



SEIM  
Pompe a 3 viti  
Pompa PB

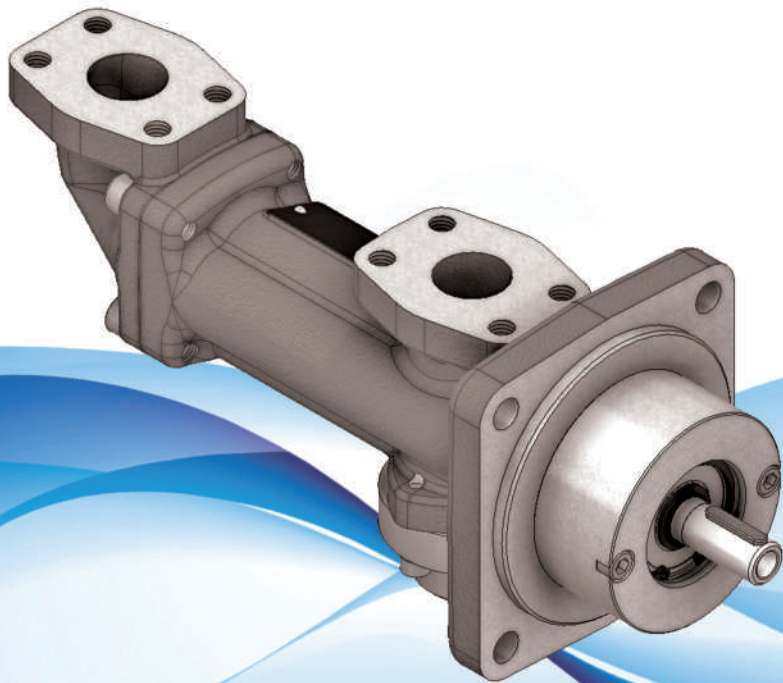


 HYDRAULIC  
COMPONENTS  
& FLUID CONTAMINATION  
CONTROL



serie ■ series

# PB



# APPLICATIONS



## PUMP TYPE THREE SCREW PUMPS / TWIN SCREW PUMPS

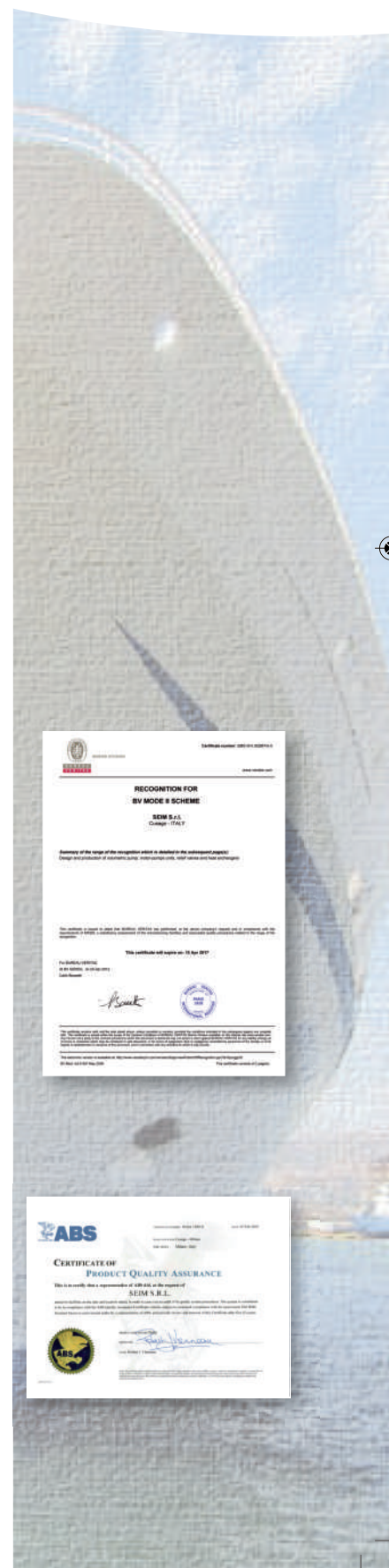
COMPONENT TYPE	THREE SCREW PUMPS				
	LOW PRESSURE				
COMPONENT MODEL	PB	PHS	PZ	PZD	PXF
<b>MAIN CHARACTERISTICS</b>					
Flow rate up to m3/h [ lpm ]	2,5 [41]	12 [200]	288 [4.800]	600 [10.000]	288 [4.800]
Max operating pressure bar	16	16	16	16	30
Typical Viscosity cSt	1,2 - 5.000	1,2 - 5.000	1,2 - 5.000	1,6 - 5.000	10 - 5.000
Max operating temperature °C	150	150	150	120	120
<b>TYPICAL APPLICATIONS</b>					
STRIPPING					
CARGO					
TRANSFER					
SEPARATOR					
FEEDER					
CIRCULATING					
BOILER / BURNER					
LUBE: Diesel Engine, Thruster, Gear Box					
HYDRAULIC *					
<b>TYPICAL FLUIDS</b>					
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

