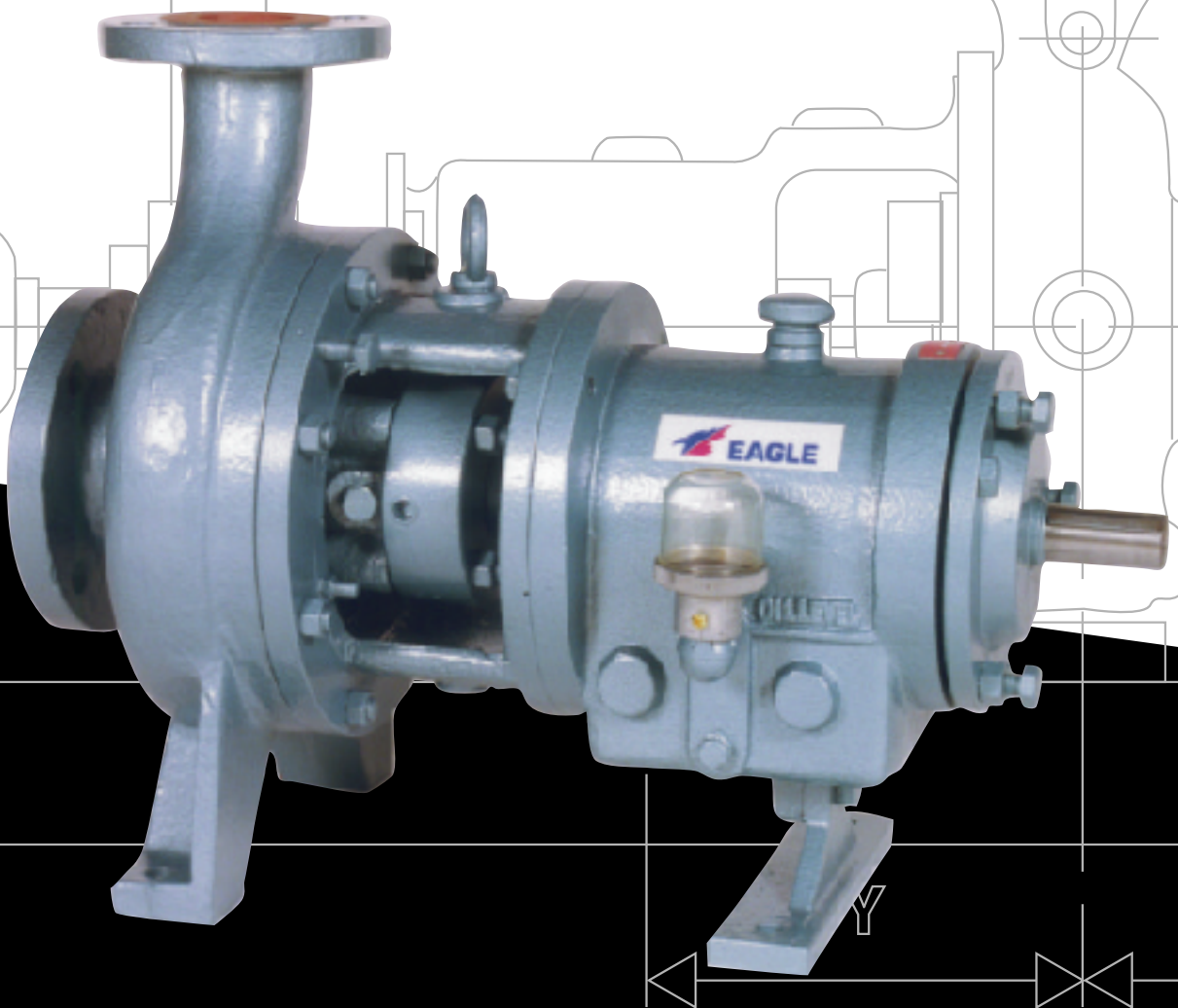


**CENTRIFUGAL PROCESS PUMPS**



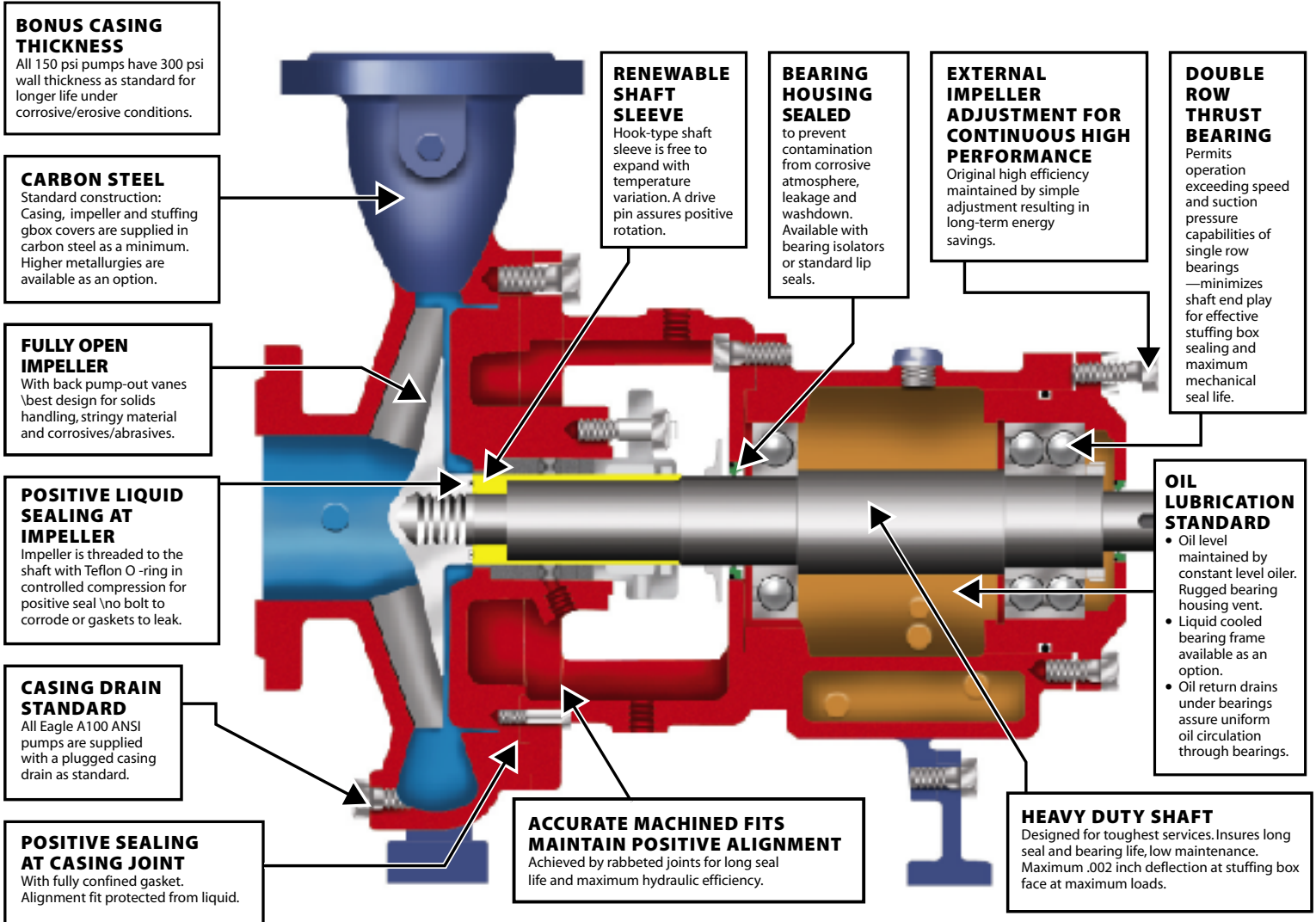
**MODEL A100**  
ANSI B73.1

# Heavy Duty Design Features Permit a Wide Range of Process Services



All EAGLE A100 pumps have 150 lb. raised face flanges as standard except 13" and 15" casings which have 300 lb. raised face flanges as standard.

