MAGNATEX®
Pumps, Inc.

"when
leakage
is not
an option"

Magnatex® History

- Started 1985
- Early Magnetic Drive Pump Supplier
- Extensive Installation List
- Engineering, Applications, Service
- Ready to Ship Pumps and Parts

MAGNATEX® Pumps, Inc.

Magnatex® Mission

- Highest Level of Customer Service
- Lowest Total Cost of Ownership
- Easiest & Lowest Cost of Repair
- Most Cost Effective Solutions
- Advanced Ability to Engineer Solutions

MAGNATEX® Pumps, Inc.

Industries Served

- Chemical Process
- Pulp & Paper
- Water & Wastewater Treatment
- Food & Beverage

MAGNATEX® Pumps, Inc.

Industries Served

- Pharmaceutical
- Electronics
- Cosmetics
- Textiles
- General Industrial

MAGNATEX® Pumps, Inc.

Mag-Drive Advantages

- Zero Leakage: No Emissions
- Zero Leakage: No Product Loss
- Zero Leakage: No Housekeeping
- No seals: Reduced Repair
- Lower Overall Cost of Ownership
- Peace of Mind

MAGNATEX® Pumps, Inc.

Mag-Drive Evaluation

- Overall Cost of Ownership
  - Initial price
  - Frequency of repair
  - Cost of time
  - Yearly operation cost

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Mag-Drive Evaluation

- Ease & Cost of Repair
  - Special tools
  - Shims
  - Spacers
  - Part interchangeability
  - Special training

MAGNATEX® Pumps, Inc.

Mag-Drive Evaluation

- Compare Efficiencies
- Include Internal Circulation Losses
- Client $ Savings
- Proper Sizing

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Mag-Drive Evaluation

- The Supplier Matters
  - Correctly designed and manufactured
  - Properly applied and sized
  - Availability of pumps and parts

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Mag-Drive Evaluation

- The Representative Matters
  - Customer service
  - Emergency response
  - Repair assistance

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ANSI vs Sub-ANSI

10 GPM @ 140 FT	10 GPM @ 140 FT
ANSI 1 1/2x1x6	MP 1x3/4x6
2.5 BHP @ 8%	1.6 BHP @20%
8600 HRS @ $.09	8600 HRS @ $.09

MAGNATEX® Pumps, Inc.

ANSI vs Sub-ANSI

	ANSI	Sub-ANSI	Savings
Initial Cost	$6,400	$3,100	$3,300
Cost/Year	$2,600	$1,600	$1,000
Total	$9,000	$4,700	$4,300

MAGNATEX® Pumps, Inc.

The 1800 RPM Myth

- No Seals
- No Shaft to Rotating Assembly Contact
- Beta Sintered SiC
- No Wear
- No Thrust Loads Very Low Radial Loads
- Extremely Hard 300,000 HRS vs 25,000 HRS

MAGNATEX® Pumps, Inc.

The 1800 RPM Myth

- Affinity Laws
  - 5” @ 3600 RPM
  - 10” @ 1800 RPM
- Constant Torque
- Increased Cost

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Industry Trends

- Sub-ANSI Sizes
- New EPA Regulations
- Expanded Markets
  - Smaller sizes
  - Reduced repair
  - Lower cost
  - Performance capabilities

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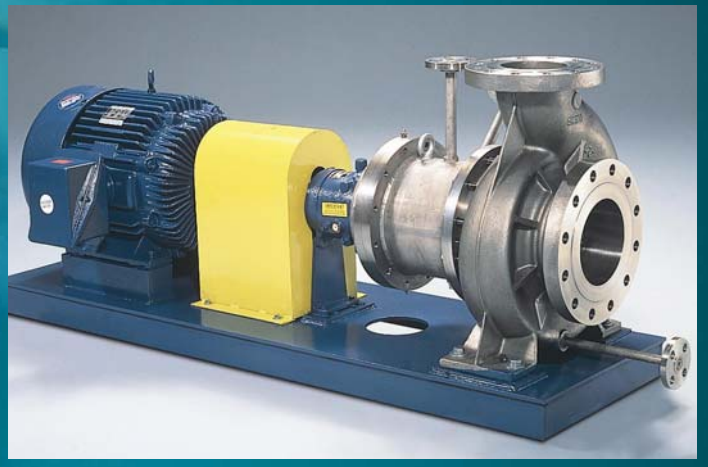
ANSI Metallic Models



- MAXP Series
  - Frame-mounted
  - Centrifugal
- MPL Series
  - Close-coupled
  - Centrifugal

