



serie ■ series

SPB



APPLICATIONS



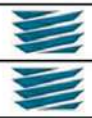
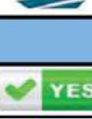
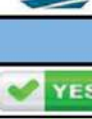
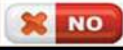
PUMP TYPE

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					
MINERAL OIL / LUBE OIL					
Body Materials	GGG40	GGG40	GG25 GGG40	GGG40	GG25 C.S.
Screw Set Materials	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Carbon Steel
Mechanical Seal					
Magnetic coupling					
Integrated Relief Valve					
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

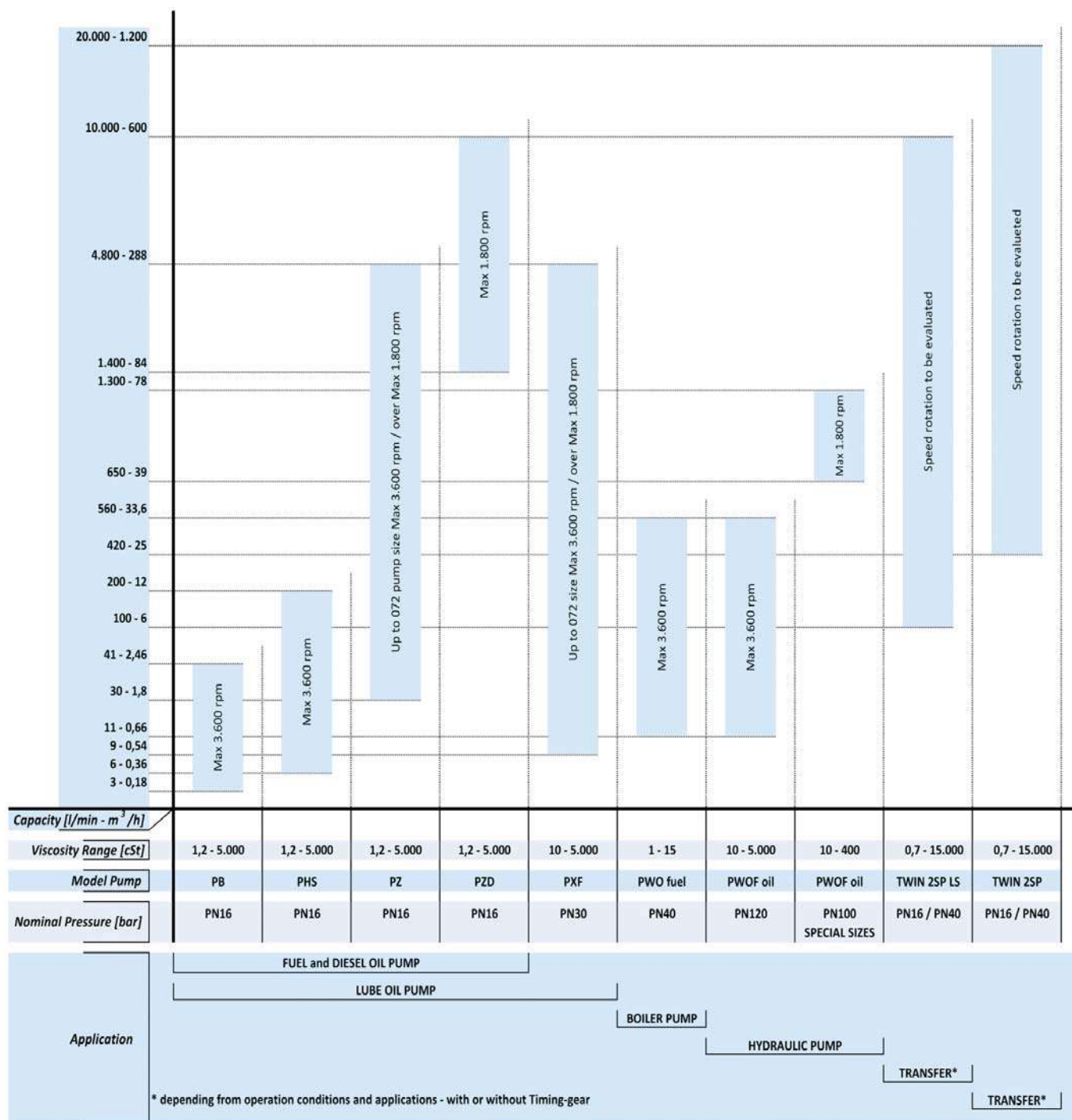
*** Up to size 083: SAE 3.000psi port / from size 083 to 156: DIN FLANGE

