



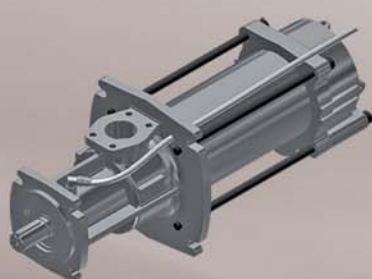
SHORT CATALOG NAVAL APPLICATION



FIND YOUR WAY



PITCH PROPELLER



STRIPPING



DRIVING



BOILER

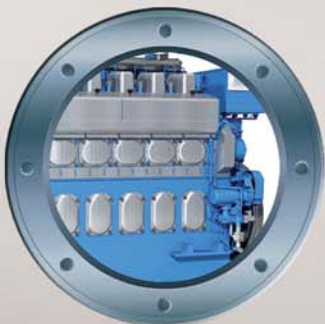




# ON THE SEIM LANE



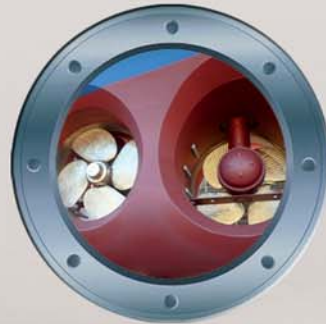
ENGINE



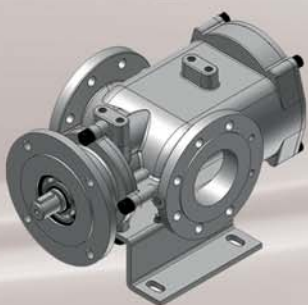
CARGO



THRUSTER
















SEPARATOR / BOOSTER



## PUMP TYPE

THREE SCREW PUMPS / TWIN SCREW PUMPS













PUMP TYPE	LOW PRESSURE	
	PHS	PZ
PUMP MODEL		
<b>MAIN CHARACTERISTICS</b>		
Flow rate m <sup>3</sup> /h [ lpm ]	12 [200]	354 [5.900]
Max operating pressure bar	16	16
Typical Viscosity cSt	1,2 - 5.000	1,2 - 5.000
Max operating temperature °C	150	150
<b>TYPICAL APPLICATIONS</b>		
STRIPPING		
CARGO		
TRANSFER		
SEPARATOR		
FEEDER		
CIRCULATING		
BOILER / BURNER		
LUBE: Diesel Engine, Thruster		
DRIVING: Deck machinery, Pitch Propeller Door and Ramp, Steering Gear		
<b>TYPICAL FLUIDS</b>		
FUEL OIL: HFO ..... LSMGO	★	★
MINERAL OIL / LUBE OIL	★	★
Body Materials	GGG40	GG25 GGG40
Screw Set Materials	Nitrided Steel	Nitrided Steel
Mechanical Seal	★	★
Magnetic coupling	★	★
Integrated Relief Valve	★	★
IN / OUT Port Connection	Special	DIN ANSI - option





THREE SCREW PUMPS				TWIN SCREW PUMPS	
MEDIUM and HIGH PRESSURE				LOW PRESSURE	
PXF	PCX6	PWO	POF	2SP LS WTG	2SP
					

277 [4.615]	39 [650]	39 [650]	39 [650]	633 [10.550]	1.200 [20.000]
30	50	100	120	16	16
10 - 400	1,2 - 1.500	1,2 - 1.500	10 - 400	1,2 - 15.000	1,2 - 15.000
120	120	120	120	120	300

