	128/146	9017	9 x 8 x 1 1/2	M4	33 1/2	6	14 1/2	18	

Motor types			
Motor type	C	M	N
56	12%	5%	0%
66	12%	5%	0%
1430	13%	6%	0%
1800	13%	6%	0%
1801	13%	6%	0%
2130	18%	9%	5%
2150	18%	9%	5%
2640	22%	12%	8%
2660	24%	12%	8%
2670	24%	12%	8%
2675	24%	12%	8%
2800	28%	14%	10%
2805	28%	14%	10%
3241	29%	14%	10%
3245	29%	14%	10%
3285	31%	15%	11%
3285	31%	15%	11%
3600	32%	16%	12%
3605	32%	16%	12%
3605	32%	16%	12%
4041	37%	20%	15%
4051	38%	20%	15%
4051	38%	20%	15%
4445	40%	20%	15%
4445	40%	20%	15%
4445	40%	20%	15%
4851	44%	24%	18%
4450	40%	20%	15%
4671	48%	26%	20%
4673	48%	26%	20%
4673	48%	26%	20%
4673	48%	26%	20%
4673	48%	26%	20%

Base Plate Data														
		Base						HO						
Bearing Frame		No.	Wgt.	Motor Frames		HA	HB	HE	HF	D = 5%	D = 8%	D = 10%	D = 14%	D = 16%
M-1	AA	41	56-184T	10	35	4	32%	8%	—	—	—	—	—	—
	AB	52	213T-215T	12	39	4%	36%	8%	—	—	—	—	—	—
	1	81	143T-215T	12	45	4%	42%	—	12	13%	—	—	—	—
	2	109	254T-286T	15	52	6	48%	—	12%	14%	—	—	—	—
M-2	3	110	324T*TS-326T*TS 364T*TS-365T*TS	18	58	7%	53%	—	13	14%	—	—	—	—
		4	162	404TS-405TS 444TS	18	60	7%	57%	—	15	15	—	—	—
		5	200	444T, 445T, TS, 447TS	22	62%	9	60%	—	15	—	19%	21%	—
M-3	6	380	254T-405T, TS	22	69%	8%	66%	—	—	—	19%	21%	—	—
		7	439	444T, TS-449T, TS	22	83	8%	90	—	—	—	19%	21%	—
M-4	7	439	444T, TS-449T, TS	22	83	8%	90	—	—	—	19%	21%	—	—
		8	475	444T, TS-449T, TS	22	83	8%	90	—	—	—	19%	21%	—

Flange Data																
Pressure Series	150 POUND SERIES								300 POUND SERIES							
Nominal Pipe Size	1	1½	2	3	4	6	8	1	1½	2	3	4	6	8	10	
Outside Diameter	4½	5	6	7½	9	11	13½	4½	6½	8	10	12	14	16	18	
Bolt Circle	4¾	5¾	6¾	8¾	10	11¾	13¾	4¾	6¾	8¾	10¾	12¾	14¾	16¾	18¾	
Bores (Straddling)	4	5	6	7	8	9	10	4	5	6	7	8	9	10	11	

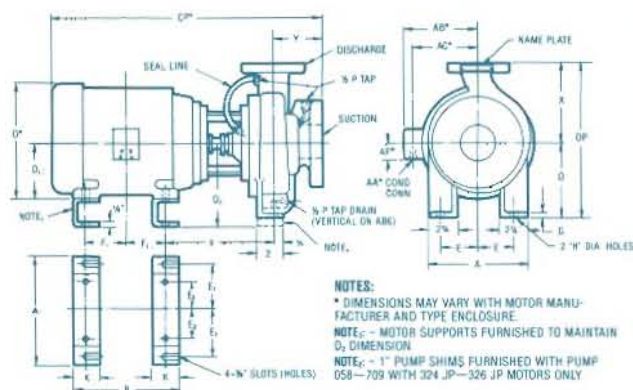
FRAME	W	VCL 2.3	VCL 4	VCL 5	FRAME	VCL 2.3	VCL 4	VCL 5
104HP	11%	25%			124HP	26%	34%	49%
140HP	13%	26%			126HP	28%	44%	49%
180HP	15%	29%			164HP	30%	46%	52%
104HP	15%	29%			165HP	30%	48%	52%
215HP	18%	32%			404HP	34%		56%
215HP	18%	32%			405HP	34%		56%
215HP	22%	34%			444HP	36%		57%
156HP	23%	39%			444HP	36%		57%
264HP	26%	43%	45%	49%	524HP	54%		75%
264HP	26%	43%	45%	49%				

