SEIM

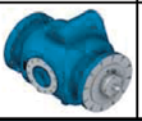
MADE IN

serie ■ series

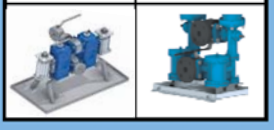
SPB

APPLICATIONS

PUMP TYPE — THREE SCREW PUMPS / TWIN SCREW PUMPS

COMPONENT TYPE	THREE SCREW PUMPS				
	LOW PRESSURE				
COMPONENT MODEL	PB	PHS	PZ	PZD	PXF
					
MAIN CHARACTERISTICS					
Flow rate up to m3/h [lpm]	2,5 [41]	12 [200]	288 [4.800]	600 [10.000]	288 [4.800]
Max operating pressure bar	16	16	16	16	30
Typical Viscosity cSt	1,2 - 5.000	1,2 - 5.000	1,2 - 5.000	1,6 - 5.000	10 - 5.000
Max operating temperature °C	150	150	150	120	120
TYPICAL APPLICATIONS					
STRIPPING					
CARGO			✓	✓	
TRANSFER		✓	✓	✓	
SEPARATOR		✓			
FEEDER		✓	✓		
CIRCULATING		✓	✓		
BOILER / BURNER	✓				
LUBE: Diesel Engine, Thruster, Gear Box	✓	✓	✓	✓	✓
HYDRAULIC *					
TYPICAL FLUIDS					
FUEL OIL: HFO - LFO - MGO - DO - LSMGO	YES	YES	YES	YES	NO
MINERAL OIL / LUBE OIL	YES	YES	YES	YES	YES
Body Materials	GGG40	GGG40	GG25 / GGG40	GGG40	GG25
Screw Set Materials	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	C.S. Carbon Steel
Mechanical Seal	YES	YES	YES	YES	YES
Magnetic coupling	YES	YES	YES	YES	YES
Integrated Relief Valve	YES	YES	YES	YES	YES
STANDARD IN / OUT Port Connection	SAE 3.000psi	Special	DIN PN16 / ANSI - option	DIN PN16 / ANSI - option	SAE 3.000psi / DIN *** PN16

* Deck Machinery, Pitch Propeller, Steering Gear, Door and Ramp
*** Up to size 083: SAE 3.000psi port / from size 083 to 156: DIN FLANGE

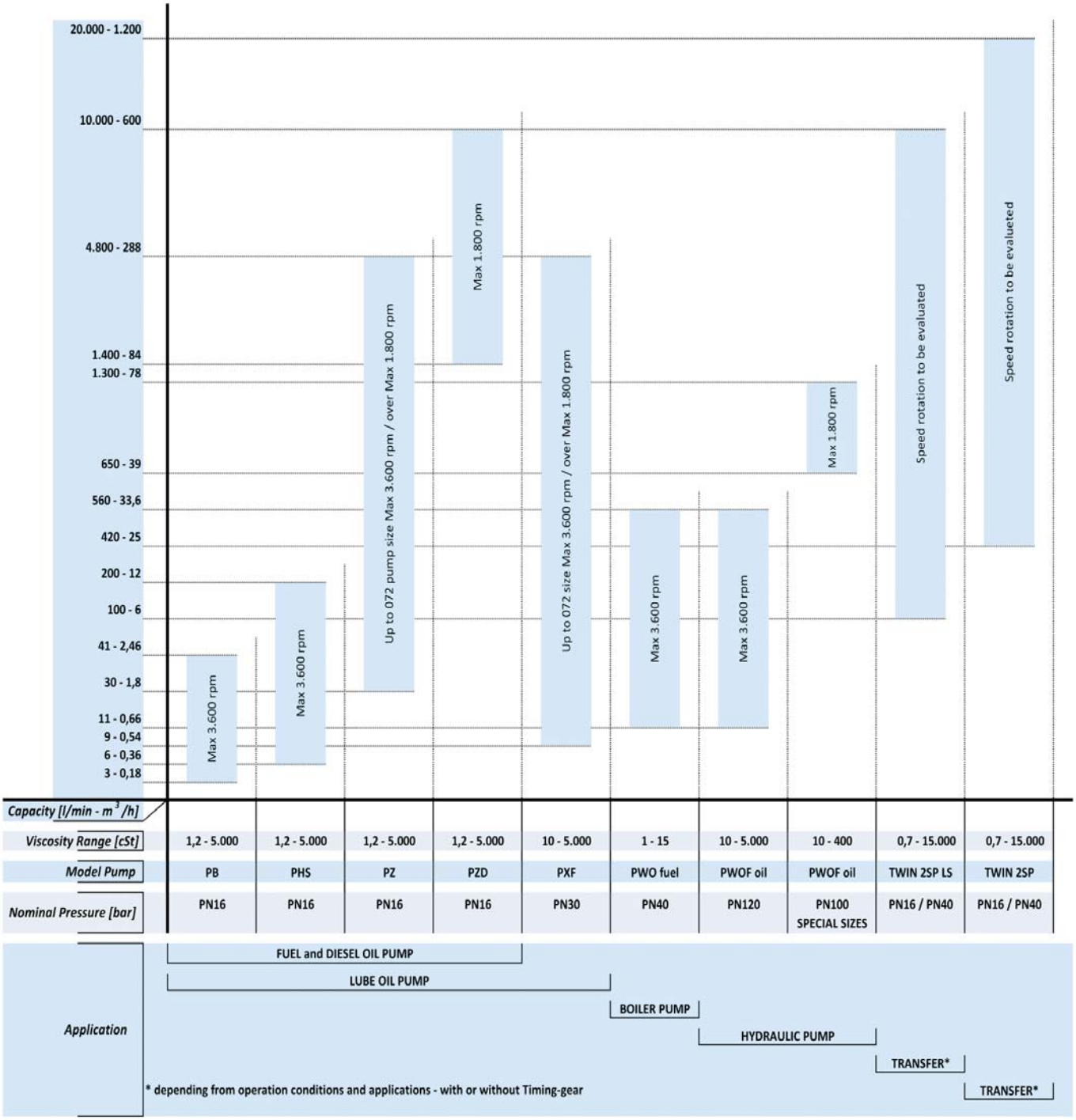
THREE SCREW PUMPS MEDIUM PRESSURE		TWIN SCREW PUMPS LOW PRESSURE		DOUBLE STATION LOW PRESSURE		CONSUMPTION & CONTROL	
PO - PWO	POF-PWOF	2SP LS	2SP	PDP	SPB	MPV2	VMP / BVPA
							
