

CRANE

Crane Pumps & Systems

Split Case Product Training

Jon Palmer
Application Engineer



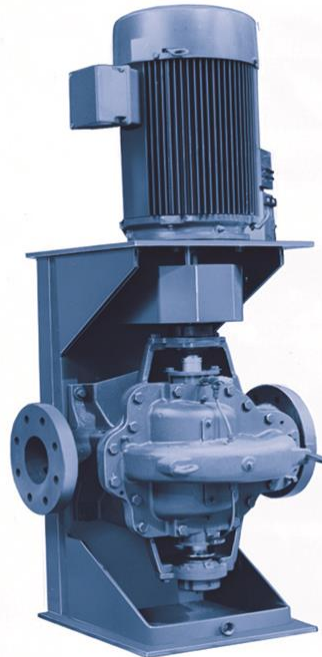
CRANE

PUMPS & SYSTEMS

Split Case Pumps

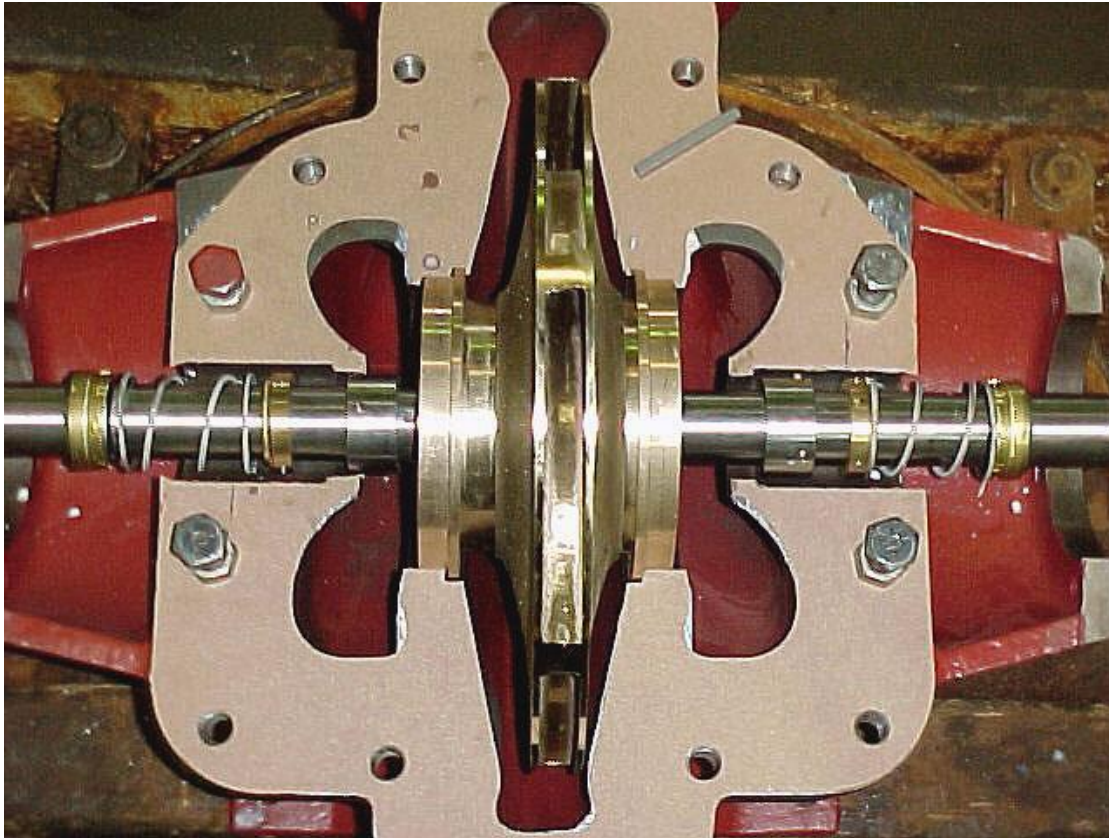
Everyone. Everywhere. On Time Every Time.

WEINMAN[®] DEMING[®]



Horizontal Split Case Pumps

Everyone. Everywhere. On Time Every Time.



Split Case Design Features

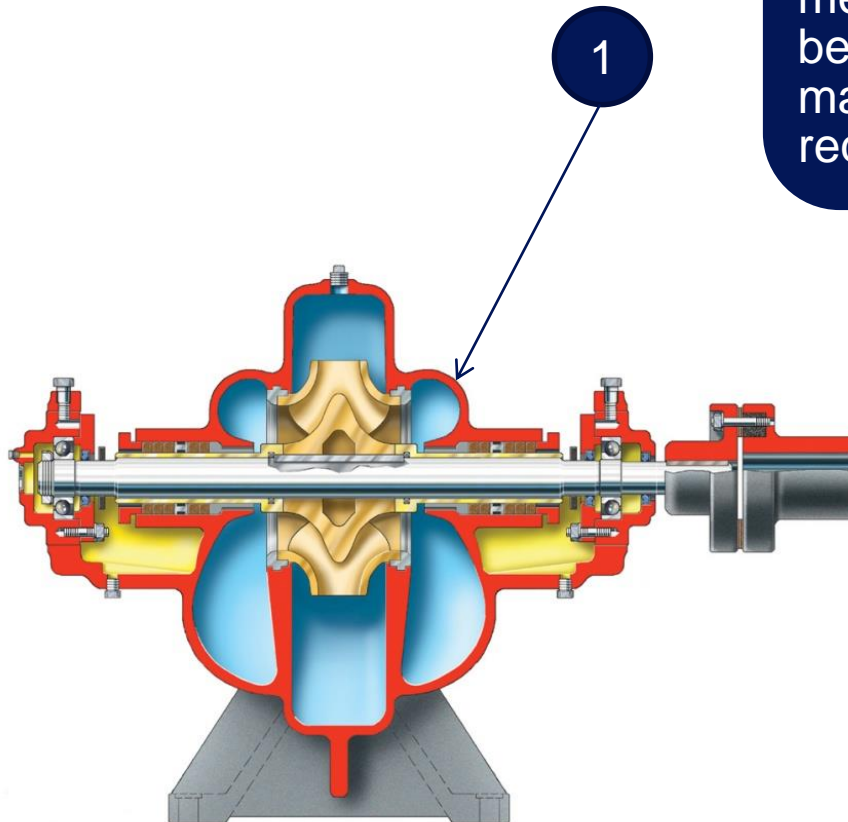
- Pumping is in-line, making piping layout easy
- Units are inherently hydraulically balanced
- Rotation can be changed
- Pumps can be horizontally and vertically mounted
- Low NPSH
- Easy maintenance on bearings, seals and impeller
- Designed for high pumping efficiencies and high volume
- Dependable service