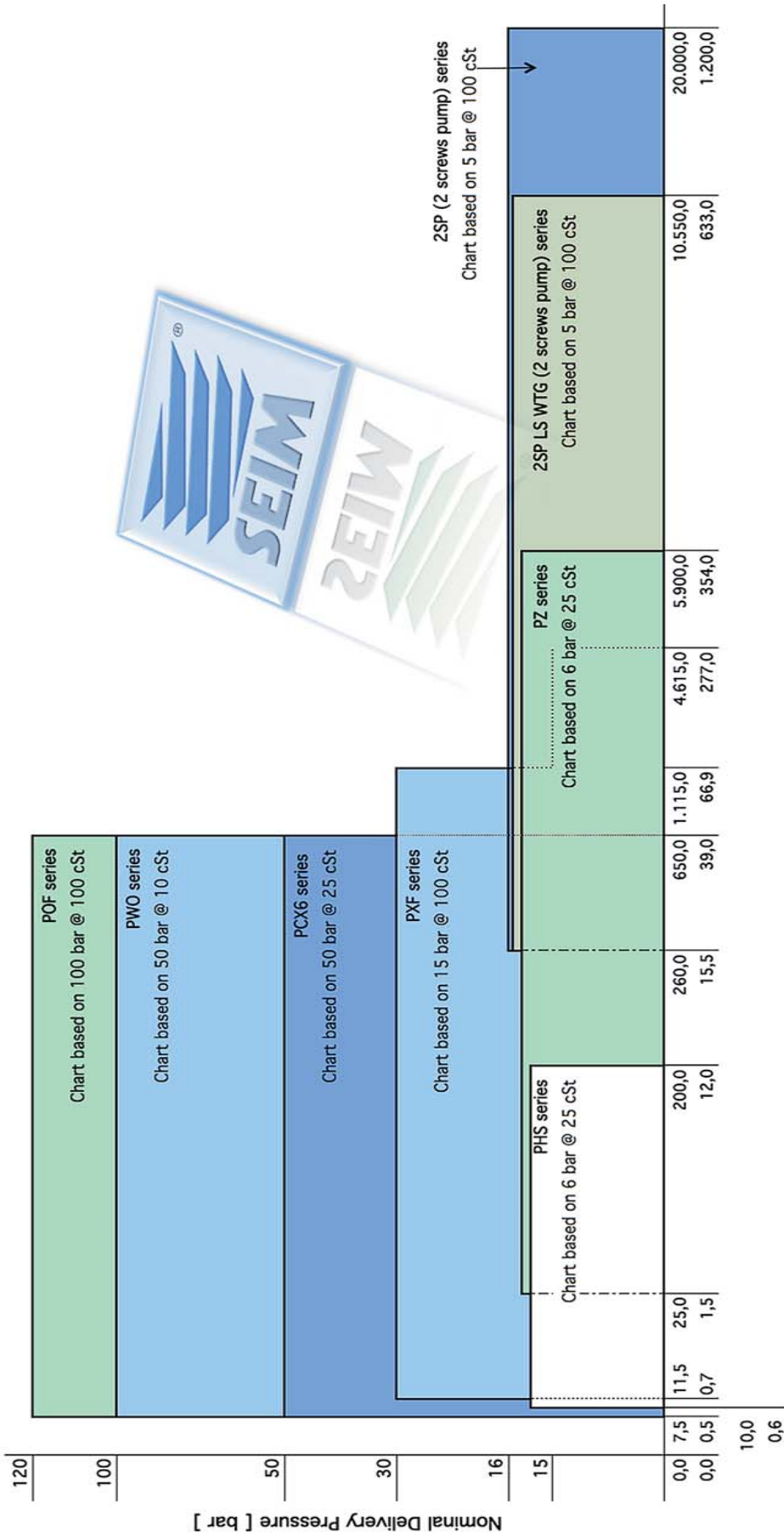
	★	★		★	★
★	★	★	★	★	★

GG25	C.S. S.S.	GG25 GGG40	Al	GGG40 C.S.	C.S. S.S.
Carbon Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel

★	★	★	★	★	★
	★	★			

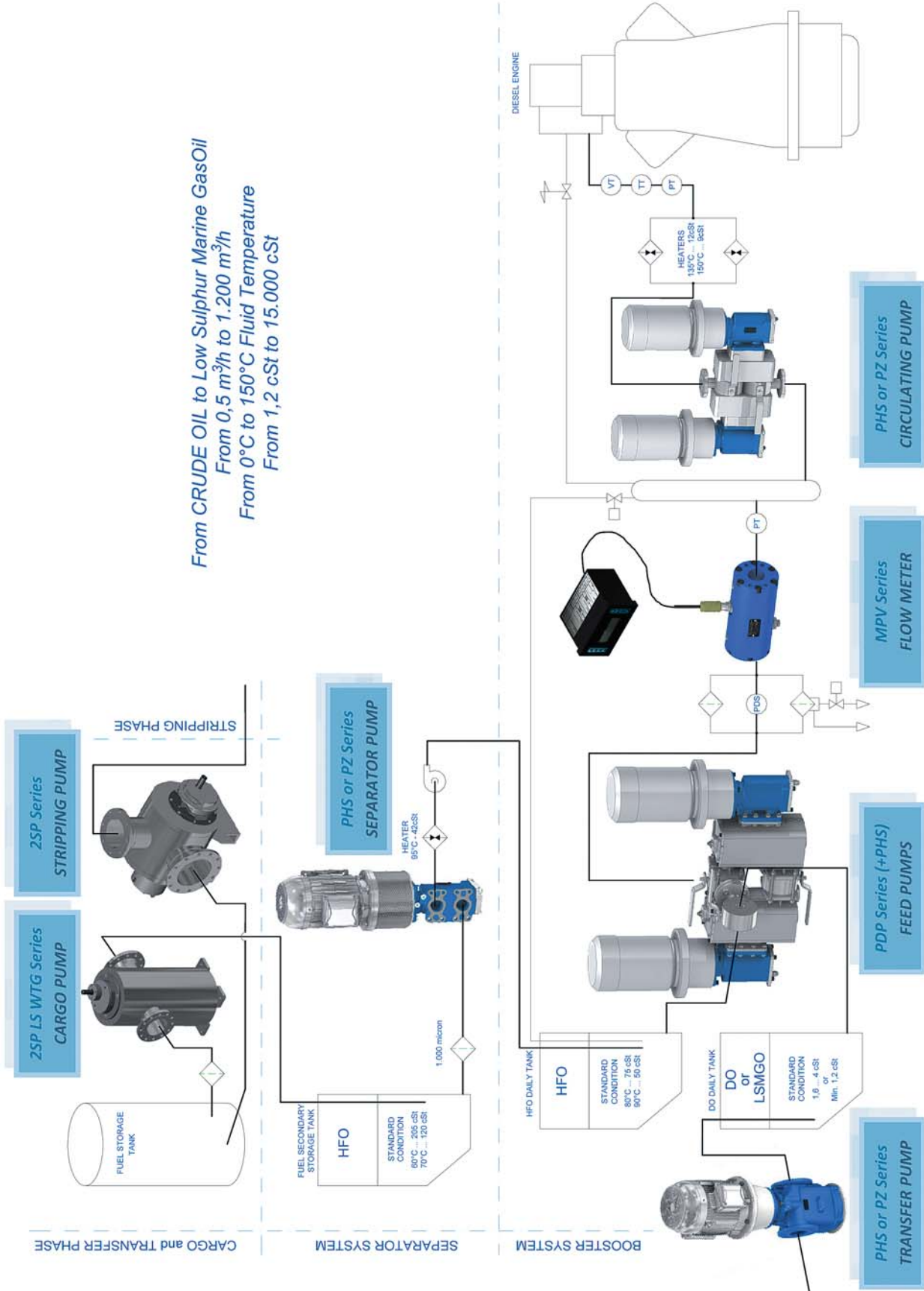
★	option			option	option
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SAE 3.000psi	DIN ANSI - option	SAE 3.000psi	SAE 3.000psi	DIN ANSI - option	DIN ANSI - option
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Delivery Flow [ l/min ] [ m<sup>3</sup>/h ] @ 50 ... 60 Hz

From CRUDE OIL to Low Sulphur Marine GasOil  
 From 0,5 m<sup>3</sup>/h to 1.200 m<sup>3</sup>/h  
 From 0°C to 150°C Fluid Temperature  
 From 1,2 cSt to 15.000 cSt



SERIES

**PHS**



<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Separator, transfer, booster, feeder, fuel supply, lubricating
<b>OPERATING DATA</b>	
Handled fluid	Fuel oil HFO - DO - LSMGO - Hydraulic and Lube oils
Viscosity range	From 1,2 to 5000 cSt
Pump speed	From 750 to 3600 rpm (*)
Rotation (viewed from coupling end)	CW (Std version ; CCW on demand )
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 170 LPM - 10,2 M <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 16 bar (from 1000 to 3600 rpm)
Operating temperature range	From 0 to 150 °C (*)
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	Lubricated for life
Mounting arrangement	Horizontal or vertical mounting
Inlet & Outlet connection	Special version
<b>MATERIALS</b>	
Casing/Flanges	Cast Iron GGG40
Screws	Nitrided steel
O-rings	Viton ®
Surface protection	Only on demand