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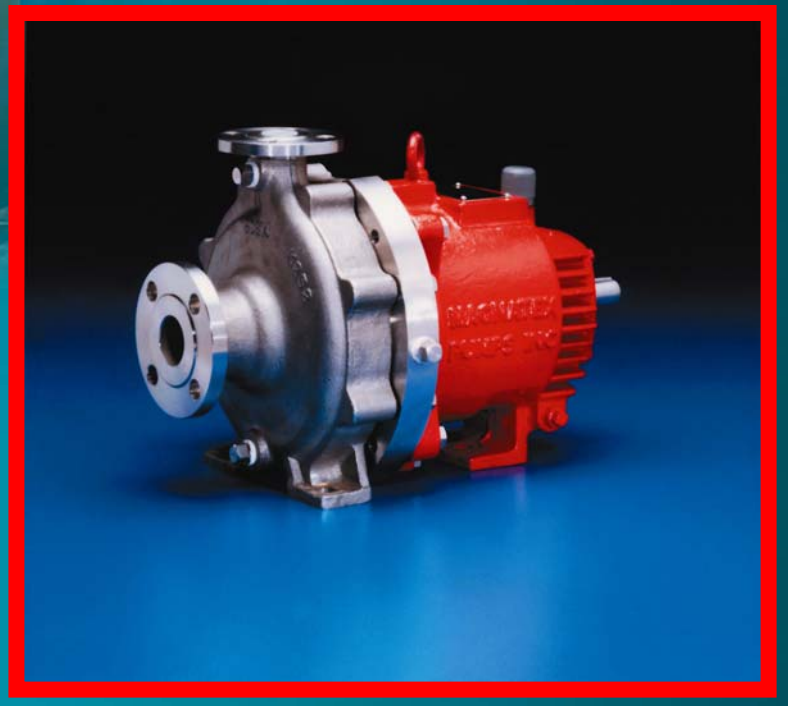
ANSI Metallic Models

MAXP



MPL

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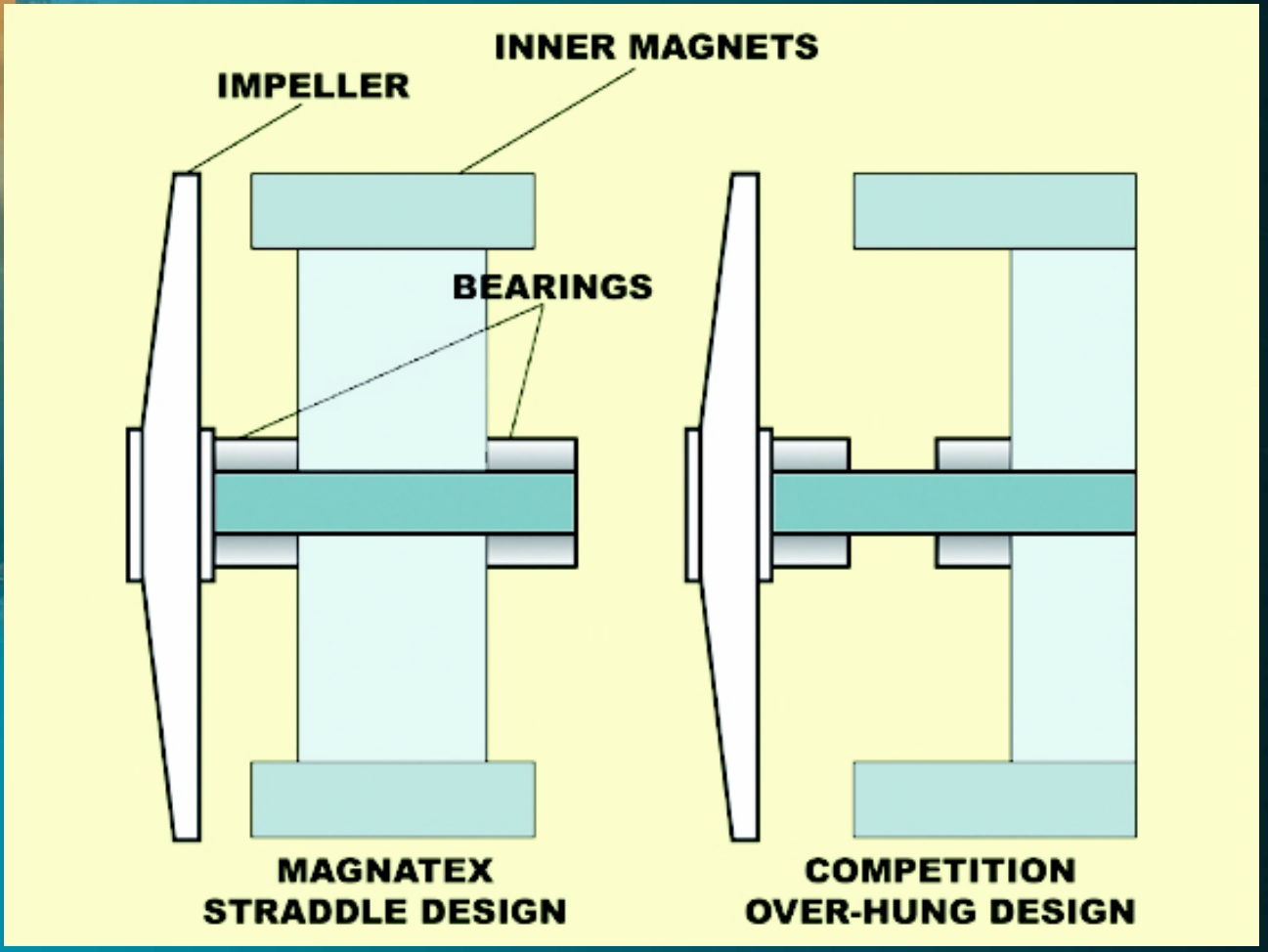
Magnatex Bearing Design