Product Features

Horizontal Split Case Pumps

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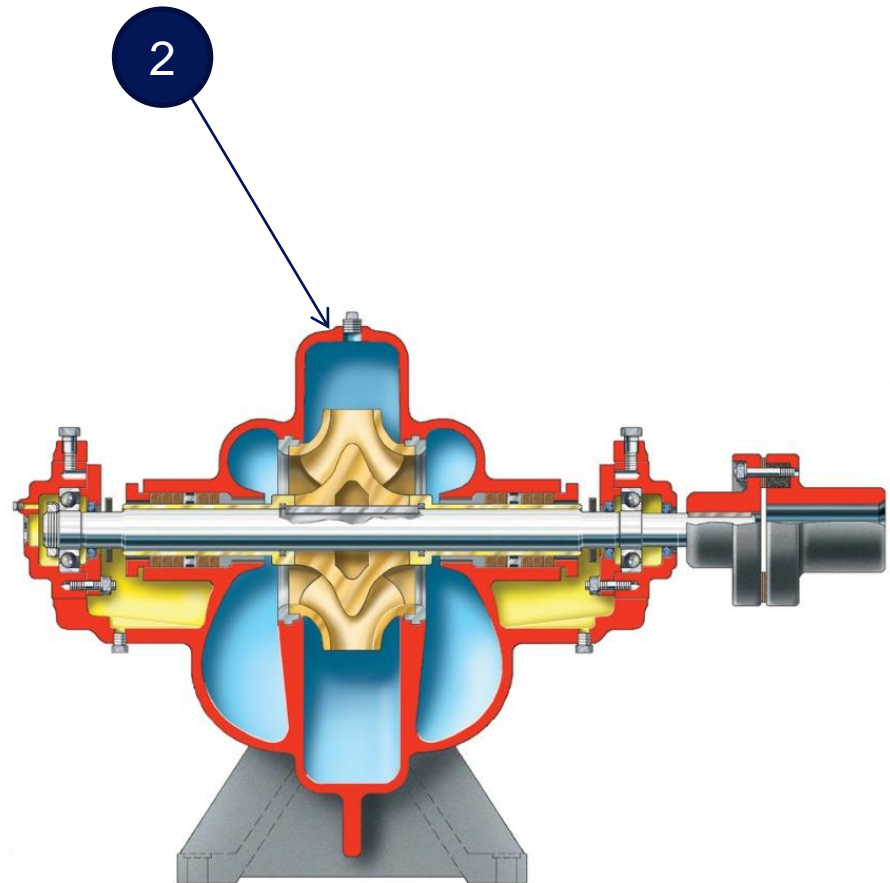
Compact Design –heavy shaft and short bearing span reduce shaft deflection, providing longer mechanical seal and bearing life, and lower maintenance cost. Also requires less floor space.



Horizontal Split Case Pumps

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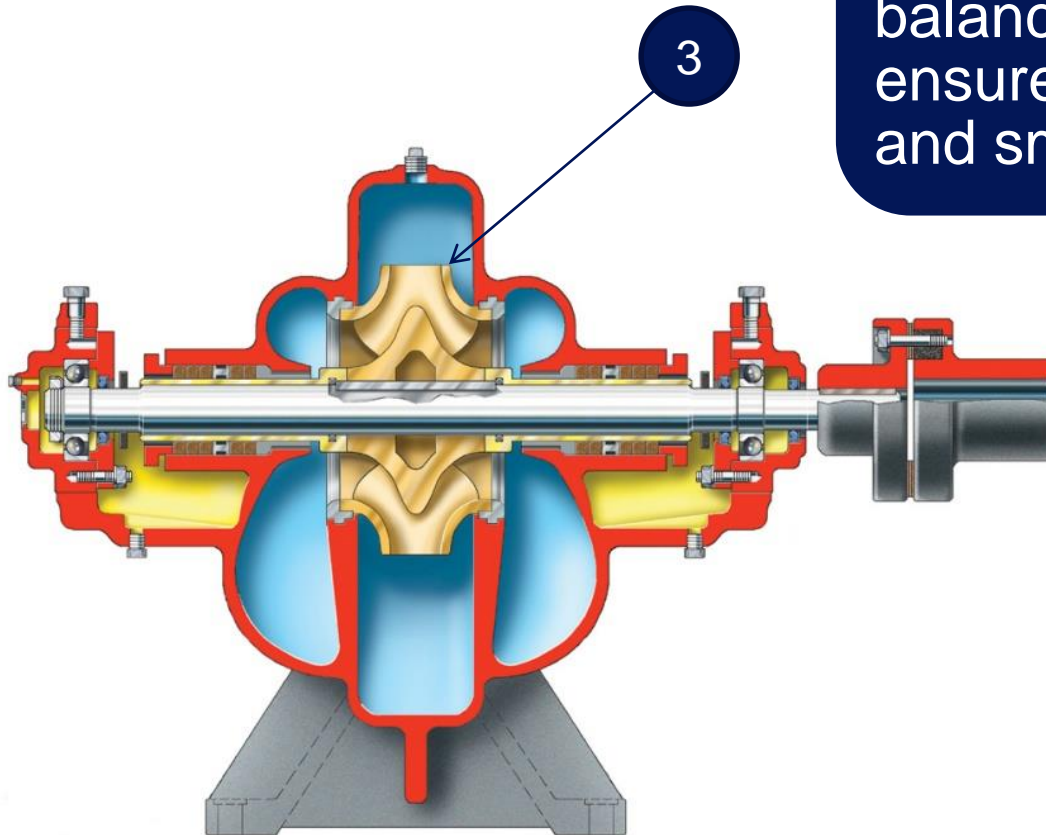
Casing - horizontally split, upper and lower half bolted & doweled to provide better alignment. Upper half easily removed for inspection of complete rotating assembly without disturbing bearings or alignment. Flanged suction and discharge connections located in the lower half casing, permit inspection and maintenance without disturbing piping or drive alignment.



Horizontal Split Case Pumps

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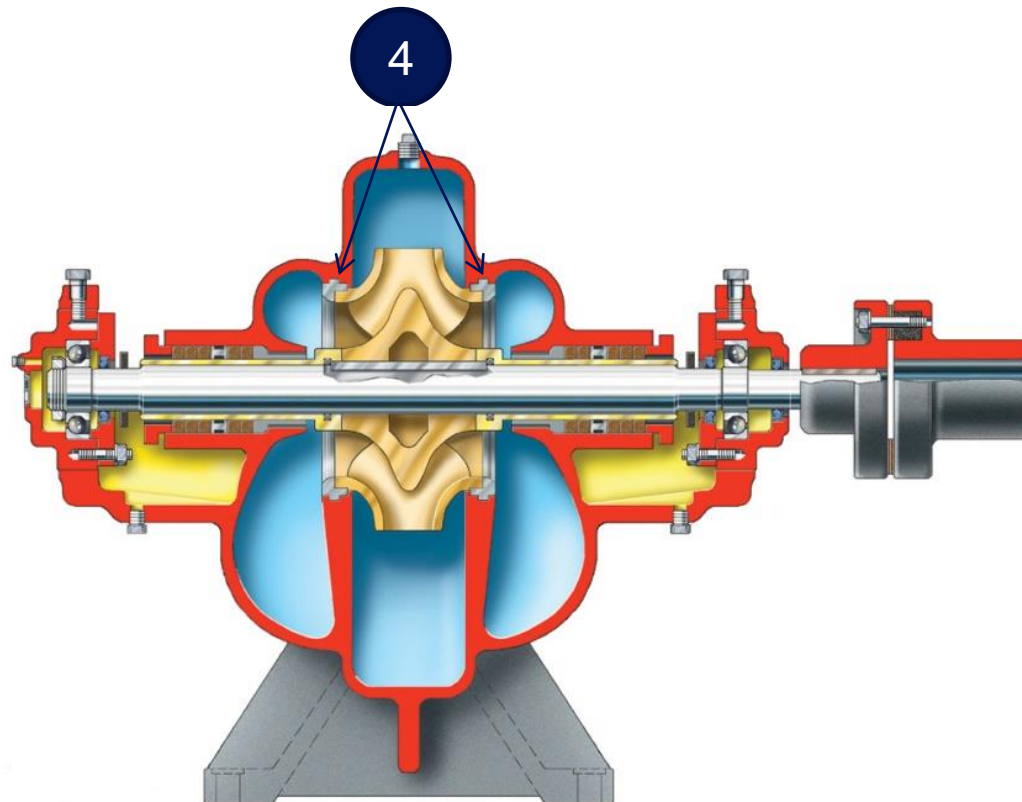
Impeller - enclosed, double suction type. Cast in one piece and hydraulically balanced to minimize thrust, ensure longer bearing life and smooth operation.