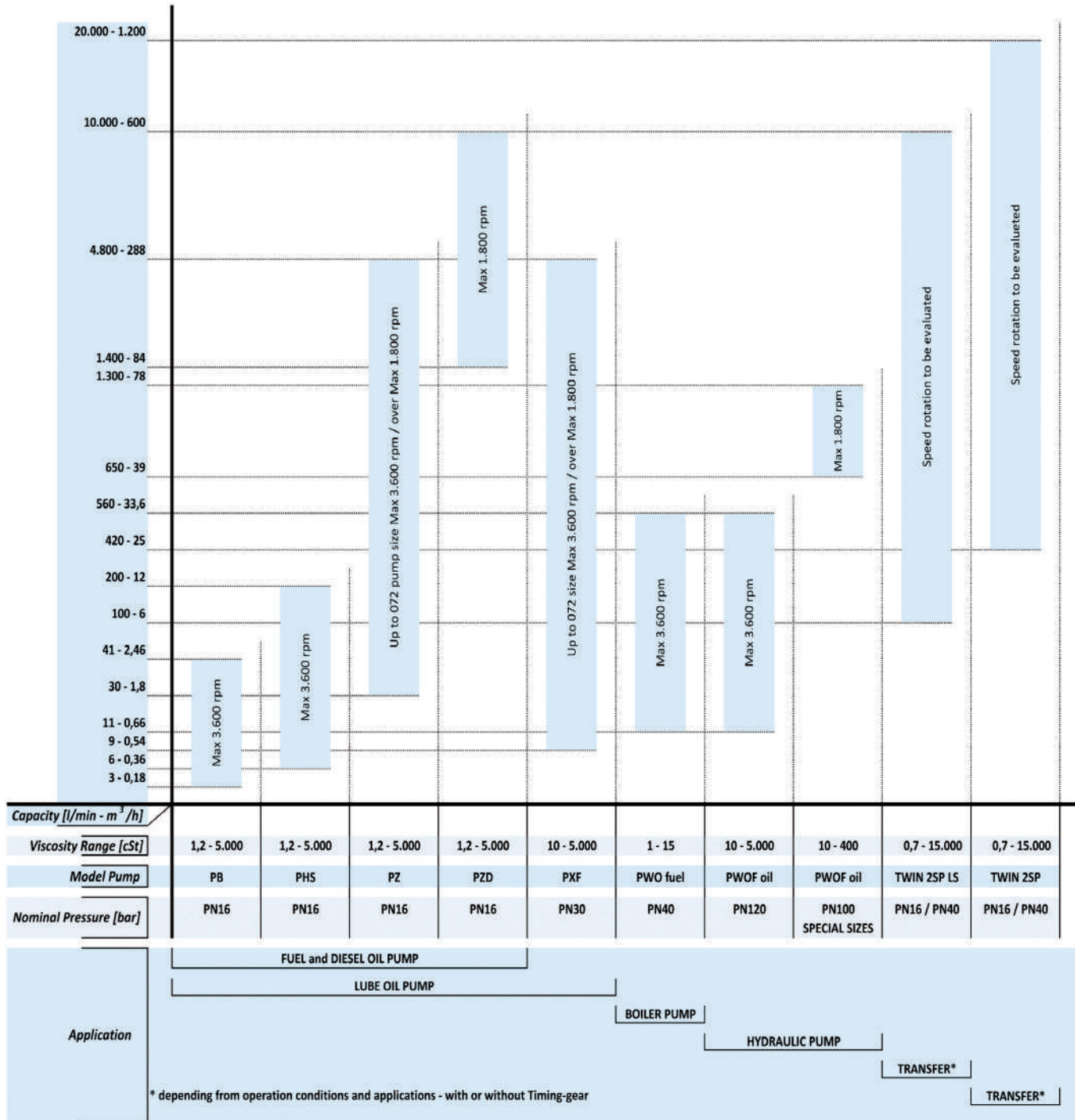


THREE SCREW PUMPS		TWIN SCREW PUMPS		DOUBLE STATION		CONSUMPTION & CONTROL	
MEDIUM PRESSURE		LOW PRESSURE		LOW PRESSURE			
PO - PWO	POF-PWOF	2SP LS	2SP	PDP	SPB	MPV2	VMP / BVPA
34 [560]	34 [560]	600 [10.000]	1.200 [20.000]	12 [200]	2,5 [41]	420 [7.000]	72 [1.200] **
40	120	16 / 40	16 / 40	16	16 / 40	40 / 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
<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES
<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES
GG25	Al	C.S.	C.S.	GGG40	GGG40	C.S.	GG25
GGG40	Nitrided Steel	GGG40	GGG40	GGG40	GGG40	GGG40	GG25
Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	Nitrided Steel	.....
<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	N.A.	N.A.
<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	N.A.	N.A.
<input checked="" type="checkbox"/> NO	<input checked="" type="checkbox"/> NO	option	option	<input checked="" type="checkbox"/> YES	<input checked="" type="checkbox"/> YES	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

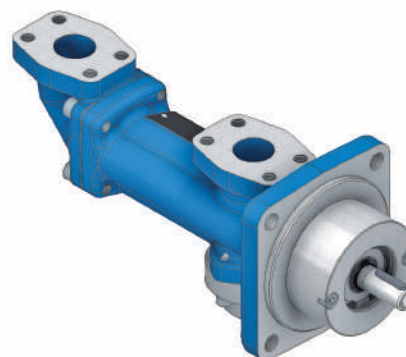


# PERFORMANCE CHART



**SERIES**

**PB**



### INSTALLATION DATA

Installation	Indoor or Outdoor
Environment	Marine, Industrial
Application	Transfer, fuel supply, lubricating, boiler