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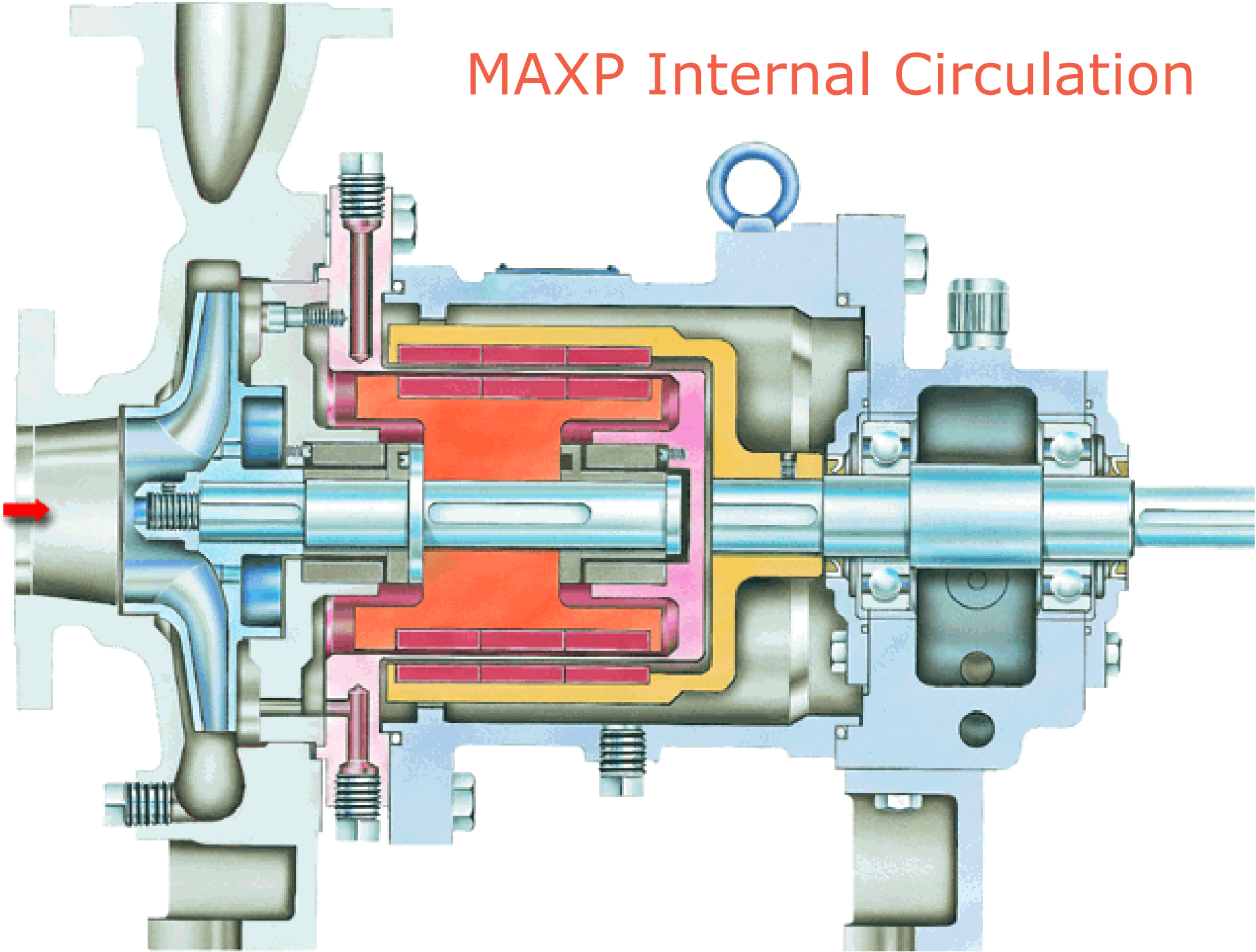
MAXP Internal Circulation



