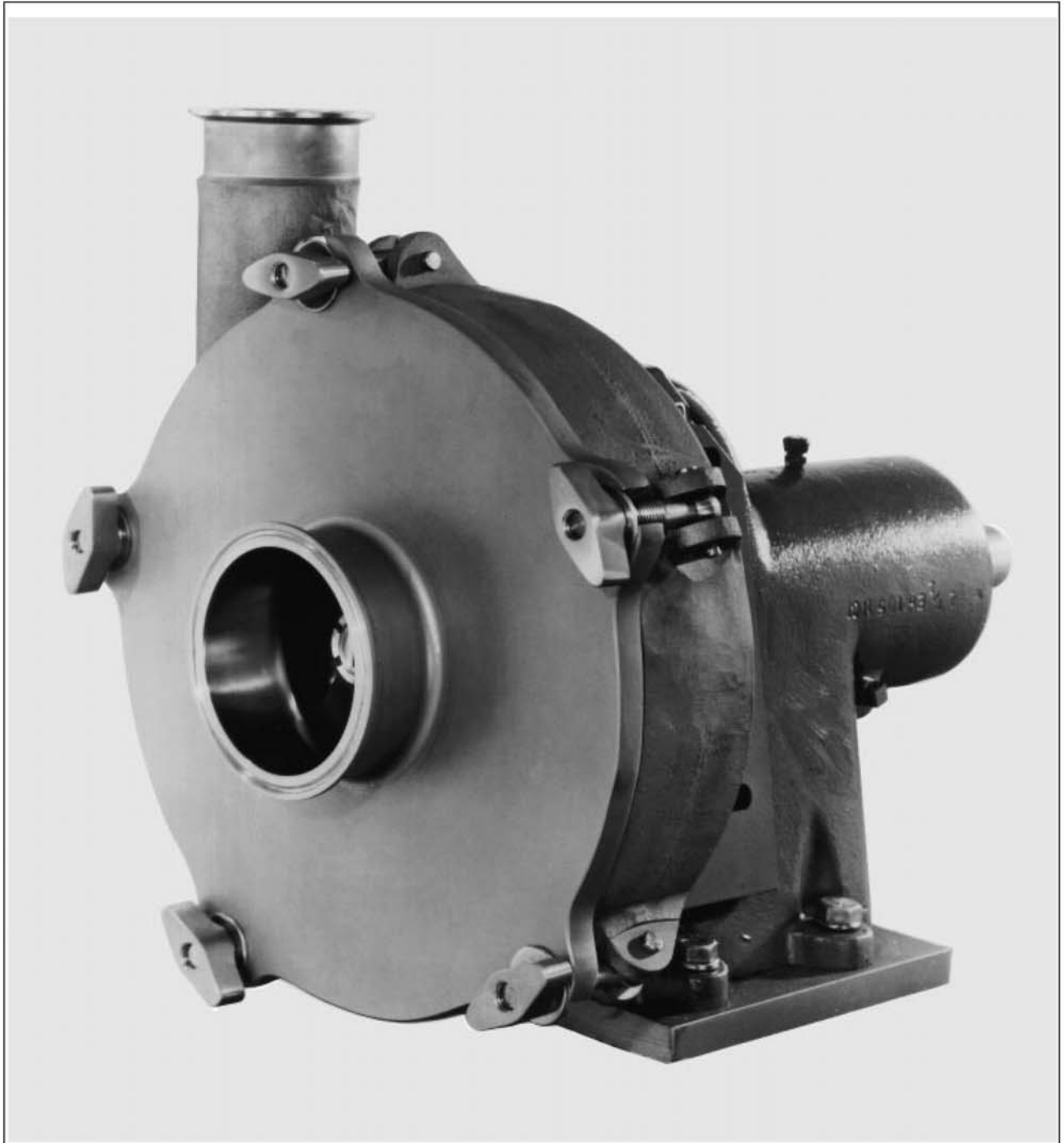


# ZMT 3EH and 4EH EH Series Centrifugal



1010 Shaw Road, Stockton, CA 95215 • (209) 547-1965 • FAX (209) 464-8140

Out of the box thinking for better performance.

