

SEMISOM



Electric submersible pumps SEMISOM

for sewage water



APPLICATION

To expel rain water, convey waste and sewage water from septic tanks

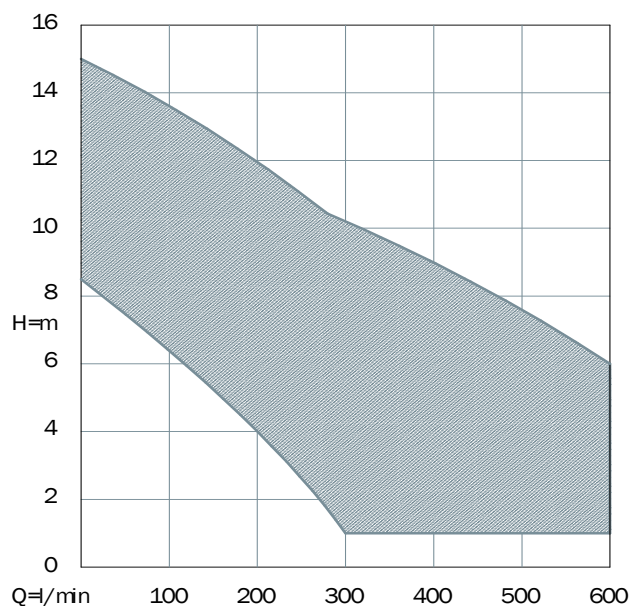
To pump liquids containing solids (vortex or double channel impeller) and filaments (double channel impeller)

To pump sewage keeping its biological process unchanged (Semisom 504 4 poles)

CHARACTERISTICS

IP rating	IP68
Duty (versions 1~230V - 3~400V)	Continuous S1
Duty (versions 24V DC)	Limited use S2 (60 minutes)
Maximum immersion depth (m)	20
Maximum number of starts per hour	40
Maximum temperature of the liquid pumped versions 1~230V - 3~400V (°C)	50
Maximum temperature of the liquid pumped versions 24V DC (°C)	35
PH of the liquid pumped	6 - 10
Density of the liquid pumped (kg/dm ³)	<1,1
Suitable for inverter drive	Three-phase versions only

APPLICATION RANGE



CONSTRUCTION

1~230V - 3~400V versions: coolant filled, asynchronous, rewindable electric AC motor with short circuit rotor. Insulation Class F. Windings with phase insulators to protect the motor from power peaks, as a guarantee of a highly-trustworthy product.

24V DC versions: with permanent magnets dry electric DC motor. Insulation Class F

Resin-insulated cable kit to prevent penetration of water inside the motor

Shafts machined on ball bearings and mechanical seals location

Double mechanical seal with oil-chamber in-between


MATERIALS


Tie rods, handle, motor casing, bolts and nuts	Stainless Steel AISI304
Shaft	Stainless Steel AISI420B
Cover and volute	Mechanical cast iron EN GJL-250
Impeller	Mechanical cast iron EN GJL-200
Mechanical seal	Silicon carbide and alumina
Packing Ring	NBR rubber
Elastomers	NBR rubber
Cable	Neoprene H07RN8-F; 24V DC: Twin Batt

Electric submersible pumps SEMISOM





for sewage water





PERFORMANCE DATA

Vortex Impeller 	P2		1~230 V		3~400 V	24 V DC	Poles	DNM	Solid Passage ø	Q		Flow									
	hp	kW	Max	µF	Max	Max				m³/h	0	6	9	12	15	18	21	24	27	30	36
			A		A	A				l/min	0	100	150	200	250	300	350	400	450	500	600
SEMISOM 265	0,75	0,55	4,2	16	1,7	28	2	1"½	40	H (m)	8,5	6,5	5,5	4	3	1					
SEMISOM 290	0,75	0,55	4,2	16	1,7		2	2"	50		8,5	7	6,5	5,5	4,5	3,5	2,5	1			
SEMISOM 390	1	0,75	5,5	16	2,3		2	2"	50		10	8,5	8	7	6	5	4	3	2	1	
NEW SEMISOM 504	1	0,75	6,1	20	2,5		4	2"	50		6,2	6	5,7	5,4	5,1	4,8	4,5	4,2	3,8	3	
SEMISOM 490	1,5	1,1	7,3	20	2,7		2	2"	50		11	9,5	9	8	7,5	6,5	5,5	5	4	3	1
SEMISOM 590	2	1,5	10,5	31,5	4,1		2	2"	50		14,5	13	12,5	11,5	11	10	9	8	7,5	6,5	5
SEMISOM 650	2	1,5	12	31,5	4,6		2	2"½	65		9	8	7,5	7	6,5	6	5,5	5	4,5	4	3
NEW SEMISOM 650 H	2	1,5	12	31,5	4,6		2	2"½	65		12,8	12	11,6	11,1	10,7	10,2	9,5	8,8	8,1	7,5	6

