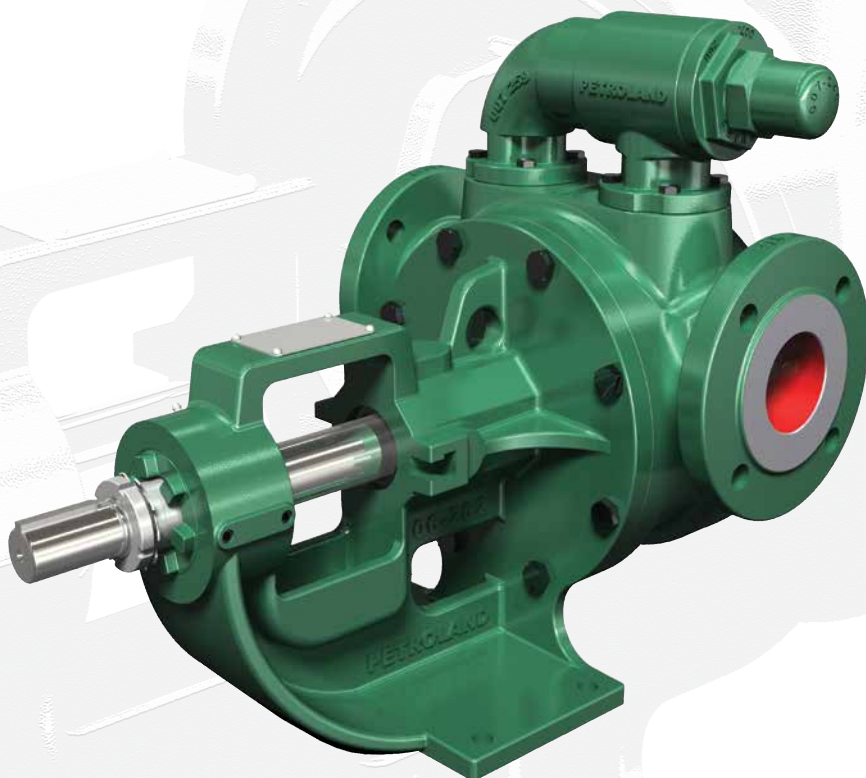




PD SERIES

Internal Gear Pumps





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



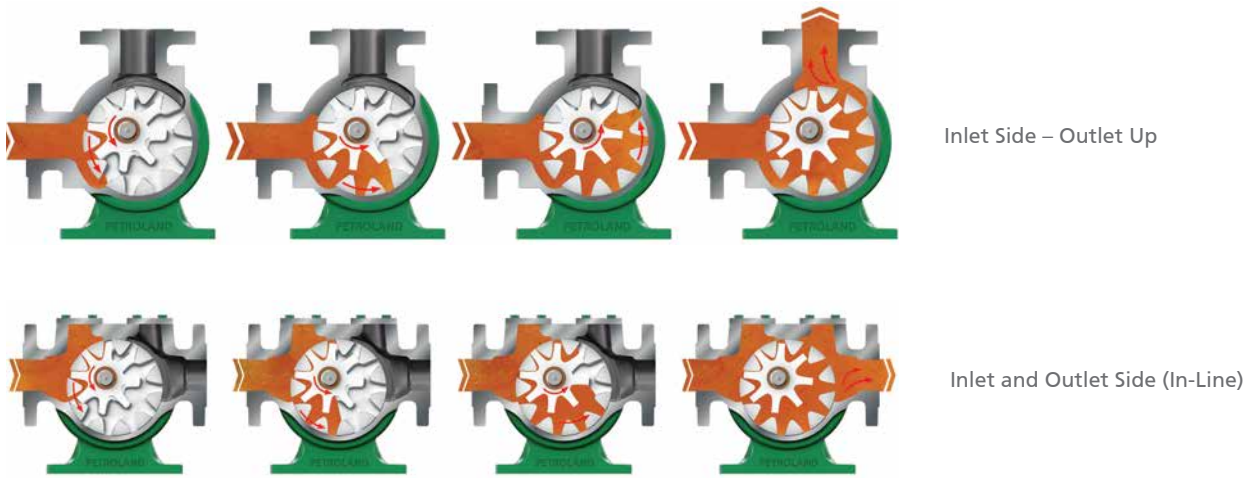
Internal Gear Pumps are self-priming positive displacement pumps and they have reliable design with only two moving parts. Because of both direction properties, they are suitable for filling and discharge.