(Model A100 M illustrated. Same features apply to A100 S, M, L and X) \*ANSI B-73.1



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(Model A100 M illustrated.)

Same features apply to  
A100 S, M, L and X) \*ANSI B-73.1

## SPECIFICATIONS — EAGLE A100 PUMPS

### CASING:

Top centerline discharge and self-venting casing. Fully confined gasket. Piping and driver not disturbed when back pullout assembly is removed for inspection or maintenance. Foot support under casing for maximum resistance to misalignment and distortion from pipe loads. 150 lb. R.F. flanges standard, with 300 lb. R.F. flanges on 13 h casing, 1/8 h corrosion allowance. Drain opening supplied as standard.

### IMPELLER:

Fully open, has partial shrouds for maximum vane support without high thrust inherent in full shroud designs. Matched to casing for high efficiency and low NPSH. Impeller is screwed on shaft, and threads are sealed by a Teflon O-ring. Smoothly contoured passages for good solids and slurry handling. All impellers are statically balanced as standard. Efficiency maintained by external impeller adjustment.

### STUFFING BOX COVER:

Encloses back of casing and contains stuffing box chamber. Cover is fastened to frame adapter with bolts or studs and nuts. Packed box has 5 rings of packing and a lantern ring. Quench gland with an auxiliary ring of packing is standard. Tapped opening to lantern ring permit external flushing or lubrication as required.

### FRAME ADAPTER:

Frame adapter has machined pilot fit to stuffing box cover. Adapter has a tapped part that may be piped to drain.

### BEARING FRAME:

Heavy cast iron construction. Contains large oil reservoir with optional cooling coil. Oil level maintained by constant level oiler with visible oil supply. Oil seals on each end and oil breather fully protect oil from contamination while allowing for expansion or contraction of air caused by ambient temperature change. Alignment between frame and adapter provided by precision aligners.

### HEAVY DUTY SHAFT:

Designed for maximum .002 h (.05 mm) deflection at stuffing box face at maximum loads. All bearing and packing surfaces ground to less than 32 micro-inches. Impeller threads are sealed by a Teflon O-ring. Choice of shaft with or without sleeve for utmost flexibility in solving sealing problems.