Channel impeller 	P2		1~230 V		3~400 V	24 V DC	Poles	DNM	Solid Passage ø	Q		Flow									
	hp	kW	Max	µF	Max	Max				m³/h	0	6	9	12	15	18	21	24	27	30	36
			A		A	A				l/min	0	100	150	200	250	300	350	400	450	500	600
SEMISOM 262	0,75	0,55	4,2	16	1,7	28	2	2"	32	H (m)	10,5	9	8	7	6	4,5	3	1			
SEMISOM 635	1,5	1,1	7,3	20	2,7		2	2"	32		15	13,5	13	12	11	10	9	7,5	6,5	5	2

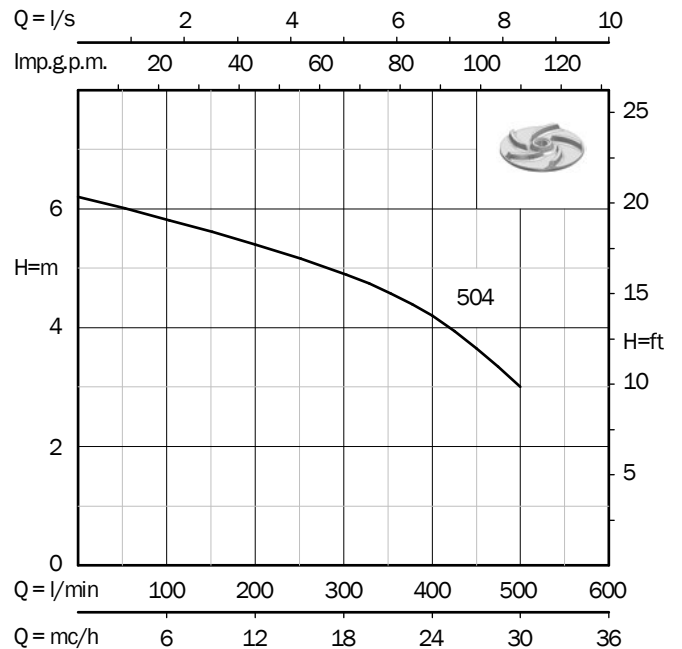
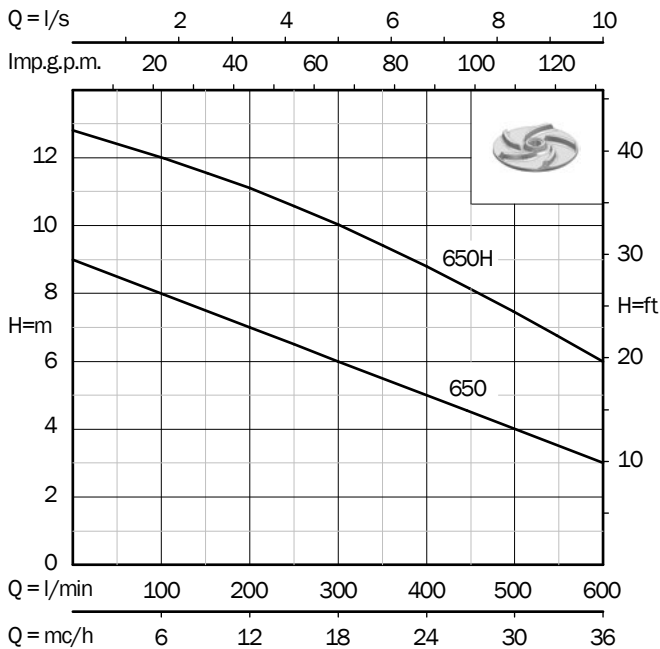
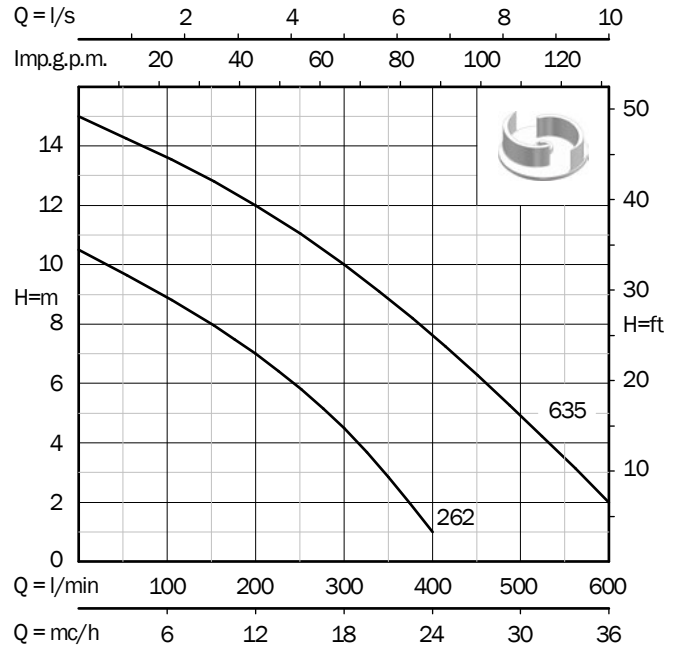
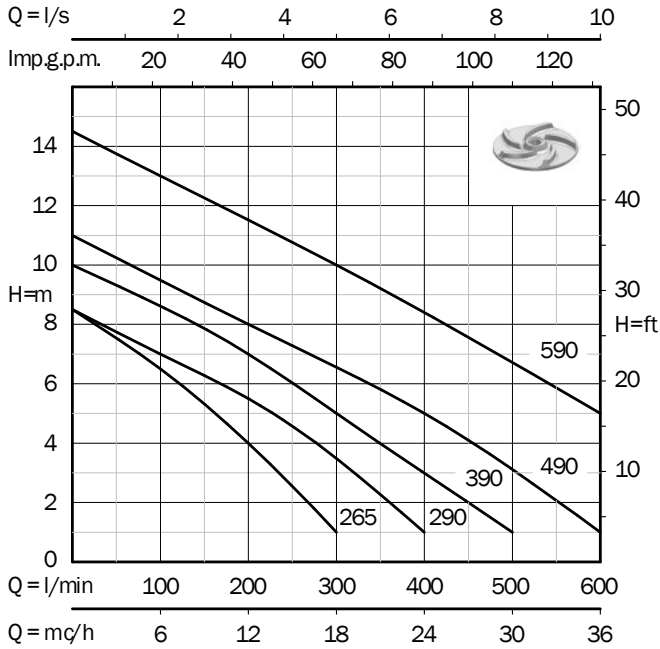
AVAILABLE VERSIONS

Vortex Impeller 	Vertical discharge 	Horizontal discharge 	Rail 	Single-phase	Single-phase + Float switch	Single-phase + float. and Internal capacitor	Three-phase	Three-phase + float	24 V
	SERIES								
SEMISOM 265	•			VS	VS	VA	VS	VA	VS
SEMISOM 290		•		HS	HS	HA	HS		
SEMISOM 390	•			VS	VS	VA	VS	VA	
		•		HS	HS	HA	HS		
NEW SEMISOM 504		•		HS	HS		HS		
SEMISOM 490	•			VS	VS	VA	VS	VA	
		•		HS	HS	HA	HS		
SEMISOM 590		•		HS	HS		HS		
SEMISOM 650			•	RS	RS		RS		
NEW SEMISOM 650 H			•	RS	RS		RS		

Channel impeller 	Vertical discharge 	Horizontal discharge 	Rail 	Single-phase	Single-phase + Float switch	Single-phase + float. and Internal capacitor	Three-phase	Three-phase + float	24 V
	SERIES								
SEMISOM 262	•			VS	VS	VA	VS	VA	VS
SEMISOM 635	•			VS	VS	VA	VS	VA	
		•		HS	HS	HA	HS		

