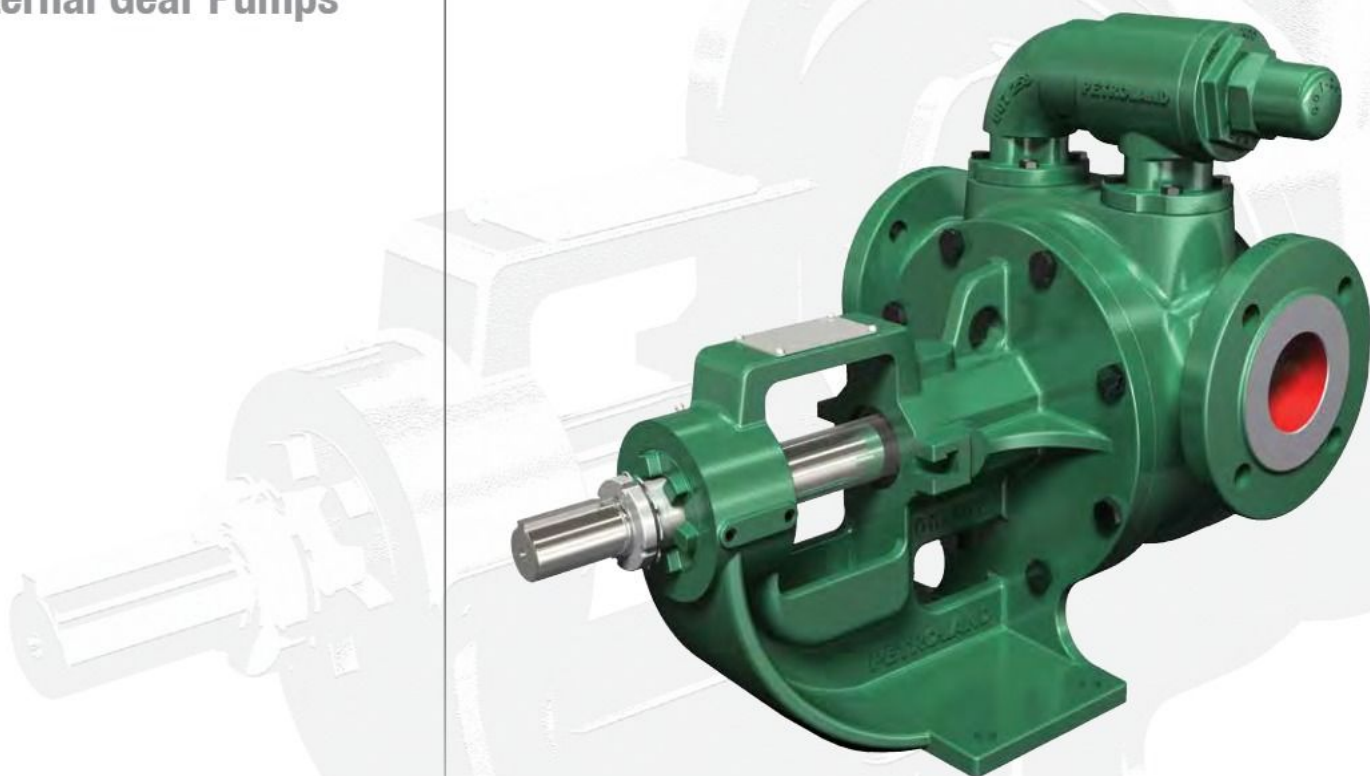




PD SERIES
Internal Gear Pumps



APPLICATIONS & INDUSTRY



ASPHALT & BITUMEN INDUSTRY

PAINT INDUSTRY

FOOD INDUSTRY

PHARMACEUTICAL INDUSTRY

PAPER INDUSTRY

CHEMICAL INDUSTRY

COSMETICS INDUSTRY

LPG INDUSTRY

LUBRICATION OIL INDUSTRY

MARINE INDUSTRY

PETRO-CHEMICAL INDUSTRY

SUGAR INDUSTRY

AGRICULTURAL INDUSTRY

PD SERIES Internal Gear Pumps



Internal Gear Pumps are self-priming positive displacement pumps and they have reliable design with only two moving parts. Because of both direction properties, they are suitable for filling and discharge. Internal gear pumps are used for low viscosity mediums (solvent, fuel... etc.) and high viscosity mediums (asphalt, chocolate, honey... etc.) with adjustable clearance. They can transfer the fluids, which viscosity is between 1 cSt- 450.000 cSt

