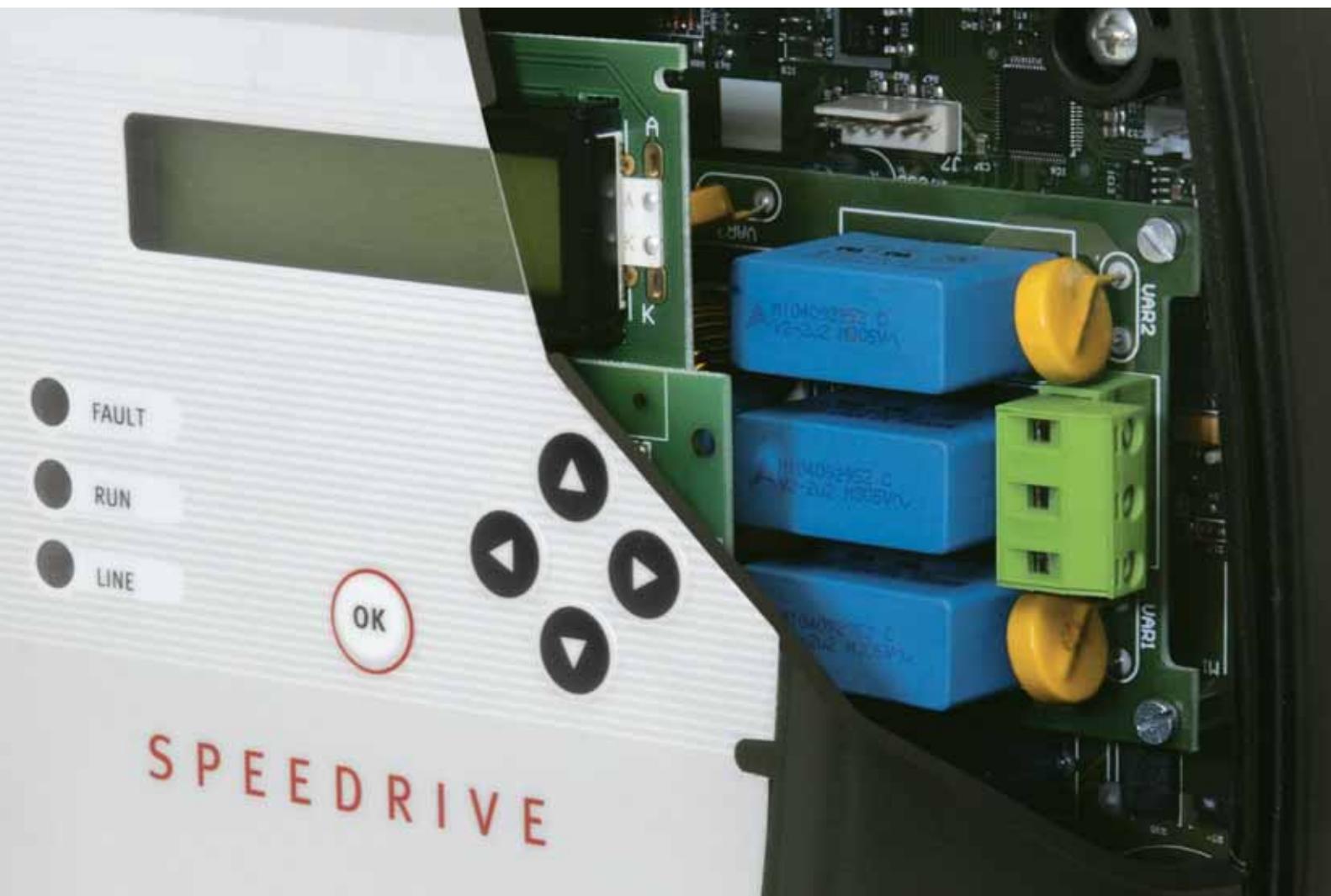




**ESPA**Pump UK

Catalogue 2011/12



# ESPA pumps (UK) Ltd

is a subsidiary of the Spanish ESPA Group and was founded in the UK in 1989. The ESPA UK organization is based in Manningtree, Essex, with a floor space of 10,000 sq ft. ESPA Pumps UK is a leading manufacturer of packaged pumping equipment for the building services sector, which is used in pressure cold water boosting, heating and cooling pressurisation systems and fire-fighting sets. In addition, ESPA provides efficient and reliable pumps and accessories for industrial and irrigation processes, swimming pool, hydro massage, spas and wellness, and many others sectors, such as rainwater harvesting systems. After-sales support is given by a trained team that offers advice, on-site commissioning and one-year or three-year service contracts. Our commitment is to enter into a business relationship with our customers and suppliers that guarantees complete satisfaction for all parties. Our goal is to assist our customers in gaining a market advantage, while earning a fair return: to achieve an improved return on investment through quality, both in terms of service and the products supplied.

Since 1962 ESPA has been developing a track record, specialising in manufacturing products and equipment for pumping and efficient water management, deploying solutions for professionals, installers and wholesalers a range of innovative products and an industrial organisation at your service. ESPA has made itself a leader in manufacturing pumping equipment for domestic, residential and commercial uses. The ESPA product portfolio adds value because of its innovative nature and due to its design engineering, offering the right solutions for the most demanding market requirements.

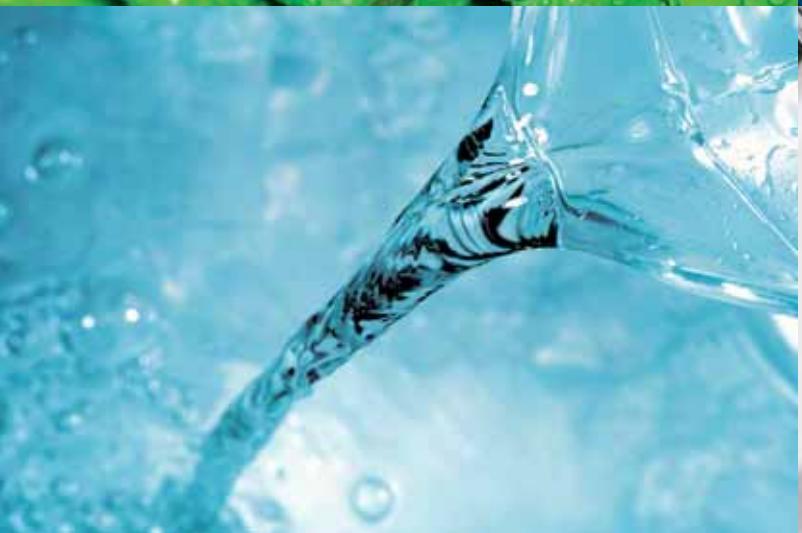
Tens of millions of pieces of ESPA pumping equipment are working flat out throughout the world. The thousands of custom installations made demonstrate the trust professionals and users have placed in ESPA: hotels, education centres, elderly homes, housing estates, swimming pools, wellness centres, industrial units, logistics centres, arable and stock farms, gardens, water treatment plants, mining operations, chemical plants...

ESPA is a global organisation with local presence in its operational and distribution deployment. It has sales organisations in Germany, Argentina, Brazil, Chile, China, Spain, France, India, Italy, the United Kingdom, Russia and Turkey. And it has production centres in France, Spain, Chile and China.

Innovation, engineering and service. These are the attributes that mark ESPA's efficient pumping products and quality, customer-orientated services, designed to be immediate and close to the customer. The organisation's creative capacity is deployed through a demanding product development process based on knowledge of technological and market needs. Innovation in the business model and service provision consummate this process for each of the new products that ESPA offers the market.

ESPA Efficient Engineering sums up the spirit of innovation, focusing on studying and applying the most suitable technologies, added to the concept of efficient pumping and of engineering working every day to develop efficient equipment.





# Index

## ⇒ Water Evacuation

### 8 Submersible

- 8 3" Borehole pumps
- 12 ES4
- 21 Franklin
- 22 XS6
- 23 XS8
- 24 Acuaria

### 27 Drainage

- 27 Best
- 28 Vigila SS
- 29 Vigilex SS
- 30 Drain 100
- 31 Drainex
- 41 Draincor
- 43 DMX / DVX
- 44 Drainbox

## ⇒ Water Supply & Recirculation

### 48 Surface Horizontal

- 48 Prisma
- 52 Aspri
- 56 Tecno/Tecnoself
- 58 XHM
- 60 HX/H2X
- 61 HCO
- 62 Per
- 63 Jet
- 64 Delta

### 65 Surface Vertical

- 65 Multi
- 67 Press-Line VE
- 69 XVM

### 70 Monobloc

- 70 FN
- 71 XN
- 72 Premier
- 73 Speedrive

### 77 Swimming Pool

- 77 Basic / Niper
- 79 Iris / Silen
- 81 Silen2
- 82 Star
- 84 Wiper3
- 85 Nadorself
- 87 Pool
- 88 Multipool
- 90 Filterpak Base/Plus
- 92 Tekbox
- 94 Piscis

### 96 Hydromassage/Spa

- 96 Tiper
  - 98 Wiper0
  - 99 Vento
- 
- 100 Kit 02/05
  - 101 Pressure sets
  - 102 Tecnopres
  - 104 Tecnotimer
  - 105 Tecnoplus
  - 107 Acuplus N
  - 108 Acuapres
  - 109 Aquabox
  - 111 Sub-tank
  - 113 ES
  - 114 Espres
  - 115 Wallpres
  - 116 Booster sets (CKE)
  - 117 Other Booster sets
  - 120 Circulating Pumps
  - 121 Fire sets
  - 124 Industrial Process

## ⇒ Water Regeneration

### 126 Domestic Rainwater Harvesting

- 126 S-Line X Press
  - 127 Eco-System
  - 128 S-Line SP1 230
  - 129 PE
  - 130 Rain Collectors
- 
- 131 S-Line SP 50
  - 132 S-Line SP 100
  - 133 Storage tanks
  - 134 Rainsub

## ⇒ Vessels & Accessories

- 138 Pressure Vessels
- 139 Accessories
- 141 PWM

## ⇒ General Information

- 144 Technical information





WATER  
EVACUATION

# 3" Borehole Pumps Submersible



## WPS & WPS CP submersible pumps

### Applications

Domestic applications, irrigation.  
Pressurisation, water transfer,  
suitable for wells 3" and above.

### Materials

The pump is made entirely of stainless steel and equipped with special bearings resisting to the high speed performances.  
3" stainless steel high speed submersible guaranteeing a constant pressure supply.  
Excellent resistance to wear.

### Motor

#### WPS

Motor rating up to 1.5 kW, 140 Hz.  
Single-phase supply.  
Overvoltage & undervoltage.

#### WPS CP

High speed, maximum 8.200 rpm.  
Discharge Rp 1<sup>1/4</sup>".  
Very easy to install.  
Motor developed to run at high speed (140 Hz).  
Constant pressure due to variable speed.  
Protection against dry running.  
Soft start and stop.  
Single-phase supply to the controller.  
Protection against over and under voltage.  
Two set pressures possible.

### Equipment

#### WPS

Overload protection.  
Internal surge arrester.  
Incorporated Jam free check valve.  
Capacitor box.  
Heat shrink joint kit.  
**WPS CP** sold as a kit consisting of:  
the high speed pump with motor,  
electrical cable, control panel with  
frequency drive, pressure vessel  
of 8 lt., manometer and a valve.

### Limitations

Maximum liquid temperature: 40 °C.

### Accessories

Cooling Shrouds.  
Filters (3" WPS CP only, when the cable length exceeds more than 120 m.)

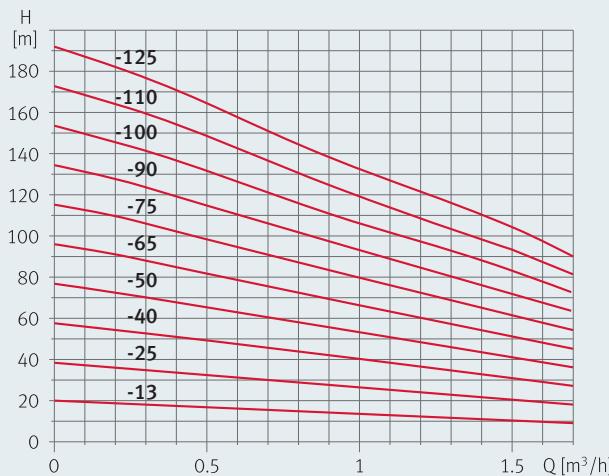


# 3" Borehole Pumps Submersible

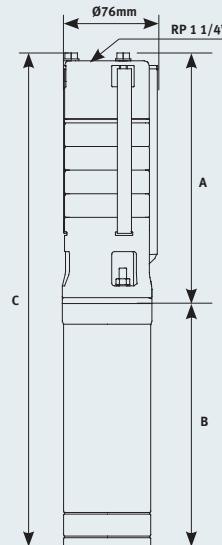


3" WPS® 1, 3" WPS® CP 1

## Performance curves



## Dimensions



## Technical data

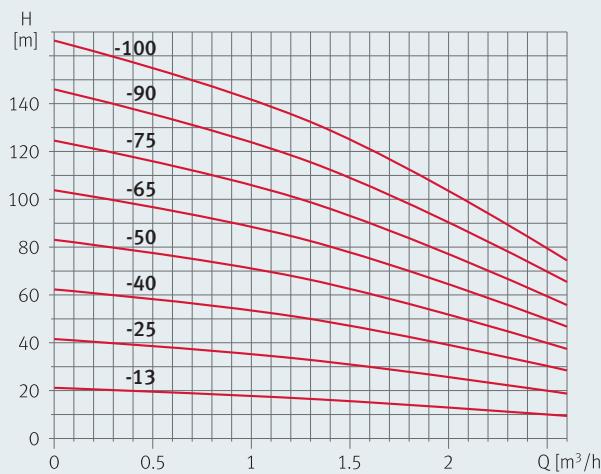
Pump Type	Num. of stages	Max. Pump Power P2 [kW]	Pump data [mm]			Weight [kg]	Kit		Flow [m³/h]				Max. Head [m] at 0 [m³/h]	Full load current	
			A	B	C		[cm]	[kg]	0,5	1	1,5	2		Motor	Supply
3" WPS® 1-13	1	0,15	160	615	775	7,5	65 x 32 x 22	11,2	17	13	10	6	20		3,4
3" WPS®-CP 1-13			210	370	5,1								1,9		3,3
3" WPS® 1-25	2	0,29	180	615	795	7,7	65 x 32 x 22	10,4	33	26	21	12	39		3,9
3" WPS®-CP 1-25			210	390	5,3								2,3		3,8
3" WPS® 1-40	3	0,44	200	615	815	7,9	65 x 32 x 22	11,6	50	40	31	18	59		4,8
3" WPS®-CP 1-40			210	410	5,5								2,7		4,7
3" WPS® 1-50	4	0,58	220	615	835	8,1	65 x 32 x 22	11,8	66	53	42	24	78		5,6
3" WPS®-CP 1-50			210	430	5,7								3,1		5,4
3" WPS® 1-65	5	0,73	240	645	885	9,0	65 x 32 x 22	12,7	83	66	52	30	98		7,2
3" WPS®-CP 1-65			240	480	6,6								4,1		7,1
3" WPS® 1-75	6	0,87	260	645	905	9,2	65 x 32 x 22	12,9	100	79	62	36	117		8,0
3" WPS®-CP 1-75			240	500	6,8								4,6		8,0
3" WPS® 1-90	7	1,02	280	815	1095	10,0	65 x 32 x 22	13,7	116	92	73	42	137		10,5
3" WPS®-CP 1-90			270	550	7,6								6,1		10,6
3" WPS® 1-100	8	1,16	300	815	1115	10,2	65 x 32 x 22	13,9	133	106	83	48	156		11,2
3" WPS®-CP 1-100			270	570	7,8								6,5		11,3
3" WPS® 1-110	9	1,31	320	815	1135	10,4	65 x 32 x 22	14,1	149	119	94	54	176		11,9
3" WPS®-CP 1-110			270	590	8,0								6,9		12,0
3" WPS® 1-125	10	1,45	340	815	1155	10,6	65 x 32 x 22	14,3	166	132	104	60	195		12,5
3" WPS®-CP 1-125			270	610	8,2								7,2		12,5

# 3" Borehole Pumps Submersible

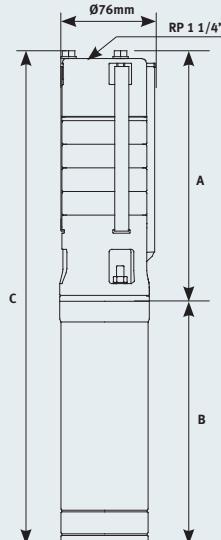


3" WPS® 2, 3" WPS® CP 2

## Performance curves



## Dimensions



## Technical data

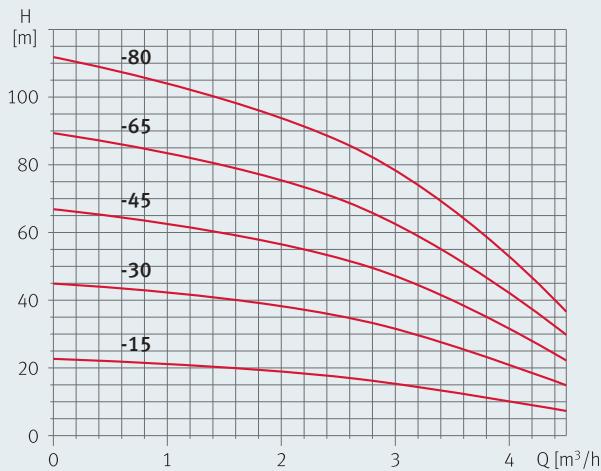
Pump Type	Num. of stages	Max. Pump Power P2 [kW]	Pump data [mm]			Weight [kg]	Kit		Flow [m³/h]					Max. Head [m] at 0 [m³/h]	Full load current	
			A	B	C		[cm]	[kg]	0,5	1	1,5	2	2,5		Motor	Supply
3" WPS® 2-13	1	0,19	160	615	775	7,5	65 x 32 x 22	11,2	20	18	16	13	10	21		3,6
3" WPS®-CP 2-13			160	210	370	5,1								2,0		3,5
3" WPS® 2-25	2	0,37	180	615	795	7,7	65 x 32 x 22	10,4	39	36	31	26	20	42		4,5
3" WPS®-CP 2-25			180	210	390	5,3								2,5		4,4
3" WPS® 2-40	3	0,56	200	615	815	7,9	65 x 32 x 22	11,6	59	53	47	39	30	62		5,5
3" WPS®-CP 2-40			200	210	410	5,5								3,1		5,4
3" WPS® 2-50	4	0,74	220	645	865	8,9	65 x 32 x 22	12,6	78	71	62	52	40	83		7,0
3" WPS®-CP 2-50			220	240	460	6,5								4,1		7,1
3" WPS® 2-65	5	0,90	240	645	885	9,1	65 x 32 x 22	12,8	98	89	78	65	50	104		8,2
3" WPS®-CP 2-65			240	240	480	6,7								4,7		8,2
3" WPS® 2-75	6	1,11	260	815	1075	10,0	65 x 32 x 22	13,7	117	107	93	78	60	125		10,5
3" WPS®-CP 2-75			260	270	530	7,6								6,1		10,6
3" WPS® 2-90	7	1,29	280	815	1095	10,2	65 x 32 x 22	13,9	137	124	109	91	70	145		11,7
3" WPS®-CP 2-90			280	270	550	7,8								6,8		11,8
3" WPS® 2-100	8	1,48	300	815	1115	10,4	65 x 32 x 22	14,1	156	142	124	104	80	166		12,5
3" WPS®-CP 2-100			300	270	570	8,0								7,2		12,5

# 3" Borehole Pumps Submersible

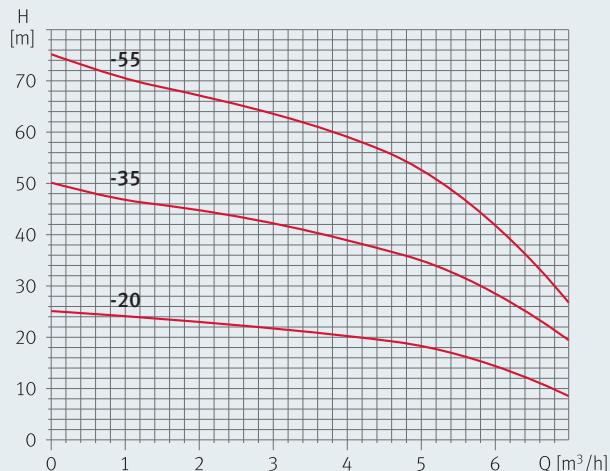


3" WPS® 3, 3" WPS® CP 3

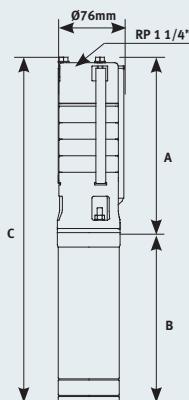
## Performance curves



3" WPS® 5, 3" WPS® CP 5



## Dimensions



## Technical data

Pump Type	Num. of stages	Max. Pump Power P2 [kW]	Pump data [mm]			Weight [kg]	Kit		Flow [m³/h]						Max. Head [m] at 0 [m³/h]	Full load current	
			A	B	C		[cm]	[kg]	1	2	2,5	3	3,5	4		Motor	Supply
3" WPS® 3-15	1	0,29	160	615	775	7,5	65 x 32 x 22	11,2	21	19	17	16	13	10	22		4,9
3" WPS®-CP 3-15			210	370		5,1										2,8	4,9
3" WPS® 3-30	2	0,58	180	615	895	6,8	65 x 32 x 22	10,4	42	37	34	31	26	21	45		5,5
3" WPS®-CP 3-30			210	390		4,3										3,1	5,4
3" WPS® 3-45	3	0,87	200	645	845	8,7	65 x 32 x 22	12,4	62	56	52	47	40	31	67		7,9
3" WPS®-CP 3-45			240	440		6,3										4,6	8,0
3" WPS® 3-65	4	1,16	220	815	1035	9,7	65 x 32 x 22	13,4	83	74	69	62	53	42	90		10,8
3" WPS®-CP 3-65			270	490		7,3										6,3	10,9
3" WPS® 3-80	5	1,45	240	815	1055	9,9	65 x 32 x 22	13,6	104	93	86	78	66	52	112		12,3
3" WPS®-CP 3-80			270	510		7,5										7,1	12,3

Pump Type	Num. of stages	Max. Pump Power P2 [kW]	Pump data [mm]			Weight [kg]	Kit		Flow [m³/h]						Max. Head [m] at 0 [m³/h]	Full load current	
			A	B	C		[cm]	[kg]	1	2	3	4	5	6		Motor	Supply
3" WPS® 5-20	1	0,45	160	615	775	7,5	65 x 32 x 22	11,2	24	23	21	21	18	15	25		5,6
3" WPS®-CP 5-20			210	370		5,1										3,2	5,6
3" WPS® 5-35	2	0,90	180	645	825	8,5	65 x 32 x 22	12,2	47	44	42	39	35	29	50		8,2
3" WPS®-CP 5-35			240	420		6,1										4,7	8,2
3" WPS® 5-55	3	1,35	200	815	1015	9,5	65 x 32 x 22	13,2	70	67	64	59	53	42	75		12,4
3" WPS®-CP 5-55			270	470		7,1										7,2	12,5

# ES4 Submersible



## Pump submersible with floating impellers

### Applications

Domestic applications, irrigation.  
Pressurisation, water transfer,  
suitable for wells 4" and above.

### Materials

Outer case, discharge body, suction  
strainer, pump support and pump shaft  
in stainless steel AISI 304.  
Diffusers in technopolymer.  
Floating impellers in Noryl  
(glass loaded polymer).

### Motor

Franklin water cooled as standard.  
Oil cooled on request.  
Class B insulation.  
Protection IP 68.  
Continuous operation.  
Complete with built-in thermal  
protection.



### Limitations

Maximum liquid temperature: 40 °C.  
Maximum quantity of sand in  
suspension: 150 g/m³.

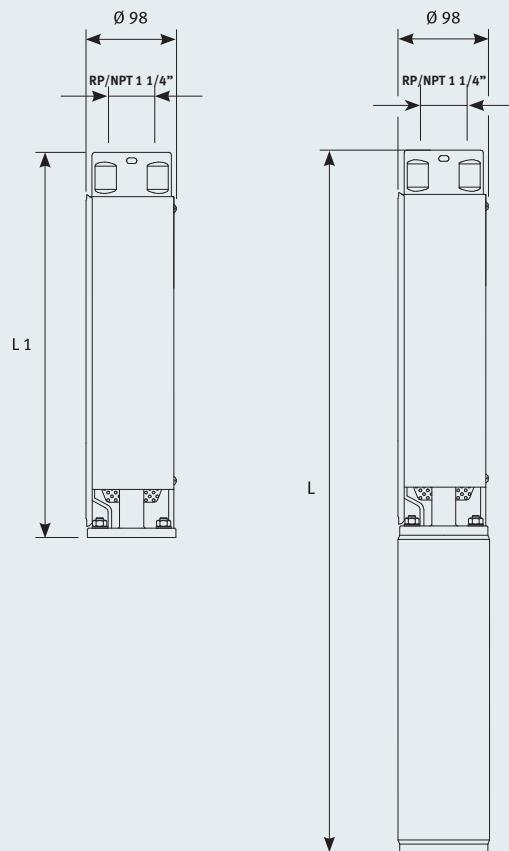
### Equipment

Complete with pre-fitted cable tail.  
Integral non return valve.  
Capacitor box  
(Single-phase only, included up to 1.1,  
1.5 kW and above extra).  
Heat shrink joint kit  
(option of resin joint).

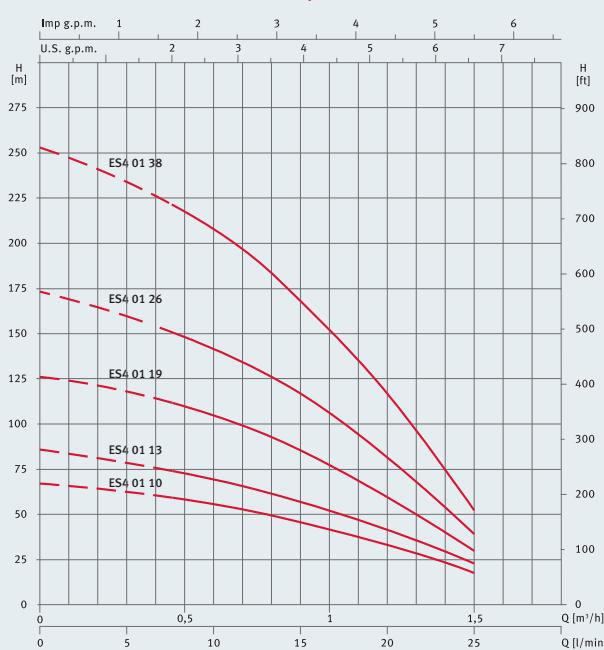


## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 01 10 M O4I	324	679	3.3	10.6
ES4 01 13 M O4I	377	732	3.7	11.0
ES4 01 19 M O4I	481	861	4.7	12.6
ES4 01 26 M O4I	642	1057	5.8	14.8
ES4 01 38 M O4I	864	314	8.2	19.1
ES4 01 10 T O4I	324	658	3.3	10.1
ES4 01 13 T O4I	377	732	3.7	10.5
ES4 01 19 T O4I	481	836	4.7	11.0
ES4 01 26 T O4I	642	1022	5.8	13.7
ES4 01 38 T O4I	864	1279	8.2	17.2
ES4 01 10 M A4I	324	560	3.3	10.3
ES4 01 13 M A4I	377	643	3.7	10.7
ES4 01 19 M A4I	481	767	4.7	12.3
ES4 01 26 M A4I	642	973	5.8	14.0
ES4 01 38 M A4I	864	1257	8.2	18.9
ES4 01 10 T A4I	324	540	3.3	10.1
ES4 01 13 T A4I	377	613	3.7	10.5
ES4 01 19 T A4I	481	747	4.7	11.7
ES4 01 26 T A4I	642	928	5.8	13.4
ES4 01 38 T A4I	864	1212	8.2	16.4



Performance curves at 2900 rpm

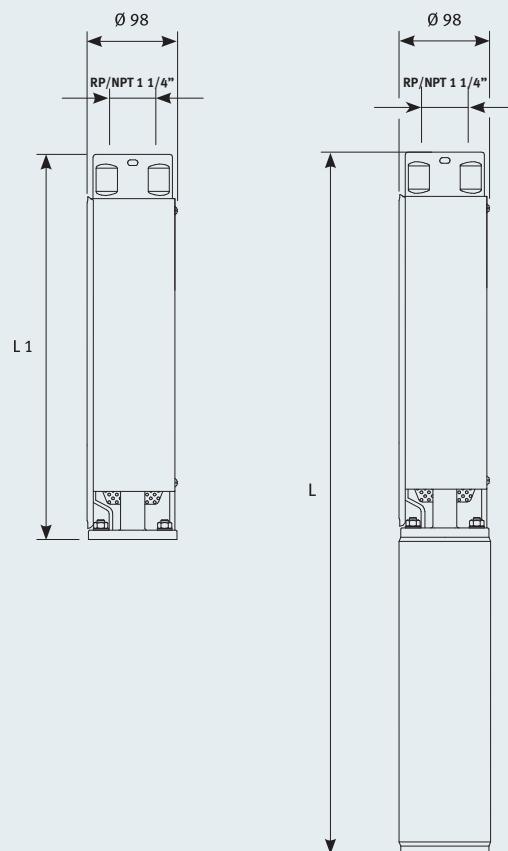


Hydraulic performance table

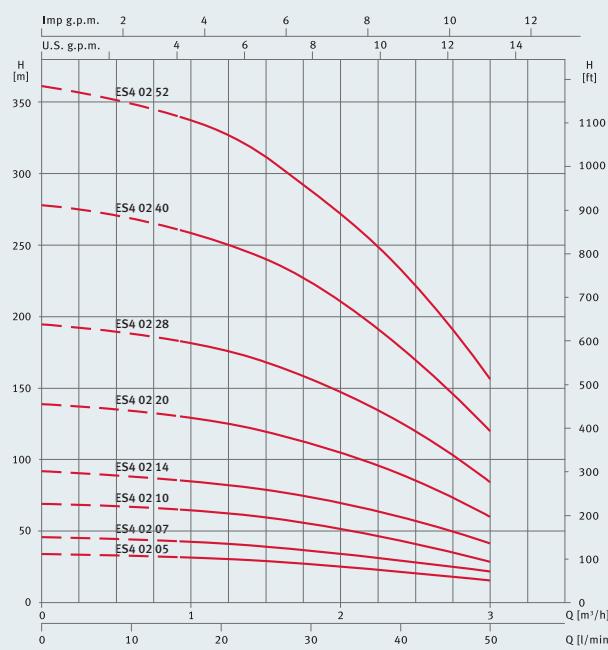
Model	P2		l/min	0	0.3	0.6	0.9	1.2	1.5
	[kW]	[HP]							
ES4 01 10	0.37	0.5	m³/h	67	63	55	46	33	18
ES4 01 13	0.37	0.5	m³/h	86	78	70	56	42	23
ES4 01 19	0.55	0.75	m³/h	126	118	105	86	60	30
ES4 01 26	0.75	1	m³/h	173	160	141	117	81	39
ES4 01 38	1.1	1.5	m³/h	253	234	208	169	117	52

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 02 05 M O4I	236	591	2.5	9.8
ES4 02 07 M O4I	271	626	2.8	10.1
ES4 02 10 M O4I	324	679	3.3	11.2
ES4 02 14 M O4I	394	774	3.9	12.9
ES4 02 20 M O4I	499	914	4.9	15.8
ES4 02 28 M O4I	640	1090	6.2	18.7
ES4 02 40 M O4I	851	1351	8.1	22.9
ES4 02 05 T O4I	236	570	2.5	9.3
ES4 02 07 T O4I	271	605	2.8	9.6
ES4 02 10 T O4I	324	679	3.3	10.6
ES4 02 14 T O4I	394	749	3.9	11.8
ES4 02 20 T O4I	499	879	4.9	13.9
ES4 02 28 T O4I	640	1055	6.2	17.3
ES4 02 40 T O4I	851	1301	8.1	20.7
ES4 02 52 T O4I	1062	1512	10.0	23.3
ES4 02 05 M A4I	236	472	2.5	9.5
ES4 02 07 M A4I	271	507	2.8	9.8
ES4 02 10 M A4I	324	590	3.3	10.9
ES4 02 14 M A4I	394	680	3.9	12.1
ES4 02 20 M A4I	499	830	4.9	15.6
ES4 02 28 M A4I	640	1033	6.2	18.7
ES4 02 40 M A4I	851	1264	8.1	22.1
ES4 02 05 T A4I	236	452	2.5	9.3
ES4 02 07 T A4I	271	487	2.8	9.6
ES4 02 10 T A4I	324	560	3.3	10.3
ES4 02 14 T A4I	394	660	3.9	11.5
ES4 02 20 T A4I	499	785	4.9	13.1
ES4 02 28 T A4I	640	988	6.2	18.0
ES4 02 40 T A4I	851	1244	8.1	20.7
ES4 02 52 T A4I	1062	1606	10.0	30.4



## Performance curves at 2900 rpm

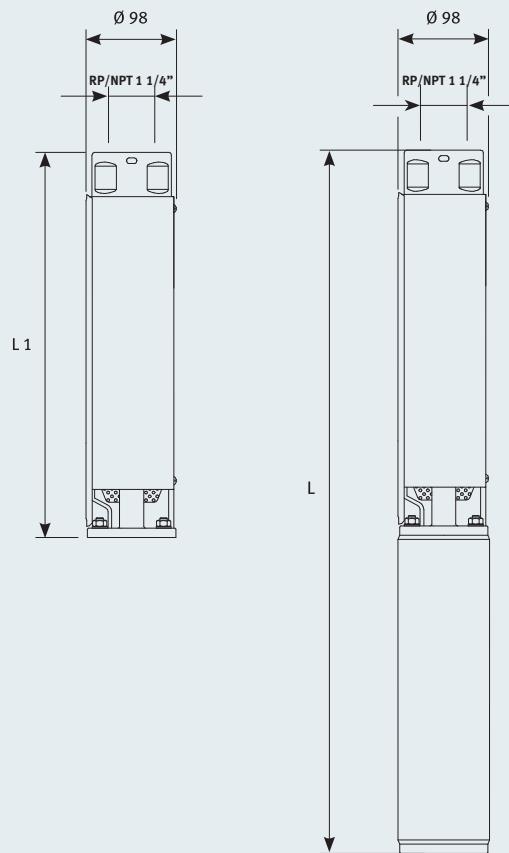


## Hydraulic performance table

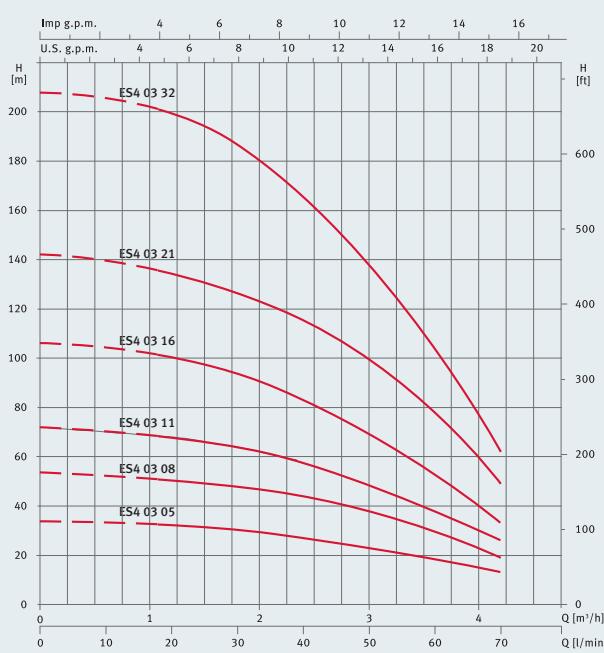
Model	P2		l/min	0	20	25	30	40	50
	[kW]	[HP]							
ES4 02 05	0.37	0.5		34	31	29	27	23	16
ES4 02 07	0.37	0.5		46	42	39	36	29	22
ES4 02 10	0.55	0.75		69	63	60	55	44	29
ES4 02 14	0.75	1	m³/h	92	83	79	74	60	42
ES4 02 20	1.1	1.5		139	127	120	111	90	60
ES4 02 28	1.5	2		193	176	167	155	125	83
ES4 02 40	2.2	3		276	252	239	222	179	118
ES4 02 52	3	4		360	328	312	289	233	154

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 03 05 M 04I	236	591	2.5	9.8
ES4 03 08 M 04I	289	644	2.9	10.8
ES4 03 11 M 04I	342	722	3.4	12.4
ES4 03 16 M 04I	430	845	4.2	15.1
ES4 03 21 M 04I	519	969	5.0	17.5
ES4 03 32 M 04I	749	1249	7.1	21.9
ES4 03 05 T 04I	236	570	2.5	9.3
ES4 03 08 T 04I	289	644	2.9	10.2
ES4 03 11 T 04I	342	697	3.4	11.3
ES4 03 16 T 04I	430	810	4.2	13.2
ES4 03 21 T 04I	519	934	5.0	16.1
ES4 03 32 T 04I	749	1199	7.1	19.7
ES4 03 05 M A4I	236	472	2.5	9.5
ES4 03 08 M A4I	289	555	2.9	10.5
ES4 03 11 M A4I	342	628	3.4	11.6
ES4 03 16 M A4I	430	761	4.2	14.9
ES4 03 21 M A4I	519	912	5.0	17.5
ES4 03 32 M A4I	749	1162	7.1	21.1
ES4 03 05 T A4I	236	452	2.5	9.3
ES4 03 08 T A4I	289	525	2.9	9.9
ES4 03 11 T A4I	342	608	3.4	11.0
ES4 03 16 T A4I	430	716	4.2	12.4
ES4 03 21 T A4I	519	867	5.0	16.8
ES4 03 32 T A4I	749	1142	7.1	19.7



Performance curves at 2900 rpm

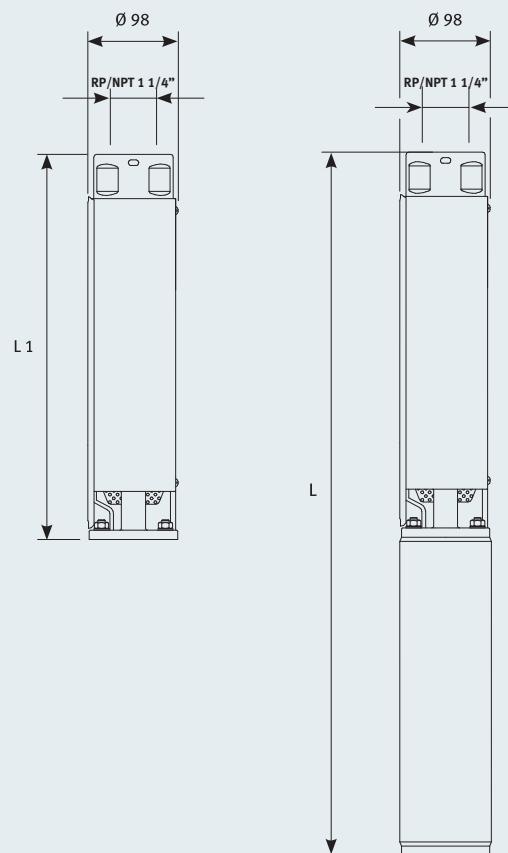


Hydraulic performance table

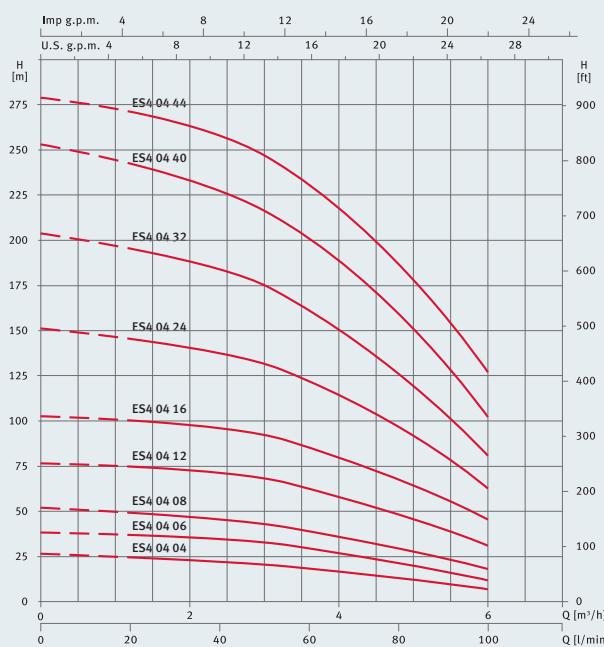
Model	P2		l/min	$m^3/h$	0	20	30	40	50	70
	[kW]	[HP]			0	1.2	1.8	2.4	3.0	4.2
ES4 03 05	0.37	0.5			34	32	30	28	24	13
ES4 03 08	0.55	0.75			54	51	49	43	38	19
ES4 03 11	0.75	1			72	68	64	58	49	26
ES4 03 16	1.1	1.5			106	101	95	83	70	33
ES4 03 21	1.5	2			142	135	127	115	100	49
ES4 03 32	2.2	3			208	200	187	165	138	62

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 04 04 M O4l	247	602	2.4	9.7
ES4 04 06 M O4l	296	651	2.9	10.8
ES4 04 08 M O4l	345	725	3.3	12.3
ES4 04 12 M O4l	433	848	4.1	15.0
ES4 04 16 M O4l	542	992	5.0	17.5
ES4 04 24 M O4l	777	1277	6.6	21.4
ES4 04 04 T O4l	247	581	2.4	9.2
ES4 04 06 T O4l	296	651	2.9	10.2
ES4 04 08 T O4l	345	700	3.3	11.2
ES4 04 12 T O4l	433	813	4.1	13.1
ES4 04 16 T O4l	542	957	5.0	16.1
ES4 04 24 T O4l	777	1227	6.6	19.2
ES4 04 32 T O4l	965	1415	8.7	22.3
ES4 04 40 T O4l	1160	1730	10.4	27.9
ES4 04 44 T O4l	1296	1866	11.2	28.7
ES4 04 04 M A4l	247	483	2.4	9.4
ES4 04 06 M A4l	296	562	2.9	10.5
ES4 04 08 M A4l	345	631	3.3	11.5
ES4 04 12 M A4l	433	764	4.1	14.8
ES4 04 16 M A4l	542	935	5.0	17.5
ES4 04 24 M A4l	777	1190	6.6	20.6
ES4 04 04 T A4l	247	463	2.4	9.2
ES4 04 06 T A4l	296	532	2.9	9.9
ES4 04 08 T A4l	345	611	3.3	10.9
ES4 04 12 T A4l	433	719	4.1	12.3
ES4 04 16 T A4l	542	890	5.0	16.8
ES4 04 24 T A4l	777	1170	6.6	19.2
ES4 04 32 T A4l	965	1509	8.7	29.1
ES4 04 40 T A4l	1160	1774	10.4	33.9
ES4 04 44 T A4l	1296	1910	11.2	34.7



Performance curves at 2900 rpm

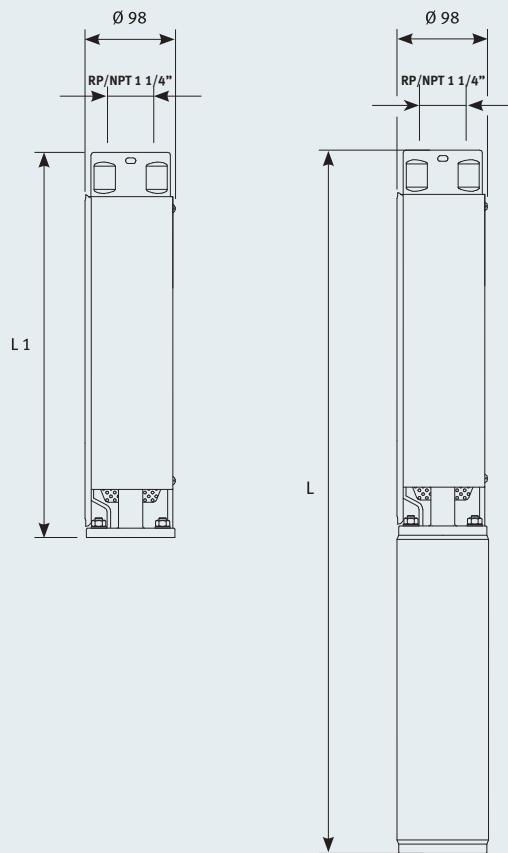


Hydraulic performance table

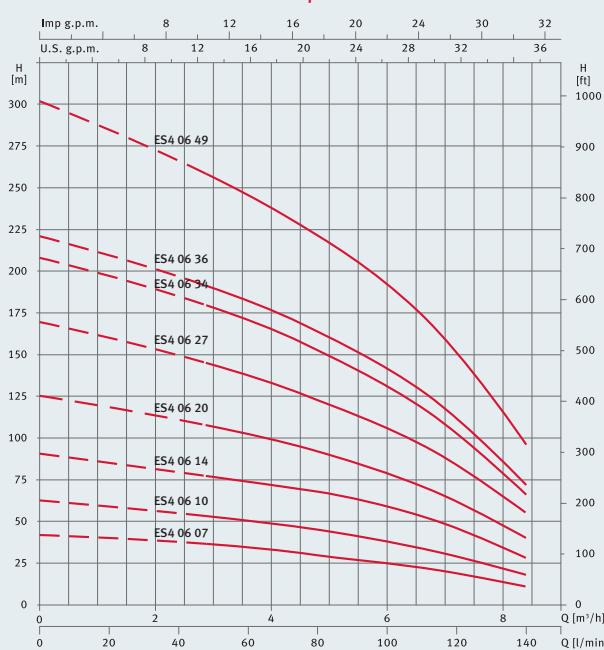
Model	P2		l/min	0	40	50	70	90	100
	[kW]	[HP]							
ES4 04 04	0.37	0.5		26	22	21	17	11	7
ES4 04 06	0.55	0.75		38	35	32	26	18	12
ES4 04 08	0.75	1		51	46	43	35	24	18
ES4 04 12	1.1	1.5	m³/h	77	71	68	57	41	31
ES4 04 16	1.5	2		102	96	92	77	57	46
ES4 04 24	2.2	3		151	139	132	111	80	62
ES4 04 32	3	4		203	185	175	146	105	80
ES4 04 40	3.7	5		253	227	216	182	131	102
ES4 04 44	4	5.5		278	260	247	210	159	127

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 06 07 M O4I	390	770	3.7	12.7
ES4 06 10 M O4I	483	898	4.6	15.5
ES4 06 14 M O4I	607	1057	5.7	18.2
ES4 06 20 M O4I	831	1331	7.5	22.3
ES4 06 07 T O4I	390	745	3.7	11.6
ES4 06 10 T O4I	483	863	4.6	13.6
ES4 06 14 T O4I	607	1022	5.7	16.8
ES4 06 20 T O4I	831	1271	7.5	20.1
ES4 06 27 T O4I	1048	1498	9.6	23.2
ES4 06 34 T O4I	1257	1827	11.6	29.1
ES4 06 36 T O4I	1318	1888	12.2	29.7
ES4 06 49 T O4I	1802	2432	15.9	36.9
ES4 06 07 M A4I	390	676	3.7	11.9
ES4 06 10 M A4I	483	814	4.6	15.3
ES4 06 14 M A4I	607	1000	5.7	18.2
ES4 06 20 M A4I	831	1244	7.5	21.5
ES4 06 07 T A4I	390	656	3.7	11.3
ES4 06 10 T A4I	483	769	4.6	12.8
ES4 06 14 T A4I	607	955	5.7	17.5
ES4 06 20 T A4I	831	1224	7.5	20.1
ES4 06 27 T A4I	1048	1592	9.6	30.0
ES4 06 34 T A4I	1257	1871	11.6	35.1
ES4 06 36 T A4I	1318	1935	12.2	35.7
ES4 06 49 T A4I	1802	2486	15.9	42.7



Performance curves at 2900 rpm

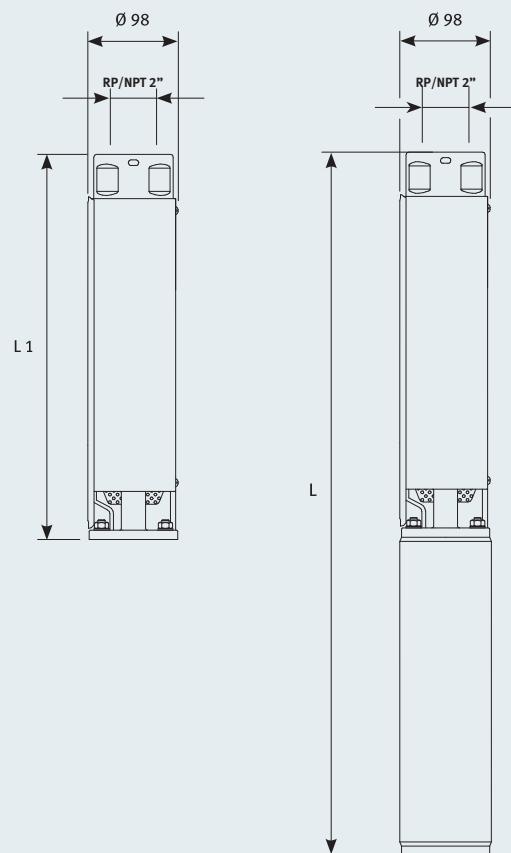


Hydraulic performance table

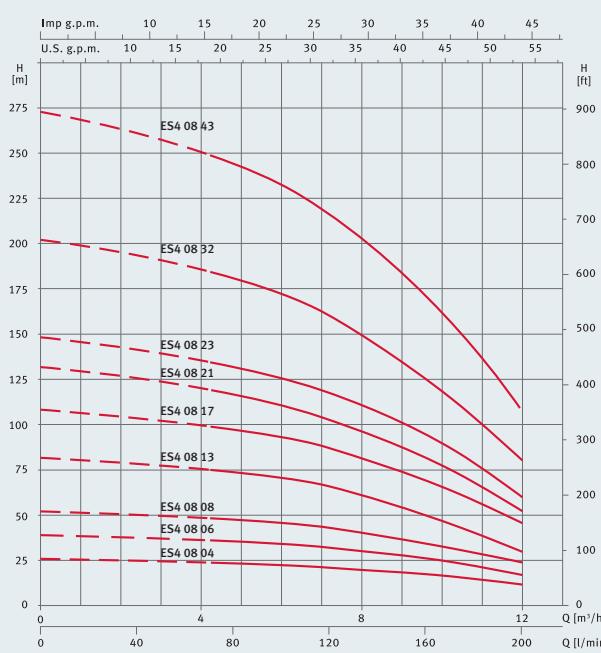
Model	P2		m³/h	0	50	70	90	120	140
	[kW]	[HP]		0	3.0	4.2	5.4	7.2	8.4
ES4 06 07	0.75	1		42	36	32	28	19	11
ES4 06 10	1.1	1.5		62	53	48	41	29	18
ES4 06 14	1.5	2		90	77	71	63	46	28
ES4 06 20	2.2	3	m³/h	125	107	97	86	62	40
ES4 06 27	3.0	4		169	145	131	115	84	55
ES4 06 34	3.7	5		208	178	162	143	103	66
ES4 06 36	4	5.5		221	190	173	154	112	72
ES4 06 49	5.5	7.5		302	257	234	209	151	96

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 08 04 M O4I	294	674	2.8	11.8
ES4 08 06 M O4I	356	771	3.4	14.3
ES4 08 08 M O4I	418	868	4.0	16.5
ES4 08 13 M O4I	573	1073	5.5	20.3
ES4 08 04 T O4I	294	649	2.8	10.7
ES4 08 06 T O4I	356	736	3.4	12.4
ES4 08 08 T O4I	418	833	4.0	15.1
ES4 08 13 T O4I	573	1023	5.5	18.1
ES4 08 17 T O4I	697	1147	6.6	20.2
ES4 08 21 T O4I	859	1429	7.8	25.3
ES4 08 23 T O4I	921	1491	8.4	25.9
ES4 08 32 T O4I	1238	1868	11.0	32.0
ES4 08 43 T O4I	1603	2439	14.2	42.7
ES4 08 04 M A4I	294	580	2.8	11.0
ES4 08 06 M A4I	356	687	3.4	14.1
ES4 08 08 M A4I	418	811	4.0	16.5
ES4 08 13 M A4I	573	986	5.5	19.5
ES4 08 04 T A4I	294	560	2.8	10.4
ES4 08 06 T A4I	356	642	3.4	11.6
ES4 08 08 T A4I	418	766	4.0	15.8
ES4 08 13 T A4I	573	966	5.5	18.1
ES4 08 17 T A4I	697	1241	6.6	27.0
ES4 08 21 T A4I	859	1473	7.8	31.3
ES4 08 23 T A4I	921	1535	8.4	31.9
ES4 08 32 T A4I	1238	1922	11.0	37.8
ES4 08 43 T A4I	1603	2367	14.2	43.2