34 [560]	34 [560]	600 [10.000]	1.200 [20.000]	12 [200]	2,5 [41]	420 [7.000]	72 [1.200] **
40	120	16 / 40	16 / 40	16	16 / 40	40 / 200	150 **
1 - 15	10 - 5.000	0,7 - 15.000	0,7 - 15.000	1,2 - 5.000	1,2 - 5.000	1 - 5.000	10 - 5.000 **
120	120	300	300	150	150	150	100
YES	NO	YES	YES	YES	YES	YES	YES
NO	YES	YES	YES	YES	YES	YES	YES
GG25 / GGG40	Al	C.S. / GGG40	C.S. / GGG40	GGG40	GGG40	C.S. / GGG40	GG25
Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	------
YES	YES	YES	YES	YES	YES	N.A.	N.A.
YES	NO	NO	NO	YES	YES	N.A.	N.A.
NO	NO	option	option	YES	YES	N.A.	N.A.
SAE 3.000psi	SAE 3.000psi	DIN / ANSI - option	DIN / ANSI - option	1"1/2 ANSI150	DN32 PN16/40	SAE 3.000psi / DN PN	SAE 3.000psi

**Depends from valve model and size


RECOGNITION FOR
BV MODE II SCHEME
SEIM S.r.l.


ABS
CERTIFICATE OF
PRODUCT QUALITY ASSURANCE

PERFORMANCE CHART



SERIES **SPB**

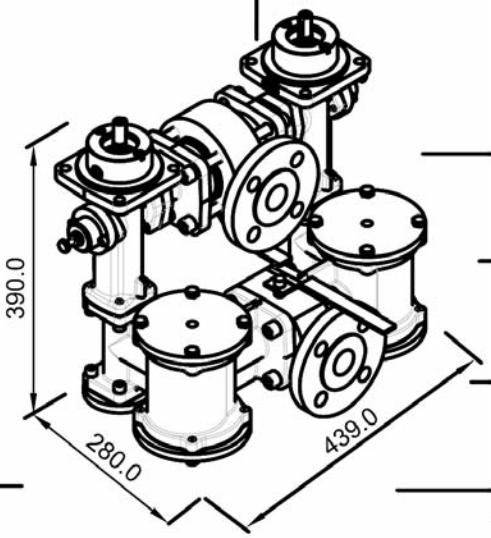
DOUBLE PUMP STATION FOR FUEL OIL

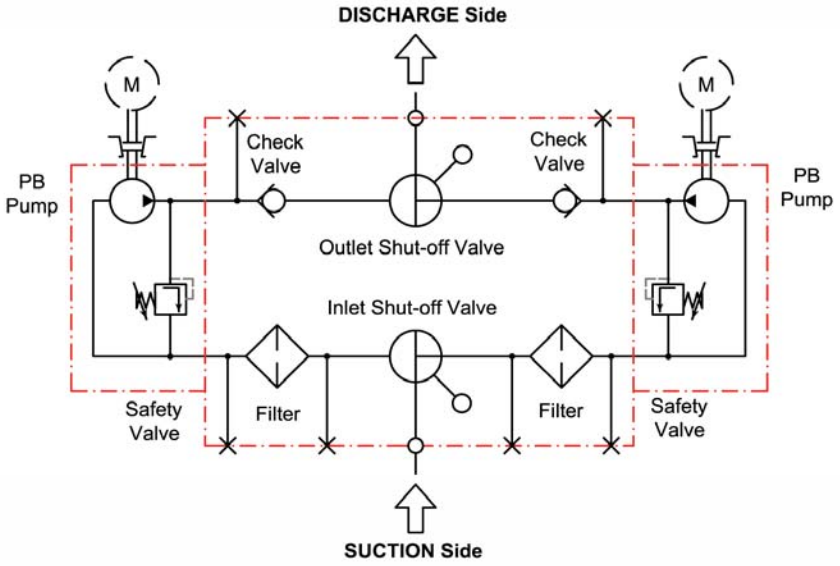
INSTALLATION DATA	
Installation	Indoor or Outdoor
Envirooment	Marine, Industrial
Application	Boiler, Burner
OPERATING DATA	
Handled fluid	Fuel oil HFO - DO - LSMGO - Hydraulic and Lube oils