Dimensions - Simplex and Duplex Pumps			SIMPLEX COVERPLATE SIZES													DUPLEX COVERPLATE SIZES												
			ROUND COVERS						RECTANGULAR COVERS							MINIMUM SIZES*						MAXIMUM SIZES						
			STD.		PI T. OPEN.		PI T. OPEN.		PI T. OPEN.		PI T. OPEN.		PI T. OPEN.		WITHOUT MANHOLE		WITH MANHOLE		WITH OR WITHOUT MANHOLE									
PUMP SIZE	SHAFT GROUND SIZE	A	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
A46	VC1	1	25	21	8 1/2	24	18	20	14	1 1/2	%	A46	%	24x38	44	28x42	48	%	38x39	50	42x43	54	%	48x48	54	%	108x108	120
A46	VC1	1 1/2	26	21	8 1/2	24	18	20	14	1 1/2	7/8	A46	%	24x38	44	28x42	48	%	38x39	50	42x43	54	%	48x48	54	%	108x108	120
106	VC1	2	26	21	8 1/2	24	18	20	14	1 1/2	7/8	106	%	24x38	44	28x42	48	%	38x39	50	42x43	54	%	48x48	54	%	108x108	120
508	VC2	1	31	27	12	30	20	26	16	0	1 1/4	508	%	30x42	52	34x46	56	%	42x45	56	46x49	60	%	60x60	60	%	120x120	132
OS10	VC2	1	31	27	12	30	20	26	16	0	1 1/4	OS10	%	30x42	52	34x46	56	%	42x45	56	46x49	60	%	60x60	60	%	120x120	132
509	VC2	1 1/2	31	27	12	30	20	26	16	0	1 1/4	509	%	30x42	52	34x46	56	%	42x45	56	46x49	60	%	60x60	60	%	120x120	132
609	VC2	2	31	27	12	30	20	26	16	0	1 1/4	609	%	30x42	52	34x46	56	%	42x45	56	46x49	60	%	60x60	60	%	120x120	132
5911	VC2	1 1/2	31	27	12	30	20	26	16	0	1 1/4	5911	%	30x42	52	34x46	56	%	42x45	56	46x49	60	%	60x60	60	%	120x120	132
708	VC2	3	36	32	1 1/2	36	26	32	22	%	1 1/2	708	%	36x54	66	40x58	68	%	51x54	66	50x58	68	%	66x66	66	%	120x120	132
6011	VC2	2	36	32	1 1/2	36	26	32	22	%	1 1/2	6011	%	36x54	66	40x58	68	%	51x54	66	50x58	68	%	66x66	66	%	120x120	132
7011	VC2	3	36	32	1 1/2	36	26	32	22	%	1 1/2	7011	%	36x54	66	40x58	68	%	51x54	66	50x58	68	%	66x66	66	%	120x120	132
2013	VC2	1 1/2	36	32	1 1/2	36	26	32	22	%	1 1/2	2013	%	36x54	66	40x58	68	%	51x54	66	50x58	68	%	66x66	66	%	120x120	132
3013	VC2	2	36	32	1 1/2	36	26	32	22	%	1 1/2	3013	%	36x54	66	40x58	68	%	51x54	66	50x58	68	%	66x66	66	%	120x120	132
4013	VC2	3	36	32	1 1/2	36	26	32	22	%	1 1/2	4013	%	36x54	66	40x58	68	%	51x54	66	50x58	68	%	66x66	66	%	120x120	132
8011	VC3	4	42	38	1 3/4	40	30	36	26	0	1 1/2	8011	%	40x62	74	44x66	78	%	55x62	74	50x66	78	%	78x78	90	%	114x114	120
8013	VC3	4	42	38	1 3/4	40	30	36	26	0	1 1/2	8013	%	40x62	74	44x66	78	%	55x62	74	50x66	78	%	78x78	90	%	114x114	120
9011	VC3	6	42	38	1 3/4	40	30	36	26	0	1 1/2	9011	%	40x62	74	44x66	78	%	55x62	74	50x66	78	%	78x78	90	%	114x114	120
9014 1/2	VC4	6	51	49	1 1/2	48	33	45	38	1 1/2	1 1/2	9014 1/2	%	48x68	84	55x74	90	%	64x68	84	70x74	90	%	108x108	120	%	132x132	144
9016 1/2	VC4	6	55	53	2 1/2	55	55	51	31	1 1/2	2 1/2	9016 1/2	%	55x72	90	61x78	96	%	70x72	90	76x78	96	%	108x108	120	%	132x132	144
10014 1/2	VC4	8	58	56	2 1/2	58	58	54	34	2 1/2	2 1/2	10014 1/2	%	58x78	96	64x84	102	%	78x78	96	78x84	102	%	108x108	120	%	132x132	144
10017 1/2	VC5	8	64	62	2 1/2	63	60	59	36	1 1/2	2 1/2	10017 1/2	%	63x82	104	68x88	110	%	78x82	104	84x88	110	%	90x90	110	%	120x120	132

1. Sizes are based on coverplate supported around the entire perimeter with a minimum of 2" overhang beyond pit or tank opening based on 1/2" maximum size anchor bolts. Larger anchor bolts require increased size coverplates.