Performance curves at 2900 rpm

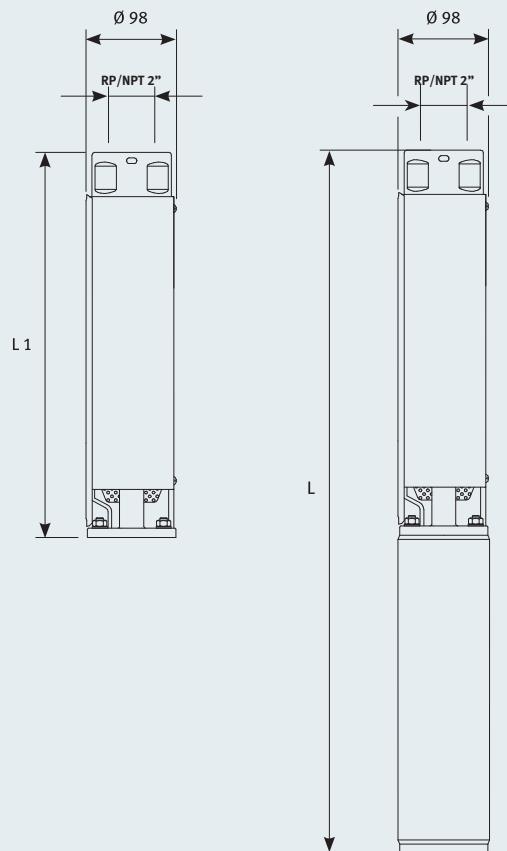


Hydraulic performance table

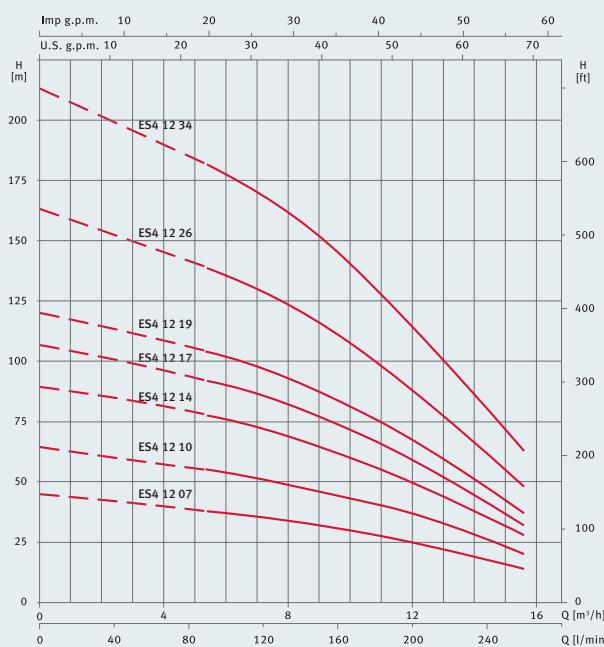
Model	P2		l/min	0	4.8	6.0	8.4	10.8	12
	[kW]	[HP]							
ES4 08 04	0.75	1.0		26	24	22	19	15	12
ES4 08 06	1.1	1.5		39	36	34	29	22	17
ES4 08 08	1.5	2		52	48	46	39	29	24
ES4 08 13	2.2	3		82	75	71	59	40	30
ES4 08 17	3	4		108	98	94	79	58	46
ES4 08 21	3.7	5		132	117	111	93	68	52
ES4 08 23	4	5.5		148	134	127	108	79	60
ES4 08 32	5.5	7.5		202	182	172	143	105	80
ES4 08 43	7.5	10		272	244	230	193	141	107

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 12 07 M O4I	534	984	5.3	17.8
ES4 12 10 M O4I	690	1190	6.7	21.5
ES4 12 07 T O4I	534	949	5.3	16.4
ES4 12 10 T O4I	690	1140	6.7	19.3
ES4 12 14 T O4I	989	1439	8.6	22.2
ES4 12 17 T O4I	1092	1662	10.1	27.6
ES4 12 19 T O4I	1195	1765	11.0	28.5
ES4 12 26 T O4I	1559	2189	14.3	35.3
ES4 12 34 T O4I	2007	2843	18.1	46.6
ES4 12 07 M A4I	534	927	5.3	17.8
ES4 12 10 M A4I	690	1103	6.7	20.7
ES4 12 07 T A4I	534	882	5.3	17.1
ES4 12 10 T A4I	690	1083	6.7	19.3
ES4 12 14 T A4I	989	1533	8.6	29.0
ES4 12 17 T A4I	1092	1706	10.1	33.6
ES4 12 19 T A4I	1195	1809	11.0	34.5
ES4 12 26 T A4I	1559	2243	14.3	41.1
ES4 12 34 T A4I	2007	2771	18.1	47.1



## Performance curves at 2900 rpm

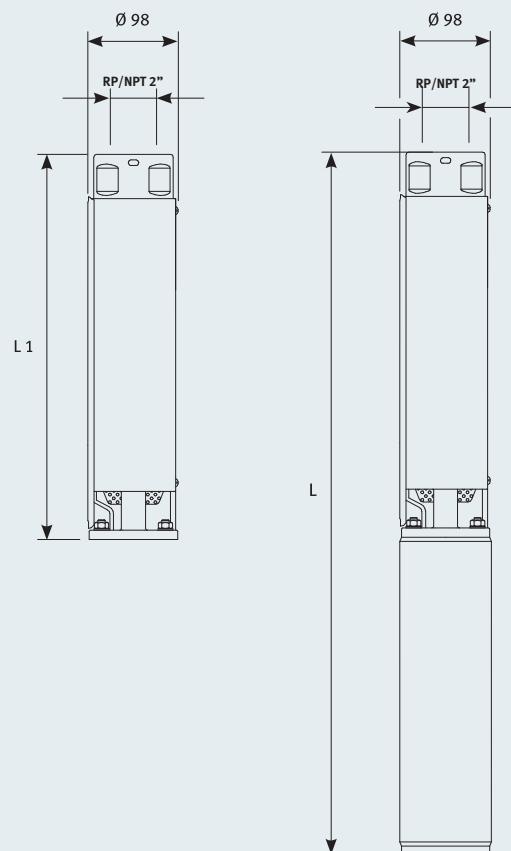


## Hydraulic performance table

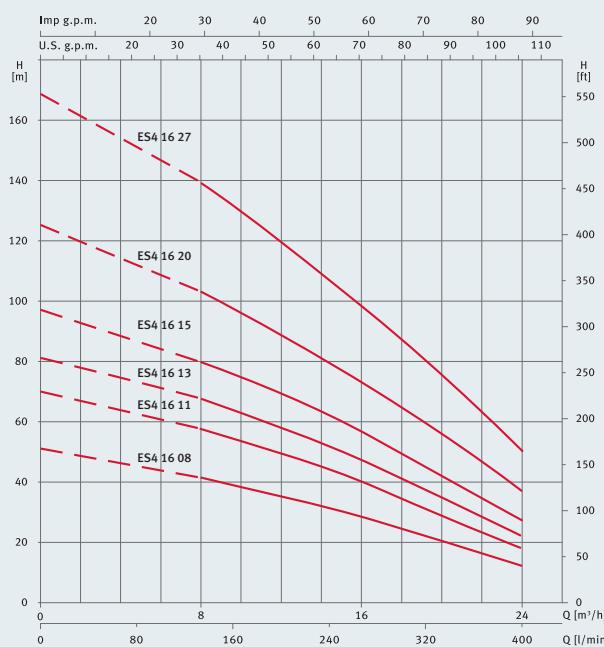
Model	P2		l/min	0	100	140	180	220	260
	[kW]	[HP]							
ES4 12 07	1.5	2		45	37	33	28	22	14
ES4 12 10	2.2	3		64	54	48	41	32	20
ES4 12 14	3	4		89	76	67	56	43	28
ES4 12 17	3.7	5		107	90	80	67	51	32
ES4 12 19	4	5.5		120	102	91	76	58	37
ES4 12 26	5.5	7.5		163	136	120	100	75	48
ES4 12 34	7.5	10		213	179	158	131	98	63

## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 16 08 M O4I	676	1176	6.3	21.1
ES4 16 08 T O4I	676	1126	6.3	18.9
ES4 16 11 T O4I	880	1330	8.1	21.7
ES4 16 13 T O4I	1013	1583	9.3	26.8
ES4 16 15 T O4I	1149	1719	10.5	28.0
ES4 16 20 T O4I	1489	2119	13.5	34.5
ES4 16 27 T O4I	1962	2798	17.7	46.2
ES4 16 07 M A4I	676	1089	6.3	20.3
ES4 16 07 T A4I	676	1069	6.3	18.9
ES4 16 10 T A4I	880	1424	8.1	28.5
ES4 16 14 T A4I	1013	1627	9.3	32.8
ES4 16 17 T A4I	1149	1763	10.5	34.0
ES4 16 26 T A4I	1489	2173	13.5	40.3
ES4 16 27 T A4I	1962	2726	17.7	46.7



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	P2		l/min	0	140	200	260	320	400
	[kW]	[HP]							
ES4 16 08	2.2	3		51	41	35	29	22	12
ES4 16 11	3	4		70	57	49	41	31	18
ES4 16 13	3.7	5		81	67	58	48	38	22
ES4 16 15	4	5.5	m³/h	97	79	69	58	46	27
ES4 16 20	5.5	7.5		125	102	89	74	60	37
ES4 16 27	7.5	10		169	139	122	101	83	52

## Franklin Electric 4" motors and cable tails for borehole pumps



### Description

Water-cooled.  
IP 68 protection.  
Corrosion-resistant materials.  
**Franklin:** Nema 4" coupling.  
Class B insulation.



### Limitations

Suitable for vertical and horizontal use.  
(Sleeve required for horizontal use).  
Maximum ambient temperature: 40 °C.  
Maximum starts per hour: 20.



### Hydraulic performance table

#### Single phase 4"

Single-phase 230/240 V	[kW]	c [μF]	Maximum length of cable [mm]	Cable section in [mm <sup>2</sup> ]				
				4 x 1.5	4 x 2.5	4 x 4	4 x 6	4 x 10
254 634 3116	0.37	16	120	200	320	480	810	
254 635 3116	0.55	20	80	130	220	320	550	
254 636 1616	0.75	35	60	100	170	250	430	
254 637 1616	1.1	40	40	70	120	180	300	
254 638 1616	1.5	50	30	60	90	130	230	
254 639 2516	2.2	70	20	40	60	90	150	

#### Three-phase 4"

Three-phase 380/400/415 V	[kW]	c [μF]	Maximum length of cable [mm]	Cable section in [mm <sup>2</sup> ]				
				4 x 1.5	4 x 2.5	4 x 4	4 x 6	4 x 10
234 561 3016	0.37		810	1350	2160	3240	5500	
234 562 3016	0.55		550	920	1480	2230	3780	
234 563 3016	0.75		410	680	1090	1640	2780	
234 524 1616	1.1		300	500	810	1210	2060	
234 525 1616	1.5		220	370	590	880	1500	
234 526 2516	2.2		150	250	400	600	1030	
234 591 2516	3		110	190	310	460	790	
234 593 3401	4		80	140	230	340	590	
234 528 3401	5.5		60	110	170	260	440	

### Accessories

#### Cable tail to suit 4". Franklin motor

- 1.5 m long.
- 2.5 m long.
- 2.5 m long. c/w Stainless steel connector.

#### Motor shrouds (Horizontal mounting)

- 4" Cooling shroud
- 4" Support feet
- 4" Filter

#### Subtronic control box

0.25 - 2.2 kW, 230 V 50 Hz



## Submersible electropumps and motors for XS6 series 6" wells

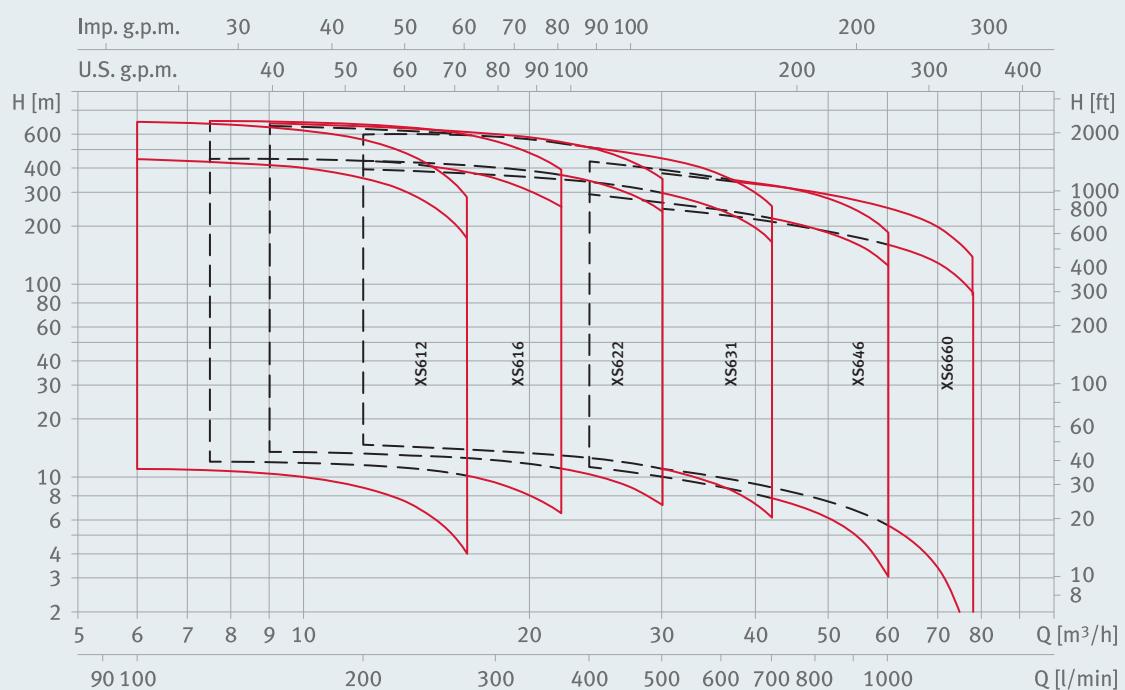
The **XS6** pump is a submersible pump for deep wells from 8". Can be coupled to any motor meeting the NEMA standard.

### Applications

Agricultural and industrial.  
 Version **XS6R**, suitable for operating with sea water.  
 Water supply from deep wells.  
 Pressurisation and distribution in civil and industrial facilities.  
 Supply for autoclaves and cisterns.  
 Fire-prevention and washing systems.  
 Water table control.  
 Irrigation.  
 Mines.



### Field of application XS6 and 2900 rpm



Curves obtained in accordance with ISO 9096 appendix A.

# XS8 Submersible



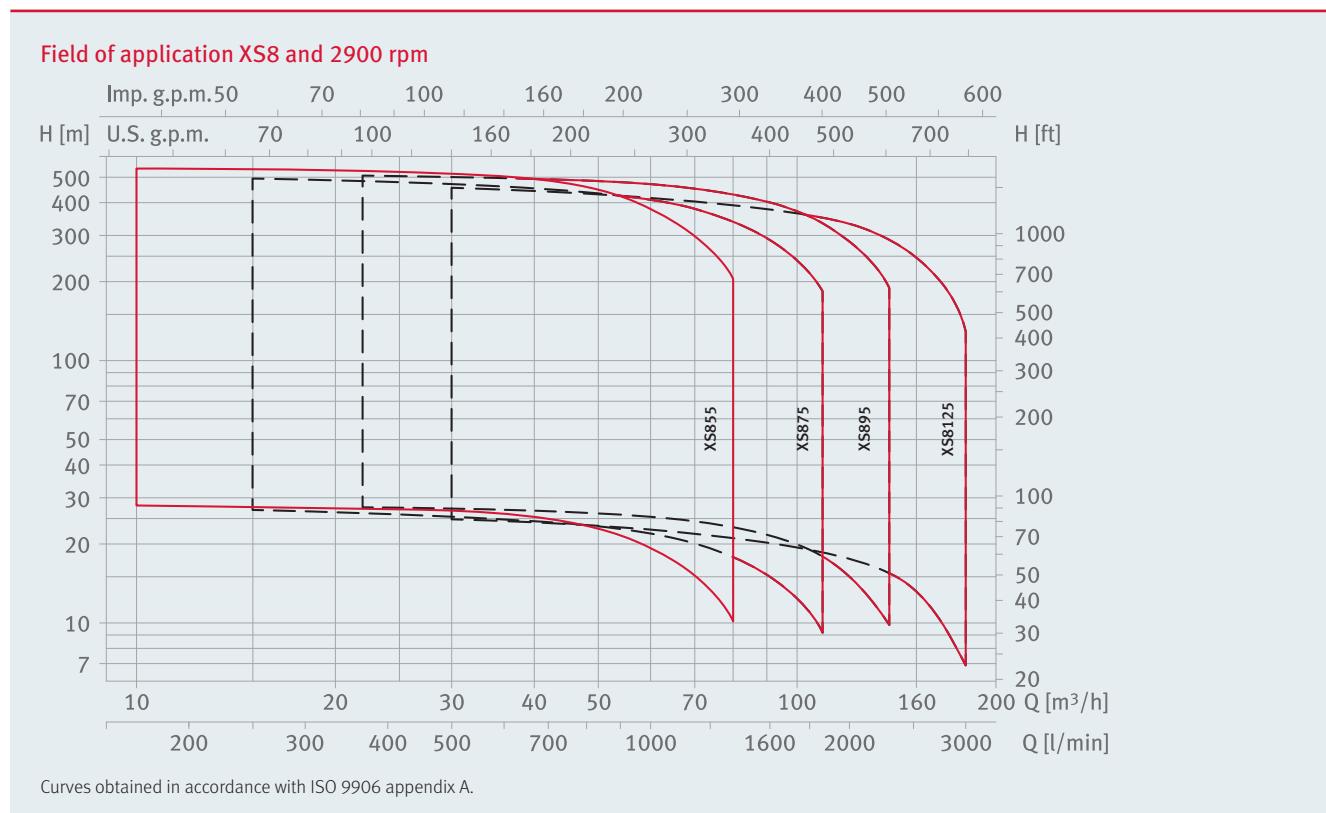
## Submersible electropumps and motors for XS8 series 8" wells

The **XS8** pump is a submersible pump for deep wells from 8". Can be coupled to any motor meeting the NEMA standard.

### Applications

Agricultural and industrial.  
Version **XS8R**, suitable for operating with sea water.  
Water supply from deep wells.  
Pressurisation and distribution in civil and industrial facilities.  
Supply for autoclaves and cisterns.  
Fire-prevention and washing systems.  
Water table control.  
Irrigation.  
Mines.

**See our XS8 catalogue for further information.**



# Acuaria 07N/17/27 Submersible



## Submersible multi-stage pumps for open wells

### Applications

Irrigation, decanting and hydropneumatic sets.  
Max. immersion level according to technical table, cod. 2240.

### Materials

Outer casing, discharge body, impellers, filter and motor casing in stainless steel AISI 304.  
Pump shaft in stainless steel AISI 303.  
Diffusers in tecnopolimer.  
Double mechanical seal in ceramic/graphite/NBR.  
Foodgrade oil in seal chamber.



### Motor

Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Water-cooled motor.  
Single-phase motor built-in thermal protection.  
**Acuaria 07N/17/27:**  
without floating level switch.  
**Acuaria 07N A/17 A/27 A:**  
with floating level switch.

### Limitations

Maximum liquid temperature: 40 °C.

### Equipment

Complete with 15 m of power cable.  
**Acuaria 07N M:** for open wells with a minimum Ø 125 mm.  
Internal capacitor.  
**Acuaria 17/27 M:** for open wells with a minimum Ø 140 mm.  
External capacitor (Box extra).

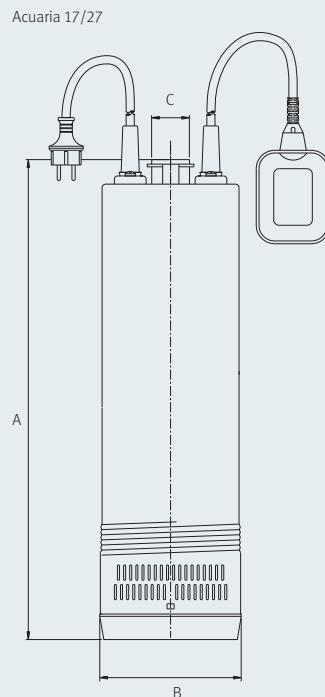
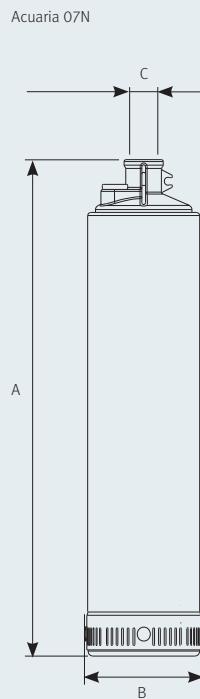


See page accessories  
for control options.



### Dimensions and weights

Model	A	B	C	[Kg]
Acuaria 07N 3	470	126	1"	10,0
Acuaria 07N 4	493	126	1"	10,6
Acuaria 07N 5	517	126	1"	11,5
Acuaria 07N 6	560	126	1"	12,4
Acuaria 07N 7	583	126	1"	12,6
Acuaria 17 5	553	138	1"	14
Acuaria 17 7	646	138	1"	14,2
Acuaria 27 4	552	138	1"	17
Acuaria 27 6	655	138	1"	17,2

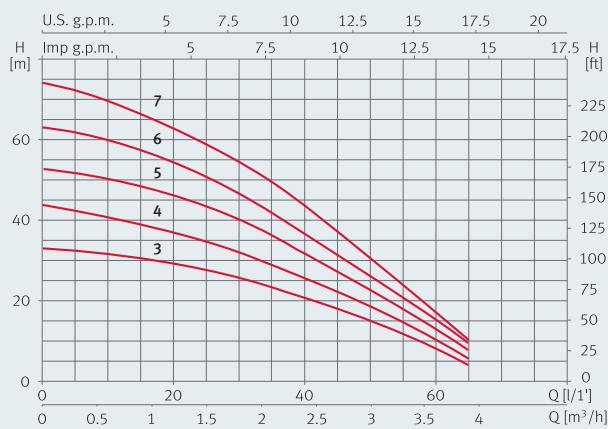


# Acuaria 07N/17/27 Submersible

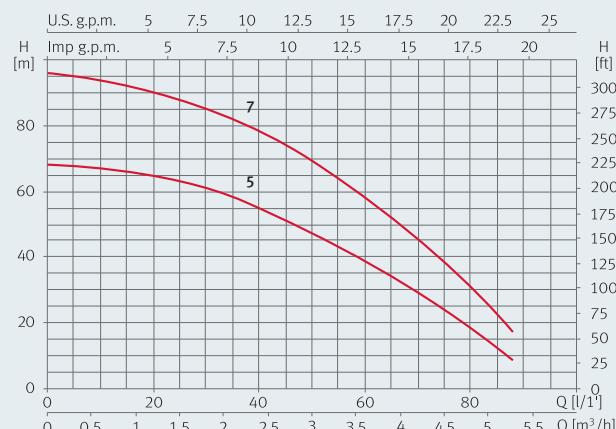


## Performance curves at 2900 rpm

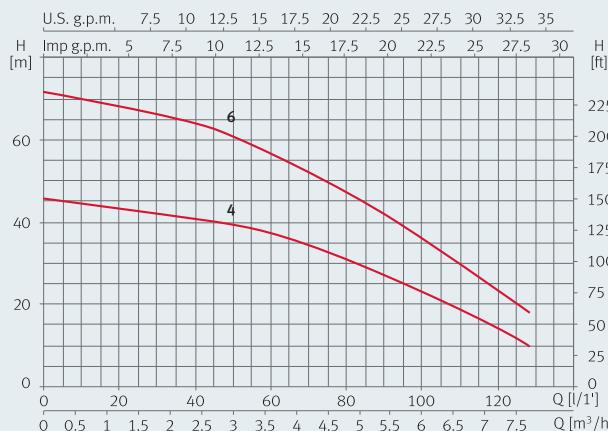
Acuaria 07N



Acuaria 17



Acuaria 27



## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	10	20	30	40	45	50	60	65
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.4	2.7	3.0	3.6
Acuaria 07N 3	2.8	1.2	0.6	0.6	0.37	0.5	12	mwc	33	29	26	21	18	15	8	4
Acuaria 07N 4	3.5	1.7	0.8	0.8	0.5	0.75	12		41	37	32	26	22	19	10	6
Acuaria 07N 5	4.1	1.9	1	1	0.75	1	12	mwc	50	46	40	32	27	23	13	8
Acuaria 07N 6	5.0	2.0	1.2	1.1	0.9	1.2	16		60	55	47	37	32	26	15	9
Acuaria 07N 7	5.5	2.4	1.4	1.3	1.1	1.5	30	mwc	70	64	55	44	38	31	18	11

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	10	20	30	40	50	60	80	85
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.4	3.0	3.6	4.8
Acuaria 17 5	7.4	2.6	1.6	1.5	0.9	1.25	16	mwc	67	65	62	55	48	39	18	12
Acuaria 17 7	10.7	3.8	2.2	2.1	1.5	2.0	25		94	90	85	78	69	58	30	22

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	20	30	40	50	60	80	100	120
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	1.2	1.8	2.4	3.0	3.6	4.8	6.0
Acuaria 27 4	7	2.5	1.5	1.4	0.9	1.25	16	mwc	43	42	41	39	38	31	23	14
Acuaria 27 6	10.8	3.8	2.2	2.1	1.5	2.0	25		68	66	64	61	57	47	36	24

# Acuaria 37/57 Submersible



## Submersible multi-stage pumps for open wells

### Applications

Specially designed for irrigation and hydropneumatic sets.

### Motor

Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Water-cooled motor.

### Limitations

Maximum liquid temperature: 40 °C.



### Materials

Outer casing, motor casing, impellers and filter in stainless steel AISI 304.  
Motor shaft and pump shaft in stainless steel AISI 303.  
Diffusers in technopolymer.  
Double mechanical seal in ceramic/graphite/NBR.  
Pump base and discharge body in cast iron painted by cataphoresis.  
Foodgrade oil in seal chamber.

### Equipment

Complete with 15 m of power cable.  
Capacitor (single-phase only, box extra).  
**Acuaria 37/57:** for open wells with a minimum Ø 155 mm.



See page accessories  
for control options.

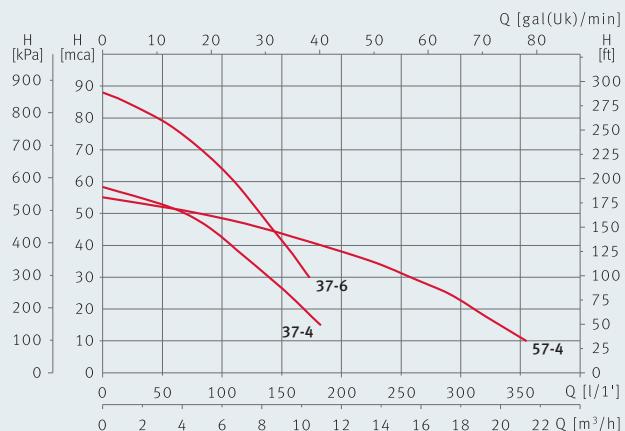


### Dimensions and weights

Model	A	B	C	[kg]
Acuaria 37 4	622.5	152	1 1/2"	27.6
Acuaria 37 6	671.5	152	1 1/2"	30.6
Acuaria 57 4	684	152	1 1/2"	30.6



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [µF]	l/min	12	40	60	80	100	120	140	160
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]	m³/h			1.2	2.4	3.6	4.8	6.0	7.2	8.4	8.6
Acuaria 37 4	9.2	5.2	3.3	2	1.9	1.1	1.5	30	m³/h	55.7	53.4	50.9	46.5	41.0	35.2	29.1	22.3	
Acuaria 37 6	9.2	5.2	5.3	3	2.2	3		84.5	80.7	77.4	72.3	64.8	56.3	46.1	37.2			

Model	I [A]				P1 [kW]		P2		c [µF]	l/min	50	100	150	200	250	300	350
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]	m³/h			3.0	6.0	9.0	12	15	18	21
Acuaria 57 4				9.4	5.4	3	2.2	3		m³/h	52.5	48.1	42.2	37.8	31.5	23.2	12.1

## Submersible drainage pumps

### Applications

For draining garages, irrigation for gardens and vegetable gardens. Emptying of wine cellars and basements.

### Materials

Pump body, impeller, motor casing in stainless steel AISI 304. Mechanical seal in ceramic/carbon/NBR. Lip seal in NBR.

### Motor

Cooling via circulation of pumped liquid. IP 68 protection. Class F insulation. Continuous operation. Built-in thermal protection.

### Limitations

Maximum passage of solids: 10 mm. Maximum immersion: 5 m. Maximum liquid temperature: 50 °C.

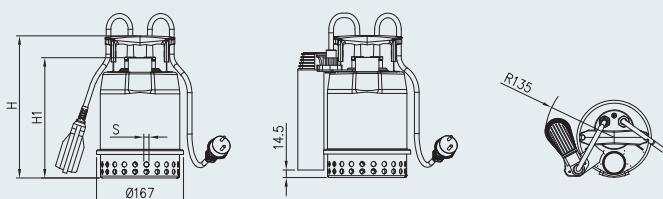
### Equipment

Supplied with 10 m of electrical cable. Integral capacitor. **MA** version c/w float switch. **MS** version c/w magnetic switch. Puddle sucker base option.

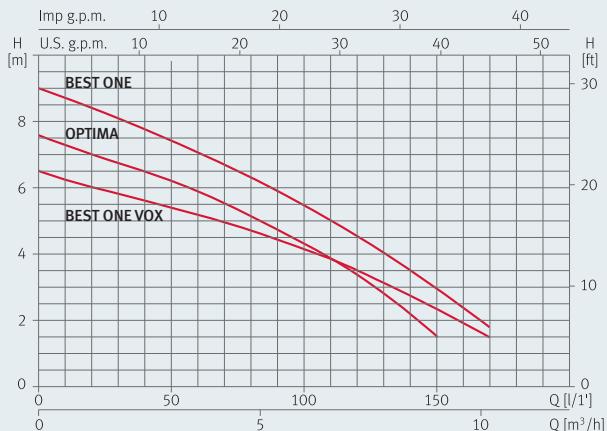


### Dimensions and weights

Model	H	H1	S	[Kg]
Best One	273	231	10	4.3
Best One M	273	231	10	4.4
Best One MA / Optima MA	273	231	10	4.6
Best One MS / Optima MS	273	231	10	4.8
Best One Vox	304	262	20	4.4
Best One Vox M	304	262	20	4.5
Best One Vox MA	304	262	20	4.7



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		Locked rotor current 1~ 230 V    3~ 400 V	c [μF]	I/min	0	20	40	80	120	160	170
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
Best One M	2.3	0.8	0.51	0.47	0.25	0.33	2.3	8	9.0	8.3	7.8	6.3	4.5	2.4	1.8	
Best One							0.8		9.0	8.3	7.8	6.3	4.5	2.4	1.8	
Best One Vox M	2.2	0.8	0.50	0.44	0.25	0.33	2.2	8	6.5	6.0	5.6	4.8	3.5	2.0	1.5	
Best One Vox							0.8		6.5	6.0	5.6	4.8	3.5	2.0	1.5	
Optima	1.9				0.25	0.33		8								

Portable submersible pumps for the drainage of water without solids in suspension

## Applications

Drainage of infiltration water, empty swimming-pools, operation in decorative fountains and waterfalls.

## Materials

Discharge cover, pump casing, motor casing and filter in stainless steel AISI 304.  
Impeller in elastomer plastic, reinforced with steel sheet.  
Pump direction mounting and foot in tecnopolymer.  
Motor shaft in stainless steel AISI 420.  
Mechanical seal in silicon carbide/alumina oxide.  
O-rings in NBR.

## Motor

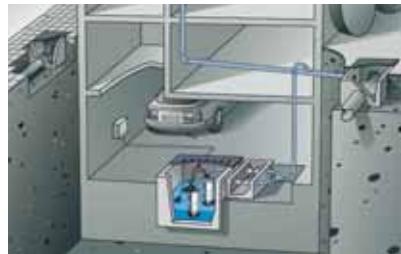
Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Built-in thermal protection.

## Limitations

Maximum passage of solids: 8 mm.  
Maximum immersion: 9 m.  
Maximum liquid temperature: 40 °C.

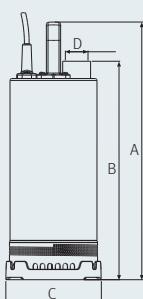
## Equipment

Supplied with 10 m of electrical cable.  
Integral capacitor.  
**Vigila SS:** without floating level switch.  
**Vigila SS A:** with floating level switch.

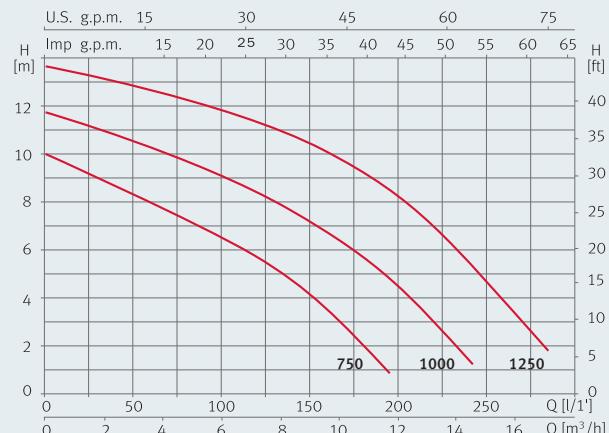


## Dimensions and weights

Model	A	B	C	D	[Kg]
Vigila SS 750M	434	380	160	1 1/4"	8.7
Vigila SS 1000M	454	400	160	1 1/4"	9.6
Vigila SS 1250M	474	420	160	1 1/4"	11



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	I/min	25	50	100	125	150	175	225	275
	1~ 230 V	1~ 230 V	[kW]	[HP]		m³/h	1.5	3.0	6.0	7.5	9.0	10.5	13.5	16.5
Vigila SS 750M	2.4	0.55	0.25	0.33	12	mwc	9.1	8.3	6.5	5.4	4.1	2.4		
Vigila SS 1000M	3.5	0.8	0.5	0.75	12		11.1	10.5	9	8.2	7.1	6	2.6	
Vigila SS 1250M	5.0	1.1	0.9	1.2	12		13.2	12.8	11.8	11.2	10.4	9.4	6.5	2.5

## Submersible pumps, Vortex system for sewage water

### Applications

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

### Materials

Discharge cover, pump casing and motor casing in stainless steel AISI 304.  
Impeller in glass-loaded polypropylene with brass inserts. 35 mm free passage of particles in suspension.  
Pump base, volute and volute cover in glass-loaded polypropylene.  
Motor shaft in stainless steel AISI 420.  
Mechanical seal in silicon carbide and alumina oxide.  
O-rings in NBR.

### Motor

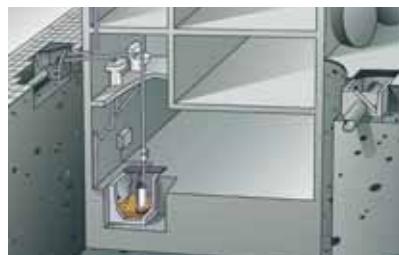
Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Built-in thermal protection.

### Limitations

Maximum solids handling: 35 mm.  
Maximum immersion: 9 m.  
Maximum liquid temperature: 40 °C.

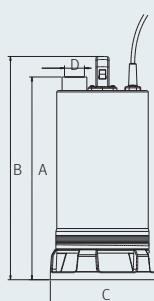
### Equipment

Supplied with 10 m electrical cable.  
Integral capacitor.  
**Vigilex SS:** without floating level switch.  
**Vigilex SS A:** with floating level switch.

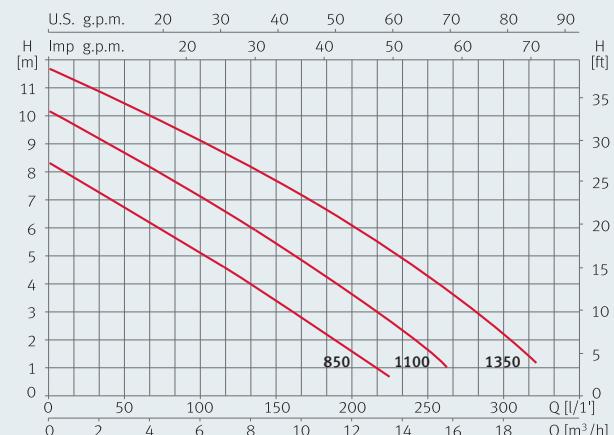


### Dimensions and weights

Model	A	B	C	D	[Kg]
Vigilex SS 850M	434.5	478.5	223.5	1 1/2"	11.1
Vigilex SS 1100M	454.5	498.5	223.5	1 1/2"	12
Vigilex SS 1350M	474.5	518.5	223.5	1 1/2"	13.5



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	25	50	100	150	200	250	300	320
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	1.5	3.0	6.0	9.0	12	15	18
Vigilex SS 850M	2.8	0.6	0.37	0.5	12	mwc	7.4	6.8	5.1	3.4	1.6			
Vigilex SS 1100M	3.7	0.8	0.75	1	12		9.5	8.8	7.2	5.5	3.6	1.6		
Vigilex SS 1350M	4.7	1	0.9	1.2	16		11.1	10.5	9.2	7.7	6.2	4.2	2.2	1.2

# Drain 100 Drainage



Submersible pumps for the drainage of water without solids in suspension

## Applications

Drainage of infiltration water, emptying of swimming pools, decorative fountains and waterfalls.

## Materials

Discharge body and upper mounting in cast iron.  
Impeller in tecnopolymer.  
Double mechanical seal in ceramic/graphite/NBR.  
Filter in rigid plastic.  
Motor housing and transport handle in stainless steel AISI 304.

## Motor

Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Built-in thermal protection.  
**Drain 100:** without float switch.  
**Drain 100 A:** supplied built-in float switch.

## Limitations

Maximum solids handling: 5 mm.  
Maximum immersion: 8 m.  
Maximum liquid temperature: 40 °C.

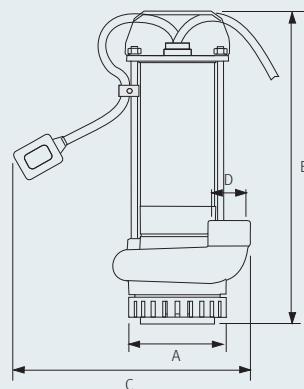
## Equipment

Supplied with 10 m power cable.  
Single-phase supplied with capacitor box.

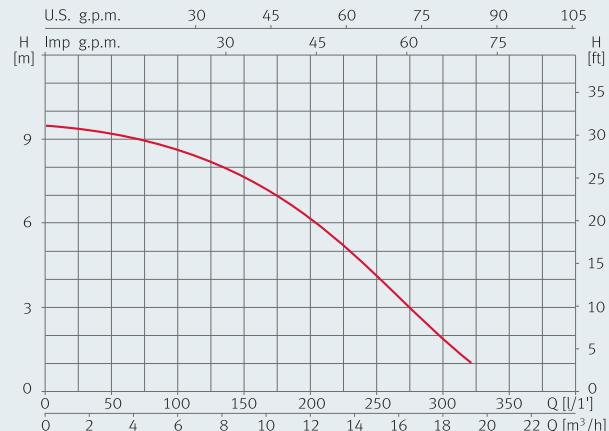


## Dimensions and weights

Model	A	B	C	D	[Kg]
Drain 100	122	392	300	1 1/4"	10.5



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	I/min	25	50	100	150	200	250	300	320
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	1.5	3.0	6.0	9.0	12	15	18
Drain 100M	3.1	0.7	0.75	1	12	mwc	9.2	9.1	8.7	7.8	6	4	2	1

# Drainex 100 Drainage



## Submersible pumps, Vortex system for sewage water

### Applications

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

### Materials

Discharge body and upper mounting in cast iron.  
Impeller in brass with free passage of particles in suspension of Ø 34 mm.  
Double mechanical seal in ceramic/graphite and ceramic/silicon carbide.  
Motor housing and transport handle in stainless steel AISI 304.

### Motor

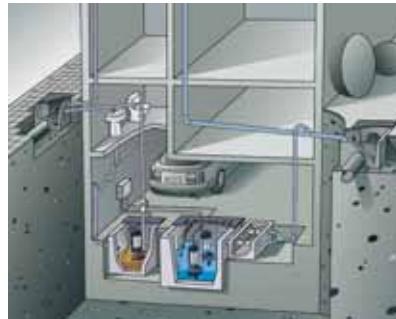
Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Single-phase version built-in thermal protection.  
**Drainex 100:** without float switch.  
**Drainex 100 A:** supplied built-in float switch.

### Limitations

Maximum solids handling: 32 mm.  
Maximum immersion: 8 m.  
Maximum liquid temperature: 40 °C.

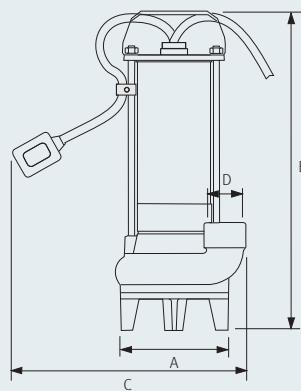
### Equipment

Supplied with 10 m power cable.  
Single-phase supplied with capacitor box.

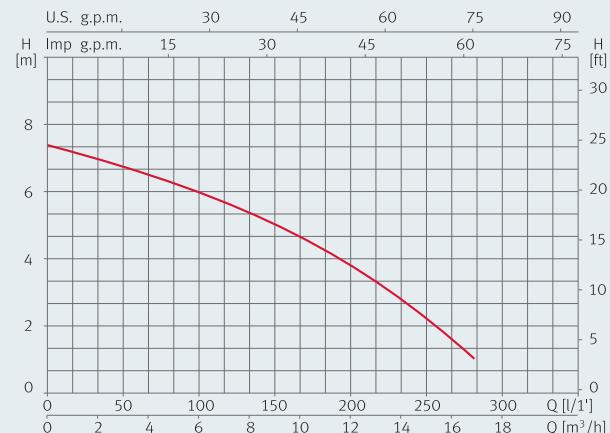


### Dimensions and weights

Model	A	B	C	D	[Kg]
Drainex 100	138	407	300	1 1/4"	11



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	25	50	100	125	150	200	250	280
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	1.5	3.0	6.0	7.5	9.0	12	15
Drainex 100M	3.4	0.75	0.75	1	12	mwc	7	6.7	5.9	5.5	5	3.7	2	1

# Drainex 200/300 Drainage



Submersible monobloc pumps, Vortex system for sewage water

## Applications

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

## Materials

Pump body, discharge body, suction body and impeller in cast iron.  
Mechanical seal in silicon carbide and ceramic.  
Pump base in stainless steel AISI 304, detachable for coupling of accessories. O-rings in NBR.  
Motor shaft in stainless steel AISI 420.

## Motor

Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Continuous operation.  
Water-cooled motor.  
Single-phase version built-in thermal protection and capacitor.

## Limitations

Maximum solids handling:  
**Drainex 200:** 45 mm.  
**Drainex 300:** 60 mm.  
Maximum liquid temperature: 40 °C.

## Equipment

Supplied with 10 m power cable.  
**Drainex M A:** complete with float switch.  
Transportable versions include elbow and s/s feet.



## Dimensions and weights

Drainex 200/201/202

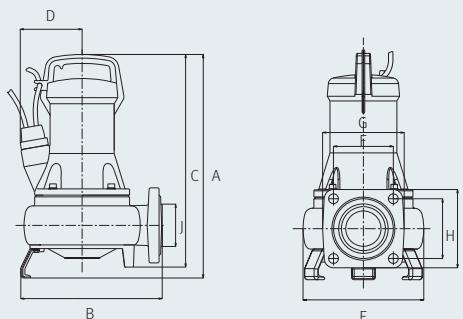
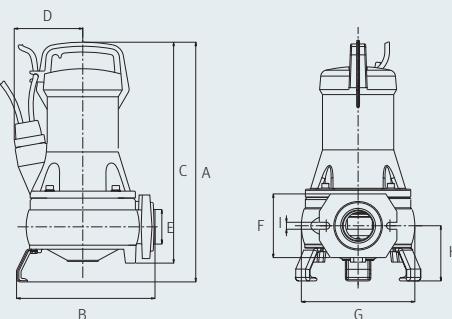
Model	A	B	C	D	E	F	G	H	I	[Kg]
Drainex 200	415	239.5	383	118.7	2"	110	196	95	12	25
Drainex 201	415	239.5	383	118.7	2"	110	196	95	12	25
Drainex 202	415	239.5	383	118.7	2"	110	196	95	12	25

Impeller ext. Ø: Drainex 200: 105 mm. Drainex 201: 115 mm. Drainex 202: 124 mm.

Drainex 300/301/302

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Drainex 300	429	271.5	408	118.7	222	110	150	110	144	2 1/2"	28
Drainex 301	429	271.5	408	118.7	222	110	150	110	144	2 1/2"	28
Drainex 302	429	271.5	408	118.7	222	110	150	110	144	2 1/2"	28

Impeller ext. Ø: Drainex 300: 105 mm. Drainex 301: 115 mm. Drainex 302: 124 mm.



# Drainex 200/300 Drainage



**Optimal cooling** of the motor thanks to the motor body being designed as a single part.

The incorporation of a **mechanical seal** guarantees complete watertightness between the hydraulic part and the motor.

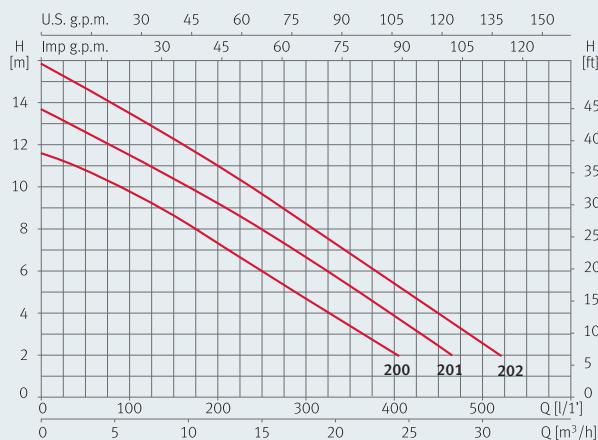
**Interior condenser** is in a completely watertight chamber to simplify the pump installation process.



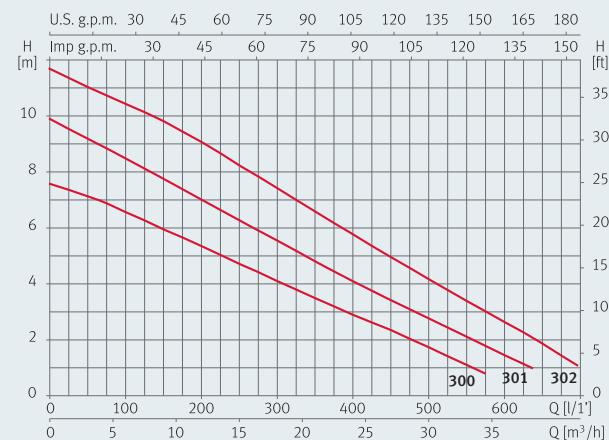
**Large chamber** between the impeller and the aspiration cone which allows suspended solid particles to pass through. Drainex 200, 45 mm. and Drainex 300, 60 mm.

## Performance curves at 2900 rpm

Drainex 200



Drainex 300



## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	50	100	150	200	300	400	450	500
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	3.0	6.0	9.0	12	18	24	27
Drainex 200	5.2	2.3	1.1	1.1	1.1	1.5	16	m³/h	10.7	9.7	8.6	7.4	4.9	2.3		
Drainex 201	6.2	2.6	1.4	1.4	1.1	1.5	16		13.2	11.9	10.7	9.4	6.7	3.8	2.4	
Drainex 202	7.4	2.8	1.6	1.6	1.1	1.5	16		15.1	13.8	12.6	11.3	8.5	5.6	4.1	2.5

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	50	100	200	300	400	500	600	650
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	3.0	6.0	12	18	24	30	36
Drainex 300	5.5	2.4	1.2	1.2	1.1	1.5	16	m³/h	7.1	6.6	5.4	4.1	2.9	1.8		
Drainex 301	6.8	2.7	1.5	1.5	1.1	1.5	16		9.2	8.5	7	5.6	4.1	2.8	1.5	
Drainex 302	7.8	3	1.8	1.8	1.1	1.5	16		11	10.5	9	7.4	5.8	4.2	2.6	1.8

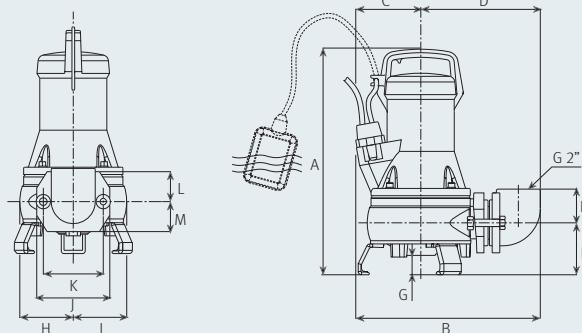
# Drainex 200/300 Drainage



## Portable version

Drainex 200/201/202

A	B	C	D	E	F	G	H	I	J	K	L	M
437	338	110	219	62	95	49	98	98	134	110	55	55

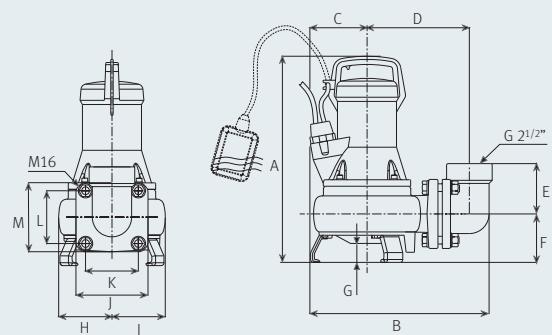


Passage Ø of particles in suspension: 45mm

Drainex 200/300: without float switch. Drainex 200 A/300 A: supplied built-in float switch

Drainex 300/301/302

A	B	C	D	E	F	G	H	I	J	K	L	M
455	373	108	213	105	101	62	111	111	150	110	110	144



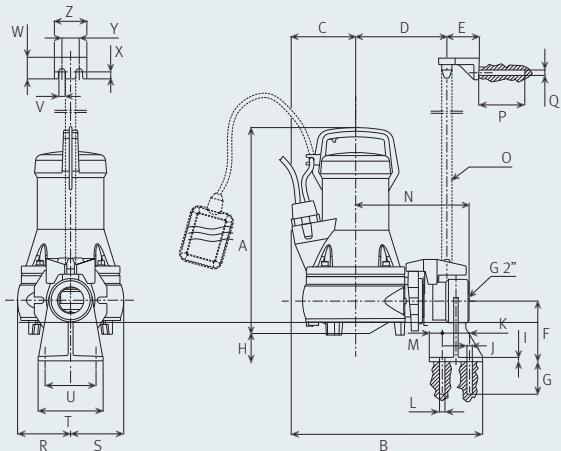
## Fixed version, guide rail system

Drainex 200/201/202

A	B	C	D	E	F	G	H	I	J	K	L	M
388	353	110	168	60	112	60	52	8	12	50.5	Ø10	24

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
209	Ø25	85	Ø10	98	98	120	94	12	40	13	32	60



Passage Ø of particles in suspension: 60mm

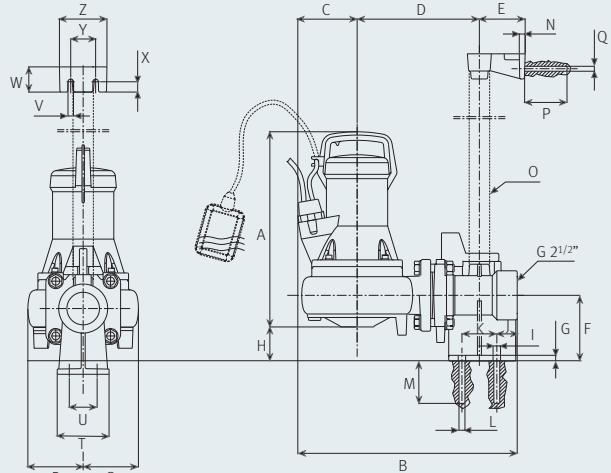
Drainex 200/300: without float switch. Drainex 200 A/300 A: supplied built-in float switch

Drainex 300/301/302

A	B	C	D	E	F	G	H	I	J	K	L	M
405	441	108	245.5	92	132	11.5	74.5	15	38	70	Ø12	85

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
12	Ø42	85	Ø10	111	111	104	56	11	50.5	20.5	50	95



# Drainex 400/500/600 Drainage



Submersible mono block pumps with Vortex impeller for draining water with solids

## Applications

In water treatment facilities.  
Pressurised drainage systems.  
Drainage of faecal water from housing and garages.  
Drainage for water with solids in public establishments, restaurants, etc.  
General drainage systems in industry, farms, livestock farms, excavations, garages and civil engineering works.  
Drainage of cesspits and septic tanks.  
Atex version for installing in the facilities described in the Atex regulations (II 2G d II B T4).

## Materials

Pump body and impeller in cast iron.  
Double mechanical seal: on the pump side in silicon carbide and on the motor side in graphite/alumina oxide with an intermediate oil chamber. The motor shaft is not in contact with water.  
AISI 304 stainless steel screws.  
O-rings in NBR.

## Electrical and motor specifications

Asynchronous, two pole.  
IP 68 protection.  
Class F insulation.  
Continuous operation (fully submerged).  
Atex II 2G version. Ex d II B t4.  
Atex version is supplied with a humidity sensor and thermal protection in case the motor overheats.  
To ensure full protection we recommend you install the appropriate protection and control panels (see accessories section).

## Limitations

Maximum immersion depth 9 m.  
Maximum number of starts: 15 per hour.  
Level switch. Optional for connecting to electrical panel.  
The whole **Drainex** range can operate at a maximum temperature of 40 °C.  
Water with solids or filtered water, rainwater, infiltrations, wastewater and non-corrosive liquids in general.



## Solids passage Ø

**Drainex 400/500:** enable the passage of solids of up to 40 mm with a DN 50 impeller.

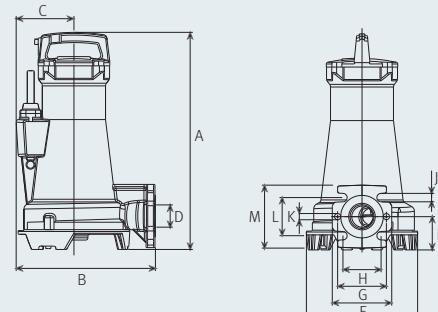
**Drainex 600:** enable the passage of solids of up to 65 mm with a DN 65 impeller.