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

FEAUTURES 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.

WITHOUT BRACKET DESIGN

- 

Max. Capacity: 26 m³/h
- 

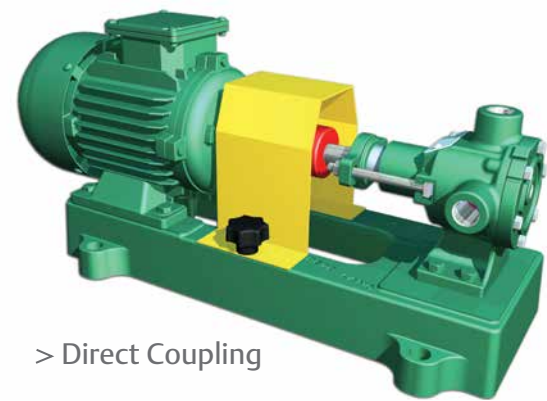
Max. Viscosity: 2.500 cSt
- 

Max. Differential Pressure: 7 bar
- 

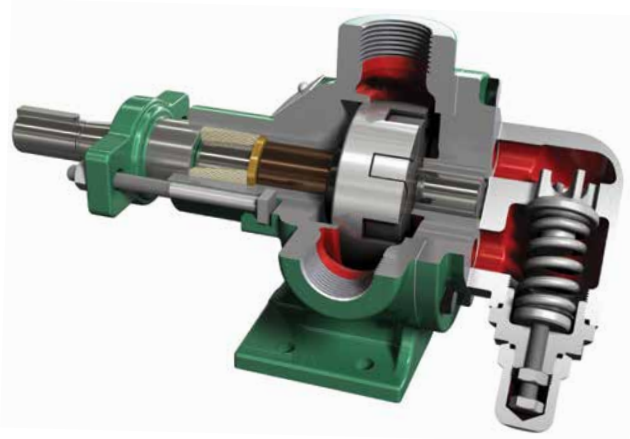
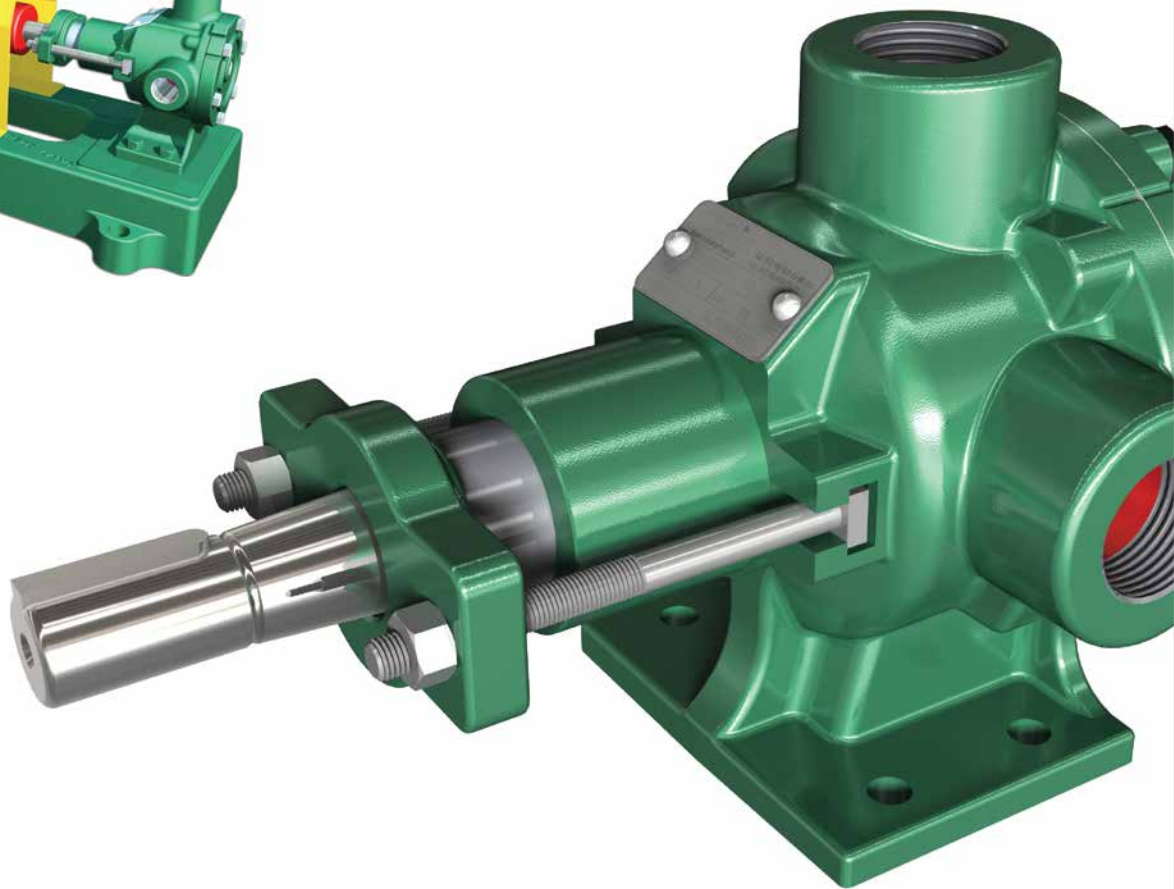
Temperature Range: -20°C to +180°C

