BASE MOUNTED CENTRIFUGAL PUMP PERFORMANCE CURVES - 60 HZ

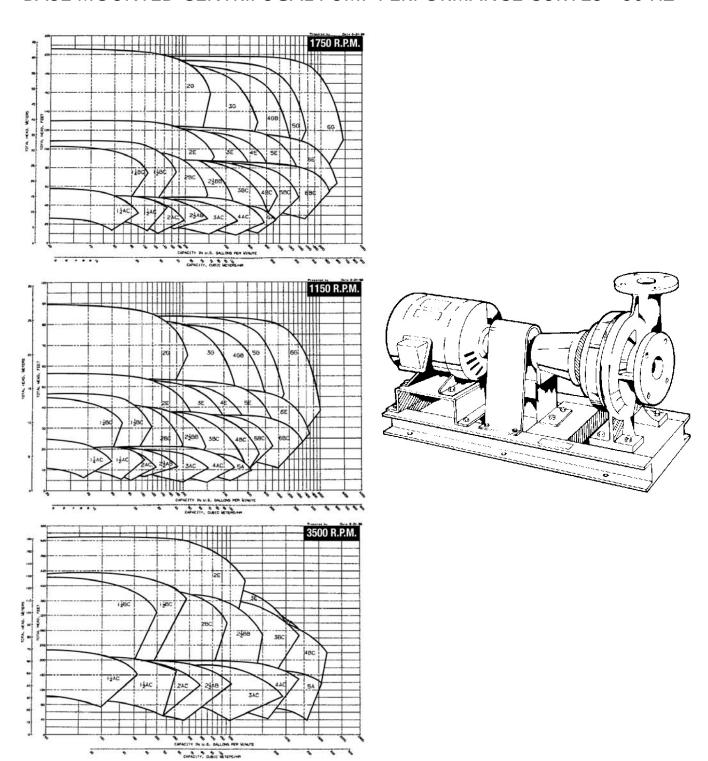


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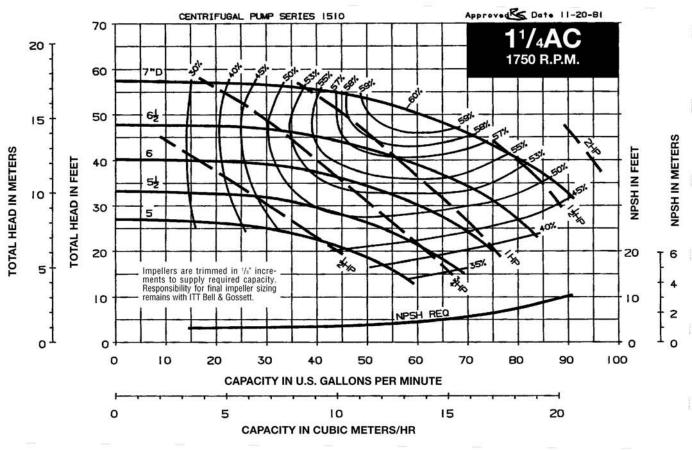
USEFUL PUMP FORMULAS

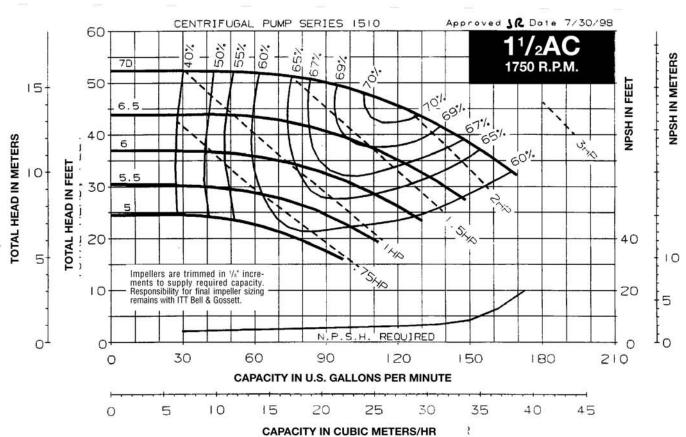
Pressure (PSI)	=	Head (Feet) x Specific Gravity 2.31
Head (Feet)	=	Pressure (PSI) x 2.31 Specific Gravity
Vacuum (Inches of Mercury)	=	Dynamic Suction Lift (Feet) x .883 x Specific Gravity
Horsepower (Brake)	=	GPM x Head (Feet) x Specific Gravity 3960 x Pump Efficiency
Horsepower (Water)	=	GPM x Head (Feet) x Specific Gravity 3960
Efficiency (Pump)	=	Horsepower (Water) Horsepower (Brake) x 100 Per Cent
NPSH	=	Positive Factors – Negative Factors

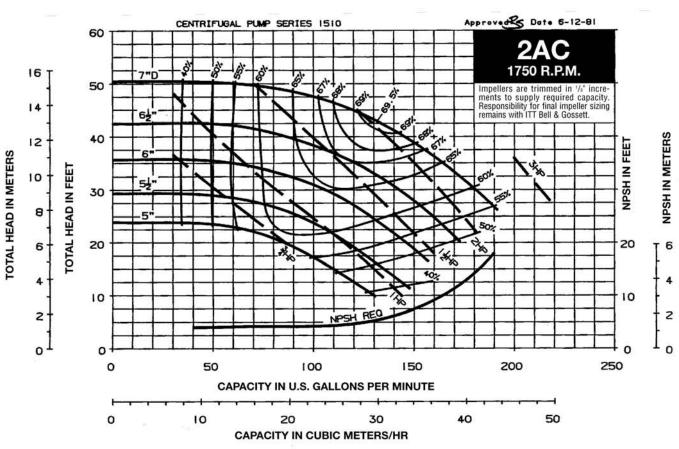
Affinity Laws: Effect of change of speed or impeller diameter on centrifugal pumps.

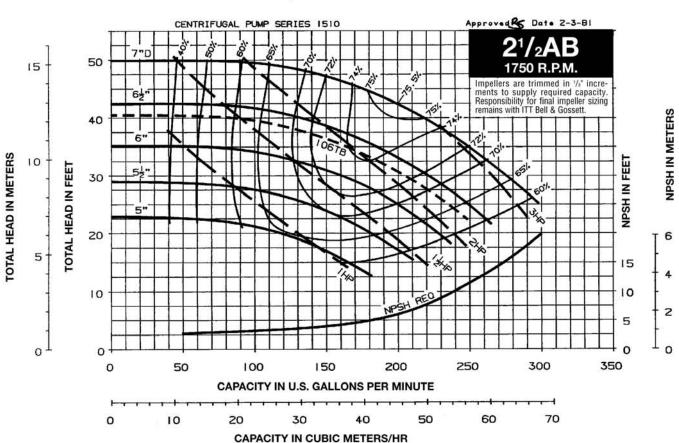
	GPM Capacity	Ft. Head	BHP
Impeller Diameter Change	$Q_2 = \frac{D_2}{D_1} Q_1$	$H_2 = \left(\frac{D_2}{D_1}\right)^2 H_1$	$P_2 = \left(\frac{D_2}{D_1}\right)^3 P_1$
Speed Change	$Q_2 = \frac{RPM_2}{RPM_1} \; Q_1$	$H_2 = \left(\frac{RPM_2}{RPM_1}\right)^2 H_1$	$P_2 = \left(\frac{RPM_2}{RPM_1}\right)^3 P_1$

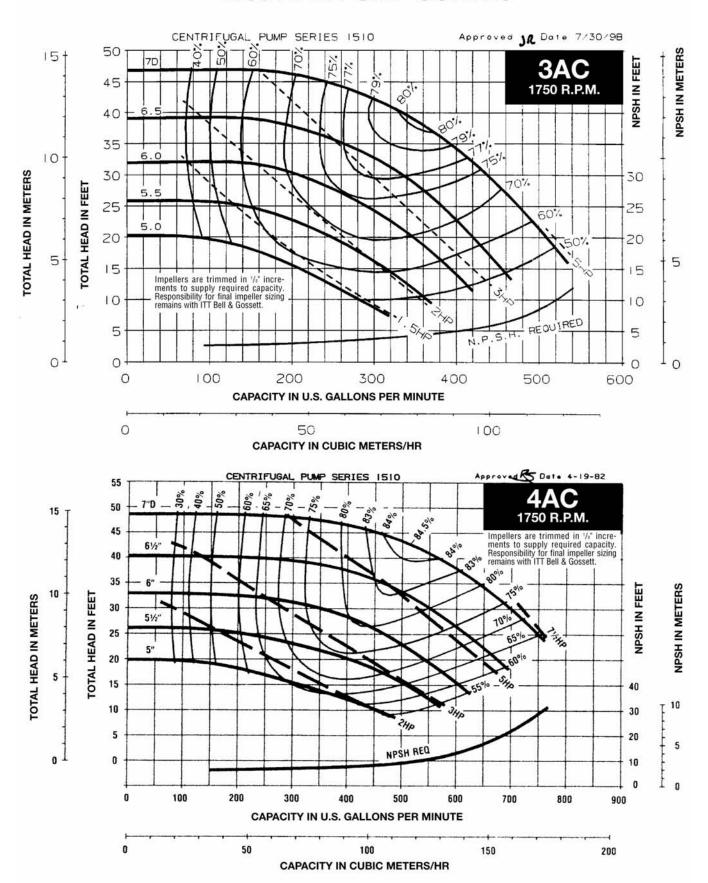
Where Q = GPM, H = Head, P = BHP, D = Impeller Dia., RPM = Pump Speed