ANSI Metallic Pump Specs

	MAXP	MPL
Max Flow	2000 GPM	340 GPM
Max Head	470 FT	400 FT
Temperature	-150 - 750°F	-100 - 300°F
Max Pressure	285 PSIG	225 PSIG
Max Power	200 HP	20 HP
Flanges	150/300# RF	150# RF

MAGNATEX® Pumps, Inc.

MAXP Materials

	MAXP	MPL
Standard	316 SS	316 SS
Options	304 SS Alloy 20 Hastelloy Monel	Alloy 20 Hastelloy

MAGNATEX® Pumps, Inc.

Key Benefits

	MAXP	MPL
Straddle Bearing	X	X
Beta Sintered SiC	X	X
Outer Magnet Ring	X	X
Large Inner Clearances	X	X

MAGNATEX® Pumps, Inc.

Key Benefits

	MAXP	MPL
Anti-Contact Ribs	X	X
Thick Rear Casing	X	X
Double Pull-Out Design	X	
Single Static Gasket	X	X

MAGNATEX® Pumps, Inc.

MAXP Options

- External Flush
- RTD or TC Port
- Leak Detect Port
- Heat/Cool Jackets
- Secondary Containment
- Power Monitor

MAGNATEX® Pumps, Inc.

MAXP Special Testing

- Hydrostatic
- Performance
- Noise
- Magnet Torque
- Vibration

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Sub-ANSI Models

MP	Close Coupled Centrifugal
MPH	Close Coupled Centrifugal
MPT	Close Coupled Regenerative Turbine Vane
MMP	Close Coupled Centrifugal

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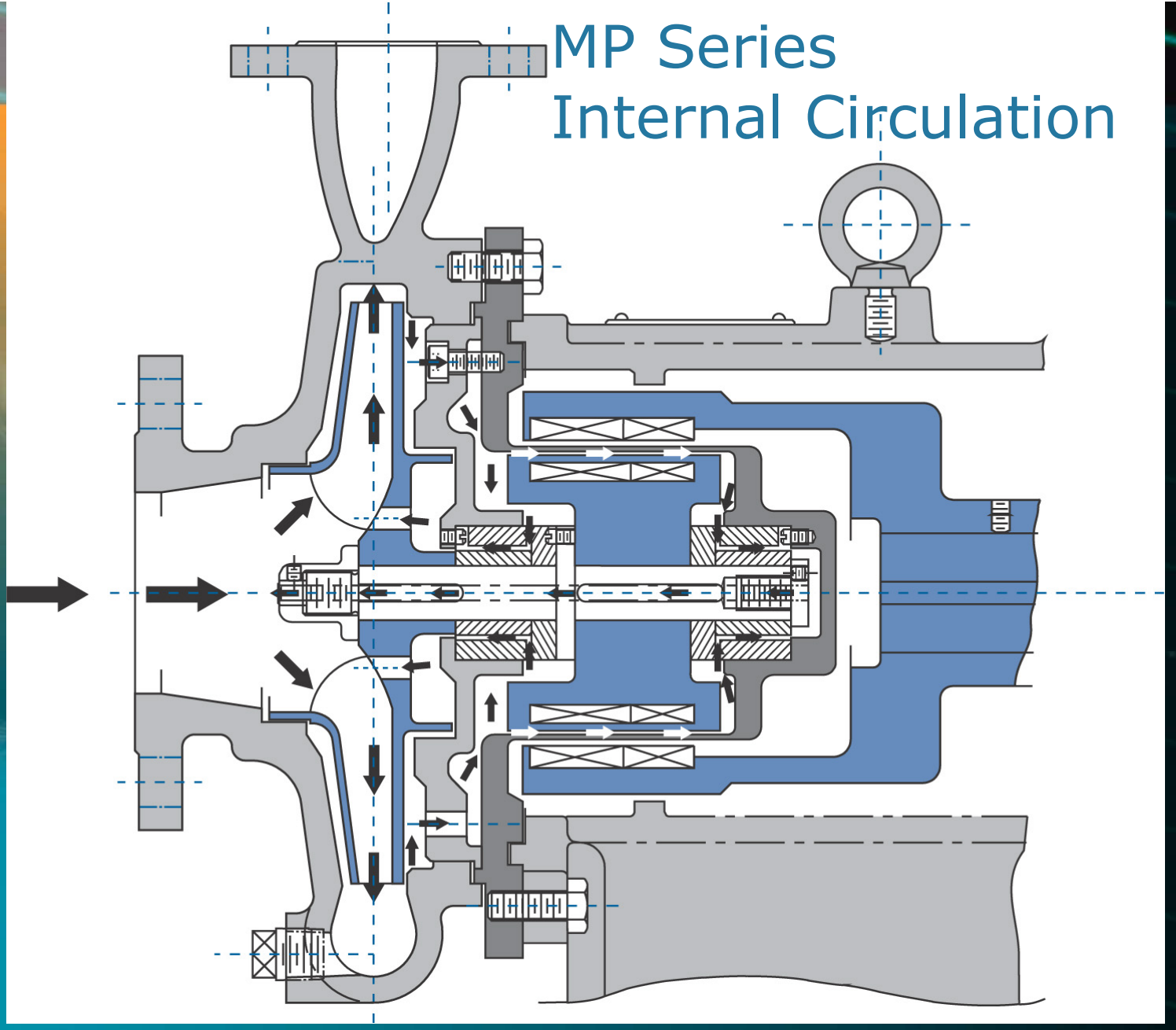
Pumps, Inc.