Dimensional Data

CCRE



Overall Dimensions

FRAME	AA6-106X			058-709			5011-8011		9011		2013-8013	
	D ₂	F	CP	D ₂	F	CP	F	CP	F	CP	F	CP
143 JP	5¼	9 ¹¹ / ₁₆	22¼	8¼	9 ¹¹ / ₁₆	23¾						
145 JP	5¼	9 ¹¹ / ₁₆	22¾	8¼	9 ¹¹ / ₁₆	23¾						
182 JP	5¼	10 ¹ / ₁₆	23¾	8¼	10 ¹ / ₁₆	24¾						
184 JP	5¼	10 ¹ / ₁₆	24¾	8¼	10 ¹ / ₁₆	25¾						
213 JP	8¼	12 ¹ / ₁₆	27	8¼	12 ¹ / ₁₆	27	12 ¹ / ₁₆	27	12 ¹ / ₁₆	29	12 ¹ / ₁₆	27
215 JP	8¼	12 ¹ / ₁₆	28½	8¼	12 ¹ / ₁₆	28½	12 ¹ / ₁₆	28½	12 ¹ / ₁₆	30½	12 ¹ / ₁₆	28½
254 JP	8¼	12 ¹ / ₁₆	31¾	8¼	12 ¹ / ₁₆	31¾	12 ¹ / ₁₆	31¾	12 ¹ / ₁₆	33¾	12 ¹ / ₁₆	31¾
256 JP	8¼	12 ¹ / ₁₆	33¾	8¼	12 ¹ / ₁₆	33¾	12 ¹ / ₁₆	33¾	12 ¹ / ₁₆	35¾	12 ¹ / ₁₆	33¾
284 JP				8¼	12 ¹ / ₁₆	33	12 ¹ / ₁₆	33	12 ¹ / ₁₆	35	12 ¹ / ₁₆	33
286 JP				8¼	12 ¹ / ₁₆	34½	12 ¹ / ₁₆	34½	12 ¹ / ₁₆	36½	12 ¹ / ₁₆	34½
324 JP				9¼	13 ¹ / ₁₆	35½	13 ¹ / ₁₆	35½	13 ¹ / ₁₆	37½	13 ¹ / ₁₆	35½
326 JP				9¼	13 ¹ / ₁₆	36¾	13 ¹ / ₁₆	36¾	13 ¹ / ₁₆	38¾	13 ¹ / ₁₆	36¾
364 JP							13 ¹ / ₁₆	38¾	13 ¹ / ₁₆	40¾	13 ¹ / ₁₆	38¾
365 JP							13 ¹ / ₁₆	39¾	13 ¹ / ₁₆	41¾	13 ¹ / ₁₆	39¾

Motor Data

FRASE	A ₁	B	D ₁	E ₁	E ₂	F ₁	K	O	AA	AB	AC	AF
143 JP	10%	6	3%	4%	2%	2	2	7%	¼	6%	5%	2%
145 JP	10%	7	3%	4%	2%	2%	2	7%	¼	6%	5%	2%
182 JP	12	7	4%	5%	3%	2%	2%	9%	¼	7%	6%	2%
184 JP	12	8	4%	5%	3%	2%	2%	9%	¼	7%	6%	2%
213 JP	14	8%	5%	6%	4%	2%	2%	10%	¼	9%	7%	2%
215 JP	14	10	5%	6%	4%	3%	2%	10%	¼	9%	7%	2%
254 JP	18%	11%	6%	8%	5	4%	3%	12%	1½	11%	9	3%
256 JP	18%	13%	6%	8%	5	5	3%	12%	1½	11%	9	3%
284 JP	18%	12%	7	8%	5%	4%	3%	14%	1½	12%	9%	3%
286 JP	18%	14%	7	8%	5%	5%	3%	14%	1½	12%	9%	3%
324 JP	18%	13%	8	8%	6%	5%	3%	16%	1½	13%	10%	3%
326 JP	18%	15%	8	8%	6%	6	3%	16%	1½	13%	10%	3%
364 JP	20%	14%	9	9%	7	5%	3%	18%	2½	18%	13%	7
365 JP	20%	15%	9	9%	7	6%	3%	18%	2½	18%	13%	7