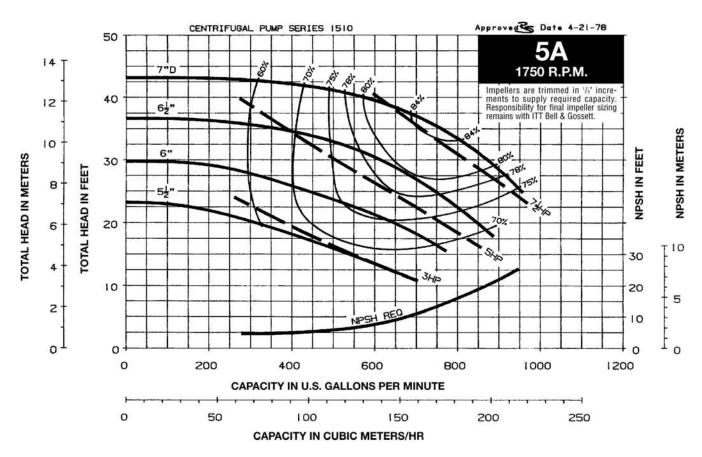


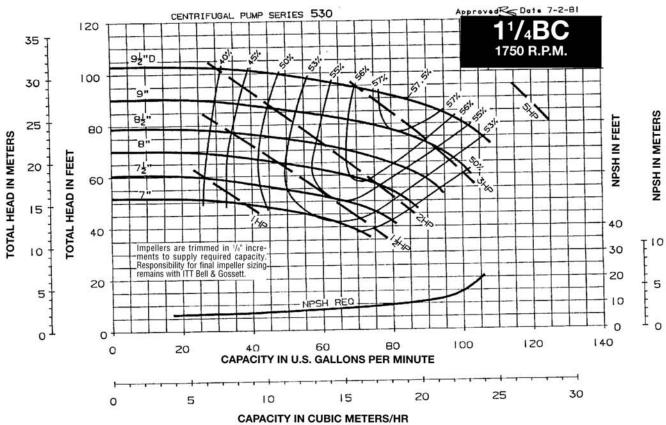


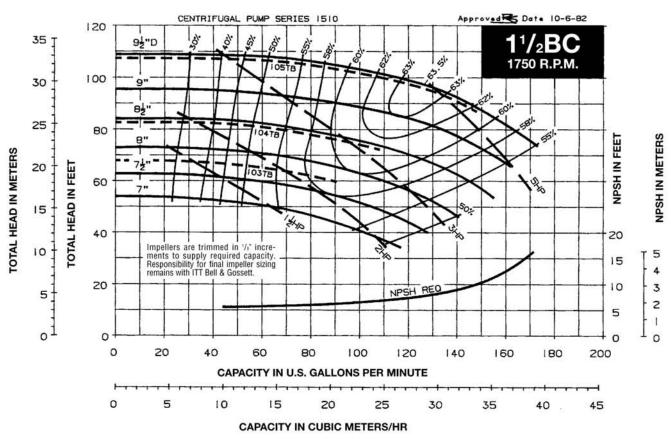


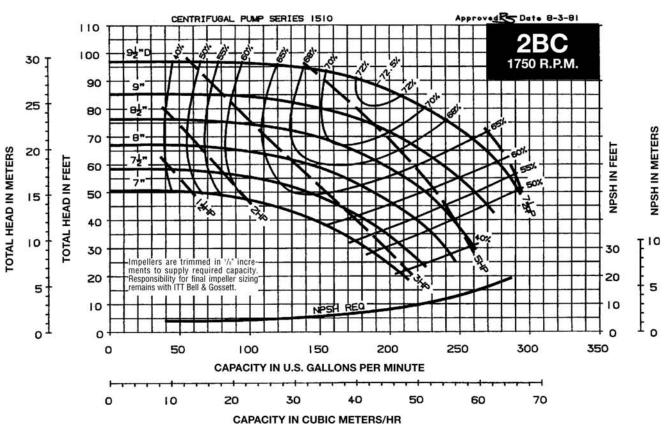


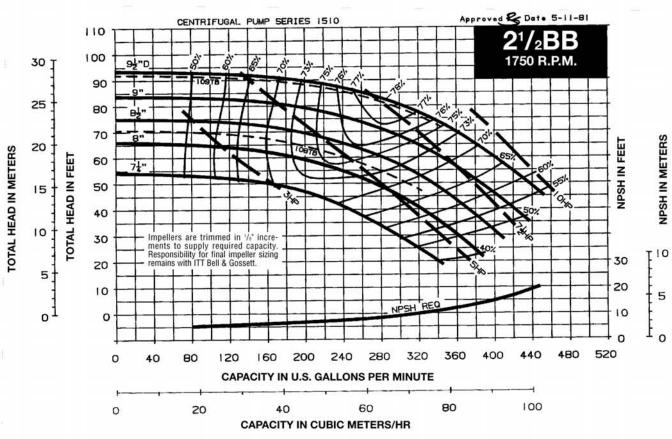


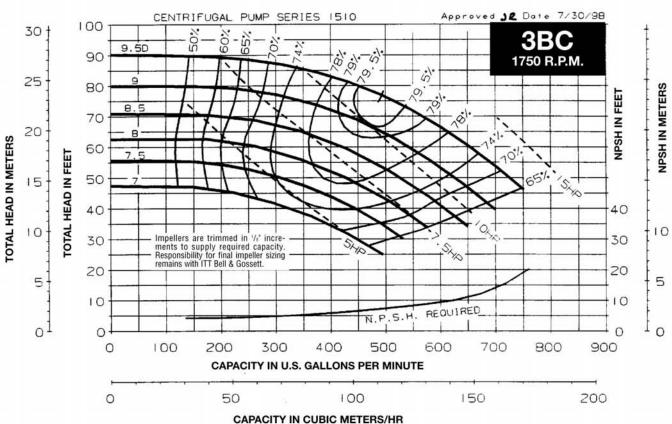


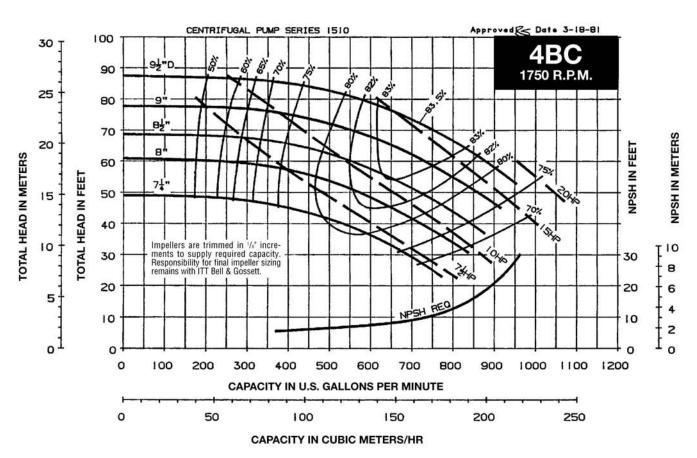


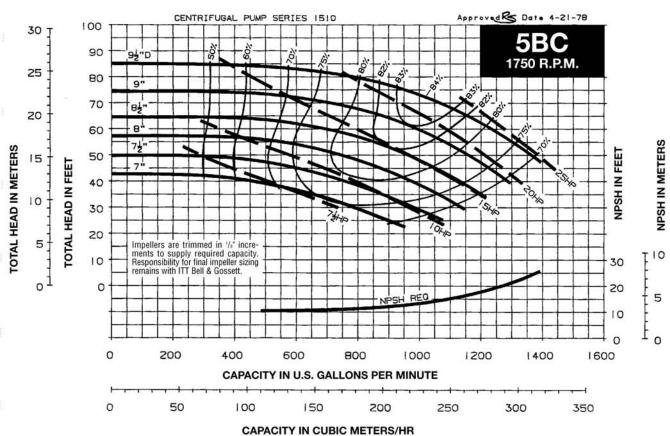


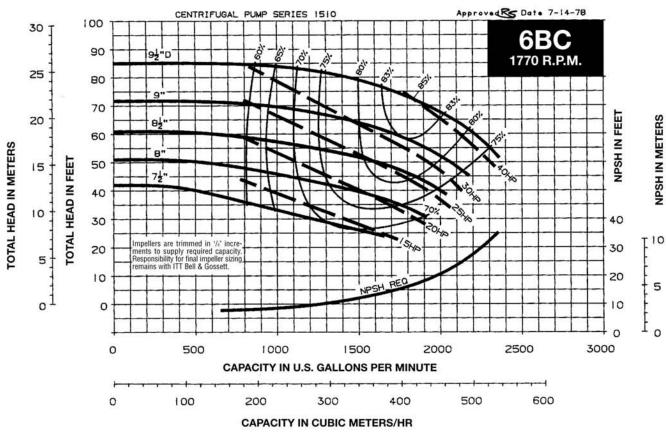


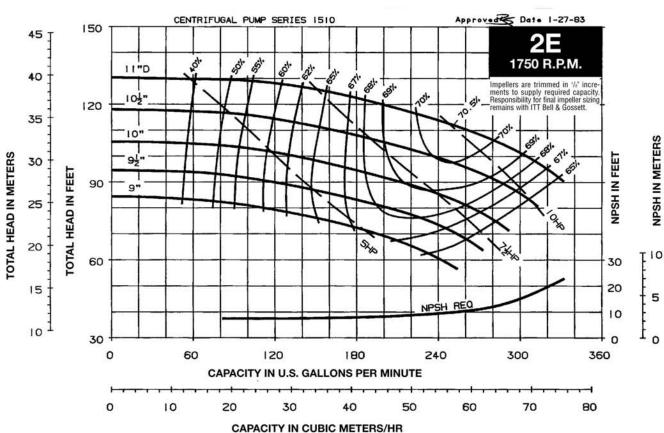


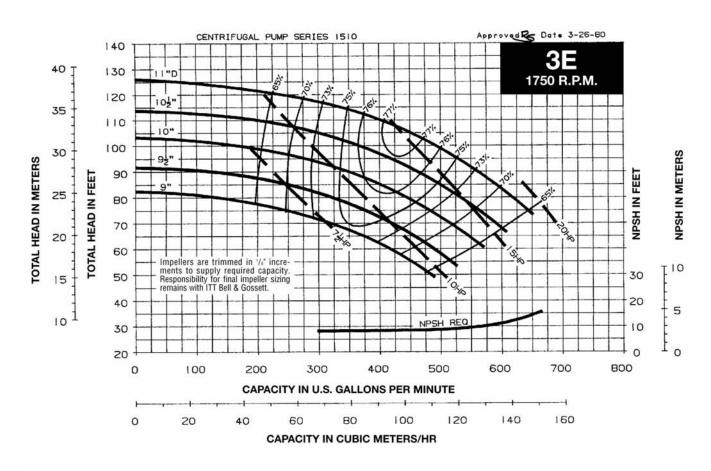


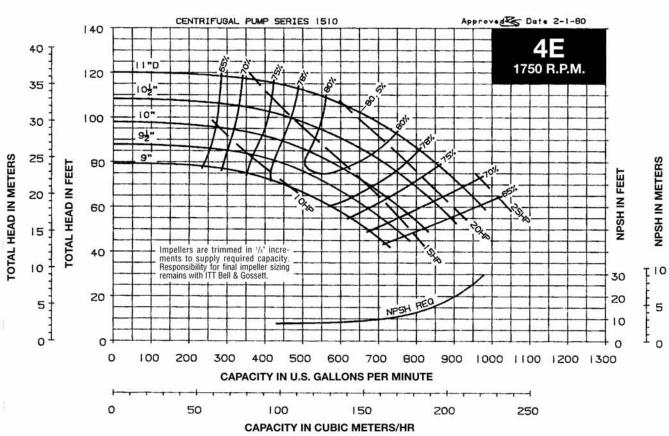


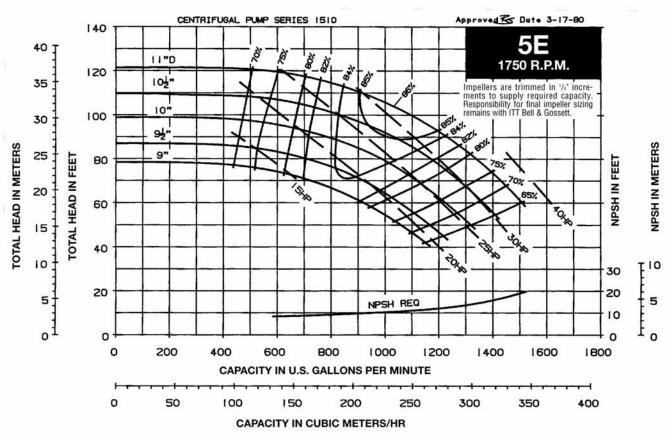


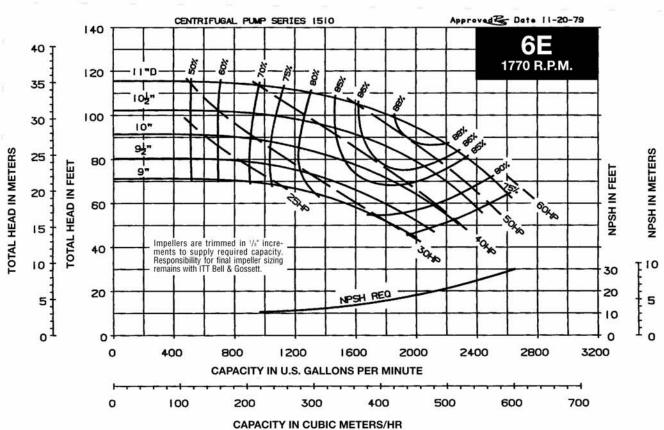


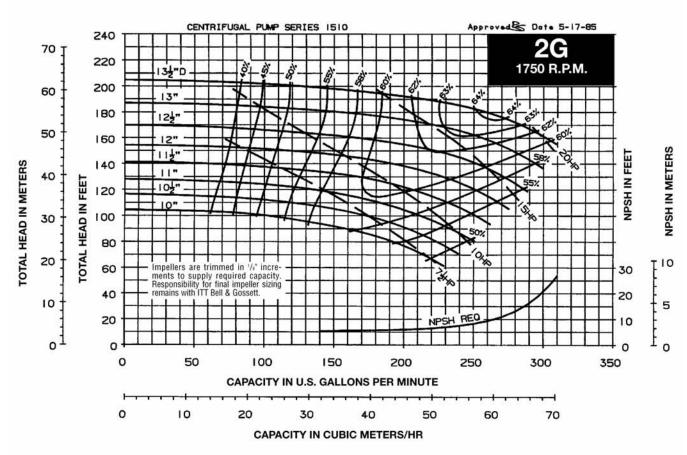


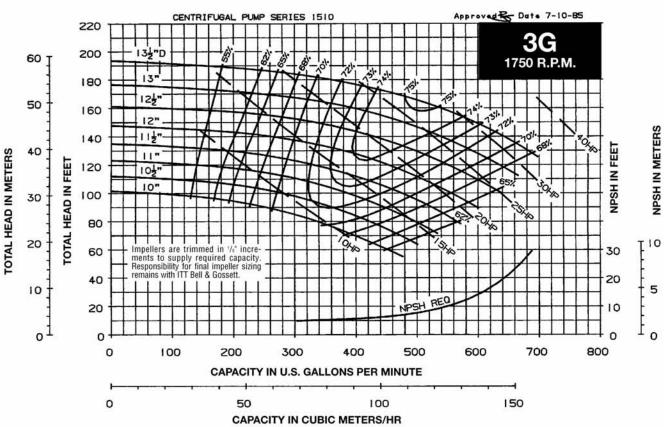


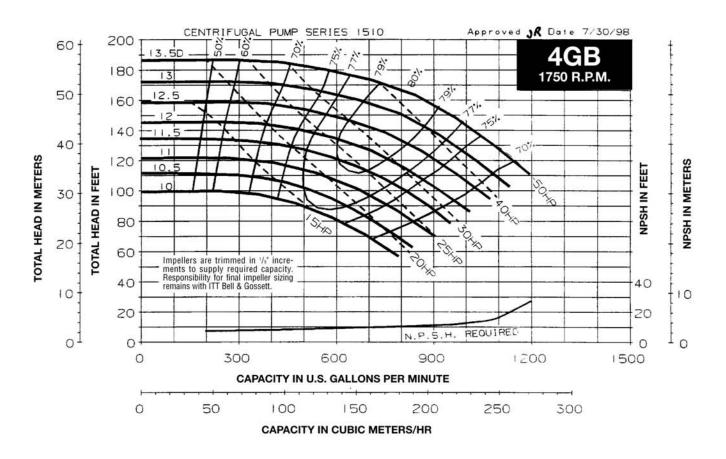


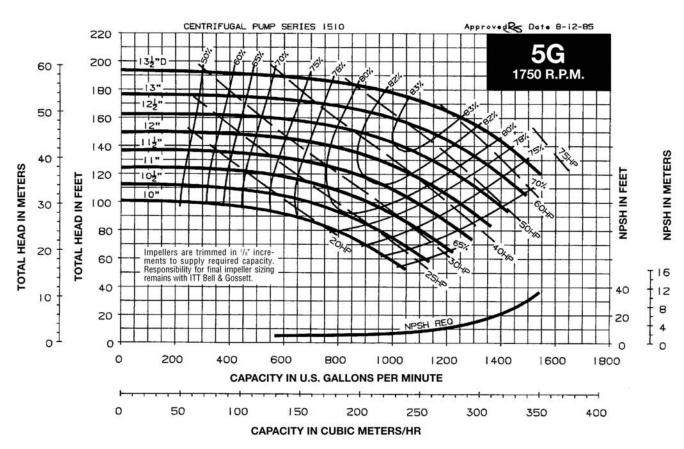


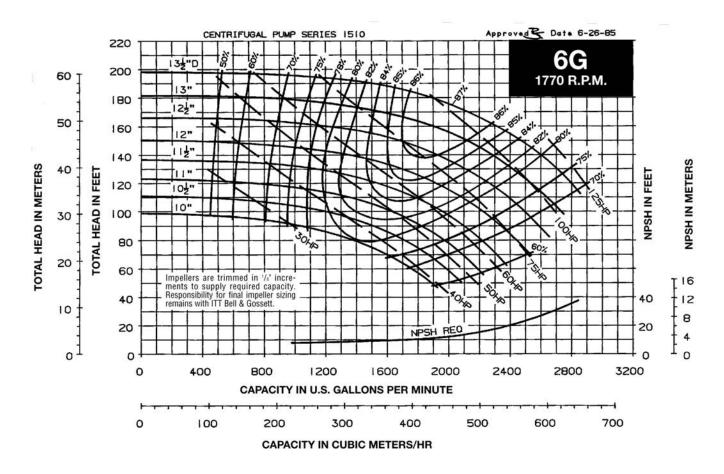


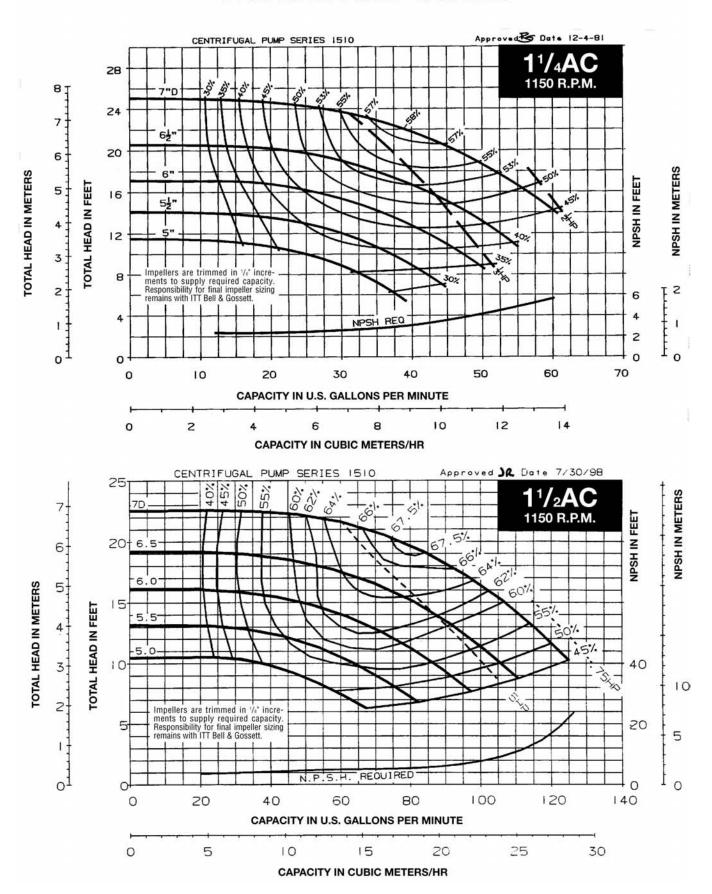


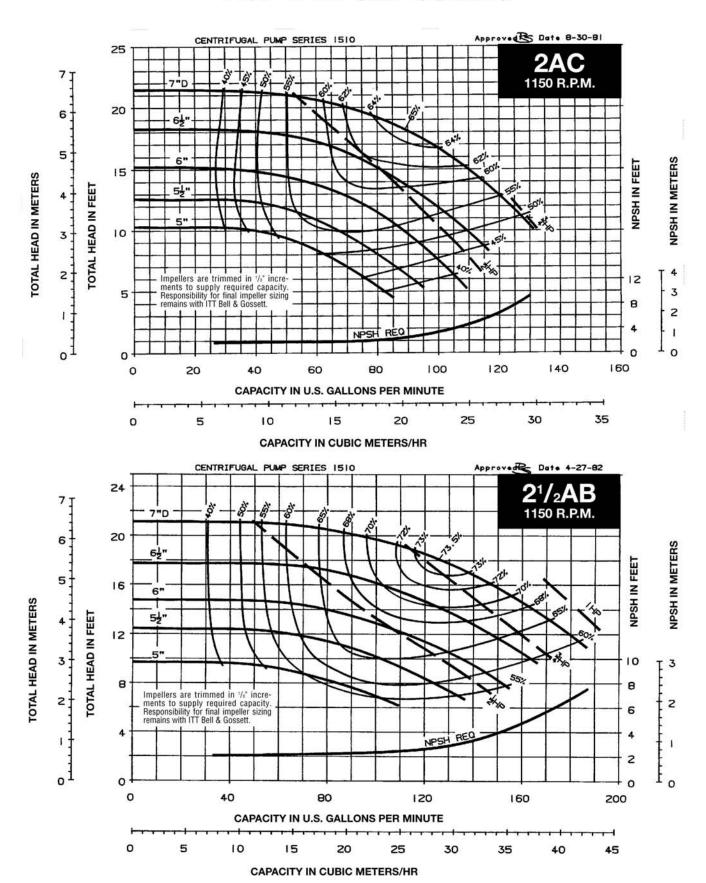


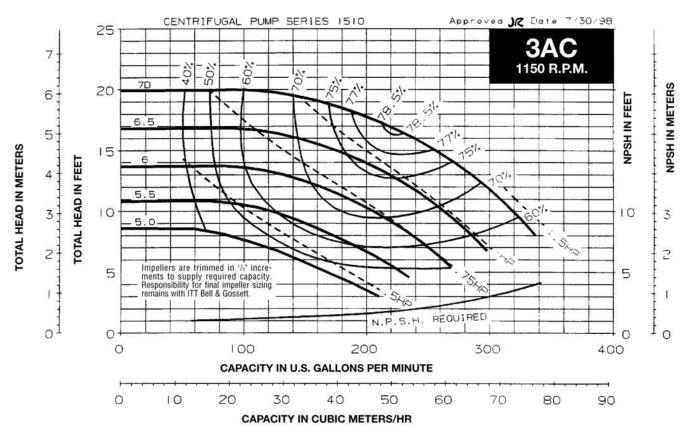


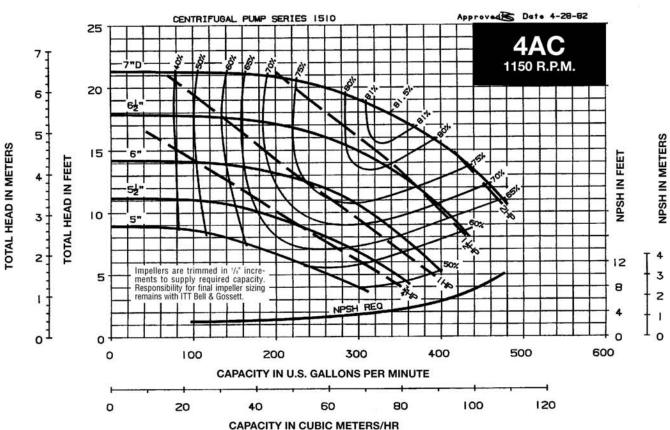


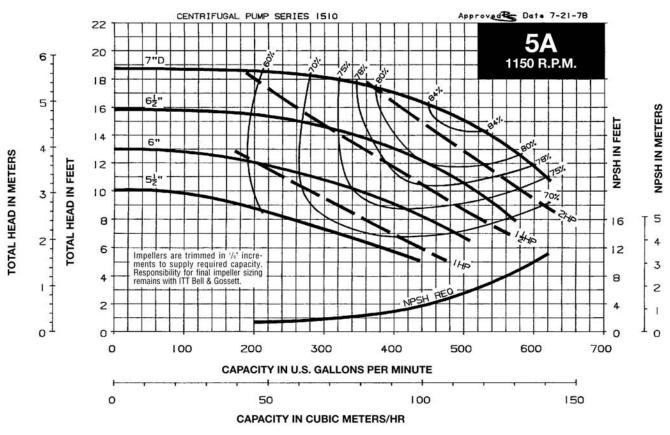


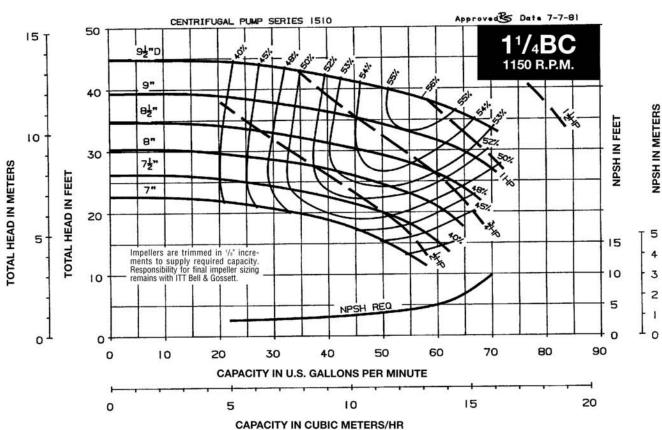


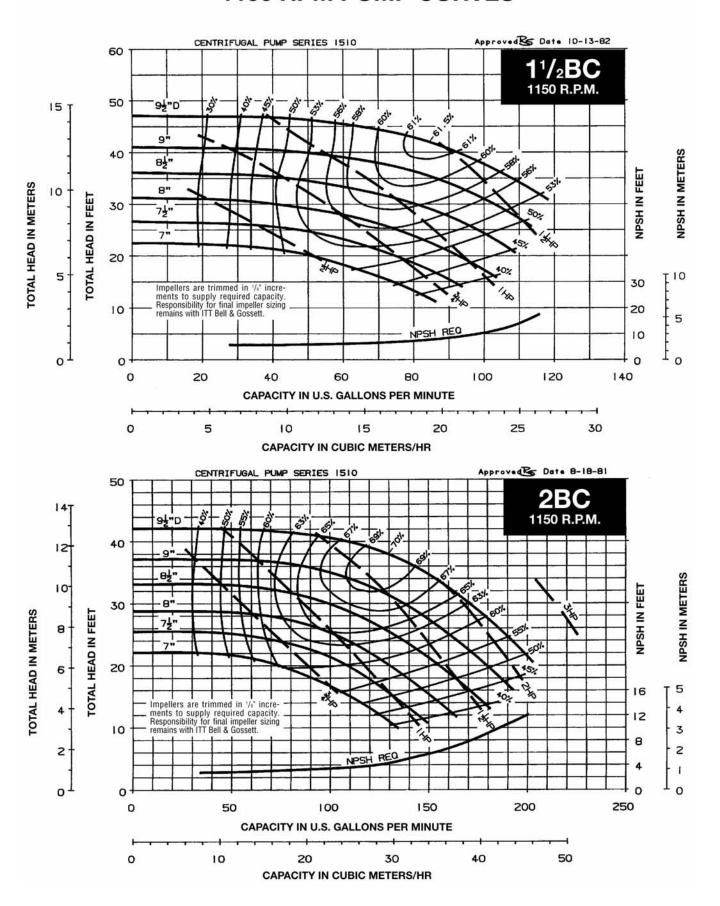


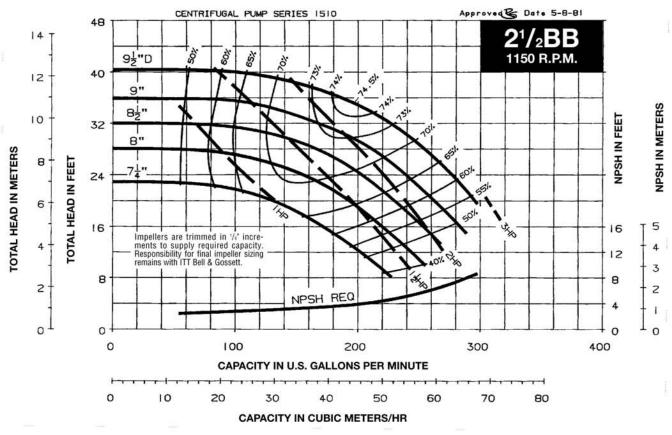


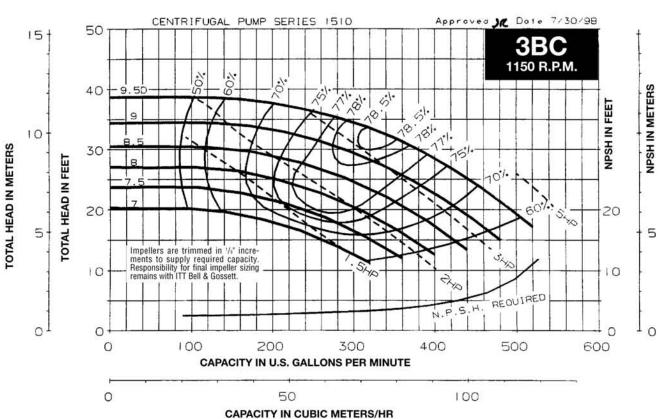


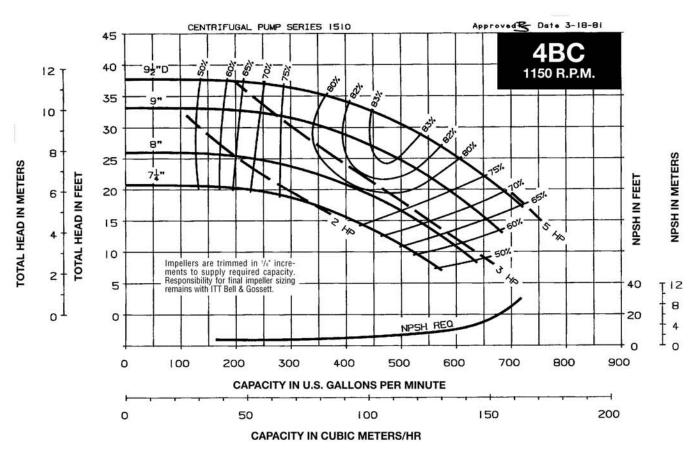


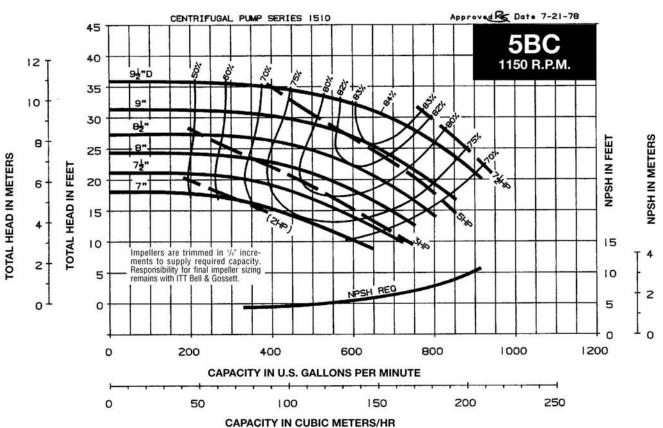


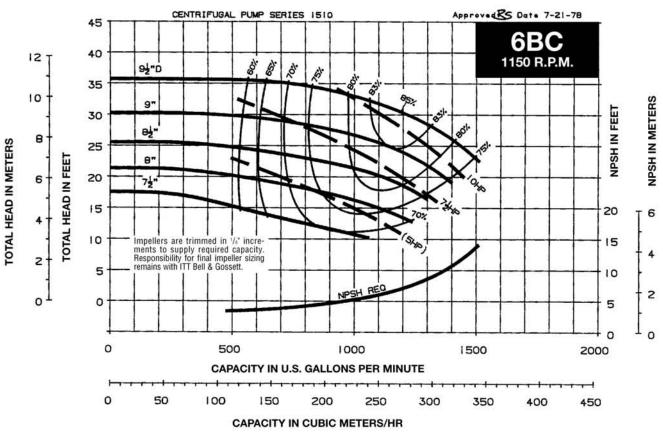


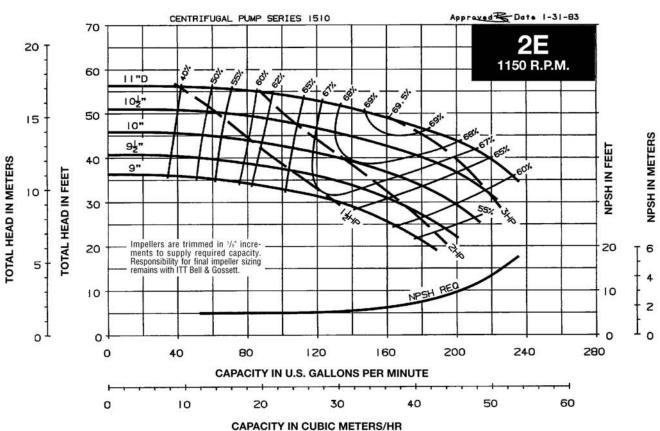