V = Vertical discharge; H = Horizontal discharge; R = Rail
S = Standard version; A = Automatic version


PERFORMANCE CURVES



Electric submersible pumps SEMISOM series VA

for sewage water, vertical discharge

PERFORMANCE DATA 2 poles 50 Hz

Vortex Impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight
				hp	kW	A	l/min	m			A	B	C	D	kg
SEMISOM 265 VA	SM265+GGH/3	230 V	1-phase+float	0,75	0,55	4,2	30 - 150 - 300	8 - 5,5 - 1	40	1"½	454	50	230	162	16,5
	ST265+GGH/2	400 V	3-phase+float			1,7									18,3
SEMISOM 390 VA	SM390+G/3	230 V	1-phase+float	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	502	65	235	162	17,7
	ST390+G/2	400 V	3-phase+float			2,3									19,5
SEMISOM 490 VA	SM490+G/3	230 V	1-phase+float	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	527	65	235	162	19,5
	ST490+G/2	400 V	3-phase+float			2,7									21,3

SUPPLIED WITH

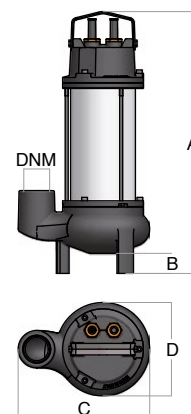
Power cable:
 • 5 meters for single-phase versions
 • 10 meters for three-phase versions




Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber (single-phase versions)



Mini-contactor put in a separate, easy-accessible chamber (three-phase versions)



PERFORMANCE DATA 2 poles 50 Hz

Channel impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 262 VA	SM262+G/3	230 V	1-phase+float	0,75	0,55	4,2	30 - 200 - 400	10 - 7 - 1	32	2"	450	60	250	172	19,1
	ST262+G/2	400 V	3-phase+float			1,7									20,9
SEMISOM 635 VA	SM635+G/3	230 V	1-phase+float	1,5	1,1	7,3	30 - 350 - 600	14,5 - 9 - 2	32	2"	484	60	250	172	21,3
	ST635+G/2	400 V	3-phase+float			2,7									23,1

SUPPLIED WITH



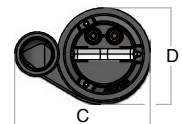
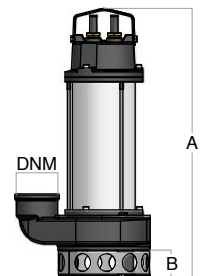
Power cable:
 • 5 meters for single-phase versions
 • 10 meters for three-phase versions



Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber (single-phase versions)




Mini-contactor put in a separate, easy-accessible chamber (three-phase versions)




Electric submersible pumps SEMISOM series VS

for sewage water, vertical discharge

PERFORMANCE DATA 2 poles 50 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 265 VS	SM265GH	230 V	1-phase	0,75	0,55	4,2	30 - 150 - 300	8 - 5,5 - 1	40	1"½	400	50	230	162	14
	SM265+GGH	230 V	1-phase+float												14,2
	ST265GH	400 V	3-phase												1,7
SEMISOM 390 VS	SM390	230 V	1-phase	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	450	65	235	162	15,7
	SM390+G	230 V	1-phase+float												15,9
	ST390	400 V	3-phase												2,3
SEMISOM 490 VS	SM490	230 V	1-phase	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	474	65	235	162	16,5
	SM490+G	230 V	1-phase+float												16,7
	ST490	400 V	3-phase												2,7

PERFORMANCE DATA - 24 V DC

Vortex Impeller 	Code	Version		P2		P1 kW	Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW			l/min	m			A	B	C	D	
SEMISOM 265 VS	SF265	24 V	DC	0,75	0,55	0,67	28	30 - 150 - 300	8 - 5,5 - 1	40	1"½	400	50	230	162	13

P1: Max. absorbed power - P2: Nominal power of the motor

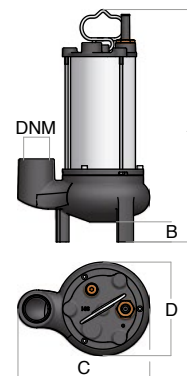


SUPPLIED WITH

5 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)