(\*) For different values contact Seim

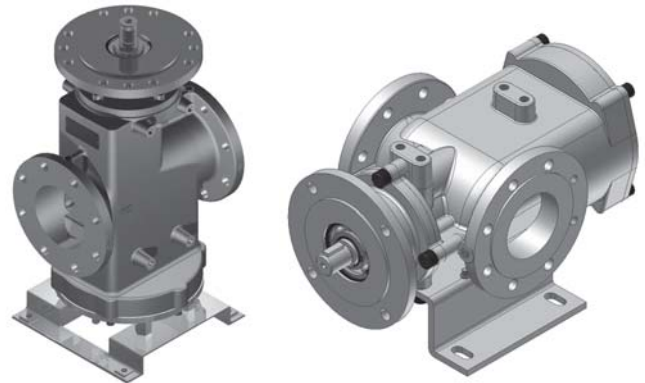


# MAIN CHARACTERISTICS



**SERIES**

**PZ**

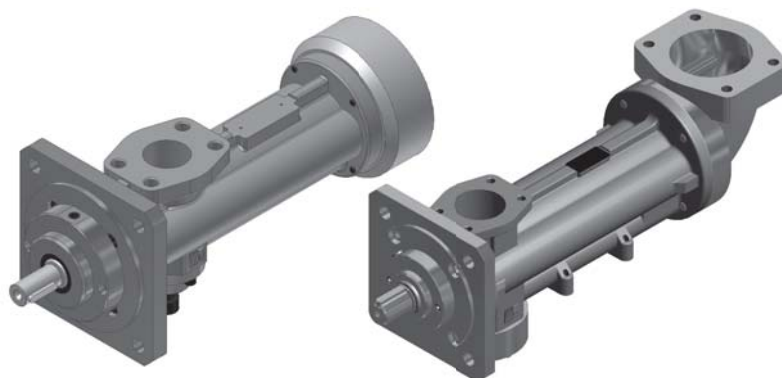


<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Cargo, separator, transfer, booster, feeder, fuel supply, lubricating
<b>OPERATING DATA</b>	
Handled fluid	Fuel oil HFO - DO - LSMGO - Hydraulic and Lube oils
Viscosity range	From 1,2 to 5000 cSt (specific configuration may apply)
Pump speed	From 750 to 3600 rpm (*)
Rotation (viewed from coupling end)	CW (Std version ; CCW on demand )
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 5400 LPM - 324 M <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 16 bar (from 1000 to 3600 rpm)
Operating temperature range	From 0 to 150 °C (*)
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	Lubricated for life
Mounting arrangement	Horizontal or vertical mounting (foot on demand)
Inlet & Outlet connection	DIN standard (ANSI on demand)
<b>MATERIALS</b>	
Casing/Flanges	Cast Iron GG25 or GGG40
Screws	Nitrided steel
O-rings	Viton ®
Surface protection	Only on demand

(\*) For different values contact Seim

SERIES

**PXF**



<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Lube system
<b>OPERATING DATA</b>	
Handled fluid	Hydraulic and Lube oils
Viscosity range	From 10 to 5000 cSt (*)
Pump speed	From 750 to 3600 rpm (*)
Rotation (viewed from coupling end)	CW (Std version ;CCW on demand )
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 4.615 LPM - 277M <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 30 bar (from size 102 to 156 up to 16 bar)
Operating temperature range	From 0 to 120 °C (*)
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	By pumped fluid
Mounting arrangement	Horizontal or vertical mounting (foot on demand)
Inlet & Outlet connection	SAE up to size 083, DIN from size 102 to 156
<b>MATERIALS</b>	
Casing/Flanges	Cast Iron GG25 (standard), carbon steel on demand
Screws	Nitrided steel
O-rings	Viton ®
Surface protection	On demand

(\*) For different values contact Seim

SERIES

**PCX6**



<b>INSTALLATION DATA</b>	
Installation	Indoor or outdoor
Environment	Marine, Industrial
Application	Boiler / Burner, Driving
<b>OPERATING DATA</b>	
Handled fluid	Diesel oils, hydraulic oils
Suggested inlet strainer filtration	400 $\mu$
Viscosity range	From 1,2 to 5000 cSt
Pump speed	750 to 3600 rpm (*)
Rotation (viewed from coupling end)	CW (Std version; CCW on demand)
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 650 LPM - 40 M <sup>3</sup> /h
Suction Pressure	From 0,5 + 10 bar (*)
Delivery pressure	UP to 50 bar
Operating temperature range	From 0 + 120 °C (*)
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	Lubricated for life
Mounting arrangement	Horizontal or vertical mounting
Inlet & Outlet Connection	DIN standard (ANSI on demand)
<b>MATERIALS</b>	
Casing/Flanges	Carbon Steel or Stainless Steel
Screws	Nitrided Steel
Liner	Cast Iron GG25 or Carbon Steel
O-rings	Viton ®
Surface protection	Sand Blasting SA 2,5 + Inorganic Primer 75 $\mu$ ; Painting cycles on demand

(\*) For different values contact Seim



**SERIES**

**PWO**



<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Boiler / Burner, Driving
<b>OPERATING DATA</b>	
Handled fluid	Light fuel oils LFO, LSMGO - heavy fuel oils (HFO) - lube oils, mineral and synthetic types
Viscosity range	From 1 to 10 cSt typical and up to 400 cSt (*)
Pump speed	From 2900 to 3500 rpm (*) low lubricity fluids; other viscosities allow different speeds.
Rotation (viewed from coupling end)	CW (Std version; CCW on demand )
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 650 LPM - 40M <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 100 bar continuous full / 120 bar with oils, at 2900 rpm
Operating temperature range	From 0 to 100 °C (*)
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	Lubricated for life
Mounting arrangement	Horizontal, or vertical (also vertical semi-submerged, thanks to the intermediate flange).
Inlet & Outlet connection	Suction port: BSP thread - Delivery port: SAE 3000
<b>MATERIALS</b>	
Casing/Flanges	Cast Iron GG25, GGG-40 on demand (*)
Screws	Nitrided steel (*)
O-rings	Viton ®
Surface protection	On demand