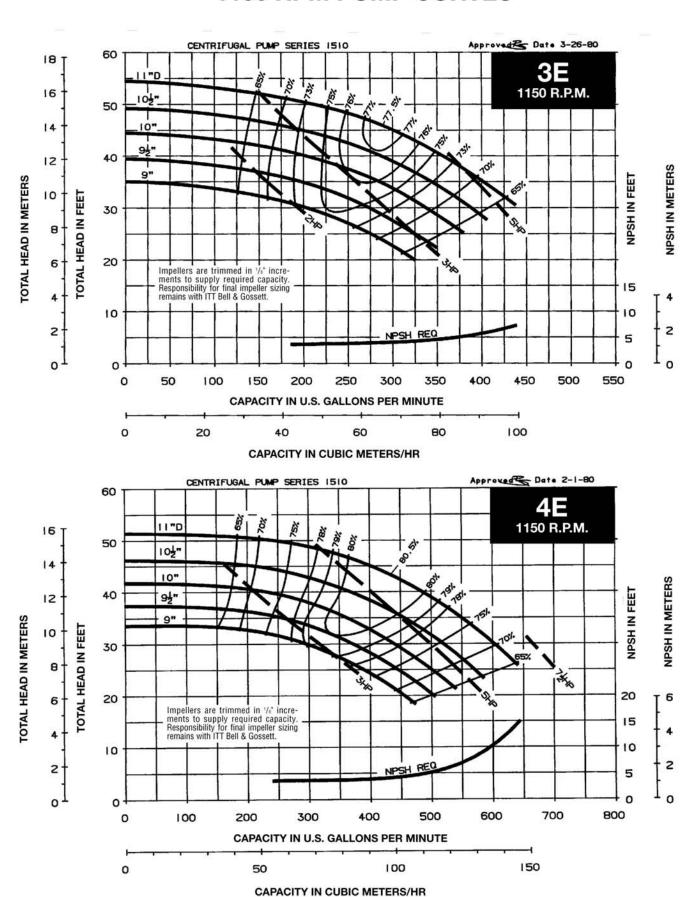


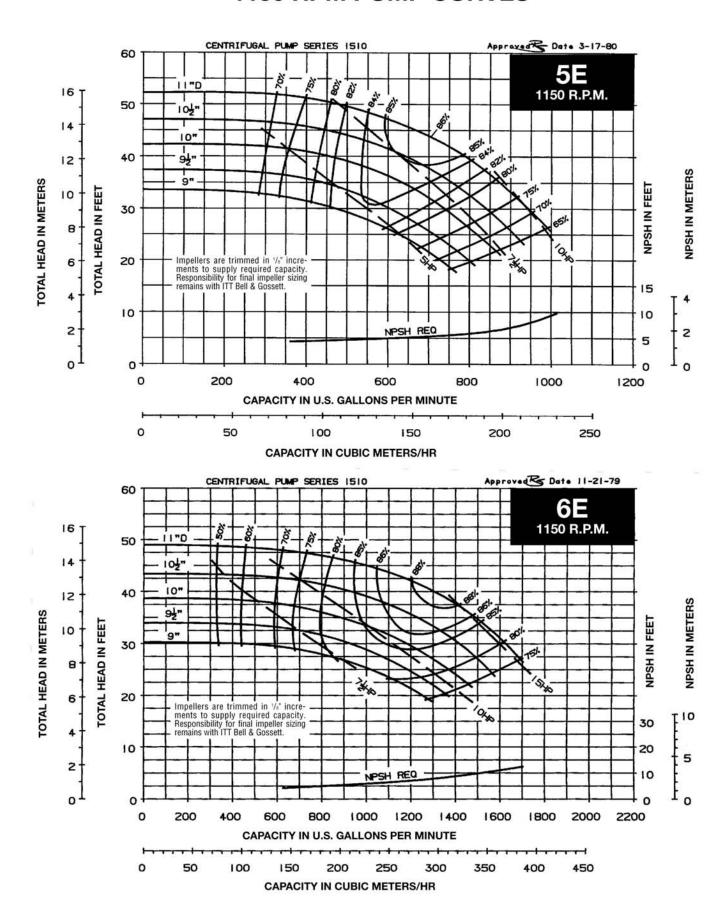


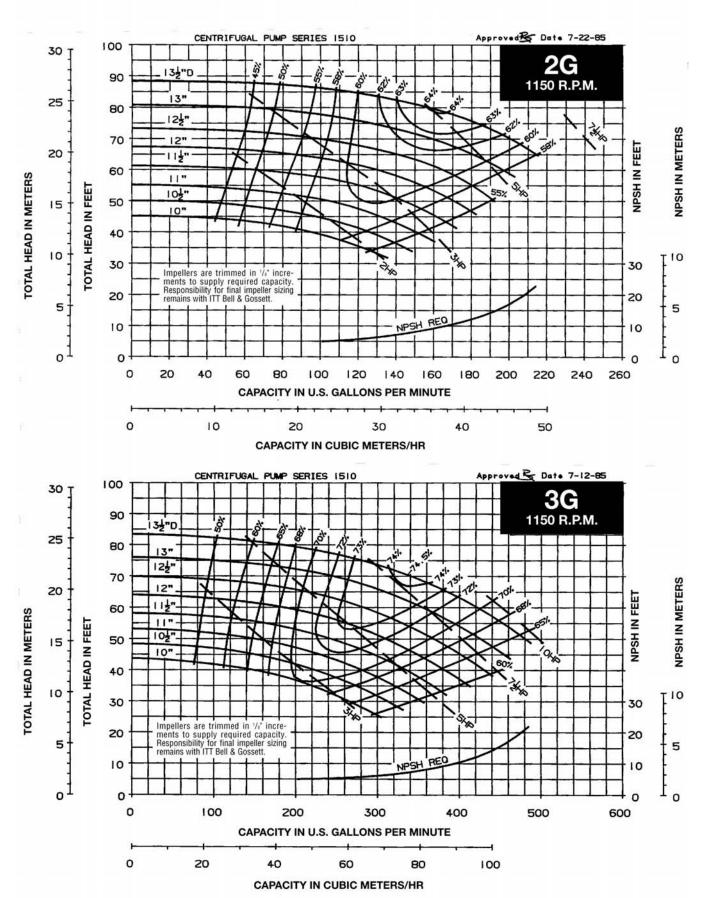


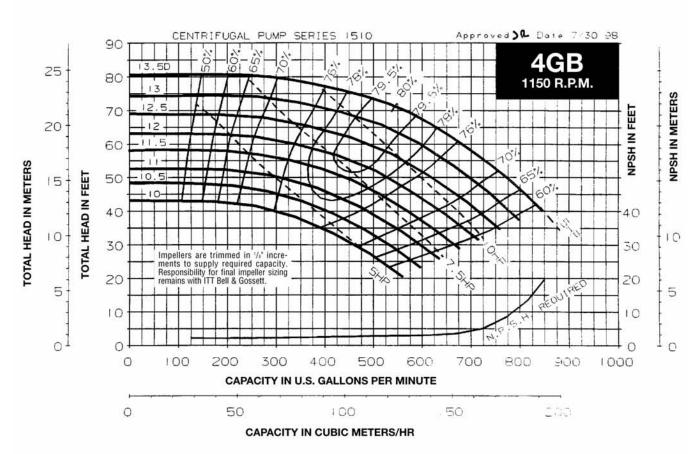


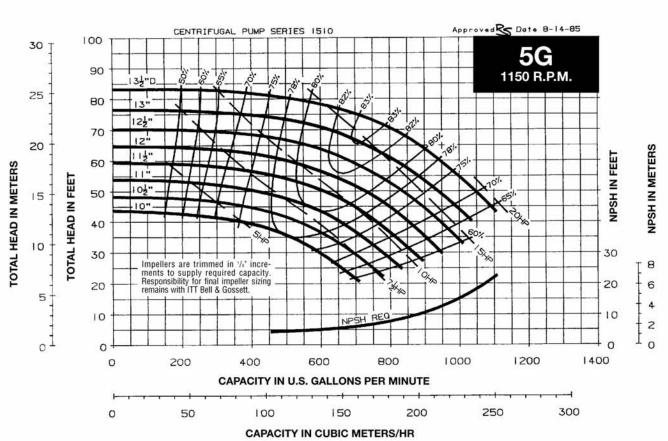


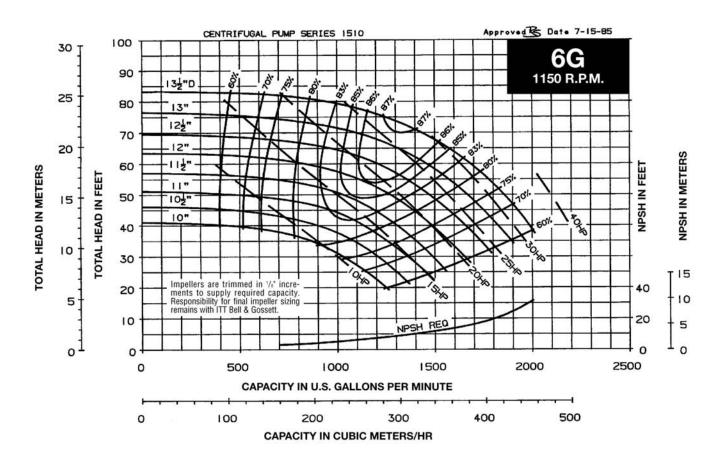


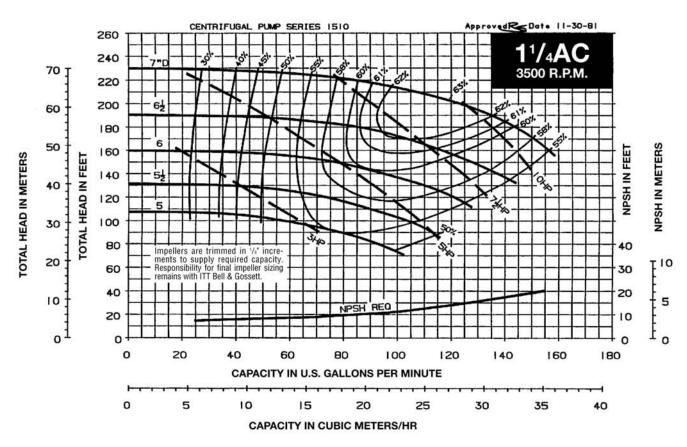


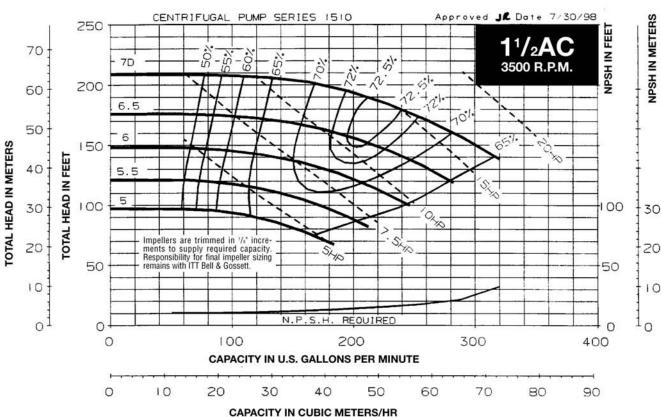


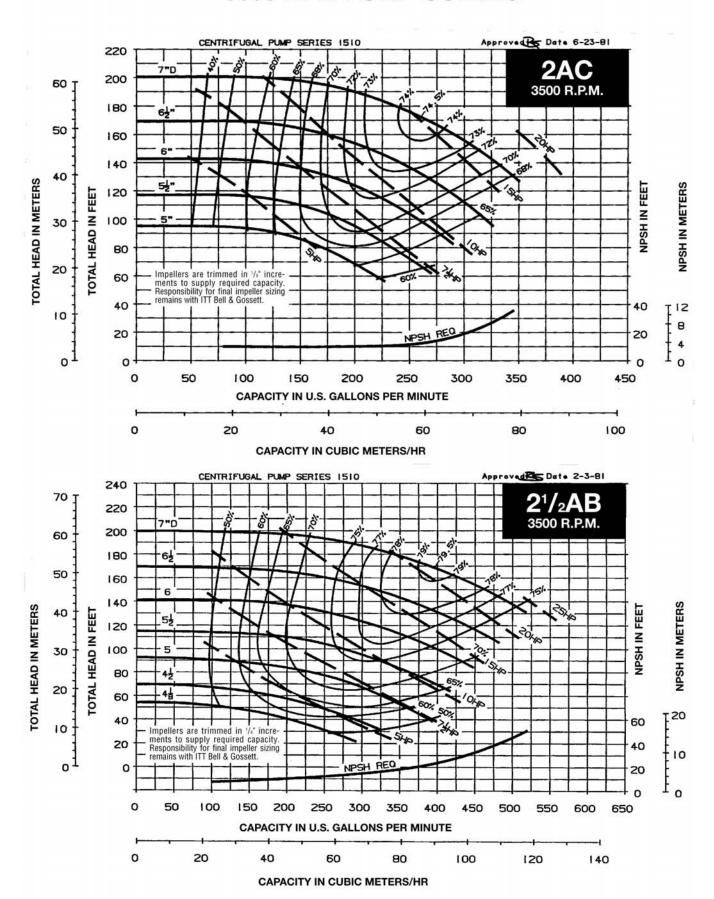


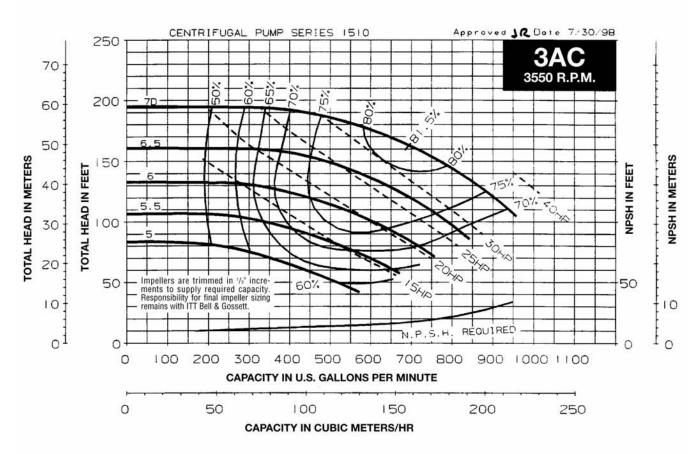


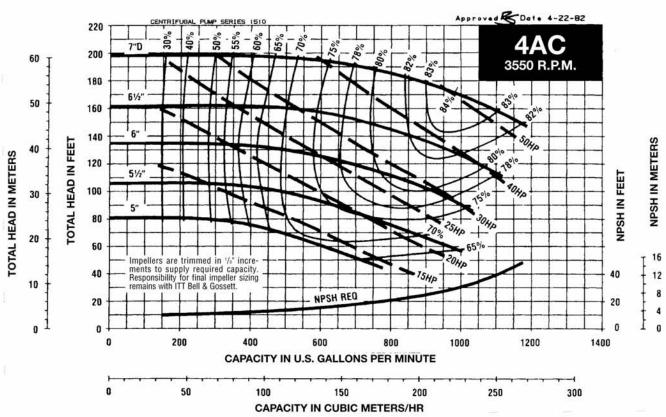


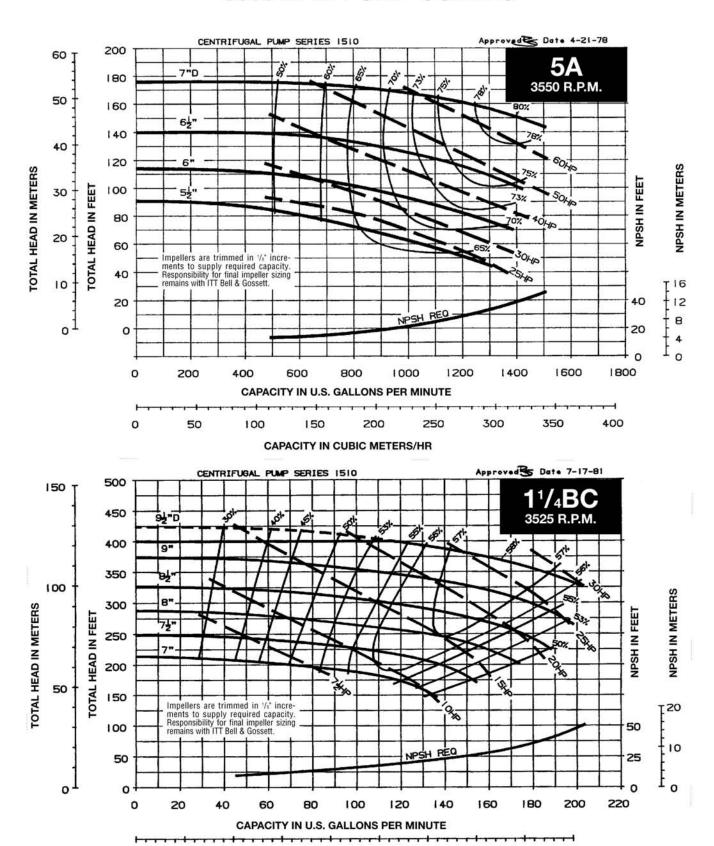




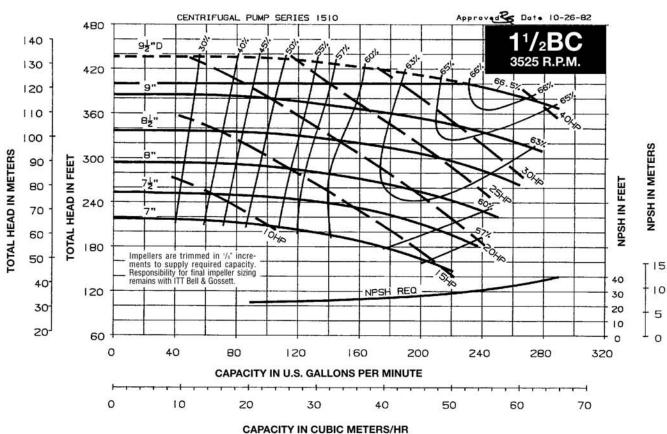


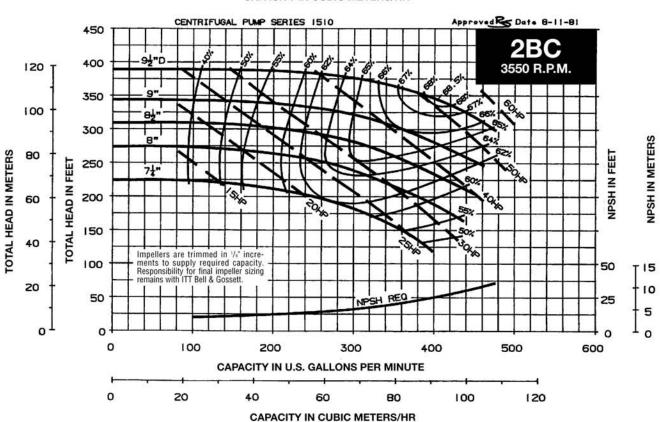


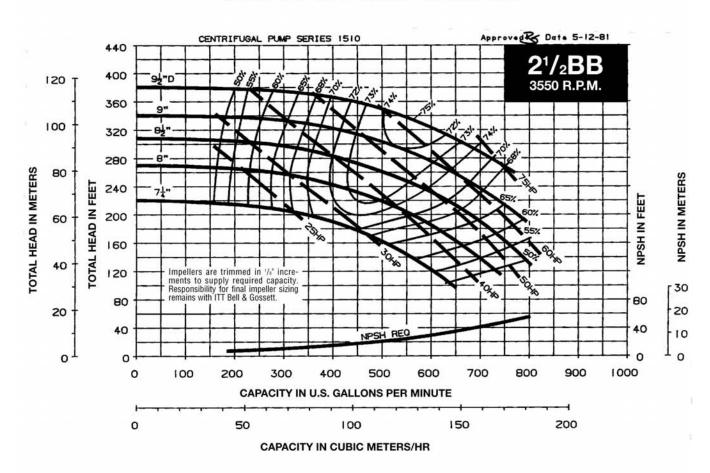


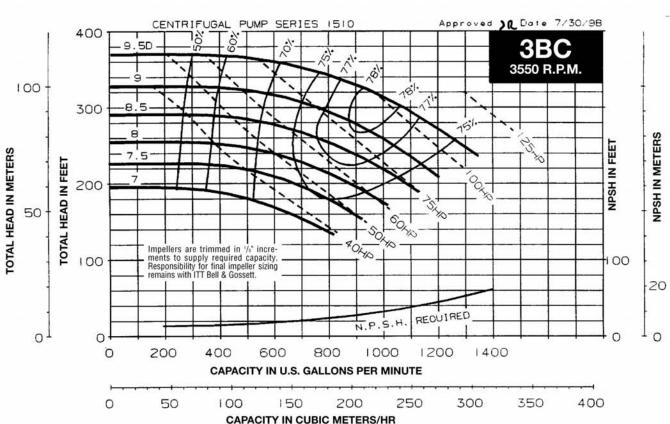


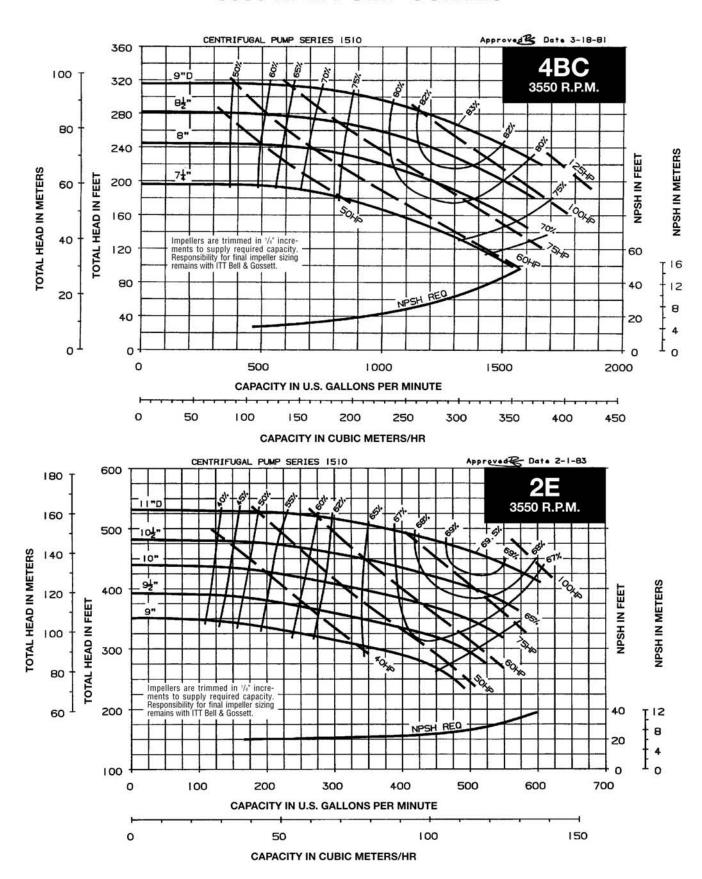
CAPACITY IN CUBIC METERS/HR

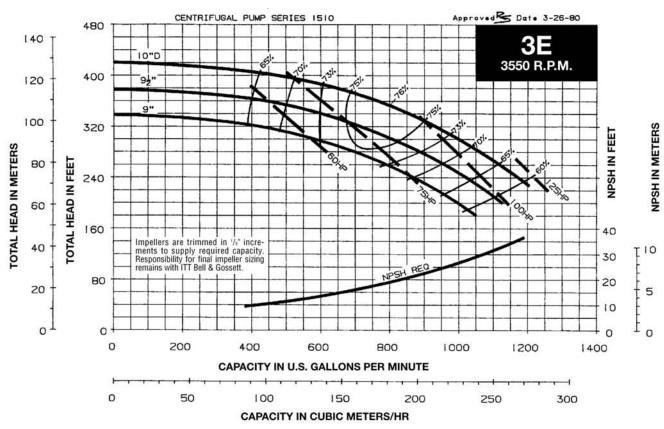


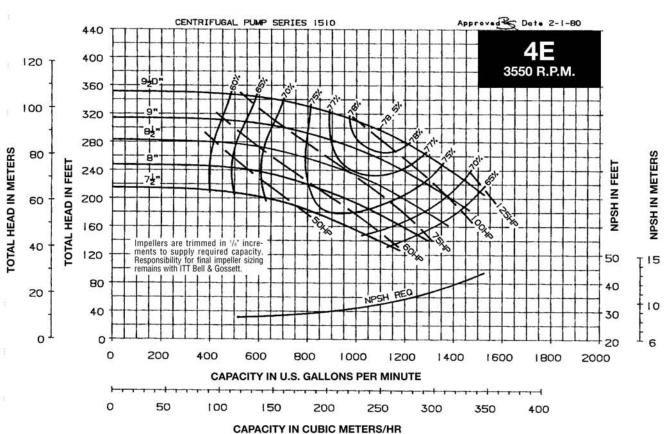






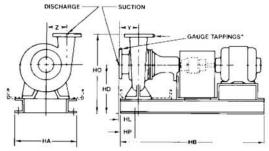






Series 1510 Centrifugal Pumps

Dimensions



*Gauge Tapping Sizes: 1/8" for NPT, 1/4" for Flanged Sizes

Motor Horsepower and Frame Tabulation three phase (Dripproof Enclosure)

Horsepower	Frame @ 1750 RPM	Frame @ 3500 RPM	Horsepower	Frame @ 1750 RPM	Frame @ 3500 RPM
1/2	56		20	256T	254T
3/4	56		25	284T	256T
1	143T		30	286T	284TS
11/2	145T		40	324T	286TS
2	145T	145T	50	326T	324TS
3	182T	145T	60	364T	326TS
5	184T	182T	75	365T	364TS
71/2	213T	184T	100	404TS	365TS
10	215T	213T	125	-	404TS