Horizontal Split Case Pumps

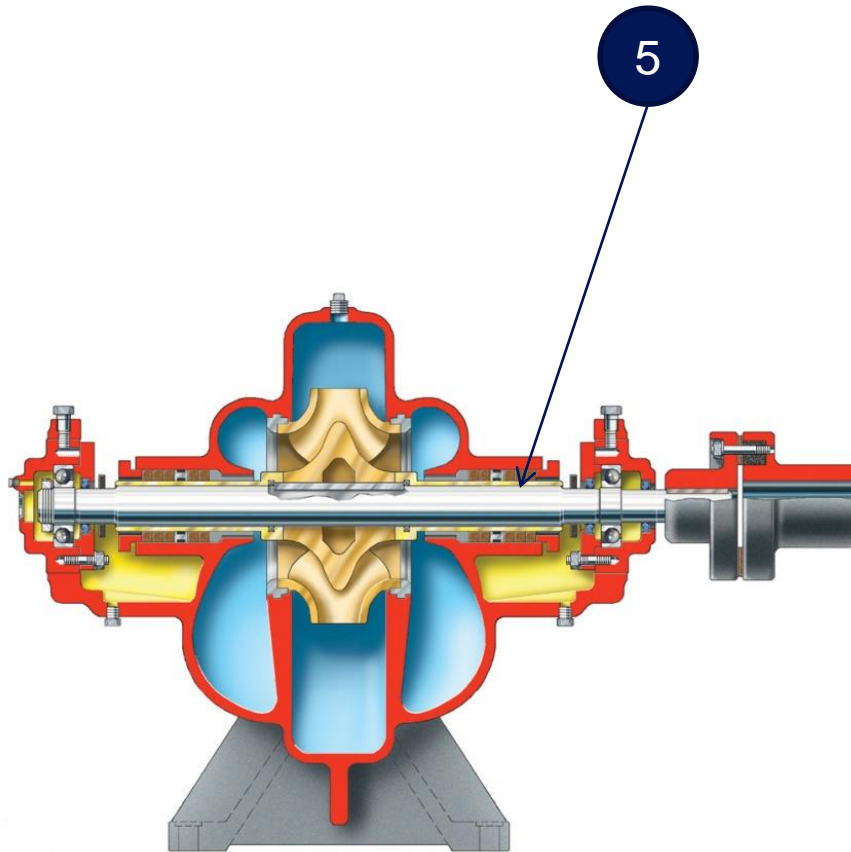
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Wearing Rings – close running clearance minimizes pressure leakage between suction and discharge cambers of the casing. Easily replaceable. Casing rings standard on all sizes are designed with labyrinth to prevent rotation. No need to worry about a pin shearing under load. The impeller is pressed on, then attached with double set screws.



Horizontal Split Case Pumps

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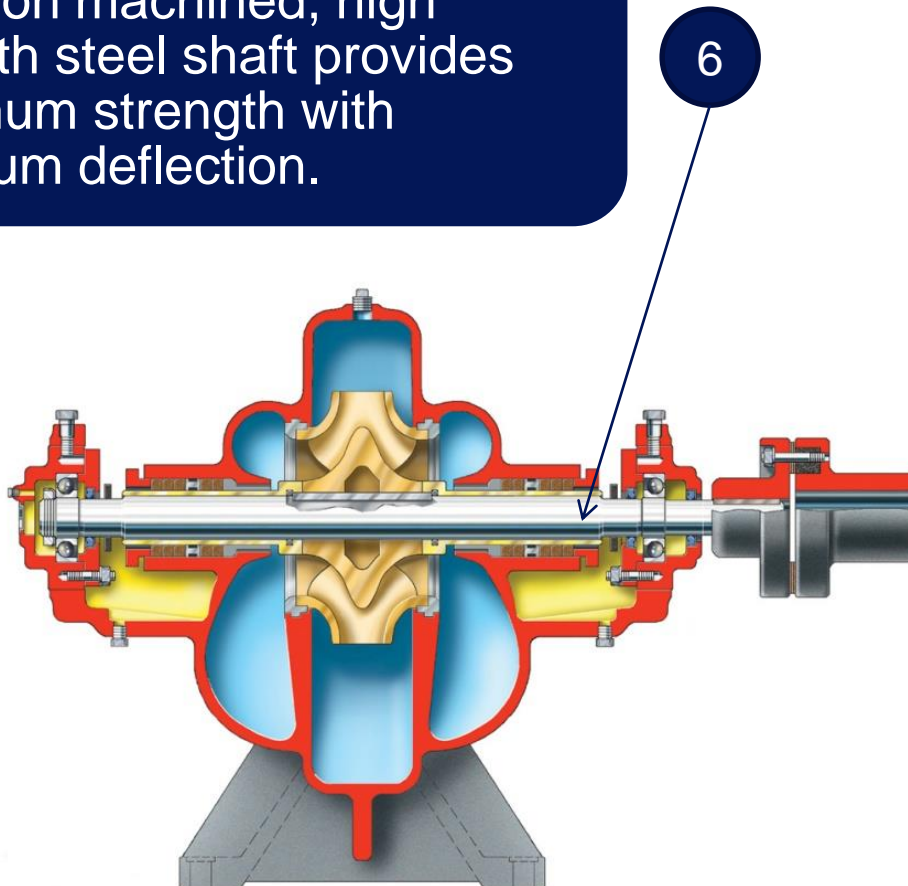


Shaft Sleeve - protects the shaft against corrosion and wear, extends through gland for maximum shaft protection. Optional with mechanical seals, standard with packed glands.

Horizontal Split Case Pumps

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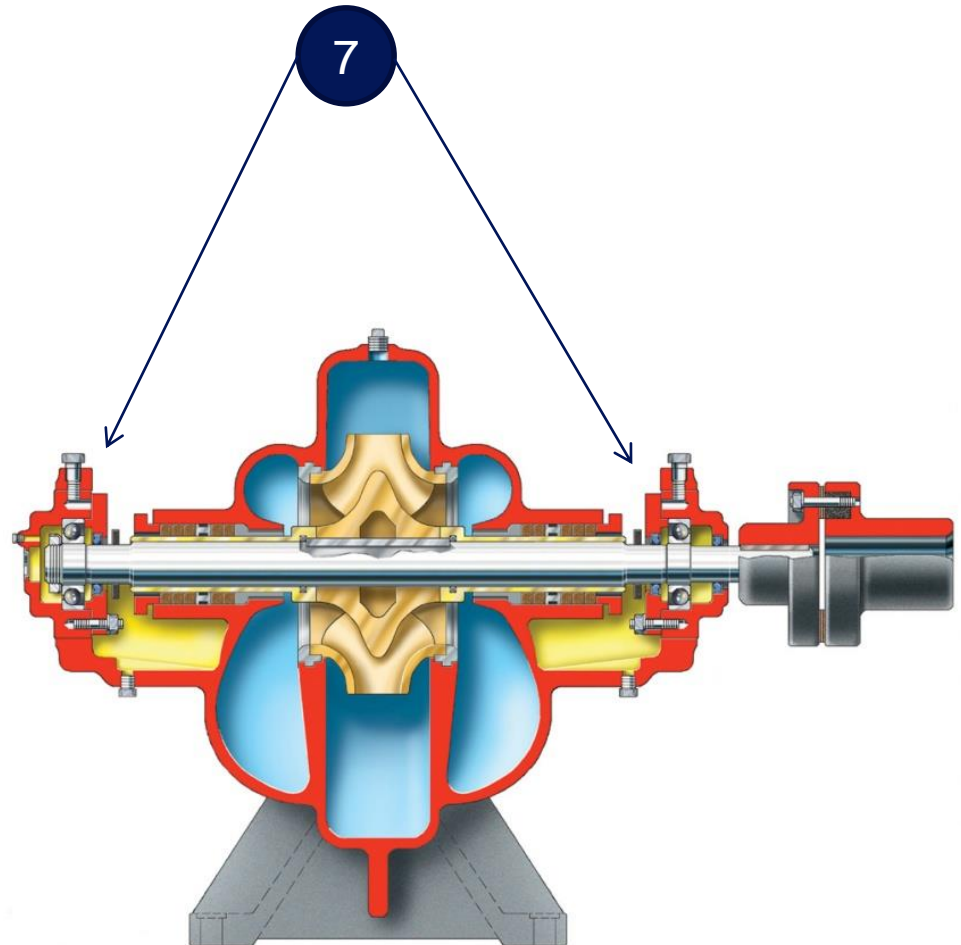
Shaft - large diameter, precision machined, high strength steel shaft provides maximum strength with minimum deflection.