ACCESSORIES


Code	Description
02076100	QDC electromechanical direct starter (24 V DC versions)



PERFORMANCE DATA 2 poles 50 Hz

Channel impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight
				hp	kW	A	l/min	m			A	B	C	D	kg
SEMISOM 262 VS	SM262	230 V	1-phase	0,75	0,55	4,2	30 - 200 - 400	10 - 7 - 1	32	2"	400	60	250	172	16,7
	SM262+G	230 V	1-phase+float												16,9
	ST262	400 V	3-phase												1,7
SEMISOM 635 VS	SM635	230 V	1-phase	1,5	1,1	7,3	30 - 350 - 600	14,5 - 9 - 2	32	2"	440	60	250	172	19,3
	SM635+G	230 V	1-phase+float												19,5
	ST635	400 V	3-phase												2,7

PERFORMANCE DATA - 24 V DC

Channel impeller 	Code	Version		P2		P1	Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight
				hp	kW	kW	A	l/min	m			A	B	C	D	kg
SEMISOM 262 VS	SF262	24 V	DC	0,75	0,55	0,67	28	30 - 200 - 400	10 - 7 - 1	32	2"	400	60	250	172	15,3

P1: Max. absorbed power - P2: Nominal power of the motor

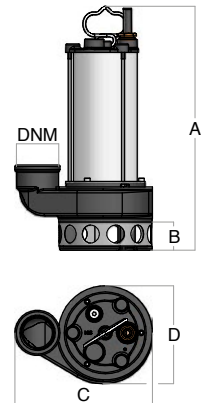


SUPPLIED WITH

5 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)



ACCESSORIES


Code	Description
02076100	QDC electromechanical direct starter (24 V DC versions)



Electric submersible pumps SEMISOM series HA

for sewage water, horizontal discharge

PERFORMANCE DATA 2 poles 50 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 290 HA	SM290+GO/3	230 V	1-phase+float	0,75	0,55	4,2	100 - 200 - 400	7 - 5,5 - 1	50	2"	492	65	198	162	16,4
SEMISOM 390 HA	SM390+GO/3	230 V	1-phase+float	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	502	65	198	162	17,5
SEMISOM 490 HA	SM490+GO/3	230 V	1-phase+float	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	526	65	198	162	18,8

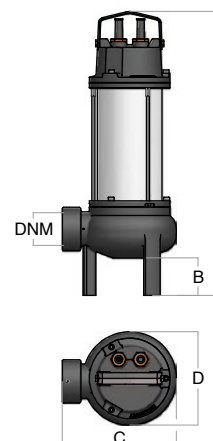


SUPPLIED WITH

10 meters power cable

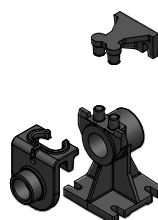


Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber




ACCESSORIES

Code	Description
04105043	Guide rail kit DNM 2" (¾" guide poles are not included)



PERFORMANCE DATA 2 poles 50 Hz

Channel impeller 	Code	Version		P2		Max	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW	A	l/min	m			A	B	C	D	
SEMISOM 635 HA	SM635+G0/3	230 V	1-phase+float	1,5	1,1	7,3	30 - 350 - 600	14,5 - 9 - 2	32	2"	484	60	220	172	22

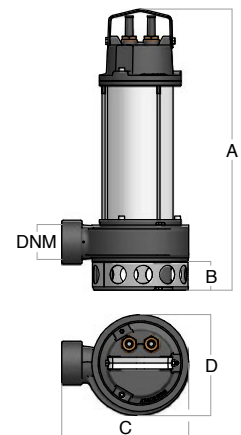


SUPPLIED WITH

10 meters power cable

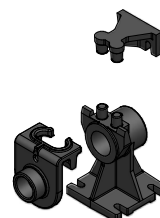


Capacitor and thermal protector put in a separate, easy-accessible, water tight chamber



ACCESSORIES


Code	Description
04105043	Guide rail kit DNM 2" ($\frac{3}{4}$ " guide poles are not included)