15	254T	215T			

DIME	NSIONS - INC	CHES (MM)			STANDA PUMI	ARD ME MODE	CHANICAL L 1510, 151	SEAL 0-F	STUFFING BOX CONSTRUCTION PUMP MODEL 1510-PF, 1510-S												
PUMP SIZE DISCHARGE	SUCTION SIZE	MOTOR FRAME SIZE	на	нв	HD	HL	но	НР	Y	z	на	нв	HD	HL	но	НР	Y	z			
		56	12 (305)	283/4	(700)	31/4				(8578)		341/6	100								
11/4 AC (NPT)		143T-145T 182T-184T		(730)	91/4 (248)	(79)	(375)			4½ (114)		(879)	91/4 (248)	13/4	(375)	. 21		(11			
(NPT)	11/2	213T-215T		341/4(879)	(240)	13/4 (46)	(0/0)	3		(114)	141/6 (371)	391/4(1000)	(240)	(33)	(0/0)	(76)	21/	100			
	(NPT)	143T-145T		31		(10)		(76)	31/4		(0, ,,	34%	101/4	19/11	181/4	(1.0)	(83)	-			
11/4 BC	for ry	182T-184T	(371)	(3/1) (787)	101/4	15/16	183/4		(83)			(879)	(273)	(46)	(476)		10.07				
(NPT)		213T-215T			(273)	(46)	(476)			51/2	1	461/2(1181)	12	64.0	20	- 5	2	(14			
20.33		254T-256T	16	461/2	12(305)	215/10	20(508)	5	1	(140)	(406)	513/4	513/4	513/4	16	(305)	2 ¹⁵ / ₇₆ (75)	(508)	5 (127)		(1)
		284TS-286TS	(406)	(1181)	13(330)	(75)	21(533)	(127)		20.00	(400)	(1314)	13(330)	(13)	21(533)	(121)					
		56	12	283/4		31/10					1.700.000	0.417		571.2							
11/2 AC		143T-145T	(305)	(730)	91/4	(78)	151/4			45/a	14%	34°/ ₆ (879)	91/4	1"/10	151/4	3		4			
(NPT)		182T-184T		31(787)	(248)		(400)			(117)	(371)	30.000	(248)	(43)	(400)	(76)		(1			
		213T-215T	1	345/4(879)				220				391/4(1000)									