(\*) For different values contact Seim

SERIES

**POF**

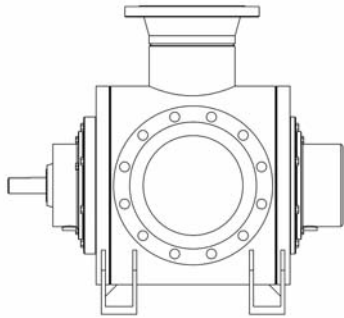
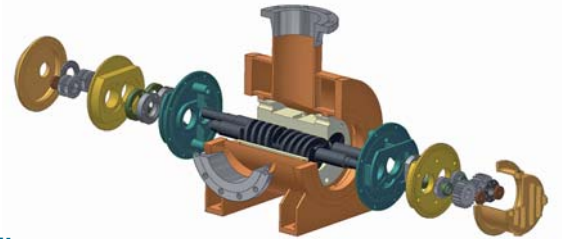


<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Driving
<b>OPERATING DATA</b>	
Handled fluid	For hydraulic oils, lubricating oils
Viscosity range	To 10 cSt to 400 cSt (*)
Pump speed	From 2900 to 3500 rpm (*)
Rotation (viewed from coupling end)	CW (Std version; CCW on demand )
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 650 LPM - 40M <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 120 bar continuous at 2900 rpm
Admissible temperature	0 to 120 °C
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	Lubricated for life
Mounting arrangement	Horizontal, or vertical (also vertical semi-submerged, thanks to the intermediate flange).
Inlet & Outlet connection	Suction port: BSP thread - Delivery port: SAE 3000
<b>MATERIALS</b>	
Casing/Flanges	Cast Iron GG25, GGG-40 on demand (*)
Screws	Nitrided steel (*)
O-rings	Viton ®
Surface protection	On demand

(\*) For different values contact Seim

## SEIM Twin Screw Pumps 2SP Series

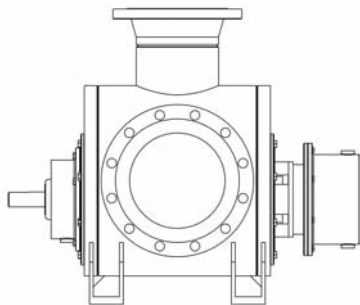
are available in four different arrangements suitable to match most of the applications. On demand, custom versions are available.



### L1

**Lube oil Fuel oil Hydraulic Oil  
Every fluid with lubricant characteristics**

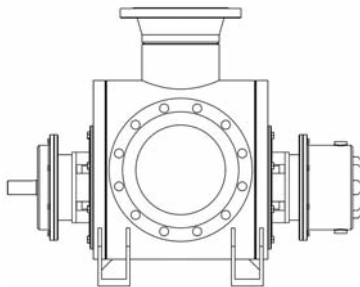
Self priming, double entry design, with internal bearings and sincronism timing gear.  
One mechanical or packing seal.



### L2

**Non lubricating low and medium viscosity  
and corrosive fluid**

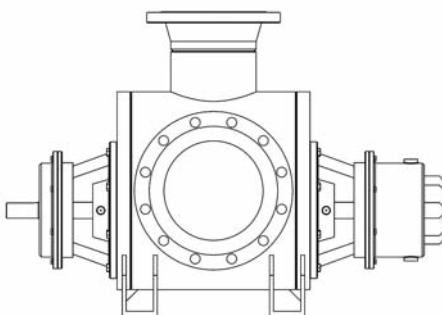
Self priming, double entry design, with external bearings separated by seals. Compact design for a simple maintenance and cheapest solution. Shaft seal shall be single or double.



### L3

**Non lubricating low and medium viscosity, corrosive  
and dangerous fluids.**

Self priming, double entry design, with external bearings separated by seals. Long shaft design suitable for a wide range of seals configuration. Possibility to install a cartridge design.



### L4

**Non lubricating low and medium viscosity, corrosive and dangerous  
fluids in heavy duty service with operating more than 3 year.**

Self priming, double entry design, with external bearings separated by seals. Strong shaft design for all dangerous fluids in all conditions. Design to meet API 676 and all API 682 mechanical seal configurations. Possibility to work in mixed phases.



