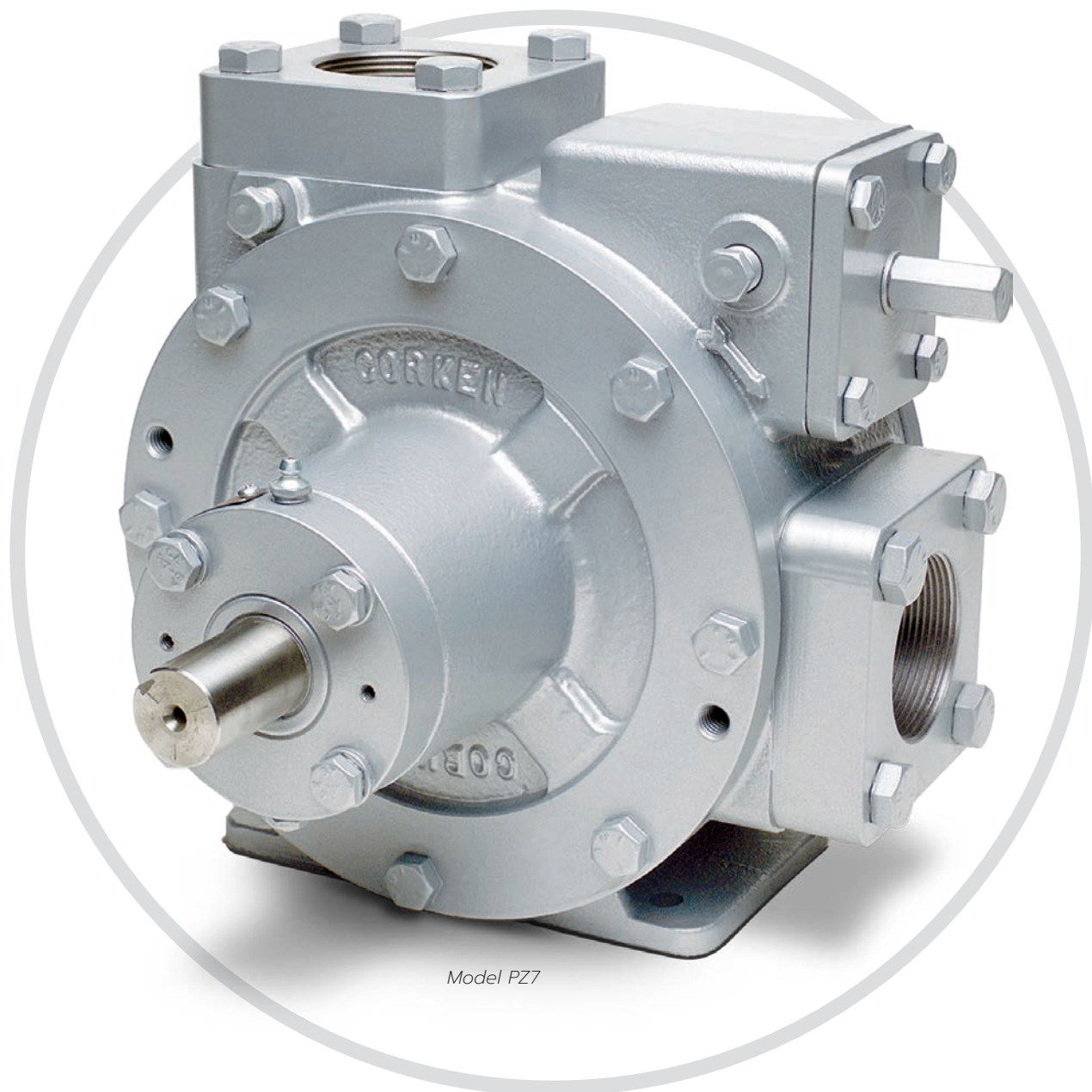


# PZ-Series

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Sliding Vane Petroleum Pumps  
For Refined Petroleum Products and Industrial Solvents



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**CORKEN**<sup>®</sup>  
A Unit of IDEX Corporation

# PZ-Series Petroleum Pumps

PZ-Series Coro-Vane® pumps offer greater flexibility for fluid transfer systems and fuel delivery tankwagons. Each pump matches industry-standard dimensions for flanges and footprint allowing easy incorporation into existing or new vehicle layouts. Multiple unique features will be appreciated by system designers, truck outfitters, and end-user fuel marketers.

## Combine a pump, meter, and register on one order...

Corken and Liquid Controls are a single source solution for transporting, dispensing, and measuring high value fluids and gases. Common corporate ownership and shared distribution simplifies the procurement process. Rather than placing multiple orders, customers are able to combine a pump, meter, and register into a single order.

## Viton®<sup>1</sup> O-rings come standard...

The mechanical seal for the PZ-Series comes standard with Viton® O-rings eliminating the need to change seals when pumping multiple refined petroleum products. Viton® is compatible with gasoline, fuel oil, kerosene, diesel fuel, AvGas, and many more.