Horizontal Split Case Pumps

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Bearings – outboard bearing is designed to accept radial and thrust loads. Inboard bearing is single row, to handle radial load, and is free to move axially in housing to compensate for shaft expansion due to temperature changes. Bearings are grease lubricated (Oil Lubrication Optional for Deming).

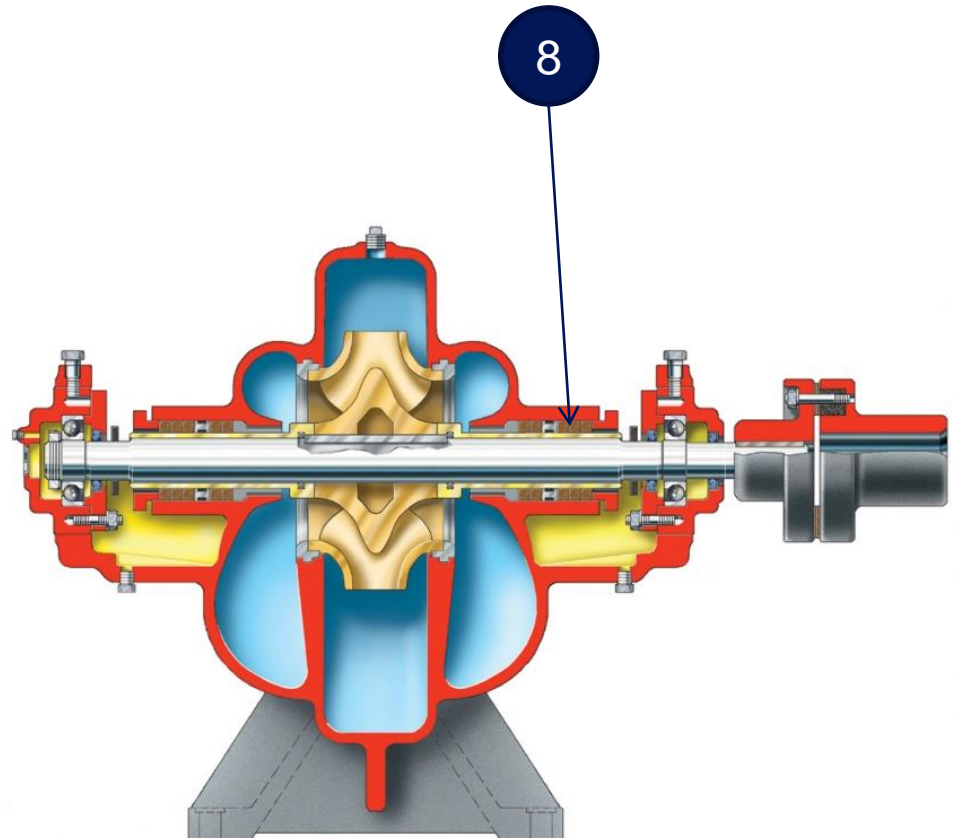


Horizontal Split Case Pumps

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Stuffing Box/Mechanical Seal -

stuffing box is extra deep to accept a minimum of 5 packing rings and lantern ring. Internally drilled liquid passage in upper half casing provides balanced pressure and lubrication to the packing/seal area. Also, eliminates the requirement for outside recirculation lines that can be pinched or bent. External lubrication, such as water under pressure, may be connected to upper half casing. Heavy split gland facilitates maintenance. Wide choices of mechanical seals available.



Split Case Pumps

Everyone. Everywhere. On Time Every Time.

WEINMAN®

Single Stage - Model 1200

Casing – Cast Iron/Ductile Iron

Impeller – Bronze

Shaft – Stainless 416

Wear Rings – Bronze (Cast Iron on L7/L8)

Seal – Mechanical Seal

1750RPM – 7000GPM/450'

1150RPM – 5000GPM/200'

2" X 3" X 10" thru 12" X 12" X 14"



DEMING®

Single Stage - Model 5060

Casing – Cast Iron/Bronze/Stainless 316

Impeller – Cast Iron/Bronze/Stainless 316

Shaft – Steel

Wear Rings – Cast Iron/Bronze/Stainless 316

Seal – Packing or Mechanical Seal

3500RPM – 2000GPM/500'

1750RPM – 7000GPM/400'

1150RPM – 6000GPM/200'

870RPM – 4000GPM/120'

2" X 1-1/2" X 8" thru 14" X 12" X 14.5"



Split Case Pumps

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WEINMAN®

Multi Stage - Model 1310

Casing – Cast Iron
Impeller – Cast Iron/Bronze
Shaft – Steel
Wear Rings – Bronze/Steel
Seal – Packing or Mechanical Seal

3500RPM – 700GPM/900'
1750RPM – 300GPM/220'

3" X 1-1/2" X 10" thru 4" X 3" X 10"



DEMING®

Multi Stage - Model 5260

Casing – Cast Iron
Impeller – Cast Iron/Bronze
Shaft – Steel
Wear Rings – Bronze/Steel
Seal – Packing or Mechanical Seal

3500RPM – 700GPM/900'
1750RPM – 300GPM/220'
1150RPM - 575GPM/600'
870RPM – 300GPM/160'

3" X 1-1/2" X 10" thru 4" X 3" X 10"



Split Case Pumps

Everyone. Everywhere. On Time Every Time.

WEINMAN®

Vertical - Model 1100

Casing – Cast Iron/Ductile Iron

Impeller – Bronze

Shaft – Steel

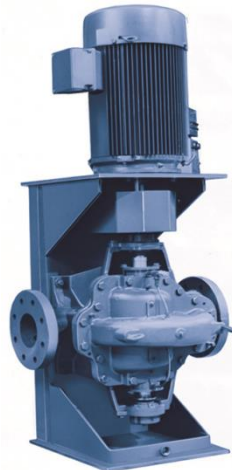
Wear Rings – Bronze (Cast Iron on L7/L8)

Seal – Mechanical Seal

1750RPM – 7000GPM/450'

1150RPM – 5000GPM/200'

2" X 3" X 10" thru 12" X 12" X 14"



DEMING®

Vertical - Model 5060

Casing – Cast Iron/Bronze/Stainless 316

Impeller – Cast Iron/Bronze/Stainless 316

Shaft – Steel

Wear Rings – Cast Iron/Bronze/Stainless 316

Seal – Packing or Mechanical Seal

3500RPM – 2000GPM/500'

1750RPM – 7000GPM/400'

1150RPM – 6000GPM/200'

870RPM – 4000GPM/120'

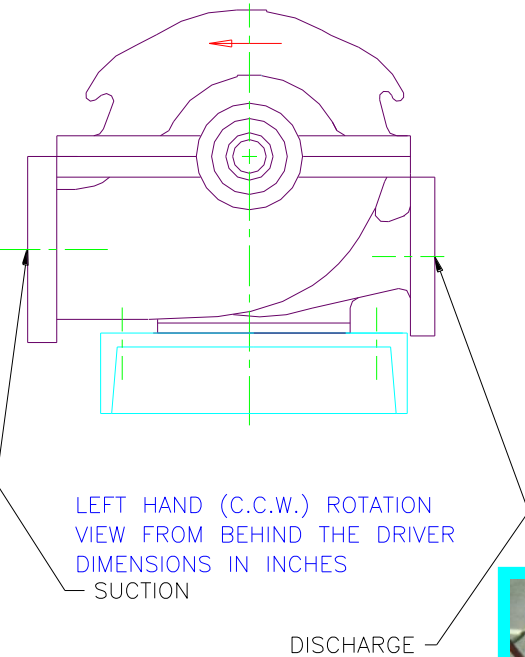
2" X 1-1/2" X 8" thru 14" X 12" X 14.5"



Horizontal Split Case Pumps

Everyone. Everywhere. On Time Every Time.