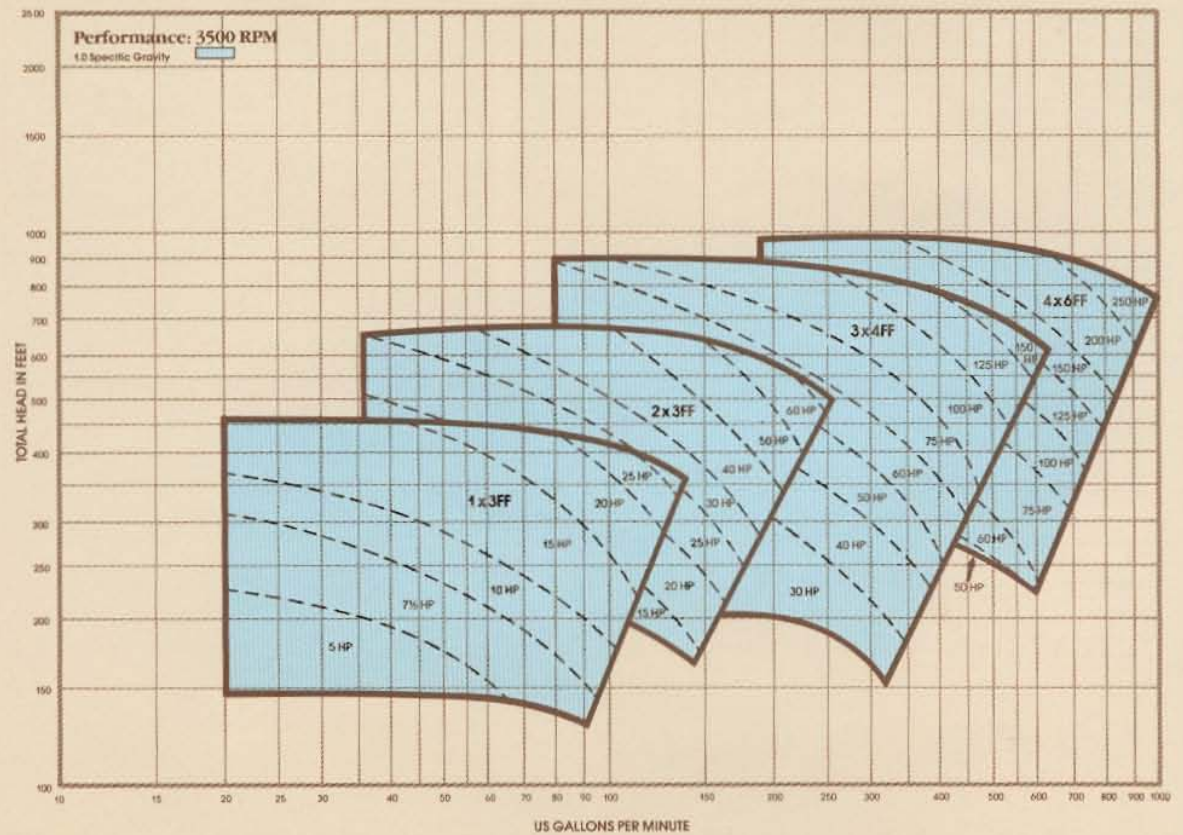
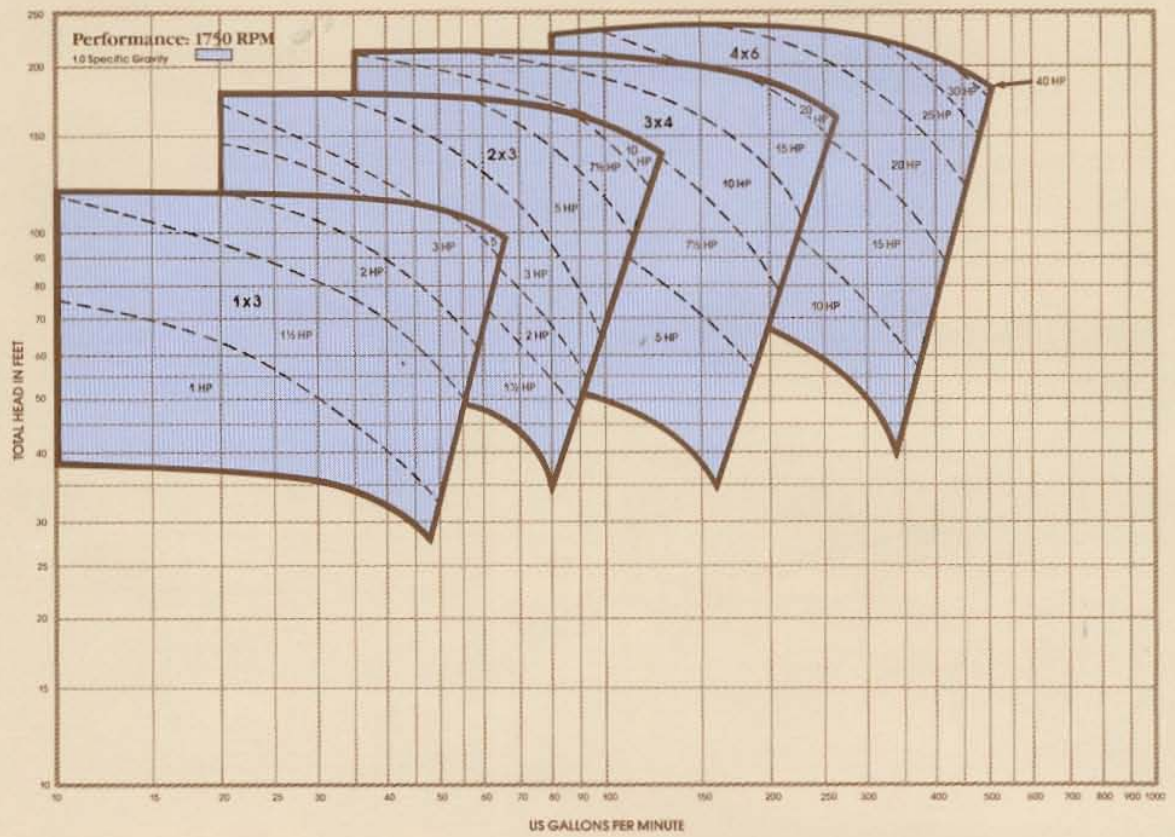
Pump Data