MP Series
Internal Circulation



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MP/MPH Series

	MP	MPH
Flow	150 GPM	150 GPM
Head	190 FT	190 FT
Temperature	-40 to 300°F	-40 to 535°F
Pressure	150 PSIG	150 PSIG
Power	5 HP	5 HP
Flanges	150 LB RF	150 LB RF

MAGNATEX® Pumps, Inc.

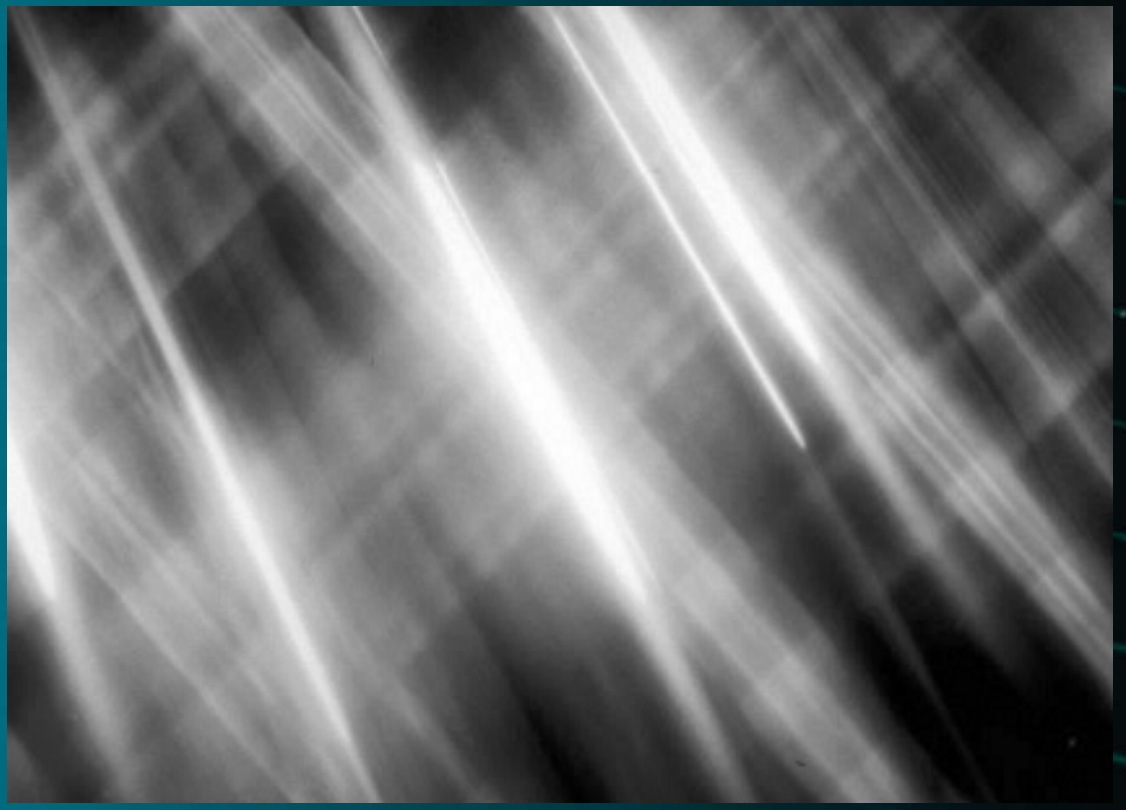
MPT and MMP

	MPT	MMP
Flow	20 GPM	20 GPM
Head	340 FT	90 FT
Temperature	-40 to 300°F	-100 to 300°F
Pressure	225 PSIG	85 PSIG
Power	5 HP	¾ HP
Flanges	150 LB RF/NPT	150 LB RF/NPT

MAGNATEX® Pumps, Inc.