## Unique cam design minimizes cavitation and noise...

The state-of-the-art cam design virtually eliminates cavitation so the vanes, cam, and sideplates remain lubricated and experience less wear. Reducing the presence of cavitation also minimizes noise while pumping.

The PZ-Series a smart choice for anyone looking for quiet performance and exceptional reliability.

## Unmatched thrust absorbing design extends the service life...

PZ-Series pumps control heavy thrust loads better than any other truck pump on the market. The thrust absorbing system is comprised of two needle-roller bearings rated for 4,000 lbs. Located at each shaft extension, this patented design protects the pump from dynamic and impact loads imposed by the drive system so premature failure due to axial thrust loads are minimized.

*Low-impact, high strength vane driver and vane design extend pump life.*

*Reversible sideplates offer twice the life and eliminates the need for head replacements.*

*Mechanical seal has a silicon carbide seal seat offering the best sealing performance in the industry.*

*Innovative needle roller bearing controls heavy thrust loads.*

*Drain is conveniently located at the bottom of the pump allowing easy removal of residual fluids when performing maintenance (not shown).*

<sup>1</sup> Viton® is a registered trademark of the DuPont company.



# For Refined Petroleum Products & Industrial Solvents

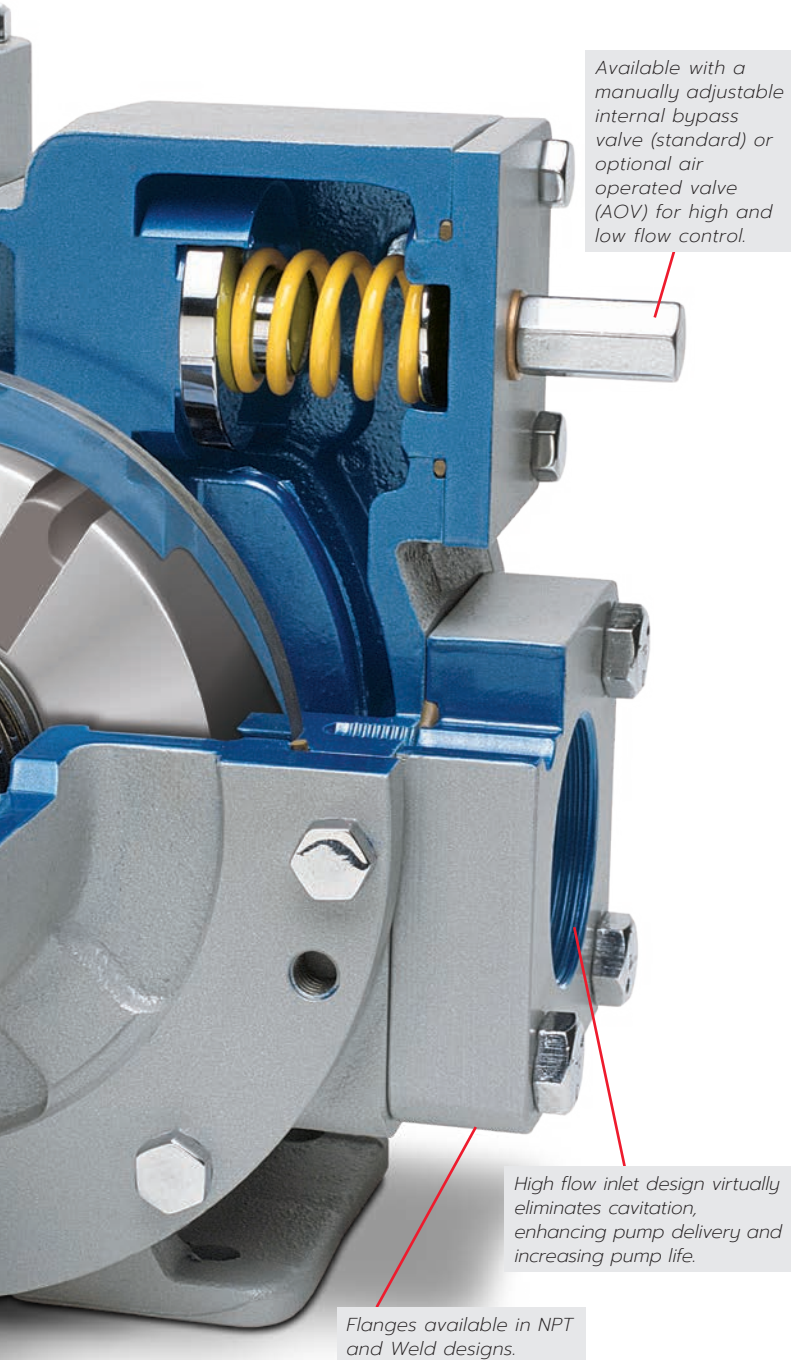


Optional strainer



Optional air operated valve (AOV)

Available with a manually adjustable internal bypass valve (standard) or optional air operated valve (AOV) for high and low flow control.