	2	254T-256T		391/(1000)		8/0	161/4(425)	3	150		16(406)		12(305)	213/10(71)	18(457)	5(127)	90	_			
	(NPT)	143T-145T 182T-184T	(371)	(787)	101/4	111/10 (43)		(76)	31/n (79)		14%	34 ⁵ /6 (879)	101/4	111/10	171/4	3	31/a (79)				
11/2 BC	0 0	213T-1750	(3/1)	341/1(879)	(273)	(40)	171/4 (438)		(13)		(371)	391/4(1000)	(273)	(43)	(438)	(76)	(13)				
(NPT)		213T-215T-3500	+	391/4(079)	200		(400)			51/4		461/2(1181)	12		181/2		5	(14			
(Mr.1)		254T-256T	16	461/2	12(305)	213/10	181/2(470)	5	1 !	(146)	16	511/4	(305)	213/10	(470)	5		1000			
		284TS-286TS		13(330)	(71)	191/(495)	(127)		(140)	(406)	(1314)	13(330)	(71)	191/2(495)	(127)						
		56	12	283/4	()	31/10			-		1000	5000	3.27	888	124	- 84	-				
		143T-145T	(305)	(730)	91/4	(90)	161/4	5 (127)	31/s (89)	4½ (121)	14 ⁵ / ₆ (371)	34°/ ₆ (879)	91/4 (248)	23/10 (56)	161/4	3 (76) 3	22.0	100			
2 AC		182T-184T		31(787)	(248)	2 ¹ / ₁₀ (56) 2 ¹¹ / ₁₀ (68) 3 ¹² / ₁₀ (97)	(413) 17 ¹ /4(438)				(3/1)	(0/9)	(240)	(50)	(413)	(70)	(89)	(1:			
		213T-215T		345/4(879)						(121)	16	461/2(1181)	11(279)	31/m	171/2(445)	5		100			
		254T-256T	14 ⁵ / ₉ (371)	391/(1000)							(406)	511/4(1314)	12(305)	(84)	181/2(470)	(127)		+			
	21/1	143T-145T		31	101/4		17-74 (451)		4 (102)	5 ¹ / ₁ (149)	141/6	345/6	10%	2"/11	17%	3					
2 BC		182T-184T		(787)	(273)						(371)	(879)	(273)	(68) (451)		(76)					
		213T-215T-1750	1	341/4(879)								391/4(1000)		9-26	13 A S S S S A F	34.2004.2	4	51/4			
