WEDGEPLUG

by

Pacific Valves

CRANE CO.
Sales - US$2+ Billion
5 Business Units

CRANE ENERGY FLOW SOLUTIONS GROUP

PACIFIC VALVES
- All Pacific engineered valves are assembled and tested at the Long Beach California facility
- 124 employees (104 manufacturing)
- 80,000 ft² of manufacturing space

Pressure Seal
High Pressure
Hydro-cracking and Steam

Gates, Globe & Checks
Xomox Plug Valves
Leaders in HF Alky

WEDGEPLUG
Delayed
Cokers
FCCU
Ethylene
Asphalt
WEDGEPLUG for Delayed Coker service

Drum A

Drum B

To Blownot Drum
Dypass to Fractionator

HEATER

1. DUAL SEAL (DOUBLE BLOCK AND BLEED)
2. TORQUE SEATED (NOT SPRING LOADED)
3. NON-RUBBING SEAT
4. INTERLOCK ELECTRIC ACTUATORS & CONTROLS
5. INLINE REPAIRABLE

SAFETY AND OPERABILITY

WEDGEPLUG IS SAFER AND EASIER TO OPERATE
THE WEDGEPLUG COST ADVANTAGES

A) THE COST ADVANTAGES FROM LOW STEAM CONSUMPTION

- The higher cost of steam usage
- The higher cost of generating the steam (i.e. larger piping, furnace, etc.)
- The higher cost of removing steam in downstream processes
- Higher corrosion rate of trays in fractionator and other downstream equipment
- More steam in fractionator resulting in lower “yield”
- On-going plant expansion exceeds steam plant supply capability.
- Continuous steam leakage is money going down the drain...

B) INLINE REPAIRABLE – LOW DOWNTIME

C) SIMPLE RUGGED DESIGN – LOWER REPAIR COST

WEDGEPLUG provides the best return on investment (ROI)
MANY WEDGEPLUG VALVES ARE STILL IN SERVICE AFTER 40+ YEARS

<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>LOCATION</th>
<th>NO. OF DRUMS</th>
<th>APPROX. YEAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syncrude</td>
<td>Ft. McMurray, Canada</td>
<td>12</td>
<td>1968</td>
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<tr>
<td>Flint Hills</td>
<td>Corpus Christi, TX, USA</td>
<td>2</td>
<td>1962</td>
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<tr>
<td>Seadrift Coke</td>
<td>Seadrift, TX, USA</td>
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<td>1976</td>
</tr>
<tr>
<td>Conoco Phillips</td>
<td>Rodeo, CA</td>
<td>4</td>
<td>1975</td>
</tr>
<tr>
<td>Chevron</td>
<td>Poncaya, MS, USA</td>
<td>6</td>
<td>1974</td>
</tr>
<tr>
<td>Chevron</td>
<td>Carson, CA</td>
<td>6</td>
<td>1974/76</td>
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<tr>
<td>Petro Canada</td>
<td>Edmonton, Canada</td>
<td>2</td>
<td>1971</td>
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<tr>
<td>Citgo</td>
<td>Corpus Christi, TX, USA</td>
<td>4</td>
<td>1970</td>
</tr>
<tr>
<td>BP</td>
<td>Cherry Point, WA</td>
<td>4</td>
<td>1970</td>
</tr>
<tr>
<td>Valero</td>
<td>Corpus Christi, TX, USA</td>
<td>4</td>
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<tr>
<td>BP</td>
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<tr>
<td>Shell Refinery</td>
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<tr>
<th>CUSTOMER</th>
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<th>NO. OF DRUMS</th>
<th>APPROX. YEAR</th>
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<tr>
<td>Shell</td>
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<td>1965</td>
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<tr>
<td>Valero</td>
<td>Corpus Christi, TX, USA</td>
<td>2</td>
<td>1965</td>
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<tr>
<td>Shell</td>
<td>Bakersfield, CA</td>
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<td>1965</td>
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<tr>
<td>Conoco Phillips</td>
<td>Carson, CA</td>
<td>6</td>
<td>1962</td>
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<tr>
<td>Exxon / Mobil</td>
<td>Chalmette, LA, USA</td>
<td>8</td>
<td>1963/67</td>
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<td>Conoco Phillips</td>
<td>Humberside, UK</td>
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<td>1960's</td>
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<tr>
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<td>Europe</td>
<td>2</td>
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<tr>
<td>Conoco Phillips</td>
<td>Brakelshoo, LA, USA</td>
<td>4</td>
<td>1959</td>
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<tr>
<td>Exxon / Mobil</td>
<td>Beaumont, TX, USA</td>
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<td>Ultran</td>
<td>Carson, CA</td>
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<td>1954</td>
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<td>Marathon</td>
<td>Cardon, Venezuela</td>
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<td>1950's</td>
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<tr>
<td>Logiven</td>
<td>Puerto Fuco, Venezuela</td>
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<td>1950's</td>
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</table>

The above reference list is a sampling of users who have used Wedgeplug valves in critical service oiler applications for a minimum of 15 years. A full reference list and contact information is available. There are 15000's of Wedgeplug valves installed in critical service oiler facilities worldwide.

WEDGEPLUG IS RELIABLE AND DEPENDABLE

CONTINUOUS DESIGN IMPROVEMENT FOR WEDGEPLUG

KAIZEN

A proven WEDGEPLUG design keeps getting better...
WEDGEPLUG - an engineered valve solution

- Autodesk INVENTOR™ 3D Modeling
- Finite Element Analysis (FEA) ALGOR™
- Thermal Analysis Software (From the Aerospace industry)
- KAIZEN & OPEX.
- People behind a great product.

Using the latest technology to benefit the customers...

THE WEDGEPLUG ADVANTAGES

SAFETY, SAFETY
Dual Seal (Double Block And Bleed)
Torque Seat (not spring loaded)
Interlock electric actuators
Inline repairable

LOWEST TOTAL COST OF OWNERSHIP
Lowest steam consumption
Inline repairable, minimal downtime
Low cost of repair

PROVEN RELIABILITY
50 Years in Delayed Coker
1000's of Wedgeplug valves installed
Long-service life reference list

CONTINUOUS IMPROVEMENT
FEA (Finite Element Analysis)
Thermal Analysis
Electric Actuator & Controls
KAIZEN & OPEX
(people behind a great product)

WEDGEPLUG IS THE BEST PROVEN VALVE SOLUTION
Thank You

Please, Any Questions?

Contact Information:

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