

# SCREW PUMPS

## Series SM

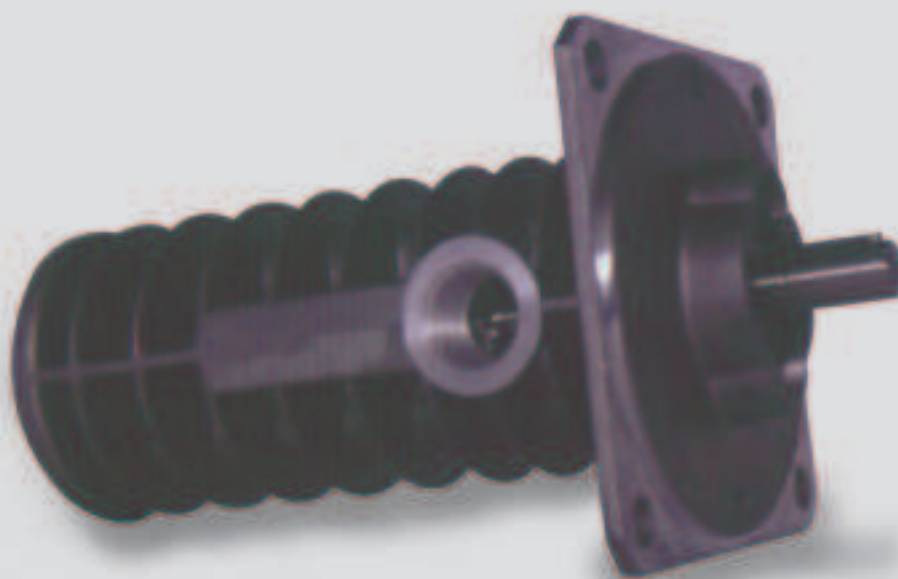
Lift & elevators program - Submersible screw pumps

# POMPE A VITI

## Serie SM

Ascensori & elevatori - Pompe a viti sommerse

COMPANY  
WITH QUALITY SYSTEM  
CERTIFIED BY DNV  
=ISO 9001/2000=



SETTIMA MECCANICA

# The people behind the Settima pumps

## L'azienda Settima Meccanica

The Settima Meccanica adventure started in early 1978, with the ideas and the energy of an engineer, Mr. Cagnani, having the dream to produce reliable, high technology and low costs pumps, in order to set up an entrepreneurial activity able to create new jobs. The company started with one person and with the supply of a unique lift power unit manufacturer, led by one of the engineer's better friend. Believing in the potential of his people, in the technology innovation and research, the engineer walked through the market, letting his team and his company grow. Now SETTIMA is the European leader in screw pumps for lift and elevator, having literally more than 500.000 of installation. The SETTIMA products are sold around the entire world and are the highest quality and cheaper on the market. The SETTIMA wealth is the employed team and all the people co-operating with them.

### Settima screws pumps

The SETTIMA pumps are reliable, low noise and low cost; run without pulsation and guarantee a long life to your application.

### Uses

The immersed SETTIMA screws pumps couplet together with immersed motors run quietly and without pulsation. Are used in hydraulic lifts and in hydraulic systems of every kind.

### Operation

The screws pumps of SETTIMA are positive displacement rotary pump with axial flow design. There are only three moving parts. The power rotor is the only driven part that extends outside the case. The idler screws actually act as sealing parts and are turned hydraulically by the fluid being pumped. There is only a rolling action between the drive screw and the idler ones. The rolling action eliminates noise and vibration.

### Dives machines

Immersion type motors. Immersed motors are three-phase A.C. asynchronous motors directly coupled to the pump (fig. 1 and fig. 2) or with a flange and clutch (fig. 3). Enclosure IP 00, form of construction B15, insulation class F. The oil temperature should not exceed 70° C; cooling should be provided if necessary.

### Protection of the motor and the oil against thermal overloading

The immersed motor are equipped with 3 cold-conductor temperature sensor. Their response is 100°C. In addition is recommended that an oil-monitoring cold-conductor with a response temperature of 70°C be installed in the oil tank.