## Dimensions and weights

### Drainex 400/401/402

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	[Kg]
Drainex 400	488	313	130	Ø50	251	134	110	86	75	19	Ø14	86	142	45
Drainex 401	488	313	130	Ø50	251	134	110	86	75	19	Ø14	86	142	45
Drainex 402	488	313	130	Ø50	251	134	110	86	75	19	Ø14	86	142	45

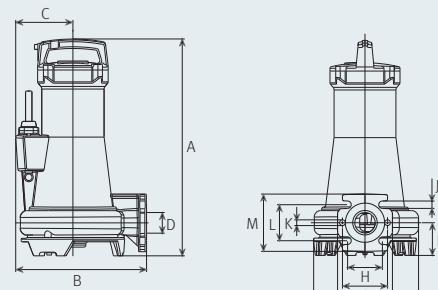
Impeller ext. Ø: Drainex 400: 115mm. Drainex 401: 125mm. Drainex 402: 136mm.



### Drainex 500/501/502

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	[Kg]
Drainex 500	526	317	139	Ø50	256	134	110	85	80	18	Ø14	88	140	55
Drainex 501	526	317	139	Ø50	256	134	110	85	80	18	Ø14	88	140	55
Drainex 502	526	317	139	Ø50	256	134	110	85	80	18	Ø14	88	140	55

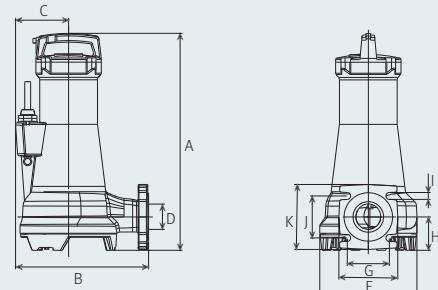
Impeller ext. Ø: Drainex 500: 140mm. Drainex 501: 150mm. Drainex 502: 160mm.



### Drainex 600/601/602

Model	A	B	C	D	E	F	G	H	I	J	K	[Kg]
Drainex 600	567	348	139	Ø65	254	154	110	87	18	110	170	60
Drainex 601	567	348	139	Ø65	254	154	110	87	18	110	170	60
Drainex 602	567	348	139	Ø65	254	154	110	87	18	110	170	60

Impeller ext. Ø: Drainex 600: 125mm. Drainex 601: 135mm. Drainex 602: 145mm.

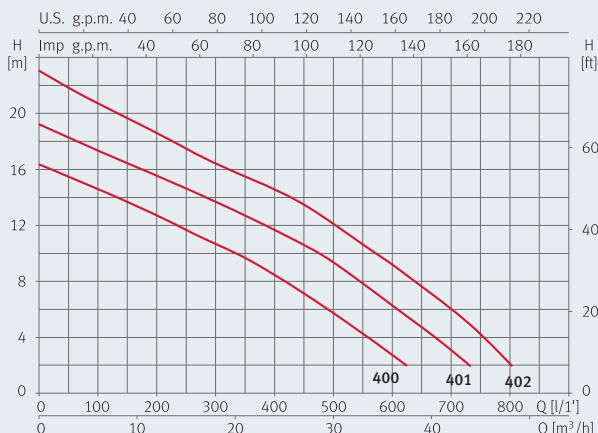


# Drainex 400/500/600 Drainage

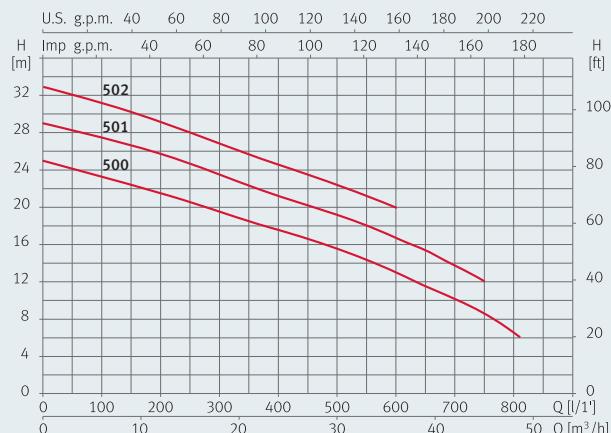


## Performance curves at 2900 rpm

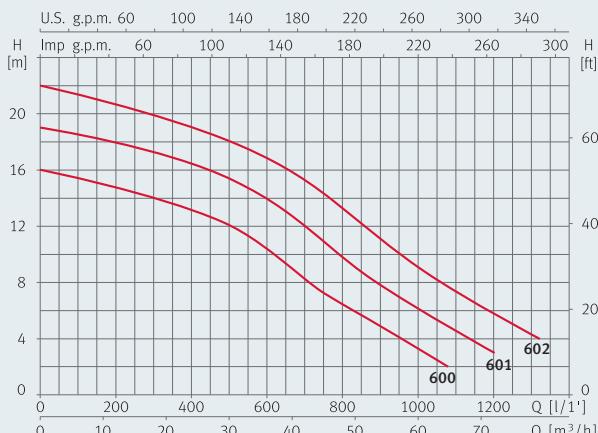
Drainex 400



Drainex 500



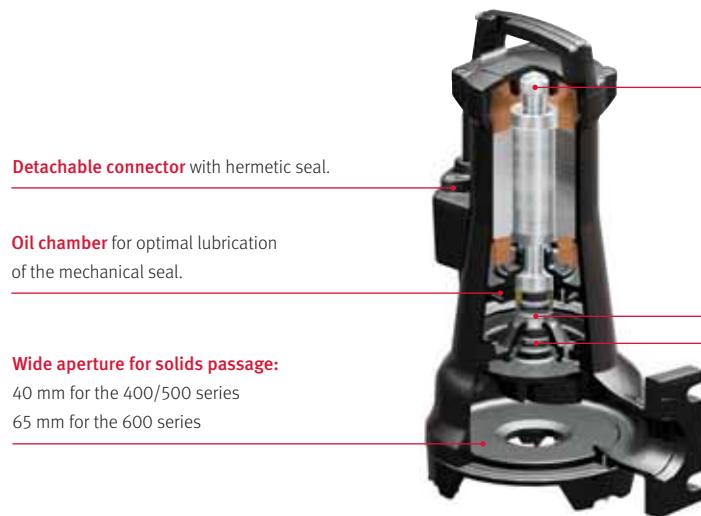
Drainex 600



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		l/min	100	200	400	500	600	700	800
	3~ 400 V	3~ 400 V	[kW]	[HP]								
Drainex 400	4.1	1.9	2.6	3.5	mwc	14.6	12.7	8.3	5.9	2.8		
Drainex 401	4.8	2.45	2.6	3.5	mwc	17.3	15.5	11.6	9.3	5.2	3	
Drainex 402	5.6	3.1	2.6	3.5	mwc	20.7	18.6	13.7	12	9.3	5	2
Model	I [A]	P1 [kW]	P2		l/min	100	300	400	500	600	750	810
	3~ 400 V	3~ 400 V	[kW]	[HP]	m³/h	6.0	18	24	30	36	45	49
Drainex 500	7.2	4.2	3.7	5	mwc	23.2	19.7	17.6	15.6	13	8.5	6
Drainex 501	8.3	5	3.7	5	mwc	27.4	23.5	21.2	19.1	16.8	12	
Drainex 502	8.7	5.3	3.7	5	mwc	30.1	26.8	24.5	22.2	20		
Model	I [A]	P1 [kW]	P2		l/min	200	400	600	800	1000	1200	1300
	3~ 400 V	3~ 400 V	[kW]	[HP]	m³/h	12	24	36	48	60	72	78
Drainex 600	5.7	3	3.7	5	mwc	14.8	13.3	10.4	6.3	3.4		
Drainex 601	6.8	3.9	3.7	5	mwc	18	16.3	14	9.8	6	3.1	
Drainex 602	8.1	4.8	3.7	5	mwc	21	19	16.8	13.3	9	5.8	4.3

# Drainex 400/500/600 Drainage



**Oversized bearings** to support the radial and axial stress of the hydraulic set.



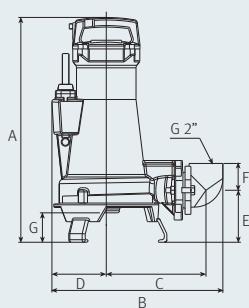
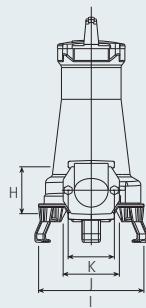
**Double mechanical seal** to guarantee that the motor is completely watertight.



## Portable version

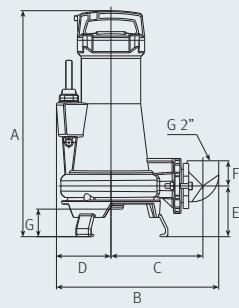
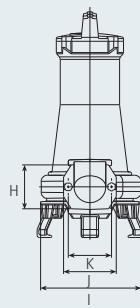
Drainex 400/401/402

A	B	C	D	E	F	G	H	I	J	K
537	408	238	130	124	64	70	110	251	134	110



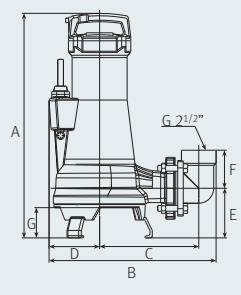
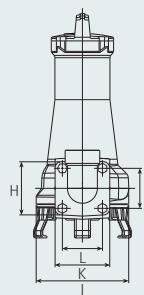
Drainex 500/501/502

A	B	C	D	E	F	G	H	I	J	K
575	412	234	139	129	64	70	110	256	134	110



Drainex 600/601/602

A	B	C	D	E	F	G	H	I	J	K	L
616	458	272	139	136	105	83	144	110	254	150	110



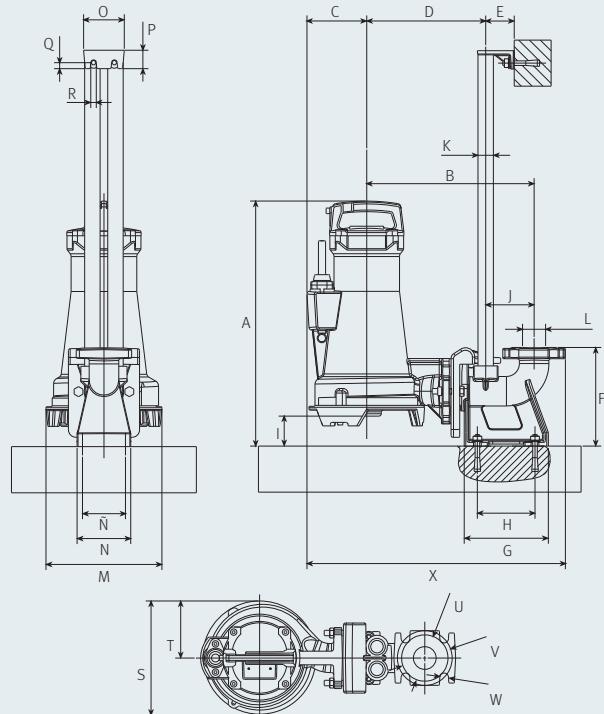
# Drainex 400/500/600 Drainage



## Fixed version, guide rail system

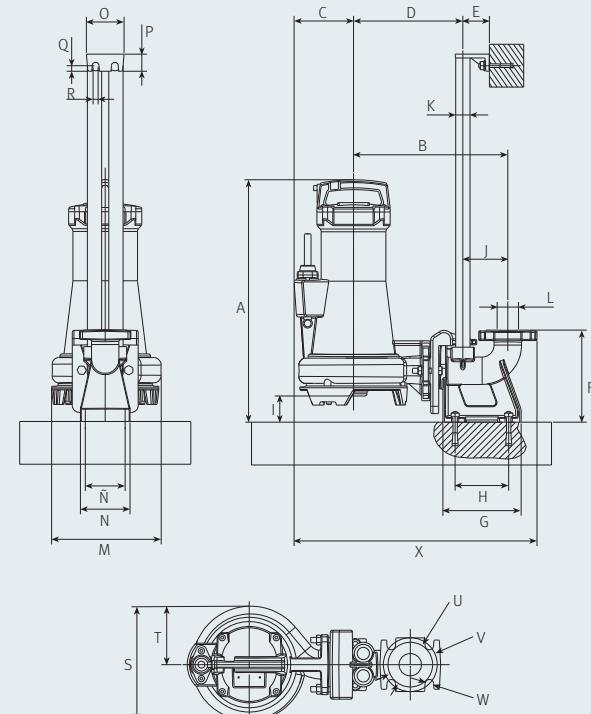
Drainex 400/401/402

A	B	C	D	E	F	G	H	I	J	K	L	
532	363	130	258	62	214	182.5	125	65	105	1"	Ø50	
M	N	Ñ	O	P	Q	R	S	T	U	V	W	X
251	116	93	88	40	13	12	251	125	100	120.5	19	561



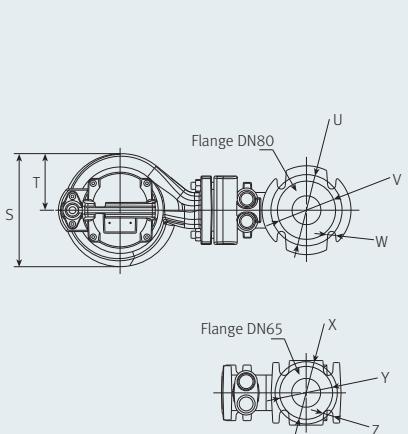
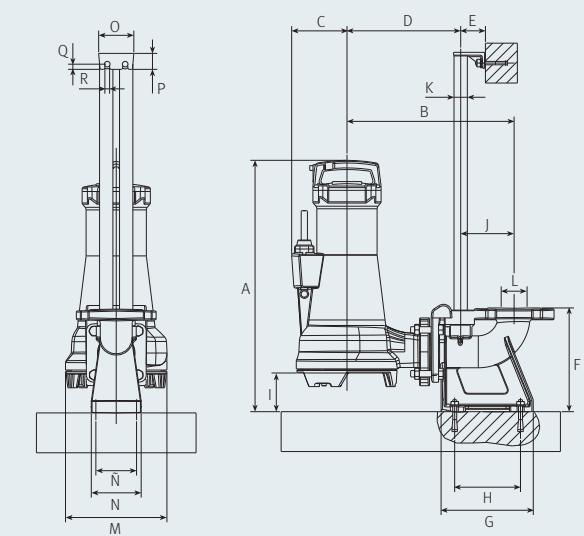
Drainex 500/501/502

A	B	C	D	E	F	G	H	I	J	K	L	
566	360	139	255	62	215	182.5	125	61	105	1"	Ø50	
M	N	Ñ	O	P	Q	R	S	T	U	V	W	X
256	116	93	88	40	13	12	256	131	100	120	19	566.5



Drainex 600/601/602

A	B	C	D	E	F	G	H	I	J	K	L	M	
630	419	319	285	62	260	231	165	97	134	1"	Ø65	254	
N	Ñ	O	P	Q	R	S	T	U	V	W	X	Y	Z
125	102	88	40	13	12	254	127	Ø60	Ø133	Ø18	Ø140	Ø120	Ø21



# Accessories



## Drainex 200/300/400/500/600

### Stationary version for Drainex 200 models

DR1 Kit



Support base for  
automatic anchoring.



Clamping flange.



Upper anchoring  
on guide.

### Stationary version for Drainex 300 models

DR2 Kit



Support base for  
automatic anchoring.



Clamping flange.



Upper anchoring  
on guide tube.

### Stationary version for Drainex 400/500 models

DR3 Kit

DN 50 (flange 50)



Support base with elbow  
for automatic anchoring.

ANSI 150 2"



Upper anchoring on  
double guide tube.

### Transportable version for Drainex 400/500 models

DR6 Kit



90 ° elbow at 2".



Stainless steel feet.

### Stationary version for Drainex 600 models

DR4 Kit

DN 65 (flange 65)



Support base with elbow  
for automatic anchoring.

DIN 2501 PN16



Clamping flange.

ANSI 150 2<sup>1/2</sup>"



Upper anchoring on  
double guide tube.

### Transportable version for Drainex 600 models

DR7 Kit



90 ° elbow at 2<sup>1/2</sup>".



Stainless steel feet.

DR5 Kit

DN 65 (flange 80)



Support base with elbow  
for automatic anchoring.

DIN 2501 PN16



Clamping flange.

ANSI 150 2<sup>1/2</sup>"



Upper anchoring on  
double guide tube.

# Accessories



## Control Panels single & twin pump

### **QAR1 Control Panel for one pump with current control**

- Power Supply 3 ~ 50/60Hz 400 V +/- 10% (QART1-TA/Hp - Three-phase).
- Power Supply 1 ~ 50/60Hz 230 V +/- 10% (QART1M-TA/Hp - Single-phase).
- Control input from no contact (float/pressure switch).
- Alarm control input from no contact (float/pressure switch).
- Control input with three minimum level sensors.
- Input for motor winding thermal protection.
- Output for Alarm Siren on 12 Vdc Faston (maximum absorption 30 mA).
- Rated sensor voltage 18V~.
- Adjustable motor protection (Motor Current Trimmer 2 ↔ 22A or 20 ↔ 44 A).
- Incorporated sensor sensitivity adjustment.
- Sensors suitable for use with nonflammable conductive fluids.
- Motor protection fuses.

- Incorporated selector for sensor operation in "Filling/Emptying" mode (SEL. SONDE S/R), and overriding the "Motor cut-out" (ESC. BLOCCO AMP).
- Internal "Sensors alarm" cut off switch (E. AL. SENSOR), and "Amperometric alarm cut-in delay" cut off switch (E. T. TA).
- LED for "Mains power on", "Alarm" for min/max water level, "Motor on", "Motor protection enabled", "Automatic" (this is on the Automatic push-button).
- Push buttons for operating motor in "Automatic-Off-Manual" modes.
- Auxiliary protection fuse.
- Alarm output with switching NO-C-NC contacts, capacity 16A 250 V (resistive load).
- Main circuit-breaker with door lock.
- Output with cable clamps. ABS box. Protection IP55.



### **QAR2 Control Panel for two pumps with current control**

- Input voltage 1 ~ 50/60Hz 230 V +/- 10% (single-phase model QAR2M-TA).
- Input voltage 3 ~ 50/60Hz 400 V +/- 10% (three-phase model QAR2T-TA).
- Very low voltage input for float switch of stop, and n.2 float switches of start, and max level alarm float switch, and n.2 motors Klicson.
- Pumps' exchanger circuit with 4" delay between the starts of the 2 pumps.
- Possibility to exclude a damaged pump.
- Internal selector for exclusion of pumps exchanger.
- Push-buttons for Auto-Off-Manual motor operation (Manual temporary).
- Green led for power on and n.2 green led for motors operating.
- N.2 green led for auto operation.
- Ambient temperature: -5/ + 40 °C.
- Time for activation of protection: 5".

- Red led for water level alarm, and n.2 led for overload motors protection alarm, and led for alarm: motor's Klicson active, and n.2 push button for restoration from protection.
- Adjustable electronic protection for motors overload.
- Auxiliary circuits protection fuse.
- Motors protection fuses.
- Alarm output with exchangeable contacts 5 A 250 V (resistive load).
- Main switch with door interlock.
- Single-phase model adapted for the insertion of a capacitor (not included).
- Output with cable holder. Box in ABS. Protection IP55.
- Relative humidity 50 % at 40 °C (not condensed).



### **SA/1 Alarm with buffer battery**

- Electronic alarm.
- Alimentazione 1 ~ 50/60Hz 230 V +/- 10%.
- N°1 inlet in low tension for alarm control from fee contact, and contact N.C.
- Green led "Power on". Red led "Alarm". Red led "Siren Excluded".
- N°1 button "Test" for temporary sounder activation, and "Reset" for manual restore of alarm condition, and "Siren activation" for the activation of the sounder, and "Siren exclusion" to exclude the sounder.
- Internal selector to select alarm restore (automatic-manual).
- Internal selector to activate the timer of automatic switch off of the alarm.
- Trimmer to select the time of delay of automatic switch off (from 25" to 120").

- Fuses of protection suppli card and battery.
- Output with cable holder.
- Alarm sounder 90 dB 12Vcc.
- Internal sealed battery 12Vcc 1,2Ah.
- Alarm output in free contact terminal board 250 V-10A.
- Flashing red lamp alarm 3W 12Vcc (only in model SLA1).
- Box in thermoplastic material. Protection IP55.



Taurus sewage float switch PVC (10 m)  
Taurus sewage float switch PVC (20 m)



## Submersible grinder pumps, for sewage water, with filaments

### Applications

Drainage of sewage and dirty water, operation in septic tanks and small purifying installations.

### Materials

Pump body, discharge body, suction body and impeller in cast iron. Dilacerative system in steel F-520. Mechanical seal in silicon carbide and graphite. Pump base in stainless steel AISI 304, detachable for coupling of accessories. O-rings in NBR. Motor shaft in stainless steel AISI 420.

### Motor

Asynchronous, two poles. IP 68 protection. Class F insulation. Continuous operation. Water-cooled motor. Single-phase version built-in thermal protection and starting box with double capacitor.

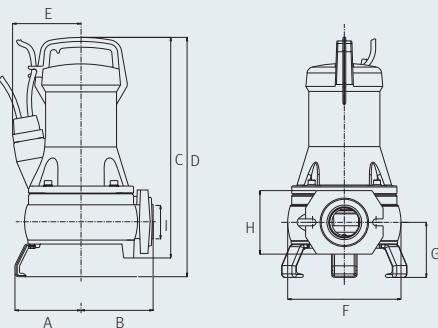
### Equipment

1½" BSP female threaded discharge elbow. Single-phase supplied with capacitor box. Draincor M A: complete with float switch.

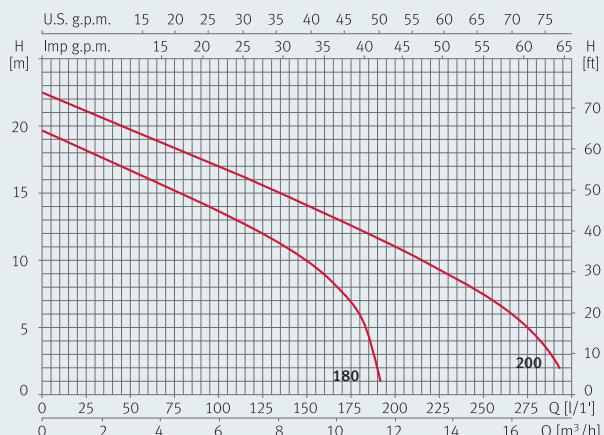


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	[Kg]
Draincor 180	114.5	125	382.5	415.1	118.7	196	95.25	110	1½"	25
Draincor 200	114.5	125	382.5	415.1	118.7	196	95.25	110	1½"	25



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	25	50	100	150	175	200	250	290
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			1.5	3.0	6.0	9.0	10.5	12.0	15.0	17.4
									m³/h							
Draincor 180	7.8	2.8	1.7	1.6	1.1	1.5	16/50	m³/h	18	16.7	13.7	10	7			
Draincor 200		3		1.8	1.25	1.7			21	19.7	17	14.1	12.6	11	7.3	2.5

## Accessories

### Stationary version

#### DR1 Kit



Support base for  
automatic anchoring.



Clamping flange.

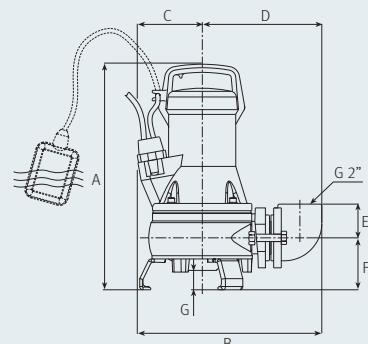
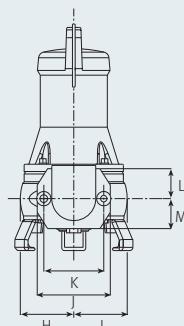


Upper anchoring  
on guide.

# Draincor Drainage

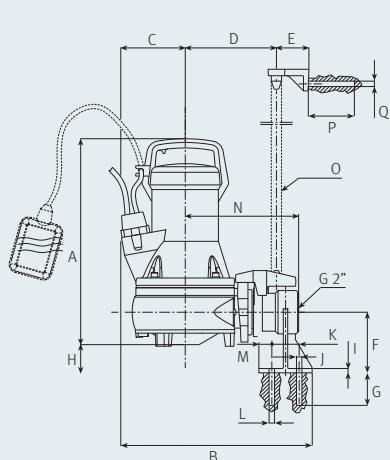
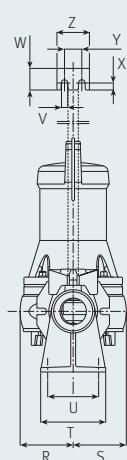
### Portable version

A	B	C	D	E	F	G	H	I	J	K	L	M
437	338	110	219	62	95	49	98	98	134	110	55	55



### Fixed version, guide rail system

A	B	C	D	E	F	G	H	I	J	K	L	M
388	353	110	168	60	112	60	52	8	12	50.5	Ø10	24
N	O	P	Q	R	S	T	U	V	W	X	Y	Z
209	Ø25	85	Ø10	98	98	120	94	12	40	13	32	60



Draincor: without float switch. Draincor A: supplied built-in float switch

## Submersible pumps with entrained solids

### Applications

Pumping of effluent.  
Emptying of septic tanks  
and residential sumps.  
Draining of flooded basements  
and garages.  
Water display, fountains.



### Materials

Pump body, shaft extension and motor casing in stainless steel AISI 304.  
Mechanical seal in silicon carbide.  
Upper lip seal in nitrile rubber.  
Handle in nylon.  
Impeller:  
**DMX 55 and DVX 55** in fibre glass-reinforced nylon.  
**DMX 75, 110, 150 and DVX 75, 110, 150** in stainless steel AISI 304.

### Motor

Dry motor (class F insulation).  
IP 68 protection.

### Limitations

Continuous duty with 35 °C liquids  
and fully submerged pump.  
Maximum immersion depth: 5 m.

### DMX 55 and DVX 55

Handling of suspended solids  
up to 35 mm in diameter.

**DMX 75, 110, 150 and DVX 75, 110, 150**  
handling of suspended solids  
up to 50 mm in diameter.

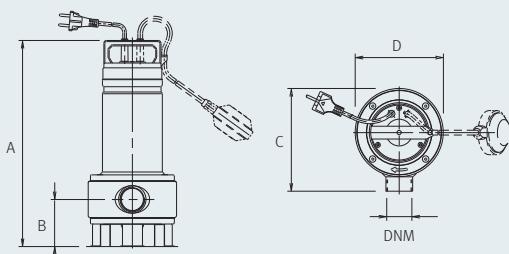


### Equipment

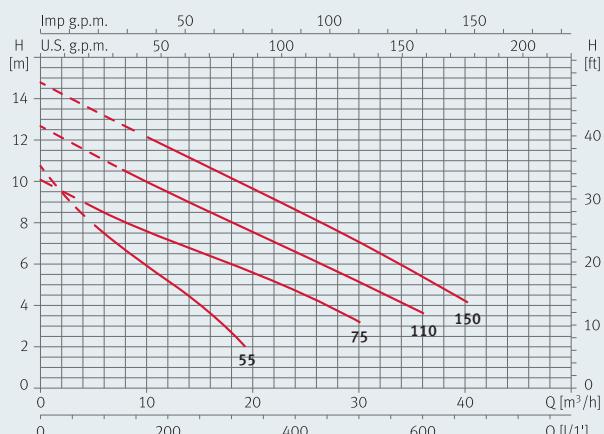
H07RN-F type neoprene power cord.  
Pre-assembled float (version without  
float available on request).

### Dimensions and weights

Model	A	B	C	D	DNM	[Kg]
DMX 55 /DVX 55	391	88	193	165	Rp 1 1/2"	8.9
DMX 75 / DVX 75	468	111.5	198	165	Rp 1 1/2"	11.6
DMX 110 / DVX 110	468	111.5	198	165	Rp 1 1/2"	13.6
DMX 150 / DVX 150	468	111.5	198	165	Rp 1 1/2"	14.6



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c [µF]	l/min	50	100	200	300	400	500	600	700
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
DMX 55	3.3	2.1	1.3	0.72	0.7	0.55	0.75	16	mwc	8.8	7.3	4.8	2				
DMX 75	5.1	3.4	2	1.15	1.15	0.8	1.1	22		9.3	8.5	7.1	5.8	4.5	3		
DMX 110	7.1	4.8	2.8	1.65	1.6	1.1	1.5	30		11.9	11	9.5	8	6.5	4.9	3.3	2.9
DMX 150	6.2	3.6		2	1.5	2				13.7	12.8	11.2	9.7	8.2	6.5	4.8	2.9

Model	I [A]			P1 [kW]		P2		c [µF]	l/min	50	100	150	200	250	300	400	500
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
DVX 55	3.3	2.1	1.3	0.72	0.7	0.45	0.6	16	mwc	7.6	6.1	4.5	3				
DVX 75	5.2	3.6	2.1	1.2	1.18	0.8	1.1	22		7.3	6.8	6.2	5.5	4.7	3.9	1.8	
DVX 110	6.2	4.3	2.5	1.4	1.4	1.1	1.5	30		8.8	8.4	8	7.4	6.7	6	4	
DVX 150	5.9	3.4		1.85	1.5	2				10.9	10.5	10	9.6	9	8.4	6.7	4.5

# Drainbox 300/600 Drainage



## Lifting stations for domestic applications

### Applications

Domestic: detached homes, cottages, rural properties, second homes, etc.  
Professional: Restaurants, small hotels, stores, workshops, small industries, etc.

### Limitations

Maximum temperature of liquid: 40 °C.

### Innovation

Drainbox is the advanced, specific solution created by SPA for the evacuation of water, from any source (foul water, faecal, water, rainwater, etc.) in all environments; domestic or professional, rural or urban, with complicated or unfavourable drainage conditions.



Drainbox collects, stores, treats and drives the water to the drainage level, offering a series of truly outstanding advantages in terms of versatility, installation and performance.

Drainbox is based on simple, highly effective drainage technology that enables each pumping kit to be customised with the type of pump that is most suitable for the function and services to be provided.



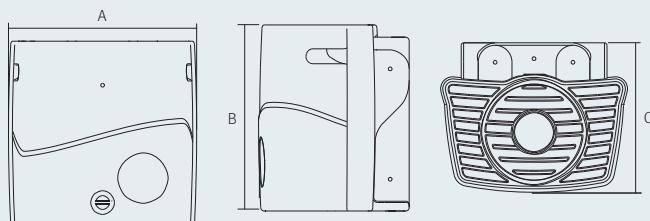
Drainbox is supplied with an innovative tank, and a design that includes a series of novel technical advantages which add up to multiple services that are accumulated for the purpose of customising each installation. Customers can select the input and output pipes, ventilation pipes, emergency evacuation system, retention valve, etc.



### Dimensions and weights

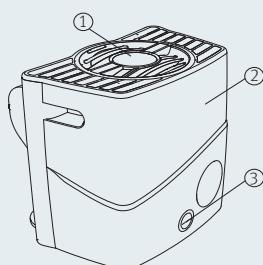
Model	A	B	C
Drainbox 300	770	760	615
Drainbox 600	1230	760	615

Drainbox 300

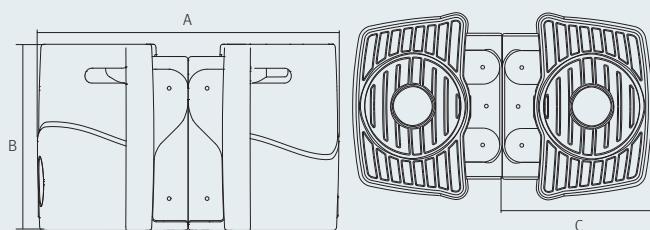


1 pump - 1 Tank of 300 liters - Packaging kit - Control Panel

Drainbox 600



1 Tank cover - 2 Tank - 3 Drain plug

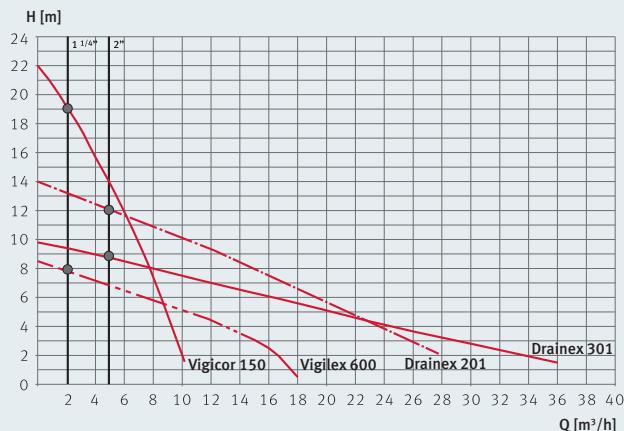


2 pumps - 2 Tanks of 300 liters - Packaging kit - Control Panel

# Drainbox 300/600 Drainage



## Performance curves at 2900 rpm



Vigilex M A



Drainex 201/301 M/T



Vigicor 150 M

● Minimum flow for preventing particles from acculating in the pipes

## Characteristics table

Modelo	Pump	I [A]		P1 [kW]		P2		Ø Free flows	Ø Connection	Q max. [l/min]	Weight [Kg]	Control top panel	Impeller
		1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]						
Drainbox 300 800M A TP	Vigilex 600 M A	3.4	-	0.8	-	0.6	0.8	24	1 1/4"	240	28.1	-	Vortex
Drainbox 300 1200M D TP FL	Vigicor 150 M	5.4	-	1.2	-	0.9	1.2		1 1/4"	140	41	-	Grinder
Drainbox 300 1400M TP KE FL Drainbox 300 1400 TP KE FL	Drainex 201M Drainex 201	6.2	2.6	1.4	1.4	1.1	1.5	45	2"	450	55	Top 1 Top 2	Vortex
Drainbox 600 1400M TP KE FL Drainbox 600 1400 TP KE FL	Drainex 201M Drainex 201	6.2	2.6	1.4	1.4	2 x 1.1	2 x 1.5	45	2"	900	110	Top	Vortex
Drainbox 600 1500M TP KE FL Drainbox 600 1500 TP KE FL	Drainex 301M Drainex 301	6.8	2.7	1.5	1.5	1.1	1.5	60	2"	600	122	Top	Vortex

## Control Panel Options (depending on model)



Control top panel



Wall box

## Packaging kit



## Accessories



Ø 63/Ø110 joint



Ø100 elbow  
male/female



Extension



Ball valve



Non return valve



Float switch kit

# Drainbox 750/1000/1250/1500 Drainage



## Larger lifting / sewage stations

### Innovation

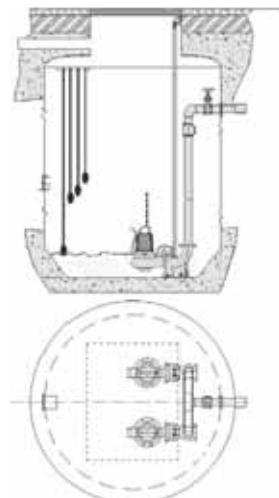
Private housing, industry, commercial premises, leisure complex, hotel/motel/motorway services and single households.

Each pump chamber is made up of strong, medium-density polyethylene.

All packages come complete with pipework pre-assembled in the chamber, standard pedestrian access cover and frame, ready for installation into the ground, after which the pumps and control equipment are added.

All dual pump sets are supplied with controls for fully automatic operation and a high level alarm indicator.

Chambers are available in several different sizes.



Installation diagram



### Applications

Drainbox 750P	Annexe or one bedroom conversion
Drainbox 1000P	Three-bedroom house
Drainbox 1000G	Three-bedroom house
Drainbox 1250G	Five-bedroom house, small office units / industrial / small hotels / nursing homes
Drainbox 1500G	Large commercial / multi dwellings / hotels / hospitals / sewage works



Pre-cast tanks available on request

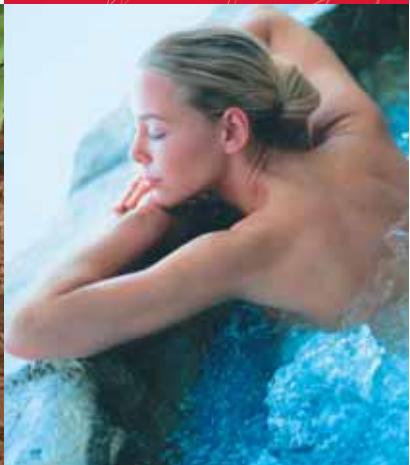
### Characteristics table

Model	Pumps	Outlet	Chamber size	Pump installation
Drainbox 750FS	1	50/60mm	750 x 1200mm	Free standing
Drainbox 1000FS	1	65mm	1000 x 1500mm	Free standing
Drainbox 1000GR	2	65mm	1000 x 1500mm	Guide rail
Drainbox 1250GR	2	65mm	1250 x 2000mm	Guide rail
Drainbox 1500GR	2	65mm	1500 x 2500mm	Guide rail

Please select which Drainex pump(s) from pages 32 to 41 and add their price to the above chamber price.

Heavy access covers on request. Pumps can be with vortex impeller or grinder. Other options are available on request.

Please add £150 for 65mm internal fittings for Drainex 750 FS. All twin pump sets come c/w control panel.



WATER SUPPLY  
&  
RECIRCULATION

# Prisma 15/25 Surface Horizontal



Quiet-running multi-stage centrifugal pumps

## Applications

To work with clean water in domestic applications, irrigation, and hydropneumatic sets. Self-priming to 2 m.

## Materials

Pump body and impellers in AISI 304 stainless steel.  
Motor shaft in AISI 420 stainless steel.  
Diffusers in technopolymer.  
Suction and discharge mountings in cast iron.  
Mechanical seal in graphite and alumine.  
Gaskets in EPDM and NBR.  
Motor casing in aluminium.

## Motor

Asynchronous, 2 poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.  
Single-phase version up to 1.5 HP with built-in thermal protection.



## Limitations

Maximum liquid temperature: 40 °C.

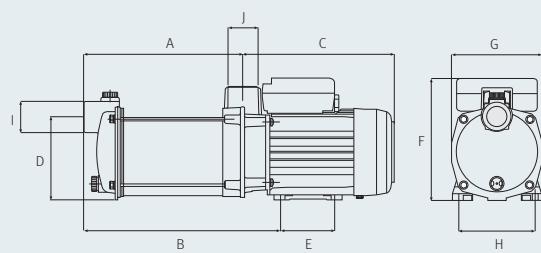


## Dimensions and weights

Prisma 15

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Prisma 15 2	163	213	202	110	74	162	121	102	1"	1"	8.3
Prisma 15 3	187	237	202	110	74	162	121	102	1"	1"	9.2
Prisma 15 4	211	261	202	110	74	162	121	102	1"	1"	10
Prisma 15 5	235	285	202	110	74	162	121	102	1"	1"	11

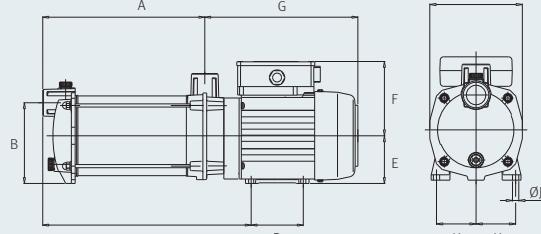
Prisma 15



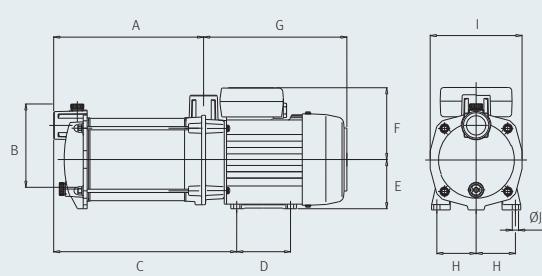
Prisma 25

Model	A	B	C	D	E	F	G	H	I	J	K	[Kg]
Prisma 25 2	175.5	127	226	82	75	109.5	218	59	138	8		12.5
Prisma 25 3	202	127	252,5	82	75	109.5	218	59	138	8		13.5
Prisma 25 4	228.5	127	279	82	75	109.5	218	59	138	8		14.6
Prisma 25 5	255	127	328	82	75	109.5	240.5	59	138	8		17.2
Prisma 25 6	281	142	304	20	89.5	122	286	69	154	10	178	20

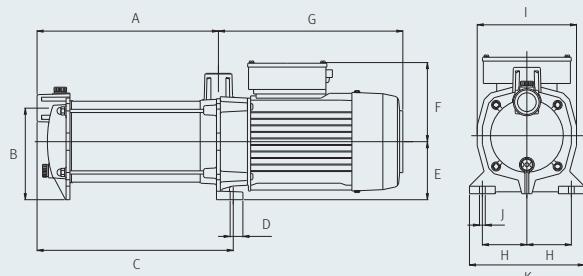
Prisma 25



Prisma 25 2/3/4



Prisma 25 6

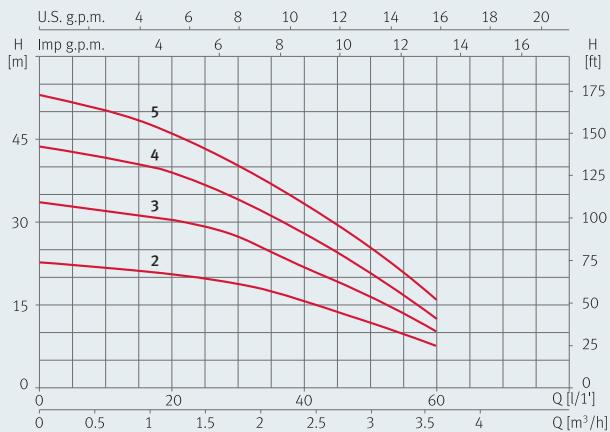


# Prisma 15/25 Surface Horizontal

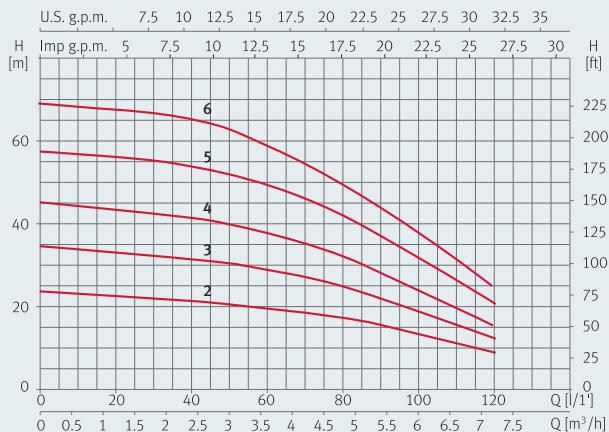


## Performance curves at 2900 rpm

Prisma 15



Prisma 25



## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c [μF]	l/min m³/h	10	20	30	35	40	50	60	65
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			0.6	1.2	1.8	2.1	2.4	3.0	3.6	3.9
Prisma 15 2	2			0.45		0.24	0.33	12	mwc	21	20	16.5	16	14	10.5	7	5
Prisma 15 3	2.74	2.1	1.21	0.61	0.61	0.37	0.5	12	mwc	32	30	26	24	22	17	10.5	7
Prisma 15 4	3.53	2.3	1.3	0.79	0.7	0.55	0.75	12	mwc	43	39	35	32	27	21.5	14	9
Prisma 15 5	4.13	3.3	1.9	0.95	0.95	0.75	1.0	12	mwc	51	47	42	38	34	25	17	12

Model	I [A]			P1 [kW]		P2		c [μF]	l/min m³/h	15	30	45	60	75	90	105	120
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2
Prisma 25 2	4.3			0.9		0.55	0.75	16	mwc	22	21	20.5	19	17	15	12	8
Prisma 25 3	5.5	3.5	2	1.2	1	0.75	1	16	mwc	33	32	30.5	28	26	22	17	12
Prisma 25 4	6.8	4.3	2.5	1.5	1.4	0.92	1.25	16	mwc	43	42	40	37	33	28	22	15
Prisma 25 5	7.4	5.2	3	1.7	1.7	1.1	1.5	25	mwc	56	55	52.5	48	43	37	29	20
Prisma 25 6	9.8	6.7	3.9	2.2	2	1.5	2	30	mwc	72	68	65	58	50	40	32	24

# Prisma 35N/45N Surface Horizontal



Quiet-running multi-stage centrifugal pumps

## Applications

For domestic and industrial supplies.  
Irrigation and hydropneumatic sets.

## Materials

Pump body and impellers in stainless steel AISI 304.  
Motor shaft in stainless steel AISI 420.  
Diffusers in tecnopolimer.  
Suction and discharge mountings in cast iron.  
Mechanical seal in graphite and alumine.  
O'rings in EPDM and NBR.  
Motor housing in aluminium.

## Motor

Asynchronous, two poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.

## Limitations

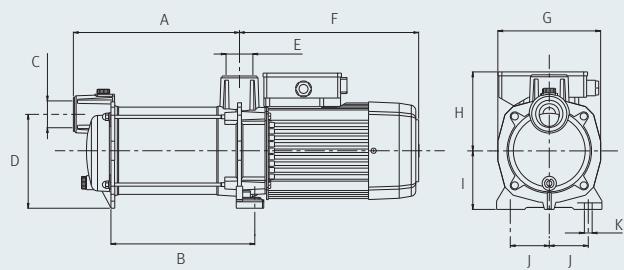
Maximum liquid temperature: 40 °C.



## Dimensions and weights

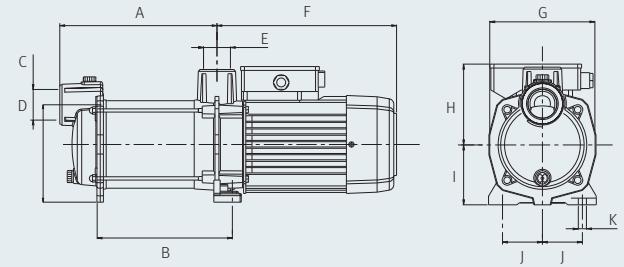
Prisma 35N

Model	A	B	C	D	E	F	G	H	I	J	K	[Kg]
Prisma 35 3	221,1	187,3	11 <sup>1</sup> / <sub>4</sub> "	147	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	18,5/18,2
Prisma 35 4	246,6	211,8	11 <sup>1</sup> / <sub>4</sub> "	147	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	20,5/18,6
Prisma 35 5	271,1	236,3	11 <sup>1</sup> / <sub>4</sub> "	147	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	23,5/20,6
Prisma 35 6	295,6	260,8	11 <sup>1</sup> / <sub>4</sub> "	147	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	23,7



Prisma 45N

Model	A	B	C	D	E	F	G	H	I	J	K	[Kg]
Prisma 45 3	245,9	211,6	11 <sup>1</sup> / <sub>2</sub> "	152	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	22,6/18,6
Prisma 45 4	276,6	242,3	11 <sup>1</sup> / <sub>2</sub> "	152	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	23,7/21,2
Prisma 45 5	307,3	273	11 <sup>1</sup> / <sub>2</sub> "	152	11 <sup>1</sup> / <sub>4</sub> "	281,5	158	125,3	90	60	12	25,3

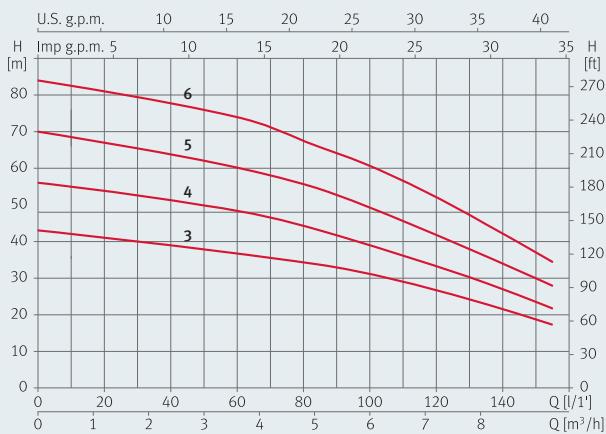


# Prisma 35N/45N Surface Horizontal

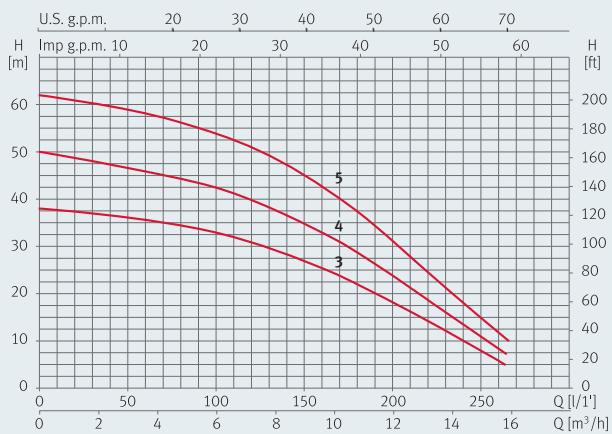


## Performance curves at 2900 rpm

Prisma 35N



Prisma 45N



## Hydraulic performance table

Modello	I [A]			P1 [kW]		P2		c [μF]	l/min	20	40	60	80	100	120	140	150
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			1,2	2,4	3,6	4,8	6,0	7,2	8,4	9,0
Prisma 35 3N	6,7	4,5	2,6	1,5	1,4	0,8	1	25	mca	41	39	36	34	31	27	22	18
Prisma 35 4N	8,4	5,3	3,1	1,8	1,8	1,1	1,5	25		54	51	48	44	39	33	27	23
Prisma 35 5N	10,2	6,9	4	2,3	2,2	1,5	2	30		68	64	60	55	49	41	34	30
Prisma 35 6N		8,3	4,8		2,7	2,2	3			81	78	74	67	60	52	42	37

Modello	I [A]			P1 [kW]		P2		c [μF]	l/min	25	50	75	100	125	150	200	250
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			1,5	3,0	4,5	6,0	7,5	9,0	12	15
Prisma 45 3N	7,9	5,2	3	1,8	1,7	1,1	1,5	mca	25	37	36	35	33	30	27	18	8
Prisma 45 4N	10	6,9	4	2,2	2,2	1,5	2			48	47	45	42	39	36	24	11
Prisma 45 5N		8,6	5		2,8	2	3			61	59	56	54	50	45	31	15

# Aspri 15/25 MB Surface Horizontal



## Quiet-running multi-stage centrifugal pumps

### Applications

To work with clean water in domestic applications, irrigation, and hydropneumatic sets.

### Materials

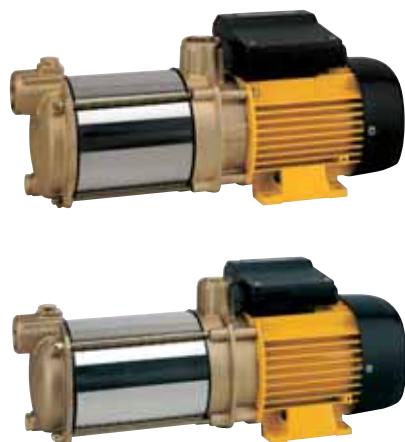
Pump body and impellers in stainless steel AISI 304.  
Motor shaft in stainless steel AISI 420.  
Diffusers in technopolymer.  
Suction and discharge mountings in brass.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium.  
Built-in self priming valve, not very sensitive to the impurities.  
O-rings in EPDM and NBR

### Motor

Asynchronous, two poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.  
Single-phase with built-in thermal protection.

### Limitations

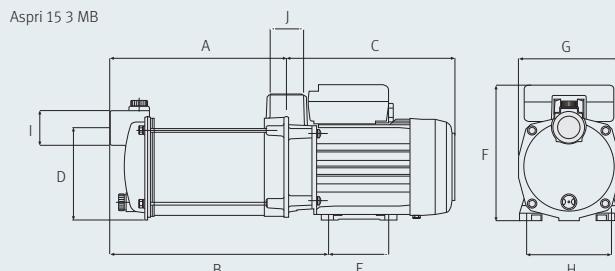
Maximum suction lift: 9 m.