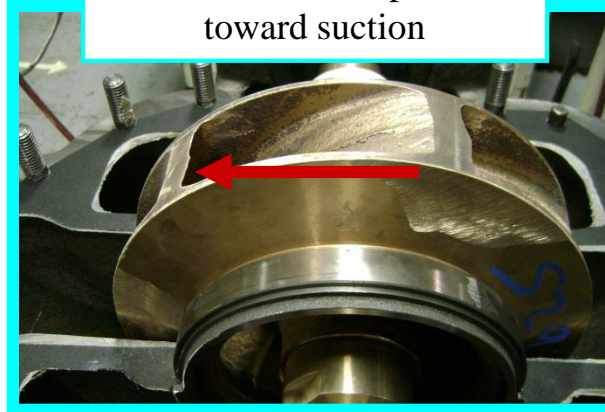
LH (CCW) Rotation



Suction
(larger flange)

Back side of impeller
toward suction

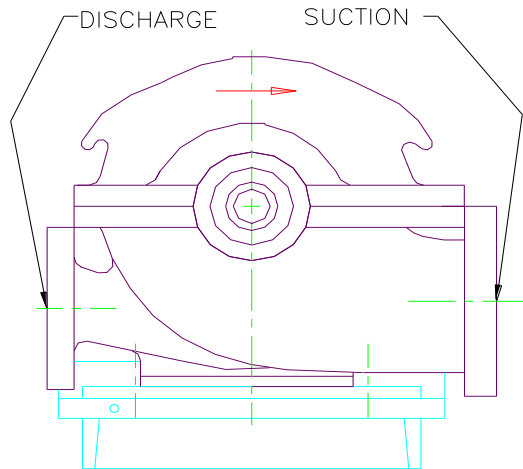
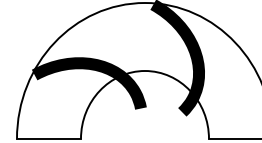
Discharge
(smaller flange)



Horizontal Split Case Pumps

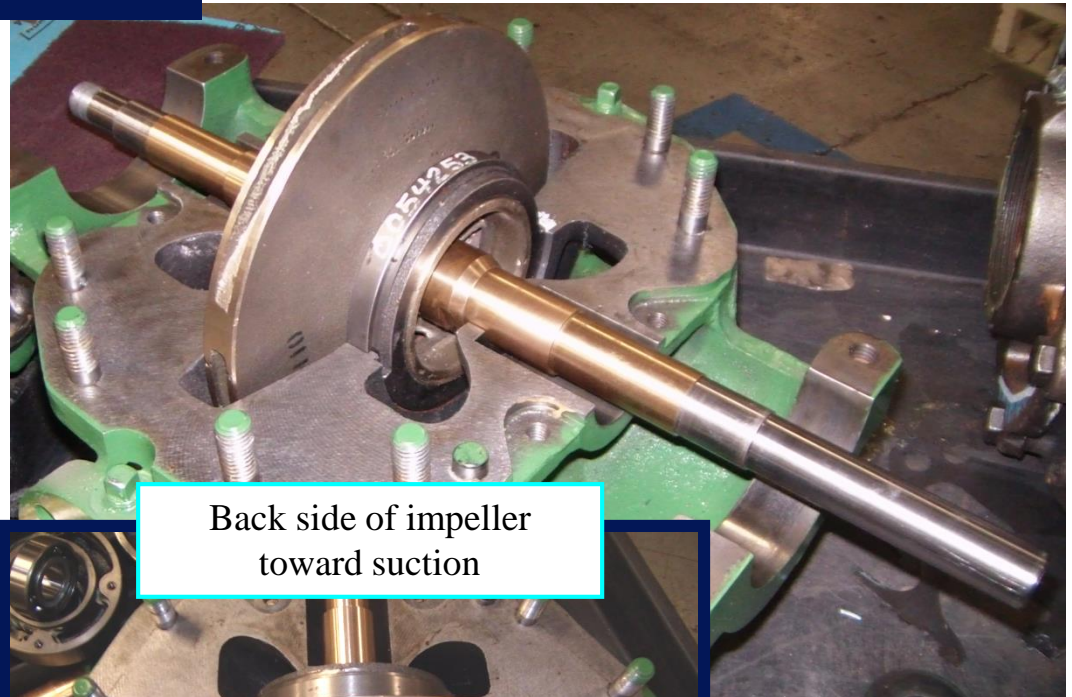
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RH (CW) Rotation

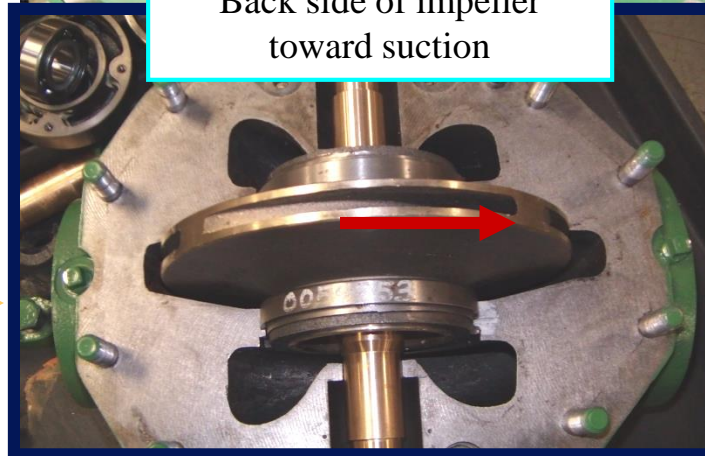


RIGHT HAND (C.W.) ROTATION
VIEW FROM BEHIND THE DRIVER
DIMENSIONS IN INCHES

Discharge
(smaller flange)



Back side of impeller
toward suction



Suction
(larger flange)