Viscosity range	From 1,2 to 5000 cSt
Pump speed	From 750 to 3600 rpm (*)
Rotation (viewed from coupling end)	CW (Std version; CCW on demand)
TECHNICAL CHARACTERISTICS	
Flow rate	Up to 41 LPM - 2.5 m^3/h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	16/40 bar (from 1000 tp 3600 rpm)
Operating temperature range	From 0 to 150 °C (*)
Inlet & Outlet connection	DN32 PN40
Cartridge filtration / surface	100 micron / 150 cm^2
MATERIALS	
Casing/Flanges	Modular cast Iron GGG40
O-rings	Viton ®
Surface protection	Only on demand

(*) For different values contact Seim

SERIES **SPB**

DOUBLE PUMP STATION FOR FUEL OIL

Sections & Components	MAIN PUMP	STAND-BY PUMP	Size & Performance
DISCHARGE Side Safety Valve Check Valve Outlet Shut-off Valve			**PB Pump** Port: 1" SAE3000 Flow Rate: 3 - 41 lpm Op. Pressure: 16 / 40 bar Op. Viscosity: 1.2 - 5.000cSt
			Check Valves Type: DISC Port: DN32 PN16 / 40
SUCTION Side Inlet Shut-off Valve Filter			**Filter Cartridge** Filtration: 100 micron Filtering Surface: 150 cm²
			SHUT-OFF Valves Type: ball-3 way-T version Port: DN32 PN16 / 40



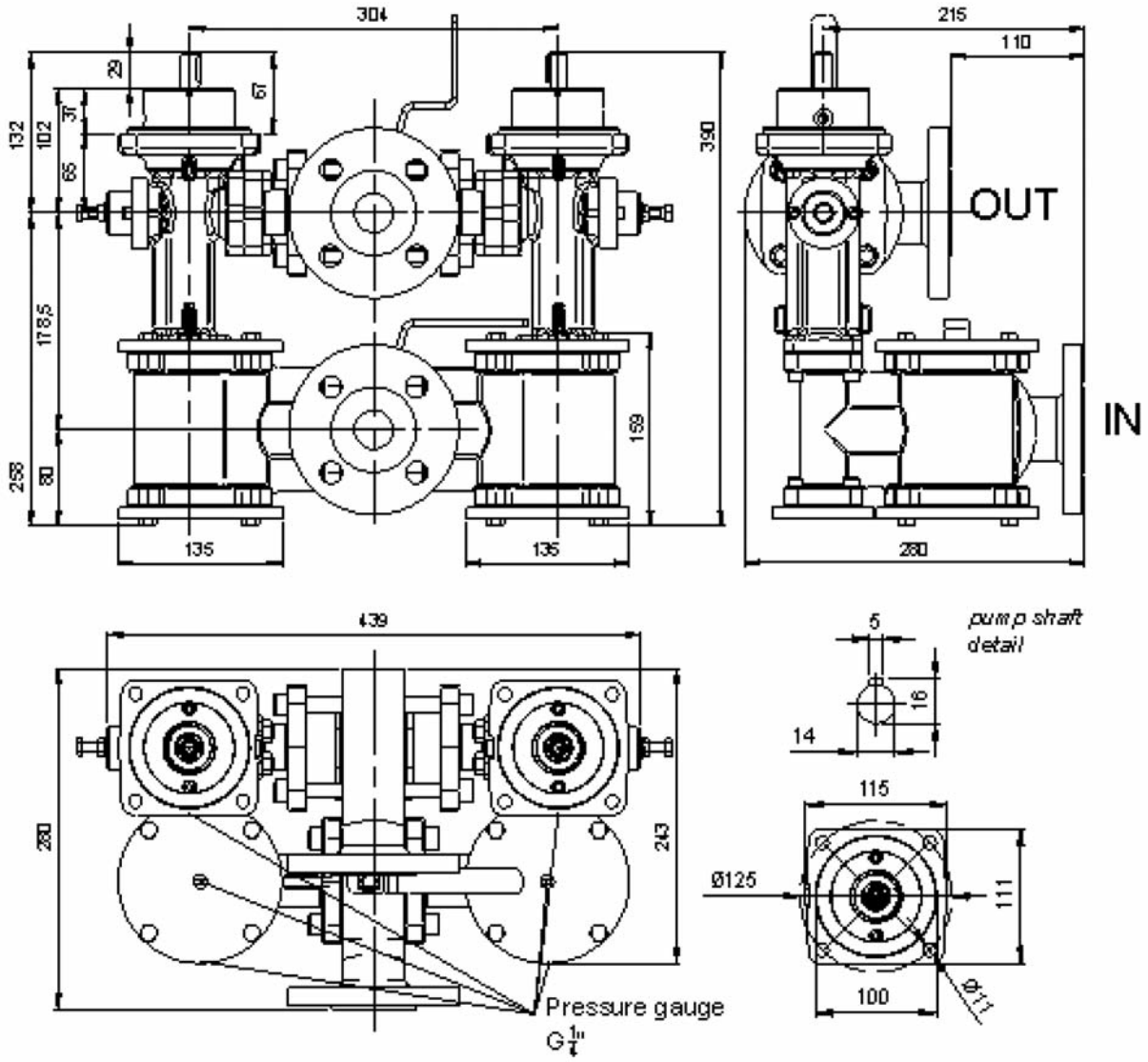
OPTIONS:

MAGNETIC DRIVEN
FLOW METER SYSTEM CONTROL
CUSTOMIZED PEDESTAL
CUSTOMIZED Oil Retention Base
TEMPERATURE CONTROL
PRESSURE CONTROL:
Pressure gauge
Pressure Switch
Pressure Transmitter
Differential pressure (Filter)

SERIES **SPB**

DOUBLE PUMP STATION FOR FUEL OIL

Every choice taken during the SPB project, like material or components to be used,
like surface treatment and hardening, dimension, tolerance and surface roughness and machining,
is determined only to reach the target to offer an ***'intelligent' product.***



Main characteristics of this Product series are:

- Compact shape
- Same casing for all sizes
- Standard flange connection (UNI DN32 PN40)
- High quality mechanical Seals
- Casing material: UNI EN 1563 GJS400 Nodular Cast Iron
- Screw material: Nitrided Steel
- Version coupled with Magnetic Drive
- Pumps used: standard SEIM PB pump

SERIES **MPB - MPHS & MPZ**

INSTALLATION DATA	
Applicable to all PUMPS SIZE:	PB series (from 3 to 41 lpm) at 16 / 40 bar PHS series (from 6 to 200 lpm) at 16 bar PZ series (from 30 to 4.800 lpm) at 16 bar
More usual applications :	FUEL SUPPLY: Cargo, Transfer, Separator, Feeder, Circulating, Boiler/Burner
OPERATING DATA	
Handled Fluids:	HFO, DO, GO, LSMGO (all fluids with some lubricant properties but dangerous in case of leakage)
Minimum viscosity:	From 1,2cS

(*) For different values contact Seim

WHERE and WHEN we propose the GREEN SOLUTION

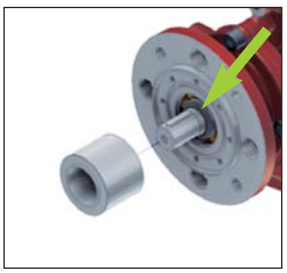
- **Where we must pump a fluid dangerous for the ENVIRONMENT**
- **When the RULES COMPLIANCE is fundamental**
- **Where there is a RISK of FIRE**
- **When the maintenance become dangerous for the HEALTH**
- **Where a LEAKAGE is also a COST**
- **When the MAINTENANCE COST* is higher than pump cost'**

LEAKAGE FREE

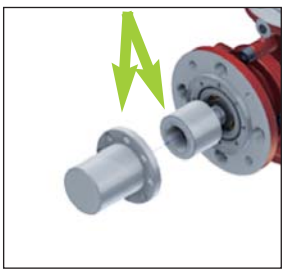
***Maintenance Cost = [SK + (TC + TCM) x HC] x N**
SK= Seal Kit Cost
TC= Time for change all components of Seal Kit
(Mechanical seal + ball bearing + gasket and O.R.)
TCM= Time for cleaning Area after Maintenance
HC= Operators Hourly Cost (Electrician + maintenance operator)
N= seal kit number changed during pump life