Electric submersible pumps SEMISOM series HS

for sewage water, horizontal discharge

PERFORMANCE DATA 2 poles 50 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 290 HS	SM2900	230 V	1-phase	0,75	0,55	4,2	100 - 200 - 400	7 - 5,5 - 1	50	2"	440	65	198	162	14,4
	SM290+G0	230 V	1-phase+float												14,6
	ST2900	400 V	3-phase												1,7
SEMISOM 390 HS	SM3900	230 V	1-phase	1	0,75	5,5	100 - 250 - 500	8,5 - 6 - 1	50	2"	450	65	198	162	15,7
	SM390+G0	230 V	1-phase+float												15,9
	ST3900	400 V	3-phase												2,3
SEMISOM 490 HS	SM4900	230 V	1-phase	1,5	1,1	7,3	100 - 250 - 600	9,5 - 7,5 - 1	50	2"	474	65	198	162	16,5
	SM490+G0	230 V	1-phase+float												16,7
	ST4900	400 V	3-phase												2,7
SEMISOM 590 HS	SM5900	230 V	1-phase	2	1,5	10,5	100 - 300 - 600	13 - 10 - 5	50	2"	496	65	198	162	18,2
	SM590+G0	230 V	1-phase+float												18,4
	ST5900	400 V	3-phase												4,1

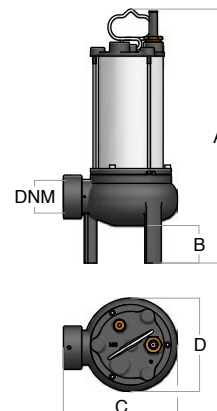
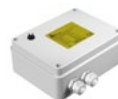


SUPPLIED WITH

10 meters power cable

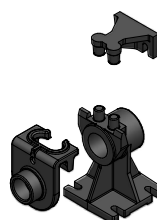


Control box containing capacitor and amperometric protection (single-phase versions)




ACCESSORIES

Code	Description
04105043	Guide rail kit DNM 2" (3/4" guide poles are not included)



PERFORMANCE DATA 4 poles 50 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
NEW SEMISOM 504 HS	SM5040	230 V	1-phase	1	0,75	6,1	100 - 300 - 500	6 - 4,8 - 3	50	2"	498	50	225	171	20,2
	SM504+G0	230 V	1-phase+float												20,4
	ST5040	400 V	3-phase			2,5									20,2

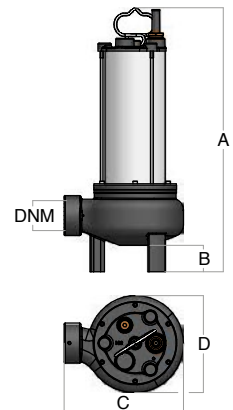


SUPPLIED WITH

10 meters power cable

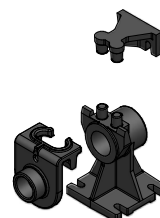


Control box containing capacitor
and amperometric protection
(single-phase versions)



ACCESSORIES


Code	Description
04105043	Guide rail kit DNM 2" (¾" guide poles are not included)



Electric submersible pumps SEMISOM series HS

for sewage water, horizontal discharge

PERFORMANCE DATA 2 poles 50 Hz

Channel impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 635 HS	SM6350	230 V	1-phase	1,5	1,1	7,3	30 - 350 - 600	14,5 - 9 - 2	32	2"	440	60	220	172	20,1
	SM635+G0	230 V	1-phase+float												20,3
	ST6350	400 V	3-phase												2,7

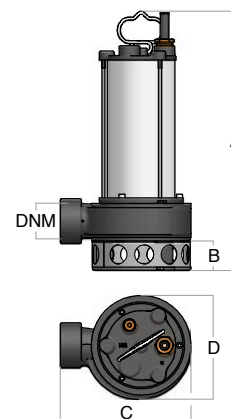


SUPPLIED WITH

10 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)



ACCESSORIES

Code	Description
04105043	Guide rail kit DNM 2" ($\frac{3}{4}$ " guide poles are not included)