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PUMPS & SYSTEMS

Deming Split Case Pumps

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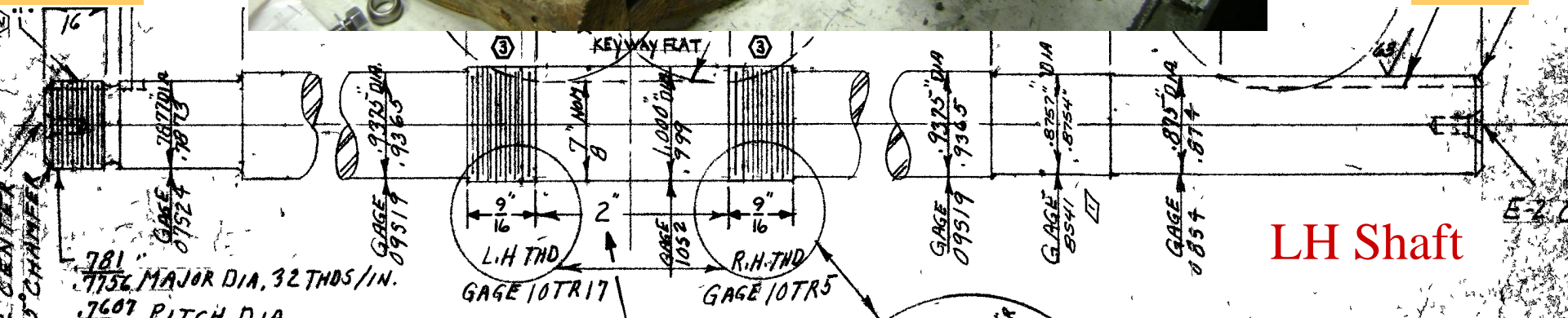
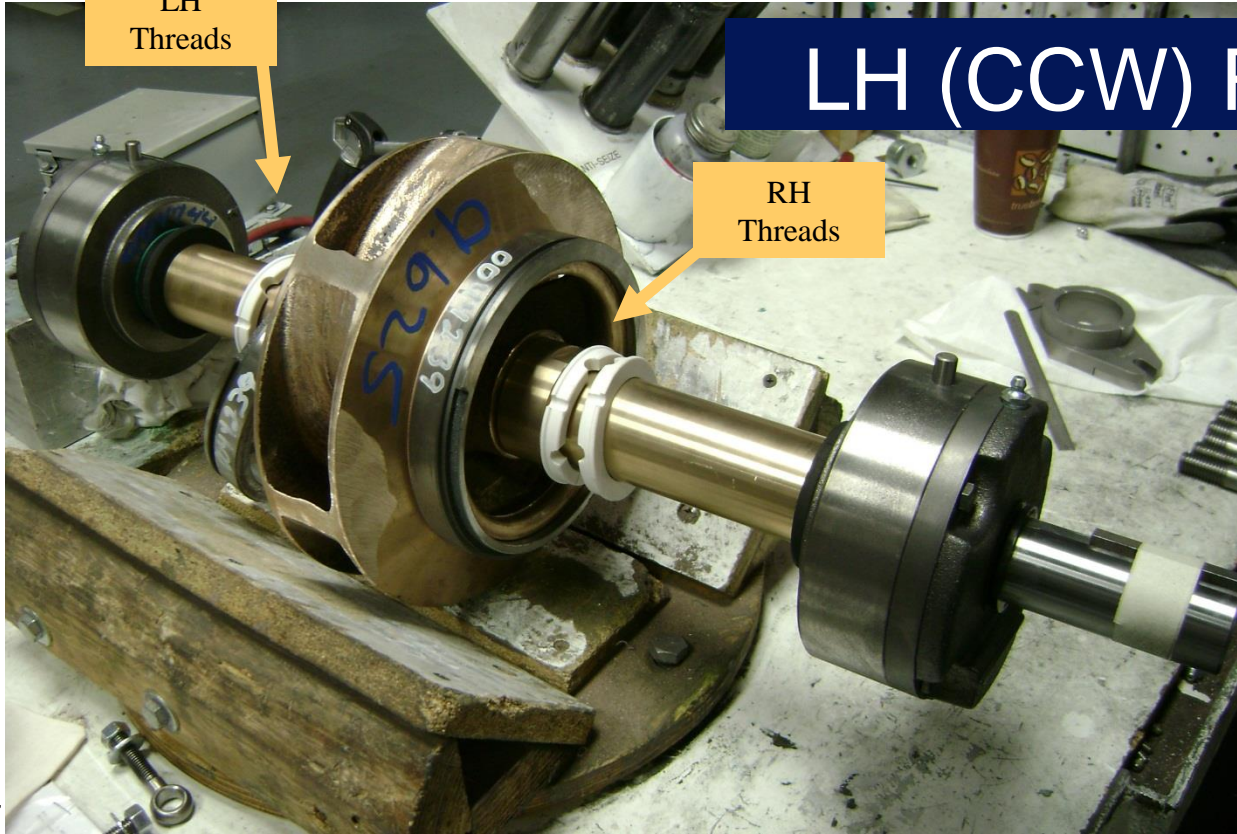
LH (CCW) Rotation

LH
Threads

RH
Threads

OB

IB



LH Shaft

Weinman Split Case Pumps

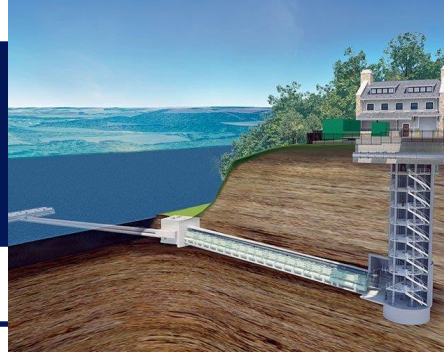
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Applications

Everyone. Everywhere. On Time Every Time.

Raw Water Intake



Water Distribution



Drainage

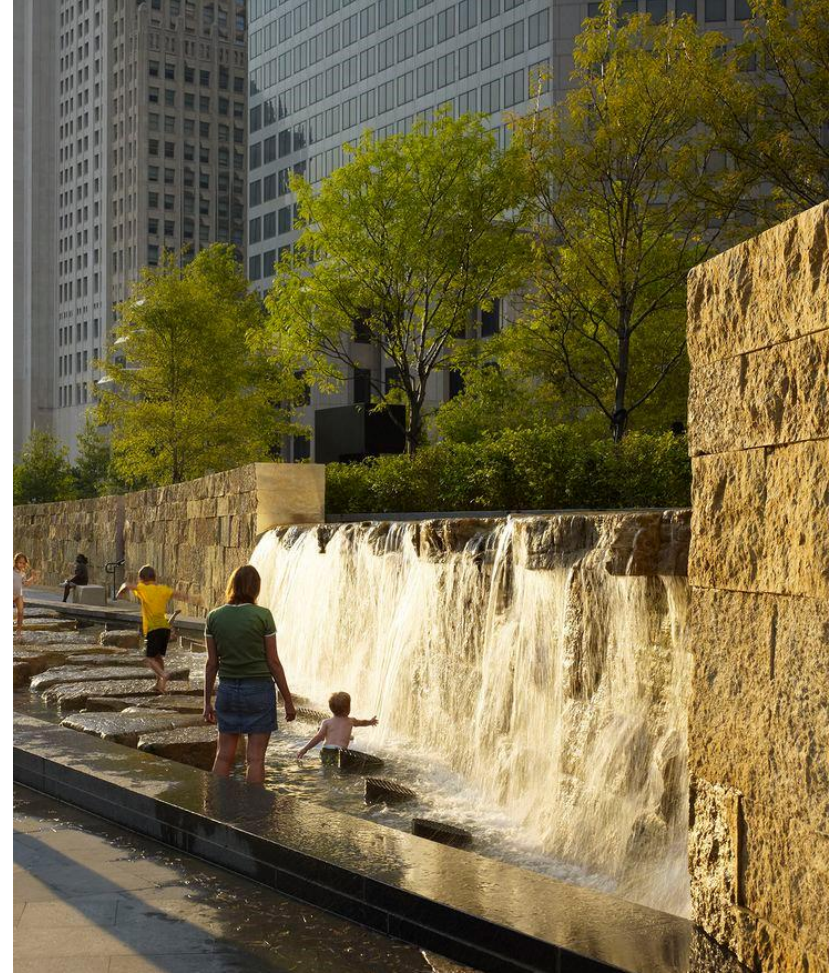


Horizontal Split Case Pumps

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Fire Fighting Barges, Louisiana