WHAT MEANS GREEN SOLUTION

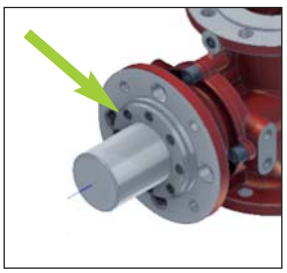
NO MECHANICAL SEAL



NO PARTS IN CONTACT



SEALED SYSTEM:

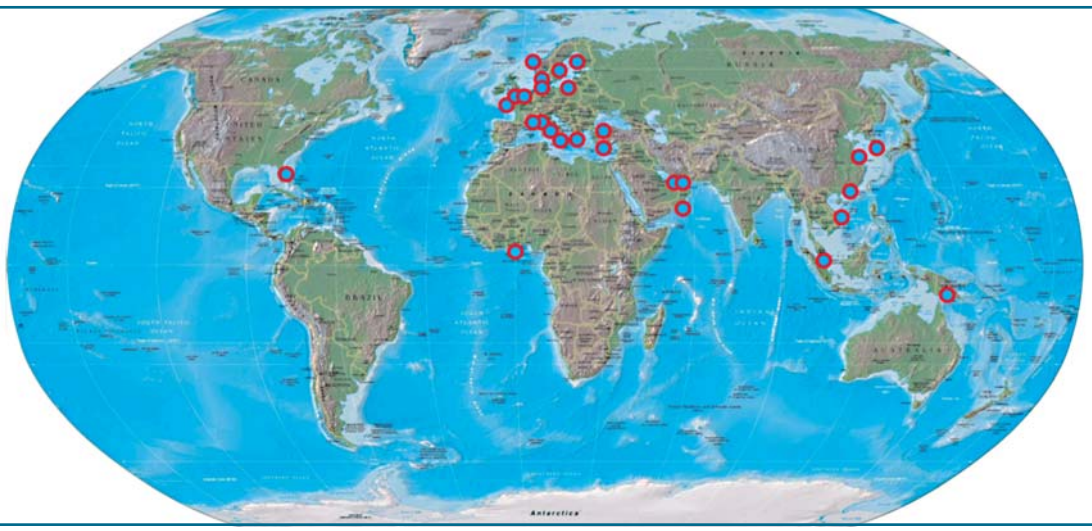


SERIES **MPB - MPHS & MPZ**

WHICH and HOW CHANGES with the GREEN SOLUTION

- SHIP SAFETY
- System EFFICENTY
- RULES COMPLIANCE
- REALIABILITY
- PERFORMANCE with Low Sulfur and Low viscosity FLUID

- RISK OF FIRE (Leakeage FREE PUMP)
- ENVIRONMENT IMPACT (also: less Packaging materials, less additional transport
- HEALTH IMPACT (less Skin contact and Inhalation during the Maintenance)
- SPARE PARTS NUMBER and WEIGHT to MANAGE on EACH SHIP
- SPARE PARTS COST
- MAINTENANCE COST