- FEATURES:**
- > Applications variety with 8 different case size
 - > Can be apply many different material option (cast iron, ductile iron, steel or stainless steel)
 - > Operating low and medium viscosity
 - > Self-priming is up to 720mbar
 - > No need gearbox for low viscosity applications
 - > The pump design is suitable for lip seal, packing gland and mechanical seal
 - > It is economical solution with direct coupling

- OPTIONS:**
- > Heating / Cooling jacket can be applied to cover
 - > Relief Valve can be applied to pump cover
 - > Connection type options BSP & NPT threaded connection



> Direct Coupling



> The Cutted Way with Relief Valve



> The Cover Jacketed

CODE SYSTEM

AS	6	122	G	1	B	V
Model	Sealing	Construction	Connection	Casing Mat.	Bushing	By-Pass
AS	- : Packing Gland	122 - Standard	G: BSP	1 : Cast Iron	B: Bronze	- : No Relief Valve
A	6 : External Mechanical	132 - Cover Jacketed	N: NPT	2 : Ductile Iron	K: Carbon Graphite	V: Relief Valve on Cover
GL	9 : Lip Seal			3 : Steel	T: Tungsten	
FL				4 : Stainless Steel		
J						
JL						
K						
KL						

Model	Inlet / Outlet Size		Capacity (at Max. Speed)		Max. Speed (rpm)	Max. Differential Pressure			
	Inch	mm	m³/h	GPM		PSI	Bar		
AS	½ "	15	0.7	3	1750	100	7		
A	¾ "	20	1.5	6.5					
GL	1 "	25	3.5	15					
FL	1 ½ "	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					

Note: The connection ports are available only BSP / NPT threaded connections.



> Spare Part List

WITH BRACKET DESIGN

Max. Capacity: 390 m³/h

Max. Viscosity: 450.000 cSt

Max. Differential Pressure: 14 bar

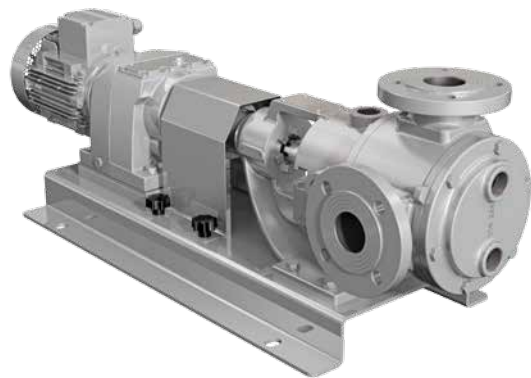
Temperature Range: -50°C to +350°C

FEATURES

- > Applications variety with 19 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 or BSP&NPT threaded connection