## Pumps you can depend on to meet your special pumping requirements.

These high capacity, low shear pumps are available in three models with five different seals, and your choice of Tri-Clamp®, Bevel Seat or Flanged Connections.

The ZMTEH Series base-mounted centrifugal pumps have been designed and built to give years of trouble-free, dependable service. All wetted parts are cast type 316L SS which provides maximum corrosion resistance. EH casing and front cover are furnished with polished ID finish providing a sanitary environment, and glass beaded OD as standard. In addition, the casing cover is held on by heavy duty bolts. This enables the pump to withstand stresses from misalignment or shock pressures in your system.

Our one-piece “bow-tie” impeller design is ideal for delicate products including latex, whole vegetables, protein slurries and enzymes. The impeller gently scoops your product through the pump instead of beating it. This means less foaming and no compromises with product integrity.

The impeller is securely attached to the threaded shaft by means of a lock nut / cotter pin retainer design. However, when necessary, the impeller can be easily removed without the use of special tools, making any cleaning almost effortless.

## Seal Selection

Your choice of five different seal types to meet your application.

### Seal #D - Carbon Rotary

The Type D seal utilizes the hydraulic pressure developed by the pump to achieve the sealing action. This process or product pressure is evenly exerted against an “O” ring contained in a groove in the seal ring. The pressure forces the “O” ring against the face of the collar, providing a static seal, eliminating product leakage along the shaft.

Typical applications include: dairy products, cream style corn, tomatoes, beverages, etc. Also applicable for acid cleaning solutions and detergents.

### Seal #E - Water Cooled Rotary

The Type E seal is fully contained within a stuffing box. Its double end design permits the sealant to be controlled to the drain. This seal uses the same hydraulic balance as the Type D seal described above.

Ideal for slurries, heavy duty vacuum applications (to 28" Hg), tacky products or products at temperatures up to and exceeding 212°F.

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### **Seal #A - Packing Gland**

This is a compressed type seal, utilizing a stuffing box, split gland and rings of square cross-section packing. Sealing is accomplished by axially compressing the packing rings in the stuffing box through use of the split gland. Compression is achieved by tightening the two hex nuts that hold the gland to the stuffing box. When tightened, the nuts force the gland into the stuffing box, and compress the packing. As the packing is compressed, the packing rings flow outward to seal against the bore of the stuffing box, and inward to seal against the pump shaft.

This seal is recommended for chemical processing applications of nonabrasive and nonabrasive / non-congealing products.

### **Seal #C - Packing Gland With Water**

The Type C seal is similar to the Type A in many ways. The basic difference is that a lantern ring and flush passage are incorporated into the packing and stuffing box allowing the contact area between the pump shaft and packing rings to be flushed.

It can be applied in vacuum installations over 20" Hg and in systems pumping hot liquids over 212°F, or tacky products.

### **Seal #B - Latex**

The Type B seal is similar to the Type C except the lantern ring is located further from the pump casing. In other words, the Type B has a greater number of packing rings between the lantern ring and the casing than does the Type C.