### 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 <sup>3</sup> /h
Suction pressure	From - 0,5 to 10 bar
Delivery pressure	Up to 40 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

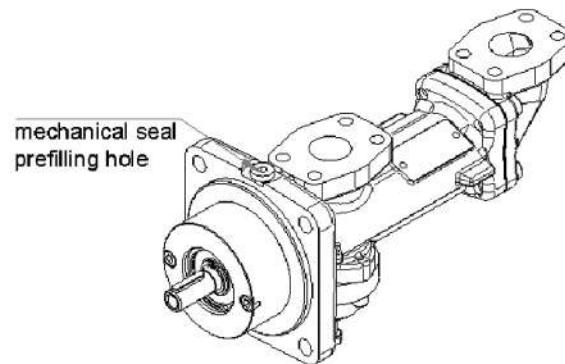
### MATERIALS

Casing/Flanges	Modular cast Iron GGG40
Screws	Nitrided steel
O-rings	Viton ®
Surface protection	Only on demand

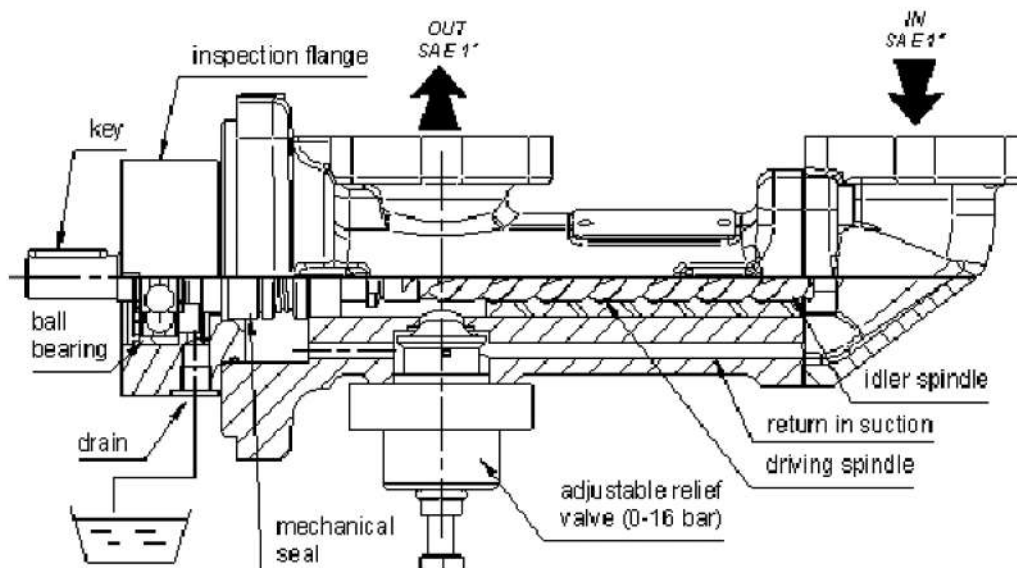
(\*) For different values contact Seim

SERIES

**PB**



PB pump Series was designed for low capacity (from 3 lpm) and low pressure (16 / 40bar) services. Fluids normally used are Diesel Oil, LSMGO, Fuel Oil for Boiler / Burner feeding and Lubricant Oil, Mineral Oil for small lube and pre-lube system



Like all the other SEIM pumps series, PB series is designed to satisfy customer needs also in terms of **low maintenance cost and long life of the internal parts of the pump.**

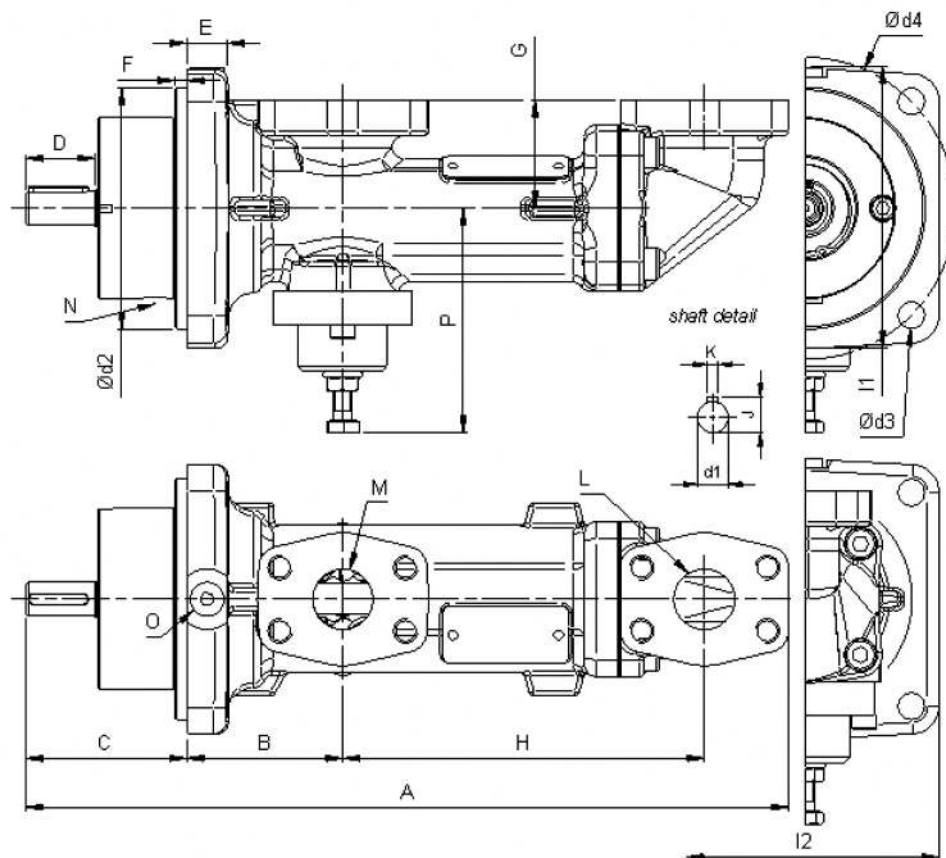
Every choice taken during the PB pump project, like material or components to be used, like surface treatment and hardening, dimension, tolerance and surface roughness and machining, is determined only to reach the target to offer an **'intelligent' product.**