### Installation

The Settima pumps will be used as per fig. 1, 2 and 3; all without shaft sealing and without maintenance

*L'avventura dell'azienda Settima Meccanica incomincia nel 1978, dalle idee e dall'energia dell'Ing. Cagnani. L'azienda è partita con un solo cliente. Attualmente SETTIMA è leader del settore ascensori in Europa e le sue pompe a viti sono installate in più di 500.000 impianti idraulici. L'azienda attualmente produce decine di migliaia di pompe a viti all'anno, coinvolgendo molti fornitori locali, che garantiscono con la loro professionalità e vicinanza la massima flessibilità e garanzia dei tempi di consegna. I prodotti SETTIMA sono venduti e distribuiti in tutto il mondo. Sono di alta qualità, affidabili e convenienti.*

### Pompe a viti Settima

*Le pompe a viti SETTIMA sono affidabili, a basso inquinamento acustico. Funzionano senza produrre vibrazioni, garantendo alle vostre applicazioni tempi di vita molto lunghi.*

### Utilizzi

*Le pompe a viti SETTIMA accoppiate a motori elettrici per uso esterno o sommerso funzionano in modo silenzioso e senza produrre pulsazioni. Sono utilizzate in applicazioni idrauliche di qualsiasi tipo.*

### Funzionamento

*Le pompe a viti SETTIMA sono pompe volumetriche progettate con trasferimento assiale della pressione. All'interno della pompa ci sono solo tre parti in movimento. La vite principale è l'unica parte guidata e trasmette il moto alle viti satelliti. Le viti satelliti svolgono anche la funzione di creazione di zone di pressione a tenuta. Le viti laterali rotolano attorno alla vite centrale senza creare vibrazioni e rumore.*

### Motori

*I motori utilizzati sono motori sommersi o esterni. I motori possono essere accoppiati direttamente (fig. 1 e fig. 2) o attraverso giunto e lanterna (fig. 3). Nel caso di motori immersi in olio, la temperatura non deve essere superiore ai 70°C. Sistemi di raffreddamento devono essere previsti se necessario.*

### Protezione dei motori sommersi

*I motori sommersi tipicamente sono dotati di protezione termica. Verificare con il produttore del motore le temperature di funzionamento ammesse.*

### Installazione

*Le pompe Settima sono utilizzate come illustrato nelle figure 1, 2 e 3. Per installazioni differenti, vi preghiamo di contattare i nostri uffici.*

<b>Rotor housing</b>	Alloy Al-Si Treated – UNI 3600
<b>Power rotor</b>	Steel – UNI 4838
<b>Idler rotor</b>	Pearlitic iron – UNI 5007
<b>Filtration</b>	Suction filter: 0,25 mm <sup>2</sup>
<b>Flow</b>	Flow capacity from 8 to 1.200 L/min(2.750 rpm at 50Hz)
<b>Operating pressure</b>	80 bar maximum
<b>Temperature</b>	Up to 100°C
<b>Viscosity</b>	From 4 up to 2.000 cSt
<b>Speeds</b>	Up to 3.600 rpm
<b>Rotation</b>	Clockwise as viewed facing pump shaft
<b>Noise</b>	Silent

(\*) For high viscosity applications and/or oil-air emulsions, please check with us the suitable pump model

(\*\*) Per le applicazioni ad alta viscosità e per applicazioni che generano emulsioni contenenti aria, vi preghiamo di verificare con noi le migliori soluzioni.

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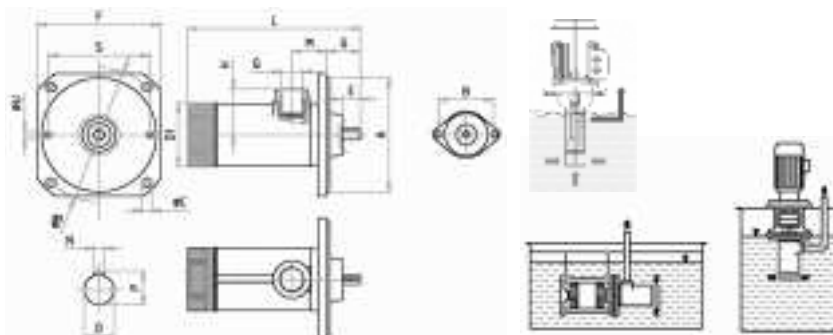
Le caratteristiche tecniche possono cambiare senza preavviso. Possibili applicazioni speciali e progettazione di pompe su misura – vi preghiamo di contattarci.