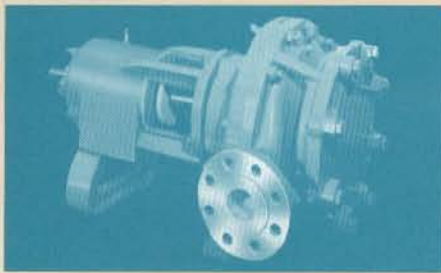
PUMP SIZE	SUCT. & DISCH.	A	D	E	G	H	X	Y	OP
AA6	1½x1	8	5¼	3	¾	¾	6¼	4	11¼
AB6	3x1½	8	5¼	3	¾	¾	6¼	4	11¼
106X	3x2	8	5¼	3	¾	¾	8¼	4	13¼
058	2x1	11¼	8¼	4¾	¾	¾	8¼	4	16¼
0510	2x1	11¼	8¼	4¾	¾	¾	8¼	4	16¼
509	3x1½	11¼	8¼	4¾	¾	¾	8¼	4	16¼
609	3x2	11¼	8¼	4¾	¾	¾	9¼	4	17¼
709	4x3	11¼	8¼	4¾	¾	¾	11	4	19¼
5011	3x1½	11¼	10	4¾	¾	¾	10¼	4	20¼
6011	3x2	11¼	10	4¾	¾	¾	11¼	4	21¼
7011	4x3	11¼	10	4¾	¾	¾	12¼	4	22¼
8011	6x4	11¼	10	4¾	¾	¾	13¼	4	23¼
9011	8x6	14	10	6	¾	¾	13¼	6	23¼
2013	3x1½	11¼	10	4¾	¾	¾	10¼	4	20¼
3013	3x2	11¼	10	4¾	¾	¾	11¼	4	21¼
4013	4x3	11¼	10	4¾	¾	¾	12¼	4	22¼
8013	6x4	14	10	6	¾	¾	13¼	4	23¼

Suction & Discharge

	FLANGE DIMENSIONS STANDARD PRESSURE						
Size	1	1½	2	3	4	6	8
Outside Diameter	4¼	5	6	7½	9	11	13½
Thickness	⅞	1⅞	¾	1⅞	1⅞	1	1⅞
No. & Size of Bolts (Straddling ϵ)	4-½	4-½	4-¾	4-¾	8-¾	8-¾	8-¾
Bolt Circle	3⅞	3⅞	4¾	6	7½	9½	11¾

Class FF Pumps



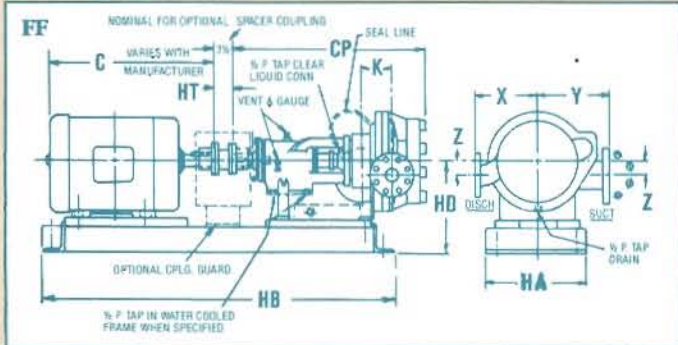


Pump Description

Minimum space requirements and in-line flange placement makes the FF an attractive two stage pump for difficult marine installation. The vertically split casing with balanced thrust offset volute provides minimum radial thrust. These pumps are designed for low NPSH. The M-3 bearing

frame is interchangeable with other bearing frame mounted pumps. The FF pump is well suited for boiler feed, condensate, refrigerants and brine. Working pressures to 400 psi, with a hydrostatic of 600 psi.

Dimensional Data



Motor Data

FRAME	C	HA	HB	HD	HD*
143T	13 1/8	12	45	12	
145T	13 3/8	12	45	12	
182T	14 1/8	12	45	12	
184T	15 1/8	12	45	12	
213T	18	12	45	12	
215T	19 1/2	12	45	12	
254T	22 3/8	15	52	12 3/8	16 1/8
256T	24 1/8	15	52	12 3/8	16 1/8
284T	26 1/8	15	52	12 3/8	16 1/8
284TS	25 1/8	15	52	12 3/8	16 1/8
286T	28 1/8	15	52	12 3/8	16 1/8
286TS	26 3/8	15	52	12 3/8	16 1/8
324T	29 3/8	18	58	13	16 1/8
324TS	28 1/8	18	58	13	16 1/8