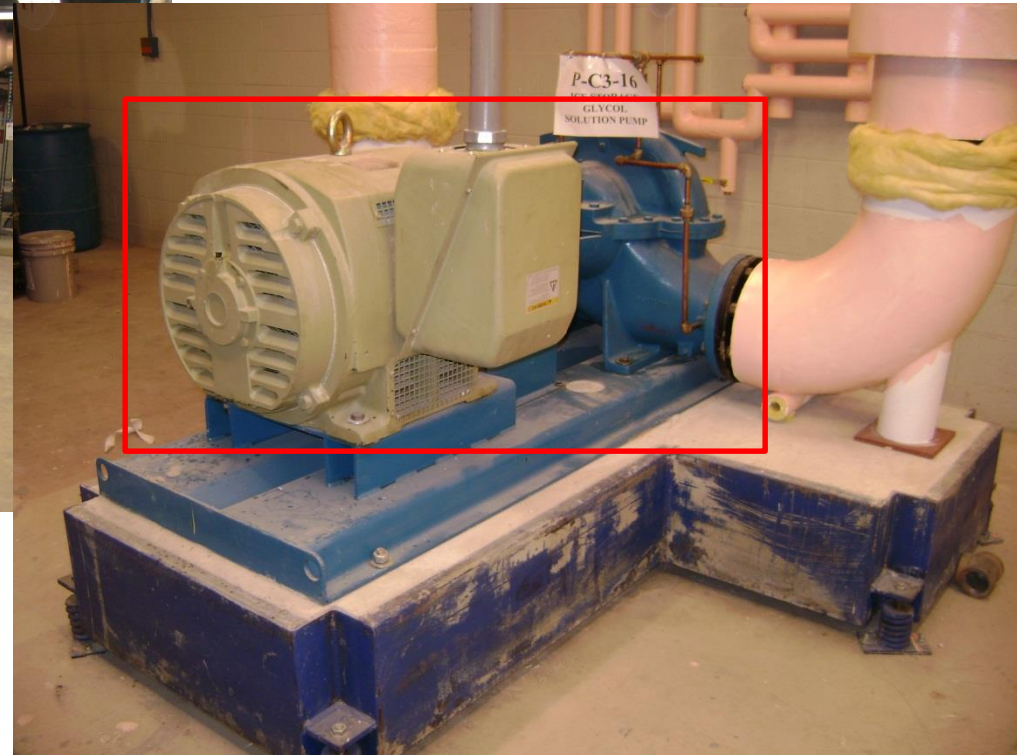
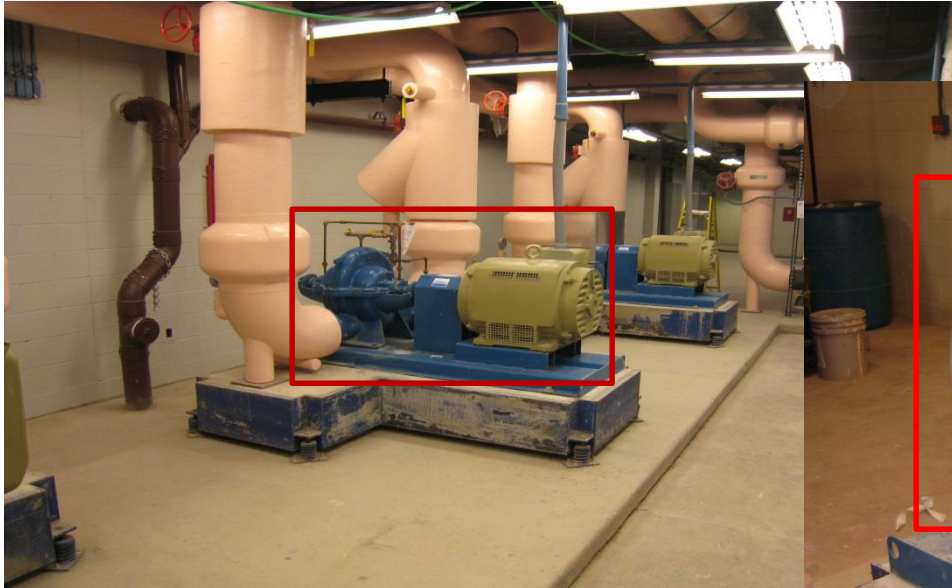
The wave pool
Geauga Lake, Ohio

Waterfall by Hydro
Dramatics, St. Louis



Horizontal Split Case Pumps

Everyone. Everywhere. On Time Every Time.



HVAC application for GA FLEET– Glycol water mixture for cooling. Bank of America Building

Product Selection & Pricing

Obtain primary design conditions

- Design flow rate
- Design total head
- Solids Size

Select pump size & type

- Configuration type
- Suction & discharge size

Use On-Line

- Draw system curve for minimum static head
- Determine HP at intersection of curves and select motor

Selling Against the Competition

PACO

Aurora

Peerless

Chicago

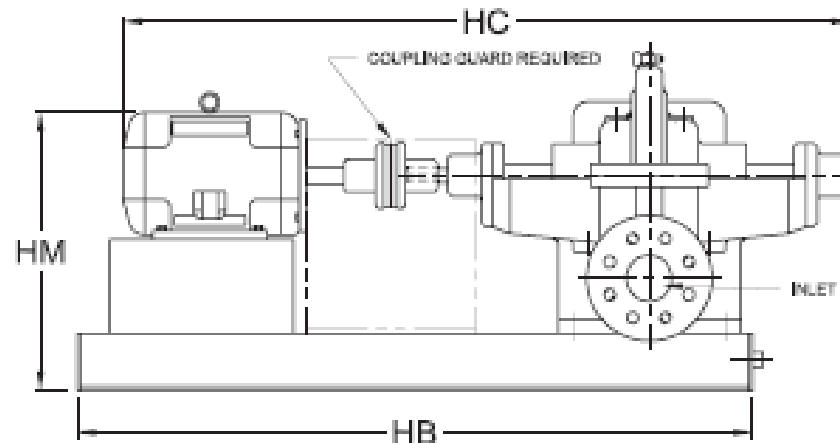
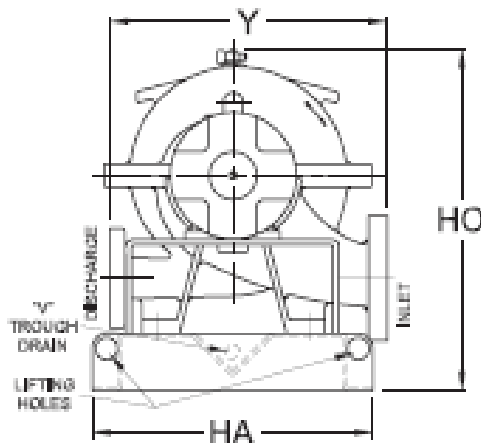

Weinman - Hydraulics well positioned

Deming - Smaller size flange to flange for easier installation

Competitive Lead times

Competitive Pricing

Legacy Installed Base



Sales & Marketing Tools

On-Line Success Stories

Everyone. Everywhere. On Time Every Time.

Industrial Solutions

#11
2013

Applications & Systems

Weinman Split Case Crucial To Oil Recovery Operation

Whiting Oil and Gas Refines on Weinman

Whiting Oil and Gas Corporation used several oil recovery methods to increase production in the North West Oil field in Whiting, TX. The plant injects carbon dioxide (CO₂) at high pressure into the subsurface to increase additional oil recovery in place.

Carbon dioxide (CO₂) compressors are used to inject the gas. These compressors generate heat and are at risk of shutdown when overheated. Cooling towers are used to cool the gas and prevent overheating in the system.

While the compressor needs to be kept cool, the gas needs to be kept warm. Heat exchangers are used to transfer heat from the gas to the compressor. The heat exchangers are used to transfer heat from the gas to the compressor. The heat exchangers are used to transfer heat from the gas to the compressor.

The Weinman pumps contribute to the North West Oil field recovery operation by increasing production and ability to run 24/7.

"We chose these pumps because of the ability of design and ease of maintenance. These pumps have been in service for 15 years without major failure."