### SHAFT SLEEVE:

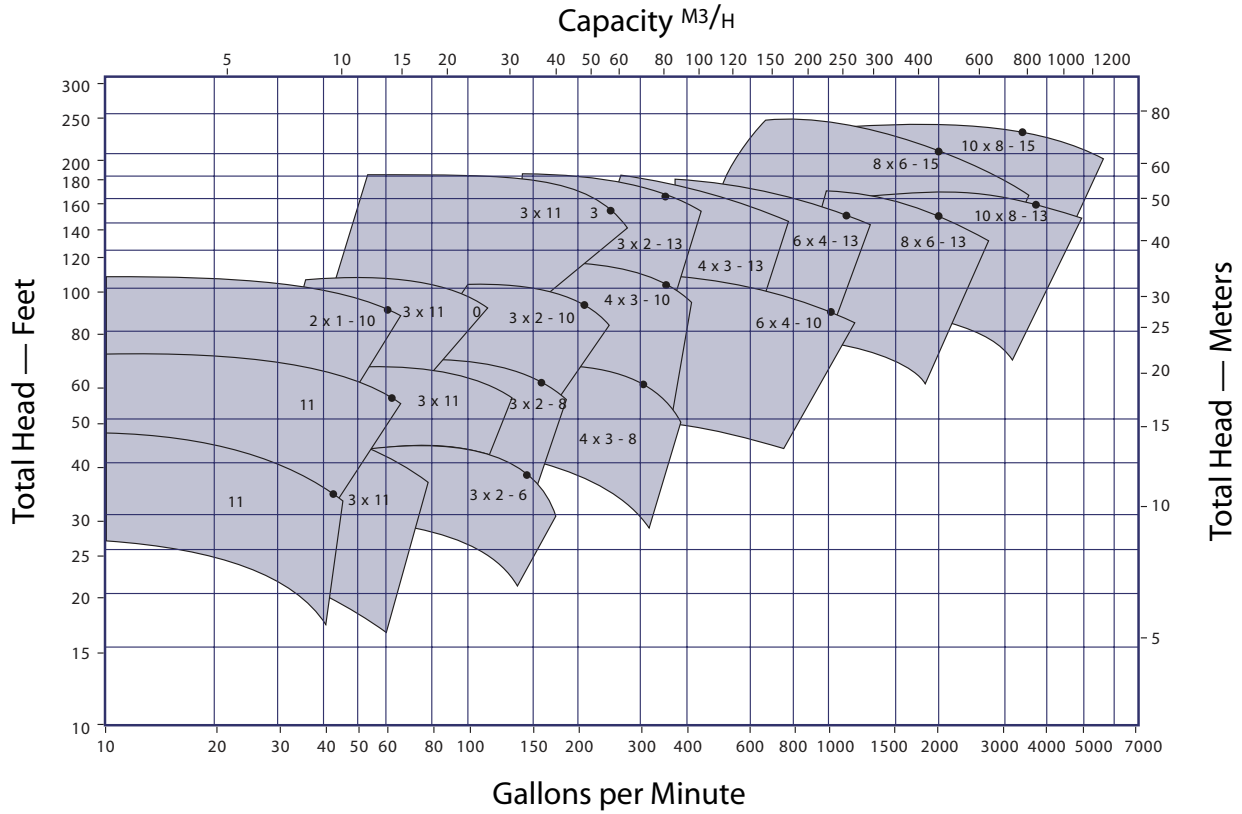
Renewable shaft sleeve is a positively driven hook-type, with one end free to expand with temperature variations. A Teflon O-ring protects shaft against liquid contact. This low cost shaft sleeve eliminates expensive shaft replacement and permits applications of inside balanced mechanical seals where required.

