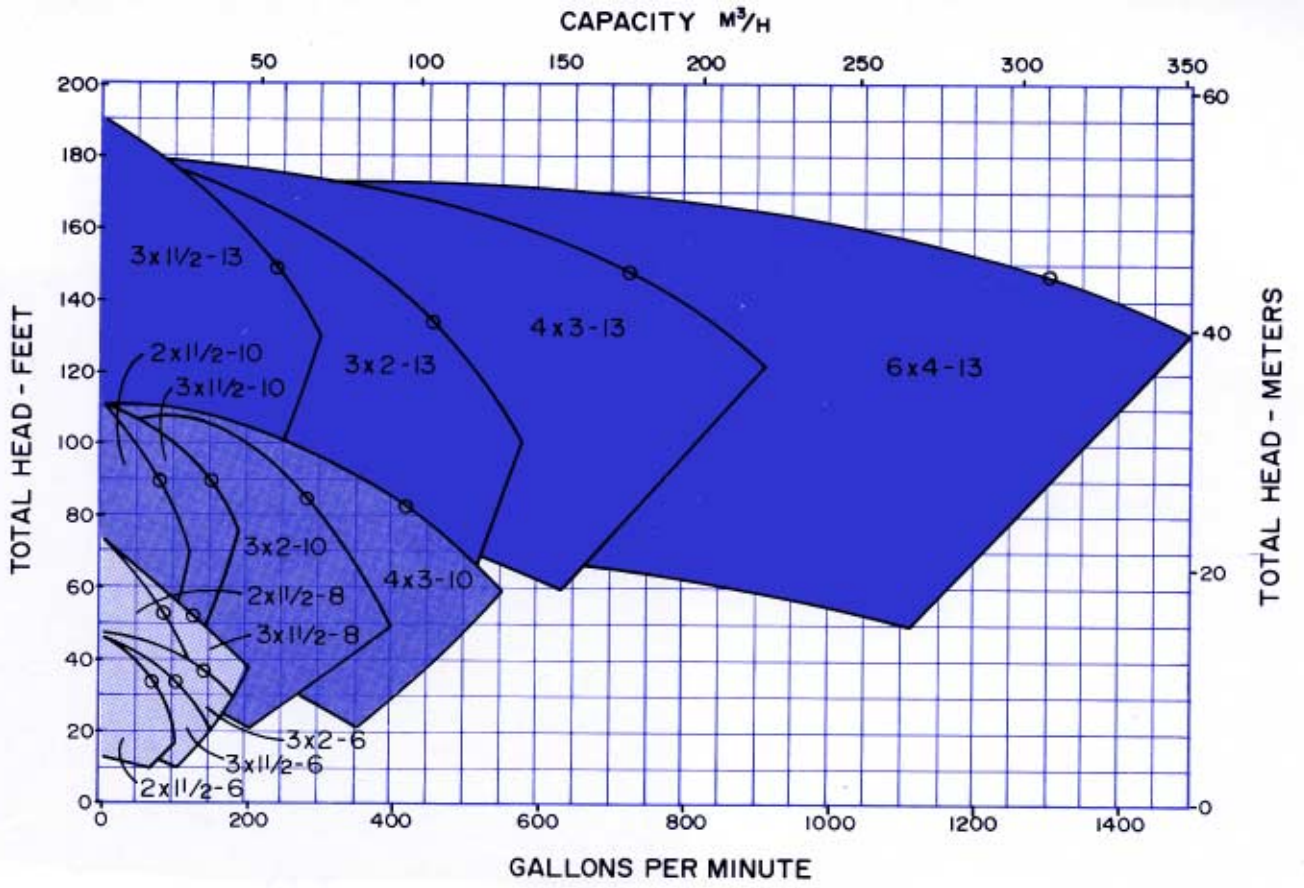


## PROCESS PUMPS

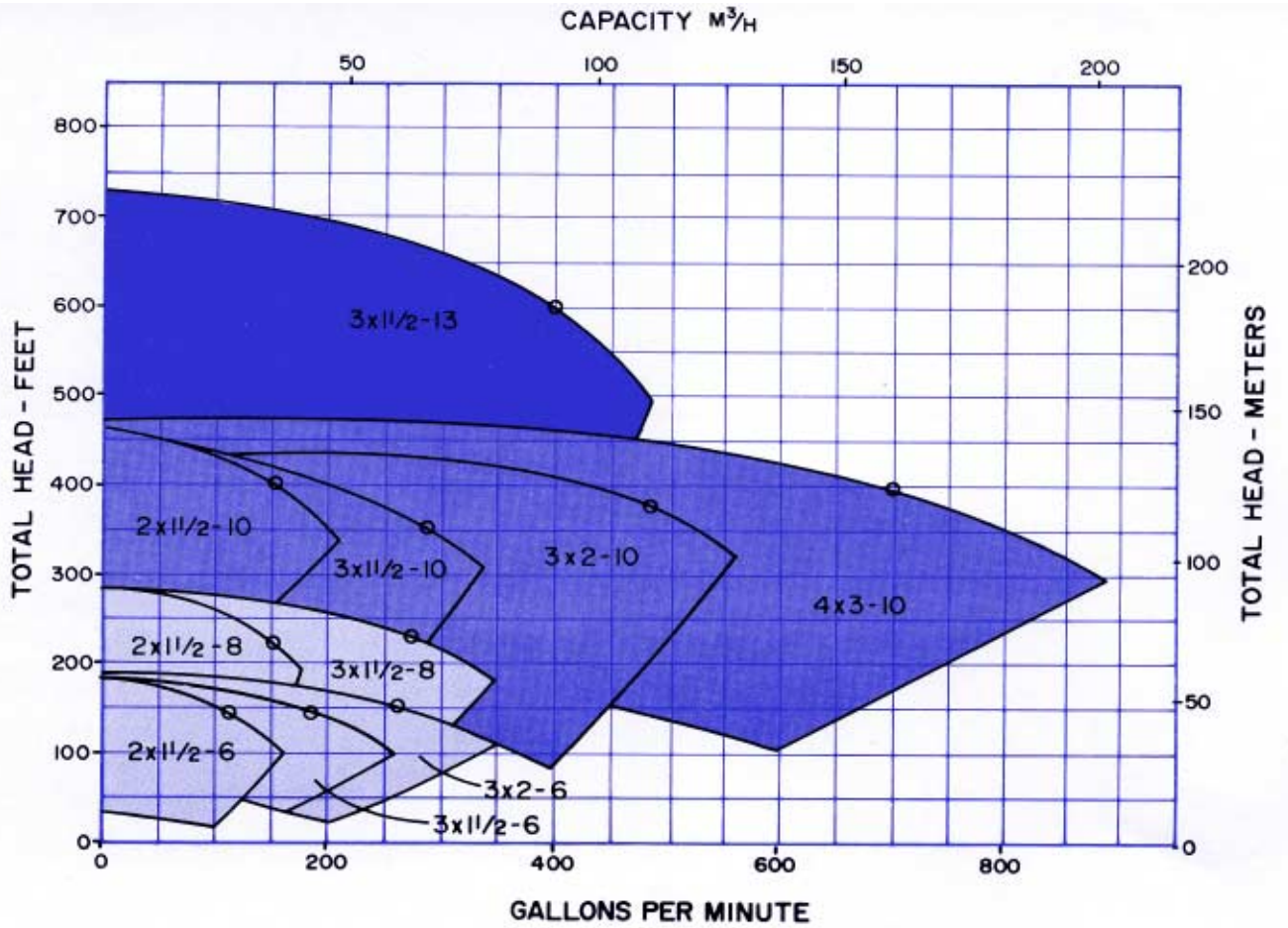


**MODEL V200** ANSI B73.2

1750 R.P.M. Performance Curve

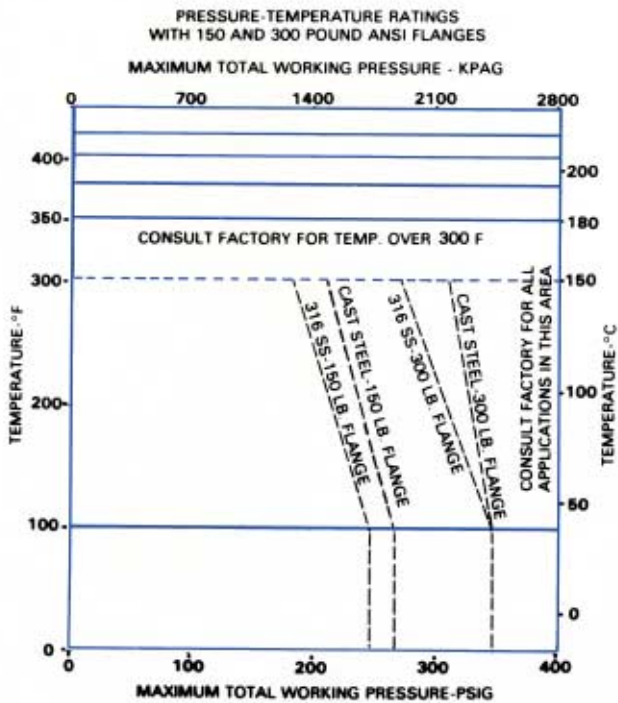


3500 R.P.M. Performance Curve



## Construction Details Metric Equivalents in (mm)

POWER END		MODEL V200-S	MODEL V200-M	MODEL V200-L										
Shaft Diameters	At Impeller	3/4" (19.0)	1" (25.4)	1 1/4" (31.8)										
	In Stuffing Box (Less Sleeve)	1 3/8" (34.9)	1 3/4" (44.5)	2 1/8" (54.0)										
	In Stuffing Box (With Sleeve)	1 1/8" (28.6)	1 1/2" (38.1)	1 7/8" (47.6)										
	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)										
	At Coupling	7/8" (22.2)	1 1/8" (28.6)	1 7/8" (47.6)										
Bearings	Radial	6207 Z	6309 Z	6311 Z										
	Coupling End (Double Row)	3306 Z	3309 Z	3311 Z										
	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 - End of Box to Nearest Obstruction	2" (50.8)	2 7/8" (73)	2 7/8" (73)										