### Dimensions and weights

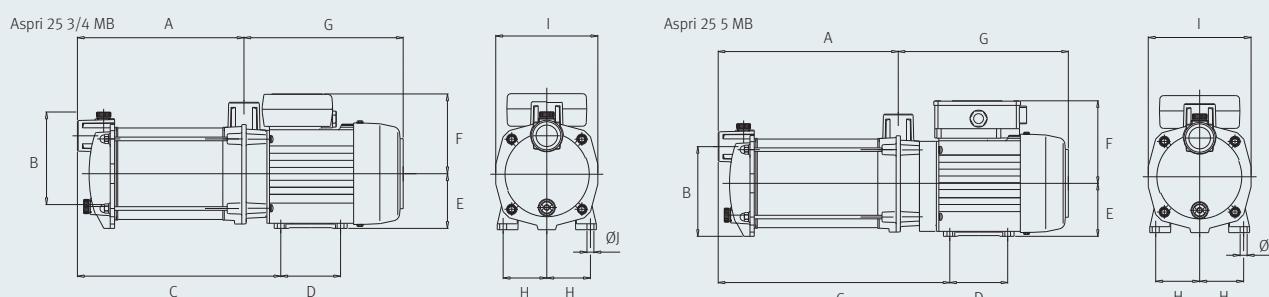
#### Aspri 15 MB

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Aspri 15 3 MB	187	237	202	110	74	162	121	102	1"	1"	9.2
Aspri 15 4 MB	211	261	202	110	74	162	121	102	1"	1"	10
Aspri 15 5 MB	235	285	202	110	74	162	121	102	1"	1"	11



#### Aspri 25 MB

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Aspri 25 3 MB	255	127	328	82	75	109.5	240.5	59	138	8	13.5
Aspri 25 4 MB	228.5	127	279	82	75	109.5	218	59	138	8	14.6
Aspri 25 5 MB	202	127	252.5	82	75	109.5	218	59	138	8	19/17.3

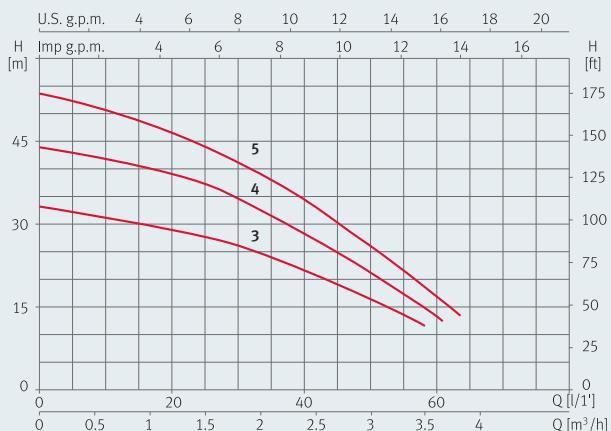


# Aspri 15/25 MB Surface Horizontal

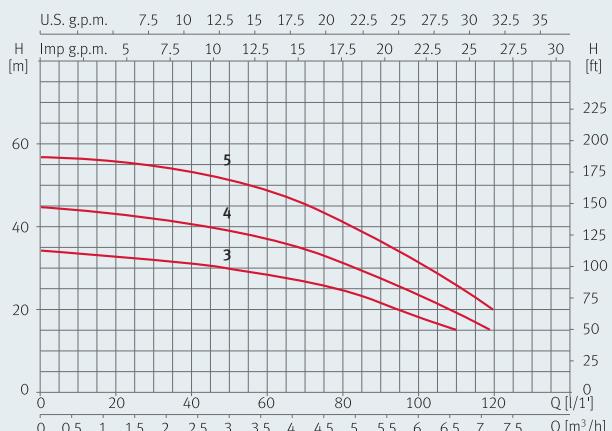


## Performance curves at 2900 rpm

Aspri 15 MB



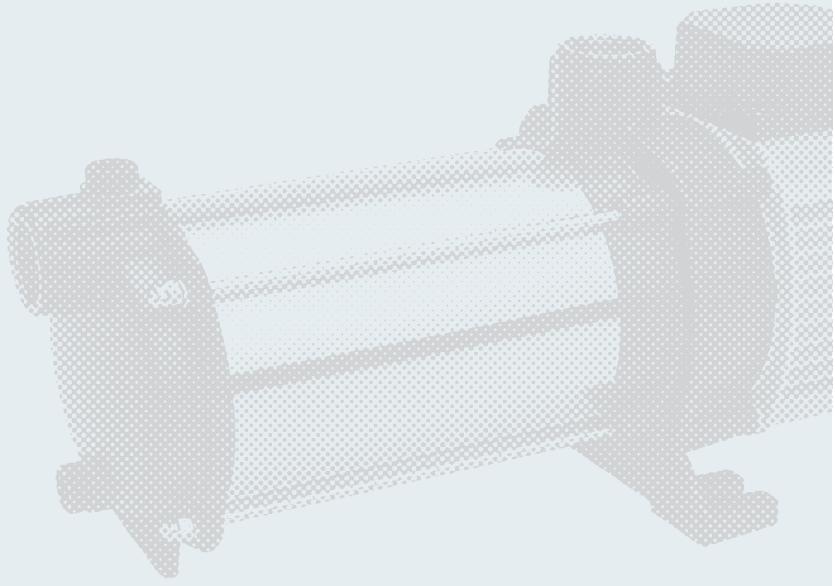
Aspri 25 MB



## Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [μF]	l/min	5	10	20	30	35	40	50	60
	1~ 230 V	230 V	3~ 400 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			0.3	0.6	1.2	1.8	2.1	2.4	3.0	3.6
Aspri 15 3 MB	2.74	2.1	1.21	0.61	0.61	0.37	0.5	12	<b>MVC</b>	33	32	30	26	24	22	17		
Aspri 15 4 MB	3.53	2.3	1.3	0.7	0.7	0.55	0.75	12		44	43	39	35	32	27	21.5		
Aspri 15 5 MB	4.13	3.3	1.9	0.95	0.95	0.75	1.0	12		53	51	47	42	38	34	25	17	

Model	I [A]				P1 [kW]		P2		c [μF]	l/min	15	30	45	60	75	90	105	120
	1~ 230 V	230 V	3~ 400 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2
Aspri 25 3 MB	5.5	3.5	2	1.2	1	0.75	1	16	<b>MVC</b>	33	32	30.5	28	26	22	17		
Aspri 25 4 MB	6.8	4.3	2.5	1.5	1.4	0.92	1.25	16		43	42	40	37	33	28	22	14.5	
Aspri 25 5 MB	7.4	5.2	3	1.7	1.7	1.1	1.5	25		56	55	52.5	48	43	37	29	20	



# Aspri 35N/45N Surface Horizontal



## Quiet-running multi-stage centrifugal pumps

### Applications

To work with clean water in domestic and industrial applications, irrigation, and hydropneumatic sets.

### Materials

Pump body and impellers in stainless steel AISI 304.  
 Diffusers in technopolymer.  
 Suction and discharge mountings in cast iron.  
 Mechanical seal in graphite and alumine.  
 Built-in self priming valve, not very sensitive to the impurities.  
 O-rings in EPDM and NBR.

### Aspri 35N:

Motor shaft in stainless steel AISI 420 and steel F-114.  
 Motor housing in aluminium.  
**Aspri 45N:**

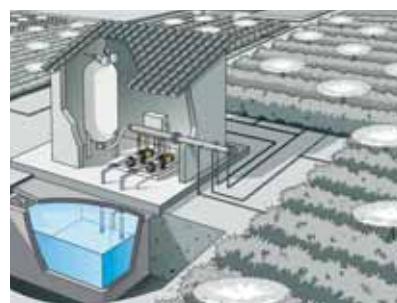
Motor shaft in stainless steel AISI 420.  
 Motor housing in aluminium L-2521.

### Motor

Asynchronous, two poles.  
 IP 44 protection.  
 Class F insulation.  
 Continuous operation.

### Limitations

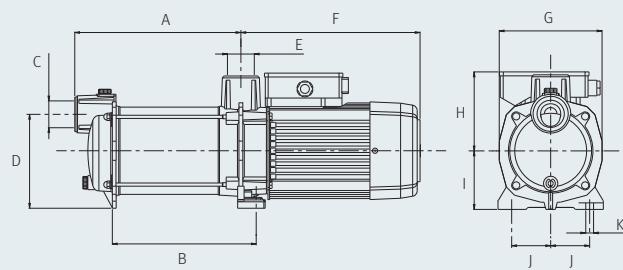
Maximum suction lift: 9 m.  
 Maximum temperature of liquid: 40 °C.



### Dimensions and weights

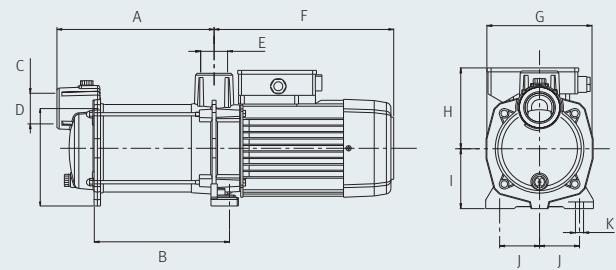
#### Aspri 35N

Model	A	B	C	D	E	F	G	H	I	J	K	[Kg]
Aspri 35 3	221.1	187.3	1 <sup>1/4"</sup>	147	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	18.5/18.2
Aspri 35 4	246.6	211.8	1 <sup>1/4"</sup>	147	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	20.5/18.6
Aspri 35 5	271.1	236.3	1 <sup>1/4"</sup>	147	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	23.5/20.6
Aspri 35 6	295.6	260.8	1 <sup>1/4"</sup>	147	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	23.7



#### Aspri 45N

Model	A	B	C	D	E	F	G	H	I	J	K	[Kg]
Aspri 45 3	245.9	211.6	1 <sup>1/2"</sup>	152	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	22.6/18.6
Aspri 45 4	276.6	242.3	1 <sup>1/2"</sup>	152	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	23.7/21.2
Aspri 45 5	307.3	273	1 <sup>1/2"</sup>	152	1 <sup>1/4"</sup>	281.5	158	125.3	90	60	12	25.3

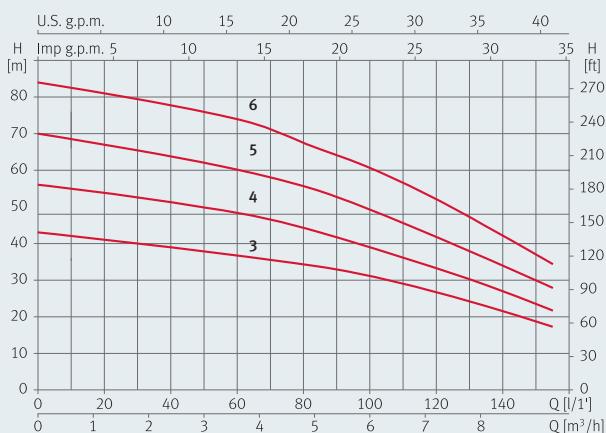


# Aspri 35N/45N Surface Horizontal

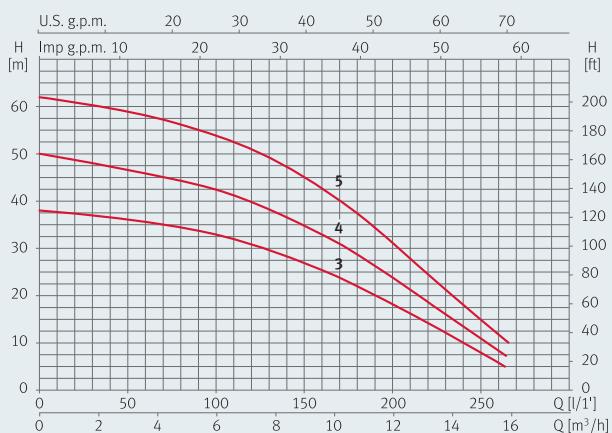


## Performance curves at 2900 rpm

Aspri 35N



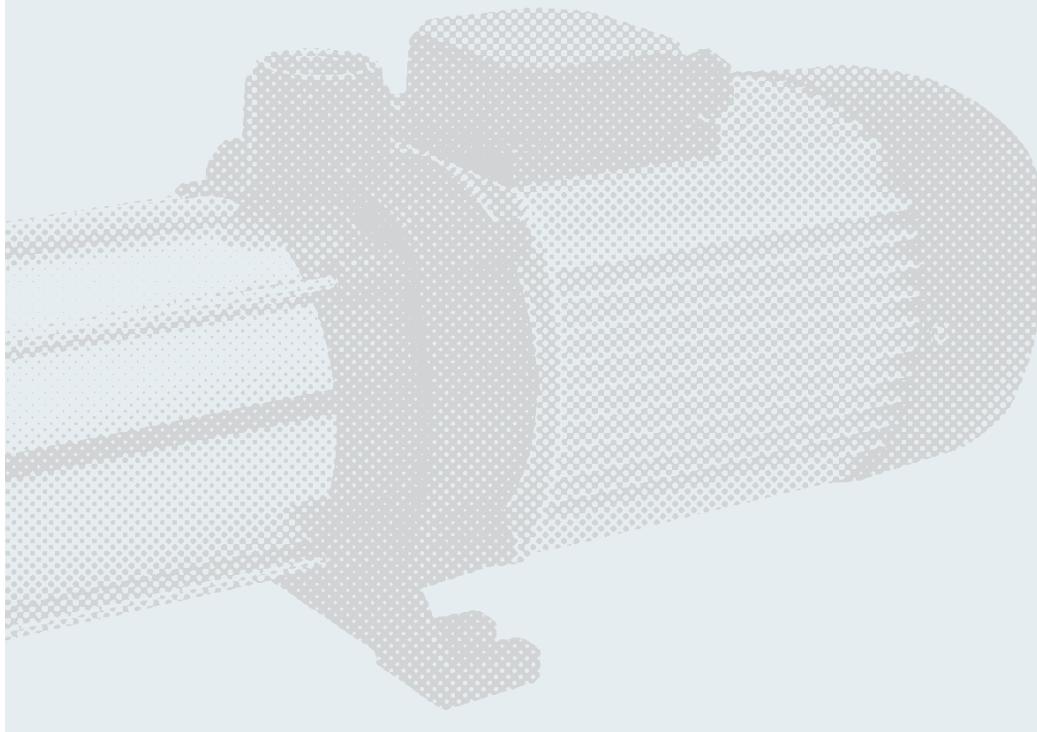
Aspri 45N



## Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [μF]	l/min	20	40	60	80	100	120	140	150										
	1~ 230 V		3~ 230 V 400 V		1~ 230 V		3~ 400 V																					
	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]																				
Aspri 35 3 N	6.7	4.5	2.6	1.5	1.4	0.8	1	25			41	39	36	34	31	27	22	18										
Aspri 35 4 N	8.4	5.3	3.1	1.8	1.8	1.1	1.5	25	mwc		54	51	48	44	39	33	27	23										
Aspri 35 5 N	10.2	6.9	4	2.3	2.2	1.5	2	30			68	64	60	55	49	41	34	30										
Aspri 35 6 N		8.3	4.8		2.7	2.2	3				81	78	74	67	60	52	42	37										

Model	I [A]				P1 [kW]		P2		c [μF]	l/min	25	50	75	100	125	150	200	250		
	1~ 230 V		3~ 230 V 400 V		1~ 230 V		3~ 400 V													
	[A]	[A]	[A]	[A]	[A]	[A]	[A]	[A]			1.5	3.0	4.5	6.0	7.5	9.0	12	15		
Aspri 45 3 N	7.9	5.2	3	1.8	1.7	1.1	1.5	25			37	36	35	33	30	27	18	8		
Aspri 45 4 N	10	6.9	4	2.2	2.2	1.5	2	30	mwc		48	47	45	42	39	36	24	11		
Aspri 45 5 N		8.6	5		2.8	2	3				61	59	56	54	50	45	31	15		



# Tecno/Tecnoself Surface Horizontal



## Quiet-running horizontal multi-stage centrifugal pumps

### Applications

To work with clean water in domestic applications, irrigation, and pressure sets.

### Materials

Pump body and impellers in stainless steel AISI 304.  
Diffusers in technopolymer.  
Mechanical seal in graphite and steatite.

### Tecno 05:

O-rings in EPDM and NBR.  
Pump base, motor flange and motor housing in aluminium.

### Tecno/Tecnoself 15/25:

Motor shaft in stainless steel AISI 431.  
Motor housing in aluminium.  
Gaskets in EPDM/NBR.

### Limitations

Maximum temperature of liquid: 40 °C.  
**Tecnoself 15/25:** Self-priming valve resistant to impurities and up to 9 m.

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

**Tecno 05:** Built-in thermal protection.

**Tecno/Tecnoself 15:** Single-phase version built-in thermal protection.

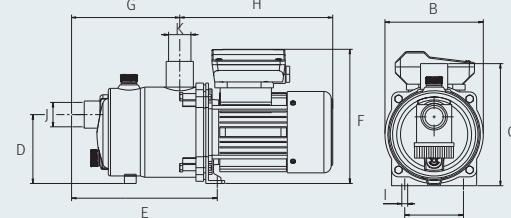
**Tecno 25:** Single-phase version up to 1.25 HP built-in thermal protection.



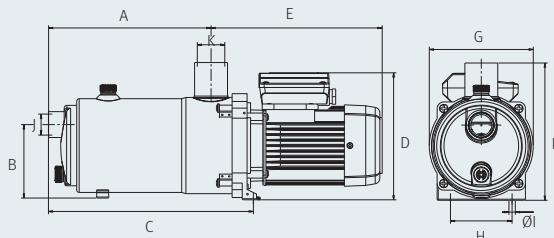
### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	[kg]
Tecno 05 2	80	136	157.5	94	176.3	174	123.8	225	9	1"	1"	5.2
Tecno 05 3	80	136	157.5	94	194.2	174	141.7	225	9	1"	1"	6.2
Tecno 05 4	80	136	157.5	94	211.5	174	159	225	9	1"	1"	6.3
Tecno 15 3	197.4	107.5	258	181.5	232.5	196.3	148.5	88	9	1"	1"	7.2
Tecno 15 4	220.7	107.5	281.3	181.5	232.5	196.3	148.5	88	9	1"	1"	9.5
Tecno 15 5	244	107.5	304.6	181.5	232.5	196.3	148.5	88	9	1"	1"	11
Tecno 25 3	210	107.5	271.5	267	190.5	148.5	196.3	88	9	1"	1"	7.2
Tecno 25 4	236.6	107.5	298.1	267	190.5	148.5	196.3	88	9	1"	1"	9.5
Tecno 25 5	263.2	107.5	324.7	288.5	190.5	148.5	196.3	88	9	1"	1"	11
Tecnoself 15 3	197.4	107.5	258	181.5	232.5	196.3	148.5	88	9	1"	1"	7.2
Tecnoself 15 4	220.7	107.5	281.3	181.5	232.5	196.3	148.5	88	9	1"	1"	9.5
Tecnoself 15 5	244	107.5	304.6	181.5	232.5	196.3	148.5	88	9	1"	1"	11
Tecnoself 25 3	210	107.5	271.5	267	190.5	148.5	196.3	88	9	1"	1"	7.2
Tecnoself 25 4	236.6	107.5	298.1	267	190.5	148.5	196.3	88	9	1"	1"	9.5
Tecnoself 25 5	263.2	107.5	324.7	288.5	190.5	148.5	196.3	88	9	1"	1"	11

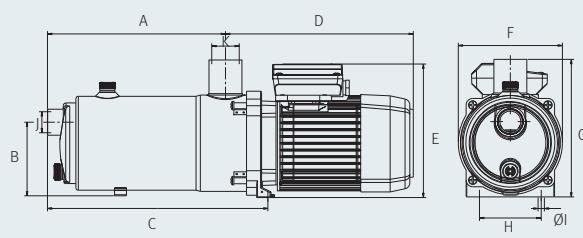
Tecno 05



Tecno 15 / Tecnoself 15



Tecno 25 / Tecnoself 25

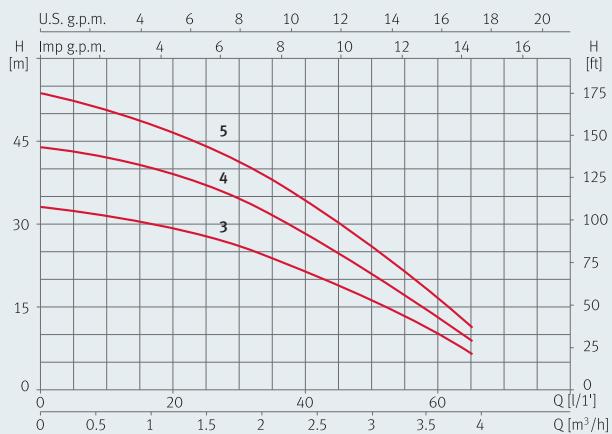


## Performance curves at 2900 rpm

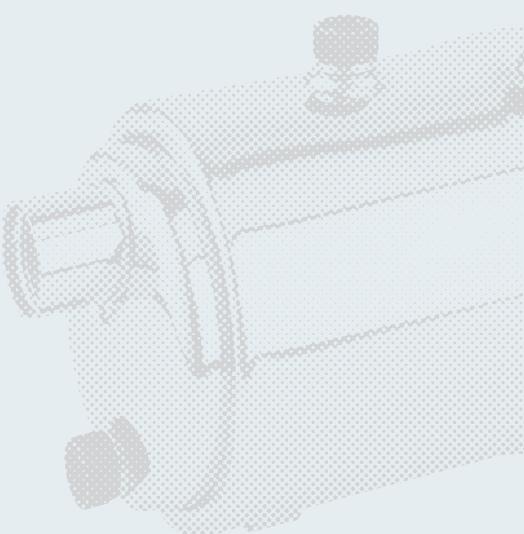
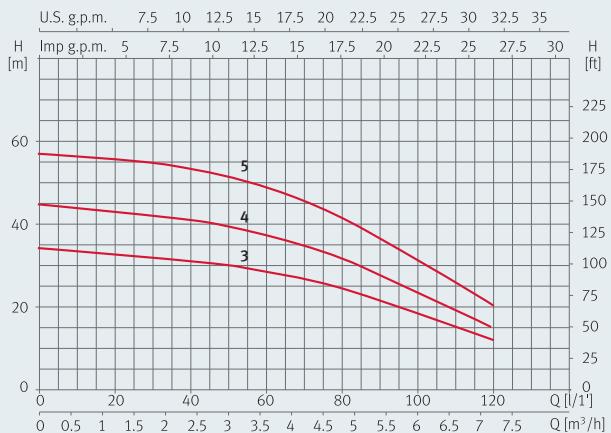
Tecno 05



Tecno 15 / Tecnoself 15



Tecno 25 / Tecnoself 25



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [µF]	I/min	5	10	15	20	25	30	35	37.5
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.3	0.6	0.9	1.2	1.5	1.8	2.1
Tecno 05 2	1.2	0.25	0.11	0.15	6	mwc	17.7	16.7	14.9	12.7	10.2	7.4	3	1
Tecno 05 3	1.6	0.35	0.19	0.25	6	mwc	27.5	26	23.2	20.1	17.2	12.5	7.4	4
Tecno 05 4	2	0.45	0.19	0.25	6	mwc	36	33.5	30	26.5	21.5	16	10	7

Model	I [A]		P1 [kW]		P2		c [µF]	I/min	10	20	30	35	40	50	60	65	
	1~ 230 V	3~ 230 V	1~ 400 V	3~ 400 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.1	2.4	3.0	3.6	3.9
Tecno / Tecnoself 15 3	2.74	2.1	1.21	0.61	0.61	0.37	0.5	12	mwc	32	30	26	24	22	17	10.5	7
Tecno / Tecnoself 15 4	3.53	2.3	1.3	0.79	0.7	0.55	0.75	12	mwc	43	39	35	32	27	21.5	14	9
Tecno / Tecnoself 15 5	4.13	3.3	1.9	0.95	0.94	0.75	1.0	12	mwc	51	47	42	38	34	25	17	12

Model	I [A]		P1 [kW]		P2		c [µF]	I/min	15	30	45	60	75	90	105	120		
	1~ 230 V	3~ 230 V	1~ 400 V	3~ 400 V	[kW]	[HP]			m³/h	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	
Tecno / Tecnoself 25 3	5.5				1.2	1	0.75	1	16	mwc	33	32	30.5	28	26	22	17	12
Tecno / Tecnoself 25 4	6.8	4.3	2.5	1.5	1.4	0.92	1.25	16	mwc	43	42	40	37	33	28	22	15	
Tecno / Tecnoself 25 5	8.2	5.2	3	1.8	1.7	1.1	1.5	25	mwc	56	55	52.5	48	43	37	29	20	

## Completely stainless steel horizontal multi-stage pumps

### Applications

Clean water domestic applications, water transfer, pressure boosting, irrigation and many other applications.

### Limitations

Maximum temperature of liquid: -10°C to +110°C.  
Maximum operating pressure: 8 bar.

### Materials

Pump body, suction and discharge ports, impellers, diffusers and motor shaft in stainless steel AISI 316L.  
Mechanical Seal in ceramic/carbon/EPDM.

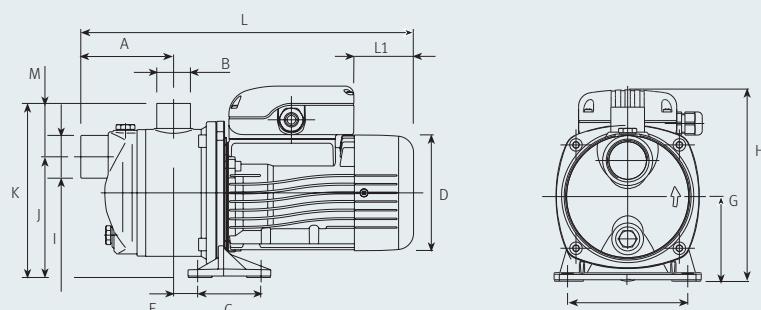
### Motor

Class F insulation.  
IP 55 Protection.  
Continuous operation.  
Single-phase with built-in thermal protection.



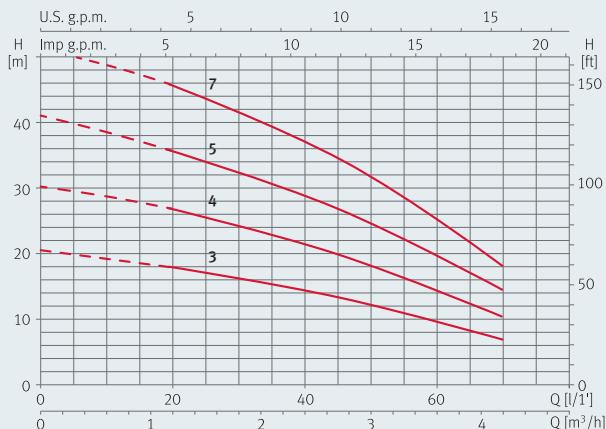
### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	L1	M	[kg]
XHM2 3	96	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	345	62	55.5	7
XHM2 4	121	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	370	62	55.5	8.1
XHM2 5	146	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	395	62	55.5	8.9
XHM2 7	171	Rp 1	66	140	25	125	88	209	Rp 1 1/4	125.5	181	434	76	55.5	11.7
XHM4 3	96	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	345	62	55.5	8.7
XHM4 4	121	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	370	62	55.5	8.5
XHM4 5	146	Rp 1	66	140	25	125	88	218	Rp 1 1/4	125.5	181	409	31	55.5	11.3
XHM4 7	171	Rp 1	66	140	25	125	88	218	Rp 1 1/4	125.5	181	434	31	55.5	12.4
XHM2 3T	96	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	345	62	55.5	7.1
XHM2 4T	121	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	370	62	55.5	7.9
XHM2 5T	146	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	395	62	55.5	8.9
XHM2 7T	171	Rp 1	66	140	25	125	88	209	Rp 1 1/4	125.5	181	434	76	55.5	11.7
XHM4 3T	96	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	345	62	55.5	7.6
XHM4 4T	121	Rp 1	66	120	25	125	88	199	Rp 1 1/4	125.5	181	370	62	55.5	8.4
XHM4 5T	146	Rp 1	66	140	25	125	88	209	Rp 1 1/4	125.5	181	409	76	55.5	11.7
XHM4 7T	171	Rp 1	66	140	25	125	88	209	Rp 1 1/4	125.5	181	434	76	55.5	12.2

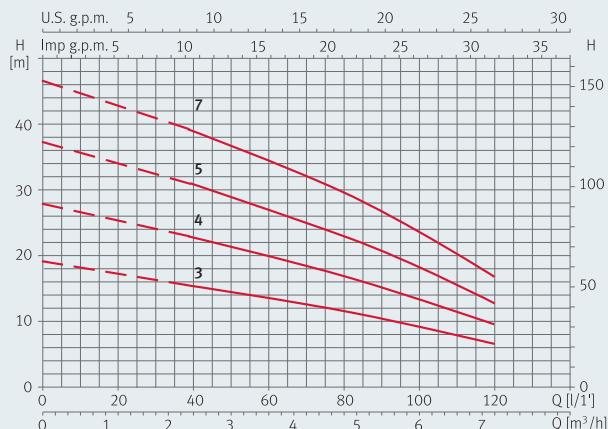


## Performance curves at 2900 rpm

XHM2



XHM4



## Hydraulic performance table

Model	I [A]			P2		c [μF]	l/min m³/h	20	30	40	50	60	70	80	100	120	
	1~ 230 V	3~ 230 V	3~ 400 V	[kW]	[HP]			1.2	1.8	2.4	3.0	3.6	4.2	4.8	6	7.2	
XHM2 3	2.25	1.77	1.02	0.3	0.4	10	NWC	17.8	16.2	14.4	12.3	9.8	6.9				
XHM2 4	2.75	2.51	1.45	0.45	0.6	14		26.7	24.3	21.4	18.1	14.4	10.3				
XHM2 5	3.28	2.79	1.61	0.45	0.6	16		35.6	32.4	28.7	24.6	19.8	14.4				
XHM2 7	4.61	3.53	2.04	0.75	1	20		45.6	41.7	37.1	31.7	25.4	18.2				
XHM4 3	2.35	1.8	1.04	0.3	0.4	10					15.3	14.4	13.5	12.6	11.6	9.3	6.6
XHM4 4	2.99	2.58	1.49	0.45	0.6	14					22.8	21.5	20.1	18.6	17.0	13.5	9.5
XHM4 5	3.54	2.89	1.67	0.55	0.75	16					30.6	28.9	27.0	25.1	23.0	18.2	12.7
XHM4 7	5.08	3.65	2.11	0.75	1	20					38.9	36.8	34.6	32.2	29.6	23.7	16.7

## Accessories

Extra for hard-wearing seal

Extra for FPM Elastomers



# HX/H2X Surface Horizontal



## Single and twin impeller stainless steel centrifugal pumps

HX and H2X pumps are centrifugal pumps with one or two impellers and high-efficiency motors.

### Application

Civil, agricultural and industrial.

#### Version manufactured in AISI 304

Handling of chemically and mechanically non-aggressive water and liquids

(Available in a version with FPM elastomers for moderately aggressive liquids HX.../-V, H2X.../-V. For aggressive liquids, consult our sales network).

Water supply.

Irrigation.

Water circulation (hot, cold, refrigerated).

#### "N" version manufactured in AISI 316

(for aggressive liquids)

Reverse osmosis

(for use with demineralised water).

Industrial cleaning.

Thermal water.

Distribution of chlorine in swimming pools.

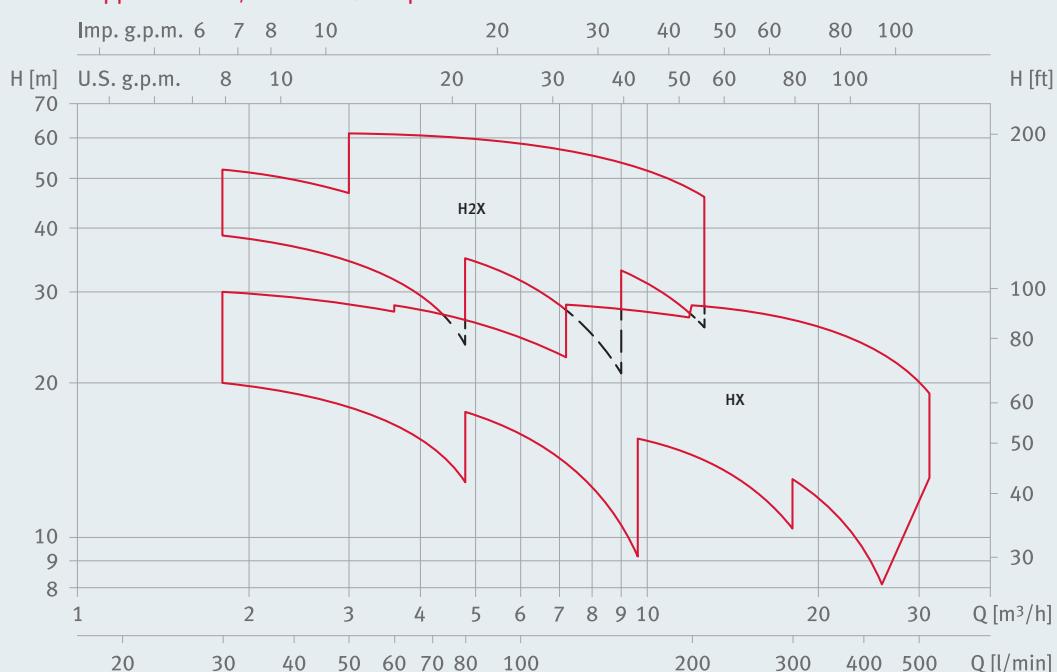
Jewellery sector.

Wine production.

**See our HX/H2X catalogue for further information.**



### Field of application HX/H2X and 2900 rpm



Curves obtained in accordance with ISO9906 appendix A.

# HCO Surface Horizontal



Electrical centrifugal pumps single impeller made entirely of stainless steel

The pump HCO is a centrifugal pump with an open impeller and a threaded connection.

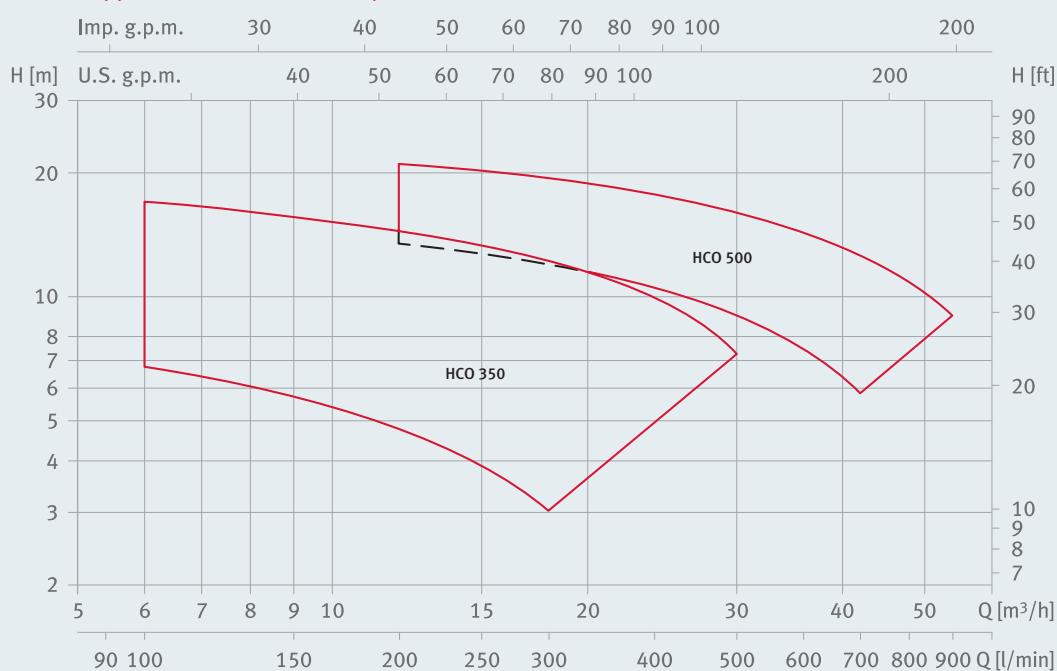
## Application

Civil and industrial  
Cleaning of metal components  
and/or treatment surface.  
Cleaning of products  
in the packaging industry.  
Cleaning of products  
in the food industry.  
Dye factories and textile industry.  
Factories with the circulation  
and transfer of moderate viscosity  
liquids with low levels of chemical  
aggressiveness.  
Industrial washers and dishwashers  
for sale to the public.



**See our HCO catalogue for further information.**

## Field of application HCO and 2900 rpm



Curves obtained in accordance with ISO9906 appendix A.

## Peripheral pump

### Applications

Peripheral positive displacement pumps with frontal pumps for small household systems and simple industrial applications; characterised by a considerable ratio between performance and required output.

### Motor

Class F insulation.  
IP 44 protection.  
Continuous operation.  
Single-phase with built-in thermal protection.

### Materials

Pump body in bronze.  
Impeller in brass.  
Motor shaft in stainless steel AISI 416.  
Mechanical seal in graphite and ceramic.

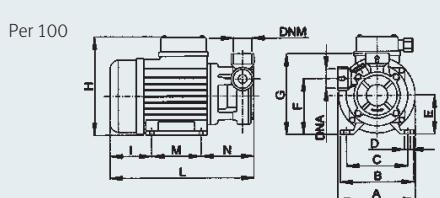
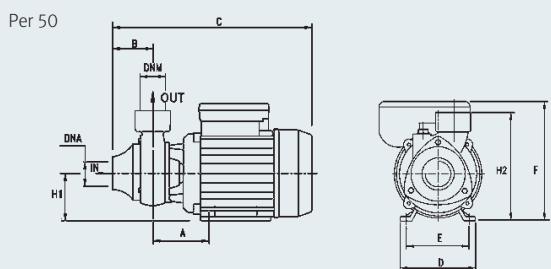
### Limitations

Maximum temperature of liquid: 60 °C.

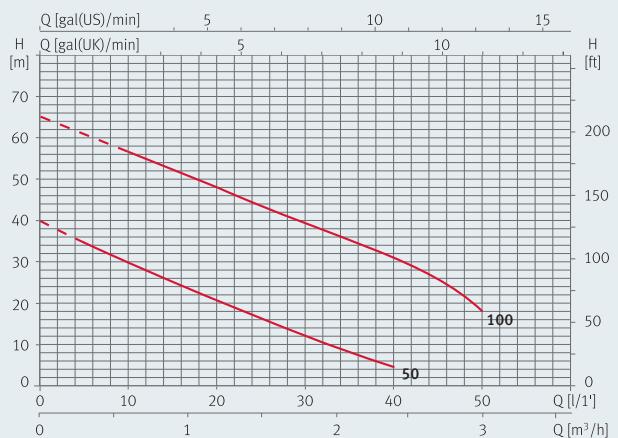


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	L	M	N	DNA	DNM	[kg]
Per 50	67	20	265	125	125	155	63	143	265	145	165		1"	1"	5.7
Per 100	155	135	112	12	12	107	148	169	75	273	90	108	1"	1"	9.5



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	5	10	20	30	40
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.3	0.6	1.2	1.8
Per 50	2.1	0.49	0.37	0.5	12	35	30	21	13	5	
Per 100	3.8	1.8	1.0	1.5	18	50	44	32	21	10	

## Self priming jet pump

### Applications

To supply clean water in domestic applications, irrigation, hydropneumatic pressure sets, and for all applications requiring a self-priming pump.

### Motor

Class F insulation.  
IP 44 Protection.  
Continuous operation.  
Single-phase with built-in thermal protection.



### Materials

Pump Body and pump motor support in cast iron.  
Impeller in brass or Noryl (glass loaded polymer).  
Diffuser and Venturi system Noryl reinforced with fiberglass.  
Motor shaft in stainless steel AISI 416.  
Mechanical seal in graphite and ceramic

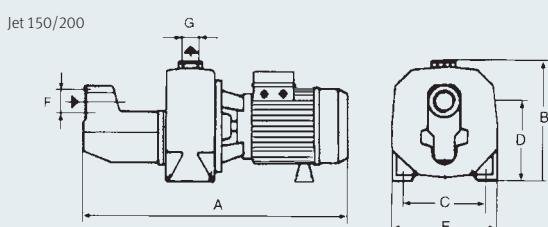
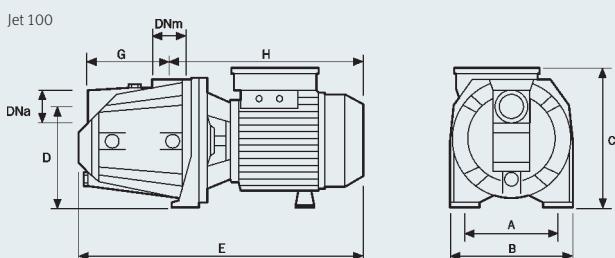
### Limitations

Maximum suction lift: 9 m.  
Maximum temperature of liquid: 40 °C.

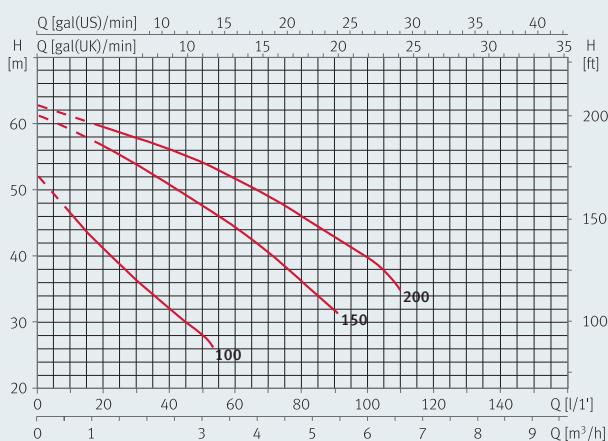


### Dimensions and weights

Model	A	B	C	D	E	G	H	DNA	DNM	[kg]
Jet 100	140	180	200	152	415	122	278	1"	1"	16
Jet 150/200	560	250	177	162	220	-	-	1 1/2"	1"	28



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [μF]	l/min	10	20	40	50	60	75	85	125
	1~ 230 V	230 V	3~ 400 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
Jet 100	5.3	3.8	2.2	1.1	1.1	0.75	1	18	mwc	45	39	29	26	23				
Jet 150	8.8	5.7	3.3	1.74	1.67	1.1	1.5	31.5		58	54	50	45	43	5			
Jet 200	11.8	7.2	4.2	2.31	2.25	1.5	2.0	35		62	58	56	54	49	46	10		

# Delta Surface Horizontal



Self-priming centrifugal pumps with Venturi system up to 9 m

## Applications

To work with clean water.  
Irrigation and hydropneumatic sets.

## Motor

Asynchronous, two poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.  
Single-phase version with built-in thermal protection.  
Provided with removable handle for transport.

## Limitations

Maximum suction lift: 9 m.  
Maximum temperature of liquid: 40 °C.

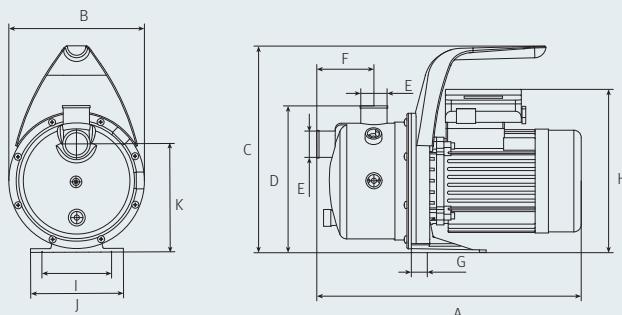
## Materials

Pump body in stainless steel AISI 304.  
Motor shaft in stainless steel AISI 420.  
Diffusers in glass loaded Noryl®.  
Mechanical seal in graphite and steatite.  
Motor housing in aluminium L-2521.  
Windings impregnated with epoxy resin.  
**Delta 505/755/1005:**  
Impeller in glass loaded Noryl®.  
**Delta 1755:**  
Impeller in stainless steel AISI 304.

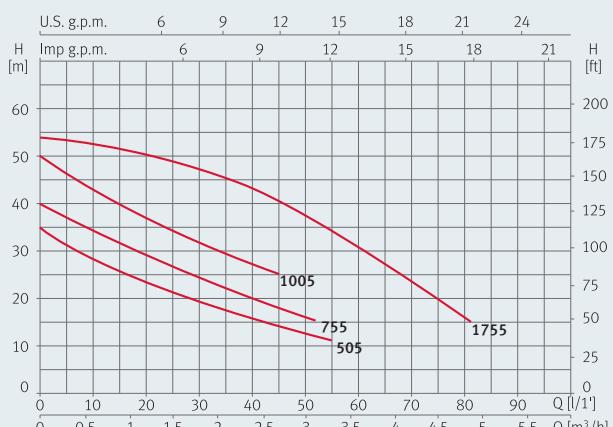


## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	[kg]
Delta 505	336	184	280	200	1"	78	22	215	94	126	147	6.8
Delta 755	336	184	280	200	1"	78	22	215	94	126	147	7.3
Delta 1005	359	184	280	200	1"	78	22	225	94	126	147	9.6
Delta 1755	410	184	280	200	1"	125	22	225	94	126	147	12.1



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c [μF]	I/min	5	15	25	35	40	50	60	75
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
Delta 505	2.8	2.2	1.2	0.6	0.6	0.37	0.5	12	mwc	33	26	22	18	17	13		
Delta 755	3.4	2.6	1.3	0.8	0.8	0.5	0.75	12		37	32	27	23	21	17		
Delta 1005	4.8	3.3	1.9	1.0	1.0	0.75	1.0	16		47	40	34	29	27			
Delta 1755	5.5	3.8	2.1	1.2	1.2	0.75	1.0	16		57	55	51	47	44	38	32	21

# Multi Surface Vertical



Quiet-running vertical multi-stage centrifugal pumps, supplied with flanges

## Applications

Spray irrigation systems,  
hydropneumatic sets  
and industrial installations.

## Materials

Pump body and impellers in stainless steel AISI 304.  
Diffusers in technopolymer.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium L-2521.  
Flanges, suction and discharge mountings in cast iron.  
Motor shaft in stainless steel AISI 420.  
**Multi35N 8 and 10 / Multi55N 6 and 7:** in stainless steel AISI 303.

## Limitations

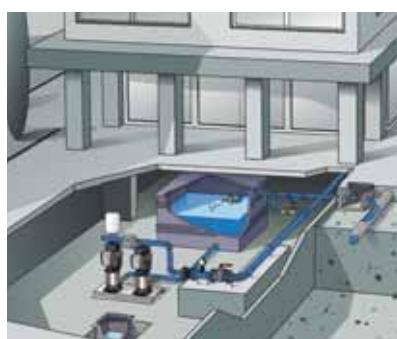
Maximum temperature of liquid: 40 °C

## Equipment

Supplied with oval counter flanges DIN 2558.

## Motor

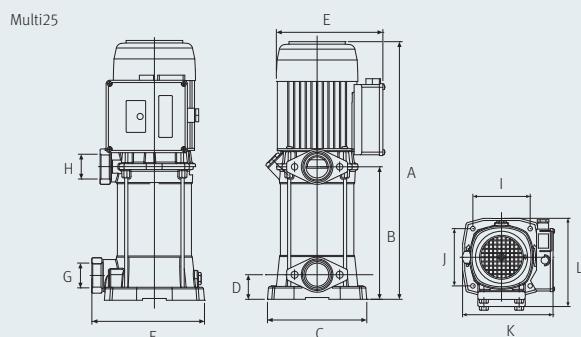
Asynchronous, two poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.  
**Multi25:** Single-phase version up to 1.5 HP built-in thermal protection.  
**Multi35N:** Single-phase version up to 1 HP built-in thermal protection.



## Dimensions and weights

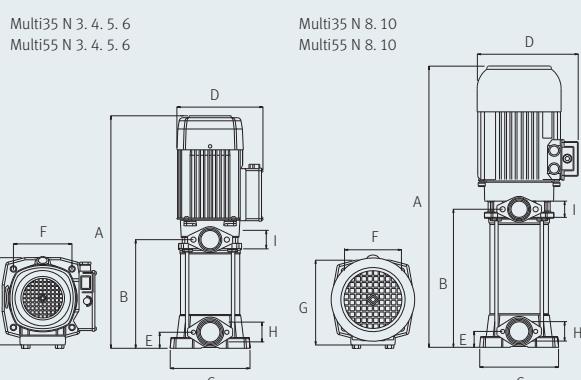
### Multi25

Model	A	B	C	D	E	F	G	H	I	J	K	L	[Kg]
Multi25 3	398	194	170	42	182	191	1 1/4"	1 1/4"	125	197	193	125	16.2
Multi25 4	422	205	170	42	182	191	1 1/4"	1 1/4"	125	197	193	125	17.3
Multi25 5	441	226	170	42	182	191	1 1/4"	1 1/4"	125	197	193	125	17.9



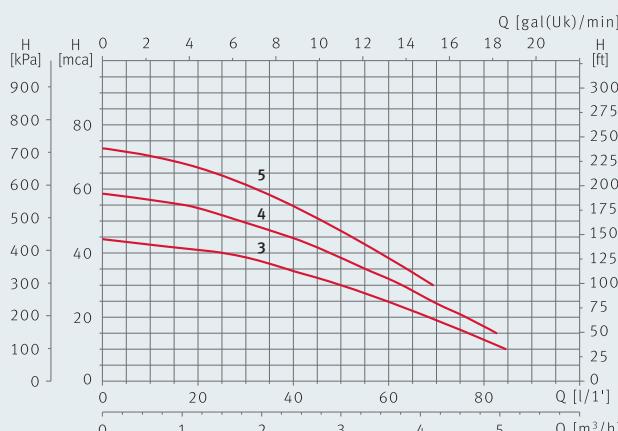
### Multi35 N / Multi55 N

Model	A	B	C	D	E	F	G	H	I	[Kg]
Multi35 3 N	487	201.5	184	203	37	133	201	1 1/2"	1 1/4"	20.2/20
Multi35 4 N	511.5	226	184	203	37	133	201	1 1/2"	1 1/4"	22.4/20.4
Multi35 5 N	536	250.5	184	203	37	133	201	1 1/2"	1 1/4"	25.1/22.7
Multi35 6 N	561	275	184	203	37	133	201	1 1/2"	1 1/4"	25.7
Multi35 8 N	657.5	323	184	233	37	133	201	1 1/2"	1 1/4"	32.6
Multi35 10 N	707.5	373	184	233	37	133	201	1 1/2"	1 1/4"	39.4
Multi55 3 N	531	245	184	203	37	133	201	1 1/2"	1 1/4"	25.7/23.3
Multi55 4 N	571	285	184	203	37	133	201	1 1/2"	1 1/4"	26.6
Multi55 6 N	696	362	184	203	37	133	201	1 1/2"	1 1/4"	35.4
Multi55 7 N	736	402	184	203	37	133	201	1 1/2"	1 1/4"	39.7

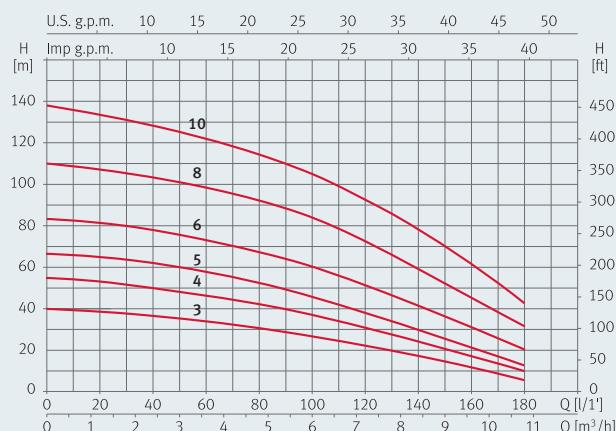


## Performance curves at 2900 rpm

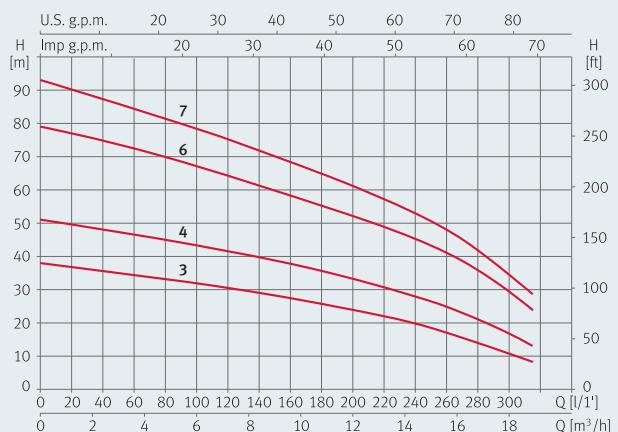
Multi25



Multi35 N



Multi55 N



## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c [μF]	l/min	8	17	25	33	42	58	75	92
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	0.5	1.0	1.5	2.0	2.5	3.5	4.5
Multi25 3	4.5	3.2	1.9	1.0	0.9	0.55	0.75	16	mwc	38.2	38	35.7	33.5	31	25	17	7.2
Multi25 4	5.8	3.9	2.3	1.2	1.1	0.75	1	16		52.7	51	48.2	45.8	42	33	22	9
Multi25 5	6.4	4.2	2.5	1.4	1.3	0.9	1.25	16		66.5	54	61.2	57.5	52.5	41	27	12

Model	I [A]			P1 [kW]		P2		c [μF]	l/min	17	33	50	75	100	125	150	175
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	1.0	2.0	3.0	4.5	6.0	7.5	9.0
Multi35 3 N	6.7	4.5	2.6	1.5	1.4	0.75	1	25	mwc	39	37.5	35.5	31.5	27	21	15	7
Multi35 4 N	8.4	5.3	3.1	1.8	1.8	1.1	1.5	25		54	51	48	44	37	29.5	21	11.8
Multi35 5 N	10.2	6.9	4	2.3	2.2	1.5	2	30		65.4	63.5	60	54.5	46	36	26.2	15
Multi35 6 N		8.3	4.8		2.7	2	3			82	79.5	76	69	61	49	36.7	23
Multi35 8 N		11.9	6.5		3.6	3	4			108	105	101	93	85	70	53	35
Multi35 10 N		15.4	8.9		4.9	4	5.5			134	130	125	117	105	90	70	47

Model	I [A]			P1 [kW]		P2		c [μF]	l/min	20	50	75	100	150	200	250	300
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	1.2	3.0	4.5	6.0	9.0	12	15
Multi55 3 N	9.6	6.6	3.8	2.1	2.1	1.5	2	30	mwc	37	35	33	31	28	24	18	10
Multi55 4 N		8.3	4.8		2.8	2	3			50	47	45	43	39	33	26	16
Multi55 6 N		12.1	7		4.2	3	4			77	73	70	66	60	52	43	29
Multi55 7 N		15.6	9		4.9	4	5.5			90	86	82	78	70	60	50	35

# Press-Line VE Surface Vertical



Quiet-running vertical IN-LINE multi-stage centrifugal pumps

## Applications

Spray irrigation systems  
and hydropneumatic sets.

## Materials

Pump shaft, impellers, pump body  
and protection grid in stainless steel  
AISI 304.

Suction body, discharge body  
and motor-pump coupling in cast iron.  
Diffusers in technopolymer.

Motor housing in aluminium.

**Press-Line VE94:** Rods F 212 Zn.

Pump motor coupling system V18.

**Press-Line VE121:** Pump motor  
coupling system V1.

## Motor

Asynchronous, two poles.

IP 54 protection.

Class F insulation.

Continuous operation.

## Limitations

Maximum temperature of liquid: 40 °C.

## Equipment

Supplied with counter flanges  
and gaskets.