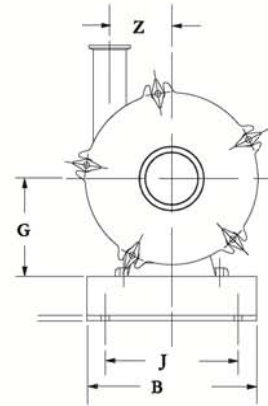
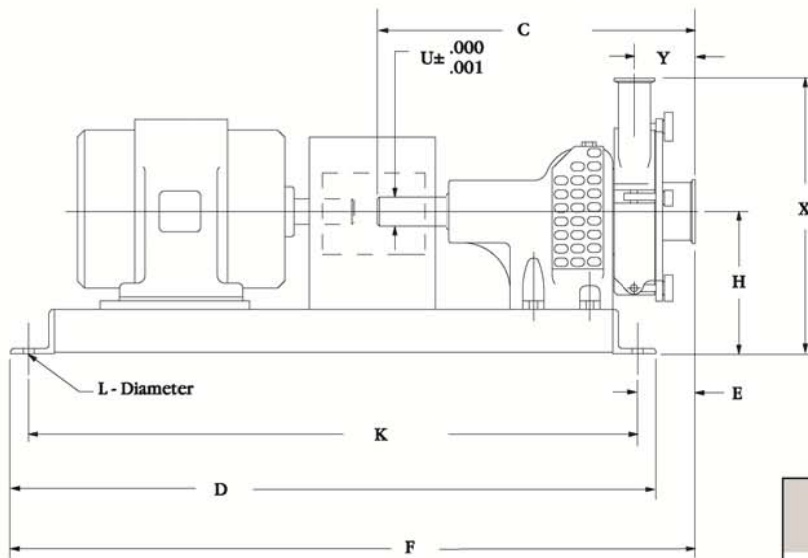
This seal is ideal for latex and similar products where a reduction of flush fluid leakage into the product being pumped is important to minimize product dilution.

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# Dimensions

Dimensions are approximate and for guidance only. On applications where exact dimensions are required, request a certified print from ZMt, Inc. Keyslot Information: Model 3EH - "B" Woodruff Key  $\frac{5}{16}$ " wide.  
Model 4EH - "C" Woodruff Key  $\frac{3}{8}$ " wide.

- ❶ Tri-Clamp® Connections    ❷ Threaded Bevel Seat Connections  
❸ A.S.A. 150# Raised Face Flanged Connections.



	Max. Impeller Diameter (inches)	Max. Capacity (at 1750 rpm)
3EH	11 $\frac{1}{4}$	to 145' Hd, 600 gpm
4EH	13 $\frac{9}{16}$	to 194' Hd, 1000 gpm