Flanges available in NPT and Weld designs.

## Two bypass valve configurations...

PZ-Series pumps come standard with a manually adjusted internal bypass valve or an optional air operated valve (AOV).

The standard bypass valve provides the normal functionality of a internal bypass found on most positive displacement pumps. When the pump is operating at full speed and the hose-end nozzle is either partially or fully closed, the internal bypass valve recirculates the fluid within the pump. It's recommended for any application where entrained air in the system is not expected to be a significant issue. Pumping from a tank on a single-compartment vehicle is a typical example.

The air operated valve (AOV) comes with a diaphragm type actuator allowing the operator to set the discharge pressure at two settings (high and low). The flow is increased and decreased by simply adding or taking away air pressure to the diaphragm. The actuator works in conjunction with a flow sensing pilot valve. When the operator opens the nozzle, the flow sensing pilot valve puts pressure behind the diaphragm allowing high pressure operation of the pump. When the operator closes the nozzle and flow is stopped, the flow sensing pilot valve vents the actuating air or liquid behind the diaphragm. The loss in pressure permits the internal bypass valve to open so the pump can automatically go into low pressure bypass minimizing the hose pressure.

## Requires less maintenance...

The vanes and vane drivers are made of advanced nonmetallic composite materials lasting longer than ordinary vanes and vane drivers. Unlike pumps with conventional steel vane drivers that eventually penetrate the vane, the PZ-Series pump has large diameter, nonmetallic, vane drivers that do not damage the vanes at high RPMs.

## Maintenance made simple...

The PZ-Series pumps not only maintain Corken's tradition of excellence, but also its commitment to simplicity when it comes time for maintenance. By simply removing the head assembly, the service technician has easy access to the sideplate, mechanical seal, vanes, and rotor.

# Specifications

## Operating Specifications

Specifications	Models PZ7 and PZ10
Standard connections:	2" or 2-1/2" NPT
Optional connections:	2" or 2-1/2" Slip-on Weld
Maximum differential pressure:	125 psid (8.6 bar)
Temperature range:	Up to 300°F (149°C)
Maximum working pressure:	200 psi (13.8 bar)
Maximum speed:	800 RPM
Fluids handled:	Refined petroleum products and industrial solvents

## Material Specifications

Part	Model	Material
Case	All	Ductile iron ASTM A536
Head	All	Ductile iron ASTM A536
NPT flanges	All	Ductile iron ASTM A536
Weld flanges	All	Steel ASTM A516
Rotor	All	Ductile iron ASTM A536
Bearing cap	All	Ductile iron ASTM A536
Sideplates	All	Cast iron Class 30
Vanes and vane drivers	All	Advanced polymer
Bypass valve	PZ7	Cast iron ASTM A48 electroless nickel plated
	PZ10	17-4 PH Stainless steel
Bypass valve spring	All	Steel
Seal seat	All	Silicon carbide
Seal metal parts	All	Steel
Shaft	All	8620 steel
Thrust bearing	All	Steel
O-rings	All	Viton <sup>®1</sup> (standard), Buna-N (optional)

<sup>1</sup>Registered trademark of the DuPont Company.

## PZ7 Performance Chart

Pump Speed	Differential Pressure		Nominal Flow Rate <sup>2</sup>		Brake Hp Required		Torque Required	
	psi	bar	gpm	L/min	bhp	kW	in·lbs	N·m
800	90	6.2	98	371	6.8	5.0	536	60.5
800	50	3.4	105	397	3.8	2.2	299	33.8
640	90	6.2	78	295	5.5	4.1	542	61.2
640	50	3.4	84	318	3.1	2.3	305	34.5
575	90	6.2	70	273	4.9	3.7	537	60.7
575	50	3.4	75	284	2.7	2.0	296	33.4
420	90	6.2	51	182	3.6	2.7	540	61.0
420	50	3.4	55	197	2.0	1.5	300	33.9

## PZ10 Performance Chart

Pump Speed	Differential Pressure		Nominal Flow Rate <sup>2</sup>		Brake Hp Required		Torque Required	
	psi	bar	gpm	L/min	bhp	kW	in·lbs	N·m
800	90	6.2	152	575	10.3	7.7	811	91.7
800	50	3.4	161	609	5.7	4.3	449	50.7
640	90	6.2	121	458	8.2	6.1	808	91.2
640	50	3.4	128	485	4.6	3.4	453	51.2
575	90	6.2	109	413	7.3	5.4	800	90.4
575	50	3.4	115	435	4.1	3.1	449	50.8
420	90	6.2	80	303	5.4	4.0	810	91.6
420	50	3.4	85	321	3.0	2.2	450	50.9

<sup>2</sup>Nominal flow rate at pump outlet. The actual flow rate from the hose nozzle will be less, depending on hose length, hose diameter, nozzle size, product viscosity, and other system flow restrictions. Approximate capacities and horsepowers are based on a 38 SSU (3 cP) fluid.

Solutions beyond products...

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