THREE SCREW PUMPS		TWIN SCREW PUMPS		DOUBLE STATION		CONSUMPTION & CONTROL	
MEDIUM PRESSURE		LOW PRESSURE		LOW PRESSURE			
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
							
							
							
							
							
							
							
							
							
							
GG25	Al	C.S.	C.S.	GGG40	GGG40	C.S.	GG25
GGG40		GGG40	GGG40			GGG40	
Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	*****
						N.A.	N.A.
						N.A.	N.A.
		option	option			N.A.	N.A.
SAE 3.000psi	SAE 3.000psi	DIN	DIN	1"1/2 ANSI150	DN32 PN16/40	SAE 3.000psi	SAE 3.000psi
		ANSI - option	ANSI - option			DN PN	

**Depends from valve model and size



PERFORMANCE CHART



SERIES

SPB

DOUBLE PUMP STATION FOR FUEL OIL



INSTALLATION DATA

Installation	Indoor or Outdoor
Environment	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

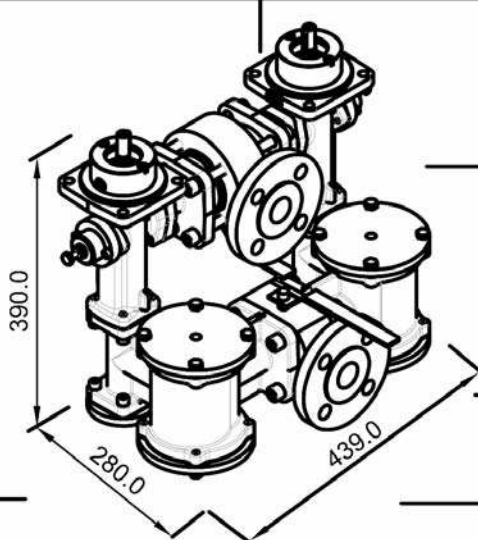
(*) For different values contact Seim

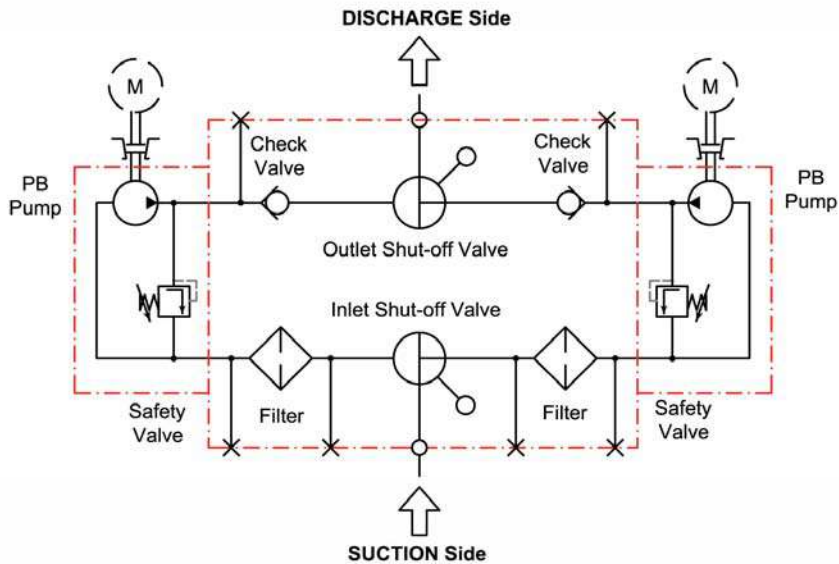
ADVANTAGES & SOLUTIONS

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
SUCTION Side Inlet Shut-off Valve Filter			Check Valves Type: DISC Port: DN32 PN16 / 40
			Filter Cartridge Filtration: 100 micron Filtering Surface: 150 cm ²
			SHUT-OFF Valves Type: ball-3 way-T version Port: DN32 PN16 / 40