SERIES

**PB**

Main characteristics of this pump series are:

- Compact shape
- Same casing for the two sizes
- Standard flange connection (SAE)
- High quality mechanical Seals
- Casing material: UNI EN 1563 GJS400 Nodular Cast Iron
- Screw material: Nitrided Steel
- Version coupled with Magnetic Drive
- Pumps used for SEIM SPB double pump station for Boiler / Burner



Dimensional chart (mm)

MODEL	A	B	C	D	E	F	G	H	I1	I2	J	K	IN OUT		N	O	P	d1	d2	d3	d4
													L	M							
PB020-025	318	65	67	29	16	5	45	151	115	111	16	5	1"	1"	GA3 $\frac{1}{8}$ "	GA3 $\frac{1}{8}$ "	93	14	100	11	125



# SOLUTIONS FOR GREEN APPLICATIONS MAGNETIC COUPLING DRIVE



SERIES

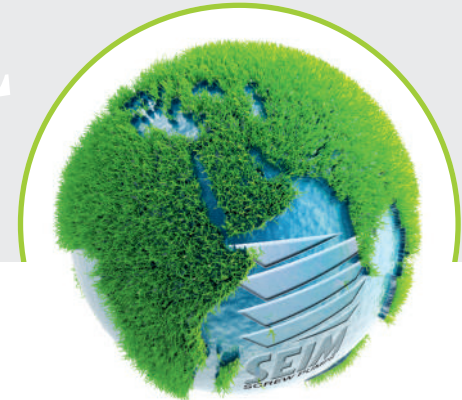
## MPB - MPHS & MPZ

<b>INSTALLATION DATA</b>  Applicable to all PUMPS SIZE:  More usual applications :	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  FUEL SUPPLY: Cargo, Transfer, Separator, Feeder, Circulating, Boiler/Burner
<b>OPERATING DATA</b>  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'



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

SK= Seal Kit Cost

TC= Time for change all components of Seal Kit  
(Mechanical seal + ball bearing + gasket and O.R.)

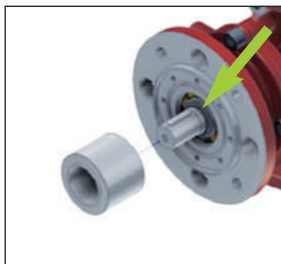
TCM= Time for cleaning Area after Maintenance

HC= Operators Hourly Cost (Electrician + maintenance operator)

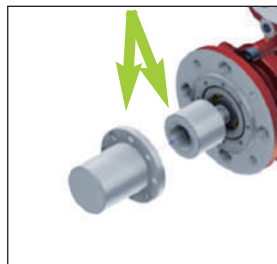
N= seal kit number changed during pump life

### WHAT MEANS GREEN SOLUTION

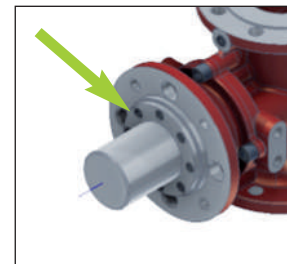
NO MECHANICAL SEAL



NO PARTS IN CONTACT



SEALED SYSTEM:



# ADVANTAGES & SOLUTIONS MAGNETIC COUPLING DRIVE



SERIES

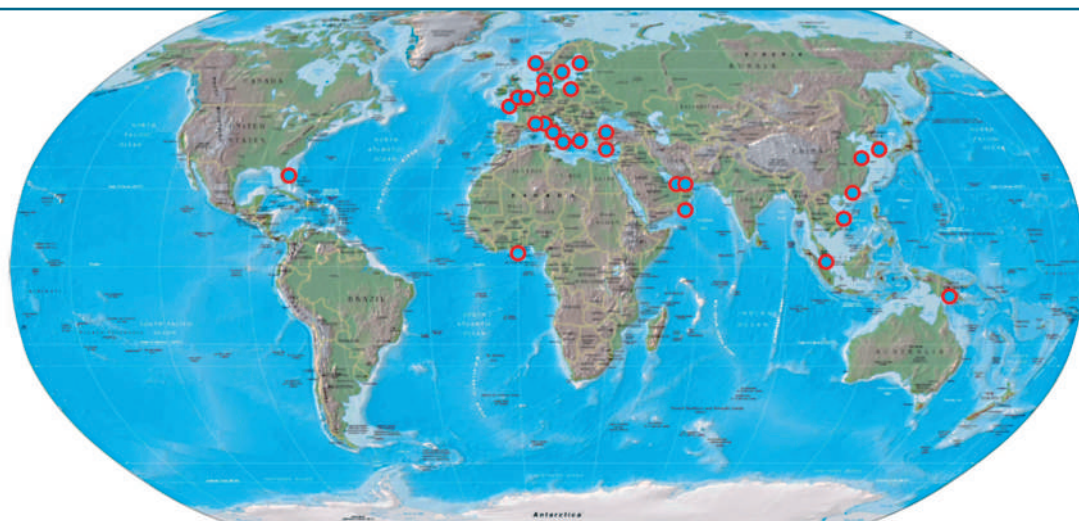
**MPB - MPHS & MPZ**


WHICH and HOW CHANGES with the **GREEN SOLUTION**

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



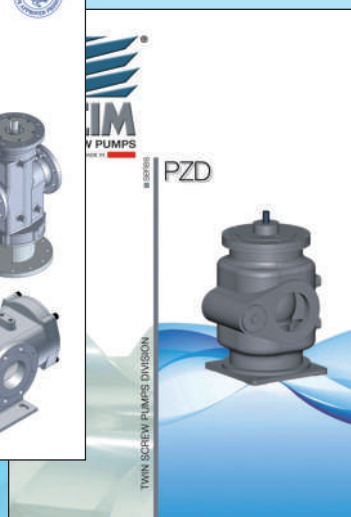
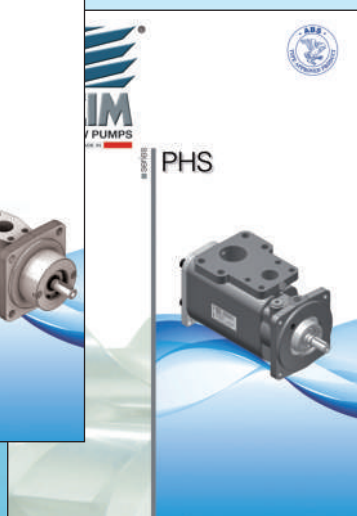
- RISK OF FIRE (Leakeage FREE PUMP)
- ENVIRONMENT IMPACT (also: less Packaging materials, less additional transport)
  - HEALTH IMPACT (less Skin contact and Inhalation during the Maintenance)
    - SPARE PARTS NUMBER and WEIGHT to MANAGE on EACH SHIP
      - SPARE PARTS COST
      - MAINTENANCE COST



