

# PIPELINE DRAINAGE REINJECTION SYSTEMS

**YOUR CHALLENGE:**

You need a system to pump out sump tanks and to reinject the drained fluid back to the pipeline. You need the system to handle particulates with a simple design that requires minimal routine maintenance. CIRCOR offers an engineered system solution for pipeline drainage reinjection.

**SOLUTION:**

The system is designed for pumping crude oil from a pipeline collection tank or sump approximately once a week; and in some instances once a month.

With its PVD hardened internal surfaces, unlike standard PD pump technologies, the Emtec-A® design allows for extended operation in services with particulates.

**RESULTS:**

Moving to an engineered systems solution for pipeline drainage re-injection means leaving the design and engineering to experts. From CIRCOR you get a system with a simple design capable of handling particulates. You also receive a system that requires minimal routine maintenance resulting in maximized cost reduction. You ultimately get a customized solution for your critical fluidhandling need.



**AVAILABLE MODELS** 5

Capacity range @ 0 psi differential pressure	25, 40, 65, 85 and 110 BPH
Suction pressure	up to 145 psig
Discharge pressure	up to 1450 psig
Fluid viscosity	down to 1 cSt
Fluid temperature	up to 175° F

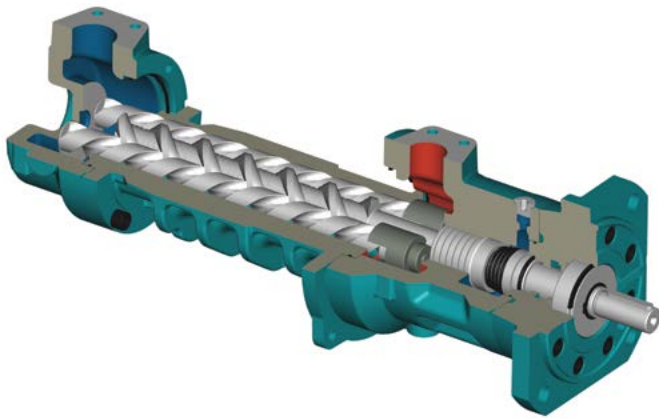


- Vertical motor/pump set for cartridge type installation
- Direct coupled to constant-torque, synchronous speed motor (VFD option available)
- Typical pump rotating speed with either a 4-pole or 6-pole motor speeds
- Tank top mounted with sealing provision



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## PERFORMANCE CAPABILITIES FOR EMTEC-A® THREE-SCREW ROTARY PD PUMP:



### Optimal shaft design

- Reduced loading on screw
- Greater volumetric efficiency
- Reduced internal velocities control internal wear

### Few parts, simplified design

- Easier assembly
- Easier maintenance
- Increased reliability

## ADVANTAGES

Complete package for pumping out the sump tank and reinjecting the fluid into the pipeline

- Simpler overall design
- More reliable
- Eliminates leak points to the environment

Smooth, non-pulsating pump flow

- Minimizes foundation requirements
- Eliminates source of damaging vibration

Simple pump design with 3 rotating parts, 1 bearing and 1 mechanical seal

- Few parts to stock and maintain
- Manufactured with highly abrasive resistant materials and components
- Translate into a long MTBR

Minimal routine maintenance

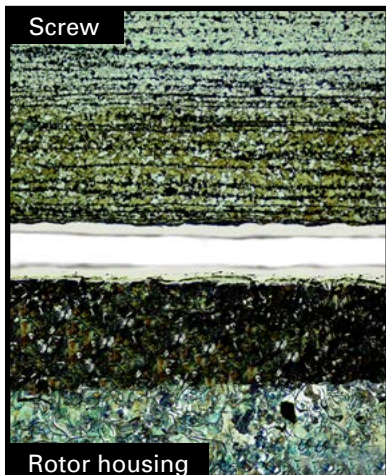
- Pre-greased for pump bearing life
- Dry type motor/pump shaft coupling
- Greasing only required on motor

### PHYSICAL VAPOR DEPOSITION (PVD) PROCESS:

The special material combination used on Emtec® brings together the highest possible hardness with optimal elasticity and resistance to fracture.

#### Base material:

- Special steel
- Hardened zone 62 HRC
- PVD hard coating 1200 HV
- Ceramic like edge layer 1200 HV
- Special hardened casting 62 HRC



Base material

### AVAILABLE SCOPE OF SUPPLY:

- 1000 gallon (~24 barrel) vertical, foot mounted tank with removable cover for clean out provision – carbon or stainless steel
- Re-injection pump package with integral suction drop pipe (gusset braced) and surface mounted discharge connection
- Suction drop pipe equipped with suction strainer and suction check valve to maintain prime of pump during idle periods
- Starter/breaker panel
- VFD controller
- Level switch controls
- Discharge pressure transmitter
- Pressure-limiting valve (external type)



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