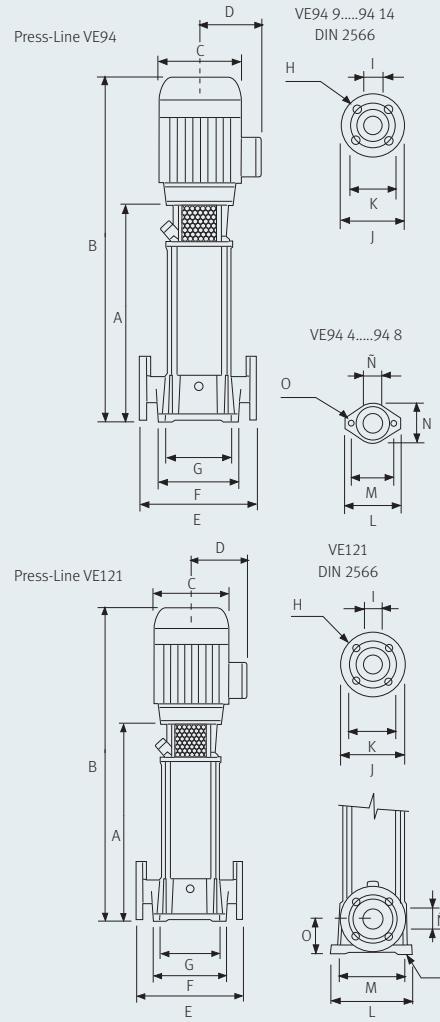


## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	[Kg]B	[Kg]A
VE94 4	412	647	156	122	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	31	17
VE94 5	450	700	176	127	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	34	20
VE94 6	486	738	176	127	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	35	21
VE94 7	525	800	176	127	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	37	22
VE94 8	563	838	176	127	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	38	23
VE94 9	629	937	194	138	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	50	29.4
VE94 10	666	974	194	138	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	51	30.4
VE94 11	703	1010	194	138	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	52	31.4
VE94 12	742	1048	194	138	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	56	32.3
VE94 13	780	1086	194	138	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	57	33.3
VE94 14	816	1134	220	146	280	190	155	Ø18	1½"	150	110	130	100	95	1½"	Ø14	66	36

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Ñ	O	[Kg]B	[Kg]A
VE121 2	470	776	195	140	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	58.4	37.8
VE121 3	522	847	195	140	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	64.9	39.2
VE121 4	574	943	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	81.7	42.6
VE121 5	626	995	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	83.4	44.3
VE121 6	678	1085	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	85.5	45.8
VE121 7	730	1137	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	94.2	47.3
VE121 8	782	1189	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	95.8	48.9
VE121 9	834	1241	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	102.7	50.4
VE121 10	886	1293	220	182	300	210	130	Ø18	2"	165	125	250	215	R.15	50	90	104.2	51.9

**KgA:** Hydraulic. **KgB:** Hydraulic + motor

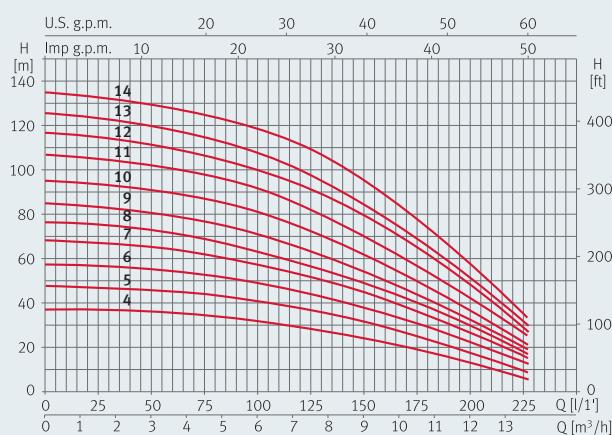


# Press-Line VE Surface Vertical

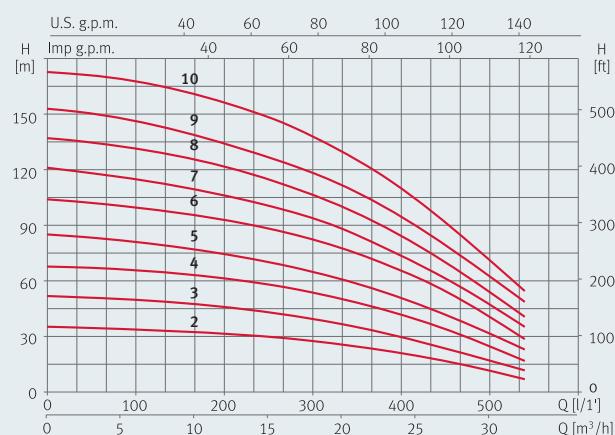


## Performance curves at 2900 rpm

Press-Line VE94



Press-Line VE121



## Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [μF]	I/min	25	50	100	125	150	175	200	225			
	1~ 230 V		3~ 400 V		1~ 230 V		3~ 400 V			[kW]	[HP]	m³/h	1.5	3.0	6.0	7.5	9.0	10.5	12	13.5	
VE94 4	7	5	2.8		1.5	1.6	1.1	1.5	35			37	36	34	29	24	19	13	6		
VE94 5	8.6	6	3.5		2	2	1.5	2	40			47	46	41	37	32	25	18	9		
VE94 6	11	6.7	3.9		2.4	2.3	1.5	2	40			56	55	49	44	38	31	22	13		
VE94 7		7.7	4.5			2.7	2.2	3				67	65	57	52	45	36	27	16		
VE94 8		8.9	5.2			3	2.2	3				75	73	63	56	49	40	30	18		
VE94 9		11	6.5			3.6	3	4				83	81	71	63	54	43	32	20		
VE94 10		11.7	6.8			3.9	3	4				93	91	81	72	62	50	36	22		
VE94 11		12.4	7.2			4.4	3	4				105	102	91	82	70	56	42	26		
VE94 12		14.3	8.3	4.8		4.8	4	5.5				115	111	100	91	79	64	48	29		
VE94 13		14.8	8.6	5		5	4	5.5				123	120	107	97	85	68	51	32		
VE94 14		16.3	9.4	5.4		5.5	5.5	7.5				132	129	118	109	95	77	57	35		

VE94 7 - 11 single-phase versions available on request.

Model	I [A]				P1 [kW]		P2		c [μF]	I/min	50	100	150	200	250	300	400	500
	1~ 230 V		3~ 400 V		3~ 400 V		[kW]	[HP]		m³/h	300	6.0	9.0	12	15	18	24	30
VE121 2	10.4	6			3.4	3	4				35	33	32	31	30	28	20	10
VE121 3	14.3	8.3	4.8		4.8	4	5.5				51	50	49	47	45	41	30	18
VE121 4	19	11	6.3	6.5	5.5	7.5					67	65	62	60	57	52	40	22
VE121 5	23.5	13.6	7.8	8.2	5.5	7.5					82	80	76	74	70	65	50	30
VE121 6	27.3	15.8	9.1	9.7	7.5	10					103	100	98	92	86	80	65	40
VE121 7	32	18.5	10.7	11.3	9.2	12.5					119	116	112	109	102	95	75	48
VE121 8	40	23.1	13.3	13.8	11	15					137	135	130	126	120	110	88	55
VE121 9	40.5	23.5	13.5	14.3	15	20					150	149	145	140	130	122	100	63
VE121 10	41.5	24	13.9	15	15	20					170	169	164	160	150	140	112	72

## Vertical multistage electric pumps XVM series

### Specifications

The XVM pump is a vertical, multistage pump made of stainless steel, coupled to a normalised standard motor.

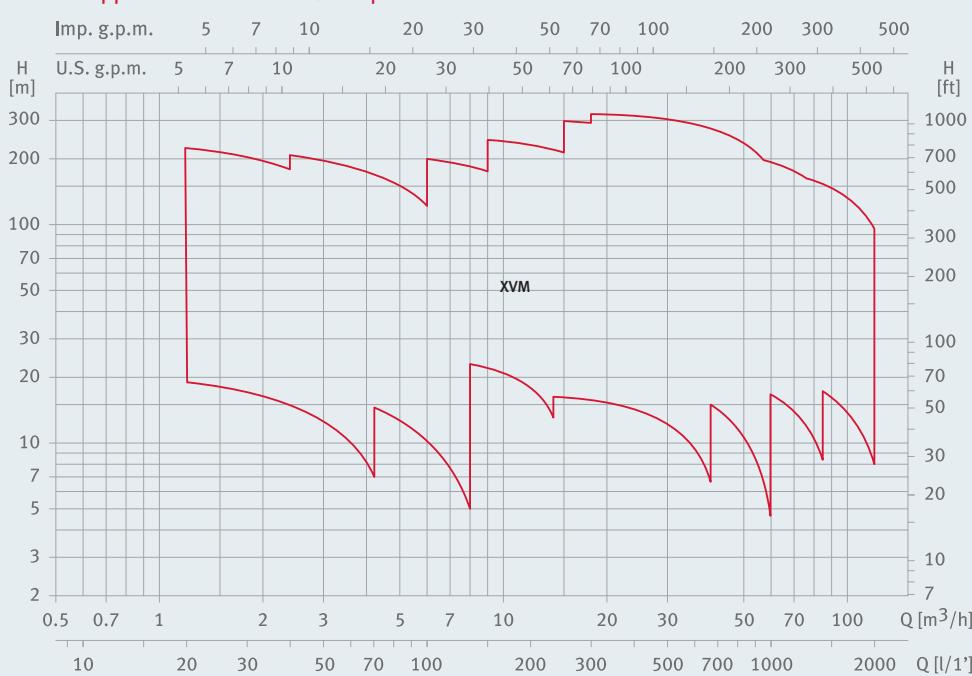
### Application

Civil, agricultural, light industry, water treatment, heating and air conditioning. Handling of water, free of suspended solids, in the civil, industrial and agricultural sectors. Pressure boosting and water supply systems. Irrigation systems. Wash systems. Water treatment plants. Handling of moderately aggressive liquids, demineralized water, water and glycol, etc. Circulation of hot and cold water for heating, cooling and conditioning systems. Boiler feed.

**See our XVM catalogue for further information.**



### Field of application XVM and 2900 rpm



Curves obtained in accordance with ISO9906 appendix A.

## Centrifugal electropumps manufactured to standard EN733 FN series

### Specifications

The **FN** pump is a monoblock centrifugal pump with standardised dimensions in accordance with the EN 733 standard.

### Technical data

Delivery up to 650 m<sup>3</sup>/h, two poles.  
700 m<sup>3</sup>/h, four poles.  
Head over 100 m, two poles.  
60 m, four poles.  
Temperature of pumped liquid: -20 °C to +85 °C for **FN32, 40, 50, 65, 80** standard version.  
-30 °C to +120 °C for **FN100, 125, 150** standard version (**65-315, 80-315** and **80-400** included). Upon request, up to +140 °C for **FN100, 125, 150**.  
Maximum operating pressure: 12 bar (PN 12) up to **FN80**. PN 16 flanges for **FN100, 125, 150**. Maximum pressure in pump casing 12 bar for temperatures up to 120 °C, 10 bar for temperatures ranging from 120 °C to 140 °C.  
Wear rings made of AISI 316 L stainless on impeller front and rear wear plates up to **FN80** (**65-315, 80-315** and **80-400** excluded).  
Mechanical seal according to EN12756 (ex DIN 24960).

**See our FN catalogue for further information.**

Mechanical seal lubricated by internal recirculation of pumped liquid to seal housing for **FN32, 40, 50, 65, 80** (**65-315, 80-315** and **80-400** excluded).

Mechanical seal locking pin slot for **FN32, 40, 50, 65, 80** (**65-315, 80-315** and **80-400** excluded).

Counter-clockwise rotation when looking at pump from the suction port side.  
Impeller: made of AISI 316 L stainless steel, laser technology welded for sizes **32, 40, 50, 65-125**, cast iron for sizes **65-160, 65-200, 65-250, 65-315, 80, 100, 125, 150**.

Bronze impeller available on request (for models normally equipped with cast iron impeller).

### Electrical and motor specifications

Squirrel cage in short circuit, aluminium casing, enclosed construction with external ventilation.

The surface motors have efficiency values that fall within the range normally referred to as efficiency class 2.

IP 55 protection.

Class F insulation.

Performances according to EN 60034-1. Continuous duty.

Maximum ambient temperature +40 °C.

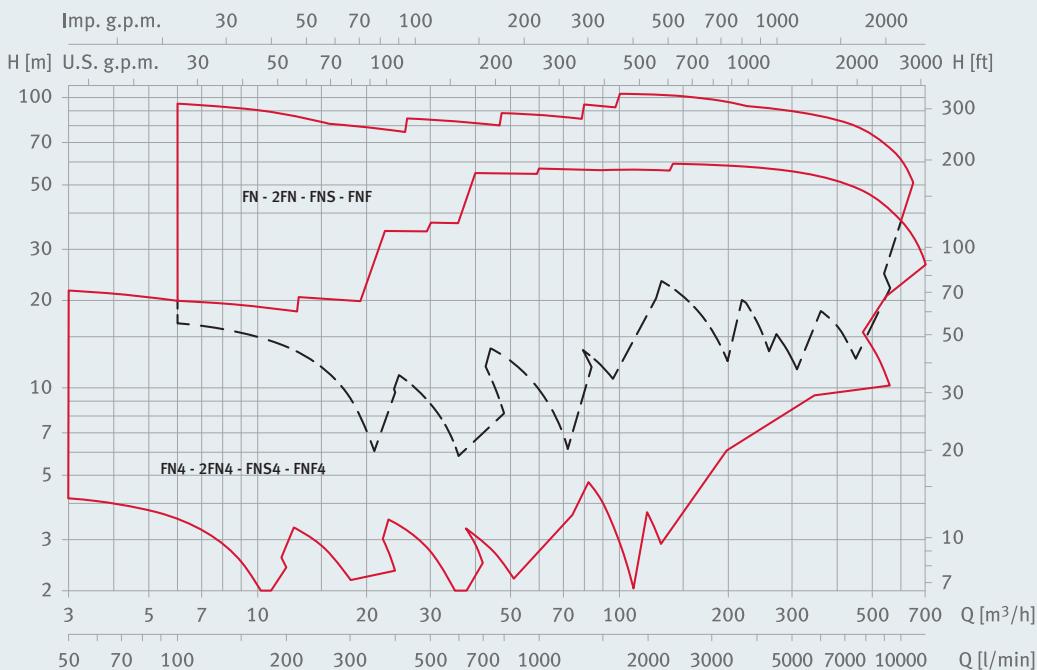
Standard voltage:

Single-phase version: 220-240 V, 50 Hz.

Three-phase version: 230/400 V, 50 Hz for powers up to 4 kW; 400/690 V, 50 Hz for powers above 4 kW.



### Field of application FN and 2900 rpm



See our FN pump catalogue for further information

## Monobloc centrifugal electropumps based on the EN733 standard, series XN

### Specifications

The **XN** pump is a monobloc centrifugal pump made of AISI 316 stainless steel based on the EN 733 standard.

### Application

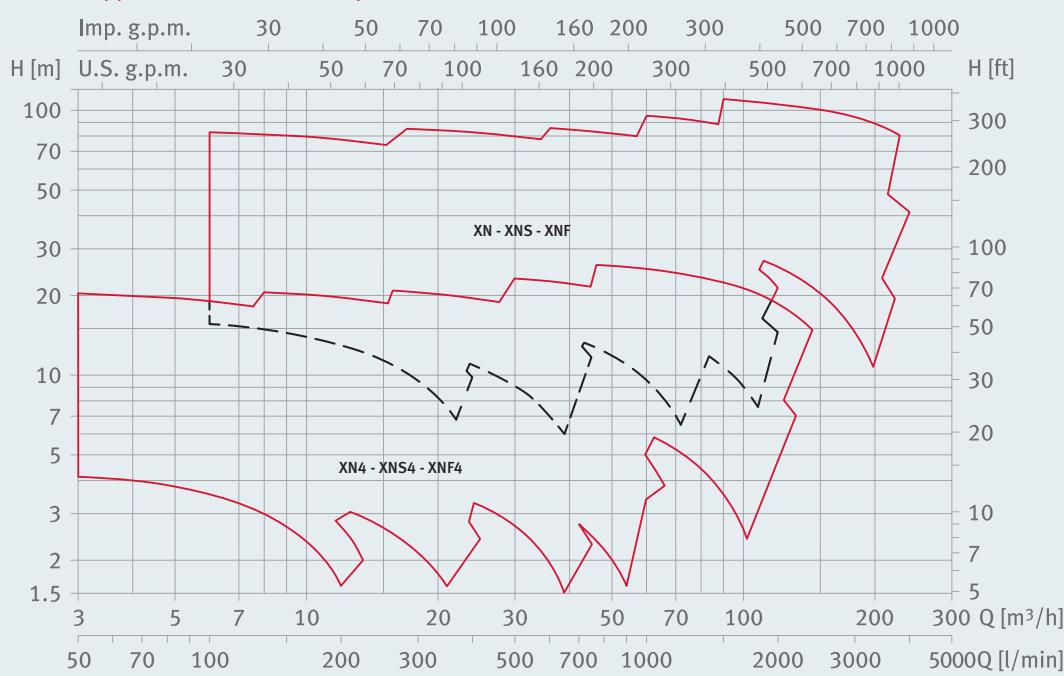
The **XN** series pumps are used for water and clean liquid circulation in heating, ventilating and air conditioning systems, and for pressure boosting in industrial applications.

Piping of water and clean liquids that are not chemically aggressive. Water circulation in air conditioning facilities. Industry.

**See our XN catalogue for further information.**



### Field of application XN and 2900 rpm



Curves obtained in accordance with ISO9906 appendix A.

## Engine pumps

### Applications

To be used in areas where there is no electrical supply.  
Irrigation, water supply from a well, water tanks, swimming pools, boosting and water drainage.

### Materials

Pump body and impellers in aluminium.  
Mechanical seal integrated.  
Motor shaft in stainless steel AISI 420.  
Ignition system manual.  
Carburettor floating type.

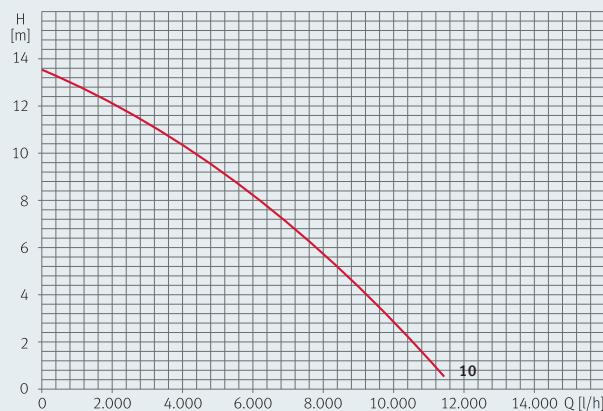
### Limitations

Clean water. Self-priming up to 7 m.

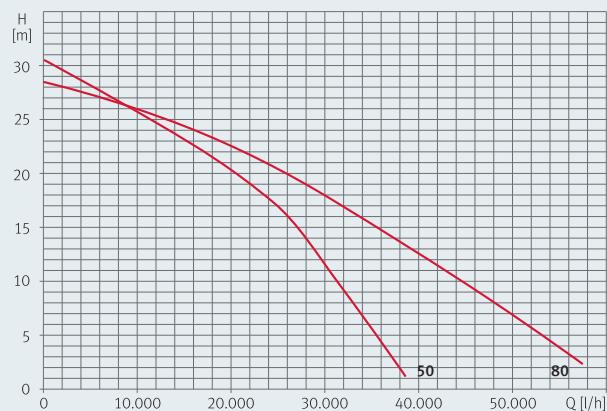


### Performance curves at 2900 rpm

Premier 10



Premier 50/80



Model	Max. Head	Max. Flow	Suction discharge	Suction lift	Body material	Power	Capacity	Fuel	Fuel tank capacity	Oil tank capacity	Package dimensions [mm]	[Kg]
Premier 100 GP 10	21 m	200 l/m	40 mm	4 m	Aluminium	2.5 HP	97.7 cc	Unleaded	1.3 l	0.3 l	340 x 290 x 370	15
Premier 30000/2 GP 50	23 m	520 l/m	50 mm	7 m	Aluminium	5.5 HP	163 cc	Unleaded	3.6 l	0.6 l	550 x 430 x 390	24
Premier 50000/3 GP 80	20 m	860 l/m	80 mm	7 m	Aluminium	5.5 HP	163 cc	Unleaded	3.6 l	0.6 l	550 x 430 x 470	29

## Improved quality in water supply: constant pressure

The most efficient system for adjusting a pump's hydraulic performance to the pressure and flow requirements of supplying water is through the use of **variable-speed** technology. In the case of supplying water to a building that requires a constant pressure regardless of the water flow requested, with a variable-speed system, in addition to improved efficiency, a high-quality, oscillation-free service is obtained, guaranteeing greater durability of the equipment and the installation. The ESD unit receives a proportional signal from a pressure transducer fitted on the discharge pipeline. The ESD processes this signal and regulates the motor speed in order to keep the pressure constant at the established level, regardless of the variations in flow demand. With this pump set the pump's operation can be adapted to the different flow demands, constantly setting the consumption that is strictly necessary for the demand at any given moment. The energy consumption will be proportional to the water consumption. In comparison to the same system running at a fixed speed, this translates directly into energy savings.

### Operating modes

The ESD has a backlit display and a 5-button keypad for displaying the user parameters. The installer can easily regulate and modify the basic operational parameters through the same interface. It also includes a reset option to recover the default factory parameters.

### Adjustable operating parameters

**Language:** options ES, EN, DE, IT, FR.

**Operation:** AUTOMATIC – MANUAL.

**Set pressure:** set point.

**Differential pressure:** hysteresis or difference in the set pressure that marks the start-up of the pump.

**Maximum motor intensity:** to regulate motor protection.

**Pump sleep frequency:** sleep frequency; this can be set manually or automatically.



ESD has a system for automatically calculating the pump's sleep frequency on the basis of the specific characteristics of each installation and the set pressure point.

### Parameters displayed

Set pressure.

Differential pressure.

Maximum motor intensity

Stoppage frequency.

Pump stop temporisation.

Module temperature.

Alarm display: power surge, short-circuit, power failure and module temperature.

Operational register: number of start-ups, hours in operation and hours online.

Access to advanced parameter settings, the deletion of the operational register and of the alarm history is password protected.



### Pump stop temporisation

**Nominal motor frequency:** 50 Hz/60 Hz.

**Motor rotation reversal:**

**ON-OFF auxiliary pump:** auxiliary pump in fixed-speed DOL operation.

Auxiliary pump in variable speed mode by ESD at variable speed.

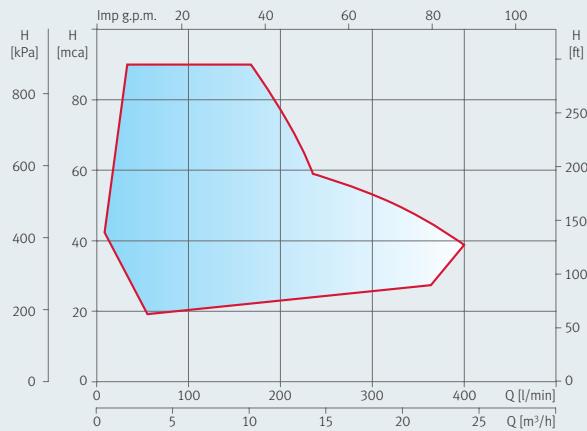
### Configuration in auxiliary pumps

**Activation frequency:** activation frequency of auxiliary pumps.

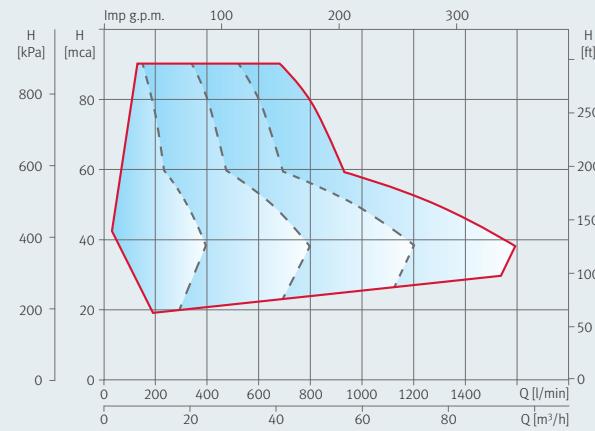
Auxiliary pump activation **temporisation**.

Auxiliary pump **maximum intensity**.

### Performance area with one pump

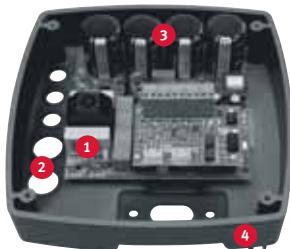


### Performance area with sets of 4 pumps in parallel



## Electronic circuit

Speedrive M2



Speedrive T3



- 1 EMC filter
- 2 Input/output for cables
- 3 Power circuit
- 4 Aluminium radiator body

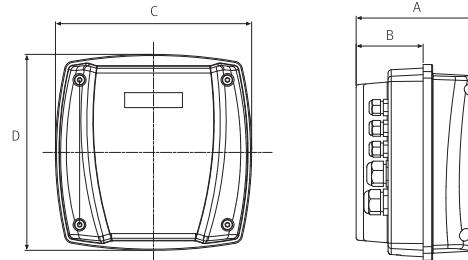
## Pressure transducer



Device for digital pressure reading

## Dimensions and weights

Model	A	B	C	D	[Kg]
Speedrive M2	128	71	207	207	2,2
Speedrive T3	142	85	207	207	2,5



## Technical specifications - 50/60 Hz

Description	Single-phase		Three-phase	
	M2	T3		
Configuration	Built into the junction box		Built into the junction box	
Power	230 V, single-phase		400 V, three-phase	
Motor voltage	230 V, three-phase		400 V, three-phase	
Maximum intensity	7 A		9 A	
Cooling	Air-cooled		Air-cooled	
Constant pressure	Yes		Yes	
Constant flow	Programmable		Programmable	
Second duty point	Programmable		Programmable	
Dry running protection	Yes		Yes	
Pressure transducer	External, 4-20 mA		External, 4-20 mA	
Additional digital input	1		1	
Additional analogical input	1		1	
Level switch terminal	Yes		Yes	
PTC	Optional		Optional	
External communication port	RS 485		RS 485	
Screen	Backlit		Backlit	
Auxiliary relay	1 for external alarm		No	
Minimum working frequency	Adjustable		Adjustable	
Acceleration ramp	1 fixed		1 fixed	
Deceleration ramp	1 fixed		1 fixed	
Stop temporisation	Yes		Yes	
Maximum No. of pumps	Up to 4		Up to 4	
Maximum No. of slave pumps (fixed speed)	Up to 3		Up to 3	

For ESPA pump model's only XVM, Aspri, Multi, etc.

# Speedrive



## Configuration

The ESPA Speeddrive (ESD) variable-frequency driver has been designed to be integrated with the following **ESPA** pumps: **MULTI-ESD**, **PRISMA-ESD** and **XVM-ESD**. With this electronic unit (employing advanced VFD technology) the pump and driver set extends the hydraulic range for each model, guaranteeing efficient service at each point in the performance area, beyond working at one point on a curve.

The **ESD module can be adapted to the three-phase** motors of these **ESPA** pumps, **even in existing installations**, thus improving the service quality and extending the unit's performance range. What is more, the large accumulation tank, needed for fixed speed operation, can be replaced by a small expansion vessel. The variable-speed system **does away with fluctuations in the water flow**.



XVM ESD

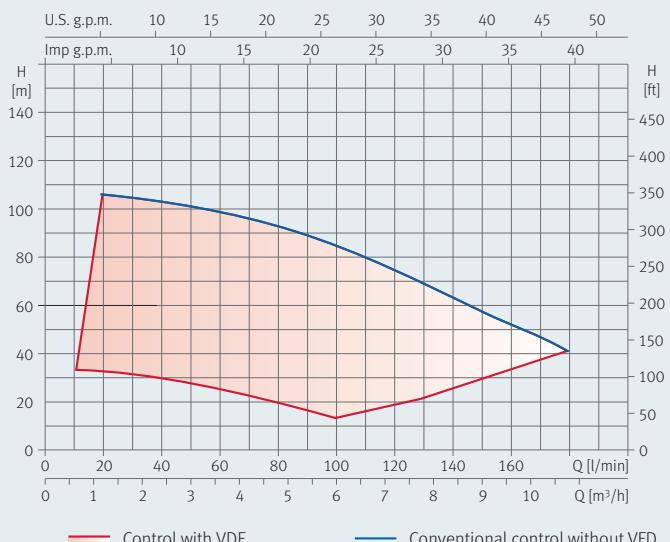


MULTI ESD



ASPRI/PRISMA ESD

### Control comparison with and without VFD



## Booster sets with ESD control

The ESD modules can control the operation of pressure booster sets up to 4 pumps.  
The ESD modules can control the operation of pressure into two different manners:

### 1. Units with one single ESD module:

**CKED 2 pumps:** variable-speed main pump + fixed-speed DOL auxiliary pump.

**CKED 3 pumps:** variable-speed main pump + 2 fixed-speed randomly alternating DOL auxiliary pumps.

**CKED 4 pumps:** variable-speed main pump + 3 fixed-speed randomly alternating DOL auxiliary pumps.

### 2. Units with multiple ESD modules (up to 4):

**CKE2: 2 pumps:** variable-speed main pump+variable-speed auxiliary pump, both operating in cyclical duty changeover.

**CKE3: 3 pumps:** variable-speed main pump + 2 variable-speed auxiliary pumps, all 3 operating in cyclical duty changeover.

**CKE4: 4 pumps:** variable-speed main pump + 3 variable-speed auxiliary pumps, all 4 operating in cyclical duty changeover.



CKED MULTI



1 single ESD regulating the service pump and operating up to 3 auxiliary pumps in DOL start-up. Configuration of the master pump operating at variable speeds and 3 auxiliary pumps with in cascade operation start-up for greater flow demands. Random alternation in the start-up of the auxiliary pumps.



CKE4 MULTI



A pump set of up to 4 pumps controlled by 4 ESDs. Configuration of service pumps and back-up pumps, all regulated. Random alternation between the 4 pumps at each system start-up. Once the auxiliary pumps come into operation, all the regulated pumps operate in synchronisation at the same frequency. This operational mode enhances the effectiveness of the pump set and cuts down on the start-up and shutdown cycle for pumps.



CKE2 XVM

Model ESD	Input		Output		Dimensions		Weight
	Power source voltage [V]	Max. motor current [A]	Motor voltage [V]	[mm]	[mm]		
M2	1~230 V AC ± 10 %	7	3~230 V AC	128	71	2,2	
T3	3~400 V AC ± 10 %	9	3~400 V AC	142	85	2,5	

#### Operating conditions:

IP 55 protection.

Maximum ambient temperature: 40 °C.

For M2: 1 free, maximum intensity power contact. 2 A, 1~230 V AC.

Digital input for 4-20 mA transducer with 24-V DC power source.

Auxiliary transducer input.

Digital input for the external level switch, or -free volt- contact to switch the circuit on and off.

Communication between ESD modules RS 485 serial port (up to 4 ESDs).

# Basic/Niper Swimming Pool



## Quiet running single-stage centrifugal pump

### Applications

Recycling of water from small transportable pools.

### Materials

Pump body, seal mounting, impeller and pump foot in technopolymer.

Motor shaft in stainless steel AISI 420.

Mechanical seal in graphite and alumine.

Motor housing in aluminium.

**Niper:** diffuser in technopolymer.

### Equipment

Supplied with suction and discharge unions for 32 and 38 mm.

Ø flexible pipes.

**Niper:** 38 mm, hose tail connections for flexible hoses.



### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

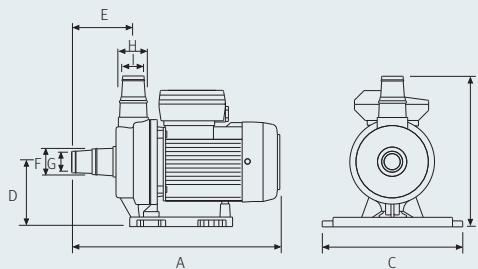
Built-in thermal protection.



### Dimensions and weights

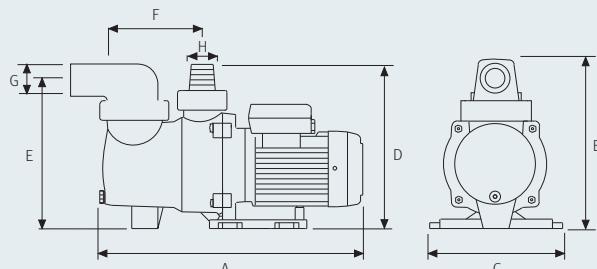
#### Basic

Model	A	B	C	D	E	F	G	H	I	[Kg]
Basic	305	219	204	94	90	38	32	38	32	4.5



#### Niper 1 / Niper 2

Model	A	B	C	D	E	F	G	H	[Kg]
Niper 1 350	405	262	204	250	231	158	40	40	5.1
Niper 2 400	405	262	204	250	231	158	40	40/50	5.1
Niper 2 450	415	262	204	250	231	158	40	40/50	5.8

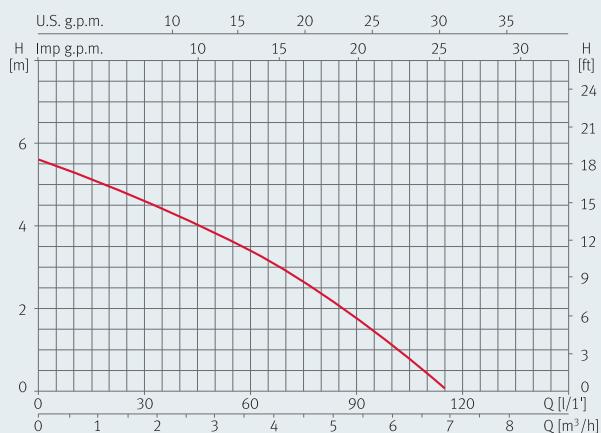


# Basic/Niper Swimming Pool

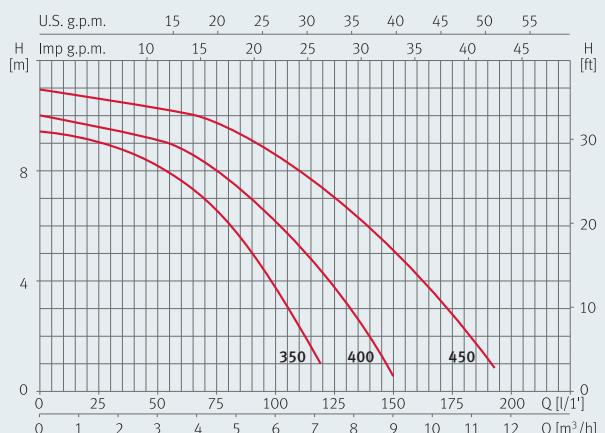


## Performance curves at 2900 rpm

Basic



Niper 1/Niper 2



## Hydraulic performance table

Basic

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	10	25	35	50	60	75	85	100
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.6	1.5	2.1	3.0	3.6	4.5	5.1
Basic	1.0	0.2	0.15	0.20	6	mwc	5.3	4.7	4.3	3.7	3.4	2.7	2.3	1.3

## Niper 1 / Niper 2

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	25	50	75	100	125	150	175	190
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	1.5	3.0	4.5	6.0	7.5	9.0	10.5
Niper 1 350	1.34	0.27	0.18	0.25	6	mwc	9.1	8.2	6.6	3.7				
Niper 2 400	1.53	0.32	0.18	0.25	6		9.6	9.1	8	6.1	3.8	0.6		
Niper 2 450	1.97	0.43	0.25	0.33	12		10.6	10.3	9.8	8.5	6.9	5.1	2.8	1.2

# Iris/Silen Swimming Pool



Quiet-running single-stage centrifugal pump, self-priming, complete with prefilter

## Applications

Recycling and filtering of water from small and medium swimming pools.

## Materials

Pump body, pump foot, impeller, seal mounting and diffuser in technopolymer. Motor shaft in stainless steel AISI 420. Mechanical seal in graphite and alumine. Motor housing in aluminium.

**Silen:** O-rings in NBR.

## Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Single-phase version built-in thermal protection.

## Limitations

Maximum suction lift 4 m.

## Equipment

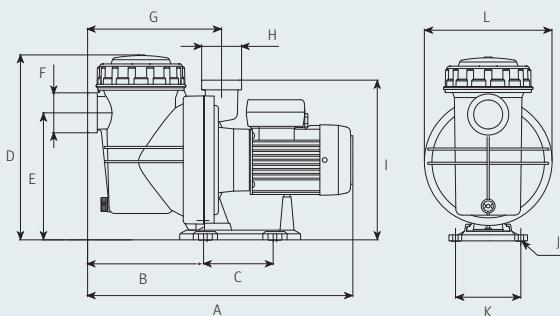
Supplied with suction and discharge unions (metric 50 mm or imperial 1<sup>1/2</sup>").



## Dimensions and weights

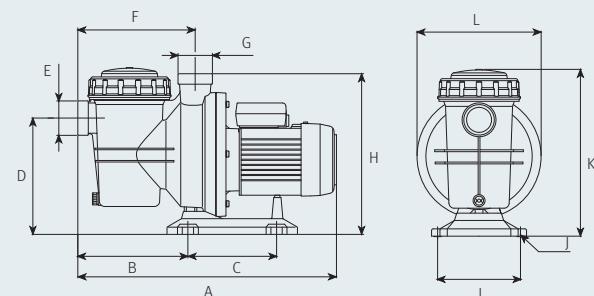
### Iris

Model	A	B	C	D	E	F	G	H	I	J	K	L	[Kg]
Iris 500	438.5	191.5	115	304	210	2 1/4"	221	2 1/4"	264	Ø9	108	Ø212	8.9
Iris 750	438.5	191.5	115	304	210	2 1/4"	221	2 1/4"	264	Ø9	108	Ø212	10.2
Iris 1000	438.5	191.5	115	304	210	2 1/4"	221	2 1/4"	264	Ø9	108	Ø212	10.9



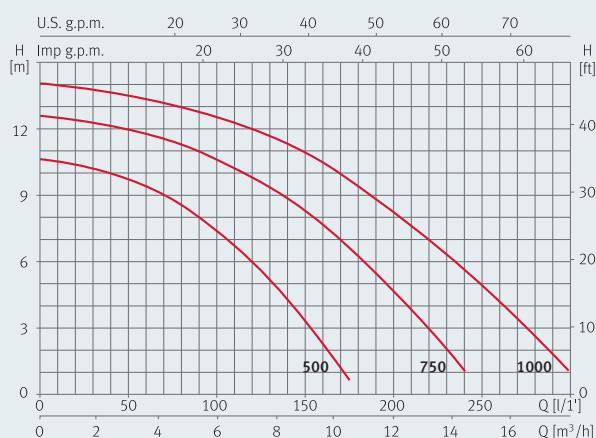
### Silen

Model	A	B	C	D	E	F	G	H	I	J	K	L	[Kg]
Silen 50	495	211	170	225	2 1/4"	225	2 1/4"	308	159	Ø9	319	238	8.9
Silen 75	495	211	170	225	2 1/4"	225	2 1/4"	308	159	Ø9	319	238	10.2
Silen 100	495	211	170	225	2 1/4"	225	2 1/4"	308	159	Ø9	319	238	10.9
Silen 150	495	211	170	225	2 1/4"	225	2 1/4"	308	159	Ø9	319	238	13.5

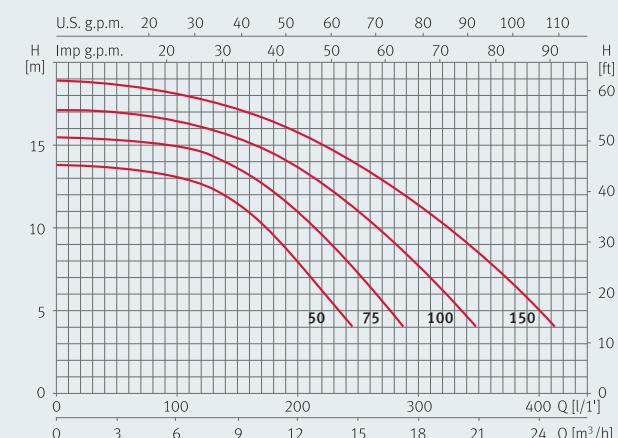


## Performance curves at 2900 rpm

Iris



Silen



## Hydraulic performance table

Iris

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	25	50	75	100	150	200	250	290	
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	1.5	3.0	4.5	6.0	9.0	12	15	17.4
Iris 500	2	0.45	0.25	0.33	12			10.2	9.7	8.6	7.2	3.2			
Iris 750	2.8	0.65	0.37	0.5	12	mwc		12.3	11.9	11.3	10.5	8.1	4.6		
Iris 1000	3.8	0.85	0.75	1	12			13.8	13.3	13	12.5	10.8	8.1	4.8	1.8

Silen

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	40	80	120	160	215	265	325	400	
	1~ 230 V	3~ 230 V	1~ 400 V	3~ 400 V	[kW]	[HP]			m³/h	2.4	4.8	7.2	9.6	12.9	15.9	19.5	24
Silen 50	3.6	2.4	1.4	0.8	0.8	0.44	0.6	16		13.6	13.2	12.6	10.9	6.7			
Silen 75	5.1	3.3	1.9	1.1	1.0	0.55	0.75	16	mwc	15.2	15	12.5	13.1	9.9	6		
Silen 100	5.8	3.8	2.2	1.2	1.2	0.75	1.0	16		16.9	16.5	16	15	12.9	10	5.9	
Silen 150	7.1	4.8	2.8	1.6	1.6	1.1	1.5	25		18.6	18.2	17.7	16.9	15.1	13	10	5.1

## Quiet-running single-stage self-priming, centrifugal pumps, complete with pre-filter

### Applications

Recycling and filtering of large pools.

### Materials

Pump body, pump foot, diffuser, impeller and seal mounting in technopolymer.  
Motor shaft in stainless steel AISI 420.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium.  
O-rings in NBR.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.  
Single-phase version built-in thermal protection.

### Limitations

Maximum suction lift 4 m.

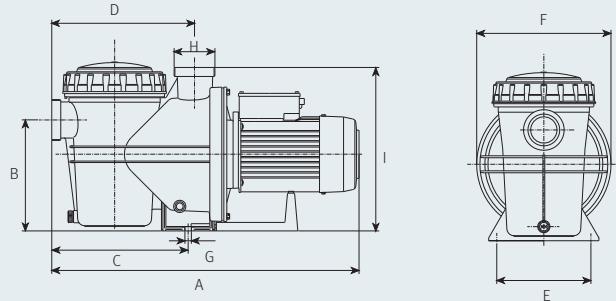
### Equipment

Supplied with suction and discharge unions (metric 63 mm or Imperial 2").

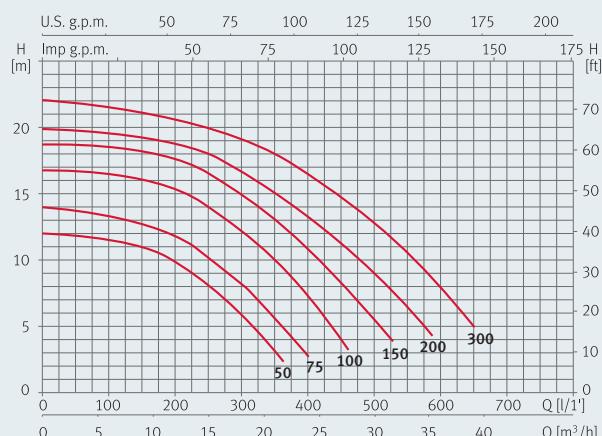


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	[kg]
Silen2 50	623.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	13
Silen2 75	623.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	14
Silen2 100	623.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	15
Silen2 150	623.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	18
Silen2 200	623.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	21
Silen2 300	623.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	23
Silen2 300 M	609.5	222	272	285	188	268	Ø13	2 <sup>3</sup> / <sub>4</sub> "	326.5	23



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [µF]	l/min	100	150	250	350	450	500	550	650
	1~ 230 V	230 V	3~ 400 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
Silen2 50	4.1	3.5	2	0.9	0.9	0.55	0.75	25	mwc	11.5	11	8	3					
Silen2 75	4.5	3.8	2.2	1.0	1.0	0.55	0.75	25		13.2	12.8	10	5.5					
Silen2 100	7	4.8	2.8	1.5	1.6	0.92	1.25	25		16.5	16	14.2	10	4				
Silen2 150	8.5	5.3	3.1	1.9	1.9	1.1	1.5	25		18.5	18.2	16.5	13	8.2	5.5			
Silen2 200	9.7	6.5	3.8	2.2	2.2	1.5	2.0	30		19.5	19.1	18	15	11.1	9	6.3		
Silen2 300	12.5	8.6	5	2.8	2.6	2.2	3.0	60		21.5	21	19.9	18	14.9	12.9	10.3	5	

## Monobloc centrifugal pumps complete with prefilter, for filtering and purifying equipment

### Applications

Recycling and filtering of water from medium and large swimming pools, aquatic attractions and similar places.



### Materials

Pump body and prefilter in cast iron.  
Filter and shaft in stainless steel AISI 316.  
Impeller in stainless steel AISI 316 L (Star 30 65, 40 65, 55 80, 75 80, 100 80, Star 4 30 65) and in cast iron (all other models).  
Mechanical seal in graphite/ceramic.

### Motor

Closed, with external ventilation.  
IP 55 protection.  
Class F insulation.  
Three-phase motor, to be protected externally by the user.  
Voltage 3 x 230/400 V or 3 x 400/692 V 50 Hz, 2900 rpm. or 1450 rpm.



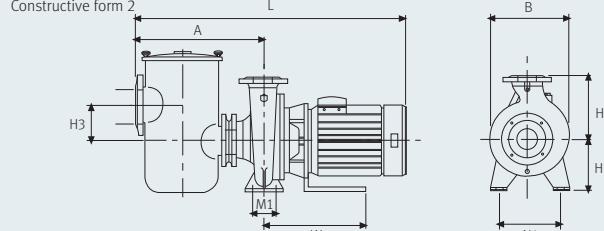
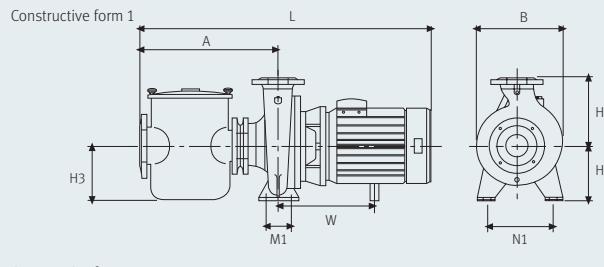
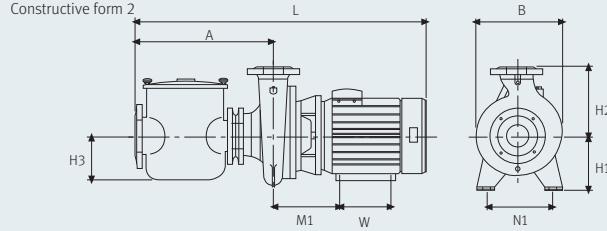
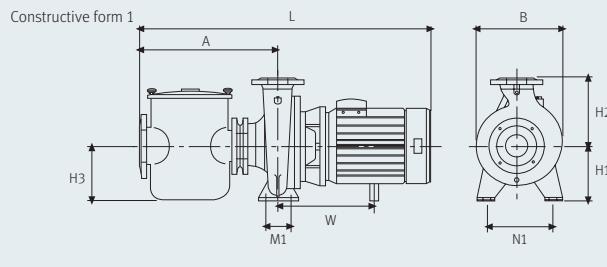
### Dimensions and weights

Star

Model	L	A	M1	W	B	N1	H1	H2	H3	[Kg]
Star 30 65	870	485	70	285	255	190	132	160	160	77
Star 40 65	895	485	70	285	255	190	132	160	160	79
Star 55 80	985	485	95	292	285	212	160	180	160	94
Star 75 80	950	485	95	310	285	212	160	180	160	103
Star 100 80	965	485	95	310	285	212	160	180	160	109
Star 150 100	1015	510	210	330	332	254	180	225	160	146
Star 4 30 65	895	485	95	290	340	250	180	225	160	98
Star 4 40 80	895	485	355	245	335	250	180	225	160	105
Star 4 55 80	915	485	375	275	360	280	200	250	160	123
Star 4 55 100	940	510	375	275	400	315	200	280	160	137
Star 4 75 100	980	510	375	275	400	315	200	280	160	141
Star 4 100 125	1140	510	390	310	400	315	200	275	160	195
Star 4 150 125	1275	525	390	310	425	315	225	285	160	288
Star 4 150 150	1480	740	120	395	500	315	250	355	257	315

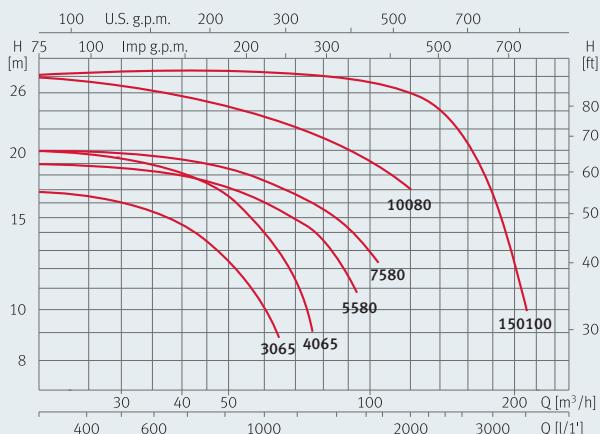
Star 4

Model	Pump		Filter	Constructive
	Ø Suction	Ø Discharge	Ø Suction	form
Star 30 65	DN65	DN50	DN80	1
Star 40 65	DN65	DN50	DN80	1
Star 55 80	DN80	DN65	DN80	1
Star 75 80	DN80	DN65	DN100	1
Star 100 80	DN80	DN65	DN100	1
Star 150 100	DN100	DN80	DN125	2
Star 4 30 65	DN65	DN50	DN65	1
Star 4 40 80	DN80	DN65	DN80	1
Star 4 55 80	DN80	DN65	DN80	1
Star 4 55 100	DN100	DN80	DN100	1
Star 4 75 100	DN100	DN80	DN100	1
Star 4 100 125	DN125	DN100	DN125	1
Star 4 150 125	DN125	DN100	DN125	1
Star 4 150 150	DN150	DN125	DN150	2

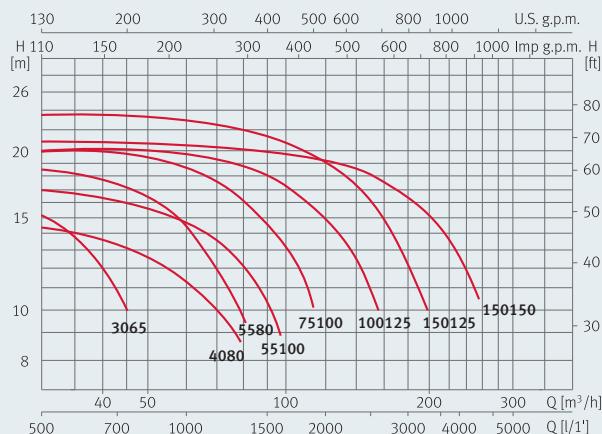


## Performance curves

Star (2900 rpm)

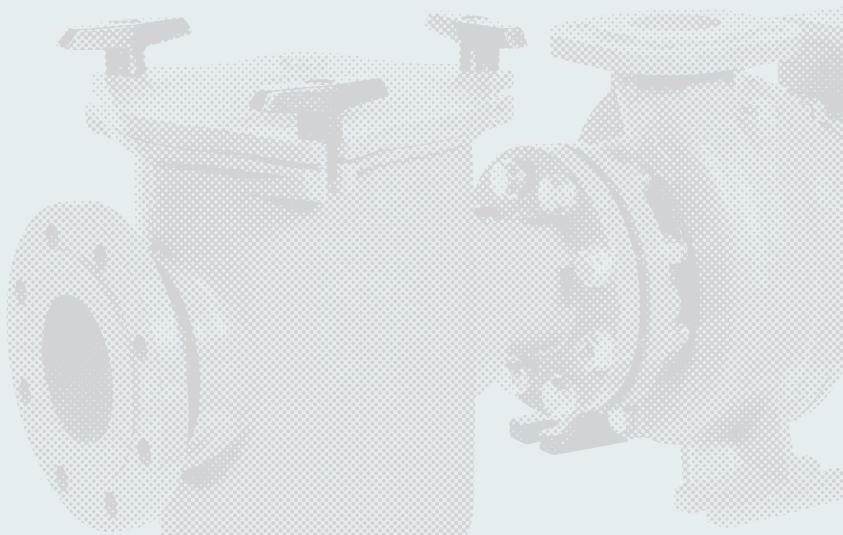


Star 4 (1450 rpm)



## Hydraulic performance table

Model	I [A]		P1 [kW]	P2		l/min	25	50	75	100	150	200	250
	230 V	3~ 400 V	3~ 400 V	[kW]	[HP]		8.0	10	12	14	16	18	20
Star 30 65	8.13	4.65	2.85	2.2	3	mwc	67	60	52	47	30	0	
Star 40 65	10.71	6.17	3.9	3.0	4		78	73	67	60	52	42	20
Star 55 80	14.04	8.07	4.93	4.0	5.5		98	88	75	60	40	0	
Star 75 80	19	10.92	6.7	5.5	7.5		123	115	100	90	75	55	
Star 100 80	25.6	14.725	9.14	7.5	10		140	125	120	110	100	85	
Star 150 100	36.64	20.9	12.94	11	15		210	200	190	180	168	155	
Star 4 30 65	8.60	4.94	2.82	2.2	3.0	mwc	45	40	34	26	12		
Star 4 40 80	11.47	6.55	3.7	3.0	4.0		82	70	55	35	0		
Star 4 55 80	14.37	8.265	4.82	4.0	5.5		78	70	62	52	35		
Star 4 55 100	14.37	8.265	4.82	4.0	5.5		100	92	80	65	45	0	
Star 4 75 100	20.48	11.78	6.70	5.5	7.5		120	114	105	93	80	65	35
Star 4 100 125	28.00	16.20	8.70	7.5	10		200	176	142	70			
Star 4 150 125	36.84	21.18	12.5	11	15		205	192	177	160	138	108	
Star 4 150 150	36.84	21.18	12.5	11	15		276	258	240	216	186	149	87



## Quiet-running single-stage centrifugal pumps for water recirculation

### Applications

Water recirculation in spas and private pools.  
With central suction and adjustable discharge outlet.

### Materials

Suction cover, impeller, pump foot and discharge body in technopolymer.  
Mechanical seal in graphite and steatite.  
Shaft in stainless steel AISI 420.  
Motor housing in aluminium.  
O-rings in NBR.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.  
Built-in thermal protection.  
Single-phase two-speed options:  
2P = 2900 rpm.  
4P = 1450 rpm.