Precence of our components

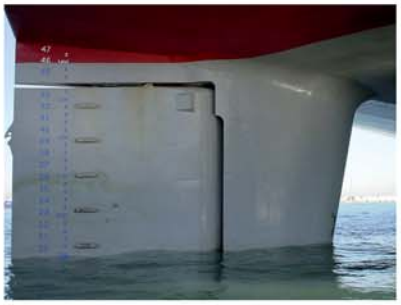
TABELLA PRESTAZIONI
PERFORMANCE CHART

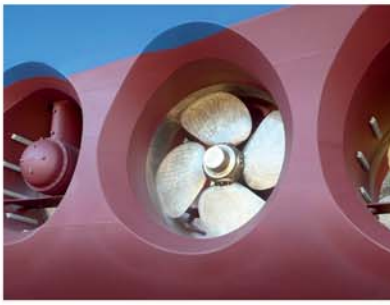
SERIES **SPB**

		cSt	2 [cSt]								5 [cSt]								50 [cSt]							
		rpm	1500		1800		3000		3600		1500		1800		3000		3600		1500		1800		3000		3600	
		bar	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW
PB020	J	0	5,9	.0	7,1	.0	11,8	.1	14,2	.1	5,9	.0	7,1	.0	11,8	.1	14,2	.1	5,9	.0	7,1	.1	11,8	.1	14,2	.2
		5	3,1	.1	4,2	.1	9	.2	11,3	.2	3,6	.1	4,8	.1	9,6	.2	11,9	.2	4,9	.1	6,1	.1	10,8	.2	13,2	.3
		10	1,9	.1	3,1	.2	7,8	.3	10,2	.3	2,7	.1	3,9	.2	8,6	.3	11	.3	4,5	.2	5,7	.2	10,4	.3	12,8	.4
		16	.8	.2	2	.2	6,7	.4	9,1	.5	1,9	.2	3	.2	7,8	.4	10,1	.5	4,1	.2	5,3	.3	10	.5	12,4	.6
	B	0	8,9	.0	10,6	.1	17,7	.1	21,3	.2	8,9	.0	10,6	.1	17,7	.1	21,3	.2	8,9	.1	10,6	.1	17,7	.2	21,3	.3
		5	4,7	.1	6,5	.1	13,6	.3	17,2	.3	5,6	.1	7,4	.1	14,5	.3	18	.3	7,4	.2	9,2	.2	16,3	.4	19,8	.5
		10	3	.2	4,8	.2	11,9	.4	15,4	.5	4,2	.2	6	.2	13,1	.4	16,6	.5	6,8	.2	8,6	.3	15,7	.5	19,2	.6
		16	1,5	.3	3,3	.3	10,4	.6	13,9	.7	3	.3	4,8	.3	11,9	.6	15,4	.7	6,2	.3	8	.4	15,1	.7	18,7	.9
PB025	K	0	10,6	.0	12,7	.1	21,1	.1	25,4	.2	10,6	.0	12,7	.1	21,1	.1	25,4	.2	10,6	.1	12,7	.1	21,1	.2	25,4	.3
		5	7,1	.1	9,3	.2	17,7	.3	21,9	.4	7,8	.1	10,0	.2	18,4	.3	22,6	.4	9,3	.2	11,5	.2	19,9	.4	24,1	.5
		10	5,7	.2	7,8	.3	16,3	.5	20,5	.6	6,7	.2	8,8	.3	17,3	.5	21,5	.6	8,8	.3	11,0	.3	19,4	.6	23,6	.7
		16	4,4	.3	6,6	.4	15,0	.7	19,2	.9	5,7	.3	7,8	.4	16,3	.7	20,5	.9	8,4	.4	10,5	.4	19,0	.8	23,2	1,0
	J	0	11,8	.0	14,2	.1	23,7	.1	28,4	.2	11,8	.0	14,2	.1	23,7	.1	28,4	.2	11,8	.1	14,2	.1	23,7	.2	28,4	.3
		5	8,5	.1	10,8	.2	20,3	.3	25,0	.4	9,2	.1	11,5	.2	21,0	.3	25,7	.4	10,6	.2	13,0	.2	22,5	.4	27,2	.6
		10	7,1	.2	9,4	.3	18,9	.5	23,6	.7	8,1	.2	10,4	.3	19,9	.5	24,6	.7	10,1	.3	12,5	.4	22,0	.7	26,7	.8
		16	5,8	.4	8,2	.4	17,6	.8	22,4	1,0	7,0	.4	9,4	.4	18,9	.8	23,6	1,0	9,7	.4	12,1	.5	21,5	.9	26,3	1,1
PB025	A	0	14,4	.1	17,2	.1	28,7	.2	34,5	.2	14,4	.1	17,2	.1	28,7	.2	34,5	.2	14,4	.1	17,2	.1	28,7	.3	34,5	.4
		5	10,1	.2	12,9	.2	24,4	.4	30,2	.5	10,9	.2	13,8	.2	25,3	.4	31,1	.5	12,8	.2	15,7	.3	27,2	.5	32,9	.7
		10	8,3	.3	11,1	.4	22,6	.7	28,4	.8	9,5	.3	12,4	.4	23,9	.7	29,6	.8	12,2	.3	15,1	.4	26,6	.8	32,3	1,0
		16	6,7	.4	9,5	.5	21,0	.9	26,8	1,2	8,2	.4	11,1	.5	22,6	.9	28,3	1,2	11,6	.5	14,5	.6	26,0	1,1	31,7	1,3
	B	0	17,7	.1	21,3	.1	35,5	.2	42,6	.3	17,7	.1	21,3	.1	35,5	.2	42,6	.3	17,7	.1	21,3	.2	35,5	.4	42,6	.5
		5	11,6	.2	15,1	.3	29,3	.5	36,4	.6	12,8	.2	16,4	.3	30,6	.5	37,7	.6	15,6	.3	19,1	.4	33,3	.7	40,4	.8
		10	9,0	.4	12,6	.5	26,8	.8	33,9	1,0	10,8	.4	14,4	.5	28,6	.8	35,7	1,0	14,6	.4	18,2	.5	32,4	1,0	39,5	1,2
		16	6,7	.6	10,3	.7	24,5	1,2	31,6	1,4	9,0	.6	12,5	.7	26,7	1,2	33,8	1,4	13,8	.6	17,4	.8	31,6	1,3	38,7	1,7