MP Series Materials

- MP
  - 316 SS
  - Alloy 20
  - Hastelloy
- MPH
  - 316 SS
- MPT
  - 316 SS
- MMP
  - 316 SS



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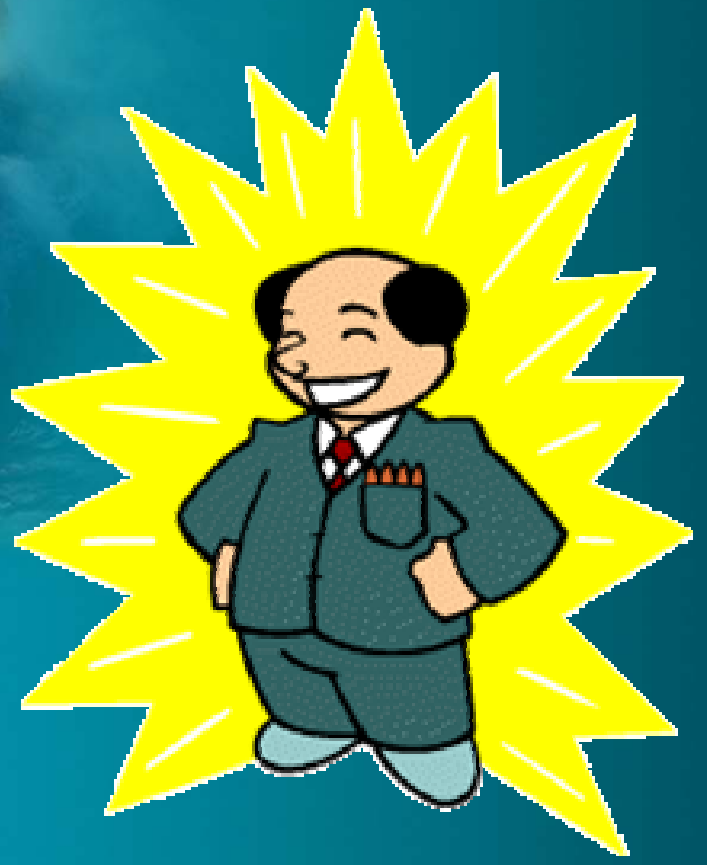
MP Series Key Benefits



- Straddle Bearing
- Beta Sintered SiC
- Outer Magnet Protection Ring
- Substantial Inner Clearances

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MMP Series Pricing

- MMP 11 ½" x ½" $1,420
- MMP 21 1" x ¾" $1,538
- MMP 22 ¾" x ¾" $1,920
- 150 LB RF Adder $60

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Texel® Lined Pumps

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Fluoropolymer Materials

	Exceptions to Resistance
PFA	**Bromine (Possibly)**
ETFE	**Strong Oxidizers (Nitric Acid)** **Organic Bases (Amines)** **Sulfonic Acid**
PVDF	**Hot Alkalis / Sulfuric Acid** **Alkali Metals** **Strong Solvents**

MAGNATEX® Pumps, Inc.

Abrasion Resistance

- Degree of Polymerization
  - Higher DP is Better
  - PFA>ETFE>PVDF
- Molding Process
  - Transfer Compression Molding>
  - Injection Molding>
  - Roto Molding

MAGNATEX® Pumps, Inc.

Molding Processes

Type	Materials	Advantage	Disadvantage
Injection Molding	PFA ETFE PVDF	High Production	No Large Sizes
Roto-Lining	ETFE	No Patterns Required	Thin Layer Non-Uniform Higher Permeability
Transfer Compression Molding	PFA	No Stress Cracks Seamless Low Permeability	

MAGNATEX® Pumps, Inc.

Texel® Models

- ME Series
  - Sub-ANSI
  - Close-Coupled
  - Centrifugal
- MTA Series
  - ANSI
  - Close-Coupled
  - Centrifugal

MAGNATEX® Pumps, Inc.

ME Series Pump Specs

	MER	MEH
Max Flow	90 GPM	30 GPM
Max Head	100 FT	140 FT
Temperature	32 to195 ºF	32 to195 ºF
Max Pressure	70 PSIG	70 PSIG
Max Power	3 HP	3 HP
Flanges	125 LB RF	125 LB RF

MAGNATEX® Pumps, Inc.