PUMP END	<b>V200-S</b>		<b>V200-M</b>		<b>V200-L</b>									
		1 1/2x1-6	3x1 1/2-6	3x2-6	1 1/2x1-8	3x1 1/2-8	2x1 1/2-10	3x1 1/2-10	3x2-10	4x3-10	3x1 1/2-13	3x2-13	4x3-13	6x4-13
	Maximum Diameter Solids	5/16" (8)	3/8" (9.5)	7/16" (11.1)	7/32" (5.5)	5/16" (8)	3/16" (4.7)	7/32" (5.6)	9/32" (7.1)	5/8" (15.9)	7/32" (5.6)	9/16" (14.3)	5/8" (15.9)	1" (25.4)
	Minimum Casing Thickness	3/8" (9.5)			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)	250°F (120°C)												
	Max. Liquid Temp (with cooling)	300°F (150°C)												
	Unit Weight lbs. (Kg)	See Dimensions												



## B.P.H. Limits Metric Equivalents in (kw)

MODEL	R.P.M.					
	3560	2900	1780	1450	1180	880
V200-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)
V200-M	124.5 (92.8)	101.5 (75.7)	62.2 (46.4)	50.7 (37.8)	41.3 (30.8)	30.8 (23)
V200-L	204 (152.2)	168.3 (125.6)	102 (76.1)	83.1 (62)	67.7 (50.5)	50.5 (37.7)

\*PUMPS ARE SUPPLIED WITH RAISED FACE FLANGES AS STANDARD. FLAT FACED FLANGES ARE AVAILABLE AS AN OPTION.

# Heavy Duty Design Features for Total Range Of Process Services

(Model V200 M illustrated. Same features apply to V200 S and L)

\* ANSI B-73.2

All EAGLE V200 pumps have 150 lb. raised face flanges as standard except 13" casings which have 300 lb. raised face flanges as standard.

## BEARINGS

All hydraulic loads are carried by the pump -not the motor. Standard C-Face motors can be used. Double row angular contact thrust bearing and shaft lock nut for high load carrying capability and minimum shaft end play. Regreasable bearings are standard, greased for life bearings available as an option.

## HEAVY DUTY SHAFT

Designed for toughest services. Insures long seal and bearing life, low maintenance. Maximum .002 inch deflection at stuffing box face at maximum loads.