## 3EH

## 4EH

	254T 256T	213T 215T	254T 256T	284T 286T	324T	254T 256T	284T 286T	324T 326T	364T
E❶	2 $\frac{7}{8}$	3 $\frac{5}{32}$	3 $\frac{17}{32}$	3 $\frac{17}{32}$	3 $\frac{11}{32}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$	4 $\frac{3}{8}$
E❷	2 $\frac{7}{8}$	3 $\frac{5}{32}$	3 $\frac{17}{32}$	3 $\frac{17}{32}$	3 $\frac{11}{32}$	4 $\frac{5}{16}$	4 $\frac{5}{16}$	4 $\frac{5}{16}$	4 $\frac{5}{16}$
E❸	3 $\frac{13}{16}$	4 $\frac{3}{32}$	4 $\frac{15}{32}$	4 $\frac{15}{32}$	4 $\frac{9}{32}$	4 $\frac{1}{4}$	4 $\frac{1}{4}$	4 $\frac{1}{4}$	4 $\frac{1}{4}$
F❶	43 $\frac{5}{8}$	41 $\frac{29}{32}$	46 $\frac{9}{32}$	46 $\frac{9}{32}$	52 $\frac{9}{32}$	50 $\frac{5}{16}$	54 $\frac{5}{16}$	54 $\frac{5}{16}$	64 $\frac{5}{16}$
F❷	43 $\frac{5}{8}$	41 $\frac{29}{32}$	46 $\frac{9}{32}$	46 $\frac{9}{32}$	52 $\frac{9}{32}$	50 $\frac{1}{4}$	54 $\frac{1}{4}$	54 $\frac{1}{4}$	64 $\frac{1}{4}$
F❸	44 $\frac{9}{16}$	42 $\frac{27}{32}$	47 $\frac{7}{32}$	47 $\frac{7}{32}$	53 $\frac{7}{32}$	50 $\frac{3}{16}$	54 $\frac{3}{16}$	54 $\frac{3}{16}$	64 $\frac{3}{16}$
H	9 $\frac{1}{4}$	9 $\frac{1}{8}$	10 $\frac{1}{4}$	10	12	14	14	14	13
J	12 $\frac{1}{2}$	11 $\frac{1}{2}$	14	13	15	14	18	18	20
K	39 $\frac{1}{2}$	37 $\frac{1}{2}$	41 $\frac{1}{2}$	41 $\frac{1}{2}$	47 $\frac{7}{8}$	44 $\frac{7}{8}$	48 $\frac{7}{8}$	48 $\frac{7}{8}$	58 $\frac{7}{8}$
L	3 $\frac{3}{4}$	3 $\frac{3}{4}$	11 $\frac{1}{16}$	3 $\frac{3}{4}$	7 $\frac{7}{8}$	7 $\frac{7}{8}$	7 $\frac{7}{8}$	7 $\frac{7}{8}$	7 $\frac{7}{8}$
B	15 $\frac{1}{4}$	15 $\frac{1}{4}$	16 $\frac{3}{4}$	16 $\frac{1}{4}$	17 $\frac{3}{4}$	16 $\frac{3}{4}$	20 $\frac{3}{4}$	20 $\frac{3}{4}$	23 $\frac{3}{4}$
D	42	40	44	44	50	47	51	51	61
G	6 $\frac{1}{4}$	6 $\frac{1}{8}$	6 $\frac{1}{4}$	7	8	9	9	9	9

	Inlet	Outlet	C❶	C❷	C❸	Y❶	Y❷	Y❸	X❶	X❷	X❸	Z	U
3EH	4	3	20 $\frac{11}{32}$	20 $\frac{11}{32}$	21 $\frac{7}{32}$	3 $\frac{27}{32}$	3 $\frac{27}{32}$	4 $\frac{23}{32}$	9 $\frac{1}{4}$	9 $\frac{1}{4}$	10 $\frac{3}{16}$	4 $\frac{17}{32}$	1 $\frac{3}{8}$
4EH	6	4	25 $\frac{11}{32}$	25 $\frac{9}{32}$	25 $\frac{7}{32}$	4 $\frac{29}{32}$	4 $\frac{27}{32}$	4 $\frac{25}{32}$	10 $\frac{7}{8}$	10 $\frac{13}{32}$	10 $\frac{3}{4}$	5 $\frac{1}{4}$	1 $\frac{11}{16}$

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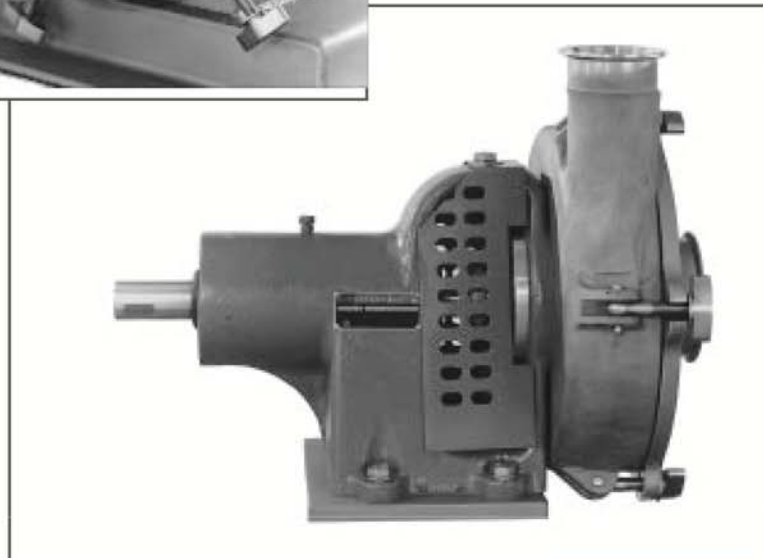


# Ordering Information

A sample part number for a ZMT EH Centrifugal Pump is shown below. The model describes the pump only. The base, motor, coupling and coupling guard, etc. must be specified separately.