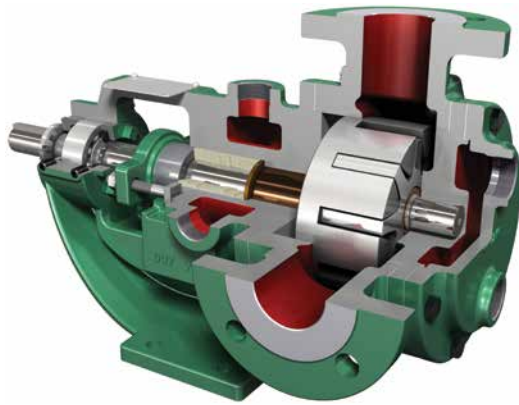


> Food Series (With Jacketed)



CODE SYSTEM

H		5	222		F	1	B	V
Design	Sealing	Construction		Connection	Casing Mat.	Bushing	By-Pass	
B	M	- : Packing Gland	222 : Standard	G : BSP	1 : Cast Iron	B : Bronze	- : No Relief Valve	
CL	ML	4 : Special Design	232 : Cover Jacketed	N : NPT	2 : Ductile Iron	K : Carbon Graphite	V : Relief Valve on Cover	
H	N	5 : Internal Mechanical	242 : Casing Jacketed	F : DIN Flange	3 : Steel	T : Tungsten	W : Relief Valve Jacketed on Cover	
HL	NL	6 : External Mechanical	252 : Bracket Jacketed	A : ANSI Flange	4 : Stainless Steel			
HM	P		262 : Cover & Bracket Jacketed					
J	R		272 : Bracket & Cover Jacketed					
JL	Z		282 : Bracket & Casing Jacketed					
K	ZL		292 : Cover & Bracket & Casing Jacketed					
KL								
S								
SL								



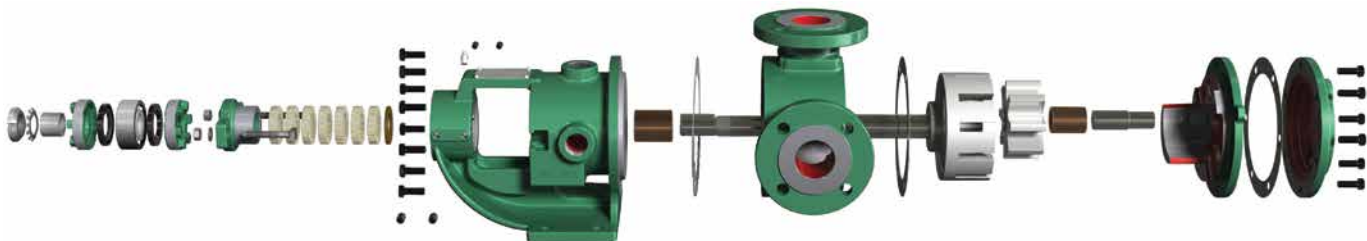
> The Cover & Bracket Jacketed Cutted Way



With Relief Valve Threaded Connection Ports


Model	Inlet / Outlet Size		Capacity (at Max. Speed)		Max. Speed (rpm)	Max. Differential Pressure	
	Inch	mm	m³/h	GPM		PSI	Bar
B	1 "	25	2.4	10	1750	200	14
CL	1 "	25	3.5	15			
H	1 ½ "	40	3.5	15			
HM	1 ½ "	40	5	22			
HL	1 ½ "	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 ½ "	65	36	160	750		
SL	2 ½ "	65	52	230			
M	3 "	80	52	230	500		
ML	3 "	80	65	290			
N	4 "	100	65	290			
NL	4 "	100	113	495			
P	5 "	125	120	525	400		
R	6 "	150	157	695			
Z	8 "	200	267	1180	300		
ZL	10 "	250	390	1720		125	8.5


Note: B and CL model pumps are with only threaded connection. Between H and M models are with threaded or flange connection. Between ML and ZL models are with only flange connection.





> Spare Part List

IN-LINE DESIGN

- 

Max. Capacity: 390 m³/h
- 

Max. Viscosity: 450.000 cSt
- 

Max. Differential Pressure: 14 bar
- 

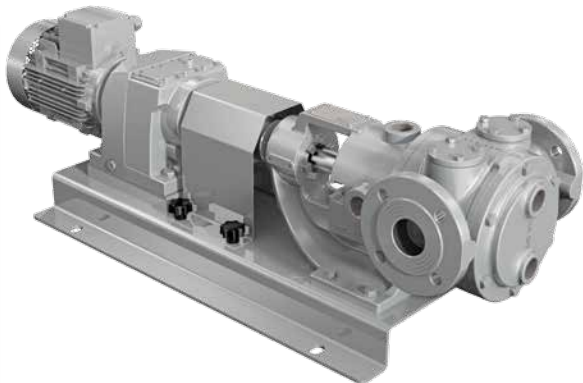
Temperature Range: -50 °C to +350 °C

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:

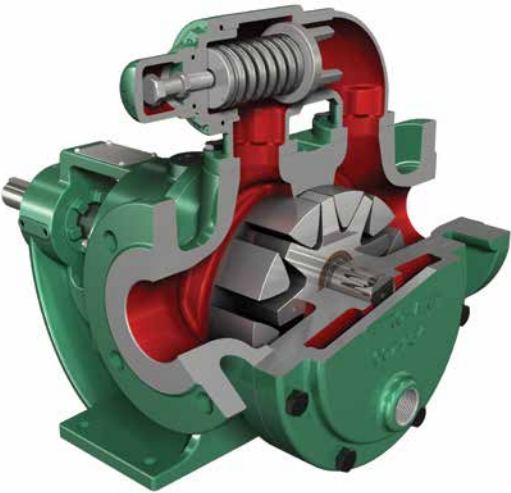
- > Heating / Cooling jackets can be applied to cover, case or bracket
- > Relief Valve can be applied to pump cover
- > Connection type options ANSI&DIN Flanged connection



> Food Series (With Jacketed)

CODE SYSTEM

H		5	422	F	1	B	V
Model	Sealing	Construction	Connection	Casing Mat.	Bushing	By-Pass	
H M	- : Packing Gland	422 : Standard	F : DIN Flange	1 : Cast Iron	B : Bronze	- : No Relief Valve	
HM ML	4 : Special Design	432 : Cover Jacketed	A : ANSI Flange	2 : Ductile Iron	K : Carbon Graphite	V : Relief Valve on Cover	
HL N	5 : Internal Mechanical	452 : Bracket Jacketed		3 : Steel	T : Tungsten	W : Relief Valve Jacketed on Cover	
J NL	6 : External Mechanical	462 : Cover & Bracket Jacketed		4 : Stainless Steel		X : Relief Valve on Casing	
JL P						Y : Relief Valve Jacketed on Casing	
K R							
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	m³/h	GPM		PSI	Bar
H	1 ½ "	40	3.5	15	1750	200	14
HM	1 ½ "	40	5	22			
HL	1 ½ "	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 ½ "	65	36	160	750		
SL	2 ½ "	65	52	230			
M	3 "	80	52	230	500		
ML	3 "	80	65	290			
N	4 "	100	65	290			
NL	4 "	100	113	495	400		
P	5 "	125	120	525			
R	6 "	150	157	695			
Z	8 "	200	267	1180	300		
ZL	10 "	250	390	1720			


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





> Spare Part List

MONOBLOCK DESIGN

- 

Max. Capacity: 17 m³/h
- 

Max. Viscosity: 2.500 cSt
- 

Max. Differential Pressure: 10 bar
- 

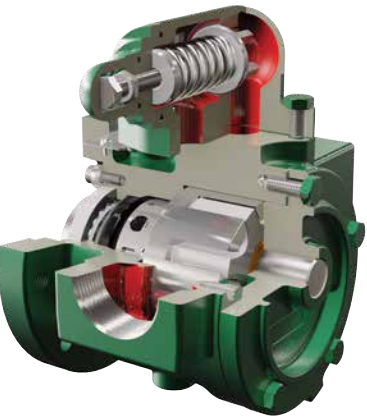
Temperature Range: -20°C to +180°C

FEATURES:

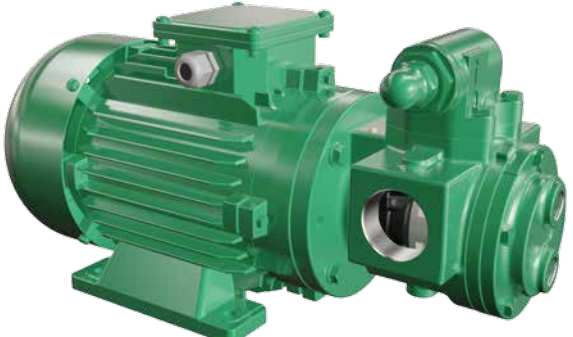
- > Applications variety with 6 different case size
- > Can be apply many different material option (cast iron, ductile iron, steel or stainless steel)
- > Operating low and medium viscosity
- > Self-priming is up to 720mbar
- > It requires less space in order to design
- > The pump design is suitable for lip seal and mechanical seal
- > It is economical solution with direct coupling

OPTIONS:

- > Heating / Cooling jacket can be applied to cover
- > Relief Valve can be applied to pump cover or casing
- > Connection type options, ANSI&DIN Flanged connection or BSP&NPT threaded connection.