## RENEWABLE SHAFT SLEEVE

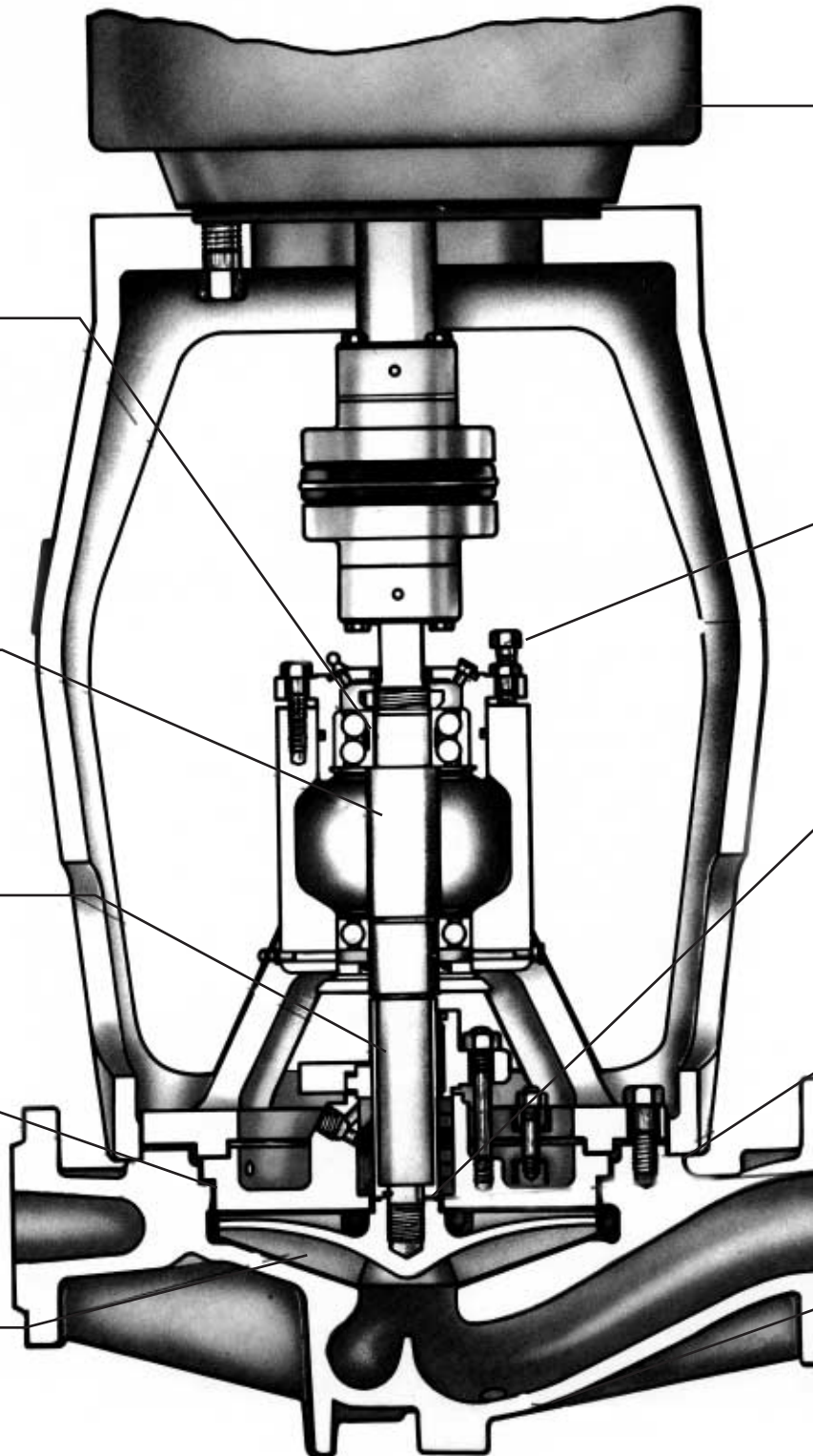
Hook-type shaft sleeve is free to expand with temperature variation. A drive pin assures positive rotation.

## POSITIVE SEALING AT CASING POINT

With fully confined gasket. Alignment fit protected from liquid.

## FULLY OPEN IMPELLER

With back pump-out vanes - best design for solids handling, stringy material and corrosives! abrasives.



## SPECIFICATIONS EAGLE V200 PUMPS

### CASING:

Heavy walled casing with ribbed suction and discharge nozzle, supports pump and driver. Fully confined gasket. Piping and driver not disturbed when back pull-out assembly is removed for inspection or maintenance. 1 50 lb. R.F. flanges standard, with 300 lb. R.F. flanges on 13" casings, /8 corrosion allowance. Drain opening optional.