		cSt	100 [cSt]								150 [cSt]								400 [cSt]							
		rpm	1500		1800		3000		3600		1500		1800		3000		3600		1500		1800		3000		3600	
		bar	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW
PB020	J	0	5,9	.1	7,1	.1	11,8	.2	14,2	.2	5,9	.1	7,1	.1	11,8	.2	14,2	.3	5,9	.1	7,1	.2	11,8	.3	14,2	.4
		5	5,2	.1	6,4	.1	11,1	.3	13,5	.4	5,3	.1	6,5	.2	11,2	.3	13,6	.4	5,6	.2	6,7	.2	11,5	.4	13,8	.6
		10	4,9	.2	6,1	.2	10,8	.4	13,2	.5	5,1	.2	6,3	.2	11	.4	13,4	.5	5,4	.2	6,6	.3	11,3	.5	13,7	.7
		16	4,6	.2	5,8	.3	10,5	.5	12,9	.6	4,9	.2	6	.3	10,8	.6	13,1	.7	5,3	.3	6,5	.4	11,2	.7	13,6	.8
	B	0	8,9	.1	10,6	.1	17,7	.3	21,3	.4	8,9	.1	10,6	.2	17,7	.3	21,3	.4	8,9	.2	10,6	.2	17,7	.5	21,3	.6
		5	7,8	.2	9,6	.2	16,7	.4	20,3	.6	8	.2	9,8	.2	16,9	.5	20,4	.6	8,4	.3	10,1	.3	17,2	.6	20,8	.8
		10	7,4	.3	9,2	.3	16,3	.6	19,8	.7	7,7	.3	9,4	.3	16,5	.6	20,1	.8	8,1	.3	9,9	.4	17	.8	20,6	1
		16	7	.3	8,8	.4	15,9	.8	19,4	1	7,4	.4	9,1	.4	16,2	.8	19,8	1	7,9	.4	9,7	.5	16,8	1	20,4	1,3
PB025	K	0	10,6	.1	12,7	.1	21,1	.3	25,4	.4	10,6	.1	12,7	.2	21,1	.3	25,4	.4	10,6	.2	12,7	.2	21,1	.5	25,4	.7
		5	9,7	.2	11,8	.2	20,3	.5	24,5	.6	9,9	.2	12,0	.3	20,4	.5	24,6	.7	10,1	.3	12,2	.3	20,7	.7	24,9	.9
		10	9,3	.3	11,5	.4	19,9	.7	24,1	.8	9,6	.3	11,7	.4	20,1	.7	24,4	.9	10,0	.4	12,1	.5	20,5	.9	24,7	1,1
		16	9,0	.4	11,1	.5	19,6	.9	23,8	1,1	9,3	.4	11,4	.5	19,9	.9	24,1	1,2	9,8	.5	11,9	.6	20,4	1,1	24,6	1,4
	J	0	11,8	.1	14,2	.1	23,7	.3	28,4	.4	11,8	.1	14,2	.2	23,7	.4	28,4	.5	11,8	.2	14,2	.3	23,7	.6	28,4	.7
		5	11,0	.2	13,4	.3	22,8	.5	27,5	.7	11,1	.2	13,5	.3	23,0	.6	27,7	.7	11,4	.3	13,8	.4	23,2	.8	28,0	1,0
		10	10,6	.3	13,0	.4	22,5	.7	27,2	.9	10,9	.3	13,2	.4	22,7	.8	27,4	1,0	11,2	.4	13,6	.5	23,1	1,0	27,8	1,2
		16	10,3	.4	12,7	.5	22,1	1,0	26,9	1,2	10,6	.5	13,0	.6	22,4	1,0	27,2	1,3	11,1	.5	13,4	.7	22,9	1,2	27,6	1,6
PB025	A	0	14,4	.1	17,2	.2	28,7	.4	34,5	.5	14,4	.2	17,2	.2	28,7	.5	34,5	.6	14,4	.2	17,2	.3	28,7	.7	34,5	.9
		5	13,3	.3	16,2	.3	27,6	.6	33,4	.8	13,5	.3	16,4	.4	27,8	.7	33,6	.9	13,8	.4	16,7	.5	28,2	.9	33,9	1,2
		10	12,8	.4	15,7	.5	27,2	.9	32,9	1,1	13,1	.4	16,0	.5	27,5	1,0	33,2	1,2	13,6	.5	16,5	.6	28,0	1,2	33,7	1,5
		16	12,4	.5	15,3	.7	26,8	1,2	32,5	1,5	12,8	.6	15,7	.7	27,1	1,3	32,9	1,6	13,4	.6	16,3	.8	27,8	1,5	33,5	1,9
	B	0	17,7	.2	21,3	.2	35,5	.5	42,6	.6	17,7	.2	21,3	.3	35,5	.6	42,6	.7	17,7	.3	21,3	.4	35,5	.8	42,6	1,1
		5	16,2	.3	19,7	.4	33,9	.8	41,0	1,0	16,5	.4	20,0	.4	34,2	.9	41,3	1,1	17,0	.5	20,5	.6	34,7	1,2	41,8	1,5
		10	15,6	.5	19,1	.6	33,3	1,1	40,4	1,4	16,0	.5	19,5	.6	33,7	1,2	40,8	1,5	16,6	.6	20,2	.8	34,4	1,5	41,5	1,9
		16	15,0	.7	18,5	.8	32,7	1,5	39,8	1,8	15,5	.7	19,0	.9	33,2	1,6	40,3	1,9	16,4	.8	19,9	1,0	34,1	1,9	41,2	2,3