> The Cutted Way with Relief Valve on Casing



> Cover Jacketed, Relief Valve on Casing


CODE SYSTEM


H	5	722	F	1	B	V
Model	Sealing	Construction	Connection	Casing Mat.	Bushing	By-Pass
B	5: Internal Mechanical	722: Standard	G: BSP	1: Cast Iron	B: Bronze	- : No Relief Valve
H	9: Lip Seal	732: Cover Jacketed	N: NPT	2: Ductile Iron	K: Carbon	V: Relief Valve on Cover
HM			F: DIN Flange	3: Steel	Graphite	X: Relief Valve on Casing
HL			A: ANSI Flange	4: Stainless Steel	T: Tungsten	
J						
JL						


Model	Inlet / Outlet Size		Capacity (at Max. Speed)		Max. Speed (rpm)	Max. Differential Pressure	
	Inch	mm	m³/h	GPM		PSI	Bar
B	1"	25	2.4	10	1750	140	10
H	1 ½"	40	3.5	15			
HM	1 ½"	40	5	22			
HL	1 ½"	40	7	30			
J	2"	50	11	50	1150	140	10
JL	2"	50	17	75			


HIGH SPEED DESIGN



- 

Max. Capacity: 17 m³/h
- 

Max. Viscosity: 2.500 cSt
- 

Max. Differential Pressure: 14 bar
- 

Temperature Range: -20°C to +180°C

FEATURES:

- > Applications variety with 6 different case size
- > Can be apply different material option (cast iron and ductile iron)
- > Operating low and medium viscosity
- > Self-priming is up to 720mbar
- > The pump design is suitable for only mechanical seal
- > It is economical solution with direct coupling

OPTIONS:

- > Relief Valve can be applied to pump cover
- > Connection type option is with BSP&NPT threaded connection



> Cutted Way with Relief Valve on Cover

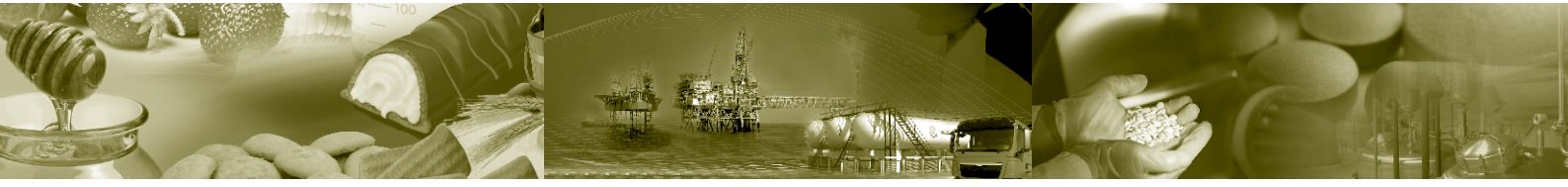


> Relief Valve on Cover (Direct Coupling)

CODE SYSTEM

TL	522	G	1	B	V
Model	Construction	Connection	Casing Mat.	Bushing	By-Pass
TL	522: Standard	G: BSP	1: Cast Iron	B: Bronze	- : No Relief Valve
H		N: NPT	2: Ductile Iron	K: Carbon	V: Relief Valve on Cover
HM				Graphite	
HL				T: Tungsten	
J					
JL					

Model	Inlet / Outlet Size		Capacity (at Max. Speed)		Max. Speed (rpm)	Max. Differential Pressure	
	Inch	mm	m³/h	GPM		PSI	Bar
TL	1"	25	2.4	10	1750	200	14
H	1 ½"	40	3.5	15			
HM	1 ½"	40	5	22			
HL	1 ½"	40	7	30			
J	2"	50	11	50	1150	200	14
JL	2"	50	17	75			



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