### 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 dynamically 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 or adapter with bolts or studs and nuts. Cover can be supplied with jacket for cooling stuffing box chamber in high temperature services or can also be used for heating viscous or high freezing point liquids. Packed box has 5 rings or packing and a lantern ring. Quench gland with an auxiliary ring of packing is standard. Gland is split for easy removal. Tapped openings to lantern ring permit external flushing or lubrication as required.

Stuffing box is completely machined for mechanical seal installation, either originally or as a field conversion. Inside, outside, tandem or balanced seals, with any required gland, restricting bushing and flushing lines furnished to meet individual sealing problems. Gland completely confines stationary seat gasket.

### BEARING FRAME:

Heavy cast iron construction. Seals on each end fully protect bearings from contamination while allowing for expansion or contraction of air caused by ambient temperature change.

### HEAVY DUTY SHAFT:

Designed for maximum .002" (0.05 mm) deflection at stuffing box face at maximum loads. All bearing and packing surfaces ground to less than 32 micro-inches. Threads where shaft screws into impeller are sealed by Teflon O-ring. Choice of shaft with or without sleeve for utmost flexibility in solving sealing problems.

### SHAFT SLEEVE:

Renewable shaft sleeve is positively driven hooktype, with one end free to expand with temperature variations. Teflon O-ring protects shaft against liquid contact. Low cost shaft sleeve eliminates expensive shaft replacement and permits application 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 on shaft with locknut and washer, and in bearing housing to carry radial and any unbalanced axial thrust load. All bearing fits are precision bored. Inboard bearing is single row, deep groove. Outboard bearing is double row, deep groove angular contact.

### STANDARD NEMA C-FACE NORMAL THRUST MOTOR

### PARTS INTERCHANGEABILITY

Most parts such as shaft, sleeve, impeller, stuffing box, etc. are interchangeable with EAGLE Model A100 Horizontal ANSI pumps.

### EXTERNAL IMPELLER ADJUSTMENT FOR CONTINUOUS HIGH PERFORMANCE

Original high efficiency maintained by simple adjustment resulting in long-term energy savings.

### POSITIVE LIQUID SEALING AT IMPELLER

Impeller threaded on shaft with Teflon O-ring in controlled compression for positive seal -no bolt to corrode or gaskets to leak.

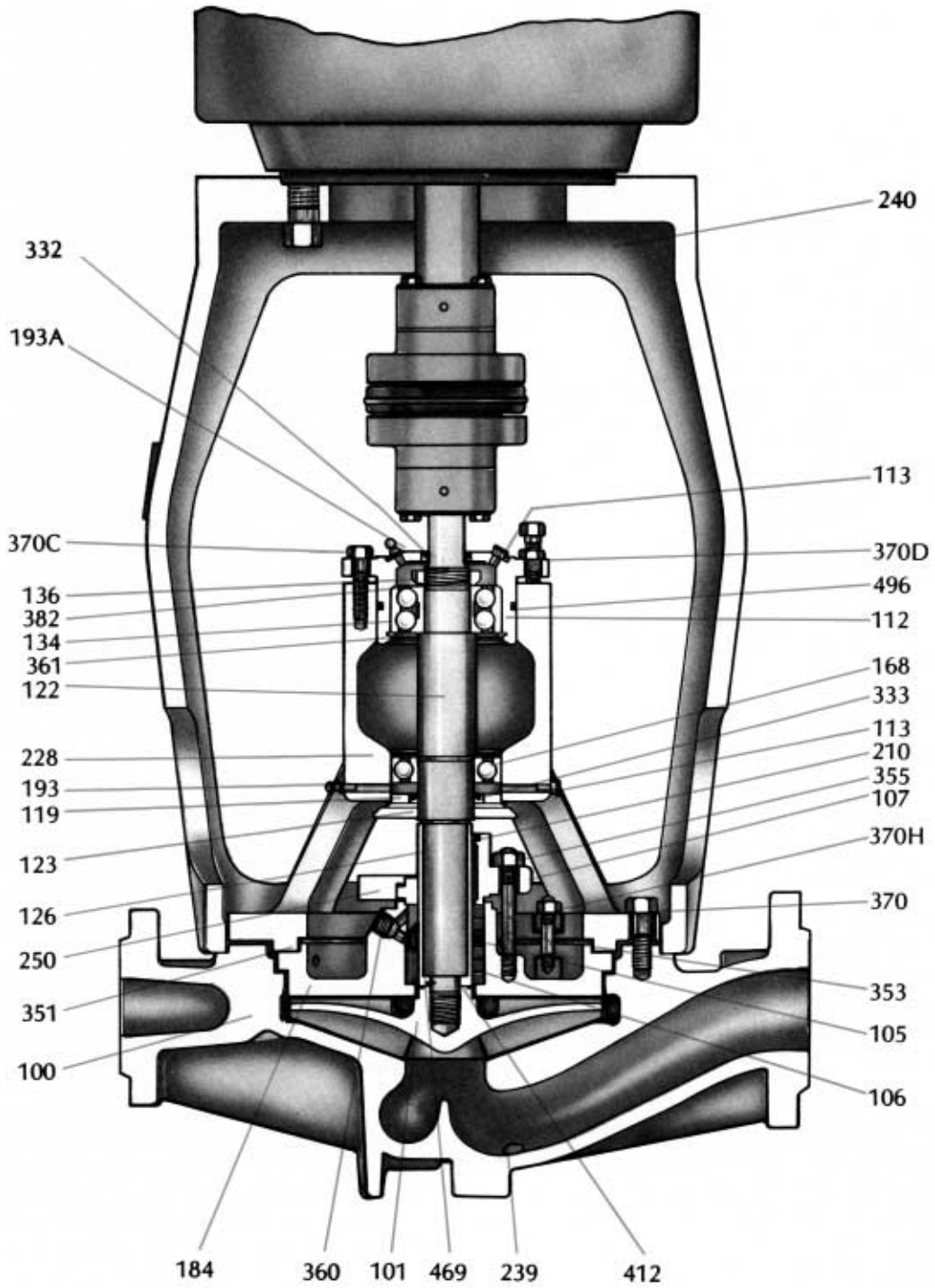
### ACCURATE MACHINED FITS MAINTAIN POSITIVE ALIGNMENT