### BEARING:

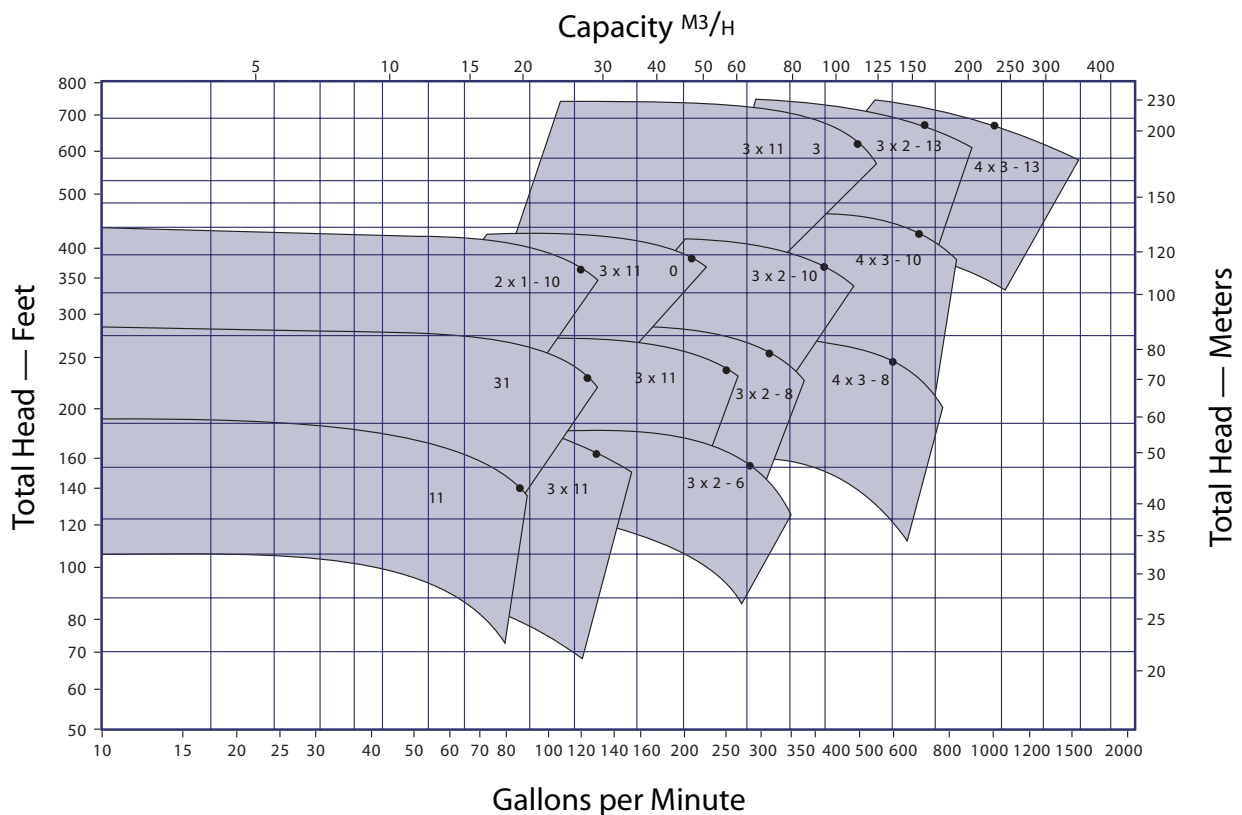
Inboard bearing is pressed on shaft and is free to float axially in frame\carries radial load only. Outboard bearing is shouldered and locked to the shaft with a locknut and washer to carry radial and any unbalanced axial thrust load. All bearings f fits are precision bored. Inboard bearing is single row, deep groove. Outboard bearing is double row, deep groove angular contact.