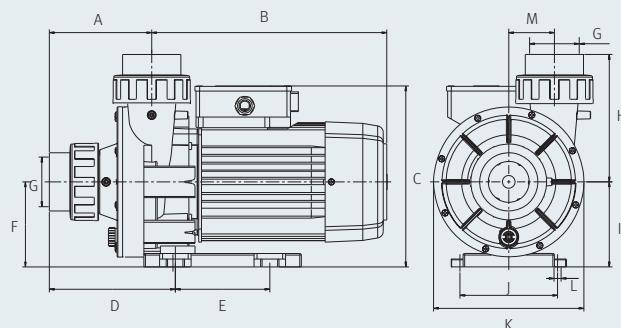
### Equipment

Complete with suction and discharge connections, metric or imperial.

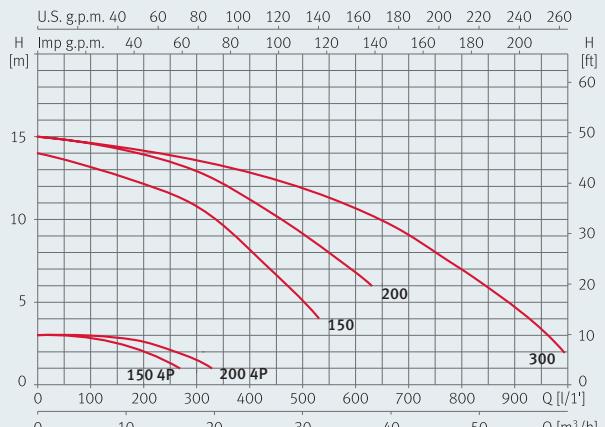


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	[Kg]
Wiper3 150	130	298.7	230	160	120	108	63	162	108	124	191	9	29	14.3
Wiper3 200	130	298.7	230	160	120	108	63	162	108	124	191	9	29	17
Wiper3 300	130	298.7	230	160	120	108	63	162	108	124	191	9	29	18.8



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [µF]	l/min	50	100	200	300	400	500	600	900
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]											
Wiper3 150	2P	6.4	5	2.9	1.4	1.2	1.1	1.5	25	mwc	13.3	13	12.1	10.8	8.2	5		
	4P	1.4			0.35		0.18	0.25	16		3	2.8	2					
Wiper3 200	2P	8.8	6.6	3.8	2	1.8	1.5	2	40		14.8	14.5	13.9	12.9	11.1	9.1	6.8	
	4P	1.7			0.4		0.18	0.25	16		3	2.8	2.6	1.5				
Wiper3 300		11	7.1	4.1	2.5	2.4	2	3	60		14.8	14.5	14.1	13.5	12.8	11.9	10.7	4.7

\* 1x230 V: Twin-speed and 3x230 / 400 V: Single-speed.

## Single-stage centrifugal pumps

### Applications

Jet-stream swimming in public or private swimming-pools.

Generate a strong stream of water and transform swimming-pools into places for sport and leisure.

### Materials

Pump body, impeller, seal mounting and diffuser in technopolymer.

Mechanical seal in graphite and alumine. Suction valve in reinforced rubber.

Shaft in stainless steel AISI 420.

Pump-motor support and motor housing in aluminium.

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Single-phase with built-in thermal protection.

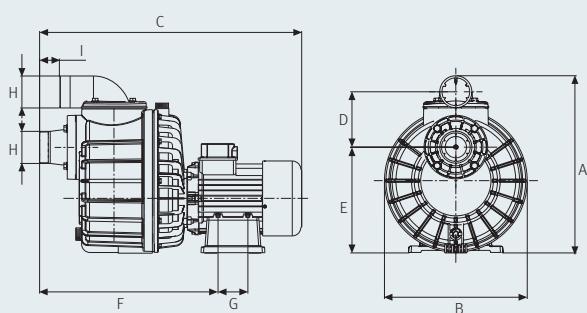
### Limitations

Self-priming up to 4 m.

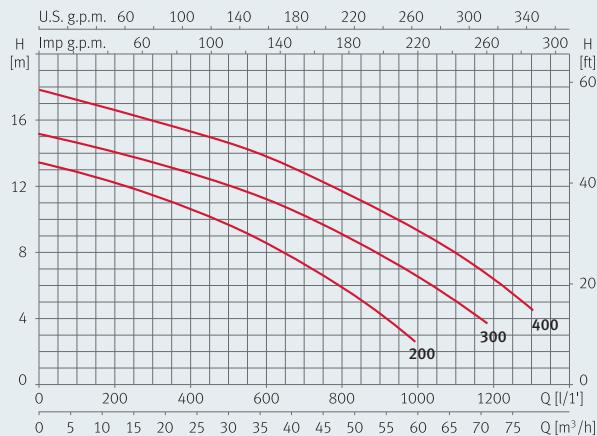


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	[kg]
Nadorself 200	416	335	615	130	248.5	418.5	70	2 <sup>1/2"</sup>	46.5	25.1/23.1
Nadorself 300	416	335	615	130	248.5	418.5	70	2 <sup>1/2"</sup>	46.5	26.1/25.8
Nadorself 400	416	335	615	130	248.5	418.5	70	2 <sup>1/2"</sup>	46.5	28



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]				P1 [kW]		P2		c [µF]	l/min	100	200	400	600	800	1000	1200	1300
	1~ 230 V	230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]	m³/h										
Nadorself 200	10.2	6.7	4	2.2	2.2	1.5	2	40	MWC	12.9	12.2	10.6	8.5	6				
Nadorself 300	13.4	8.6	5	3	3	2.3	3	60		14.6	14	12.8	11.3	9	6.5			
Nadorself 400		11.8	6		3.4	3	4			17.2	16.6	15.3	13.8	11.6	9.4	6.3		4.5

# Accessories



**Wiper3**



**Suction for Kit NCB in lined pool**

Kit NCB AL	Ref.
	130634



We recommend 2 units per kit. See regulations for country in question

**Suction for Kit NCB in concrete pool**

Kit NCB AH	Ref.
	130633



We recommend 2 units per kit. See regulations for country in question

**Jet Kit (lined/concrete)**

Kit NCB	Ref.
	10632



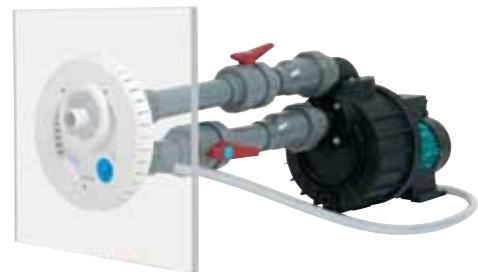
**Hose kit**

Kit NC M	Ref.
	104153



Flexible hose 1.5 m. (pump to jet nozzle)

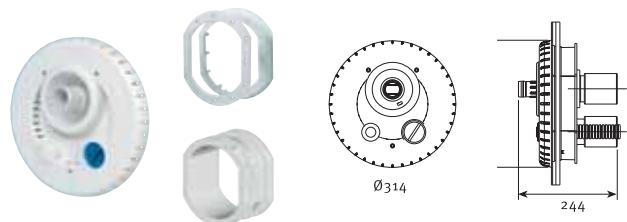
**Nadorself**



**Complete circular kit (comprises)**

Kit NCRL (lined)	Ref.
	104158

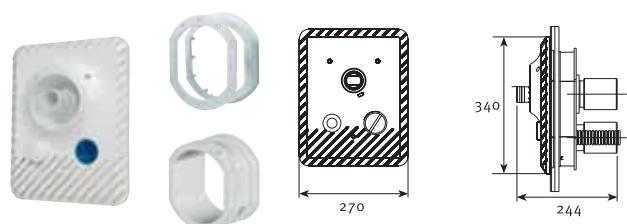
Kit NCRH (concrete)
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**Complete rectangular kit (comprises)**

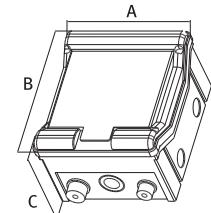
Kit NC CL (lined)	Ref.
	104154

Kit NC CH (concrete)
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**Control panel**

NC CM 2 (Single-phase)	Ref.
	134548
NC CT 2 (three-phase) 2.2 kW	
	134549
NC CT 3 (three-phase) 3.0 kW	
	137584



**Unions**

**Suction/Discharge**



Two unions to convert from threaded connection to 75mm solvent fit for Nadorself pump.

# Pool Swimming Pool



## Quiet-running horizontal single-stage centrifugal pumps

### Applications

Operation with swimming pool cleaners, sea water, chloric water, demineralised water and ozonic water.

### Materials

Pump body, impellers and diffusers in technopolymer.  
Motor shaft in stainless steel AISI 420.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium.  
Windings impregnated with polyester resin.  
Pump body screws, nuts, washers and bushes in stainless steel AISI 316.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.  
Single-phase with built-in thermal protection.

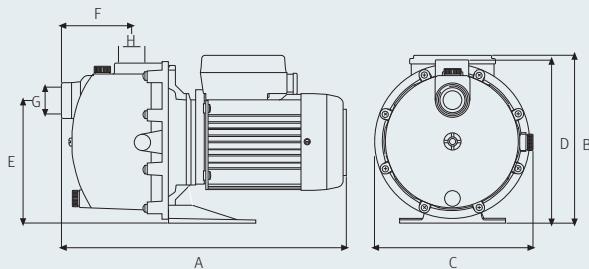
### Limitations

Self-priming up to 9 m.

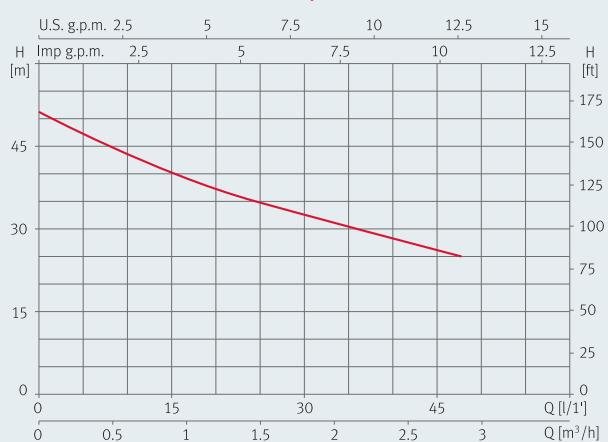


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	[Kg]
Pool	343	201.5	190	196	147	84.7	1"	1"	8.2



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [μF]	l/min	5	10	15	20	25	30	40	45	
	1~ 230 V	3~ 230 V	1~ 230 V	3~ 400 V	[kW]	[HP]											
Pool	5	3.3	1.9	1.1	1.0	0.97	1.0	16	mwc	47	43	40	37	35	33	28	26

# Multipool Plus Swimming Pool



Self-priming centrifugal pumps up to 9m

## Applications

Booster pumps for pool cleaners.  
Designed for operation with chlorinated waters, salty and ozonized waters.

## Motor

Asynchronous, two poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.  
Single-phase with built-in thermal protection.

## Materials

Pump body, base and diffusers in polymeric materials.  
Pump body with pressure gauge and flow regulating valve included.  
Shaft in stainless steel AISI 316.  
Wet end with AISI 316 metallic components.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium L-2521.  
Windings impregnated with polyester resin.

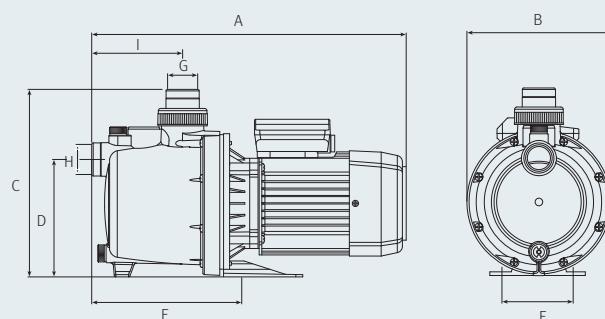
## Equipment

Flow regulator valve and pressure gauge with rotating glass and position signal.



## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	[Kg]
Multipool Plus	415	190	247.5	155	198	94	1"	1"	120	10.5



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [µF]	l/min	10	30	40	50	60	65	70	80	
	1~ 230 V	3~ 230 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	0.6	1.8	2.4	3.0	3.6	3.9	4.3	4.8
Multipool Plus	6	4.1	2.3	1.3	1.2	0.75	1	16	mwc	53	47	43	37	32	27.5	24	17

# Multipool Tronic Swimming Pool



Self-priming centrifugal pumps up to 9m

## Applications

Booster pumps for pool cleaners.  
Designed for operation with chlorinated waters, salty and ozonized waters.

## Materials

Pump body, base and diffusers in polymeric materials.  
Pump body with pressure gauge and flow regulating valve included.  
Shaft in stainless steel AISI 316.  
Wet end with AISI 316 metallic components.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium L-2521.  
Windings impregnated with polyester resin.

## Motor

Asynchronous, two poles.  
IP 44 protection.  
Class F insulation.  
Continuous operation.  
Single-phase with built-in thermal protection.  
Incorporates an electronic timer.  
Supplied with 2 m cable and plug.

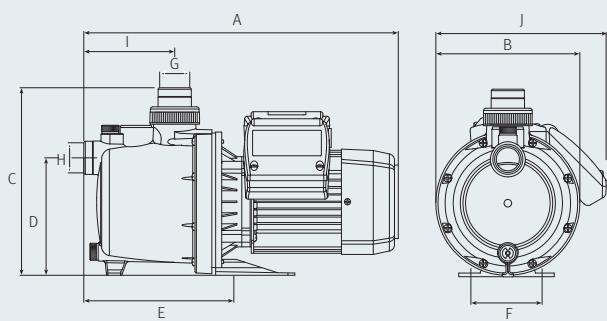
## Equipment

Electronic programmer which controls automatic operation of the pump.  
Flow regulator valve and pressure gauge with rotating glass and position signal.



## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Multipool Tronic	415	190	247.5	155	198	94	1"	1"	120	225	10.5



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [µF]	l/min	10	30	40	50	60	65	70	80	
	1~ 230 V	3~ 230 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	0.6	1.8	2.4	3.0	3.6	3.9	4.3	4.8
Multipool Tronic	6	4.1	2.3	1.3	1.2	0.75	1	16	mwc	53	47	43	37	32	27.5	24	17

# Filterpak Base Pool Filtration



## Filter package

### Description

Compact filter and pump units in pools up to 128 m<sup>3</sup>.

Highly versatile, with top or side-mounted 6-way valves.

Extensive range, with filters from Ø 300 to 650 mm and pumps up to 1 HP.

### Characteristics

Compact centrifugal pump from the Blaumar ESPA Pool range.

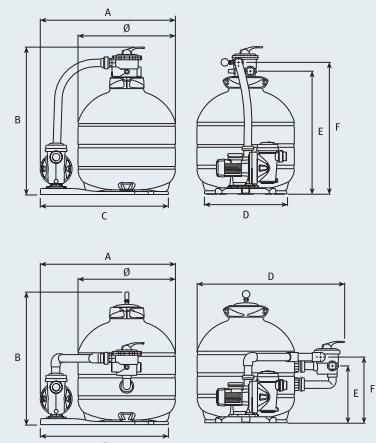
One-piece, moulded polyethylene filter. 1 1/2" 6-way valve.

Base unit in modified polypropylene. Flexible pump-filter connection kit.



### Dimensions and weight

Model	A	B	C	D	E	F	Vol [m <sup>3</sup> ]	[kg]
FPB 450 6TP I1 33	697	855	613	350	671	731	0.389	21.1
FPB 550 6TP I1 50	855	855	855	550	671	731	0.389	22.8
FPB 550 6TP S1 60	855	855	855	550	671	731	0.389	24.5
FPB 650 6TP S1 75	902	988	855	550	824	883	0.570	31.8
FPB 650 6TP S1 100	902	988	855	550	824	883	0.570	32.5
FPB 450 6LT I1 33	697	734	613	794	341	385	0.558	21.5
FPB 550 6LT I1 50	855	734	855	889	341	385	0.558	23.2
FPB 550 6LT S1 60	855	734	855	889	341	385	0.558	24.9
FPB 650 6LT S1 75	902	899	855	983	400	440	0.783	32.2
FPB 650 6LT S1 100	902	899	855	983	400	440	0.783	32.9



### Technical features

Reference	Model	Filter				Pump			Valve
		Ø filter [mm]	Nominal Flow [m <sup>3</sup> /h]	* Pool vol. [m <sup>3</sup> /h]	Silex load [Kg]	P2 [HP]	I [A] 1~ 230 V	Ø Suc. [mm]	Silex load [Kg]
151542	FPB 300 6TP B1 20	300	4	32	25	0.20	1.0	50	1 1/2"
134696	FPB 350 6TP N1 25	350	6	48	35	0.25	1.5	40	1 1/2"
134697	FPB 450 6TP I1 33	450	8	64	75	0.33	2.0	50	1 1/2"
134698	FPB 550 6TP I1 50	550	12	96	125	0.50	2.9	50	1 1/2"
134699	FPB 550 6TP S1 60	550	12	96	125	0.60	3.7	50	1 1/2"
151543	FPB 650 6TP S1 75	650	16	128	225	0.75	5.5	50	1 1/2"
131200	FPB 650 6TP S1 100	650	16	128	225	1.0	6.2	50	1 1/2"
153537	FPB 450 6LT I1 33	450	8	64	75	0.33	2.0	50	1 1/2"
134492	FPB 550 6LT I1 50	550	12	96	125	0.50	2.9	50	1 1/2"
134493	FPB 550 6LT S1 60	550	12	96	125	0.60	3.7	50	1 1/2"
151544	FPB 650 6LT S1 75	650	16	128	225	0.75	5.5	50	1 1/2"
134494	FPB 650 6LT S1 100	650	16	128	225	1.0	6.2	50	1 1/2"

\* Considering water circulation of 8 hours/day

If you cannot find the model your system requires, ESPA will design a suitable Filterpak for you

# Filterpak Plus Pool Filtration



## Filter package

### Description

Compact filter and pump units in pools up to 176 m<sup>3</sup>.

Highly versatile, with top or side-mounted 6-way valves.

Maximum quality, with injection-moulded filters from Ø 520 up to 760 mm, and pumps up to 1.5 HP.

### Characteristics

Compact centrifugal pump from the Blaumar SPA Pool range.

Thermally welded, modified polypropylene filter.

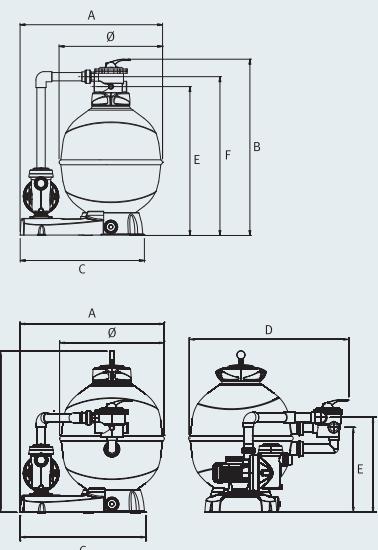
1<sup>1/2</sup>" 6-way valve in Ø 520 and 620 mm models; 2" in Ø 760 mm model.

Base unit in modified polypropylene. Rigid pump-filter connection kit.



### Dimensions and weight

Model	A	B	C	D	E	F	Ø	Vol [m <sup>3</sup> ]	[Kg]
FPP 520 6TP S1 60	803	981	744	-	815	873	520	0.369	33.4
FPP 520 6TP S1 60	803	981	744	-	815	873	520	0.369	33.4
FPP 620 6TP S1 75	853	1054	744	-	887	946	620	0.550	37.2
FPP 620 6TP S1 100	853	1054	744	-	887	946	620	0.550	37.9
FPP 520 6LT S1 60	803	866	744	845	463	524	520	0.443	34.1
FPP 520 6LT S1 60	803	866	744	845	463	524	520	0.443	34.1
FPP 620 6LT S1 75	853	957	744	945	501	562	620	0.647	37.9
FPP 620 6LT S1 100	853	957	744	945	501	562	620	0.647	38.6
FPP 760 6LT S1 150	1054	1100	871	1076	630	711	767	1.150	51.6



### Technical features

Reference	Model	Filter				Pump			Valve
		Ø filter [mm]	Nominal Flow [m <sup>3</sup> /h]	* Pool vol. [m <sup>3</sup> /h]	Silex load [Kg]	P2 [HP]	I [A] 1~ 230 V	Ø Suc. [mm]	Silex load [Kg]
151592	FPP 520 6TP S1 60	520	10	80	75	0.60	3.0	50	1 1/2"
133291	FPP 520 6TP S1 60	520	10	80	75	0.60	3.7	50	1 1/2"
151545	FPP 620 6TP S1 75	620	15	120	150	0.75	5.5	50	1 1/2"
151546	FPP 620 6TP S1 100	620	15	120	150	1.0	6.2	63	1 1/2"
151593	FPP 520 6LT S1 60	520	10	80	75	0.60	3.0	50	1 1/2"
132669	FPP 520 6LT S1 60	520	10	80	75	0.60	3.7	50	1 1/2"
132670	FPP 620 6LT S1 75	620	15	120	150	0.75	5.5	50	1 1/2"
132671	FPP 620 6LT S1 100	620	15	120	150	1.0	6.2	63	1 1/2"
132673	FPP 760 6LT S1 150	760	22	176	300	1.5	7.1	63	2"

\* Considering water circulation of 8 hours/day

If you cannot find the model your system requires, SPA will design a suitable Filterpak for you

## Description

Prefabricated technical box for sunken fitting in the garden. Blends in perfectly with the environment. Innovative, all-in-one solution, compact enough to store all the equipment required for the proper functioning of the swimming pool. High level of watertightness, providing total protection for components.

## Components

### Standard unit:

Tekbox pre-fitted technical box. Blown or injection-moulded SPA Pool filter, up to Ø 650 mm. Compact centrifugal pump from the Blaumar SPA Pool range, up to 1 HP. 6-way selector valve.

### Options:

Impulsion pump for pool bottom cleaner (L). Multipool model. Automatic jet-stream pump (N). Wiper3 model. Saline electrolysis unit (E).

Esal Basic model.

### Accessories:

Drainage pump.  
Vigila model.  
Instrument panel.  
Control Pool model.

## Versions

**Tekbox NT:** Thanks to its totally sunken design, it is the perfect camouflage, blending in perfectly with the environment.

**Tekbox SM:** model designed especially for unstable land. The semi-sunken version of Tekbox also provides full access to all components.

## Characteristic

High resistance: strengthened, injection-moulded thermoplastic that keeps its shape perfectly.

**Stability:** System for ground anchoring to avoid any movement or flotation.

**Security:** Reinforced lock and hinges.

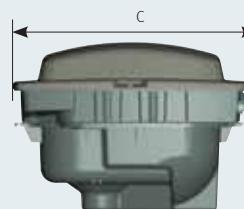
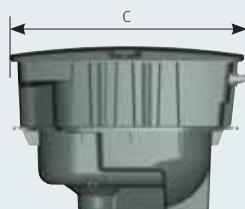
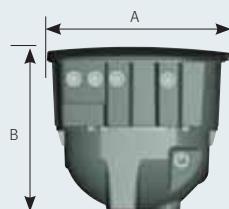
**Look:** Design and colour that blends in with the environment.

**Versatility:** Full pre-fitted filtration-pump-valve units compatible with various add-on functions.



## Dimensions and weight

Model	A	B	C
Tekbox NT	1145	1032	1460
Tekbox SM	1130	1032	1435



## Optional extras (price on application)



Booster pump



Electrolysis



Counter-current pump



Drainage pump



Control panel



#### Technical features

Technical box		Filter			Pump					Reference								Weight Standard unit [Kg]	
Series	Configuration	Ø filter [mm]	QL nom. [m³/h]	* Pool vol. [m³]	Series	Model	P2 [HP]	I [A] 1~ 230V	Ø Suc. [mm]	Standard unit	Optional extras								
											L	E	N	LE	LN	EN	LEN		
TKB	NT	450	8	64	I1	33-8M	0.33	2.0	50	134425	134426	134427	134428	134429	134430	134431	134432	88	
	SM	450	8	64		33-8M	0.33	2.0	50	134361	134362	134363	134364	134365	134366	134367	134368	83	
	NT	550	12	96		50-12M	0.50	2.9	50	134433	134434	134435	134436	134437	134438	134439	134440	90	
	SM	550	12	96		50-12M	0.50	2.9	50	134369	134370	134371	134372	134373	134374	134375	134376	85	
	NT	550	12	96	S1	60-12M	0.60	3.7	50	153500	153501	153502	153503	153504	153505	153506	153507	92	
	SM	550	12	96		60-12M	0.60	3.7	50	153510	153511	upon request	153513	upon request	153515	upon request	upon request	87	
	NT	650	16	128		75-15M	0.75	5.5	50	134441	134442	upon request	134444	upon request	134446	upon request	upon request	98	
	SM	650	16	128		75-15M	0.75	5.5	50	134377	134378	upon request	134380	upon request	134382	upon request	upon request	93	
	NT	650	16	128		100-18M	1.00	6.2	63	134449	134450	upon request	134452	upon request	134454	upon request	upon request	100	
	SM	650	16	128		100-18M	1.00	6.2	63	134385	134386	upon request	134388	upon request	134390	upon request	upon request	95	
TKP	NT	520	10	80	S1	60-10M	0.60	3.0	50	134457	134458	134459	134460	134461	134462	134463	134464	102	
	SM	520	10	80		60-10M	0.60	3.0	50	134393	134394	134395	134396	134397	134398	134399	134400	97	
	NT	520	10	80		60-12M	0.60	3.7	50	134465	134466	134467	134468	134469	134470	134471	134472	102	
	SM	520	10	80		60-12M	0.60	3.7	50	134401	134402	134403	134404	134405	134406	134407	134408	97	
	NT	620	15	120	S1	75-15M	0.75	5.5	50	134473	134474	134475	134476	134477	134478	134479	134480	106	
	SM	620	15	120		75-15M	0.75	5.5	50	134409	134410	134411	134412	134413	134414	134415	134416	101	
	NT	620	15	120		100-18M	1.00	6.2	63	134481	134482	134483	134484	134485	134486	134487	134488	108	
	SM	620	15	120		100-18M	1.00	6.2	63	134417	134418	134419	134420	134421	134422	134423	134424	103	

TKB: Tekbox Base

\* Considering water circulation

TKP: Tekbox Plus

of 8 hours/day

L: With pump for bottom pool cleaner

E: With saline electrolysis

N: With jet-stream pump

If you cannot find the model your system requires, **ESPA** will design a suitable Tekbox for you.

## Quiet-running single-stage centrifugal pumps for the recirculation of water

### Applications

Water recirculation in aquariums and fish hatcheries. Specially designed for operation with sea water and to be resistant to the fish excrement.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.  
With built-in thermal protection.



### Materials

Pump body, impeller and pump foot in technopolymer.  
Mechanical seal in graphite and alumine.  
Metallic parts in contact with water in stainless steel AISI 316.  
O-rings in NBR.

### Piscis 1 / Piscis 2:

Seal mounting in technopolymer.  
Shaft in stainless steel AISI 316.  
Motor housing in aluminium.

### Piscis 3:

Shaft in stainless steel AISI 316.  
Motor housing in aluminium.  
**Piscis 4:** Shaft in stainless steel AISI 316 and iron F-114.  
Motor housing in aluminium L-2521.



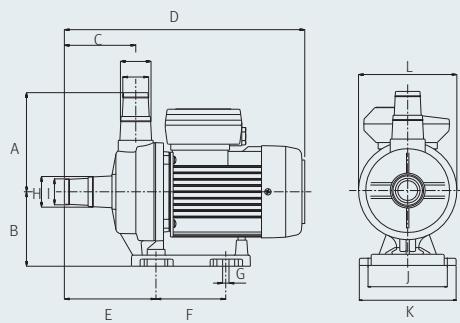
### Equipment

Complete with suction and discharge unions. In imperial or metric on Piscis 2, 3 and 4.

### Dimensions and weights

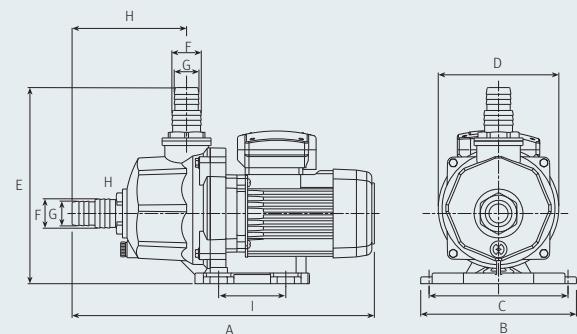
#### Piscis 1

Model	A	B	C	D	E	F	G	H	I	J	K	L	[Kg]
Piscis 1	125	94	90	305	115.5	88	8	38	32	100	122	124	4.5



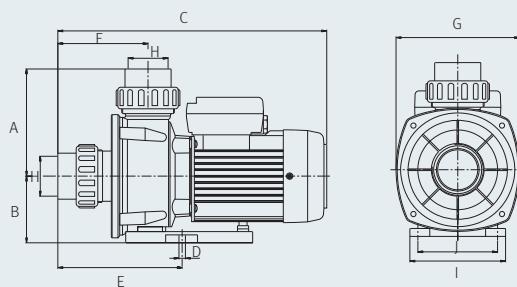
#### Piscis 2

Model	A	B	C	D	E	F	G	H	I	[Kg]
Piscis 2	396	204	182	158	257	39	33	150	88	6



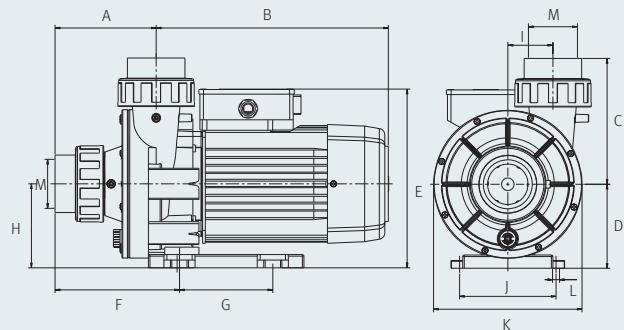
#### Piscis 3

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Piscis 3 50	134.5	83.5	337	8	156	113	154.5	50	120	100	7
Piscis 3 70	134.5	83.5	337	8	156	113	154.5	50	120	100	7



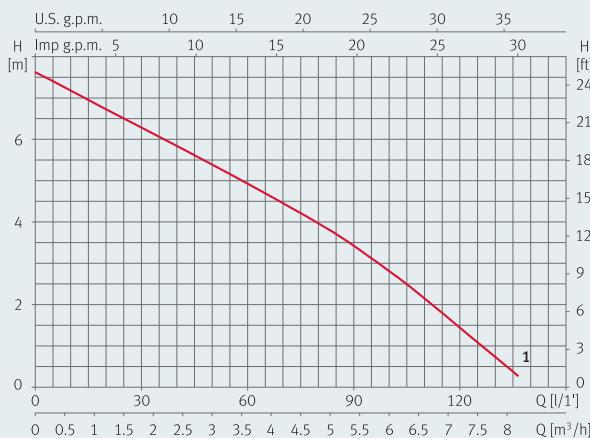
#### Piscis 4

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	[Kg]
Piscis 4	130	298.7	162	108	230	160	120	108	29	124	191	9	2"	14.3

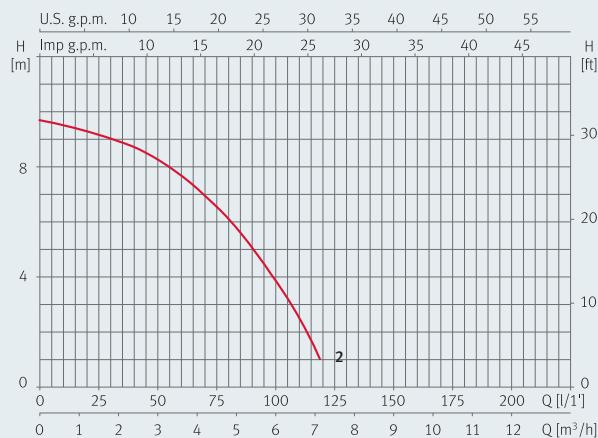


## Performance curves at 2900 rpm

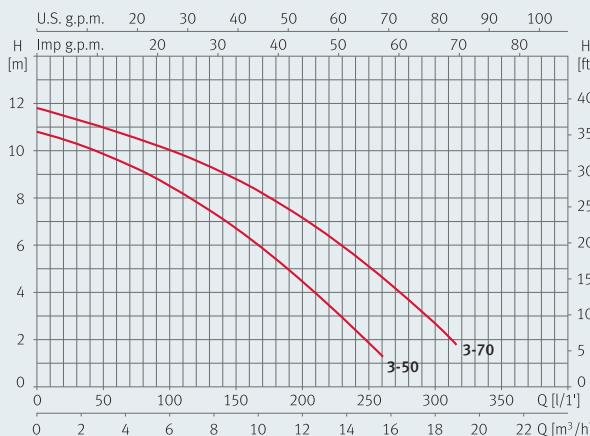
Piscis 1



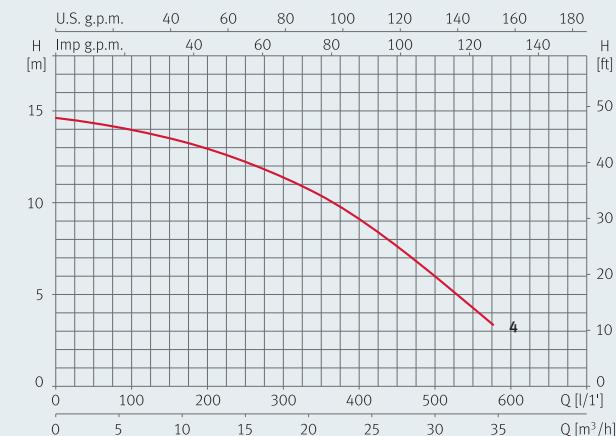
Piscis 2



Piscis 3



Piscis 4



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [µF]	l/min m³/h	15	30	45	60	75	90	110	135
	1~ 230 V	1~ 230 V	[kW]	[HP]			0.9	1.8	2.7	3.6	4.5	5.4	6.6	8.1
Piscis 1	1.0	0.22	0.08	0.12	6	mwc	7	6.3	5.7	4.9	4.3	3.4	2.2	0.4
Model	I [A]	P1 [kW]	P2		c [µF]	l/min m³/h	15	30	45	60	75	90	105	115
	1~ 230 V	1~ 230 V	[kW]	[HP]			0.9	1.8	2.7	3.6	4.5	5.4	6.3	6.9
Piscis 2	1.3	0.27	0.15	0.20	6	mwc	9.4	9	8.5	7.6	6.5	5	3.2	1.6
Model	I [A]	P1 [kW]	P2		c [µF]	l/min m³/h	20	60	100	140	180	210	250	300
	1~ 230 V	1~ 230 V	[kW]	[HP]			1.2	3.6	6.0	8.4	10.8	12.6	15	18
Piscis 3 50	2.4	0.5	0.37	0.5	10	mwc	10.5	9.7	8.5	7.1	5.4	4	2	
Piscis 3 70	3.3	0.7	0.5	0.75	10	mwc	11.5	10.8	10	9.1	7.9	6.8	5	2.7
Model	I [A]	P1 [kW]	P2		c [µF]	l/min m³/h	25	100	175	250	325	400	475	550
	1~ 230 V	1~ 230 V	[kW]	[HP]			1.5	6.0	10.5	15	19.5	24	28.5	33
Piscis 4	6.3	1.4	1.1	1.5	25	mwc	14.5	14	13.2	12.2	11	9	7	4.2

# Tiper 0/2/15 Hydromassage/spa



## Single-stage centrifugal pumps with complete drainage device

### Applications

Compact hydromassage units.

### Materials

Suction and discharge mountings, impeller and motor mountings in technopolymer.

Motor shaft in stainless steel AISI 420.  
Motor housing in aluminium.

### Tiper 0/15:

Mechanical seal in graphite and steatite.

### Tiper 2:

Mechanical seal in graphite and alumine.

### Motor

Asynchronous, two poles.  
IP 55 protection. Class F insulation.  
Continuous operation.  
Built-in thermal protection.

### Limitations

Insulation capable of resisting over 3750 V.

### Equipment

Complete with suction and discharge connections, metric or imperial.

### Options

On/off switch rear connection and level sensors via pneumatic or electrical devices.  
Variable speed MV version also available.

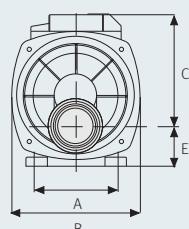
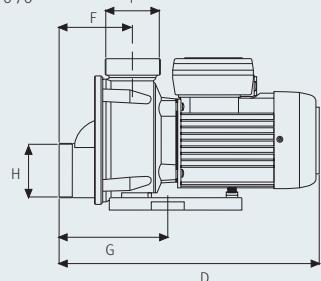


### Dimensions and weights

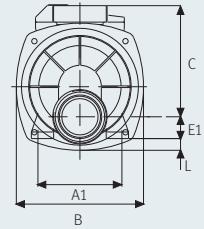
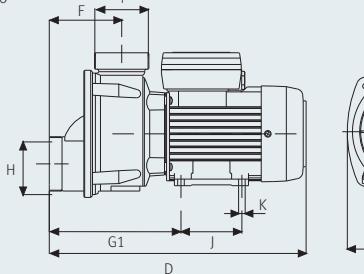
#### Tiper 0

Model	A	A1	B	C	D	E	E1	F	G	G1	H	I	J	K	L	[Kg]
Tiper 0 70	100	102	154.5	135	312	47	26.5	88	130	160	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	74	9	14	3.9
Tiper 0 90	100	101	154.5	135	312	47	26.5	88	130	160	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	74	9	14	4.4

#### Tiper 0 70

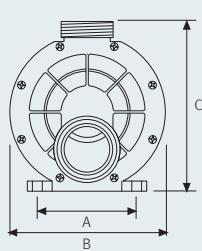
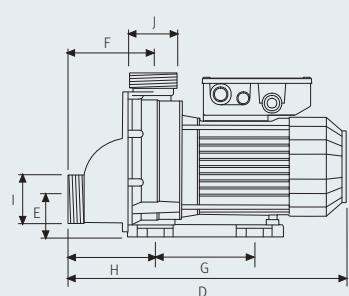


#### Tiper 0 90



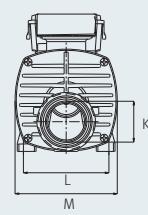
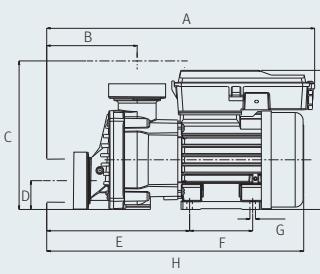
#### Tiper 2

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Tiper 2 75	124	187	215	378	50	120	120	130	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	3.9
Tiper 2 125	124	187	215	378	50	120	120	130	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	4.4



#### Tiper 15

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	[Kg]
Tiper 15 1	340	114.7	200	36.5	181	80	7	326	176.5	32	50	100	125.5	5.6
Tiper 15 2	340	114.7	200	36.5	181	80	7	326	176.5	32	50	100	125.5	5.9
Tiper 15 3	340	114.7	200	36.5	181	80	7	326	176.5	32	50	100	125.5	6.3

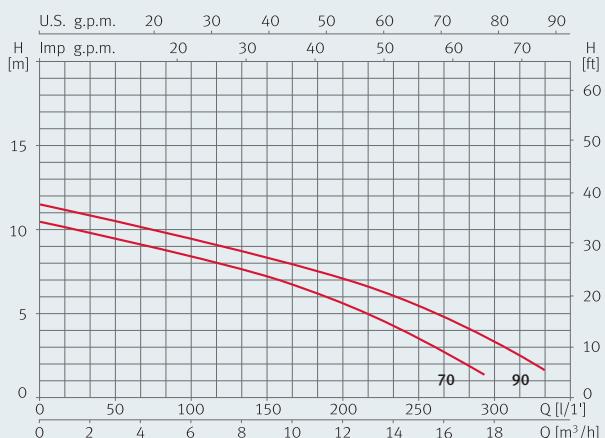


# Tiper 0/2/15 Hydromassage/spa

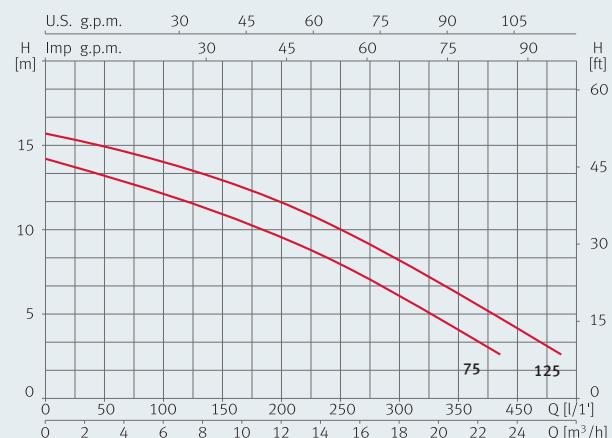


## Performance curves at 2900 rpm

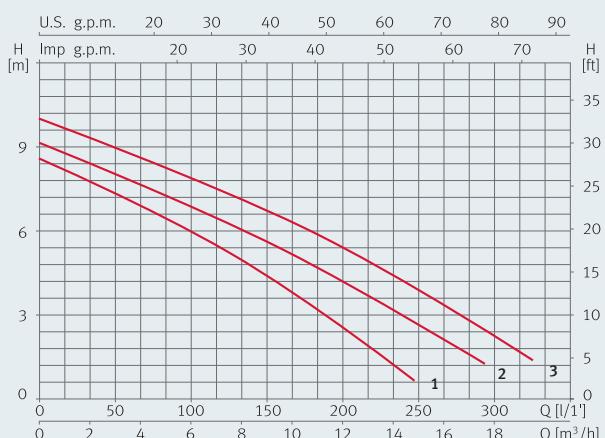
Tiper 0



Tiper 2



Tiper 15

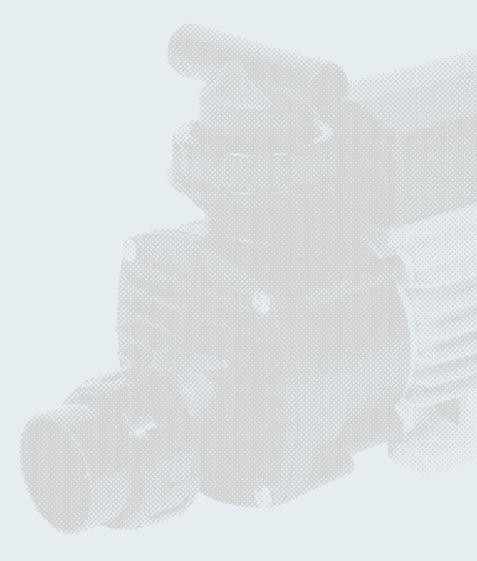


## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	50	100	150	175	200	250	300	330
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	3.0	6.0	9.0	10.5	12	15	18
Tiper 0 70	2.9	0.64	0.37	0.5	12	mwc	9.5	8.3	7.1	6.5	5.7	3.6		
Tiper 0 90	3.74	0.85	0.75	1	12		10.5	9.4	8.4	7.8	7.1	5.4	3.3	1.9

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	83	133	183	233	283	333	383	433
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	5.0	8.0	11	14	17	20	23
Tiper 2 75	5.3	1.2	0.55	0.75	16	mwc	12.3	11.1	10	8.5	6.5	5	2.5	
Tiper 2 125	5.6	1.5	0.90	1.25	16		14.2	13.2	12	10.6	9	7	5	2.7

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	25	50	100	150	200	250	300	325
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	1.5	3.0	6.0	9.0	12	15	18
Tiper 15 1	1.7	0.36	0.18	0.25	6	mwc	8	7.3	6	4.3	2.6			
Tiper 15 2	2.3	0.5	0.37	0.5	10		8.6	8	6.9	5.6	4.2	2.7		
Tiper 15 3	3	0.7	0.55	0.75	12		9.5	9	7.9	6.8	5.3	3.9	2.2	1.5



## Single-stage centrifugal pumps for water recirculation, with central suction

### Applications

Water recirculation in transportable pools and spas.

### Materials

Pump body and impeller in technopolymer.

Motor mountings in anticorrosive materials.

Motor shaft in stainless steel AISI 420.

Mechanical seal in graphite and steatite.

Motor housing in aluminium.

O-rings in NBR.

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Built-in thermal protection.

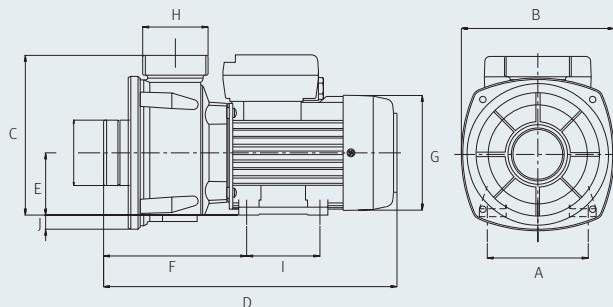
### Equipment

Complete with suction and discharge connections, metric or imperial.

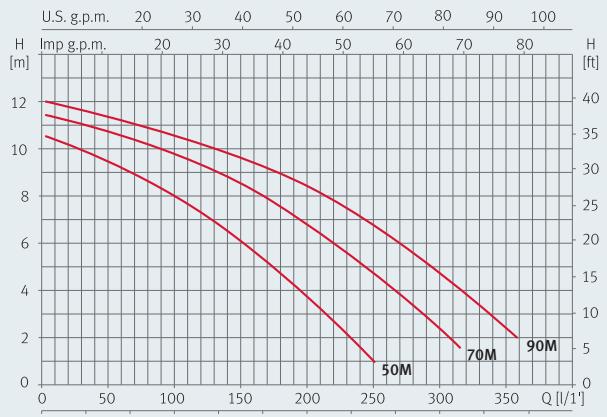


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	[Kg]
Wipero 50	102	154.5	162	295.5	63	144.5	116	2 <sup>1</sup> / <sub>4</sub> "	74	15	5.7
Wipero 70	102	154.5	162	295.5	63	144.5	116	2 <sup>1</sup> / <sub>4</sub> "	74	15	6
Wipero 90	102	154.5	162	295.5	63	144.5	116	2 <sup>1</sup> / <sub>4</sub> "	74	15	6.8



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [µF]	l/min	25	50	100	150	200	250	300	350
	1~ 230 V	230 V	[kW]	[HP]			m <sup>3</sup> /h	1.5	3.0	6.0	9.0	12	15	18
Wipero 50	2.3	0.5	0.24	0.33	12	mwc	10	9.4	7.9	6	3.6	1		
Wipero 70	2.9	0.64	0.37	0.5	12		11	10.6	9.7	8.5	6.6	4.5	2.2	
Wipero 90	3.74	0.85	0.74	1	12		11.7	11.3	10.5	9.6	8.4	6.7	4.6	2.2

## Air blower

### Applications

Air blower for whirlpool baths.

### Materials

Body in polypropylene.  
Impeller in aluminium  
Diffuser in polyamide.  
O-rings in NBR.

### Motor

Class B insulation.  
IP X5 protection.  
Continuous operation.  
Further protection to be undertaken by installer.

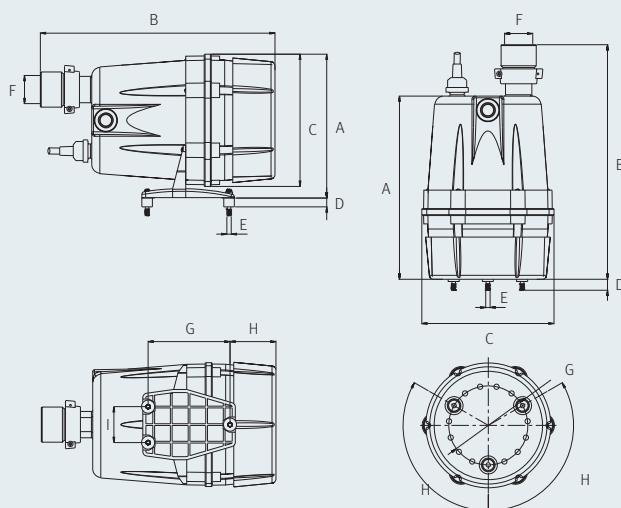
### Features

**Vento:** Vertically-mounted.  
**Vento H:** Horizontally-mounted.  
**Vento IN:** On/off pneumatic switch.  
**Vento RE:** With 300 W heater.  
**Vento IR:** With pneumatic switch.  
On/off and 300 W heater.

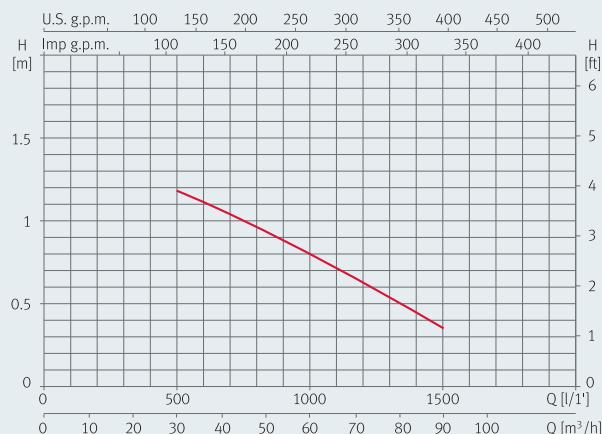


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	[Kg]
Vento	187	255	151	10	M5	32/40	93.25	30.25	41	2
Vento H	164	245	151	10	M5	32/40	Ø90	120°		2



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]		P1 [kW]	c [μF]	Manometric head [m]							
	1~ 230 V	1~ 230 V			0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2
Vento 600	2.7		0,6		90	80	70	66	60	52	45	30
Vento 600 IN	2.7		0,6		90	80	70	66	60	52	45	30
Vento 600 RE	4		0,9		90	80	70	66	60	52	45	30
Vento 600 IR	4		0,9		90	80	70	66	60	52	45	30

# Kit 02/05 Pressurisation



Automatic pressure set which assembled to a pump supplies water at constant pressure

Electronic device to prevent starting in the absence of water, and to avoid any water hammer. Does not require any maintenance or air pre-charge. Quiet running.

**Kit 02:** Check valve, pressure gauge, pressure switch and control board. Built-in reset button.

**Kit 05:** Built-in check valve, control board and reset button.

LED's showing line, pump in operation and failure.

## Applications

Designed for the automatic supply of water to one or more dwellings. Also suitable for operation with water containing a small quantity of sand.

## Materials

**Kit 02:** Main body, upper support and cable guides in technopolymer. Internal diaphragm in natural rubber. Screws, washers, nuts, etc. in stainless steel AISI 304.

**Kit 05:** Main body, diaphragm support and internal body in polyamide (glass-loaded polymer). Diaphragm in natural rubber.

**Kit 02:** Supplied without cable and plug.

**Kit 05:**

**Kit Al MP** with pressure gauge and unions in plastic.

**Kit Al MEL** with pressure gauge, plug and unions in brass. (on application)

Kit 02



Kit 05



## Kit Press: Buffer vessel

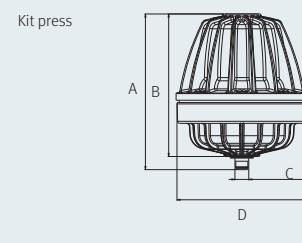
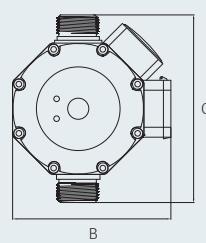
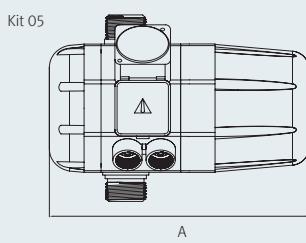
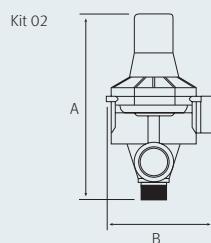
## Applications

To prevent water hammer in pressurised systems with minor leaks.



## Dimensions and weights

Model	A	B	C	C	[Kg]
Kit 02	240	135			0.35
Kit 05	214	127.5	154		0.5
Kit press	148	135.5	Ø 124	R 1 1/4"	0.85



## Technical features

Model	Voltage	Max. Amperage	Hz	Protection	Max. Pressure	Max. Static Pressure	Starting Pressure	Stopping Pressure	Diferential Pressure	Max. Flow	Max. Building Height	Max. Temp.	Ø Inlet connection	Ø Outlet connection
Kit 02	230 V	10 A	50/60	IP 44	7.5 bar	10 bar	1.5 bar	Max. given by the pump	≥ 0.7 bar	8 m³/h	12 m		1" male	1" male
Kit 05	230 V	10 A	50/60	IP 44	10 bar	15 bar	1.5/2.5 bar	Max. supplied by the pump	≥ 0.5 bar	10 m³/h	2 m (*)	60 °C	1" male	1" male

(\*) 2 m below starting pressure

# Pressure sets Pressurisation



## Domestic boosting and pressurisation

### Applications

Automatic supply of water whilst maintaining constant system pressure.

### Configuration

These domestic booster pump sets can be built in various configurations using different types of pumps, vessels and control devices.

For assistance in your selection, please contact our technical sales team.



Model	Code for set using Single-phase	Code for set using Pressure vessel	Code for set using Pressure stat	P2 [kW]	P2 [HP]	Size of vessel	Position of vessel
Per 50		P50/03	P50/05	0.37	0.5	3 l. or kit	Vertical
Delta 505		D505/08	D505/05	0.37	0.5	8 l. or kit	Vertical
Delta 505		D505/24		0.37	0.5	24 l.	Horizontal
Delta 755		D755/08	D755/05	0.5	0.75	8 l. or kit	Vertical
Delta 755		D755/24		0.5	0.75	24 l.	Horizontal
Delta 1005		D1005/08	D1005/05	0.75	1.0	8 l. or kit	Vertical
Delta 1005		D1005/24		0.75	1.0	24 l.	Horizontal
Delta 1755		D1755/08	D1755/05	0.75	1.0	8 l. or kit	Vertical
Delta 1755		D1755/24		0.75	1.0	24 l.	Horizontal
Tecno 25 3		T25 3/18	T25 3/05	0.75	1.0	18 l. or kit	Vertical
Tecno 25 3		T25 3/24		0.75	1.0	24 l.	Horizontal
Tecno 25 4		T25 4/18	T25 4/05	0.9	1.25	18 l. or kit	Vertical
Tecno 25 4		T25 4/24		0.92	1.25	24 l.	Horizontal
Tecno 25 5		T25 5/18	T25 5/05	1.1	1.5	18 l. or kit	Vertical
Tecno 25 5		T25 5/24		1.1	1.5	24 l.	Horizontal
Aspri 35 3		C35 3/24		1.1	1.5	24 l.	Horizontal
Aspri 35 3			C35 3/05	1.1	1.5	kit	Vertical
Aspri 35 4		C35 4/24		1.5	2.0	24 l.	Horizontal
Aspri 35 4			C35 4/05	1.5	2.0	kit	Vertical
Jet 100		J100/24		0.75	1.0	24 l.	Horizontal

## Self-priming quiet-running horizontal multi-stage centrifugal pumps

### Applications

To supply water at pressure in domestic applications. With protection to prevent the pump from operation when dry.