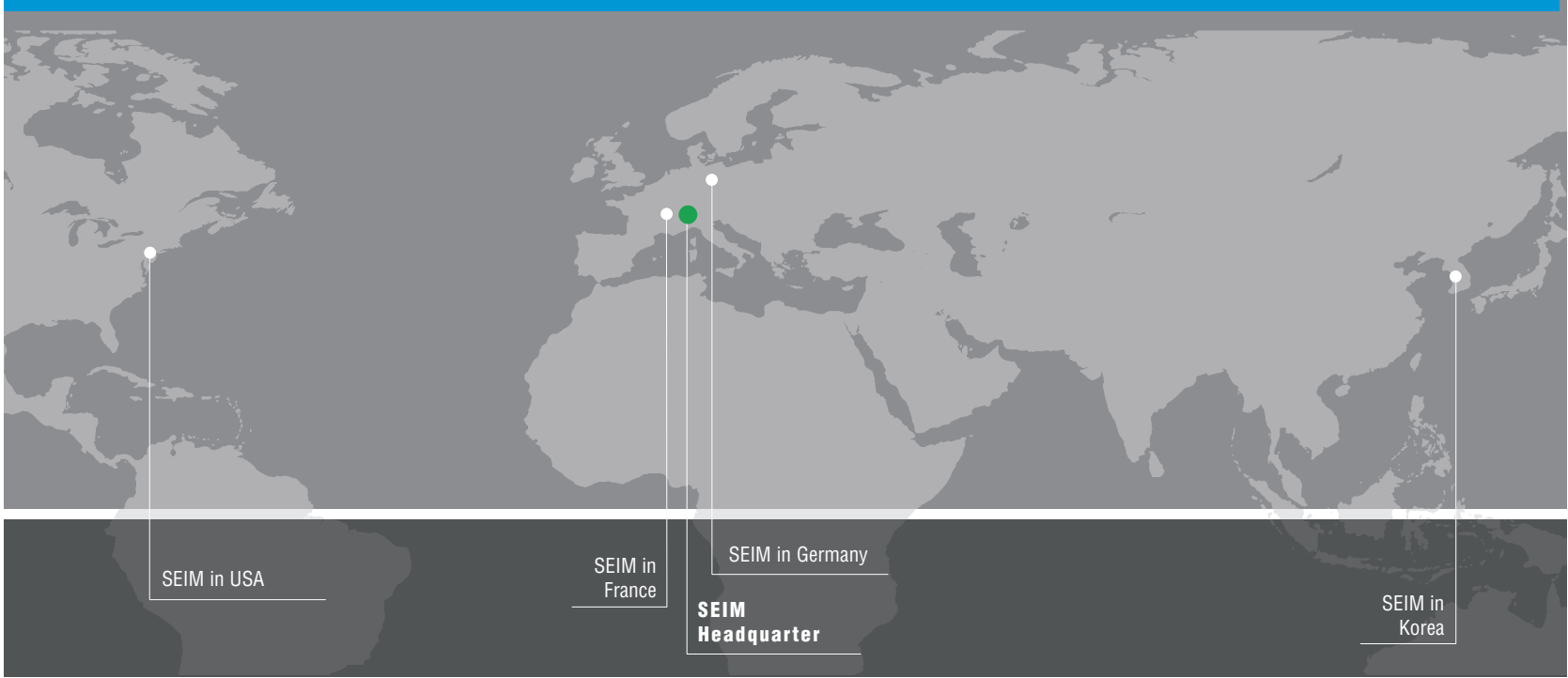
 Preccence of our components



# SEIM NAVAL MANUFACTURING PROGRAM



[WWW.SEIM.IT](http://WWW.SEIM.IT)



**SEIM S.r.l.**  
Via Volta, 17- 20090 Cusago - Milano - Italy  
Tel. +39 02 903 92 11 - Fax +39 02 903 921 41  
[www.seim.it](http://www.seim.it)  
e-mail: [seim@seim.it](mailto:seim@seim.it)



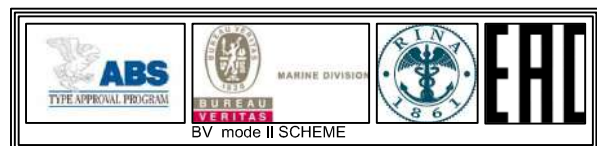
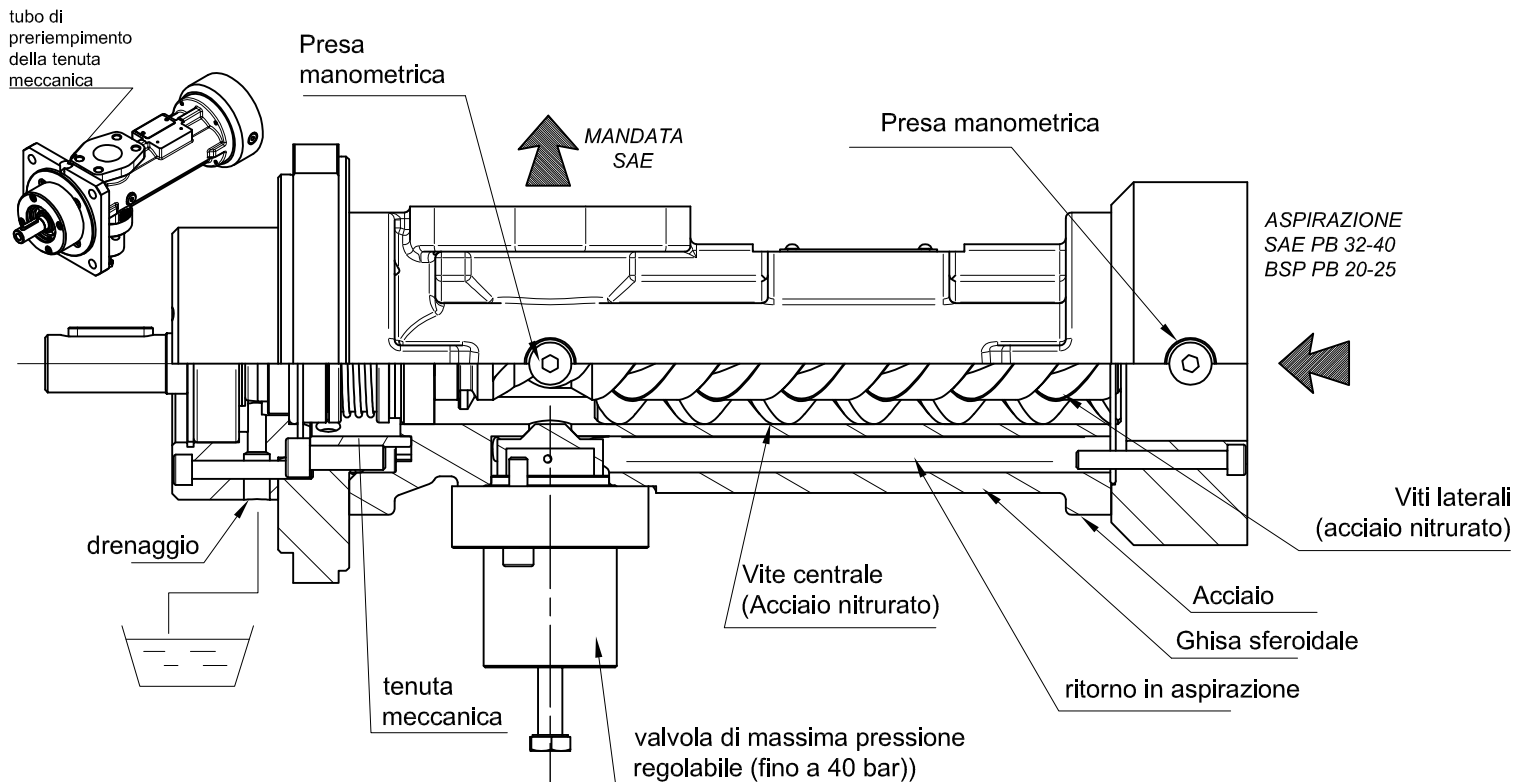
# Pompe a 3 viti tipo PB