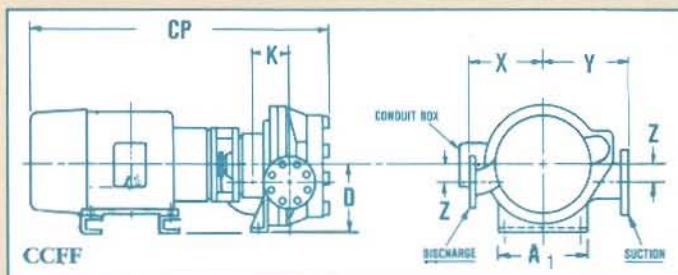
*NOTE: Applies to 3 x 4 FF and 4 x 6 FF only

Pump Data

PUMP SIZE DISCH X SUCTION	CLASS	CP	K	X	Y	Z	HT
1 x 3	FF	28 1/8	4 1/2	9 1/2	11 1/2	1 1/8	
2 x 3	FF	28 1/8	4 1/2	9 1/2	11 1/2	1 1/8	
3 x 4	FF	32 1/8	7 1/8	13	14 0		
4 x 6	FF	33 1/8	10	13	17 0		

Flange Dimensions

300+ SERIES FLANGE	1	2	3	4	6
OUTSIDE DIAMETER	4 1/8	6 1/8	8 1/8	10	12 1/8
BOLT CIRCLE DIA.	3 1/8	5	6 1/8	7 1/8	10 1/8
NO. & SIZE OF BOLTS	4-1/2"	8-5/8"	8-5/8"	8-5/8"	12-1/2"
THICKNESS	7/16"	1"	1 1/8"	1 1/8"	1 1/8"

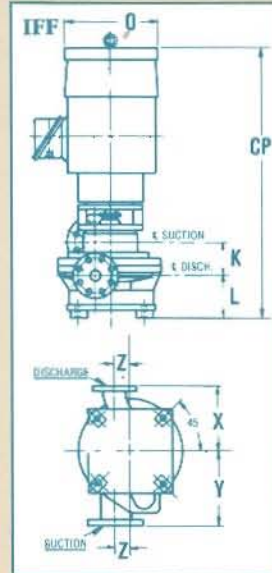


Motor Data

FRAME	CP	FRAME	CP
213JP	30 1/8	284JP	36 3/8
215JP	31 1/8	286JP	37 1/8
254JP	34 1/8	324JP	38 1/8
256JP	36 1/8	326JP	40 1/8

Pump Data for Size 2 x 3 Pump

A ₁	D	K	X	Y	Z
12	8 1/4	4 1/2	9 1/2	11	2

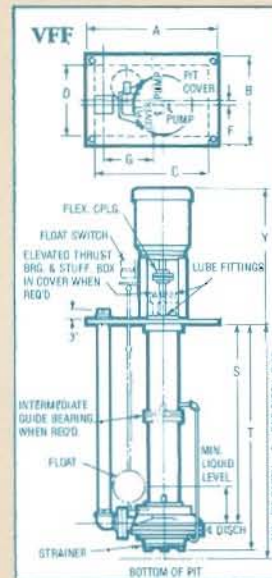


Pump Data for Size 2 x 3 Pump

K	L	X	Y	Z
4 1/2	5 1/8	9 1/2	11	2

Motor Data

FRAME	O	CP
213JP	10 1/8	33 1/8
215JP	10 3/8	34 1/8
254JP	12 1/8	35 1/8
256JP	12 3/8	37 1/8
284JP	14 1/8	36 1/8
286JP	14 3/8	38
324JP	16 1/2	39
326JP	16 3/2	40 1/8