# EAGLE MODEL A100 ANSI STANDARD

## 1750 RPM Performance Curve



## 3500 RPM Performance Curve

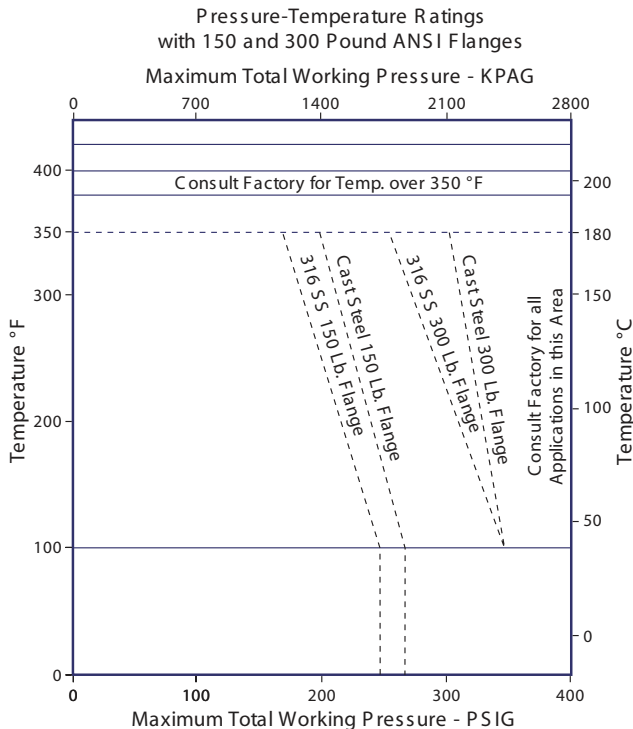


# DIMENSIONS & SPECIFICATIONS

## CONSTRUCTION DETAILS Metric Equivalents in (mm)

POWER END		MODEL A100-S					MODEL A100-M,L					MODEL A100-X									
Shaft Diameters	At Impeller	3/4" (19.0)					1" (25.4)					1 1/4" (31.8)									
	In Stuffing Box (Less Sleeve)	1 1/8" (28.6)					1 1/2" (38.1)					1 7/8" (47.6)									
	In Stuffing Box (With Sleeve)	1 3/8" (34.9)					1 3/4" (44.5)					2 1/8" (54.0)									
	Sleeve Outside Diameter	1 3/8" (34.9)					1 3/4" (44.5)					2 1/8" (54.0)									
	Between Bearings	1 1/2" (38.1)					2 1/8" (54.0)					2 1/2" (63.5)									
Bearings	At Coupling	7/8" (22.2)					1 1/8" (28.6)					1 7/8" (47.6)									
	Radial	6207					6309					6311									
	Coupling End (Double Row)	3306					3309					3311									
	Bearing Span	4 1/4" (108.6)					6 15/16" (176)					6 3/4" (170.6)									
	Shaft Overhang	5 7/8" (150)					8 3/8" (212)					8 1/4" (210)									
Stuffing Box	Bore	2" (50.8)					2 1/2" (63.5)					2 7/8" (73.0)									
	Depth	2 1/8" (54.0)					2 5/8" (66.7)					2 5/8" (66.7)									
	Packing Size	5/16" x 5/16" (7.9 x 7.9)					3/8" x 3/8" (9.5 x 9.5)					3/8" x 3/8" (9.5 x 9.5)									
	No. of Rings	5					5					5									
	Width of Lantern Ring	7/16" (11.1)					5/8" (15.9)					5/8" (15.9)									
	Distance rEnd of Bo x to Nearest Obstruction	2" (51)					2 7/8" (73)					3" (76.2)									
PUMP END	A 100-S					A 100-M,L					A 100-X										
		1 1/2x1-6	3x1 1/2-6	3x2-6	1 1/2x1-8	3x1 1/2-8	3x2-8	4x3-8	2x1-10	3x1 1/2-10	3x2-10	4x3-10	6x4-10	3x1 1/2-13	3x2-13	4x3-13	6x4-13	8x6-13	10x8-13	8x6-15	10x8-15
	Maximum Diameter Solids	1 1/32" (8.6)	7/16" (11.2)	3/8" (9.5)	1 1/32" (8.6)	7/16" (11.2)	1/2" (12.7)	1 1/16" (17.5)	7/16" (11.2)	7/32" (5.6)	3/8" (9.5)	5/8" (15.9)	1" (25.4)	7/32" (5.6)	3/8" (9.5)	5/8" (15.9)	1" (25.4)	1 1/16" (17.5)	1" (25.4)	1 3/16" (20.6)	1 1/8" (28.6)
	Minimum Casing Thickness	3/8" (9.5)					7/16" (11.2)					1/2" (12.7)					9/16" (14.3)				
	Casing Corrosion Allowance	1/8" (3.2)																			
	Working Pressure	See Pressure-Temperature Chart																			
	Test Pressure	150% of Working Pressure at 100 F (38 C)																			
	Max. Liquid Temp (w/out cooling)	350 F (177 C)																			
	Unit Weight lbs. (Kg)	See Dimensions																			

CODE	MATERIAL AND SPECIFICATION
CS	Carbon Steel ASTM 216 GR. WCB
316	Cast Stainless ASTM A744 GR. CF-8M / Wrought Stainless ASTM A276 Type 316
CD4M	Cast Chrome—Nickel Alloy ASTM A744 GR. CD4MCu
Cast Iron	Cast Iron ASTM A48
SAE 4340	Wrought Steel ASTM A322 GR. 4340
304	Wrought Stainless ASTM A276 Type 304