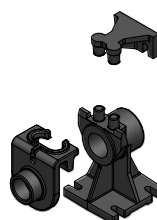
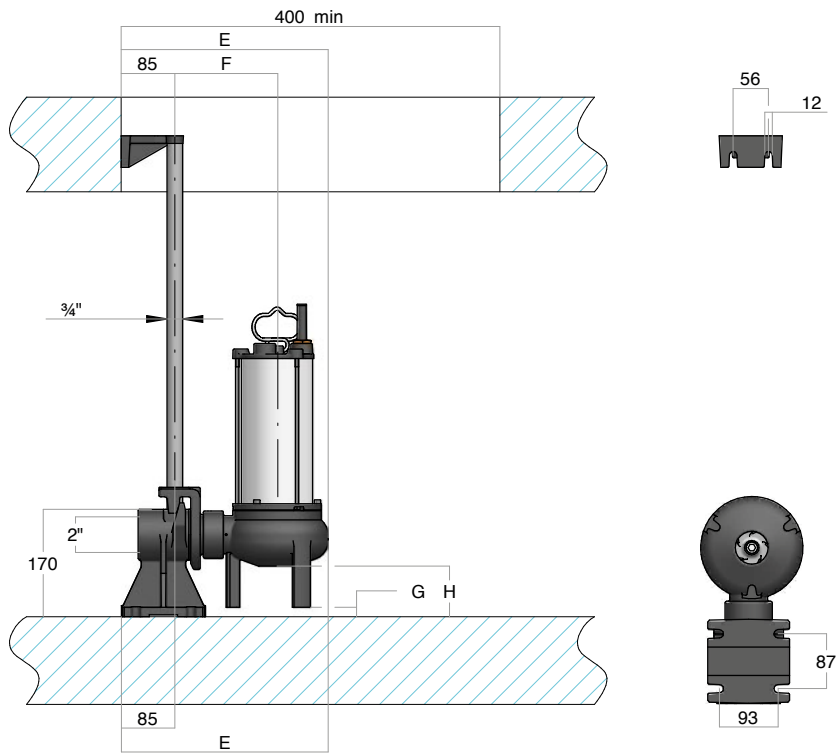


ILLUSTRATION OF AN INSTALLATION WITH GUIDE RAIL KIT




To be installed on	Dimensions (mm)			
	E	F	G	H
SEMISOM HS - HA	328	163	15	80
SEMISOM 635 HS - HA	348	180	47	97

Electric submersible pumps SEMISOM series RS

for sewage water with rail

PERFORMANCE DATA 2 poles 50 Hz

Vortex Impeller 	Code	Version		P2		Max A	Flow		Ø solids	DNM	Dimensions (mm)				Weight kg
				hp	kW		l/min	m			A	B	C	D	
SEMISOM 650 RS	SM650	230 V	1-phase	2	1,5	12	100 - 300 - 600	8 - 6 - 3	65	2"1/2	445	91	334	195	23
	SM650+G	230 V	1-phase+float												23,3
	ST650	400 V	3-phase												4,6
NEW SEMISOM 650H RS	SM650H	230 V	1-phase	2	1,5	12	100 - 300 - 600	12 - 10,2 - 6	65	2"1/2	445	91	334	195	23
	SM650H+G	230 V	1-phase+float												23,3
	ST650H	400 V	3-phase												4,6

It can be installed only with guide rail kit

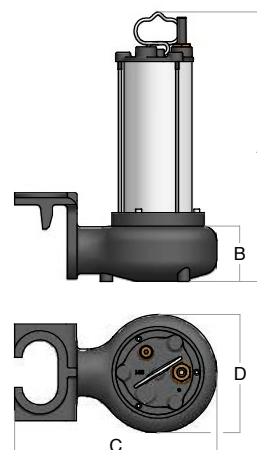
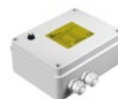


SUPPLIED WITH

10 meters power cable



Control box containing capacitor and amperometric protection (single-phase versions)