		254T-3500 254T-256T	-	39%(1000)	12(305) 13(330) 12(305)							461/2(1181)	12 (305) 13(330) 12(305)	200	19 (483)	- 2	(102)	(14			
		284TS-286TS		461/2								513/4		313/46 (97)	20(508)	(127)					
		324TS-326TS		(1181)								(1314)		10.7	19(483)	(,,,,,					
		182T	+	\vdash	12(000)		15(100)				1		12(000)		10(100)	_					
		184T	1988	74555		9890					16	50055	0545	3578	8						
		213T	16 (406)	42 ¹ / ₄ (1073)		61/1	65) 22 (559)		5½ (140)		(406)	42 ¹ / ₄ (1073)	61/2 (165)								
		215T				4½ (105)		5 (127)		61/2		(10/0)	14	22 (559) 41/6 (105)	5						
2 E†		254T			(356)					(165)	l .		(356)		(559)	(127)		61/4 (165)			
		286TS	1	461/2(1181)						131887		511/4					51/2				
		324TS		513/4								(1314)					(140)				
		326TS 364TS		(1314)	400	***	200						400	411	0.00						
		365TS	(610)	56 (1422)	16½ (419)	4º/a (121)	24½ (622)	6 (152)			(610)	56 (1422)	161/2	43/4 (121)	24 ¹ / ₂ (622)	6 (152)					
	1	213T-215T		461/2	100000	14.0929	10001	1.547	1	1,1919	10.107	461/2(1181)	11101	(121)	///	(rue)		1			
2 G†	3	254T-256T	16 (406)	(1181)	(356)	31/4	(584)	5 (127)		7 ¹ / ₄ (184)	16 (406)	511/4	(356)	31/4	(584)	5 (127)		(18			
		284T		513/4(1314)	(330)	(98)	(304)	(121)				(1314)	(330)	(98) (58	(304)	(127)		100			
		56	12	283/4		43/a					141/4	341/6	91/4	3	151/4	3					
		143T-145T	(305)	(730)	91/4	(111)	151/4		41/4	411/11	(371)	(879)	(248)	(76)	(400)	(76)	41/4	41			