### Materials

Pump body and impellers in stainless steel AISI 304.  
Motor shaft in stainless steel AISI 431.  
Diffusers in technopolymer.  
Mechanical seal in graphite and steatite.  
Motor housing in aluminium.  
O-rings in EPDM/NBR.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.

**Tecnopres 15:** Single-phase version built-in thermal protection.

**Tecnopres 25:** Single-phase version up to 1.25 HP built-in thermal protection.

### Limitations

Maximum liquid temperature: 40 °C.  
Self-priming up to 9 m.

### Equipment

Complete with kit press and pressure gauge.  
Complete with 2 m of H07 RNF cable.  
With valve resistant to impurities, dry run protection and device to ensure pressure water supply.



### Technical features

Electronic display with push button and LEDs showing line, pump in operation and failure.  
Starting pressure:

**Tecnopres 15:** 1.8 bar (15/4),

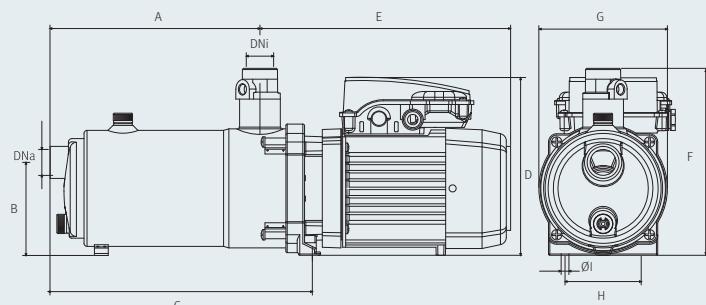
2.3 bar (15/5).

**Tecnopres 25:** 2.3 bar.



### Dimensions and weights

Model	A	B	C	D	E	F	G	H	ØI	DNa	DNi	[Kg]
Tecnopres 15 4	195.8	107.5	256.3	197	244.5	216.3	148.5	88	9	F1"	F1"	10.3
Tecnopres 15 5	219.1	107.5	279.6	197	244.5	216.3	148.5	88	9	F1"	F1"	11.2
Tecnopres 25 4	216.3	107.5	276.8	206	268	216.3	148.5	88	9	F1"	F1"	10.3
Tecnopres 25 5	242.6	107.5	303.1	206	289.5	216.3	148.5	88	9	F1"	F1"	11.2

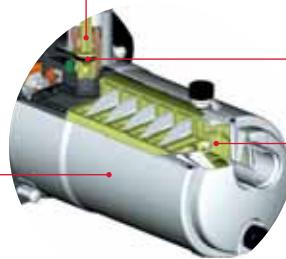




Electronic device with reset button and LEDs showing line, pump in operation and failure.

1 outlet for domestic supply at pressure

Automatically closing **self-priming valve** resistant to impurities.  
It is closed automatically to prevent unnecessary recirculation of water.



#### Dry running protection

The pump disconnects automatically when there is no water in the installation.

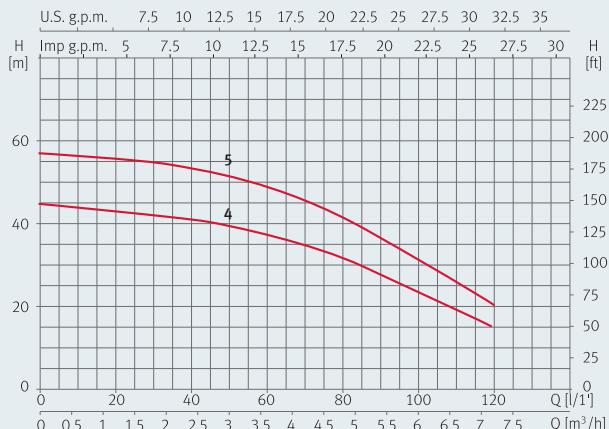
**Pump body** made entirely of stainless steel to prevent oxidation due to water-air contact.

#### Performance curves at 2900 rpm

Tecnopres 15



Tecnopres 25



#### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [µF]	l/min	10	20	30	35	40	45	50	60
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.1	2.4	2.7	3.0
Tecnopres 15 4	3.5	0.8	0.55	0.75	12	m³/h	42	39	35	32	28	25	21	
Tecnopres 15 5	4.1	1	0.66	0.9	12	m³/h	51	47	41.5	38	34	30	26	17

Model	I [A]	P1 [kW]	P2		c [µF]	l/min	15	30	45	60	75	90	105	120
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.9	1.8	2.7	3.6	4.5	5.4	6.3
Tecnopres 25 4	6.8	1.5	0.95	1.25	16	m³/h	44	42	40	37	33	28	22	15
Tecnopres 25 5	7.4	1.7	1.1	1.5	25	m³/h	56	55	53	49	43	37	29	20

## Quiet-running horizontal multi-stage centrifugal pumps

### Applications

Programmed sprinklers irrigation per areas and supply of water at pressure.

### Materials

Pump body and impellers in stainless steel AISI 304.  
Motor shaft in stainless steel AISI 420.  
Diffusers in technopolymer.  
Mechanical seal in graphite and steatite.  
Motor housing in aluminium.  
O-rings in EPDM/NBR.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.  
Single-phase version built-in thermal protection.

### Limitations

Self-priming valve resistant to impurities, dry run protection and non-return valve to guarantee the pump's priming.  
Self-priming up to 9 m.

### Technical features

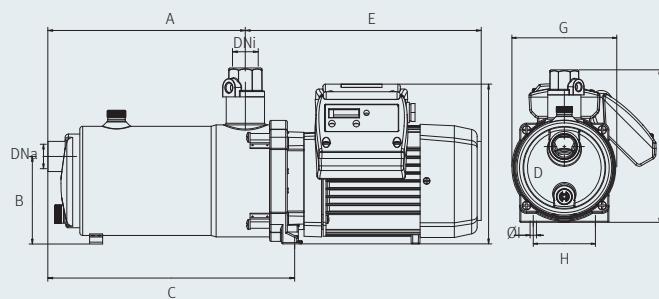
Electronic display with reset button and programmable LCD display with 3 available applications:

- 1. Kit function:** supply of water at pressure in the house.
- 2. AUTO function:** programmed sprinklers irrigation per areas (4).
- 3. Kit + AUTO function:** supply of water at pressure (only 1 water outlet) + programmed sprinklers irrigation per areas (4).

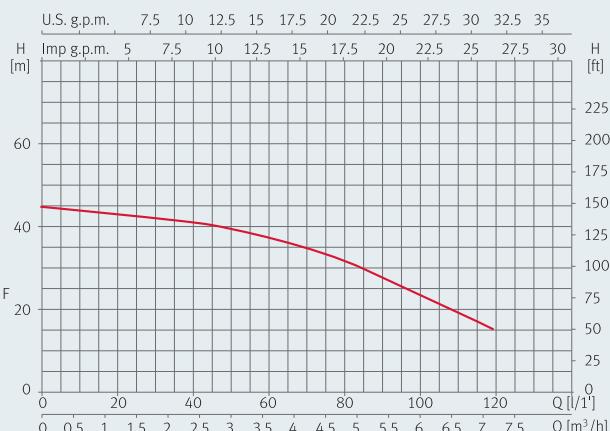


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	DNa	DNi	[Kg]
Tecnotimer 25	216	107.5	277	196	268	216	149	88	9	1"	1"	13.8



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		C [μF]	l/min	15	30	45	60	75	90	105	120
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.9	1.8	2.7	3.6	4.5	5.4	6.3
Tecnotimer 25	6.8	1.5	0.92	1.25	16	mwC	44	42	40	37	33	28	22	15

# Tecnoplus 15 Pressurisation



## Centrifugal multi-stage with speed control

A horizontal, multiphase, centrifugal pump with electronic regulation for changing speed and built-in pressure sensor. It contains a device for detecting and protecting against dry operation, with sequential re-starts in the case of failure. Absorbs the water hammer effect on the installation.

### Applications

Pressurising with constant pressure of domestic water for houses, semi-detached homes, apartments, chalets and rural homes, etc.

### Materials

Hydraulic body and impellers in AISI 304.

Diffusers in thermoplastic.

Mechanical seal in graphite and ceramic. Joints in NBR.

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Built-in thermal protector inside the windings.

With 2 m cable H07 RNF 3 x 1 mm<sup>2</sup>.

Display with push button to increase or decrease the working pressure (150 kPa - 350 kPa).

### Limitations

Maximum aspiration 5 m for installation with foot valve.

Maximum working pressure 6 bar.

Maximum suction pressure 2 bar intake at aspiration point.

Water temperature from 4 °C to 35 °C.

Room temperature from -10 °C to 50 °C.

Motor characteristics 230 V / 50 Hz.



### Electronics

Advanced SPA Speed Driver technology, enabling variable speed operation, with automatic self-regulation which maintains the constant pressure required at all times in the home, thanks to its pressure sensor.

### Equipment

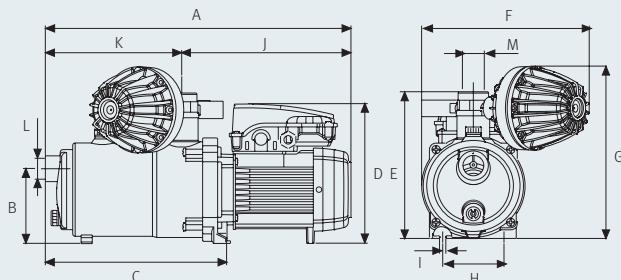
Complete with kit press and pressure gauge.

Optional: 18 lt. hydraulic kit.

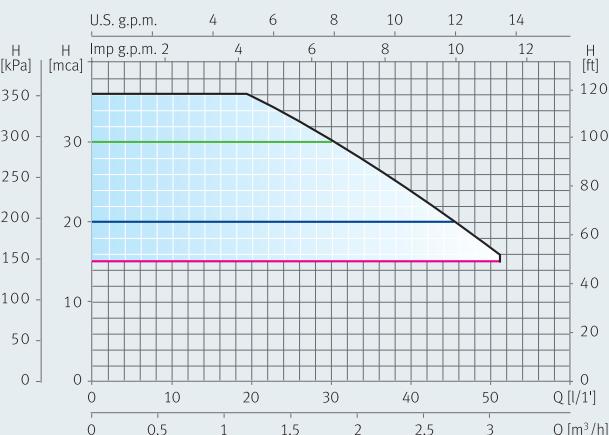


### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	M [Kg]
Tecnoplus 15/4 M	439	108	261	200	216	241	253.8	88	9	243	196	G1"	10.5



### Performance curves at 2900 rpm



The pump can operate at any point inside the indicated area. The characteristic curves depend on the delivery pressure. By way of example, the curves are shown for delivery pressures of 150, 200 and 300 kPa.

The operating limit curve corresponds to the maximum rotating speed.

### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	5	10	15	25	30	35	45	50
	1~ 230 V	1~ 230 V	[kW]	[HP]			m <sup>3</sup> /h	0.3	0.6	0.9	1.5	1.8	2.1	2.7
Tecnoplus 15	3.6	0.75	0.55	0.75	12	MAX	36	36	36	32	28	25.5	18.5	15
						MIN	15	15	15	15	15	15	15	15

# Tecnoplus 25 Pressurisation



A horizontal, multistage, centrifugal pump with frequency converter

## Applications

Compact unit with constant pressure for domestic applications, without fluctuations and electrical saving. Easy to install and plug&pump design.

## Materials

Pump body and impellers in stainless steel AISI 304. Diffusers in thermoplastic. Mechanical seal in graphite and ceramic. O'rings in NBR and EPDM.

## Motor

Asynchronous two poles 50/60 Hz. IP 55 Protection. Insulation class F. Built-in with thermal protector inside the windings. Continuous operation. Three-phase motor 230 V and single-phase supply 230 V.

## Equipment

A horizontal, multistage, centrifugal pump with frequency converter with keyboard. Built-in pressure sensor. Built-in dry running control, pressure gauge and dry running control with sequential re-starts in the case of failure. Reduce the water hammer effect on the installations. With 2 m cable HO7RNF 3 x 1 mm<sup>2</sup>. Optional: 24 lt. hydraulic kit.

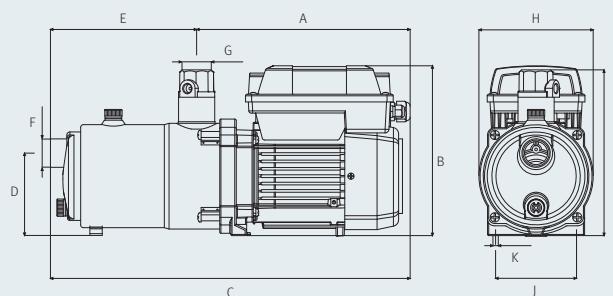


## Limitations

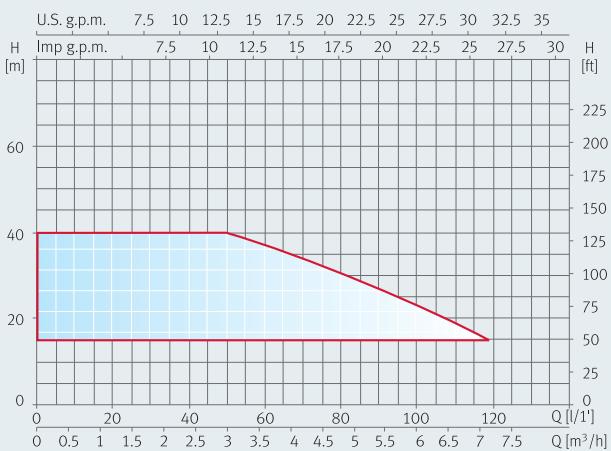
Maximum suction 5 m for installation with foot valve. Maximum working pressure 6 bar. Maximum intake pressure 2 bar. Water temperature from 4 °C to 40 °C. Room temperature from -10 °C to 50 °C.

## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	[kg]
Tecnoplus 25 4M	277.5	221	467.5	107	190	1"	1 1/4"	148.5	216	88	Ø 9	15.5



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [µF]	I/min	45	60	75	90	105	120
	1~ 230 V	1~ 230 V	[kW]	[HP]		m <sup>3</sup> /h	2.7	3.6	4.5	5.4	6.3	7.2
Tecnoplus 25 4M	6.8	1.5	0.92	1.25	16		40	37	33	28	22	15

# Acuaplus N Pressurisation



Maximum comfort at low cost

## Applications

Pressurising of domestic water for houses, semi-detached homes, apartments, chalets and rural homes...

## Materials

Outer casing, discharge body, impellers, filter, discharge cover and motor casing in AISI 304 stainless steel.

Pump shaft in stainless steel AISI 303.

Diffusers in PPO.

Mechanical seal in aluminium oxide/graphite/steatite/NBR/AISI 304.

## Motor

Asynchronous, 2 pole. IP 68 protection.

Class F insulation. Continuous operation.

Water-cooled motor.

Single-phase version with Klixon (incorporated thermal protection).

With level switch.

## Limitations

Maximum working pressure 8 bar.

Ø of solids 2 mm.

Water temperature from 4 °C to 35 °C.

Maximum start-ups: 30/hour.

Vertical or horizontal installation.

## Equipment

Multistage submersible pump with electronic variable speed regulation and integrated pressure sensor for constant pressure.

Incorporating a detection and protection device against functioning in dry operation, with sequential start-up attempts in the event of failure.

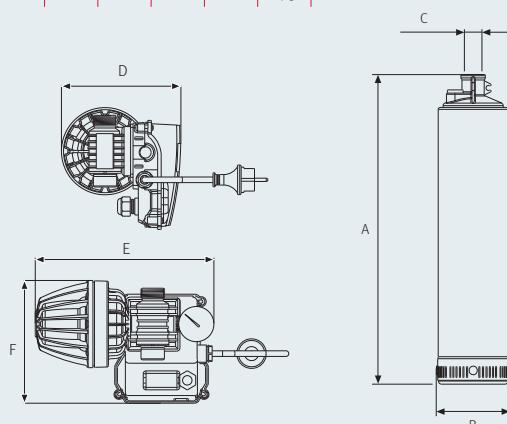
Reduce the water hammer effect on the installation. Oil chamber with double mechanical seal.

Optional: 18 lt. hydraulic kit.

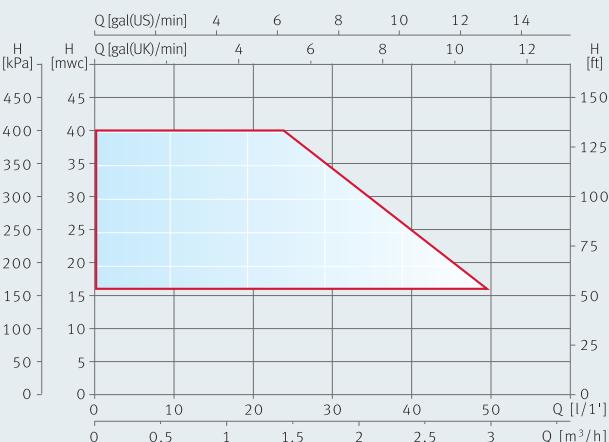


## Dimensions and weights

Model	A	B	C	D	E	F	[Kg]
Acuaplus N	517	126	1"	170	254	175	11.5



## Performance curves at 2900 rpm (similar to acuaria 07/4)



The pump can operate at any point inside the indicated area. The characteristic curves depend on the delivery pressure. By way of example, the curves are shown for delivery pressures of 150, 200 and 300 kPa. The operating limit curve corresponds to the maximum rotating speed.

## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	I/min	0	10	20	30	40	50
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.4	3
Acuaplus N 5M	4,7	1	0.75	1	12	40	40	40	34,6	25,3	16,1	

## Submersible multistage pumps, built-in pressure control

### Applications

Pressurising of domestic water for houses, semi-detached homes, apartments, chalets and rural homes...

### Materials

Outer casing, discharge body, impellers, filter, discharge cover and motor casing in stainless steel AISI 304. Pump shaft in stainless steel AISI 303. Diffusers in PPO. Mechanical seal in graphite and alumine/graphite/steatite/NBR/AISI 304.

### Motor

Asynchronous, two poles. IP 68 protection. Class F insulation. Continuous operation. Water-cooled motor. Single-phase version with Klixon (incorporated thermal protection).

### Limitations

Maximum working pressure 8 bar. Ø of solids 2 mm. Maximum 30 start-ups: per hour. Water temperature from 4 °C to 40 °C. Motor characteristics 230 V. Vertical installation only.

### Equipment

Submersible multistage pump built-in pressure control and non return valve. With dry running control with four trials if no water. Oil chamber with two mechanical seals. Model 4: starting pressure at 2 bar. Model 6: starting pressure at 3 bar.

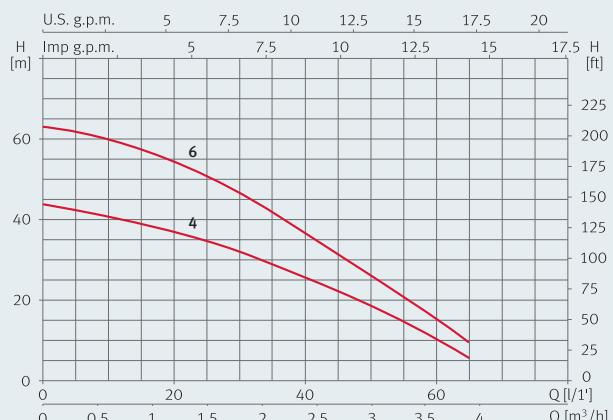


### Dimensions and weights

Model	A	B	C	[kg]
Acupres 4	493	126	1"	10.6
Acupres 6	560	126	1"	12.4



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [µF]	l/min	10	20	30	40	45	50	60	65
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]										
Acupres 4	3.5	1.7	0.8	0.8	0.5	0.75	12	mwc	41	37	32	26	22	19	10	6
Acupres 6	5	2	1.2	1.1	0.9	1.2	16		60	55	47	37	32	26	15	9

# Aquabox Pressurisation



## Compact storage tank and pressurisation unit (with AirGap)

**Aquabox** is ESPA's advanced solution for buildings with low pressure or volumes of flow. It is a competitive, efficient alternative to traditional pressurisation units, eliminating the typical fluctuations in flow, complex mechanical designs and their excessive electrical consumption.

**Aquabox** is a compact, well proportioned pressurising unit, with an integrated design and maximum energy efficiency.

It comprises two basic elements: a latest-generation automatic ESPA pump and a storage tank. The result of the advanced engineering in the combination of these two components is an innovative unit offering high levels of convenience in water use, and guaranteeing not only its permanent availability (even when the water supply is cut off), but also strong, regular, constant pressure. The 200-l. tank can be used as a backup system in the case of restrictions on the use of water from the mains. In line with regulation EN 1717, the outer casing incorporates a safety partition to safeguard against the pollution of drinking water.

### Applications

Aquabox is multipurpose and can be used in settings with water supply problems.

Rural areas: second homes, village dwellings, rural tourism, etc.

Urban areas: housing developments, houses, commercial premises, restaurants, etc.



### With Fixed Speed Pump

The most competitive, versatile and efficient alternative for all types of buildings.



### Model: Aquabox 350 Acuaria

Automatic pressurisation system incorporating the submersible Acuaria pump and 05 Kit with adjustable automatic start-up and shut-down for maintaining the pressure constant.

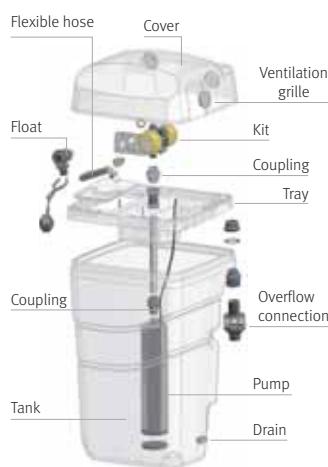
### With Variable Speed Pump

An advanced technology option: maximum pressure control convenience, low noise levels and a considerable saving in electrical consumption.



### Model: Aquabox 350 Acuaplus N

Incorporating the reliable advanced electronic Espa speed driver, which enables the submersible pump to operate at variable speeds while automatically regulating itself to maintain the pressure constant according to needs. Besides saving energy, this technological innovation makes minimal noise and provides remarkable regularity in the water supply flow.



### Model: Aquabox 350 Tecnoplus

Automatic pressurisation system incorporating the tecnopres surface pump with an electronic reset button, dry operation protection system and LED line, operational pump and breakdown indicators, as well as an automatic start-up/shut-down function depending on demand.

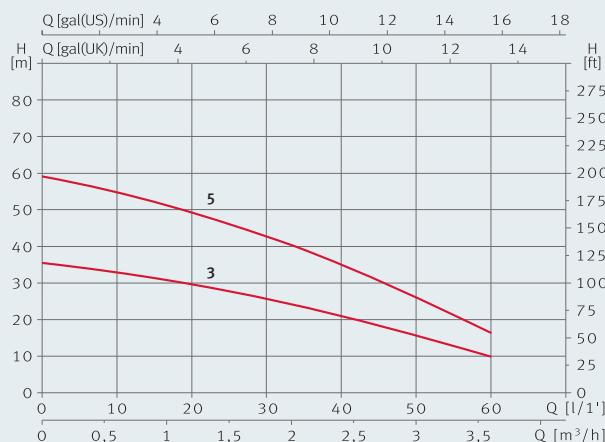


### Model: Aquabox 350 Tecnoplus

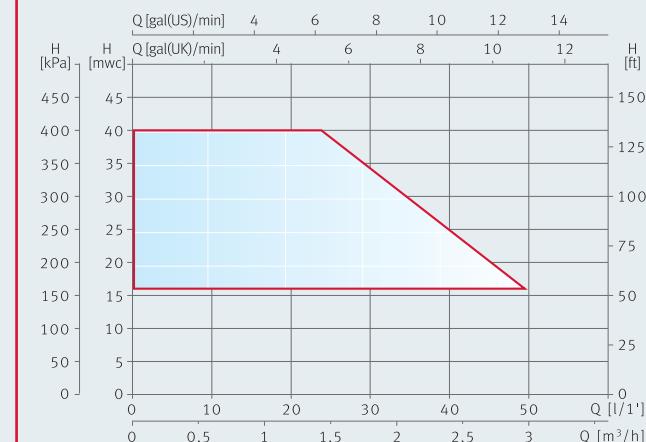
Identical features to the Aquabox 350 Acuaplus N, but with a Tecnoplus surface pump.

## Performance curves at 2900 rpm

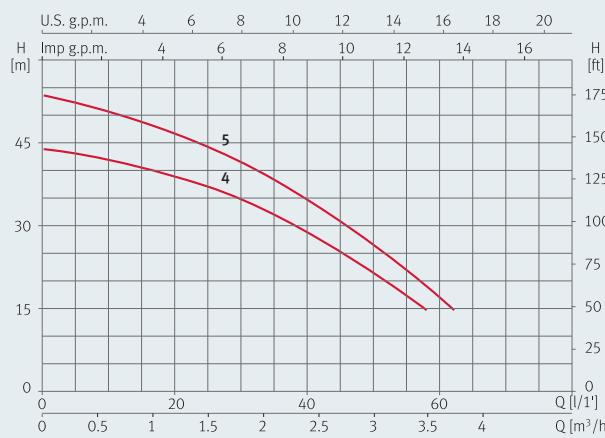
Acuaria 07N 3/5



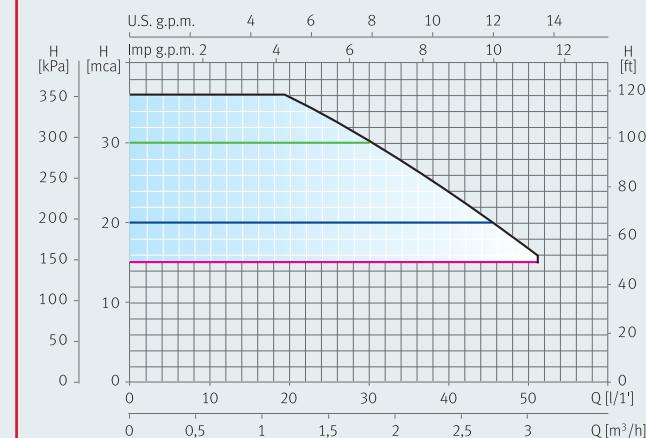
Acuaplus N



Tecnopres 15 4/5



Tecnoplus



## Pump options for the Aquabox unit / Dimensions

	Acuaplus N	Acuaria 07N 3/5	Tecnoplus	Tecnopres 15 4/5
Submersible	X	X		
Surface			X	X
Constant pressure-variable speed	X		X	
Automatic control	X	X	X	X
Dry operation protection	X	X	X	X
Inlet float	X	X	X	X
Overflow duct in accordance with regulation EN1717	X	X	X	X
Water supply/outlet connection	3/4"	3/4"	3/4"	3/4"
Drain connection	DN 50	DN 50	DN 50	DN 50
Width A [mm]	600	600	600	600
Depth B [mm]	600	600	600	600
Height C [mm]	1150	1150	1150	1150
Empty tank weight [Kg]	25.5	25.5	25	25
Useful tank capacity	200	200	200	200
Working pressure [bar]	3	2.5	2.5	2.5
Flow at working pressure [l/min]	40	30/45	40	43/50
Installed capacity at P1 [kW]	0.95	0.6/0.95	0.8	0.8/1



## Pump model

Description	Pump model
Aquabox 350 Acplus 230 50	Acuaplus N 230 50
Aquabox 350 AC 07 3 M 230 50	Acuaria 07N 3 M 230 50
Aquabox 350 AC 07 5 M 230 50	Acuaria 07N 5 M 230 50

Description	Pump model
Aquabox 350 Tecplus 230 50	Tecnoplus 15 230 50
Aquabox 350 TP 15 4 M 230 50	Tecnopres 15 4 M 230 50
Aquabox 350 TP 15 5 M 230 50	Tecnopres 15 5 M 230 50

All overflow outlet has been built into the tank to safeguard against the possible contamination of drinking water in the public network, in the case of back flow, in compliance with European standard EN 1717.

# Sub-Tank 100/240 Pressurisation



## Fixed speed booster and tank package

### Applications

To restore system pressure, when the mains supply is insufficient a pump may be used; however, to comply with water authority byelaws a break tank must be incorporated, as the pump is precluded from direct connection to the mains water supply.

The **ESPA Sub-tank** system has been designed to solve this problem. A fully automatic unit, the **Sub-tank** has an **Acuaria** stainless steel submersible pump incorporated into the break tank, giving space saving advantages in small plant rooms or roof spaces. (**For pump curves, motor and electrical details see pages 22 & 23**).

Control is provided by a pressure stat, with built-in pressure gauge (**see page 94 for details of control device**) or via a pressure switch. Electronics prevent starting without water. LEDs display On line, pump operating and Fault, on pressure stat version. Installation is straightforward with only three connections required.

### Equipment

Adjustable start pressure: 1.5 - 2.5 bars.  
Complete with insulation jackets.

### Limitations

Maximum temperature 40°C.

### Materials

Led indicators display line LED indicators display line voltage, pump operation and failure. Requires no maintenance or pre-charge (except for pressure switch version). 95 lt. or 227 lt. Actual capacity high density polyethylene break tank (BS4213). WRAS approved. Byelaws 30 top tank fitted with 1/2" ball valve complying with (byelaw 11) type "AB" air gap, protecting incoming mains supply from Class 1; Class 5 designated risk of contamination (byelaws 25). Kit 05 Pressure stat starts and stops pump automatically and supplies water at a constant pressure. For the options with other pressure switch with vessel, please add £40.



GRP Housing for Sub-Tank

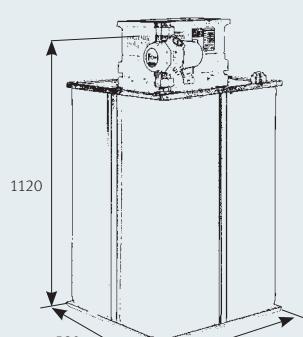


### Pump model

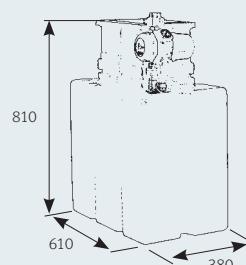
Sub-tank 100/240 fixed speed

Description	Model
ST07.3/100	Acuaria 07.3
ST07.4/240	Acuaria 07.4
ST07.5/240	Acuaria 07.5
ST07.6/240	Acuaria 07.6
ST17.5/240	Acuaria 17.5
ST17.7/240 PS *	Acuaria 17.7
ST27.4/240	Acuaria 27.4
ST27.6/240 PS *	Acuaria 27.6
Extra 240 lt tank	
Extra 240 lt tank c/w chamber kit	
GRP Housing for sub-tank	

\* (pressure switch version only)



Pressure stat 240 version



Pressure stat 100 version

# Sub-Tank 240/480 Pressurisation



## Variable-speed booster and tank package

The **ESPA Sub-tank** system has been designed to solve this problem. A fully automatic unit, the **Sub-tank** has a stainless steel submersible pump incorporated into the break tank, giving space-saving advantages in small plant rooms. An in-line inverter with built-in pressure transducer provides control. Electronics prevent starting without water. Digital displays show On line, Pump operating and Fault. Installation is straightforward with only three connections required.

### Applications

To restore system pressure when the mains supply is insufficient, a pump may be used. However, to comply with water authority byelaws, a break tank must be incorporated, as the pump is precluded from direct connection to the mains water supply.

### Materials

227 lt. actual capacity high density polyethylene break tank (BS4213). WRAS approved. Byelaws 30 top tank fitted with 1/2" ball valve complying with (Byelaws 11) type "AB" air gap, protecting incoming mains supply from a Class 5 designated risk of contamination (Byelaws 25). Inverter starts and stops pump automatically and supplies water at a constant pressure. Prevents starting in the absence of water and avoids water hammer. Inverter displays rotation, frequency and system pressure.

### Limitations

Adjustable start pressure: 0.8 – 9.0 bar.  
Maximum temperature 40 °C.

The pressure vessel requires a pre-charge with air (0.3 – 0.5 bar). This charge should be checked and adjusted every three months.

#### 240.I

Single pump c/w inverter and one tank.

#### 480.I

Single pump c/w inverter and two tanks.

#### 480.DI

Twin pumps c/w inverters and two tanks.



### Equipment

All sets are c/w insulation jacket.



### Pump model

Sub-tank 240.I variable speed

Description	Model
ST07.4/240.I	Acuaria 07N 4
ST07.5/240.I	Acuaria 07N.5
ST07.6/240.I	Acuaria 07N 6
ST17.5/240.I	Acuaria 17.5
ST17.7/240.I	Acuaria 17.7
Extra 240 lt tank	
Extra 240 lt tank c/w chamber kit	
GRP Housing for sub-tank	

Sub-tank 480.I variable speed

Description	Model
ST07.4/480.IW/18	Acuaria 07N 4
ST07.5/480.IW/18	Acuaria 07N.5
ST07.6/480.IW/18	Acuaria 07N 6
ST17.5/480.IW/18	Acuaria 17.5
ST17.7/480.IW/18	Acuaria 17.7
ST27.4/480.IW/18	Acuaria 27.4
GRP Housing for sub-tank	

Sub-tank 480.DI variable speed

Description	Model
ST07.4/480.DIW/18	Acuaria 07N 4
ST07.5/480.DIW/18	Acuaria 07N.5
ST07.6/480.DIW/18	Acuaria 07N 6
ST17.5/480.DIW/18	Acuaria 17.5
ST27.4/480.DIW/18	Acuaria 27.4
ST27.6/480.DIW/18	Acuaria 27.6
GRP Housing for sub-tank	

(For pump curves, motor and electrical details see pages 22 & 23)

## Pressurisation units

### Applications

ESPA Pressurisation equipment automatically controls the pressure in a sealed system, delivering water at a pre-determined pressure.

Once the system has been filled, the unit will take over and maintain the optimum system conditions.

Should a loss of water occur in the system, for any reason, the built-in pressure sensor will detect the drop in pressure and automatically start the pump restoring the system to the original cold fill pressure.



### Dimensions

Model	Length	Width	Height
ES1000	600	550	450

### Technical features

Model	Voltage	FLC each pump	Kw	Outlet size	CPF max
ES1000	1 x 230 V 50 Hz	2.1 Amps	0.37	15 mm	2.8 bar
ZHLPS2					

High/low pressure switch kit (on cooper manifold)

## Pressurisation units with LED display

### Features

Set point and differential can be adjusted with an accuracy of 0.1 bar. (user set).  
 High Pressure and Low Pressure alarms can be set with an accuracy of 0.1 bar.  
 Alarm relay and onboard buzzer.  
 Auto rest. (user set).  
 Dry run protection with auto reset (Low level switch).  
 Flood protection – maximum pump run timer can be set in increments of 10 minutes up to 990 minutes and 0 to disable function.  
 Alarm relay and onboard buzzer.  
 Manual reset (user set).  
 Single or dual pump, configurable in the parameters.  
 Auto changeover on dual-pump setting.  
 Pump current monitoring. If a fault (excess current) is detected, it will isolate the pump and sound alarm.  
 On dual pump versions it will automatically activate the second pump until the process is complete.  
 Continuous pressure displayed on screen. Hours run of each pump.  
 Log of number of alarms.  
 Alarm messages displayed on screen.  
 Internal buzzer with mute and reset.  
 Activation delay to stop false starts.  
 Common alarm volt-free or powered output.

Switchable between N/O or N/C.  
 8 amp relays for pumps and alarm.  
 RS485 output for communication to BMS or with external modules which will enable communication via LON protocols, etc. (modules optional extra). Three-digit high visibility LED display. Simple cassette-style case with screw terminals at rear.  
 IP68 fascia.  
 Intelligent overrun on pump to prevent repetitive starts and guarantee set point is achieved. 60-day pulse of pump to prevent seizing and flush pump.  
 Switched input for bag rupture device.  
 Keypad lock function to prevent tampering.  
 Safe low voltage user interface.  
 CE and EMC approved.  
 Proven reliable technology.



### Espres Delux:

As Espres but with additional volt free contacts, high pressure, low pressure and pump health.

### Dimensions and weights

Model	Length	Width	Height	[kg]
Espres 1000	465	315	793	46
Espres 2000	465	315	793	52

Dimensions for the packaged sets on request

### Technical features

Model	Voltage	FLC each pump	[kW]	Outlet size	CPF max
Espres 1000	1 x 230 V 50 Hz	2.1 A	0.37	15 mm	3.5 bar
Espres 2000	1 x 230 V 50 Hz	2.1 A	0.37	15 mm	3.5 bar
Espres 1000 Deluxe	1 x 230 V 50 Hz	2.1 A	0.37	15 mm	3.5 bar
Espres 2000 Deluxe	1 x 230 V 50 Hz	2.1 A	0.37	15 mm	3.5 bar
Espres 1000.H	1 x 230 V 50 Hz	3.8 A	1.00	15 mm	5.0 bar
Espres 2000.H	1 x 230 V 50 Hz	3.8 A	1.00	15 mm	5.0 bar

H = for sets with higher cold fill pressure of 5.0 Bar. Vessels are supplied separately, see page.

## Pressurisation units with LED display

### Standard features

3 and 6 bar pump with continuously rated single phase motor.  
 Anti seizing pump exercise.  
 2 assignable volt free contacts for boiler/chiller interlock.  
 Reprogrammable displayed contact telephone number in event of a fault.  
 Built in thermal motor protection.  
 Interconnecting pipework and fittings.  
 Audible and visual alarm indication with mute.  
 Pump dry run protection with programmable delay for break tank refilling.  
 Suitable for use as a fill set, thereby eliminating the need for RPZ valves.  
 Replaceable pump protection fuses.  
 Programmable burst pipe protection.  
 Removable terminals for ease of wiring.  
 Break tank with ball valve and type AA air gap (Cat 5).  
 Password protection.  
 Pump hours run log.  
 TRIAC control for reliability and spark free pump operation.  
 Removable cover for ease of service.

### Optional features

Twin pump package.  
 Relay board with 7 volt free contacts for pump run, system fault, pump fault, water leak, low water, high pressure and low pressure.  
 6 bar pump sets.



### Dimensions and weights

Model	Length	Width	Height	[kg]
Wallpres 1000	440	225	545	17
Wallpres 2000	440	225	545	19

Dimensions for the packaged sets on request

### Technical features

Model	Voltage	FLC each pump	[kW]	Outlet size	CPF max
Wallpres 1000	1 x 230 V 50 Hz	0.6 A	0.37	15 mm	3.0 bar
Wallpres 2000	1 x 230 V 50 Hz	0.6 A	0.37	15 mm	3.0 bar
Wallpres 1000.H	1 x 230 V 50 Hz	3.8 A	1.00	15 mm	5.0 bar
Wallpres 2000.H	1 x 230 V 50 Hz	3.8 A	1.00	15 mm	5.0 bar

H = for sets with higher cold fill pressure of 6.0 Bar. Vessels are supplied separately, see page.

# Booster sets Pressurisation



## Low cost variable speed (CKE)

### Applications

Fully automatic variable speed units, for commercial and domestic applications.

ESPA CKE inverter booster sets are designed to provide an efficient solution to water boosting applications where existing supplies are unreliable or insufficient to meet the demands of commerce and industry. SPA variable speed booster sets embrace the best in modern control techniques, whilst holding true to the traditional principles of quality engineering. Due to the compact design SPA booster sets offer a small footprint in relation to performance. Installation is straightforward, with site work usually limited to connecting site pipe work and the provision of a suitable electrical supply.

### Features

Stainless steel suction and discharge manifolds AISI 304.  
 Steel chassis finished in black epoxy coating.  
 WRAS approved pumps.  
 WRAS approved nickel plated brass ball valves on each pump providing individual isolation if necessary.

Anti-vibration mounts as standard.

24 lt. pressure vessel.

Control panel with MCBs.

Full documentation is provided with each booster set.

### ESPA ESD advantages

An innovative system that can be used with a variation of pump types including multistage, vertical or horizontal pumps. Saves energy up to 50 %, silent running, compact and can extend the life of the pump.

Designed to vary the frequency (Hz) of the pump in order to keep the hydraulic system at a constant pressure. Regulates energy consumption on the basis of the flow demand.

Interface is user friendly allowing easy use to calibrate pressure set points, view error messages and setting.

Multipump capability up to four pumps.

Dry running protection via external float switch.

CKE XVM: Vertical multistage pumps.

CKE TEC: Horizontal multistage pumps.



### Technical features

#### Single pump sets

Model	Voltage	Duty one pump	Duty two pump
CKE1MXVM404R07/24	230 V/1 PH/50 Hz	50-120LPM@ 2.5 - 3.0 bar	N/A
CKE1MXVM407R11/24	230 V/1 PH/50 Hz	50-120LPM@ 2.5 - 6.5 bar	N/A
CKE1MXVM803R15/24	230 V/1 PH/50 Hz	100-240LPM@ 2.25 - 3.5 bar	N/A
CKE1MXVM805R22/24*	230 V/1 PH/50 Hz	100-240LPM@ 4.5 - 6.0 bar	N/A
CKE1XVM805R22/24	400 V/3 PH/50 Hz	100-240LPM@ 4.5 - 6.0 bar	N/A

#### Twin pump sets

Model	Voltage	Duty one pump	Duty two pump
CKE2MXVM404R07/24	230 V/1 PH/50 Hz	50-120LPM@ 1.5 - 3.0 bar	50-240LPM@ 1.5 - 3.0 bar
CKE2MXVM407R07/24	230 V/1 PH/50 Hz	50-120LPM@ 2.5 - 6.0 bar	50-240LPM@ 2.5 - 6.0 bar
CKE2MXVM803R15/24	230 V/1 PH/50 Hz	100-240LPM@ 2.25 - 3.5 bar	100-480LPM@ 2.25 - 3.5 bar
CKE2MXVM805R22/24*	230 V/1 PH/50 Hz	100-240LPM@ 4.5 - 6.0 bar	100-480LPM@ 4.5 - 6.0 bar
CKE2XVM805R22/24	400 V/3 PH/50 Hz	100-240LPM@ 4.5 - 6.0 bar	100-480LPM@ 4.5 - 6.0 bar
CKE2MTEC25/5/18	230 V/1 PH/50 Hz	30-100LPM@ 2.5 - 5.0 bar	30-200LPM@ 2.5 - 5.0 bar

\* Available middle of 2011.

Other models and configurations available on request [boosters@espa.co.uk](mailto:boosters@espa.co.uk)

# Booster sets Pressurisation



## High specification variable speed

### Applications

ESPA Inverter booster sets are designed to provide an efficient solution to water boosting applications where existing supplies are unreliable or insufficient to meet the demands of commerce and industry.

ESPA variable speed booster sets embrace the best in modern control techniques, whilst holding true to the traditional principles of quality engineering.

Due to the compact design ESPN booster sets offer a small footprint in relation to performance. Installation is straightforward, with site work usually limited to connecting site pipe work and the provision of a suitable electrical supply.

### Features

Stainless steel suction and discharge manifolds AISI 304 – Copper (optional steel) finished in black epoxy coating WRAS approved nickel-plated brass ball valves on each pump providing individual isolation if necessary.

Anti-vibration mounts as standard. Steel enclosed panel IP 54, incorporating the following features:  
One or more Danfoss inverter(s) (depending on control choice).  
Door interlocked isolator.  
Pump controller via transducer.  
Manual/Off/Auto parameter for each pump.  
Duty pump alteration by software control.

Auxiliary input for low water via probe in suction manifold.

Volt-free contacts for BMS output.

Full documentation is provided with each booster set.

### ESPA Control Panel advantages

Major feature – Every time power to the booster set is interrupted, on resumption of power the controller cycles through a “filling system” programme. This eliminates pipework failure due to hydraulic shock.  
Can control up to six frequency-controlled pumps directly via inverter “data bus” Jockey pumps can be inverter “data bus”.

Two jockey pumps can be controlled in variable speed or fixed speed operation. On a large pump system – has a “standard anti-cavitation programme” to prevent damage occurring to pumps on large multi-pump sets.

Pump alternation can be time of day/ week OR on hours run. Total flexibility. Password protection.

Please ask our sales team for a quotation or e-mail on: [boosters@espa.co.uk](mailto:boosters@espa.co.uk)



## Other Package booster sets

### Fixed speed booster sets

Transducer-controlled booster series. Fully automatic units for commercial and domestic applications.

Espa fixed-speed boosters can be built to customer specifications providing automatic control of multiple-phase, single-phase and three-phase pumps, in either Duty/Standby, Duty/assist and Duty/Assist/Standby.



# Accessories Booster Sets



## Manifolds

### Material

Stainless steel AISI 304.  
AISI 316 on request.

### Surface treatment

All manifolds are degreased,  
pickled and electropolished.

### Welded joints

Tig method without additional material.

### Connections

Screwed bsp male gas or flanged PN 16.

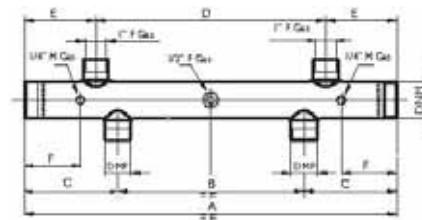
### Optional

Manifold end caps.  
Manifold flange kits.



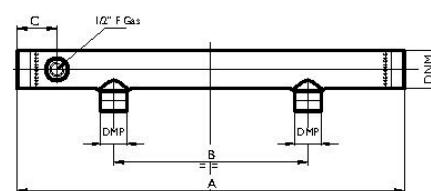
## Discharge

Model	DNM	DNP	A	B	C	D	E	F
M 150/200	1 1/2" M	1" M	600	300	150	370	115	90
M 200/125	2" M	1 1/4" M	600	300	150	370	115	90
M 200/150	2" M	1 1/2" M	600	300	150	370	115	90
M 200/100	2" M	1" M	600	300	150	370	115	90
M 250/150	2 1/2" M	1 1/2" M	600	300	150	370	115	90
M 300/200	3" M	2" M	700	360	170	430	135	115



## Suction

Model	DNM	DNP	A	B	C
A 150/100	1 1/2" M	1" M	600	300	65
A 200/100	2" M	1" M	600	300	65
A 200/125	2" M	1 1/4" M	600	300	65
A 250/125	2 1/2" M	1 1/4" M	600	300	65
A 250/150	2 1/2" M	1 1/2" M	600	300	65
A 300/200	3" M	2" M	700	360	65



Main pipe	Ø	Thickness	Max. Pressure
DN40 1 1/2"	48.3 mm	1.5 mm	25 bar
DN50 2"	60.3 mm	1.5 mm	25 bar
DN65 2 1/2"	76.1 mm	2 mm	25 bar
DN80 3"	88.9 mm	2 mm	25 bar
DN100 4"	114.3 mm	3 mm	25 bar
DN125 5"	139.7 mm	3 mm	25 bar
DN150 6"	168.3 mm	4 mm	25 bar
DN200 8"	219.1 mm	4 mm	25 bar

Other sizes from 65 mm to 200mm PN16 for two to eight pumps available on request.

# Accessories Booster Sets



## Flexible connectors (W.R.A.S Approved)

### Installed length

Model	JP20BS	JP23VS	Max working	Test
50 mm	350		16 bar	24 bar
50 mm		130	16 bar	24 bar
65 mm		130	16 bar	24 bar
80 mm		130	16 bar	24 bar
100 mm		130	16 bar	24 bar
125 mm		130	16 bar	24 bar
150 mm		130	16 bar	24 bar
200 mm		200	16 bar	24 bar
250 mm		200	16 bar	24 bar
300 mm		200	16 bar	24 bar



**JP20BS:** Stainless steel screwed connector c/w socket m/f.

**JP23VS:** Stainless steel flanged PN 16 connector tied.

## Pressure reducing valve

Model	Size	Material
D06F	1/2"	Brass
D06F	3/4"	Brass
D06F	1"	Brass
D06F	1 1/4"	Brass
D06F	1 1/2"	Brass
D06F	2"	Brass
D15P	50 mm	Cast iron
D15P	65 mm	Cast iron
D15P	80 mm	Cast iron



Brass and cast iron pressure reducing valves to reduce outlet pressure between 1.5 - 8 bar, maximum inlet pressure of 25 bar for brass and 16 bar for cast iron.

## Pressure transducers

**Series 511** stainless steel pressure transducers c/w 1.5 m of cable and are available in several different pressure ranges: 0-4 bar, 0-6 bar, 0-10 bar, 0-16 bar and 0-25 bar.



**Danfoss** stainless steel pressure transducer c/w 1.5 m of cable with pressure range



## Floating level switch

The ZIN 15/10 level regulator is a float switch which allows the booster set to not start when the breaktank is empty. (Low water protection).



# Circulating pumps

Pressurisation



For heating and chilled water

## Glandless

In-line wet rotor circulators, fixed-speed or variable-speed, single-pump or twin-pump versions, 230 V/1 PH/50 Hz or 400 V/3 PH/50 Hz power supplies.

## Applications

Water circulating in heating and air conditioning systems.  
Residential hot water systems.  
Cooling and chilled water systems.



## Glandless

In-line centrifugal pumps fixed-speed or variable-speed, single-pump or twin-pump versions, 230 V/1 PH/50 Hz or 400 V/3 PH/50 Hz power supplies.

**FLS** versions available with efficiency Class 1 motors.

## Applications

Water circulating in heating, ventilation and chilled water systems.  
General industry, heat recovery and auxiliary equipment.



See our circulating pump catalogue for further information.  
Please ask our sales team for a copy or a quotation.

# Fire sets Pressurisation



## Fire fighting booster sets. Range overview

Espa manufactures a complete range of firefighting booster sets according with the following rules.



### Booster sets to feed fire hose reels

Booster sets according with the

following rules:

EN 23-500-90.

APSAD R1.



### Models

**UE:** jockey pump + electric pump.

**UD:** jockey pump + engine driven pump.

**U2E:** jockey pump + electric service pump + electric auxiliary pump.

**UED:** jockey pump + electric service pump + engine driven auxiliary pump.

### Booster sets to feed sprinklers

EN 12845: 2003.

CEPREVEN RT2 ABA.

APSAD R5.

### Models

**CE:** jockey pump + electric pump.

**CD:** jockey pump + engine driven pump.

**C2E:** jockey pump + electric service pump + electric auxiliary pump.

**CED:** jockey pump + electric service pump + engine driven auxiliary pump.



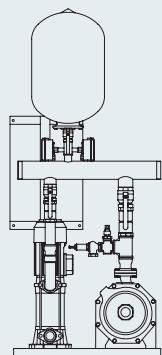
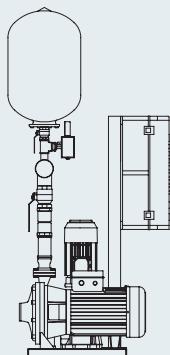
# Fire sets Pressurisation



## Components

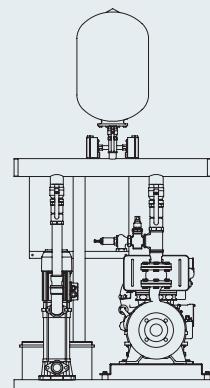
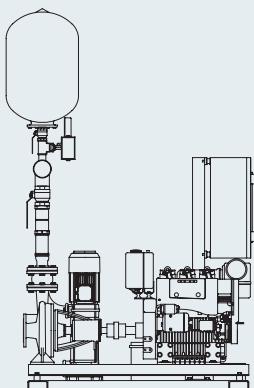
UE

Jockey pump: Multi.  
Electrical driven Service pump. Monobloc.  
Control panel.  
Pressure vessel 50 l.  
4 pressure switches: 3 service pump + 1 jockey.  
Fittings and valves.



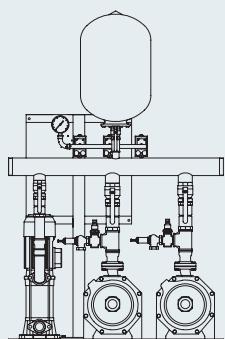
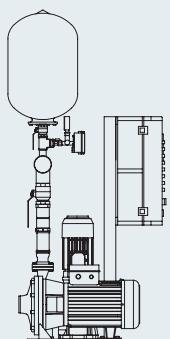
UD

Jockey pump: Multi.  
Diesel engine driven Service pump. Monobloc.  
Control panel.  
Pressure vessel 50 l.  
4 pressure switches: 3 service pump + 1 jockey.  
Fittings and valves.



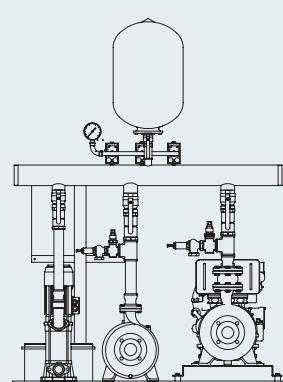
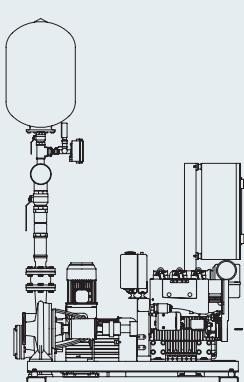
U2E

Jockey pump: Multi.  
Service and auxiliary electrical driven pump. Monobloc.  
Control panel.  
Pressure vessel 50 l.  
7 pressure switches: 3 service pump + 3 auxiliary  
pump + 1 jockey.  
Fittings and valves.



UED

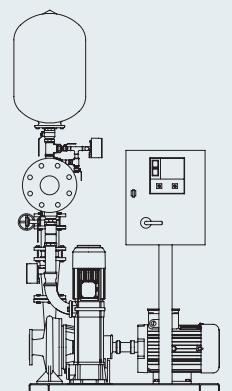
Jockey pump: Multi.  
Service electrical driven pump + Diesel engine driven pump.  
Control panel.  
Pressure vessel 50 l.  
7 pressure switches: 3 service pump + 3 auxiliary  
pump + 1 jockey.  
Fittings and valves.