Achieved by rabbeted joints for long seal life and maximum hydraulic efficiency.

### CARBON STEEL

Minimum standard. Casing, impeller and stuffing box cover will be supplied in carbon steel as a minimum. Higher metallurgies are available as an option.

# Sectional View Model V200



## Parts List and Materials of Construction

Item No.	No. Reqd. Per Pump	Part Name	MATERIAL							
			Carbon Steel	316SS	CD4MCu	C-20	Monel	Nickel	Hast.	
100	1	Casing	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
101	1	Impeller	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
105	1	Lantern Ring	Stainless Steel							
106	1 Set	Stuffing Box Packing	Teflon							
107	1	Gland (Packed Box)	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
112	1	Ball Bearing - Outboard	Steel							
113	2	Grease Relief Fitting	Steel							
119	1	Bearing End Cover	Steel							
122	1	Pump Shaft (Less Sleeve)	4340	316		C-20	Monel	Nickel	Hast.	
122A	1	Pump Shaft (With Sleeve)	4340			316				
123	1	Deflector	Stainless Steel							
126	1	Shaft Sleeve	316		CD4M	C-20	Monel	Nickel	Hast.	
134	1	Bearing Housing	Cast Iron							
136	1	Bearing Locknut	Steel							
168	1	Ball Bearing - Inboard	Steel							
184	1	Stuffing Box Cover - Standard	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
184A	1	Stuffing Box Cover - Jacketed	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
193	1	Grease Fitting	Steel							
193A	1	Grease Fitting	Steel							
210	1	Gland Packing	Teflon							
228	1	Bearing Frame	Cast Iron							
239	1	Drain Plug	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
240	1	Motor Support	Ductile Iron							
250	1	Mechanical Seal Gland	C S	316	CD4M	C-20	Monel	Nickel	Hast.	
332	1	Grease Seal - Outboard	Buna Rubber							
333	1	Grease Seal - Inboard	Buna Rubber							
351	1	Gasket - Casing	Asbestos							
353	2 or 4	Gland Stud	304				Monel			
355	2 or 4	Gland Stud Nut	304				Monel			
360	1	Mechanical Seal Gland Gasket	Asbestos							
361	1	Retaining Ring - Bearing Housing	Steel							
370	4 - 24	Capscrew Brg Hsg to Casing	Steel							
370C	3 - 4	Capscrew - Bearing Housing	Steel							
370D	3 - 4	Capscrew - w/Jam Nut Impeller Adjust.	Steel							
370H	2	Stud & Nut-Cover to Brg Hsg	304							
372	4	Capscrew Motor Support	Steel							
382	1	Bearing Lockwasher	Steel							
383	1	Mechanical Seal	Steel							
412	1	"O" Ring - Impeller	Teflon							
418	2 - 3	Capscrew - Jacking	304							
469	1	Drive Pin - Shaft Sleeve	420							
496	1	"O" Ring - Bearing Housing	Buna Rubber							

\*Available in Hast-B or Hast-C Material.