ME Series Materials

	MER	MEH
Wet End	ETFE	PVDF
Rear Casing	C-ETFE + FRP	C-PVDF + FRP
Thrust Bearing	Al_2O_3	Al_2O_3
Bearing	C-PTFE	C-PTFE
Shaft	Al_2O_3	Al_2O_3

MAGNATEX® Pumps, Inc.

ME Series Material Options

	MER	MEH
Thrust Bearing	SiC	SiC
Bearing	SiC	SiC
Shaft	SiC	SiC

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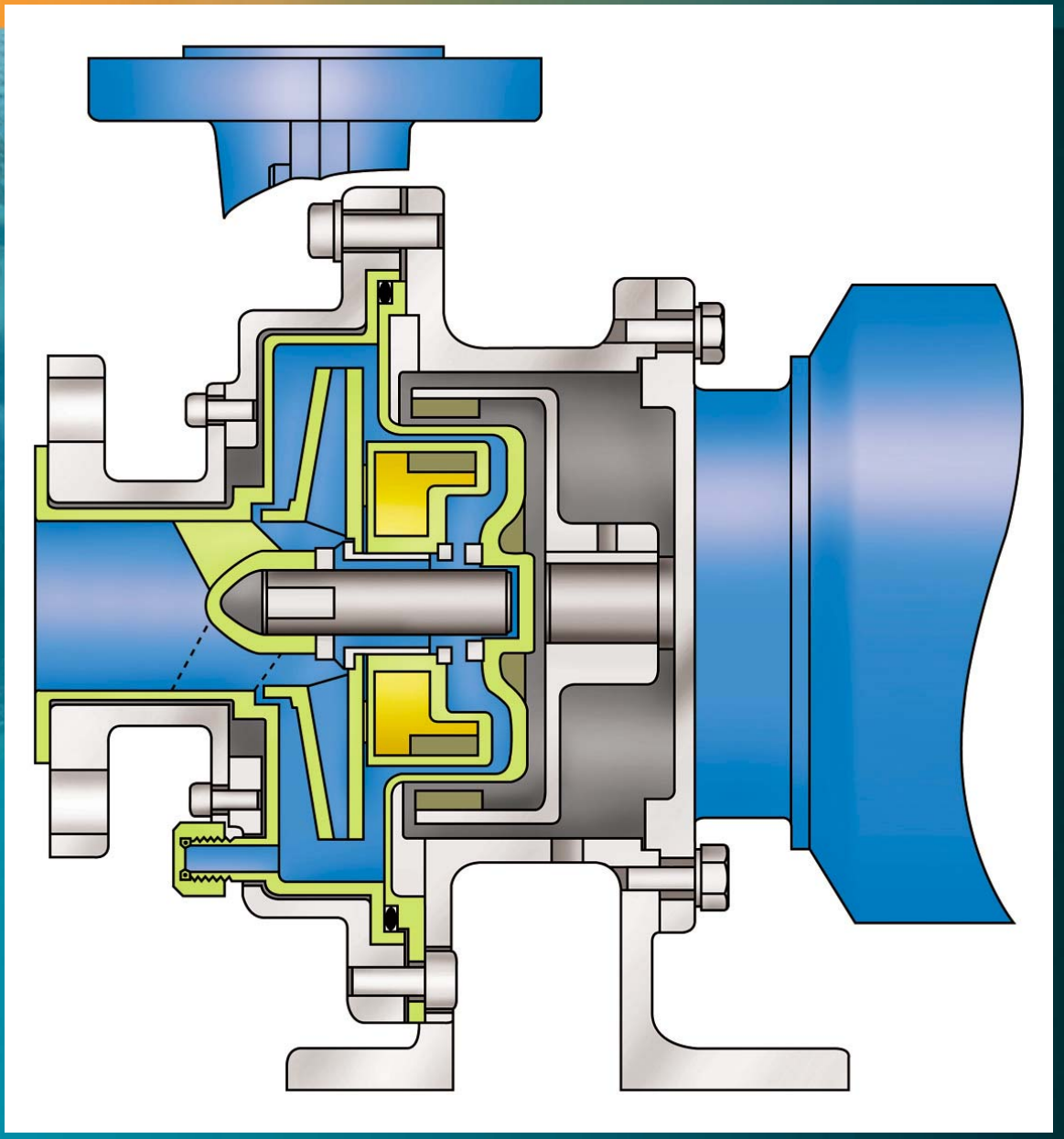

MER /MEH Series

MAGNATEX® Pumps, Inc.

MTA Pump Specs

	MTA Series
Max Flow	320 GPM
Max Head	195 FT
Temperature	32 TO 250 ºF
Max Pressure	150 PSIG
Max Power	25 HP
Flanges	150 LB RF

MAGNATEX® Pumps, Inc.