# EXPLODED VIEW, SECTION AND COMPONENTS



## PERFORMANCE DATA

# 2SP

Working temperature up to 100°C  
 Viscosity range up to 1500 cst  
 Inlet pressure up to 6 Bar  
 Differential pressure up to 16 Bar  
 Speed up to 3500 rpm

Working temperature up to 150°C  
 Viscosity range up to 1500 cst  
 Inlet pressure up to 6 Bar  
 Differential pressure up to 16 Bar  
 Speed up to 3500 rpm

Working temperature up to 200°C  
 Viscosity range up to 2500 cst  
 Inlet pressure up to 6 Bar  
 Differential pressure up to 16 Bar  
 Speed up to 3500 rpm

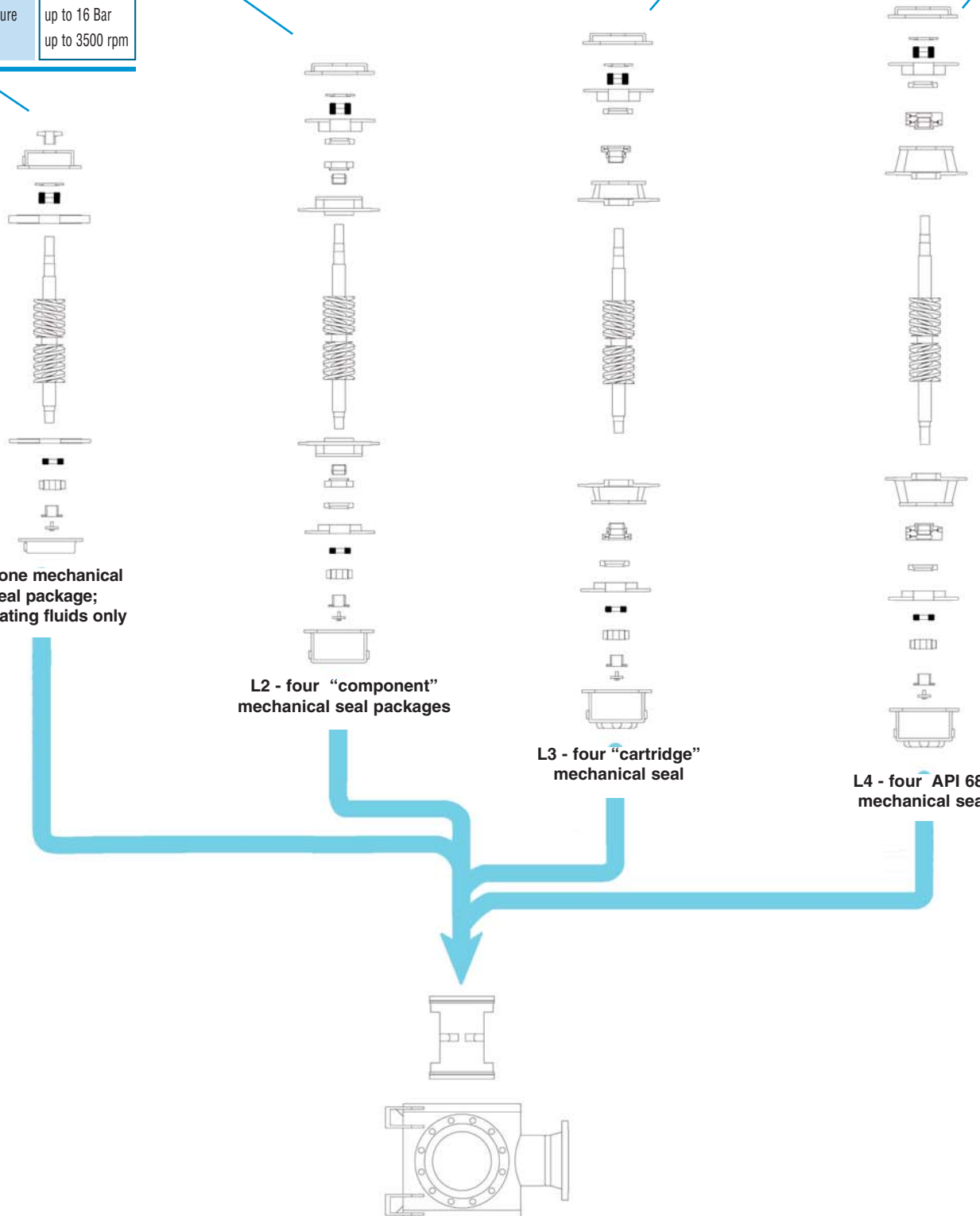
Working temperature up to 300°C  
 Viscosity range up to 15000 cst  
 Inlet pressure up to 10 Bar  
 Differential pressure up to 40 Bar  
 Speed up to 3500 rpm