Pump Data for Size 2 x 3 Pump

A	B	C	D	F	G
30	20	26	16	0	10 1/8

Pump Length Without an Intermediate Guide Bearing

S	T
16 1/2 to 52 1/4	22 1/2 to 58 1/8

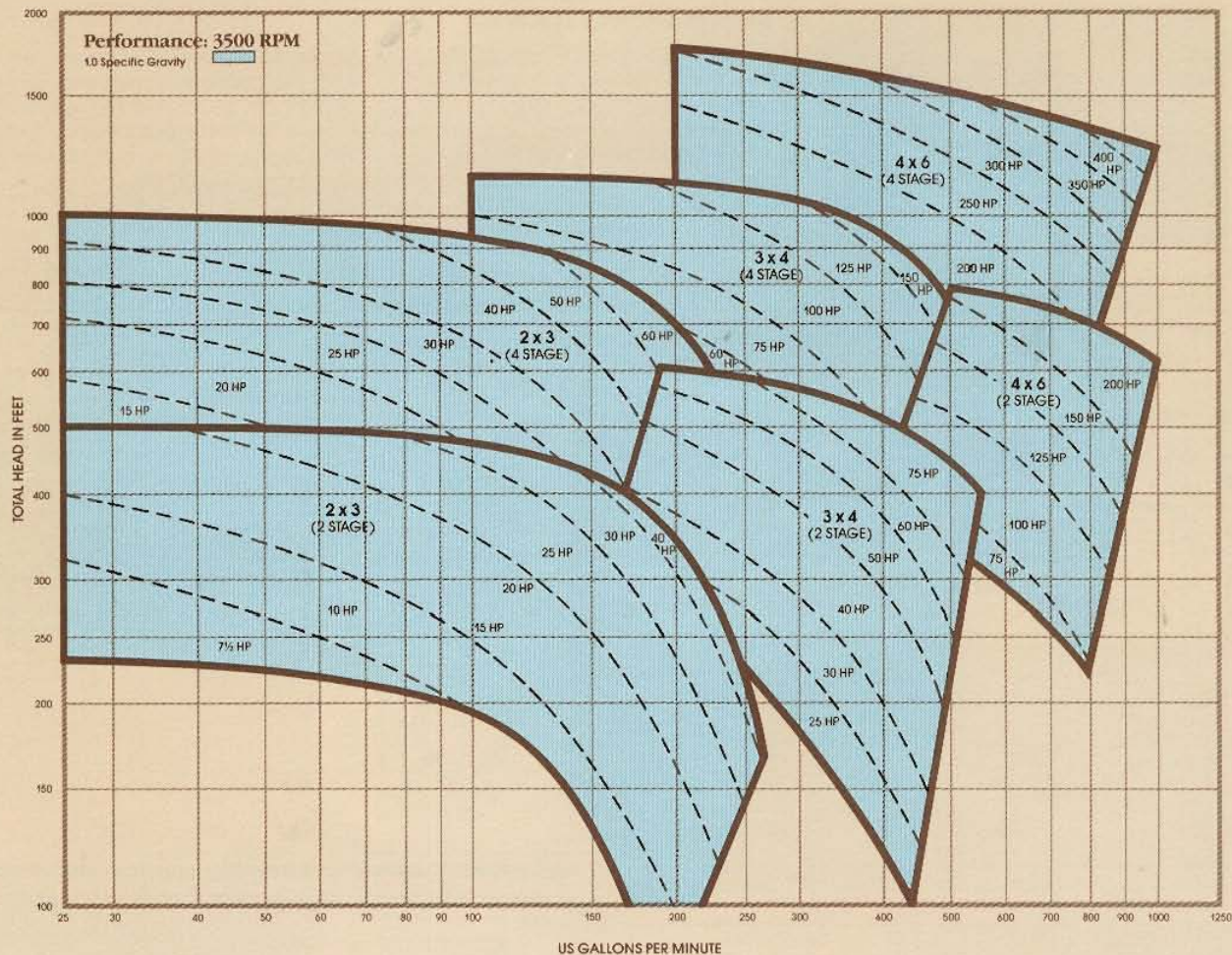
Pump Length With an Intermediate Guide Bearing

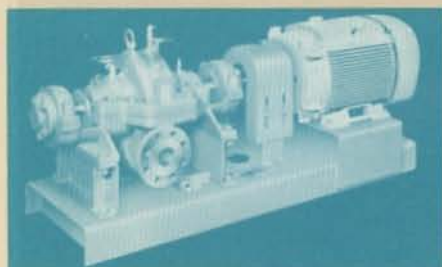
S	T
58 1/2 to 100 1/2	64 3/8 to 106 1/8

Motor Data

FRAME	Y
182TP	28 1/2
184TP	29 1/8
213TP	38 1/8
215TP	38 1/4
254TP	42 1/8
256TP	42 1/8
284TP	42 1/2
286TP	42 1/2
324TP	45 3/8
326TP	45 1/8
364TP	45 3/8

Class "RR" Horizontally Split Case Multistage Pumps





Pump Description

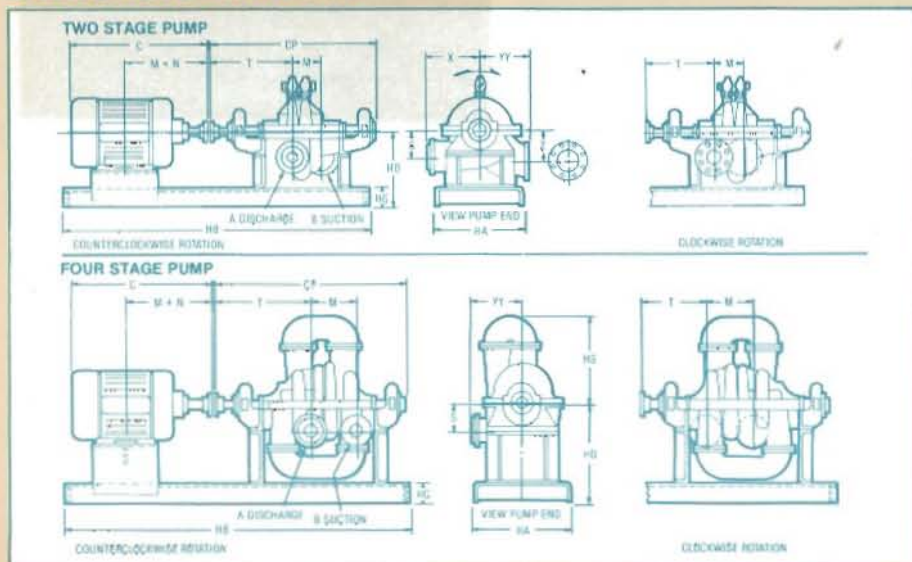
The Buffalo RR multi-stage pumps are designed to meet performance requirements using either available steam for turbine drive, or induction motor.