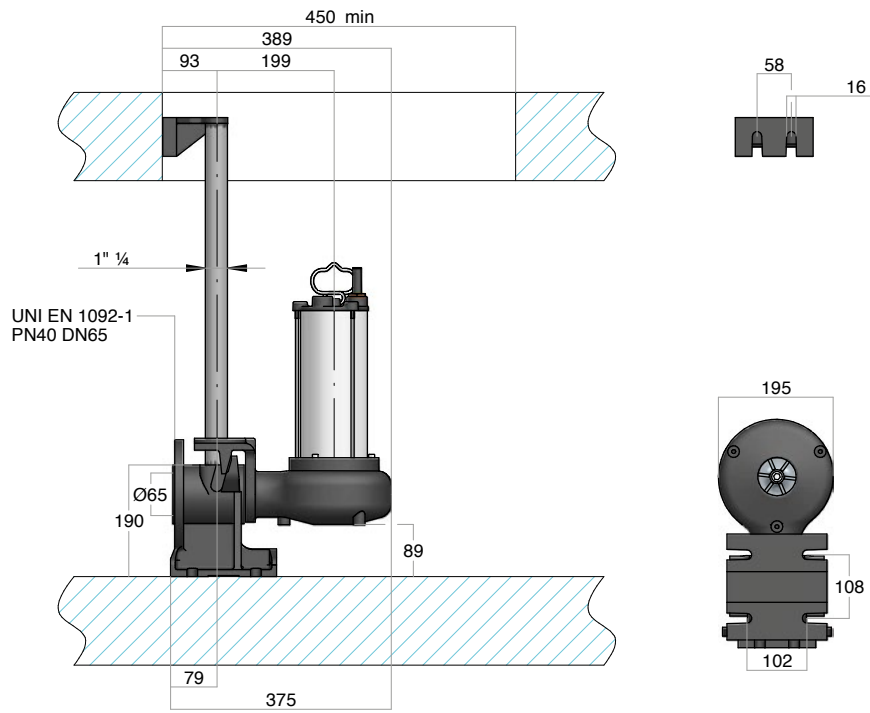


ACCESSORIES

Code	Description
04105044	Guide rail kit Semisom 650 (1"1/4 guide poles not included)



ILLUSTRATION OF AN INSTALLATION WITH GUIDE RAIL KIT



Automatic lifting station SEMIBOX

for sewage water

APPLICATION

Suitable to collect and convey waste and sewage water

Advisable if the main sewer line is at a higher level than the collecting wet well

The lifting tank can be installed inside garages, basements or underground

AVAILABLE WITH THE FOLLOWING ELECTRIC PUMPS

Type	Construction	Characteristics / materials	Performance
Semisom 125 GR	see page 127	see page 127	see page 128
Semisom 265 VS	see page 109	see page 109	see page 114
Semisom 265 VA	see page 109	see page 109	see page 112
Semisom 390 VS	see page 109	see page 109	see page 114
Semisom 390 VA	see page 109	see page 109	see page 112

CHARACTERISTICS

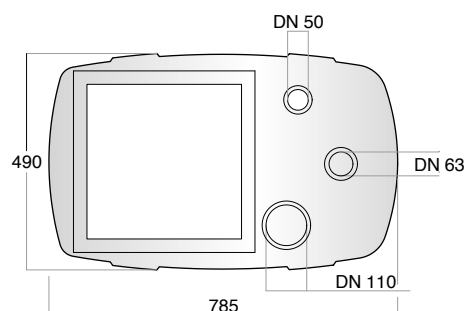
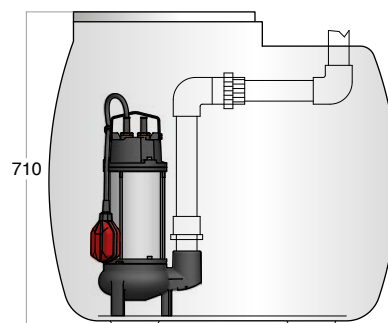
Tank in high-density, corrosion-resistant polyethylene for either surface or underground installation. It is supplied with all necessary gaskets to fit inlet and outlet pipes as well as the ventilation hole.

The discharge pipe has simple release fittings to disconnect the electric pump, easily

The hermetically-sealed lid can be removed for inspecting the plant

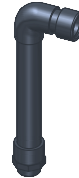
Electric pump and tank can be coupled using a \varnothing 50 mm or \varnothing 63 mm pipe

Code	Description
06510026	Automatic lifting station SEMIBOX 200 litres



ACCESSORIES

Code	Description
06520005	Connection kit electric pump/tank DN 50/1"½
06520010	Connection kit electric pump/tank DN 63/2"



For electric pumps SEMISOM with vertical discharge

EXAMPLE OF INSTALLATION