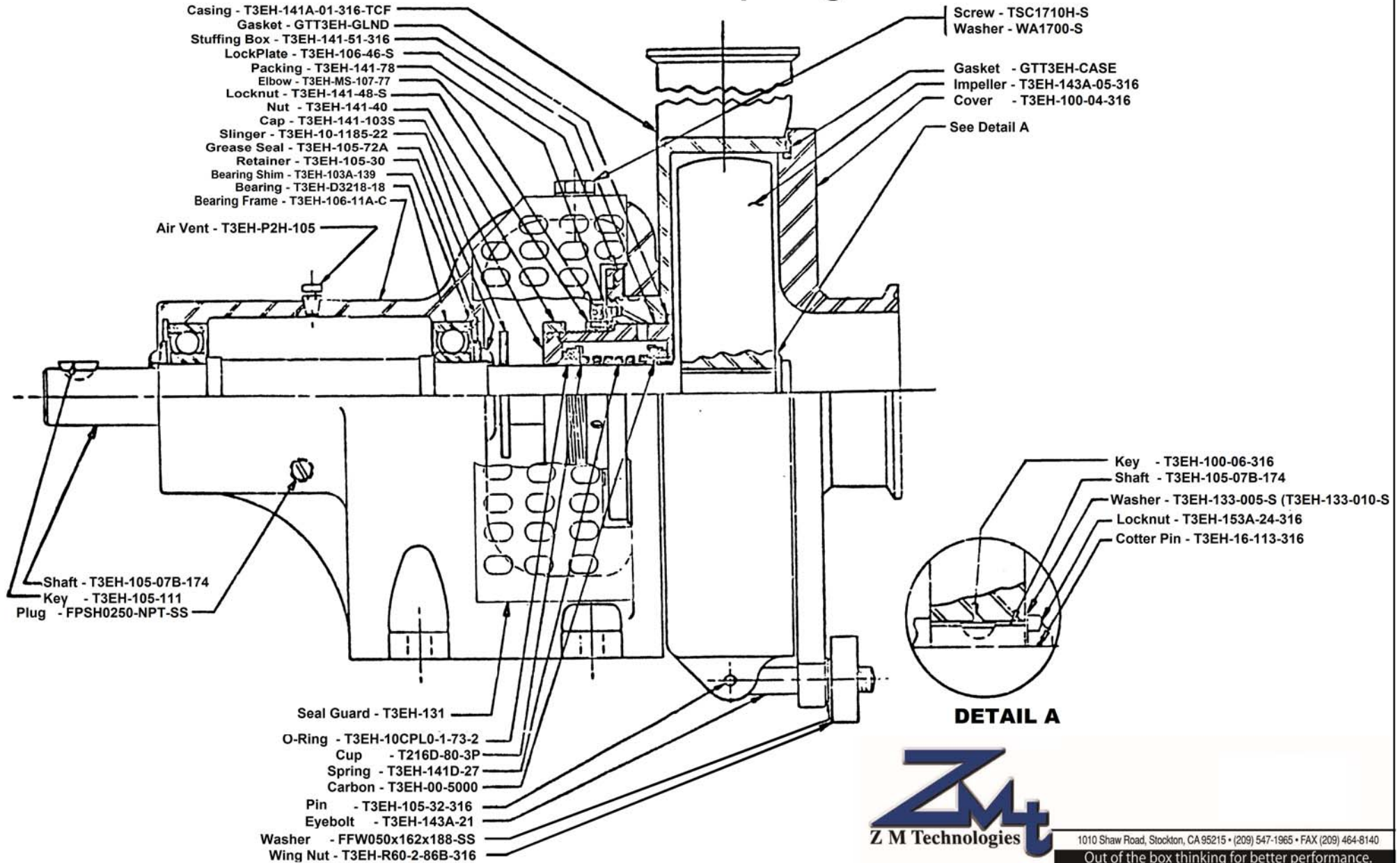
## New Pumps - PART NUMBER SYSTEM

<b>T</b>	<b>3EH - P</b>	<b>-</b>	<b>01</b>	<b>E</b>	<b>1</b>	<b>-</b>	<b>2</b>	<b>-</b>	<b>1150</b>	<b>-</b>	<b>316</b>
<u>Pump Manufacture or Category</u> T - Tri-Clover®	<u>Pump Model</u> 3EH 4EH		<u>Seal Configuration Code</u> 00-No Seals 01-Single O-Ring/SS 02-Double O-Ring/SS 03-Sgl O-Ring/Zirconium 04-Dbl O-Ring/Zirconium  11-Single Seal -CBN/Ceramic 12-Single Seal -CBN/SiC 13-Single Seal -CBN/TC 14-Single Seal -Ceramic/Ceramic 15-Single Seal -SiC/SiC 19-Single Seal -TC/TC  21-Dbl Seal -2x CBN/Ceramic 22-Dbl Seal -2x CBN/SiC 23-Dbl Seal -2x CBN/TC 24-Dbl Seal -Ceramic/Ceramic/CBN 25-Dbl Seal -SiC/CBN/SiC/CBN 26-Dbl Seal -SiC/SiC/CBN/SiC 27-Dbl Seal -SiC/SiC/SiC/SiC 28-Dbl Seal -TC/TC/CBN/TC 29-Dbl Seal -TC/TC/TC/TC	<u>Elastomer</u> A - Aflas B - Buna E - EPR K - Kalrez N - Neoprene S - Silicone T - Teflon V - Viton	<u>Fittings</u> 1 - Tri-Clamp 2 - I-Line 3 - Bevel (Acme) 4 - ANSI Flange  <u>Bodies with Flush</u> 6 - Tri-Clamp w/flush 7 - I-Line w/flush 8 - Bevel (Acme) w/flush 9 - ANSI Flange w/flush 0 - Other w/flush				<u>Impeller Trim</u> 11-1/2" Trim (for Centrifugal pump only)	<u>Shaft Material/Location</u> 1 - 316SS 2 - CBN Steel 3 - 17-4 Dbl H1150 4 - 17-4 Dbl H1150 w/Isolators	<u>Pump/Trim Material</u> AY - Alloy 88 BZ - Brass/Bronze CD - CD4MCU CT - CD4 Trimmed CI - Cast Iron SS - 316SS ZY - Z-Alloy (Nitronic 60)