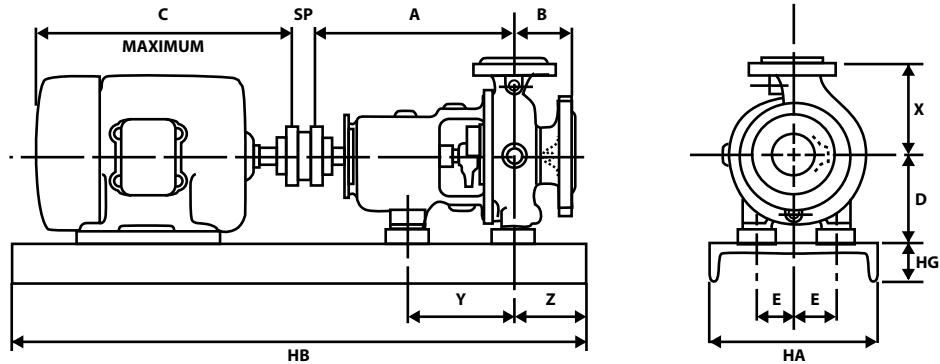


MODEL	R.P.M.					
	3560	2900	1780	1450	1180	880
A 100-S	40.8 (30.5)	33.4 (24.9)	20.4 (15.2)	16.6 (12.4)	13.6 (10.2)	10.1 (7.5)
A 100-M	124.5 (92.8)	101.5 (75.7)	62.2 (46.4)	50.7 (37.8)	41.3 (30.8)	30.8 (23)
A 100-L	204 (152.2)	168.3 (125.6)	102 (76.1)	83.1 (62)	67.7 (50.5)	50.5 (37.7)
A 100-X	—	—	255 (190.3)	208.1 (155.3)	169.3 (126.3)	126.5 (94.4)

\*PUMPS ARE SUPPLIED WITH RAISED FACE FLANGES AS STANDARD.

# DIMENSIONS MODEL A100

All Dimensions in inches & (mm).  
Not to be used for construction.



## DIMENSIONS DETERMINED BY PUMP

MODEL	PUMP SIZE	ANSI DESIG.	SUCTION SIZE	DISCH. SIZE	X	A	B	D	Y	Z	E	SP	SHAFT DIAM. AT CPLG.	KEY-WAY	BARE PUMP WEIGHT LBS (KG)
A100-S	1 1/2 x 1 - 6	AA	1 1/2	1	6 1/2 (165)	13 1/2 (343)	4 (102)	5 1/4 (133)	7 1/4 (184)	4 1/2 (114)	3 (76.2)	3 1/2 (88.9)	7/8 (22.2)	3/16 x 3/32 (4.8 x 2.4)	110 (50)
	3 x 1 1/2 - 6	AB	3	1 1/2											120 (55)
	3 x 2 - 6	A10	3	2											120 (55)
	1 1/2 x 1 - 8	AA	1 1/2	1											120 (55)
	3 x 1 1/2 - 8	AB	3	1 1/2											120 (55)
A100-M	3 x 2 - 8	A60	3	2	9 1/2 (242)	19 1/2 (495)	4 (102)	8 1/4 (210)	12 1/2 (318)	4 1/2 (114)	47/8 (124)	3 1/2 (88.9)	1 1/8 (28.6)	1/2 x 3/16 (12.7 x 4.8)	220 (100)
	4 x 3 - 8	A70	4	3											230 (104)
	2 x 1 - 10	A05	2	1											230 (104)
	3 x 1 1/2 - 10	A50	3	1 1/2											245 (111)
	3 x 2 - 10	A60	3	2											240 (109)
	4 x 3 - 10	A70	4	3											265 (120)
	6 x 4 - 10	A80	6	4											300 (136)
A100-L	3 x 1 - 13	A20	3	1 1/2	10 1/2 (267)	27 7/8 (708)	6 (152)	10 (254)	12 1/2 (476)	6 1/2 (165)	8 (203)	5 1/4 (133)	17/8 (47.6)		285 (129)
	3 x 2 - 13	A30	3	2											285 (129)
	4 x 3 - 13	A40	4	3											310 (140)
	6 x 4 - 13	A80	6	4											330 (150)
A100-X	8 x 6 - 13	A90	8	6	16 (406)	27 7/8 (708)	6 (152)	14 1/2 (368)	12 1/2 (476)	6 1/2 (165)	8 (203)	5 1/4 (133)	2 3/8 (60.3)	5/8 x 5/8 (15.8x15.8)	597 (271)
	10 x 8 - 13	A100	10	8											714 (324)
	8 x 6 - 15	A110	8	6											650 (295)
	10 x 8 - 15	A120	10	8											789 (358)