**L1 - one mechanical seal package; lubricating fluids only**

**L2 - four "component" mechanical seal packages**

**L3 - four "cartridge" mechanical seal**

**L4 - four API 682 mechanical seal**



**SERIES**

**2SP LS WTG**



<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Cargo, Transfer, Lube system
<b>OPERATING DATA</b>	
Handled fluid	Fuel oil HFO, DO, LSMGO hydraulic and Lube oils
Viscosity range	From 1,2 to 5000 cSt
Pump speed	From 750 to 3600 rpm (*)
Rotation (viewed from coupling end)	CW (Std version ;CCW on demand )
<b>TECHNICAL CHARACTERISTICS</b>	
Flow rate	Up to 10.550 LPM - 633M <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 16 bar
Operating temperature range	From 0 to 120 °C (*)
Seal	Mechanical seal
Bearing type	Radial ball on main shaft
Bearing lubrication	By pumped fluid (lubricated for life on demand)
Mounting arrangement	Horizontal or vertical mounting (with foot)
Inlet & Outlet connection	Din standard (ANSI on demand)
<b>MATERIALS</b>	
Casing/Flanges	GGG40 or carbon steel
Screws	Nitrided steel
O-rings	Viton ®
Surface protection	On demand

(\*) For different values contact Seim

SERIES

**MPV**



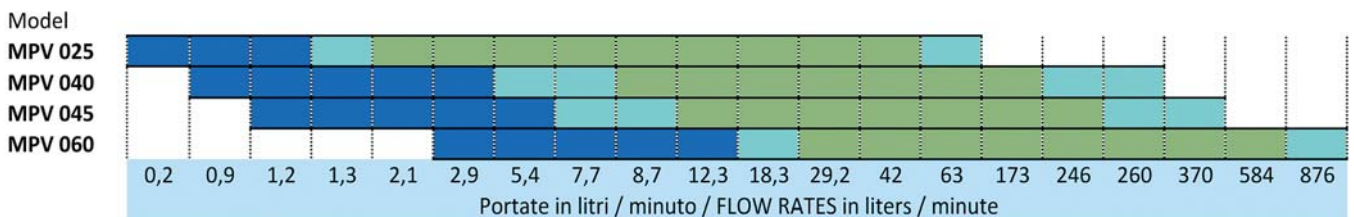
<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Check consumption fuel
<b>TECHNICAL CHARACTERISTICS</b>	
Delivery flow	0,9 to 900 LPM approx (0,05 to 54M <sup>3</sup> /h)
Pressure	version up to 200 bar continuous or version up to 400 bar/ 6000 psi continuous
Admissible temperature	-15 to +110 °C* ( up to 150 °C upon request)
Precision	class 0,2% see table
Type of O/P	square wave signal in frequency, direct function of flow rate*
<b>MATERIALS</b>	
Casing/Flanges	Cast Iron GG25 (standard), carbon steel on demand
Screws	Nitrided steel
O-rings	Viton ®
Surface protection	On demand

(\*) For different values contact Seim

## HOW TO SELECT THE MPV SERIES FLOW METER FOR YOUR APPLICATION

Use the graph below on TABLE 3 to select the perfect standard MPV size for your application.  
(Other sizes available on request – contact SEIM)

## SUMMARY TABLE OF CAPACITY FOR EACH MODEL



**Keys:**

green: std range (accuracy class 0,2% read value)  
sky-blue.: extended range (accuracy class 0,4% read value)  
blue: over range (use possible with accuracy < 0,5 %)



SERIES

## PDP & SD

### Double & Single pump station for Fuel Oils

#### WHY SEIM'S CONDITIONING MODULES?

SEIM double pump station PDP Series represent the best solution

- RELIABILITY
- PRICING
- TECHNICAL CHOICE
- ROOM SAVING EXECUTION
- "CLOSE TO CUSTOMER" DEVELOPMENT

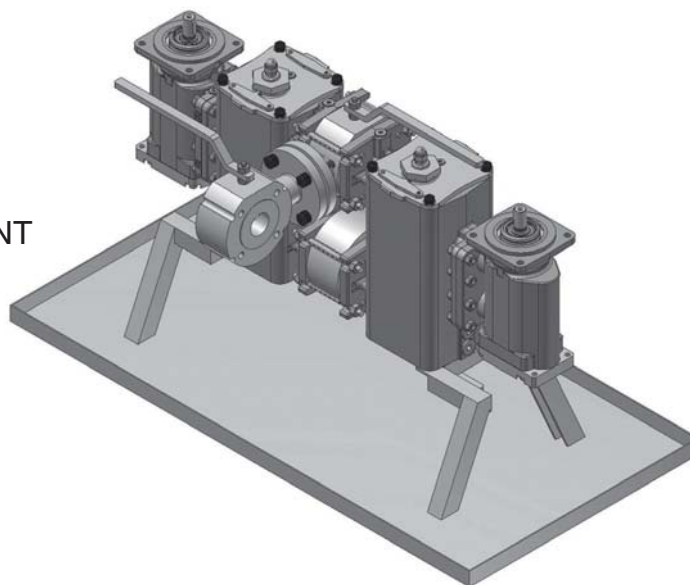
#### THE ONLY ONE

PDP Series it THE ONLY ONE for the following reasons

- LEAKAGE FREE
- EASILY INSPECTION CHECK VALVES and REGULATION PRESSURE VALVES
- STANDARD VALVES USED 1
- FLEXIBILITY 2

1 (easy traceability on the market)