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# ZMT T3EH Pump Diagram





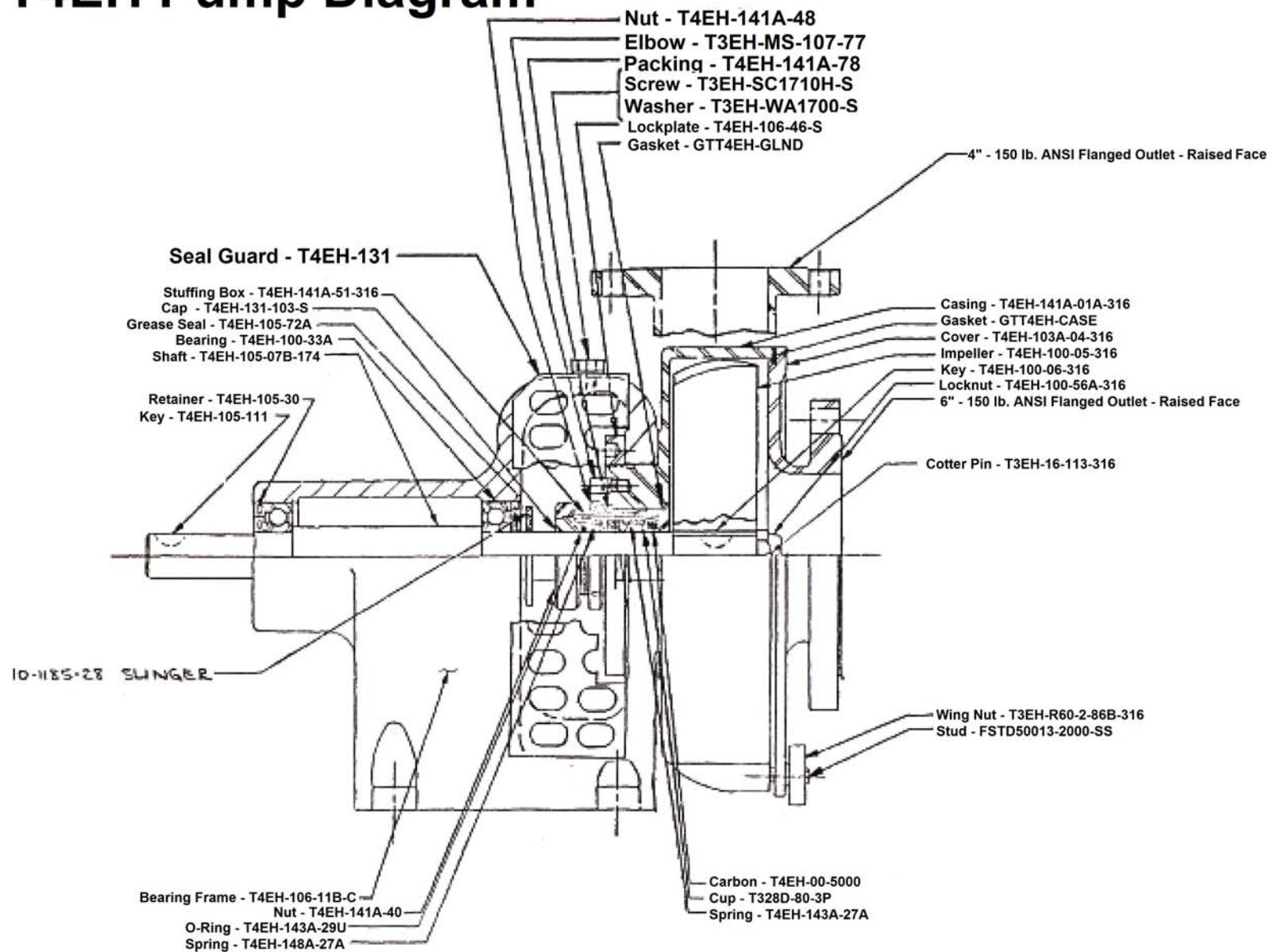
Subject to Change without notice. F.O.B. Stockton, CA      Part numbers provided by ZMT, Inc. are for standard seals.