Per olii idraulici, olii lubrificanti, HFO, FO, DO, GO, ULSD, LSMGO.  
Pressione ammissibile in mandata (continua) fino a 40 bar.



## Impiego tipico

Pompe per circuiti di lubrificazione e ausiliari di raffreddamento, con valvola incorporata di massima pressione (settaggio regolabile).  
Circuito di alimentazione (alimentazione carburante e circolazione), travaso e cargo.  
Versione con giunto magnetico.



### CERTIFICAZIONI

Disponibili su richiesta



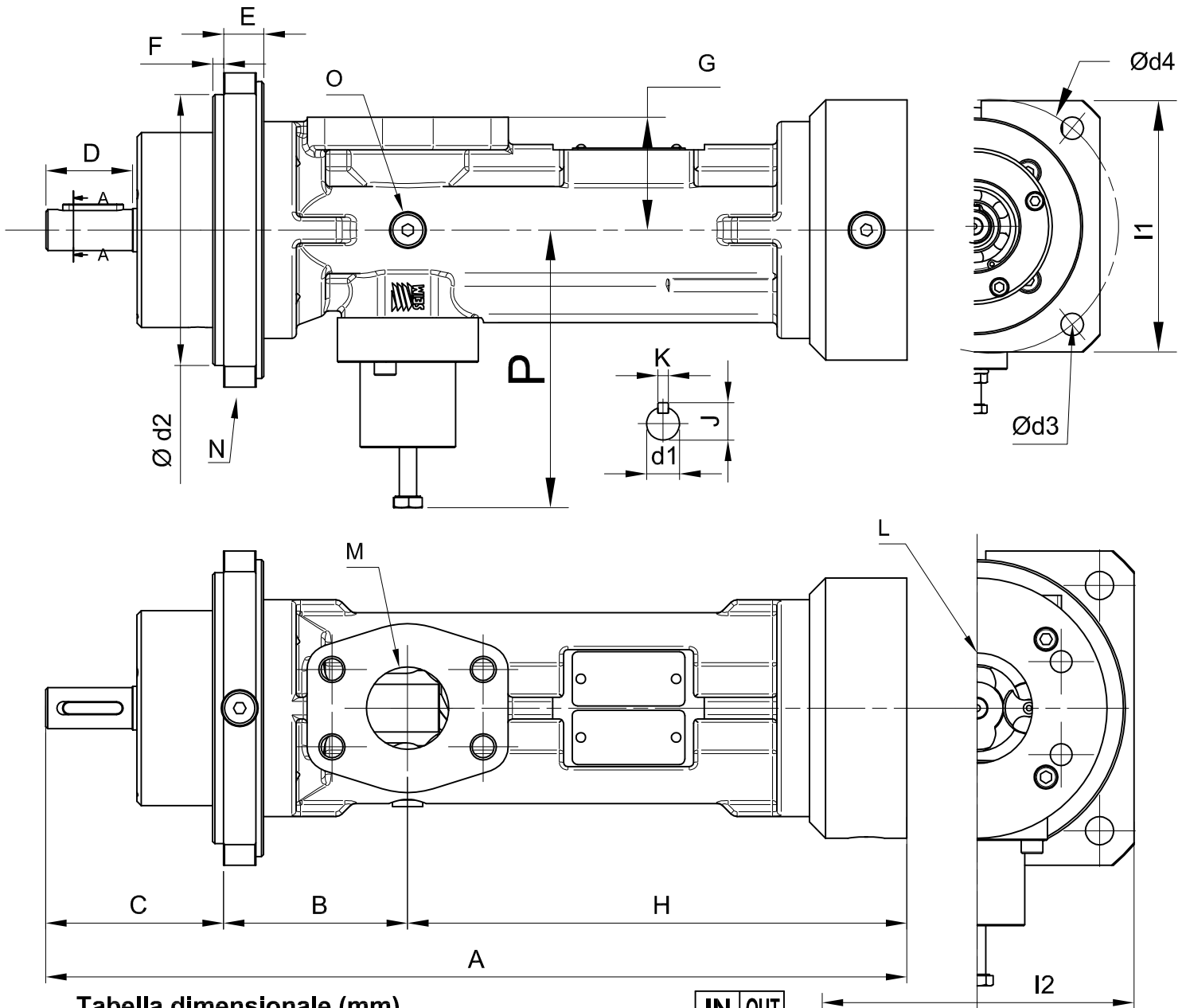
## Caratteristiche funzionali versioni standard