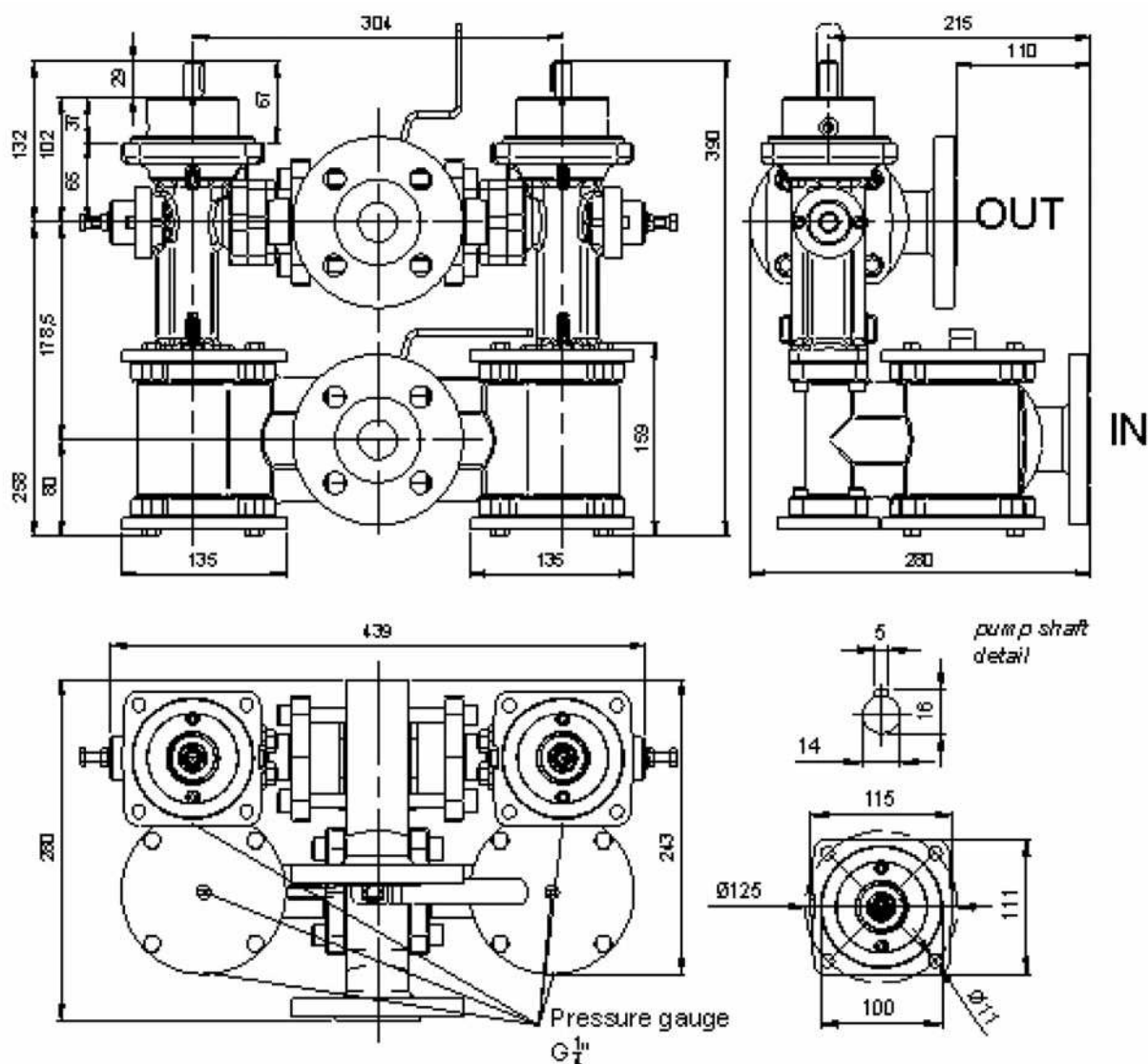
OPTIONS:
 MAGNETIC DRIVEN
 FLOW METER SYSTEM CONTROL
 CUSTOMIZED PEDESTAL
 CUSTOMIZED Oil Retention Base
 TEMPERATURE CONTROL
 PRESSURE CONTROL:
 Pressure gauge
 Pressure Switch
 Pressure Transmitter
 Differential pressure (Filter)

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

SOLUTIONS FOR GREEN APPLICATIONS

MAGNETIC COUPLING DRIVE

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: Minimum viscosity:	HFO, DO, GO, LSMGO (all fluids with some lubricant properties but dangerous in case of leakage) 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'



$$\text{*Maintenance Cost} = [\text{SK} + (\text{TC} + \text{TCM}) \times \text{HC}] \times \text{N}$$

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)

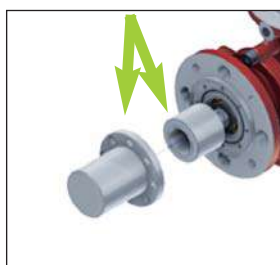
N= seal kit number changed during pump life

WHAT MEANS GREEN SOLUTION

NO MECHANICAL SEAL



NO PARTS IN CONTACT



SEALED SYSTEM:



WHICH and HOW CHANGES with the GREEN SOLUTION

- SHIP SAFETY
- System EFFICIENTY
- 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