## DIMENSIONS DETERMINED BY MOTOR

MODEL	BASE-PLATE	MOTOR		BASEPLATE			APPROX. BASEPLATE WEIGHT LBS (KG.)
		MOTOR FRAME SIZES APPLIC.	C MAX.	HA	HB	HG±1/8 (3.2)	
A100-S	1	56 - 184T	15 1/2 (394)	10 (254)	39 (991)	25/8 (67)	50 (23)
	2	213T 215T	19 5/16 (491)	12 (305)	44 (1117)	3 (76)	80 (36)
	4	254T 256T	24 5/8 (625)	15 (381)	56 (1422)	3 1/2 (89)	160 (73)
	2	143T - 184T	15 1/2 (394)	12 (305)	44 (1117)	3 (76)	80 (36)
A100-M & A100-L	3	213T 215T	19 5/16 (491)	12 (305)	48 (1219)	3 (76)	85 (39)
	4	254T-286TS	26 9/16 (675)	15 (381)	56 (1422)	3 1/2 (89)	160 (73)
	6	324T-326T-	33 7/16 (849)	18 (457)	62 (1575)	4 (102)	175 (80)
	8	404T-405TS	38 7/8 (987)	24 (610)	66 (1676)	4 3/4 (121)	315 (143)
	9	444T 445TS	48 3/4 (1238)	24 (610)	72 (1829)	4 3/4 (121)	342 (155)
A100-X	1	213T-256TS	24 (609)	20 (508)	64 (1625)	4 (102)	610 (277)
	2	284T-365TS	34 (863)	20 (508)	74 (1879)	4 (102)	1350 (613)
	3	404T-445TS	44 (1117)	24 (609)	84 (2133)	4 3/4 (121)	2290 (1040)
	4	504T-505TS	50 (1270)	28 (711)	90 (2286)	4 3/4 (121)	3550 (1613)
	7	364T/TS 655T/TS	33 7/16 (849)	20 (508)	62 (1575)	4 (102)	220 (100)

## TAPPED OPENING

PURPOSE	NO OF TAPS	MODEL			
		S	M	&L	X
Discharge Gauge	1	3/8"	3/8"	3/8"	3/8"
Casing Drain*	1	3/8"	3/8"	3/8"	1/2"
Suction Gauge	1	3/8"	3/8"	3/8"	3/8"
Bearing Frame Cooling	2	3/8"	3/8"	3/8"	3/8"
Lantern Ring Flush*	2	1/4"	3/8"	3/8"	3/8"
Oil Drain*	1	1/4"	1/4"	1/4"	3/4"
Constant Level Oiler*	1	1/4"	1/4"	1/4"	1/4"
Stuffing Box Circulation Line	1	3/8"	3/8"	3/8"	3/8"
Frame Adapter Drain*	1	1/2"	1/2"	1"	1"

\*FURNISHED AS STANDARD

PUMP MODEL A100-S IS ILLUSTRATED ABOVE. DIMENSIONS APPLY TO A100-S, -M, -L, -X AND ARE APPLICABLE FOR BOTH 150 AND 300 LB. RAISED FACE FLANGES. FLANGES ARE DRILLED TO ANSI DIMENSIONS.



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