SEIM NAVAL MANUFACTORING PROGRAM



SEIM SCREW PUMPS

PB

PHS

PZ


PZD

2SP

TWIN SCREW PUMPS DIVISION

2SP LS WTG

PDP/SD PUMP STATION

SPB

MPV2

MISURATORI DI PORTATA - FLOW METERS

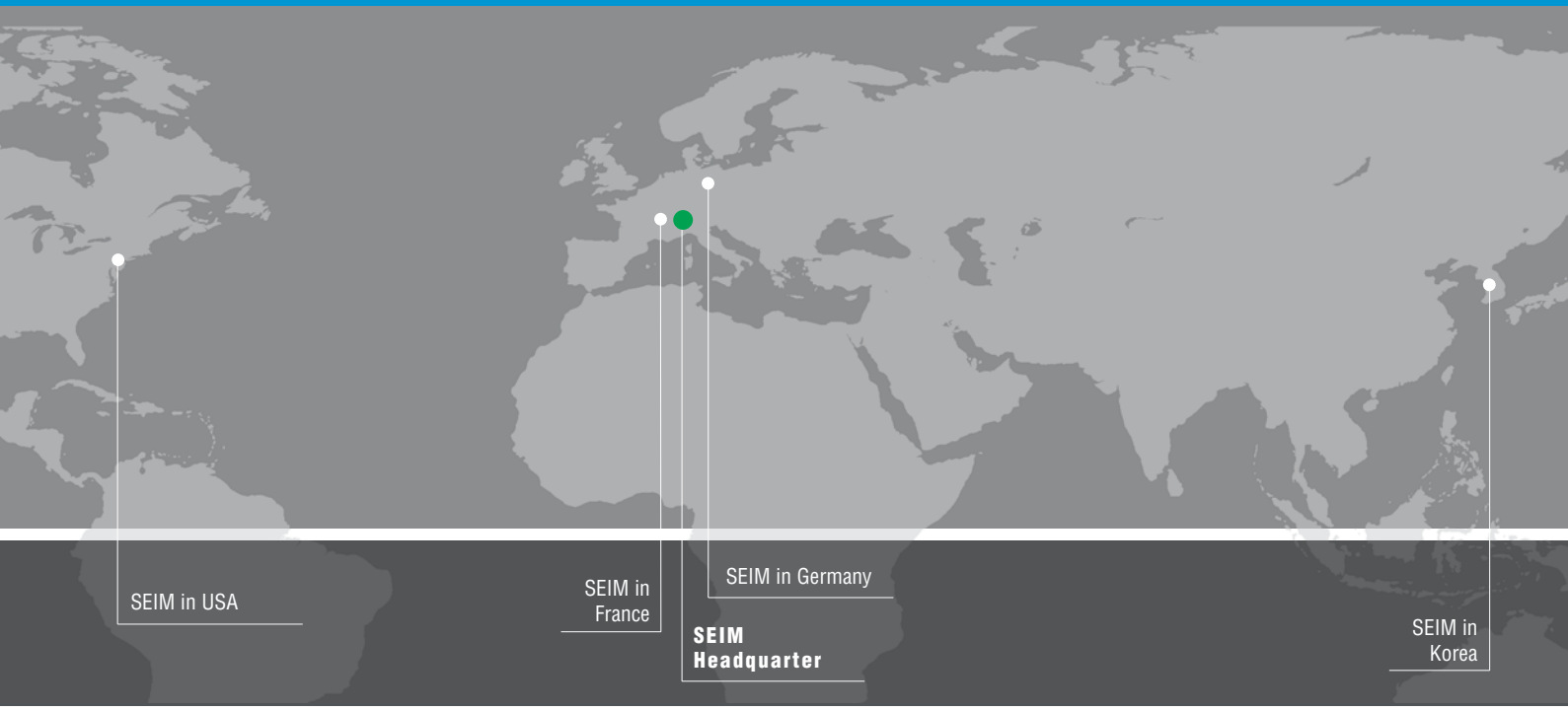
WWW.SEIM.IT

NAVAL DIVISION

INDUSTRIAL DIVISION

POWER GEN DIVISION

LIFT DIVISION



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