The casings are split on the horizontal centerline facilitating inspection, maintenance, and removal of

the entire rotating element without disturbing piping or alignment. The shafts are designed to provide less than .002" deflection at the stuffing box faces. Selected bearings provide a minimum average life of 10 years.

Stuffing box sleeves are 17-4 PH material. Services included salt water drain, boiler feed, aviation gasoline, condensate, and main feed pump service. Working pressures ranges to 750 psi, with a hydrostatic of 1125 psi.

Dimensional Data



Flange Dimensions

"B" SUCTION SIZE 150 # SERIES FLANGE	3	4	6	
Outside Diameter	7½	9	11	
Bolt Circle Diameter	6	7½	9½	
No. & Size of Bolts	4 - ⅝	8 - ⅝	8 - ⅝	
Thickness	¾	1⅝	1	
"A" DISCHARGE SIZE 300 # SERIES FLANGE	2	3	4 2 STG.	4" 4 STG.
Outside Diameter	6½	8¼	10	10
Bolt Circle Diameter	5	6⅝	7⅝	7⅝
No. & Size of Bolts	8 - ⅝	8 - ⅝	8 - ⅝	8 - ⅝
Thickness	¾	1¼	1¼	1¼
Diameter of Raised Face	4⅝	5⅝	6⅝	6⅝
Thickness of Raised Face	⅛	⅛	⅛	⅛

*A Discharge Size - 400 # Series Flange

Motor Dimensions

Motor Frame	M + N	C	Motor Frame	M + N	C
145T	7	12 1/8	364T	17 1/8	32 1/8
182T	7 1/4	14 1/8	365TS	15 1/8	31 1/8
184T	8 1/4	15 1/8	365T	17 1/8	33 1/8
213T	9 1/8	17 1/8	404TS	17	33 1/8
215T	10 1/8	19 1/8	404T	20	36 1/2
254T	12 1/8	22 1/8	405TS	17 1/8	35
256T	13 1/8	24 1/8	405T	20 1/8	38
284TS	12 1/8	25 1/8	444TS	19 1/8	38 1/8
284T	14 1/8	26 1/8	444T	23 1/8	42 1/8
286TS	13 1/8	26 1/8	445TS	20 1/8	40 1/8
286T	14 1/8	28 1/8	445T	24 1/8	44 1/8
324TS	14 1/8	28 1/8	447TS	22 1/8	39 1/8
324T	15 1/8	29 1/8	447T	26	43 1/8
326TS	15	29 1/8	449TS	24 1/8	44 1/8
326T	16 1/8	31 1/8	449T	28 1/8	48 1/8
364TS	15 1/8	30 1/8			

Dimensions

SIZE	No. of Stages	A	B	CP	M	S	T C.C.W.	T C.W.	X	YY	Z	HA	HB	HD	HG	HS
2	2	2	3	29 1/8	5 1/8	5	12 1/8	12 1/8	8 1/8	7	4 1/2	15	49 1/8	13 1/8	4	—
3	2	3	4	30 1/8	6 1/8	5 1/8	15 1/8	12 1/8	9 1/2	8 1/8	5 1/8	19	67	17 1/8	4 1/2	—
4	2	4	6	36 1/8	8	6 1/8	18 1/8	13 1/8	13	11 1/2	6 1/8	22	78	20 1/8	6	—
2	4	2	3	37 1/8	8 1/8	4 1/2	19 1/8	13 1/8	8 1/2	8 1/2	—	19	67	20 1/8	4 1/2	15 1/8
3	4	3	4	41 1/8	11 1/8	5 1/8	21 1/8	12 1/8	9 1/2	9 1/2	—	22	78	25 1/8	6	16 1/8
4	4	4	6	51 1/8	15 1/8	6 1/8	26 1/8	14	13	13	—	22	95 1/8	29 1/8	6	20 1/8

Buffalo Fans for Navy Service

Buffalo Navy Standard Fans are primarily used for hull ventilation and air conditioning. They may also be used for engine room supply and exhaust, port use forced draft, or as light-off blowers. Many of today's ship's require equipment that transmit a minimum of vibration to the ship's hull. 'Buffalo' has been a



Centrifugal Fans Type CC Navy Standard per MIL-F-19004 (Ships). Standard construction includes aluminum wheel with a non-overloading feature, galvanized steel housing with inlet guide vanes, hand hole, and direct connected A.C. or D.C. totally enclosed spraytight motor.

pioneer in this field. By the use of special balancing techniques, resilient mounting, and motors with precision balance and noise tested bearings. 'Buffalo' satisfies this need. 'Buffalo' fans are in use on surface ships where low structureborne vibration and airborne noise is a must!



Vaneaxial Fans Type A Navy Standard per MIL-F-18953 (Ships). Standard construction includes cast aluminum wheel, all welded galvanized steel housing and direct connected A.C. or D.C. motor of totally enclosed spraytight construction. Also available are Navy standard vaneaxial fans with explosion-proof and non-magnetic features.

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