# Dimensional drawing

## Dimensioni

### Series SM serie SM

Dry screw pump  
Pompa per uso esterno



#### Standard execution

TYPE TIPO	Flange Flangia					Shaft Albero				Discharge Mandata		Pump Pompa				
	A	B	S	C	F	D	P	N	E	H	Q	D1	L	G	M	Kg
GR 20	82,55	106	-	12	130	14	16	5	30	31	"	60	245	41	60	1,5
GR 25	155	190	135	14	175	19	22	6	35	45	1"	85	342	65	52	4,2
GR 32	155	190	135	14	175	19	22	6	35	45	1"	85	342	65	52	4,2
GR 40	155	190	135	14	175	19	22	6	35	76	1"	108	348	65	58	6,5
GR 45	220	260	195	18	235	32	35	10	55	65	1"	120	417	93	72	9,7
GR 55	220	260	195	18	235	32	35	10	55	76	1"	140	467	93	72	15
GR 60	220	260	195	18	235	32	35	10	55	76	2"	140	520	93	81	18
GR 70	220	260	195	18	235	32	35	10	55	95	2"	170	600	93	81	27
GR 80	270	310	-	24	360	38	41	10	60	150	3" SAE	210	655	104	132	56

#### Special execution

TYPE TIPO	Flange Flangia					Shaft Albero				Discharge Mandata		Pump Pompa				
	A	B	S	C	F	D	P	N	E	H	Q	D1	L	G	M	Kg
GR 20 19x155	155	190	135	14	175	19	22	6	35	31	"	60	263	65	37	2
GR 40 32x155	155	190	135	14	175	32	35	10	55	76	1"	108	348	65	58	6,5
GR 40 32x220	220	260	195	18	235	32	35	10	55	76	1"	108	380	93	58	7,5
GR 45 32x155	155	190	135	14	175	32	35	10	55	65	1"	120	390	65	72	8,7
GR 55 32x155	155	190	135	14	175	32	35	10	55	65	1"	120	439	65	72	14

#### Hollow shaft execution - for direct coupling with standard IEC electric motors

TYPE TIPO	Flange Flangia					Shaft Albero				Discharge Mandata		Pump Pompa				
	A	B	S	C	F	-	-	-	-	H	Q	D1	L	G	M	Kg
GR 20 AC	-	106	-	12	130	For GR80 B5 - GR90 B5				31	"	60	245	-	60	1,8
GR 25 AC	-	190	135	14	175	For GR100/112 B5				45	1"	85	342	-	52	4,5
GR 32 AC	-	190	135	14	175	For GR90 B5 - GR100/112 B5				45	1"	85	342	-	52	4,5

## Performance 68 cSt – 2 poles – 50 Hz (2.750 rpm)

### Prestazioni 68 cSt – 2 poles – 50 Hz (2.750 rpm)

Pump type SM – maximum operating pressure 80 bar  
Flow / Pressure / Power tables