2 (single and double modules with same components):



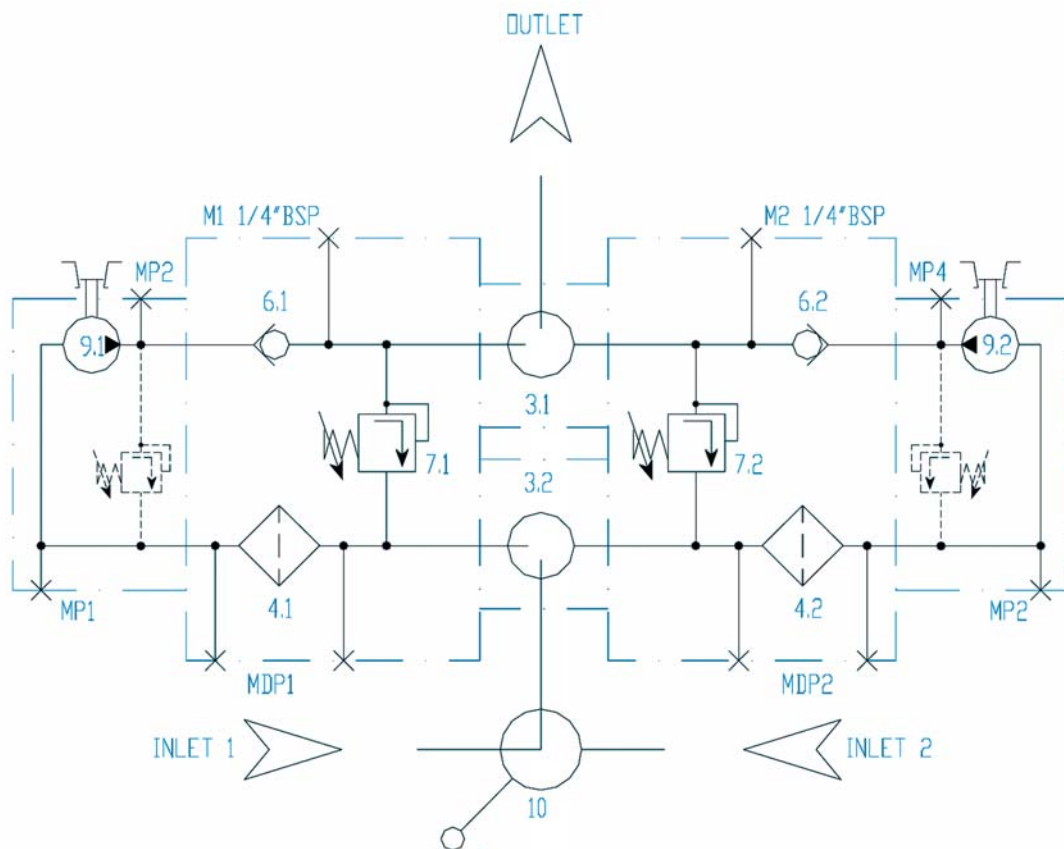
<b>INSTALLATION DATA</b>	
Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Booster system
<b>TECHNICAL CHARACTERISTICS</b>	
Delivery flow	Up to standard 10,2 M <sup>3</sup> /h
Admissible delivery pressure	Up to 16 bar from 1000 to 3600 giri/min.
Admissible suction pressure	From -0,7 to 10 bar (*)
Kinematics viscosity	1,2 - 5000 cSt*
Admissible temperature	From 0 to 150 °C (*)
Driving speed (pump)	From 1000 to 3600 giri/min
Average noise level	60 - 75 dB (A) at 3600 giri/min according to pump dimension
Filter	500 µm, filtering surface 500 cm <sup>2</sup>
Direction of rotation	Clockwise, as seen from driving side

(\*) For different values contact Seim

# PART LIST (double & single conditioning modules)

#	Part	Material	Qty.
1	Body	GGG40	1
2	Body	GGG40	1
3	Shut-off valve IN/OUT DN32/40 ANSI150	A216WCB+AISI304+AISI410+R-PTFE	2
4	Filter Cartridge 500micron	AISI304	2
5	Filter Cover	GGG40	2
6	Check Valve Cartridge		2
7	Pressure Relief valve		2
8	Support		2
9	SEIM Screw Pumps <sup>3</sup> (see Performance Table)	GGG40	2
10	Manual fluid changeover valve	A216WCB+AISI304+AISI410+R-PTFE	1

<sup>3</sup> Standard equipped with Mechanical seal.





## **SEIM S.r.l.**

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