### 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
Monel	Cast Monel ASTM A744 Gr. M-35 / Wrought Monel ASTM B164 CL-A
Nickel	Cast Nickel ASTM A744 Gr. CZ-100 / Wrought Nickel ASTM B160

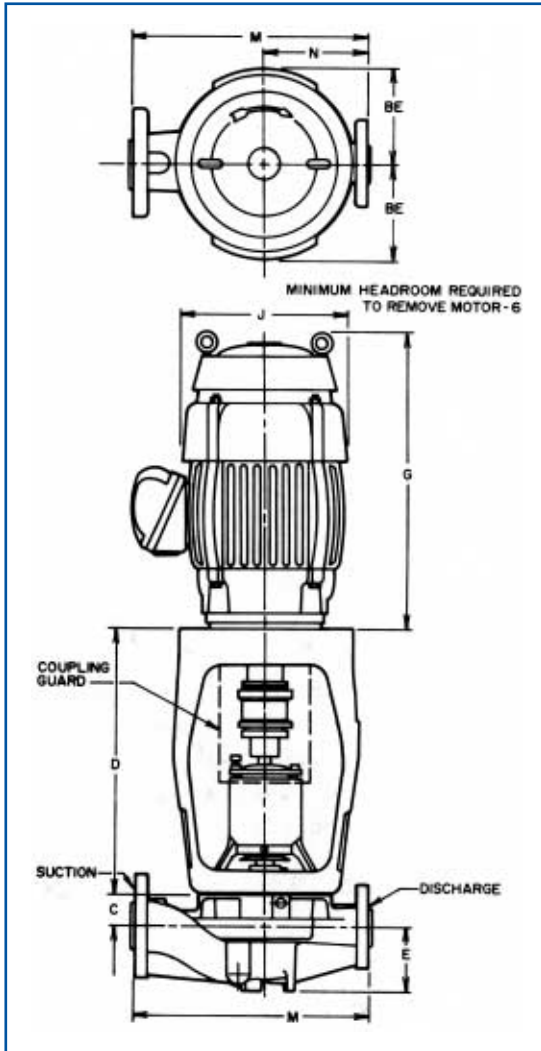
### Code Material and Specification

Hast-C	Cast Hast-C ASTM A744 Gr. CW-12M Wrought Hast-C ASTM B336
Hast-B	Cast Hast-B ASTM A744 Gr. CW-12M Wrought Hast-B ASTM B335
Cast Iron	Cast Iron ASTM A48
SAE 4340	Wrought Steel ASTM A322 Gr. 4340
C-20	Wrought Iron Carpenter 20 CB3 ASTM B473
304	Wrought Stainless ASTM A276 Type 304

# DIMENSIONS Model V200

All dimensions in inches & (mm). not to be used for construction.

## Tapped Opening



Pump Model V200 S is illustrated above. Dimensions apply to V200 S, M & L, and are applicable for both 150 and 300 lb. raised face flanges. Flanges are drilled to ANSI dimensions.

PURPOSE	NO OF TAPS	TAP SIZE	
		S	M & L
Lantern Ring Connections +	2	1/4"	3/8"
Quench Gland Connections	2	1/4"	1/4"
Discharge Gauge Connection	1	1/4"	3/8"
Suction Gauge Connection	1	1/4"	3/8"
Casing Drain (with asbestos gasket)	1	3/8"	3/8"
Alternate Casing Drain	1	1/2"	1/2"
Stuffing Box Drain +	1	1/2"	1/2"
Stuffing Box Jacket Connection	2	1/4"	3/8"
Seal Bypass Connections	2	1/4"	3/8"