Pompe SM - massima pressione 80 bar  
Tabelle Portata / Pressione / Potenza

Type / Tipo			Operating pressure (bar)							
			Pressione (bar)							
			10	20	30	40	50	60	70	80
GR 20 SM	8 L	l/min	8,8	8,6	8,3	8,0	7,7	7,4	7,1	6,5
		KW	0,2	0,4	0,6	0,7	0,9	1,0	1,1	1,2
	12 L	l/min	13,5	13,1	12,7	12,3	11,8	11,3	10,8	10,0
		KW	0,3	0,6	0,8	1,1	1,3	1,5	1,6	1,8
	15 L	l/min	17,5	17,0	16,5	16,0	15,7	15,3	14,9	14,0
		KW	0,4	0,8	1,1	1,4	1,7	2,0	2,3	2,5
20 L	l/min	25,2	24,6	24,0	23,5	23,0	22,5	22,0	21,0	
	KW	0,6	0,9	1,6	2,0	2,5	2,9	3,3	3,8	
	l/min	25,2	24,6	24,0	23,5	23,0	22,5	22,0	21,0	
	KW	0,7	1,2	1,6	2,0	2,5	3,0	3,5	4,0	
GR25 SM	25 L	l/min	28,2	27,7	27,0	26,2	25,5	24,7	24,0	22,7
		KW	0,9	1,4	1,8	2,2	2,8	3,3	3,8	4,4
	30 L	l/min	36,7	35,3	34,1	33,0	32,0	30,8	29,6	28,0
		KW	1,1	1,7	2,3	3,0	3,8	4,4	5,0	6,0
GR32 SM	35 L	l/min	39,0	38,4	37,8	37,2	36,5	35,8	35,0	33,5
		KW	1,0	1,6	2,5	3,3	4,0	4,6	5,2	6,5
	45 L	l/min	48,8	48,4	48,0	47,5	47,0	46,3	45,5	44,0
		KW	1,2	2,2	3,2	4,0	5,0	6,0	6,8	7,6
	55 L	l/min	58,0	57,0	56,0	55,0	54,0	52,7	51,4	50,0
		KW	1,4	2,5	3,7	4,7	5,8	6,8	7,8	8,6
l/min		80,3	79,6	78,0	75,8	73,8	71,6	70,0	67,7	
KW		1,8	3,3	4,7	6,0	7,2	8,4	10,0	10,5	
GR 40 SM	100 L	l/min	104,0	100,0	96,0	92,8	89,7	85,0	80,3	76,0
		KW	2,5	4,5	6,5	8,4	10,0	11,9	13,8	15,2
	125 L	l/min	128,0	126,0	124,0	122,0	119,5	117,0	114,5	108,5
		KW	3,0	5,4	7,9	10,4	12,8	14,9	16,9	18,5
	150 L	l/min	151,0	149,0	147,0	144,5	142,0	139,5	137,0	132,0
		KW	3,5	6,5	9,5	12,9	14,9	18,0	20,0	23,0
GR45 SM	180 L	l/min	183,0	180,0	177,0	174,0	170,5	167,0	163,5	156,5
		KW	4,0	7,8	11,2	14,9	18,0	21,0	24,0	27,0
	210 L	l/min	214,0	211,5	208,0	204,5	201,0	197,5	194,0	187,0
		KW	5,0	9,0	13,4	17,3	21,0	25,0	28,5	33,0
	250 L	l/min	256,8	253,8	249,6	245,4	241,2	237,0	232,8	224,4
		KW	6,0	10,8	16,1	20,8	25,2	30,0	34,2	39,6
GR55 SM	270 L	l/min	276,0	271,0	266,0	263,0	260,0	257,0	253,0	249,0
		KW	6,0	11,6	17,0	23,0	28,0	33,0	38,0	43,0
	300 L	l/min	305,5	301,0	297,0	293,0	289,0	285,0	281,0	273,0
		KW	6,9	12,8	18,8	24,0	30,2	35,9	41,0	47,0
	330 L	l/min	346,0	340,0	334,0	330,0	326,0	322,0	317,0	310,0
		KW	7,6	14,5	21,5	28,5	35,0	41,5	48,0	53,0
380 L	l/min	386,5	382,0	378,0	374,0	370,0	365,5	361,0	351,0	
	KW	8,5	16,0	23,8	31,5	38,8	46,0	53,0	60,0	
GR 60 SM	440 L	l/min	455,0	450,0	445,0	440,0	434,5	429,0	423,5	412,0
		KW	10,0	19,0	28,0	34,0	46,0	54,0	62,0	70,0
	500 L	l/min	516,5	511,5	506,5	501,0	495,0	489,0	483,0	470,0
		KW	11,0	22,0	30,0	42,0	52,0	62,0	71,0	80,0
GR 70 SM	540 L	l/min	549,8	544,9	540,1	534,8	529,5	523,8	518,1	503,1
		KW	12,3	22,9	33,4	44,9	55,4	66,0	75,6	85,3
	600 L	l/min	625,0	619,5	614,0	608,0	602,0	595,5	589,0	572,0
		KW	14,0	26,0	38,0	51,0	63,0	75,0	86,0	97,0
	660 L	l/min	681,0	675,5	671,0	665,0	659,0	652,5	646,0	632,0
		KW	15,0	28,6	42,0	55,0	69,0	80,0	95,0	106,0
800 L	l/min	826,0	820,0	815,0	810,0	804,5	799,5	794,5	775,0	
	KW	18,0	34,0	51,0	68,0	84,0	100,0	116,0	130,0	
GR 80 SM	1.000 L	l/min	1.030,0	1.024,0	1.017,0	1.010,0	1.002,0	995,0	986,0	965,0
		KW	22,0	43,0	64,0	85,0	105,0	125,0	144,0	161,0
	1.200 L	l/min	1.250,0	1.242,0	1.234,0	1.225,0	1.212,0	1.194,0	1.176,0	1.152,0
		KW	27,0	52,0	78,0	106,0	126,0	149,0	172,0	193,0

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# Produzione Settima Meccanica



SMT16B



SMT 16B Hollow Shaft  
(submersible)



SMT



SMIT  
(submersible)



SMT16B Hollow Shaft



Continuum



SM



SMU

Area Agency/Reseller

**SETTIMA MECCANICA**