MTA Series Materials

	Standard	Options
Wet End	PFA	
Rear Casing	PFA + EP	
Thrust Bearing	SiC	
Bearing	C-PTFE	G-PTFE, SiC
Shaft	SiC	

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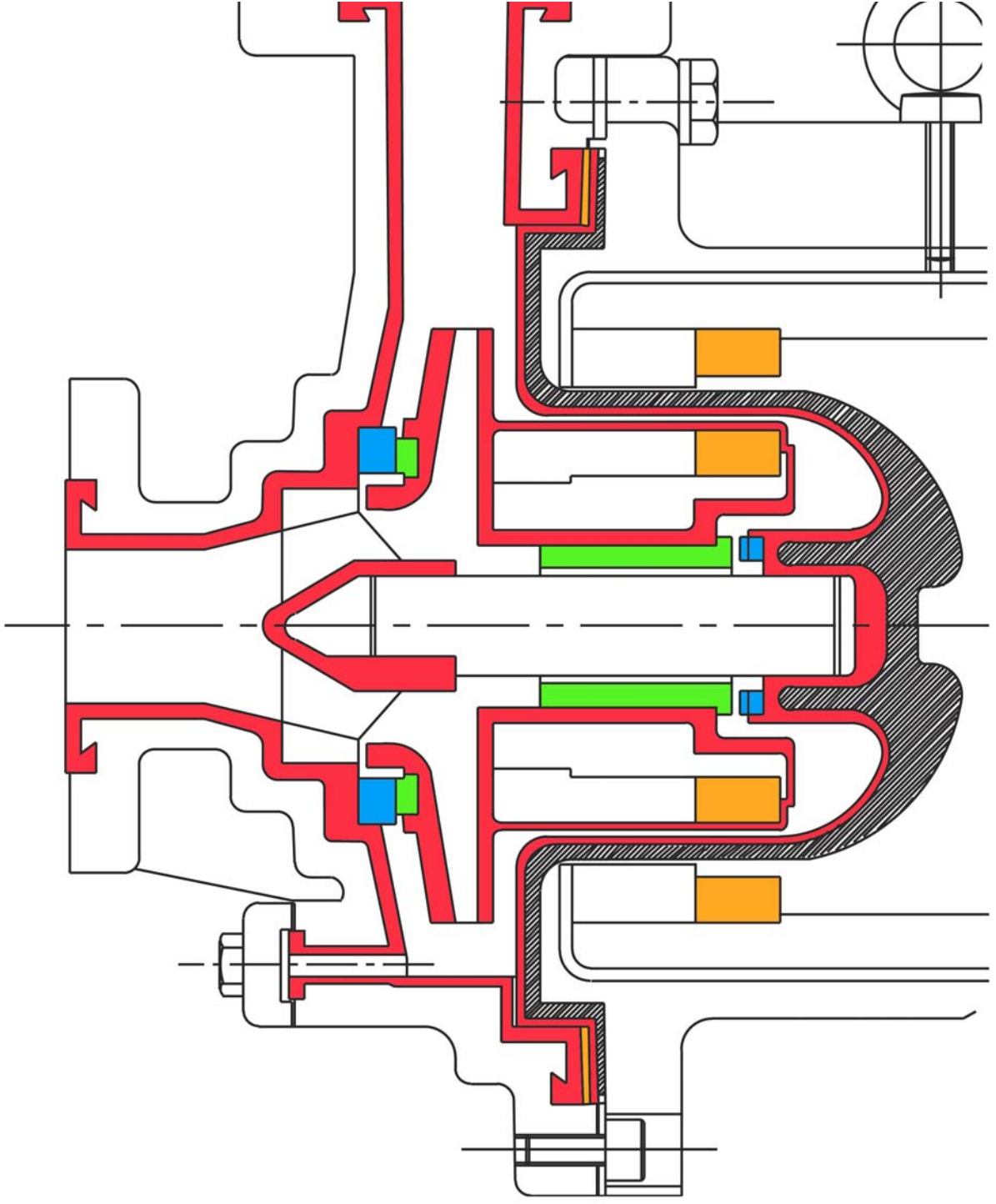
MTA Cross Section



MAGNATEX® Pumps, Inc.

Key Benefits ME & MTA Series

- Simple Design and Construction
- Non-Metallic Rear Casing
- Large Internal Clearances
- Close-Coupled Design

MAGNATEX® Pumps, Inc.

Key Benefits MTA Series

- All PFA Construction
- Texel® Transfer Compression Molding Process
- Dovetail Molded Casing
- ANSI B 73.3 Specs

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