-Jerry Schoeder, Operations Manager

WEINMAN SPLIT CASE AT NORTH WEST OIL FIELD

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Industrial Solutions

#22
2014

Applications & Systems

Deming's Offers Lifetime Quality

The Deming 5060 Split Case Series

Apel Infrastructure can drain a municipality's budget in a hurry! The Water and Sewerage Corp. (WSC) of Nassau, Bahamas was dealing with several different aging pumps from several different manufacturers. As the pumps aged, failures occurred more often and parts became more difficult to acquire. System performance was lagging as repairs to the equipment took long periods of time.

Water and Sewerage Corporation did not have these problems with Deming 5060 Series Split Case pumps. The positive experiences with Deming pumps led WSC to work with Crane Pumps & Systems distributor, JKA Pumps, to develop a plan to replace all other manufacturer's pumps with Deming 5060 Series pumps.

Beginning in 2011, the replacement began with JKA Pump supplying the equipment and training and WSC supplying the installation services. The first pumps were supplied with all iron construction with electrodes coated impregnated impellers. Subsequent to the initial installations, the water supplier to the pumps changed from chlorinated water to reverse osmosis water. This dictated a change in materials to stainless steel pumps, including the impeller, shaft and sleeves.

WSC is very pleased with the results of the changeover. They now have parts that are interchangeable for every split case pump installed. Failures have dropped dramatically and maintenance technicians are more intimately familiar with the equipment and the maintenance procedures. Costs to maintain the equipment has been reduced and overall system performance has improved.

"We took a decisive and aggressive stance when we decided to standardize with the Deming 5060 pump in two primary pumping stations together pumping more than 11 million gallons of low salinity reverse osmosis water every day. While investing more than a quarter of a million dollars in Deming pumps and motors, the program has met exemplary results, reducing downtime, improving equipment reliability and performance."

-Gregory Struble, Senior Engineer, Water and Sewerage Corporation

DEMING 5060 SERIES SPLIT CASE

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Commercial Building Solutions

#8
2011

Applications & Systems

Weinman® HVAC Provides High Efficiency, Low Maintenance for over 20 years

Weinman hot, chilled, condenser water service

In the heart of Boston's financial district is the high-rise building 125 High Street. This building enjoys both a commanding site in the downtown area and borders the city's most prized public space. The office building encompasses a full city block bounded by High, Oliver, Purchase and Pearl Streets. It's location makes it one of the most desirable buildings in the area. The building project was started in the early 1980s and completed in 1991. Weinman pumps provide the building's HVAC water service.

Owner, Tishman-Speyer Properties, was introduced to Crane Pumps & Systems' Weinman brand by the specifying engineer, Cooney Associates. Cooney specified 21 Weinman pumps because of Weinman's reputation history of low maintenance cost and high water efficiencies. The pumps included nine BL2 1200 Series horizontal split case, nine BL2 1200 Series horizontal split case, and three 500 Series and suction centrifugal pumps.

Joe Workman, Tishman-Speyer engineer, has been responsible for the HVAC system in the building for 20 plus years and reports several of the Weinman pumps continue to operate with their original mechanical seals.

"Maintenance is minimal and service calls are few."

-Joe Workman, Tishman-Speyer Properties

WEINMAN 1200 SERIES HORIZONTAL SPLIT CASE
WEINMAN 500 SERIES END SUCTION CENTRIFUGAL

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Commercial Building Solutions

#20
2014

Applications & Systems

72 Weinman Split Case Pumps Still Operating to Today's Specifications

Weinman Split Case Pump

Of 1972 three Weinman Model BL2A pumps were installed in the University's Veterinary Medical Center to pump chilled water.

A recent contractor work on an object fell on and cracked the upper case of the three original installed Weinman Split Case pumps. The crack on the pump needed to be replaced. Up until this time, the pump had no repairs. One of the other pumps has only had one seal replaced since installation and the other pump is also still operating to the factory's specifications and has not required any maintenance.

Klein from Crane Pumps & Systems' channel partner, Midway Industrial Inc., suggested doing an exact replacement of the original pump purchase. The damaged Weinman split case pump had 41 years of service with various problems.

If University purchased a new Weinman Model BL2A split case pump the expectation of running it for another 40 or so years!

Crane split case pumps are recognized for quality, efficiency and low costs combine mechanical simplicity with sophisticated hydraulic design.

"Clearly, I suggested to replace the damaged Weinman with another Weinman. Long term quality shows on the Weinman Split Case pump!"

-Larry Klein, Midway Industrial Supply

WEINMAN BL2A SPLIT CASE PUMP
WEINMAN BL2A SPLIT CASE PUMPS

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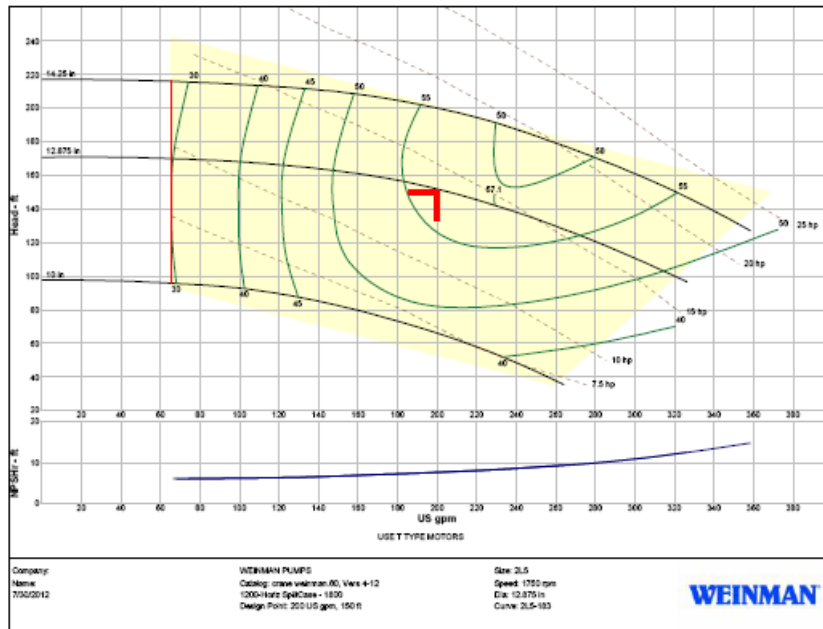
INDUSTRIAL
Weinman Whiting
Oil and Gas Oil
Recover, TX

MUNICIPAL
Deming Water and
Sewerage Corp. of Nassau,
Bahamas

COMMERCIAL
Weinman Boston 125 High St.
AND
Weinman Cornell University

On-line Success Stories are located on CP&S Connect as selling aids.

- Curves in Mentor
- Brochures



WEINMAN
 brands you trust.

Split Case Pumps

L, LVM, and JD Series Centrifugal Pumps For High Capacity Commercial, Municipal, And Industrial Applications

Weinman split case pumps meet a wide variety of service needs. The L Series single-stage and LVM vertically mounted pumps provide large capacity general service pumping. Rugged and reliable, they combine mechanical simplicity with sophisticated hydraulic design.

JD Series multi-stage pumps offer reliable, low cost high head pumping for applications such as boiler feed or booster service.

Recognized for their quality, efficiency and economy Weinman split case pumps meet the design criteria of: ASTM, H, ANSI, AG, SAE, and ASME.

	L / LVM	JD
Heads to (ft.)	450	800
Flows to (gal.)	6000	500

CRANE PUMPS & SYSTEMS

WEINMAN 1100/1200/1310 SERIES

Key Takeaways

Key Takeaways

Everyone. Everywhere. On Time Every Time.

- Split case pumps meet a wide variety of service needs.
- Offers vertical mounting pumps that occupies less space for small or restricted areas than its horizontal mounting pumps.
- The pumps physical design makes it easier to perform routine maintenance and replacement of rotating assemblies.
- The pumps are rugged and are designed for reliable performance.
- Repair parts are the same between horizontal and vertical except for the bottom bearing housing assembly.



Q&A



Thank You!