FEAURES AND ADVANTAGES:

- > Applications variety with 56 different case size
- > Easy of usage and maintenance with only two moving parts
- > Operating wide range of viscosity
- > Can be used same pump for filling and discharge with both direction properties
- > Cavitation possibility is less because of low NPSHr
- > Can be apply many different material option (cast iron, ductile iron, steel or stainless steel)
- > The pump design is suitable for every type of seal (Special design, lip seal, packing gland, single mechanical seal, double mechanical seal)
- > The design is suitable for many applications
- > The pump isn't effected any pressure drops in order to positive displacement feature
- > Suitable for all kind of coupling (with motor, gearbox, v-belt)
- > Connection type options, ANSI&DIN Flanged connection or BSP&NPT threaded connection
- > They are more economical than rotary lobe pumps and screw pumps because can be applied only one seal
- > Heating / Cooling jackets can be applied to cover, case or bracket
- > The rotor case can rotate 360°
- > Not required special tools for maintenance
- > Connection design is adjustable 90° or 180°
- > Self-priming is up to 720mbar
- > Relief Valve can be applied to pump cover or case

Working Principle



- 1- Liquid enters the suction port between the rotor (large exterior gear) and idler (small interior gear) teeth. The orange arrows indicate the direction of the pump and liquid.
- 2- Liquid travels through the pump between the teeth of the "gear-within-a-gear" principle. The crescent shape divides the liquid and acts as a seal between the suction and discharge ports.
- 3- Rotor and idler teeth mesh completely to form a seal equidistant from the discharge and suction ports. This seal forces the liquid out of the discharge port.

IN-LINE DESIGN

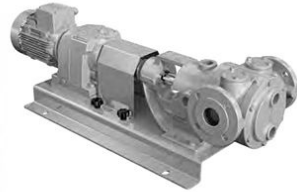
-  Max. Capacity: 390 m³/h
-  Max. Viscosity: 450.000 cSt
-  Max. Differential Pressure: 14 bar
-  Temperature Range: -50°C to +350°C

FEATURES:

- > Applications variety with 17 different case size
- > Can be apply many different material option (cast iron, ductile iron, steel or stainless steel)
- > Operating wide range of viscosity
- > Self-priming is up to 720mbar
- > The pump design is suitable for every type of seal (Special design, lip seal, packing gland, single mechanical seal, double mechanical seal)

OPTIONS:

- > Heating / Cooling jackets can be applied to cover, case or bracket
- > Relief Valve can be applied to pump cover
- > Connection type options ANSI&DIN Flanged connection



> Food Series (With Jacketed)

CODE SYSTEM

Model	Sealing	Construction	Connection	Casing Mat.	Bushing	By-Pass
H	M	422	F	1	B	V
HM	ML	422: Standard	F: DIN Flange	1: Cast Iron	B: Bronze	--: No Relief Valve
HL	N	452: Cover Jacketed	A: ANSI Flange	2: Ductile Iron	K: Carbon Graphite	V: Relief Valve on Cover
J	NL	452: Bracket Jacketed		3: Steel	T: Tungsten	W: Relief Valve Jacketed on Cover
JL	P	462: Cover & Bracket Jacketed		4: Stainless Steel		X: Relief Valve on Casing
K	R					Y: Relief Valve Jacketed on Casing
KL	Z					
S	ZL					
SL						



> Cutted Way with Relief Valve on Casing (with Jacketed)



> Relief Valve on Cover

Model	Inlet / Outlet Size		Capacity (at Max. Speed)		Max. Speed (rpm)	Max. Differential Pressure	
	Inch	mm	m ³ /h	GPM		PSI	Bar
H	1 1/2"	40	3.5	15	1750	200	14
HM	1 1/2"	40	5	22			
HL	1 1/2"	40	7	30			
J	2"	50	11	50	1150		
JL	2"	50	17	75			
K	2"	50	19	85	900		
KL	2"	50	26	115			
S	2 1/2"	65	36	160	750		
SL	2 1/2"	65	52	230			
M	3"	80	52	230	500		
ML	3"	80	65	290			
N	4"	100	65	290	400		
NL	4"	100	113	495			
P	5"	125	120	525	300		
R	6"	150	157	695			
Z	8"	200	267	1180			
ZL	10"	250	390	1720	125	8.5	

Note: In-Line design pumps are only with flange connection.



> Spare Part List