+ SUPPLIED AS STANDARD

## Dimensions Determined By Motor

NEMA FRAME	D			APPROXIMATE		MOTOR WEIGHT
	V200 S	V200 M	V200 L	G	J	
143 TC	17 <sup>15/16</sup> (456)			12 (305)	8 (203)	45 (20)
145 TC	17 <sup>15/16</sup> (456)	23 <sup>7/8</sup> (606)		13 (330)	8 (203)	60 (27)
182 TC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)		15 (381)	10 (254)	65 (29)
184 TC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)	25 (635)	16 (406)	11 (279)	85 (39)
213 TC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)	25 (635)	19 (483)	11 (279)	120 (54)
215 TC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)	25 (635)	19 (483)	11 (279)	140 (64)
254 TC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)	25 (635)	24 (610)	13 (330)	200 (91)
256 TC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)	25 (635)	24 (610)	13 (330)	230 (104)
284 TSC	19 <sup>13/16</sup> (503)	25 <sup>9/16</sup> (649)	25 (635)	24 (610)	15 (381)	280 (127)
286 TSC		25 <sup>9/16</sup> (649)	25 (635)	25 (635)	15 (381)	330 (150)
324 TSC		25 <sup>7/8</sup> (657)	26 <sup>3/4</sup> (679)	27 (686)	17 (432)	425 (193)
326 TSC		25 <sup>7/8</sup> (657)	26 <sup>3/4</sup> (679)	28 (711)	17 (432)	475 (215)
364 TSC		25 <sup>7/8</sup> (657)	26 <sup>3/4</sup> (679)	30 (762)	19 (483)	645 (293)
365 TSC		25 <sup>7/8</sup> (657)	26 <sup>3/4</sup> (679)	31 (787)	19 (483)	695 (315)
404 TSC		25 <sup>7/8</sup> (657)	26 <sup>3/4</sup> (679)	33 (838)	22 (559)	975 (442)
405 TSC		25 <sup>7/8</sup> (657)	26 <sup>3/4</sup> (679)	33 (838)	22 (559)	1100 (499)

## Dimensions Determined By Pump

MODEL	PUMP SIZE	SUCTION SIZE	DISCH. SIZE	CASING CLASS	C	E	M	N	BE	WT. LESS MOTOR LBS. (KG)
V200 S	2 x 1 1/2 - 6	2	1 1/2	6	1 3/4 (44)	4 1/16 (103)	15 (381)	6 3/4 (171)	6 3/8 max. (162)	190 (86)
	3 x 1 1/2 - 6	3	1 1/2	6	1 5/8 (41)	5 (127)	15 (381)	6 3/4 (171)		200 (91)
	3 x 2 - 6	3	2	6	1 7/8 (48)	4 7/8 (124)	17 (432)	7 1/2 (191)		205 (92)
	2 x 1 1/2 - 8	2	1 1/2	8	1 11/16 (43)	4 3/4 (121)	17 (432)	8 (203)		200 (91)
	3 x 1 1/2 - 8	3	1 1/2	8	1 3/4 (44)	5 5/16 (135)	19 (483)	8 3/8 (213)		210 (95)
V200 M	2 x 1 1/2 - 10	2	1 1/2	10	2 (51)	5 (127)	19 (483)	9 1/4 (235)	10 max. (254)	370 (168)
	3 x 1 1/2 - 10	3	1 1/2	10	2 (51)	5 5/16 (135)	19 (483)	9 1/4 (235)		380 (172)
	3 x 2 - 10	3	2	10	2 1/16 (52)	5 1/2 (140)	20 (508)	9 1/2 (241)		390 (177)
	4 x 3 - 10	4	3	10	2 5/16 (56)	6 1/16 (170)	25 (635)	11 1/2 (292)		430 (195)
V200 L	3 x 1 1/2 - 13	3	1 1/2	13	2 (51)	5 15/16 (151)	24 (610)	11 1/2 (292)	10 max. (254)	490 (222)
	3 x 2 - 13	3	2	13	2 1/16 (52)	5 15/16 (151)	24 (610)	11 1/2 (292)		520 (236)
	4 x 3 - 13	4	3	13	3 1/4 (83)	7 1/16 (178)	28 (711)	13 (330)		550 (249)
	6 x 4 - 13	6	4	13	3 3/8 (86)	8 1/2 (216)	30 (762)	14 (356)		640 (290)

## Eagle Pump & Compressor Ltd.

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