21/2 AB		182T-184T	-	31(787)	(248)	3	(400)	3	(108)	(119)	*.0	#5070#a7	- Avenue	3.503.5	70000000	(4.0.594)	(108)	(1			
		213T-215T	14%	14% (371) 39%(1000) 31(787)	-	(76)	4011/405)	(76)	13557	7. (3.3.56	16 (406)	461/:(1181)	11(279)	41/6 (105)	(432)	5 (127)					
	-	254T-256T 182T-184T			101/4	011	163/4(425)				437.77	51 ³ / ₄ (1314) 34 ³ / ₆ (879)	12(305)	110000	14.55.5K	14.80258		+			
		213T-215T	-	341/1(879)	(273)	(70)	171/2				141/6 (371)	391/4(1000)	10% (273)	(70)	171/2	(76)					
21/z BB		284TS-286TS	1	461/2	13(330)	(0.37)	193/4(502)	1000	4	6	10.17	3371(1000)	13(330)	35.77	191/4(502)	35.75	4				
-11.00		324TS-326TS	16	(1181)	12(305)	37/4	183/4(476)	5	(102)	(152)	16	511/4	12(305)	37/4	181/4(476)	5	(102)	(152			
		346TS	(406)	513/4(1314)	100000	(98)	193/4(502)	(127)			(406)	(1314) 12(305)	(98)	191/4(502)	(127)						
		143T-145T	12(305)	283/4(730)	2:	4 ⁵ /10(110)	8200			in .	141/6	341/6	93/4	211/11	151/4	3		5 (127			
		182T-184T	14%	31(787)	91/4 (248)	215/10	15 ³ / ₄ (400)	(76)	41/4		(371)	(879)	(248)	(75)	(400)	(76)	41/0				
3 AC	4	215T	(371)	39%(1000)	11.K6042.X	(75)	.Justow.	(1.0)	(105)	(127)	16	461/2(1181)	11(279)	41/10	17(432)	5	(105)				
		254T-256T	16	461/2	12(305)	41/11	18(457)	5	1.50/	1.5.7	(406)	511/4	12(305)	(103)	18(457)	(127)	(105)	1 3.5			
		284TS-286TS	(406)	(1181)	13(330)	(103)	19(483)	(127)			X5084	(1314)	13(330)	200000	19(483)	51972581	1				