Pump Parts List - Tri-Clover® 3EH-Series Centrifugal Pump			
DESCRIPTION	Material	Reference Part No.	ZMT PART NUMBER
Complete 3EH Pump w/Flanges	C.I./316SS		T3EH-P-21E1-1-1125SS
Complete 3EH Pump w/Tri-Clamp	C.I./316SS		T3EH-P-21E4-1-1125SS
Impeller	316SS	3EH-100-05-316	T3EH-100-05-316
Casing	316SS	3EHM-141A-01-316	T3EH-141A-01-316
Shaft	17-4 PH	2-1/2EH-105-07B-316	T3EH-105-07B-316
Stuffing Box	316SS	2-1/2EH-141-51-316	T3EH-141-51-316
Bearing Seal Complete	Buna/316SS	2-1/2EH-105-72A	T3EH-105-72A
Bearing Oil Seal Only	Buna		T3EH-105-72OS
Locknut-Impeller	316SS	2-1/2EH-153A-24-316	T3EH-153A-24-316
Locknut-Stuffing Box	316SS	2-1/2EH-141-48-S	T3EH-141-48-S
Cap Seal	316SS	2-1/2EH-141-103-S	T3EH-141-103-S
Locknut-Casing	316SS	2-1/2EH-106-46-S	T3EH-106-46-S
Retainer	316SS	2-1/2EH-106-30	T3EH-106-30
Case Gasket	EPDM	3EH-100-20	T3EH-100-20
Stuffing Box Gasket	C.N.A.	2-1/2EH-141-79	T3EH-141-79
Packing – EPR	EPDM	2-1/2EH-141-78	T3EH-141-78
Bearing Shim - .005	316SS	2-1/2EH-143A-139-005	T3EH-143A-139-005
Bearing Shim - .010	316SS	2-1/2EH-143A-139-010	T3EH-143A-139-010
Impeller Shim - .005	316SS	SP328-133-005	T3EH-133-005-S
Impeller Shim - .010	316SS	SP328-133-010	T3EH-133-010-S
Pin	304SS	2EJ105-52-S	T3EH-2EJ105-52-S
Eye Bolt	304SS	2-1/2EH-143-A21-S	T3EH-143-A21-S
Nut-Casing	316SS	R60-2-86B-S	T3EH-R60-2-86B-S
Key - Impeller	304SS	2BEH-100-06-316	T3EH-100-06-316

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# ZMT T4EH Pump Diagram



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## Pump Parts List - Tri-Clover® 4EH-Series Centrifugal Pump

DESCRIPTION	Material	Reference Part No.	ZMT PART NUMBER
Complete 4EH Pump w/Flanges	C.I./316SS		T4EH-P-21E1-1-1356SS
Complete 4EH Pump w/Tri-Clamp	C.I./316SS		T4EH-P-21E4-1-1356SS
Impeller	316SS	4EH-100-05A-316	T4EH-100-05A-316
Casing	316SS	4EH-141A-01-316SS	T4EH-141A-01-316
Shaft	17-4 PH	4EH-105-07B-316L	T4EH-105-07B-316L
Stuffing Box	316SS	4EH-141-51A-316L	T4EH-141A-51-316
Bearing Seal Complete	Buna/316SS	4EH-105-72A	T4EH-105-72A
Bearing Oil Seal Only	Buna		T4EH-105-72OS
Locknut-Impeller	316SS	4EH-100-56A-316	T4EH-100-56A-316
Locknut-Stuffing Box	316SS	4EH-141-48-S	T4EH-141-48-S
Cap Seal	316SS	4EH-141-103-S	T4EH-141-103-S
Locknut-Casing	316SS	4EH-106-46-S	T4EH-106-46-S
Retainer	316SS	4EH-105-30	T4EH-105-30
Case Gasket	EPDM	4EH-100-20	T4EH-100-20
Stuffing Box Gasket	C.N.A.	4EH-106-79	T4EH-106-79
Packing – EPR	EPDM	4EH-141-78	T4EH-141-78
Bearing Shim - .005	316SS	4EH-143A-139-005	T4EH-143A-139-005
Bearing Shim - .010	316SS	4EH-143A-139-010	T4EH-143A-139-010
Impeller Shim - .005	316SS	4EH-133-005	T4EH-133-005-S
Impeller Shim - .010	316SS	4EH-133-010	T4EH-133-010-S

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Each ZMT item is warranted to be free from manufacturing defects for a period of one(1) year from the date of shipment, providing it has been used as recommended and in accordance with recognized piping practice, and providing it has not been worn out due to severe service, such as encountered under extremely corrosive or abrasive conditions.

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