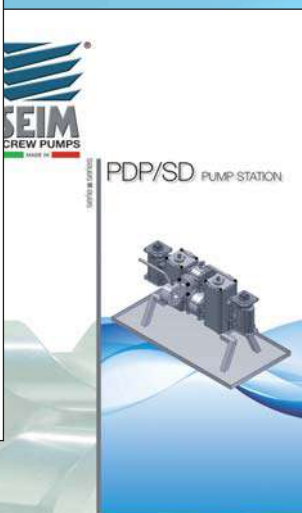
SPB



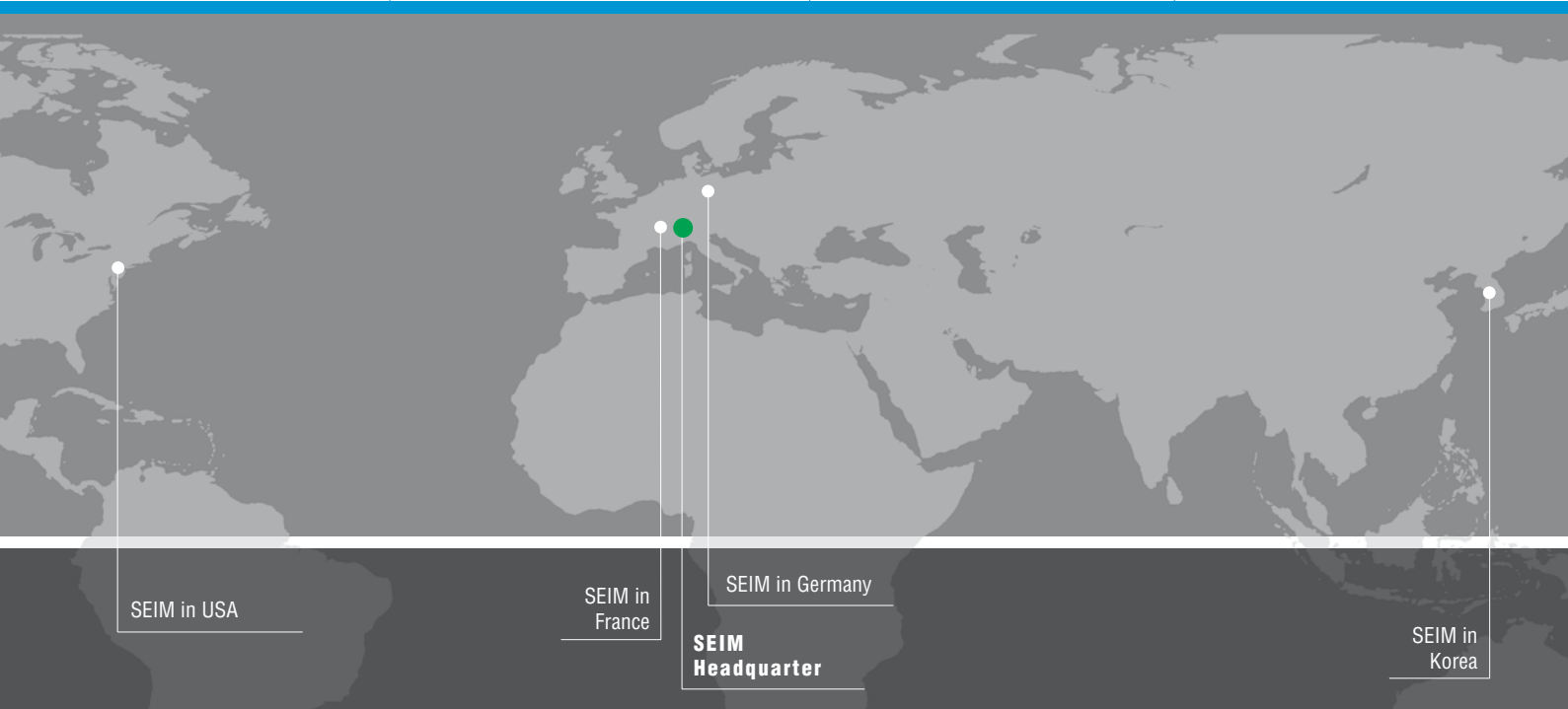
		cSt	2 [cSt]								5 [cSt]								50 [cSt]								
		rpm	1500		1800		3000		3600		1500		1800		3000		3600		1500		1800		3000		3600		
		bar	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	lt/1	kW	
PB020	J	0	5,9	.0	7,1	.0	11,8	.1	14,2	.1	5,9	.0	7,1	.0	11,8	.1	14,2	.1	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	
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
	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 MANUFACTURING PROGRAM



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