These dimensions are not to be used for installation purposes unless certified. †250 psi (17 bar) available

Maximum Working Pressure 175 psi (12 bar)

DIME	NSIONS - INC	HES (MM)					CHANICA L 1510, 15		STUFFING BOX CONSTRUCTION PUMP MODEL 1510-PF, 1510-S										
PUMP SIZE DISCHARGE	SUCTION	MOTOR FRAME SIZE	на	нв	HD	HL	но	НР	Y	z	на	нв	HD	HL	но	НР	Υ	z	
DISCHANGE	SIZE	182T-184T		31(787)	Contracts	100077	C 50,000		-		141/1	341/6(879)	103/4	311/10	181/4	3	-		
3 BC		213T-215T	14 ⁵ / ₆ (371)	345/1(870)	103/4 (273)	311/16 (94)	18 ¹ / ₄ (464)	(76)	3 (76) 43/4	61/6	(371)	391/1(1000)	(273)	(94)	(464)	(76)	41/4	61/1	
VID (7) ID		254T 284TS-286TS	18.0000	391/1(1000)	13(330)	413/16	201/2(521)	, Arriva	(121)	(156)	16	461/2(1181)	12(305)	413/16	191/2(495) 201/2(521)	5	(121)	(15	
		324TS-326TS	1	461/2 (1181)	12(305)	(122)	191/2(495)				(406)	51 ³ / ₄ (1314)	12(305)	(122)	191/2(495)	(127)			
	1 1	184T	1	421/4		611/16		5				421/4		611/11					
		213T-215T	16 (406)	(1073)	14	(170)	231/2	(127)			16	(1073)	14	(170)	231/2	5			
3 E†	4	254T 256T	-	461/2(1181)	(356)	45/16	(597)	11.00	51/2	73/8	(406)	513/4	(356)	45/1c	(597)	(127)	51/2	73	
		326TS	1	513/4(1314)		(110)			(140)	(187)		(1314)		(110)			(140)	(18	
		364TS-365TS	24	56	161/2	415/16	26	6			24	56	161/2	415/16	26	6	i i		
	- 1	404TS	(610)	(1422)	(419)	(125)	(660)	(152)			(610)	(1422)	(419)	(125)	(660)	(152)		-	
		213T-215T 254T-256T	16	46½ (1181)	14	41/1	221/	5	E1/	8	16	461/2(1181)	14	AU	231/2	5	E1/		
3 G†		284T-286T	(406)	511/4	(356)	(105)	(597)	(127)	5 ⁵ / ₆ (143)	(203)	(406)	513/4	(356)	(105)	(597)	(127)	5 ⁵ / ₆ (143)	(2	
		324T		(1314)	00000000	5,535,65	0.0000	2.840.000	Inchicety.	(Accord)	750000	(1314)	192101-200	500 11100 25%	00000000	100.00.000	1000000	1000	
		145T		31	COURS	75.50		1			145/4	341/4	101/4	45/1c	181/4	3			
		182T-184T 213T	(371)	(787) 34 ¹ / ₁ (870)	10 ³ / ₄ (273)	45/16 (110)	181/4	(76)			(371)	(879) 39 ³ / ₁ (1000)	(273)	(110)	(464)	(76)			
4 AC†	-	215T	(0/1)	391/4(1000)	(275)	(110)	(404)	(10)	415/16	53/4		461/2(1181)	12		191/2		415/10	5	
	1	254T-256T	92	1997	12(305)	1200	191/2(495)	- 2	(125)	(146)		Carrier 1	(305)	51/10	(495)		(125)	(146	
		284TS-286TS	16 (406)	46½ (1181)	13(330)	5 ⁷ / ₁₆ (138)	201/:(521)	(127)			16	(1314)	13(330)	(138)	201/2(521)	5			
	- 1	324TS-326TS	V. S.	# 030# S	12(305)	100000	191/1(495)				(406)	55555474.010	12(305)		191/2(495)	(127)			
		213T-215T 254T	14 ⁵ / ₈ (371) 16 (406)	345/i(870) 395/i(1000)	123/4 (324)	(102)	(527)	(76)	5 (127)			46½(1181) 51¾	14	51/a	22		5		
		256T		461/2	V5504	20000	5252	5 5		120		(1314)	(356)	(130)	(559)		(127)	(1	
4 BC		286TS		(1181)	(356)	51/11	(559)			(178)			7					77	
		324TS-326TS		513/4(1314)	3.55.56.1	*	25-25-06.5	a.k.asata	15716	300000				٨	I/A				
	5	364TS-365TS 404TS		56 (1422)	16½ (419)	5 ³ / ₄ (146)	24 ¹ / ₂ (622)	6 (152)											
		213T-215T	10007	421/4	12.57	611/10	(/	(1.0.0)			1	421/4	45	611/10				Т	
		254T	16	(1073)	14	(170)	231/4	5 (127)			16	(1073)	14	(170)	231/4	5			
45		256T	(406)	461/2(1181)		45/16	(603)		5%s	71/4	(406)	51%	(356)	45/16	(603)	(127)	59/14	7 ¹ / ₄ (18 ⁴	
4 E	-	284T-286T 324TS-326TS	-	51 ³ / ₄ (1314)		(110)			(141)	(184)		(1314)		(110)			(141)		
		364TS-365TS	24	56	161/2	415/10	261/4	6			24	56	161/2	415/10	261/4	6			
		404TS	(610)	(1422)	(419)	(125)	(667)	(152)			(610)	(1422)	(419)	(125)	(667)	(152)			
] [213T-215T		461/2	833	2000	000	- 25	200	200	700	461/2(1181)	200	592	222	0.00	100	-	
4 GB		254T-256T 284T-286T	16 (406)	(1181)	15 (381)	5½ (137)	25 (635)	5 (127)	6 (152)	8 ⁹ / ₁₆ (217)	16 (406)	513/4	15 (381)	5½ (137)	25 (635)	5 (127)	6 (152)	81/	
	1	324T	(100)	51½ (1314)	(001)	(107)	(000)	(121)	(102)	(2.17)	(100)	(1314)	(001)	(101)	(000)	(121)	(102)	1	
		182T-184T	141/6	31(787)	121/4	51/4	211/4	3			141/4	345/4(879)	121/4	51/4	211/4	3		+	
		213T-215T	(371)	341/1(870)	(324)	(146)	(540)	(76)		594.1	(371)	391/1000)	(324) (146)	6) (540)	(76)		5 ¹³ / ₁₆ (148)		
5 A†		254T-256T	-	46½ (1181)	2.2		00.1		5 ¹³ /10 (148)	61/4 (159)									(1
		284TS-286TS 324TS-326TS	1	511/4	(356)	6 ⁷ / ₈ (175)	22½ (572)		(140)	(133)		513/4 (1314)	(356)	61/a (175)	221/2 (572)				(1)
		364TS	1	(1314)	Asset.	40000	. 4000004.0					3410000A	. 40.507	.40007.	1.400.00				
	1 [213T-215T	16	461/2		4%		5			16	461/2(1181)				5			
5 BC†		254T	(406)	(1181)		(116)	25 (635)	(127)	6 (152)	71/2	(406)			67/10	25 (635)	(127)	6 (152)	(1	
		256T 284T	1	513/4(1314)	15	67/16 (164)	(033)		(132)	(131)		513/4	15 (381)	(164)	(033)		(132)	100	
	6	254T-256T	1	461/2(1181)	(381)						1	(1314)				ä			
5 E†	1 1	284T-286T]	513/4		4 ⁷ / ₁₈ (113)	25½ (648)		51/10 (138)	715/16 (202)				47/16 (113)	25½ (648)		5 ⁷ / ₁₀ (138)	(2)	
	- 1	324T	-	(1314)		(0.50)	Assess		A. S. S. S. P.	1	7.		\rightarrow		123.04		4	1	
		254T-256T 284T-286T	24	56	161/2	51/1a	201/	6			24	56	161/	E11	201/	6			
5 G†	1	324T-326T	(610)	(1422)	(419)	(138)		(749) (152) (152) (229) (610) (1422) (419) (138)	(749) (152) (152) (229) (610) (1422) (419) (138) (749)	(749) (152)	29 ¹ / ₂ (749)		29½ 6 6 6 9 24 56 16½ 5½ 5½ 29½ 749) (152) (229) (610) (1422) (419) (138) (749)	29 ¹ / ₂ 6 6 9 (749) (152) (152) (229)		(152)	(152)	(2	
		364T-365T	1										1						
0.000		254T-256T	16	461/2(1181)	15	8 ³ / ₈	251/2	5	7	81/4	16	513/4	15	8 ³ / ₈	251/2	5	7	8	
6 BC†	-	284T-286T 324T-326T	(406)	513/4 (1314)	(381)	(213)	(648)	(127)	(178)	(210)	(406)	(1314)	(381)	(213)	(648)	(127)	(178)	(2	
6 E	1 1	254T-256T	\vdash	133.37							1			-				\vdash	
		284T-286T	24	56	161/2	6	271/2	6	61/8	81/2	24	56	161/2	6	271/2	6	61/8	81/s (216	
		324T-326T	(610)	(1422)	(419)	(152)	(699)	(152)	(156)	(216)	(610)	(1422)	(419)	(152)	(699)	(152)	(156)		
	-	364T	E TO	ND INCLUDI	IC 491/11	ADELLED					_								
	8	256T	- 107	AND INCLUDI	vu 12% II	WELLER					Т								
		284T-286T	1															9°/11 (237	
	1	324T-326T	(610)	56 (1422)	161/2 (419)	6 ¹ / ₄ (159)	30½ (775)	6 (152)	6½ (165)	95/16 (237)	(610)	56 (1422)	16½ (419)	61/4 (159)	30½ (775)	6 (152)	6½ (165)		
6 G†*		364T-365T	1		100	2.3	8.75	, , , ,	2.00	,,	18.8		3.00		34	3			
		404TS	MF - 12	%* IMPELLER	ANDIAD	SER					1								
	1	365TS	26	591/4	17	6 ¹ / ₂	31	6	61/2	95/16	26	591/4	17	61/2	31	6	61/2	9	

These dimensions are not to be used for installation purposes unless certified. *13½" impeller for 1150 & 1450 RPM service with "L" frame.

†250 psi (17 bar) available

Maximum Working Pressure 175 psi (12 bar)

NOTES