<b>Portata</b>	fino a 200 l/min (fino a 52 USGPM)	
<b>Pressione ammissibile in mandata *</b>	fino a 40 bar (580 psi) da 1000 fino a 3600 giri/min	
<b>Taratura valvola</b>	fino a 40 bar (580 psi)	
<b>Pressione ammissibile in aspirazione</b>	da -0,7 a 10 bar (da -10 a 145 psi)	Per valori diversi consultare SEIM
<b>Viscosità cinematica</b>	da 1,2 a 400 cSt STD (< 5000 cSt speciale)	Per valori diversi consultare SEIM
<b>Temperatura di impiego</b>	da 0 a 150 °C (32 a 302 °F)	Per valori diversi consultare SEIM
<b>Regime di azionamento</b>	da 1000 a 3600 giri/min	
<b>Livello medio di rumorosità</b>	60 - 75 dB(A) a 3600 giri/min in funzione della dimensione della pompa	
<b>Filtro in aspirazione</b>	Vedi appendice - tab. 1	
<b>Livello raccomandato di contaminazione fluido impianto</b>	Vedi Appendice - tab. 2 - ISO 16889 Bx>1000	
<b>Senso di rotazione</b>	orario, guardando la pompa dal lato flangia collegamento motore	

\* Limiti di pressione ridotti sono determinati dalla viscosità del fluido e dal regime di azionamento.  
Per le caratteristiche funzionali relative ai singoli modelli consultare le specifiche tabelle.  
Per caratteristiche funzionali diverse da quelle sopra indicate, contattare il nostro ufficio vendite.

# Pompe a 3 viti tipo PB

Per olii idraulici, olii lubrificanti, HFO, FO, DO, GO, ULSD, LSMGO.  
Pressione ammissibile in mandata (continua) fino a 40 bar.



**Tabella dimensionale (mm)**

MODELLO	A	B	C	D	E	F	G	H	I1	I2	J	K	IN OUT		N	O	P	d1 Ø	d2 Ø	d3 Ø	d4 Ø
													L	M							
PB020-25	276	65	67	29	16.5	5	45	144	116	111	16	5	1" BSP	1"	1/8"	1/8"	93	14	100	11	125
PB020-25*	324	65	67	29	16.5	5	45	192	116	111	16	5	1" SAE	1"	1/8"	1/8"	93	14	100	11	125
PB032	372	88	82	40	18.5	5	52	211.5	145	145	21.5	6	2" SAE	1 1/2"	1/8"	1/8"	108	19	125	13	160
PB040	398	85	82	40	18.5	5	52	230.5	145	145	21.5	6	2" SAE	1 1/2"	1/8"	1/8"	128	19	125	13	160

\* Optional SAE Flangia in ingresso

SEIM srl  
Via A. Volta 17  
20090 Cusago (MI) ITALY  
Tel. (+39) 02.90.39.21.1  
Fax. (+39) 02.90.39.21.41  
e-mail: seim@seim.it

[www.seim.it](http://www.seim.it)

SEIM si riserva di apportare modifiche dimensionali o varianti agli articoli della presente scheda tecnica

# Pompe a 3 viti tipo PB

Per olii idraulici, olii lubrificanti, HFO, FO, DO, GO, ULSD, LSMGO.  
Pressione ammissibile in mandata (continua) fino a 40 bar.



## Appendice

VISCOSITY	MESH STRAINER
< 5 cSt	60 mesh
< 10 cSt	40 mesh
< 20 cSt	20 mesh
< 200 cSt	Perforation 1/8"
< 500 cSt	Perforation 3/16"
> 500 cSt	Perforation 1/4"

Tabella 1

	bar	1450 rpm				2900 rpm				3600 rpm			
		10	16	25	40	10	16	25	40	10	16	25	40
PB20	Bx>1000	15 um								25 um			
PB 25	Bx>1000	15 um											
PB 32	Bx>1000	15 um											
PB 40	Bx>1000	25 um											

Fluido > 5 cSt

	bar	1450 rpm				2900 rpm				3600 rpm			
		10	16	25	40	10	16	25	40	10	16	25	40
PB 20	Bx>1000	Contare Seim				10 um				10 um			
PB 25	Bx>1000	Contare Seim				10 um							
PB 32	Bx>1000	Contare Seim				10 um							
PB 40	Bx>1000	Contare Seim				15 um							

Fluido < 5 cSt

Tabella 2

SEIM srl  
Via A. Volta 17  
20090 Cusago (MI) ITALY  
Tel. (+39) 02.90.39.21.1  
Fax. (+39) 02.90.39.21.41  
e-mail: [seim@seim.it](mailto:seim@seim.it)

[www.seim.it](http://www.seim.it)

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## LubeTeam Hydraulic S.r.l.

*Administration and Headquarter:*

Via Tufara Scautieri, 6

83018 - San Martino Valle Caudina (AV)

*Office and Warehouse:*

S.S. 7 Appia, Km. 237,00

82011 - Airola BN

ITALY

Tel. +39 0823 950 994

Fax +39 0823 412 546

[www.lubeteam.it](http://www.lubeteam.it) [info@lubeteam.it](mailto:info@lubeteam.it)

Italian VAT / C.F. e P.IVA: 01251720627

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