## Components

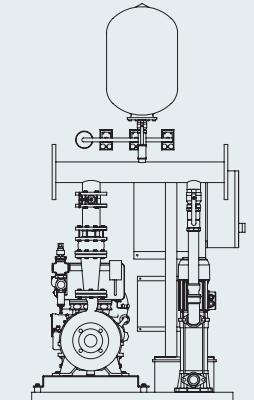
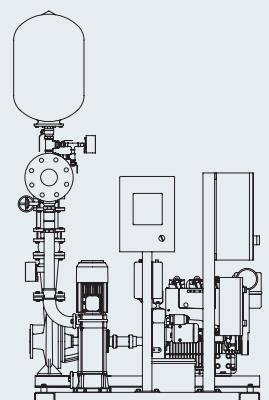
CE

Jockey pump: Multi.  
 Electrical driven Service pump.  
 Control panel.  
 Pressure vessel 50 l.  
 4 pressure switches: 3 service pump + 1 jockey.  
 Fittings and valves.



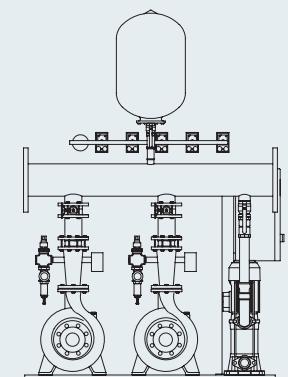
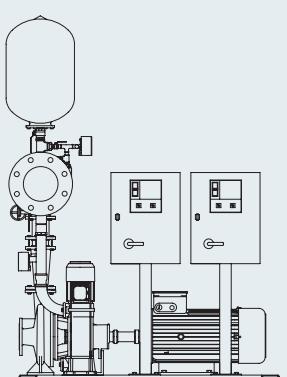
CD

Jockey pump: Multi.  
 Diesel engine driven Service pump.  
 Control panel.  
 Pressure vessel 50 l.  
 4 pressure switches: 3 service pump + 1 jockey.  
 Fittings and valves.



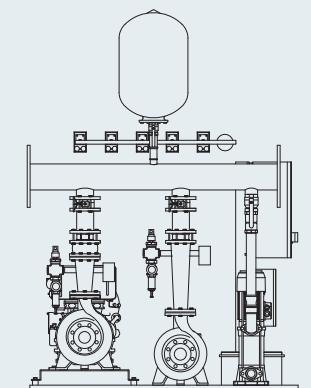
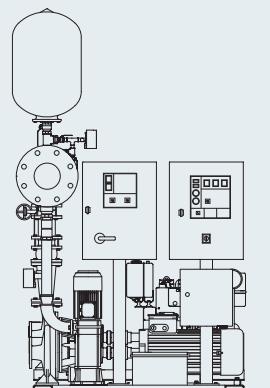
C2E

Jockey pump: Multi.  
 Service and auxiliary electrical driven pump.  
 Control panel.  
 Pressure vessel 50 l.  
 7 pressure switches: 3 service pump + 3 auxiliary  
 pump + 1 jockey.  
 2 control panel.  
 Fittings and valves.



CED

Jockey pump: Multi.  
 Service electrical driven pump + Diesel engine driven pump.  
 2 control panel for engine driven pump and control panel for  
 electric pump.  
 Pressure vessel 50 l.  
 7 pressure switches: 3 service pump + 3 auxiliary  
 pump + 1 jockey.  
 Fittings and valves.



# Industrial process Progress cavity pumps



## F range Free Molded Pumps

Range available:  
FM-S OR FM-C  
Flow rates up to 10,000 l/hr  
Pressure up to 4 bar.



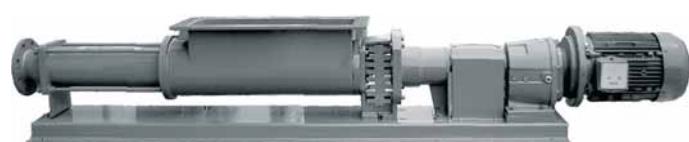
## K range

Flow rates up to 200 m³/h.  
Pressure up to 24 bar.  
Special on request up to 48 bar.



## W range Standard Open Throat

Flow rates up to 100 m³/h.  
Pressure up to 24 bar.



## Macerator

C31 pump self priming PC screw pump.  
The bi-hammer macerator reduces  
particle size before entering the  
pumping element.  
Capacity: up to 3.5 m³/h. & up to 6 bar.



For further information, please ask our sales team for a quotation.



WATER  
REGENERATION

# S-Line X Press Domestic Rainwater Harvesting



## Compact system controller with submerged pump

Compact system controller with submerged pumps and demand-driven mains water feed for rainwater systems.

### Applications

Processes rain water use for domestic properties. Provides water for toilets, washing machines and garden watering.

### Benefits

Very light.  
Compact with minimal space required in the home.  
Simple installation.

### Product description

The system controller **X Press** consists of an in-house stainless steel console and a stainless steel submerged pump in the rainwater tank.

The in-house controller is characterised by its very compact construction.

The pump controller and a solenoid with tundish is fed by the mains water supply located on the stainless steel console.

The pump controller switches the submerged pump on as soon as a consumer point is opened.

The pump supplies the system even when the length and height conditions are unfavourable.

A float switch monitors the level of the rainwater tank constantly, so that if there is too little rainwater in the tank, there is an automatic changeover to the mains water supply.

The mains water supply is provided by intelligent linking of the pump controller with the solenoid, but this is only on demand and is fully automatic.

The **X Press** is a very light, compact and fully automatic system controller for use with rainwater, which despite the use of a submerged pump only supplies mains water depending on demand.

The particularly light stainless steel 30/50 submerged pump is suitable for dry or immersed installation.

### Abbreviated technical specification

Multi-stage stainless steel submerged pump with 1 1/4" suction and pressure pipes and 15 m rubber cable.

1 m floating extraction.

Stainless steel support console.  
Electric mains water supply with solenoid, tundish and float switch with 20 m cable.

Flow monitor with dry running protection and volume-dependent cut out.



Controller



Submerged pump with floating extraction.

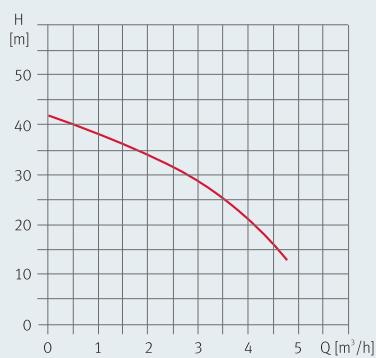


Controller with float switch

Techinal specification (controller)	
Width	290 mm
Height	145 mm
Depth	130 mm
Weight	3 kg
System height (max.)	15 m
Funnel	DN 50
Flow monitor (inflow)	1" Male Connection
Flow monitor (outflow)	1 1/4" Female Connection
Float switch	20 m
Protection class	IP 55

Techinal specification (pump)	
Diameter	224 mm
Height	603 mm
Weight	16.7 kg
Rated output (max.)	870 watts
Supply voltage	230 V / 50 Hz
Temperature of the transported material	+ 5 °C to + 35 °C
Capacity (max.)	4.8 m³/h
Pressure (max.)	4.2 bars
Pressure/suction pipes	1 1/4" Female Connection
Protection class	IP 68

### Pump response curve



# Eco-System Domestic Rainwater Harvesting



## Automatic rainwater recovery management unit

### Applications

Supply and pressurisation of rainwater for households, washing machines, cleaning and garden sprinklers. Easy maintenance. The Eco-System unit ensures the supply of water by alternating rainwater with mains water if the rainwater reserves run dry.

### Materials

High-density polyethylene tank. Pump: impellers and pump casing in AISI 304 stainless steel. Drive shaft in AISI 420 stainless steel. Diffusers in technopolymer. Mechanical seal in graphite and steatite. Joints in EPDM/NBR.

### Operation

Compact unit ready for use, "Plug & Play".

Motorised 3-way valve for alternating between rainwater/mains water.

With a 15 lt. mains water reserve tank with overflow duct and separation of mains water and rainwater in accordance with EN 1717 and EN 13077 standards. SPA Tecnopres 15 4M pump with kit-press. Dual suction. Dry operation protection.



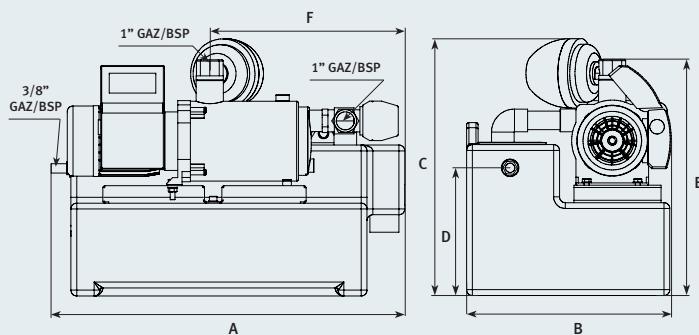
### Equipment

Drinking water inlet valve. Power socket for controlling the 3-way valve. Drainage pipe connection. Level switch. Float with 20 m of cable. Connections: rainwater - 1" M, impulsion - 1" M, mains water - 3/8" H.

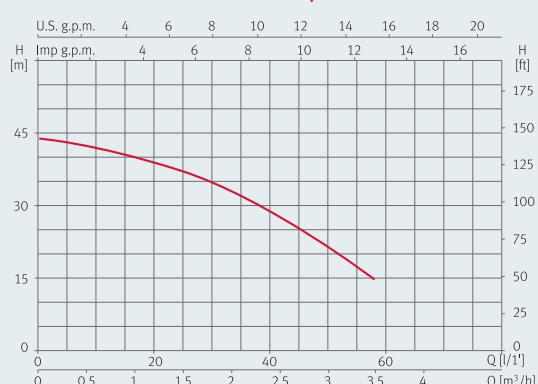


### Dimensions and weights

Model	A	B	C	D	E	F	[Kg]
Eco-System	625	365	450	220	415	335	16



### Performance curves at 2900 rpm



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		C [μF]	l/min	10	20	30	35	40	45	50	60
	1~ 230 V	1~ 230 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.1	2.4	2.7	3.0
Eco-System	3.5	0.8	0.55	0.75	12	mwc	42	39	35	32	28	25	21	17

# S-Line SP1 230 Domestic Rainwater Harvesting



System controller with demand-driven mains water supply for rainwater systems

## Applications

Processes rain water, for properties with up two families.  
Provides water for toilets, washing machines and garden watering by pumping rainwater.

## Benefits

Locked float valve mounting.  
Stagnation protection for drinking water.  
Optional retrofit booster pump.  
Simple installation.  
Pleasantly quiet.

## Product description

All system processes are monitored constantly so that the system is ready for operation at all times.  
The multi-stage, centrifugal pump guarantees both quiet operation and a convenient start-up. In operation, the flow monitor provides dry run protection and volume-dependent cut-out for convenient handling.  
Should there be a shortage of rainwater, mains water is supplied on demand until sufficient rainwater is again available.  
At the same time, a zone valve makes the changeover, controlled via a float switch in the rainwater tank. The mains water is fed in accordance with EN 1717 via a proportional float valve.

As stagnation protection, the water in the mains supply tank is changed after a standing time of 10 days. The change to mains water operation can also be made manually.

All connections are designed as screwed unions. The pump and the mains water tank have been provided with vibration protection elements. The system controller can be mounted on the floor or on the wall.

## Abbreviated technical specification

Galvanised metal console.  
Separate wall mounting.  
Multi-stage self-priming centrifugal pump. Flow monitor with dry running protection and volume-dependent cut-out. Free discharge to EN 1717 type AB.  
Motorized 1" zone valve.  
Proportionally controlled mains water top-up valve. Vibration damper for pump and header tank. Electronic control.  
Float switch with 20 m lead calibration weight. Emergency overflow, Ø 70 mm.  
Enclosure.

## Optional accessories

Booster pump: For poor suction conditions (greater distance between rainwater tank and system controller).  
Level indicator.  
Connection set.

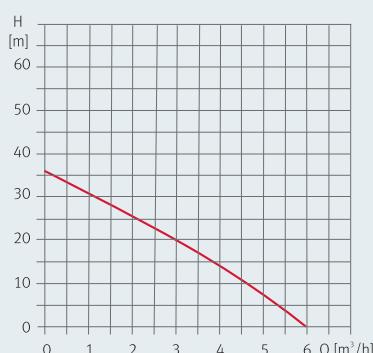


Techinal specification	
Capacity (max.)	6 m <sup>3</sup> /h
Pressure (max.)	3.6 bars
Head (max.)	15 m
Suction depth (max.)	8 m
Protection class	IP 41
Rated output	800 W

Techinal specification	
Supply voltage	230 V/50 Hz
Suction line	1" IG (Female connection)
Pressure line	1" AG (Male connection)
Mains water connection	3/4" AG (Male connection)
Emergency overflow	70 mm Ø pipe
Float switch	20 m (no earth lead)

Dimensions and weights	
Dimensions (W x H x D)	550 x 550 x 320 mm
Wight (empty)	30 Kg

## Pump response curve



### PE rainwater storage tanks Aqua terne 112

High quality PE-rainwatter sotrage tank in sizes 2,500, 5,000 and 7,500 lt. with integrated filter (for a roof size up to 150 m<sup>2</sup>) for installing underground.

The tank is especially designed for storing rainwater and is equipped with everything that is necessary to achieve an excellent water quality and keep maintenance to a minium. The rainwater can be used for your toilet flushing, your washing machine, car washing and of course for irrigating the garden.

The water is perfect for plants and will not build up lime scale in your toilet and your washing machine. Due to the small weight and the low underground installing depth, it is easy to install the tank. (see installation manual).

In case of heavy rainfall the surplus water is discharged via an overflow. The overflow can be connected to the storm drain system or the rainwater can be seeped away on your property. These tanks are successfully in use in thousands of installations. Tanks are also available without filter, garden filter or car duty cover. The white inner surface of the tanks allows easy cleaning.



Volume [lt]	Total height [mm]	Height of tank [mm]	Total lenght [mm]	Total width [mm]	Weight [kg]
2,500	2195	1265	1125	2300	100
5,000	2195	1265	2355	2300	180
7,500	2195	1265	3585	2300	260

# Rain Collectors Domestic Rainwater Harvesting



## Polybutt

### For the supply of rain water for garden irrigation

A packaged rain collector c/w base tap and rain diverter.

Available in two sizes of 220 l.

and 110 l. actual capacity.

Fully UV stabilised polymers guarantee long life.

Super-strength stand designed to support the weight of water.

Lid designed to take plant for decorative purposes.

Pre-drilled for rain saver.

Available in:

Recycled Black, Standard Green, Oak, Pine, Copper and Washed Terracotta.



Various colours to choose from



These colours are for illustration purposes only and are not intended to be a true representation of the colour of the product.

### Dimensions and weights

Model	Ø	Height
Polybutt 110	430	1210
Polybutt 220	520	1320

# S-Line SP 50 Commercial Rainwater Harvesting



## System controller with demand-driven mains water supply for rainwater systems

### Applications

Processes rainwater for domestic and commercial facilities.  
Provides rainwater for toilets, laundry and irrigation by integrated pumps.  
Volumes up to 10 m<sup>3</sup>/h.

### Benefits

Operational demand ready.  
Quick and simple installation.  
Specially developed automatic controller.  
Compact and ready for connection.

### Product description

All system processes are monitored constantly.  
This guarantees that the system is ready for operation at any time.  
The multi-stage, self-priming centrifugal pump guarantees both quiet operation and a convenient start-up.  
The pumps start up alternately, which reduces down time.  
If larger volumes have to be moved, then the second pump is switched in for cascaded operation.  
In operation, the flow monitor provides dry running protection and volume-controlled disconnection for convenient handling the pressure is shown clearly on the LCD display.  
Should there be a shortage of rainwater, mains water is supplied on demand until sufficient rainwater is again available.  
At the same time, a zone valve makes the changeover controlled via a float switch in the rainwater tank.  
The mains water is fed in accordance with EN 1717 via a proportional float valve.

As stagnation protection, the water in the mains supply tank is changed after a standing time of 10 days.  
The change to mains water operation can also be made manually.  
All connections are designed as bolted unions, except for electrical connections which are plug-in.  
Enclosures, pumps and mains water tanks are provided with vibration protection components.  
The floor-mounted system controller is easy and quick to install.



### Abbreviated technical specification

Polyethylene mains water break tank.  
Galvanized metal console.  
Polypropylene pump hydraulics housing.  
Multi-stage self-priming centrifugal pumps. (two)  
Electronic control.  
Float switch with 20 m lead and calibration weight.  
Enclosure.  
Emergency overflow, Ø 70 mm.  
Vibration damper for pump and mains water break tank.  
Proportionally controlled top-up valves.  
Free discharge to EN 1717 type AB.



### Optional accessories

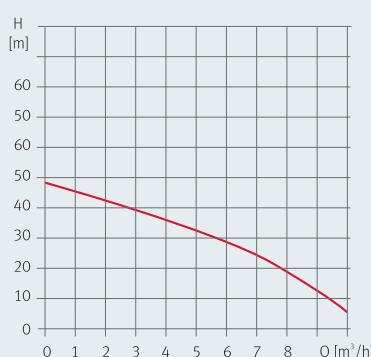
Booster pump: For poor suction conditions (large distance between rainwater tank and system controller).  
Level indicator.  
Connection set.

Techinal specification	
Capacity (max.)	10 m <sup>3</sup> /h
Pressure (max.)	4.8 bars
Head (max.)	20 m
Suction depth (max.)	8 m
Protection class	IP 41
Rated output	2 x 1000 W

Techinal specification	
Supply voltage	230 V/50 Hz
Suction line	2 x 1" IG (Female connection)
Pressure line	1 1/2" AG (Male connection)
Mains water connection	2 x 3/4" AG (Male connection)
Emergency overflow	2 x 70 mm Ø pipe
Float switch	20 m (no earth lead)

Dimensions and weights	
Dimensions (W x H x D)	550 x 850 x 650 mm
Weight (empty)	62 Kg

### Pump response curve



# S-Line SP 100 Commercial Rainwater Harvesting



## Overview

### Applications

Processes rainwater for industrial and commercial users.  
Provides rainwater for toilets, laundry and irrigation by integrated pumps.

### Benefits

High quality, professional system engineering.  
Quick and simple installation.  
Specially developed automatic controller.  
High degree of safety in operation.

### Product description

The **SP 100** is a complete rainwater system with integrated header tank, double pump pressure increasing unit and electronic controller. It monitors the level in the catchment and header tanks. Depending on demand, the booster pump in the catchment tank feeds rainwater into **SP 100**'s header tank. The integrated double pump unit supplies rainwater to the points of use. If there is a shortage of rainwater or manual changeover, the header tank is topped up automatically, on demand, with mains water complying with DIN EN 1717. The solenoid valve is also checked regularly, in order to avoid stagnant water in the mains water line.

### Abbreviated technical specification

Double pump unit, with multi-stage, automatic priming horizontal centrifugal pump and alternating start-up. Option to connect a second booster pump for 2 cistern operation. Maximum flow up to 25 m<sup>3</sup>/h. Electronic controller with 4 line LCD display. Hours run counter for each pump. Double pump unit pressure indicator. Catchment tank level gauge (optional). Manual changeover to mains water mode optional. Volt free BMS/Fault Alarms. RS 232 interface. Everything installed in a powder coated sheet steel housing.



### Technical Specification

	SP 100H 14-40	SP 100H 14-60	SP 100H 20-40	SP 100H 20-50	SP 100H 20-60	SP 100H 25-40	SP 100H 25-50	SP 100H 25-60
Max. movement capacity in [m <sup>3</sup> /h]	14	14	20	20	20	25	25	25
Max. head in [m]	47	59	44	54	64	43	54	63
Current drain in [A]	2 x 5.3 (1 x 230 V)	2 x 6.5 (1 x 230 V)	2 x 2.92 (3 x 340 V)	2 x 3.8 (3 x 340 V)	2 x 5.13 (3 x 340 V)	2 x 4.9 (3 x 340 V)	2 x 5.3 (3 x 340 V)	2 x 6.3 (3 x 340 V)
Motor output P1 in [kW]	2 x 1.100	2 x 1.360	2 x 2.62	2 x 2.13	2 x 2.62	2 x 2.34	2 x 3.140	2 x 3.68

### Dimensions and weights

	14-X	20-X/25-X
Width [mm]	800	800
Height [mm]	1550	1550
Depth [mm]	725	725
Empty weight	150 kg	200 kg
Max. weight	320 kg	370 kg
Pressure line connection *	1 1/2"	1 1/2"
Booster pump connection*	1 1/4"	1 1/2"
Mains water connection*	1 1/4"	1 1/4"
Volume of header tank	200 l	200 l
Emergency overflow	DN 100	DN 100

\* Male connection

### Advantages

Available in sizes from 2,500 to 25,000 l.  
(on demand up to 40,000 l.).

With or without integrated filter.

High water quality due to four-step filtration system.

The tank is especially designed for storing rainwater and is equipped with everything required to attain excellent water quality and keep maintenance to a minimum.

The rainwater can be used for toilet flushing, washing machines, car washing and irrigating the garden.

The tank has a double wall and is for this hence very stable.

Combined with a concrete lid and frame (available as an accessory), the tank has a car duty up to 5 t.

In case of heavy rainfall, the surplus water is discharged via an overflow.

The overflow can be connected to a storm drain system or soakaway.

Tanks are also available with integrated filter (for a roof size up to 150 m<sup>2</sup>).

See table below.

10-year warranty.



Pedestrian/car duty available. Turret, lid, overflow and calmed inlet included:



### Technical features

Model	Volume [V]	Total height [mm]	Height of tank [mm]	Total length [mm]	Ø [mm]	Weight [kg]
G 12025	3,500*	2,850	2,024	1,810	2,024	285
G 12025	5,000*	2,850	2,024	2,330	2,024	365
G 12025	6,000*	2,850	2,024	2,620	2,024	400
G 12025	7,500*	2,850	2,024	3,140	2,024	480
G 12025	9,000	2,850	2,024	3,670	2,024	560
G 12025	12,500	2,850	2,024	5,340	2,024	755
G 12025	13,500	2,850	2,024	5,870	2,024	870
G 12025	15,000	2,850	2,024	6,190	2,024	890
G 12025	16,000	2,850	2,024	6,440	2,024	955
G 12025	18,000	2,850	2,024	7,260	2,024	1,065
G 12025	19,000	2,850	2,024	7,800	2,024	1,145
G 12025	22,000	2,850	2,024	9,160	2,024	1,340
G 12025	25,000	2,850	2,025	9,980	2,025	1,460

\* Tank available with integrated filter (different item No.)

The rainwater storage tank has an integrated four-step filtration system.

In this manner, excellent water quality is obtained, and the tank need only be cleaned once every 10 to 15 years.

## Applications

To work in installations for rain water recovery. Equipped with two inlets: one for rainwater and the other for drinking water.

## Materials

Outer case and impellers in stainless steel AISI 304.  
Diffusers in Noryl (glass-loaded polymer).  
Motor shaft in stainless steel AISI 420.  
Double mechanical seal in graphite and alumine.

## Motor

Water-cooled motor.  
Class F insulation.  
Protection IP 68.  
Continuous operation.  
Single-phase motor with built-in thermal protection.

## Limitations

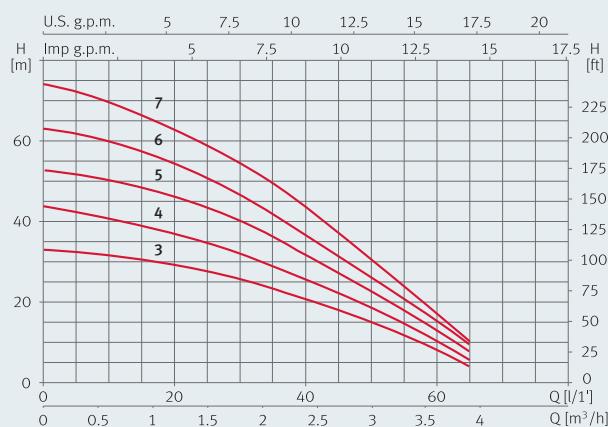
Maximum liquid temperature: 40 °C.

## Equipment

Complete with 15 m of power cable.



## Performance curves at 2900 rpm



## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [µF]	l/min	10	20	30	40	45	50	60	65
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			m³/h	0.6	1.2	1.8	2.4	2.7	3.0	3.6
Rainsub 07N 3	2.8	1.2	0.6	0.6	0.37	0.5	12		33	29	26	21	18	15	8	4
Rainsub 07N 4	3.5	1.7	0.8	0.8	0.5	0.75	12		41	37	32	26	22	19	10	6
Rainsub 07N 5	4.1	1.9	1	1	0.75	1	12	m³/h	50	46	40	32	27	23	13	8
Rainsub 07N 6	5.0	2.0	1.2	1.1	0.9	1.2	16		60	55	47	37	32	26	15	9
Rainsub 07N 7	5.5	2.4	1.4	1.3	1.1	1.5	30		70	64	55	44	38	31	18	11

# Accessories Rainwater Harvesting



## Floating suction

### Equipment

**IRM-floating extraction TWIST** with 2 m hose for flexible extraction of rainwater from the storage tank, pre-assembled including: 1 x 1 mm sieve with PE-floating ball prevents the pump from drawing sediments. 1 x high quality 1" check valve. 1 x special 1" rubber spiral hose prevents germs forming, length 2 m. 1 x brass 1" BSP threaded coupling as passage tank including seal. Article available also with 3 m hose.

### Application

Rainwater harvesting for domestic and commercial use. For tanks where rainwater is filtered (TWIST) or unfiltered (SAFF) prior to holding tank. To extract cleanest water, place 15 cm below water surface.



## 3P Volume Filter VF1

### Description

Rainwater filter with plastic shaft extension tube for direct installation in the ground before the tank, with locking lid. This extension permits an easy adaptation to the height proportions at the moment of the installation on site. If necessary, the telescopic extension can also be shortened. It is also possible to use several extensions. Two step cleaning system, therefore high level of filtering efficiency, independent of flow rate. Due to the steep inclination of the filter cartridge the dirt is continuously cleaned away into the sewer.

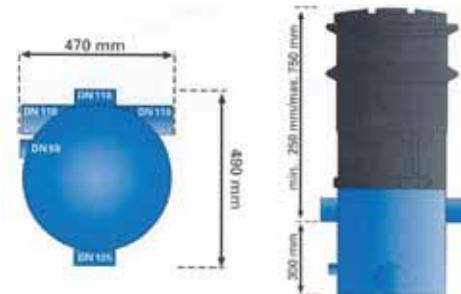
Connection capacity according to DIN 1986 for roof areas up to 350 m<sup>2</sup>. Max. Flow Rate Sieve insert 1,5 lt/sec. = 5,4 m<sup>3</sup> cleaned water per hour. Height difference between inlet and outlet just 300 mm. The cleaned water can be used in washing machines, toilet flushing and garden watering, in homes, in commerce, in public buildings and in industry. The filter has to be cleaned depending on the contamination 1-2 times during the year.

### How it works

1. As water arrives the level builds up and is equally distributed across the cascade.
2. Pre cleaning through the cascades. Largest dirt particles are led across the primary filter cascades directly to the sewer.
3. Pre filtered water then flows over the secondary filter sieve (mesh size 0,65 mm). Due to the special mesh structure of the sieve, any dirt washes directly into the sewer which means the filter is self cleaning, with very low maintenance.
4. Cleaned water flows to the tank.
5. Dirt goes to the sewer

### Technical data

Filter according to DIN 1989-2, typ C. Connection inlet: 2 x DN 110. Outlet into tank: DN 110. Outlet into sewer: DN 125. Height difference between rainwater inlet and outlet 300 mm. Housing material: Polyethylene. Filter cartridge: Stainless steel 1.4301. Mesh size: 0,65 mm. Telescopic extension: Polyethylene. Weight: 10,2 kg.



## Downpipe filter



## Deflector

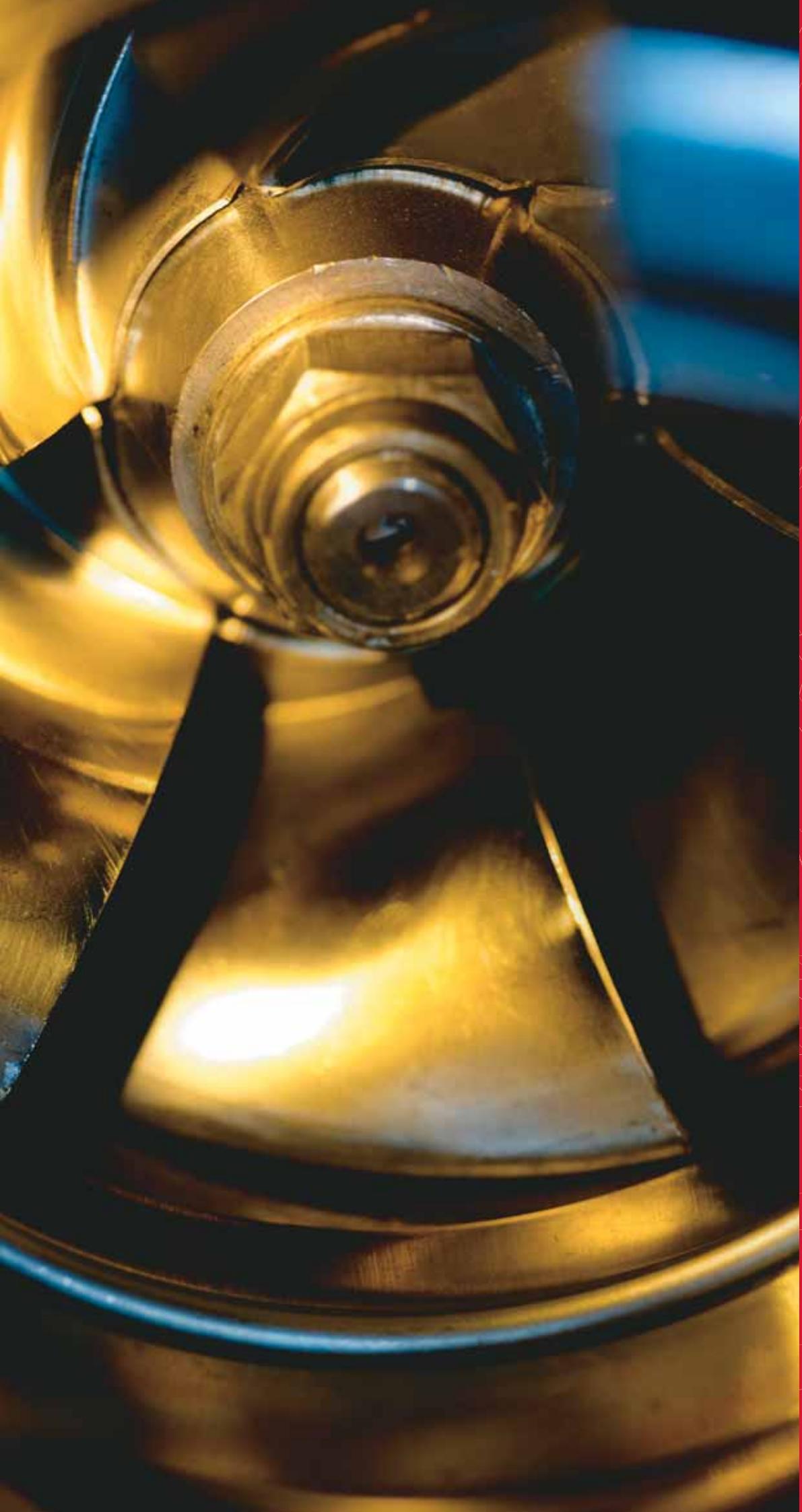


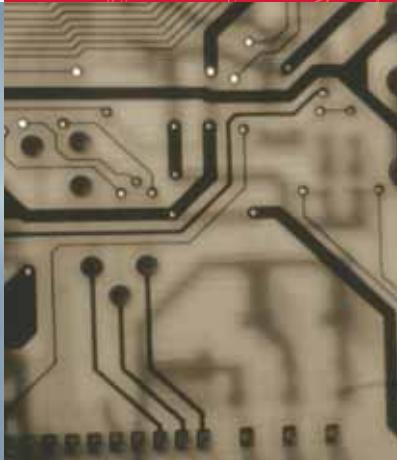
## U Trap



## Lupo filter







VESSELS  
ACCESSORIES

# Pressure Vessels



## Applications

Accumulation of pressurised water for all hydraulic domestic, agricultural and industrial applications.

## Benefits

WRAS approval for drinking water usage, bears the CE Mark. The EPDM variable geometry replaceable membrane provides longer life by eliminating membrane stress throughout normal operational cycles. A Schrader valve is fitted to each vessel to provide air pressure adjustment for individual applications.

## Limitations

Temperature range: 10 °C. to +100 °C.  
 AV003 - AH024 max. pressure 8 bar  
 AV060 - AV500 max. pressure 10 bar  
 16 bar vessels available.



## Options

Stainless steel options.  
 Stainless steel connection options.  
 Removable membrane.

## Preloading pressure

AV003-AV080: 1.5 bar.  
 AV100-AV2000: 2.5 bar.

## Technical features

### Vertical vessels

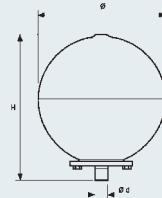
Model	Code	Max. Press bar	$\varnothing$ [mm]	L [mm]	$\varnothing$ d	$\varnothing$ d1	Weight [kg]
3 lt.	AV003	8	170	240	3/4"		2
8 lt.	AV008	8	220	305	3/4"		3
18 lt.	AV018	8	260	375	3/4"		5
24 lt.	AV024	8	260	485	1"		6
24 lt.	AV024	16	265	490	3/4"		8
50 lt.	AV050	10	380	720	1"		12
60 lt.	AV060	10	380	830	1"	3/4"	13
60 lt.	AV060	16	380	830	1"	3/4"	20
80 lt.	AV080	10	460	760	1"	3/4"	16
100 lt.	AV100	10	460	880	1"	3/4"	20
100 lt.	AV100	16	460	880	1"	3/4"	20
150 lt.	AV150	10	510	1030	1"	3/4"	28
200 lt.	AV200	10	590	1070	1 1/4"	3/4"	31
200 lt.	AV200	16	590	1100	1 1/4"	3/4"	36
300 lt.	AV300	10	650	1250	1 1/4"	3/4"	49
300 lt.	AV300	16	650	1280	1 1/4"	3/4"	96
500 lt.	AV500	10	750	1600	1 1/4"	3/4"	91
750 lt.	AV750	10	800	1820	2"	3/4"	157
1000 lt.	AV1000	10	800	2130	2 1/2"	3/4"	187
2000 lt.	AV2000	10	1100	2550	2 1/2"	3/4"	301

### Horizontal vessels

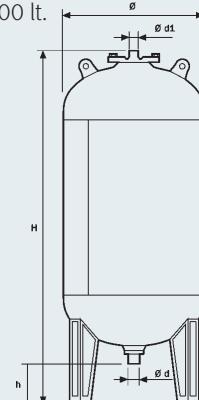
Model	Code	Max. Press bar	$\varnothing$ [mm]	L [mm]	$\varnothing$ d	$\varnothing$ d1	Weight [kg]
24 lt.	AH24	8	260	485	1"		6
24 lt.	AH24	8	260	485	3/4"		6
60 lt.	AH60	10	380	720	1"		13
100 lt.	AH100	10	460	780	1"		21
200 lt.	AH200	10	590	940	1 1/4"	3/4"	31
300 lt.	AH300	10	650	1150	1 1/4"	3/4"	49

## Dimensions

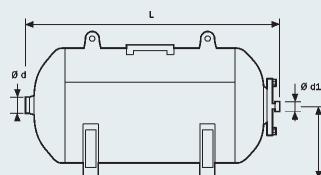
3-24 lt.



50-200 lt.



24-300 lt.



## Replacement EPDM membranes

Model	hole
60/80/100	no/yes
150/200/300/500/750/1000/2000 l	yes

# Accessories



## Capacitor Box



### ES4

ZST037ES 16µF
ZST055ES 20µF
ZST075ES 30µF
ZST0110ES 40µF
ZST0150ES 50µF
ZST0200ES 70µF



### Acuaria

	Ref.
12µF	8200051001
16µF	8200051002
25µF	8200051005
30µF	8200051006
50µF	8200051010



### Subtronic

0.25 - 2.2 Kw

Dry running protection for single-phase pumps without the use of probes. This device monitors the power factor of the motor. Once dry running has been detected the control panel will try to restart the pump in 6-60 minutes depending on conditions. If there is still no water, the power is turned off to protect the motor and will require manual reset.

### Compact 13



Compact13
Compact13. 16
Compact13. 20
Compact13. 25
Compact13. 30
Compact13. 35
Compact13. 40
Compact13. 50

IP54 Control device offering level control via probes, for single and three-phase pumps up to 13 Amps. Single-phase units are supplied complete with capacitor.

### Compact 16



IP54 Control device offering level control via probes, for single and three-phase pumps up to 16 Amps. Single-phase units are supplied complete with capacitor.

### Compact 13 mini



IP54 Control device offering level control via 2 probes, for submersible single-phase pumps up to 13 Amps.



### Probes

Level probe
Cable H07RN-F 1 x 1.5 mm <sup>2</sup>

For water level detection.

### Non return valves



	Ref.
ZVR 1"	4051.8
ZVR 1 1/4"	4051.9
ZVR 1 1/2"	4051.10
ZVR 2"	4051.11



### Brass connectors

	Ref.
ZRV5100 Bronze 5 Way Connector 1"	5100041
ZRV5125 Bronze 5 Way Connector 1 1/4"	5100042

# Accessories



## Cable jointing kits for submersible applications

ZECH/S Heat shrink joint kit 1-2.5 mm<sup>2</sup>

ZEC 04 Resin joint kit 1-4 mm<sup>2</sup>

ZEC 10 Resin joint kit 5-10 mm<sup>2</sup>



## Pressure switches

	Ref.
Pressure switch 65 PSI 0-4 bar (square D)	5140041027
ZPS 100 Pressure switch 0-6 bar	HLP506
Pressure switch 0-12 bar (square D)	5140041035
ZPS 100H Pressure switch 5-24 bar	HLP516
Pressure switch 0-6 bar	5140041034



## Floating level switches (sewage)

Taurus sewage floatswitch PVC (10 m)

Taurus sewage floatswitch PVC (20 m)



## Flexible hose connectors

	Ref.
ZMF 3/4" M/F 50cm long.	5160081008
ZMF 1" M/F 50cm long.	5160081014
ZMF 1 <sup>1</sup> / <sub>4</sub> " M/F 50cm long.	5160081020
ZMF 1 <sup>1</sup> / <sub>2</sub> " M/F 50cm long.	5160081027
ZMF 2" M/F 50cm long.	5160081033

**Other flexibles on request.** 40 and 70 cm lengths, female x female ends on stainless steel braid with brass end fittings.



## Foot valve and strainer

ZVF100 Brass foot valve 1" and strainer

ZVF125 Brass foot valve 1<sup>1</sup>/<sub>4</sub>" and strainer

ZVF150 Brass foot valve 1<sup>1</sup>/<sub>2</sub>" and strainer

ZVF200 Brass foot valve 2" and strainer



## Isolating ball valve

	Ref.
1" M/F	ZVB100
1 <sup>1</sup> / <sub>4</sub> " M/F	ZVB125
1 <sup>1</sup> / <sub>2</sub> " M/F	ZVB150
2" M/F	ZVB200



## Floating level switches (water)

Float switch c/w counter weight (3 m)

Float switch c/w counter weight (10 m)



## Pressure gauges

	Ref.
ZPE 6 0-6 bar (radial 63mm, 1/4" connection)	5100041026
ZPE 10 0-10 bar (radial 63mm, 1/4" connection)	5100041024

Extensive range of pressure gauges are available to cover most applications, please consult our sales team.



# PWM



## In-Line inverter

The **PWM** is an innovative system that can be used with a variation of pump types including multi-stage, single-stage, surface and submersible pumps.

The **PWM** is energy saving, silent running, compact, and can extend the life of the pump.

The **PWM** has been designed to vary the frequency (Hz) of the pump in order to keep the hydraulic system at a constant pressure. When the flow increases, the speed of the motor increases to maintain a constant pressure.

The interface is user-friendly, allowing easy use to calibrate pressure set points, view error messages and settings.

The **PWM** comprises an inverter, a pressure sensor and a flow sensor. These items are built into a unique box that is compact, therefore allowing easy installation.

The **PWM** works directly on the hydraulic manifold and must be installed on the discharge pipeline of the booster set or pump.



## Technical features

Model	PWM2301B/4.3	PWM2301B/8.5	PWM230D/4.7	PWM230D/10.5	PWM400D/7.5	PWM400D/13.3
Power supply	230 V	230 V	230 V	230 V	400 V	400 V
Pump motor type	230 V	230 V	400 V	400 V	400 V	400 V
Max current	4.3A	8.5A	4.7A	10.5A	7.5A	13.3A
Motor power (approx.)	0.55 kW	1.1 kW	1.1 kW	2.2 kW	3 kW	5.5 kW
Max water temp	50	50	50	45	45	45
Max water pressure	8 bar	10 bar	10 bar	10 bar	10 bar	10 bar
Set pressure range	1-3.6 bar	1-6 bar	1-9 bar	1-9 bar	1-9 bar	1-9 bar
Inlet	1 1/4" BSP M	1 1/4" BSP M	1 1/4" BSP M	1 1/4" BSP M	1 1/4" BSP M	1 1/4" BSP M
Outlet	1 1/2" BSP F	1 1/2" BSP F	1 1/2" BSP F	1 1/2" BSP F	1 1/2" BSP F	1 1/2" BSP F
Protection	IP 55	IP 55	IP 55	IP 55	IP 55	IP 55
Volt-free contacts	N/A	N/A	2 (fault and pump running)			
Set point	1	1	2	2	2	2
Digital input	N/A	N/A	1. Float switch 2. 2nd set point 3. Enable			
Connectivity	N/A	N/A	RS 485	RS 485	RS 485	RS 485
Status protections	1. Dry running 2. Over current 3. Over temperature	1. Dry running 2. Over current 3. Over temperature	1. Dry running 2. Over current 3. Over temperature 4. Supply voltage out of range	1. Dry running 2. Over current 3. Over temperature 4. Supply voltage out of range	1. Dry running 2. Over current 3. Over temperature 4. Supply voltage out of range	1. Dry running 2. Over current 3. Over temperature 4. Supply voltage out of range





TECHNICAL  
INFORMATION

# Technical Information



## Definitions

### Flow

The quantity of liquid at the output of a pump on a time basis.

It is generally expressed in m<sup>3</sup>/h.

### Total Manometric Head

The THM is the total pressure that the pump must supply. It is generally expressed in meter water column (mwc).

### Friction Losses

Any liquid flowing through a pipe generates friction losses they are function of: flow, the cross section of the pipe used and the number of accessories used by the liquid.

### Abbreviations

**ha** Inlet pressure. Vertical distance between the axis of the pump and the minimum level of liquid to pump. **ha** is positive if the level of the pumped liquid is above the axis of the pump, and is negative when the level is below.

**La** Total length of the suction pipe.

**hr** Head requirement. Vertical length between the axis of the pump and the highest point of distribution.

**Lr** Total length of discharge piping.

**Jr** Outlet losses.

**Pu** Utilised pressure. Pressure required for process (e.g. at sprinkler or shower head).

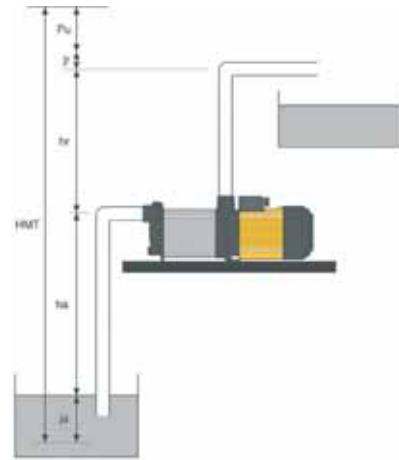
## Calculation of the HMT

Inlet Manometric Height: **HMA** = **ha** + **Ja**

Outlet Manometric Height: **HMR** = **hr** + **Jr**

Total Manometric Head: **HMT** = **HMA** +

**HMR** + **Pu**



### Example

Requested Characteristic: Flow: 2 m<sup>3</sup>/h

Utilised Pressure: 2 bars = 20.2 mCE

### Installation Parameters:

**Inlet:** **ha** = 4 m, **La** = 7 m, 1 x Foot valve

1 x 90 degree elbow

**Outlet:** **hr** = 6 m

**Lr** = 60 m

1 x Check valve

1 x Valve

1 x 90 degree threaded elbow

### Pump Selection:

Recommended dimension of the pipe

### (Table 1):

DN 32 Equivalent length of the pipe

### (Table 2):

$$7 + 5 + 1.3 + 60 + 7 + 0.3 + 1.3 = 81.9 \text{ m.}$$

Pipe losses (Table 3):

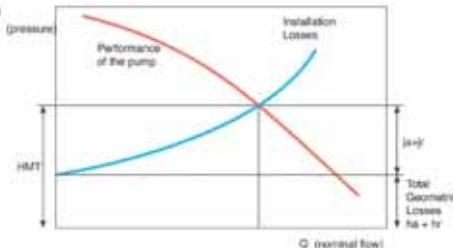
$$81.9 \times 2 / 100 = 1.6 \text{ mwc.}$$

### Total manometric head:

$$\text{HMT} = 4 + 6 + 1.6 + 20.2 = 31.8 \text{ m CE.}$$

This installation requires a pump with a 2 m<sup>3</sup>/h flow at 32 mwc:

The **Tecno 15 4** is the most suitable pump for this application.



**Table 1 Pipe dimension in function of the flow**

DN	20	25	32	40	50	65	80	100	125	150
Ø PVC	25	32	40	50	63	75	90	110	140	160
Inches	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
Thread	20/27	26/34	33/42	40/49	50/60	66/76	80/90	102/114	127/140	152/165
Maximum suction flow [m <sup>3</sup> /h]	0.7	1.4	2.7	4.2	7.3	13.5	21	36	60	91
Maximum nominal flow [m <sup>3</sup> /h]	0.8	1.4	3	4.5	8	16	25	46	80	130

**Table 2 Equivalent pipe length (in m)**

DN	25	32	40	50	65	80	100	125	150
90° Threaded elbow	1	1.3	1.6	2	2.6	3.2	4	5	6
90° Flanged elbow	0.4	0.5	0.6	0.7	0.9	1	1.5	1.8	2
Flow Straightner	0.3	0.3	0.4	0.5	0.6	0.7	0.9	1.1	1.4
Non return valve	6	7	8	10	10	10	12	15	18
Foot valve	4	5	7	9	11	15	20	26	34

# Technical Information



**Table 3 Losses in metres for 100m of horizontal straight pipe**

Flow		Nominal diameter of pipe [mm]									
[m³/h]	l/min	20	25	32	40	50	65	80	100	125	150
0.2	3	0.3									
0.5	8	2.0	0.5	0.1							
0.7	12	4.0	1.0	0.2							
1.0	17	8.0	2.1	0.5	0.2						
1.5	25	17.0	5.0	1.0	0.5	0.1					
2.0	33	33.0	9.0	2.0	0.9	0.3					
3.0	50		21.0	4.5	2.2	0.6	0.2				
4.0	67		32.0	7.6	3.5	1.0	0.5	0.1			
5.0	83			13.0	6.0	1.8	0.7	0.2			
6.0	100			17.0	8.0	2.5	1.0	0.3			
7.0	117			25.0	12.0	3.5	1.3	0.3			
8.0	133			33.0	14.0	4.5	1.7	0.5	0.1		
9.0	150				19.0	5.7	2.1	0.6	0.2		
10.0	167				23.0	7.0	2.5	0.7	0.2		
12.0	200				33.0	10.0	3.5	1.0	0.3	0.1	
15.0	250					15.0	5.3	1.6	0.5	0.2	
20.0	333					26.0	8.8	2.8	0.8	0.3	0.1
25.0	417					40.0	13.8	4.4	1.3	0.4	0.2
30.0	500						18.8	6.3	1.9	0.6	0.2
40.0	667						32.5	11.2	3.3	1.1	0.4
50.0	833							17.5	5.2	1.7	0.7
60.0	1000							25.0	7.6	2.4	1.0
70.0	1.167							34.0	10.2	3.3	1.3
80.0	1.333								13.4	4.3	1.7
100.0	1.667								21.0	6.8	2.6
150.0	2.500									15.3	5.8
200.0	3.333									27.0	10.4

For pipes in plastics, multiply these values by the following 0,8 factor

**Table 4 Reduction of a pump capacity**

Deration due to altitude		Deration due to pumped liquid	
Altitude [m]	Head loss [mwc]	Temperature [°C]	Head loss [mwc]
0		20	0.20
500	0.6	30	0.40
1.000	1.15	40	0.70
1.500	1.70	50	1.20
2.000	2.20	60	1.90
2.500	2.65	70	3.10
3.000	3.20	80	4.70
3.500	3.60	90	7.10
		100	10.33

**Maximum level of immersion for submersible monobloc pumps**

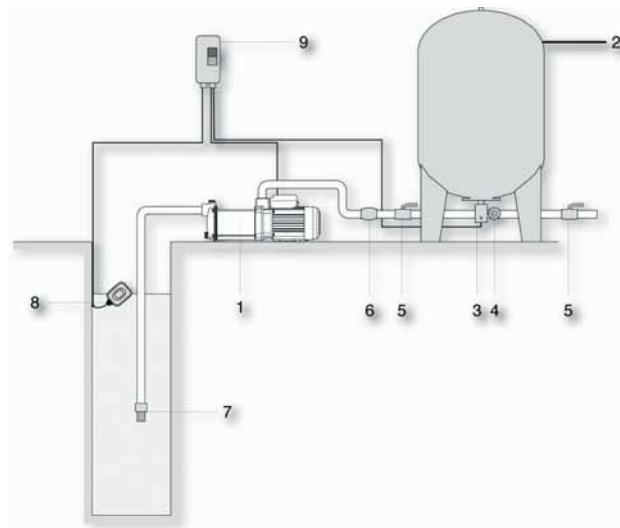
Model	Max. P	IMM. Max* [m]	IMM. Max** [m]
Acuaria 07N 3	6	36	50
Acuaria 07N 4	6	30	47
Acuaria 07N 5	12	80	102
Acuaria 07N 6	12	73	100
Acuaria 07N 7	12	66	96
Acuaria 17 5	12	70	50
Acuaria 17 6	12	50	25
Acuaria 27 4	12	85	70
Acuaria 27 6	12	67	45
Acuaria 37 4	10	60	42
Acuaria 37 6	10	33	15
Acuaria 57 4	10	70	52
Neptun FL60 35	15	120	110
Neptun FL60 45	15	110	90
Neptun FL60 65	15	95	60
Neptun FL60 75	15	70	30
Neptun FL100 60	15	105	88
Neptun FL100 90	15	85	55
Neptun FL120 50	15	120	105
Neptun FL120 60	15	105	88
Neptun FL120 70	15	90	65

Maximum level of immersion: Working height + Immersion height < Pressure maximum.

\* Maximum level of immersion at the maximum performance point in metres.

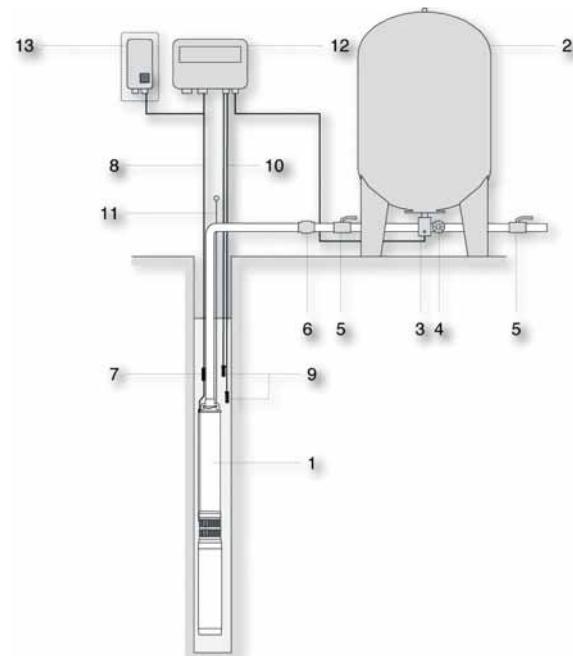
\*\* Maximum level of immersion at the most unfavourable point in metres.

# Typical applications



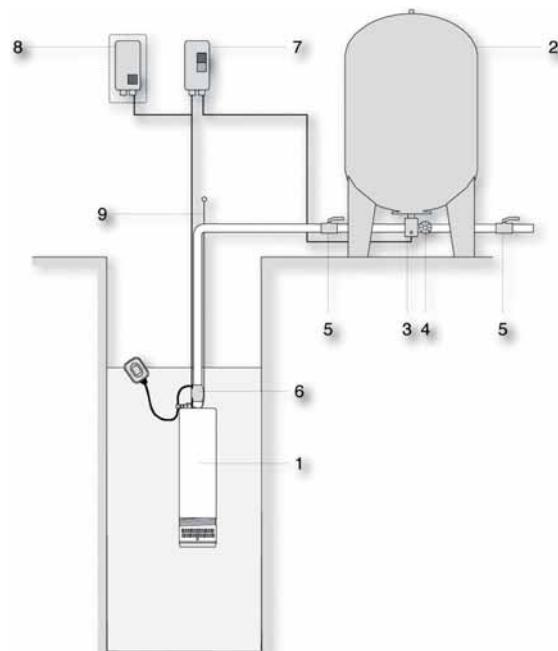
## Self priming application

- 1 Pump.  
2 Pressure vessel.  
3 Pressure switch.  
4 Pressure gauge.  
5 Isolation valve.  
6 Non return valve.  
7 Non return valve and strainer.  
8 Floating level switch.  
9 Capacitor box.



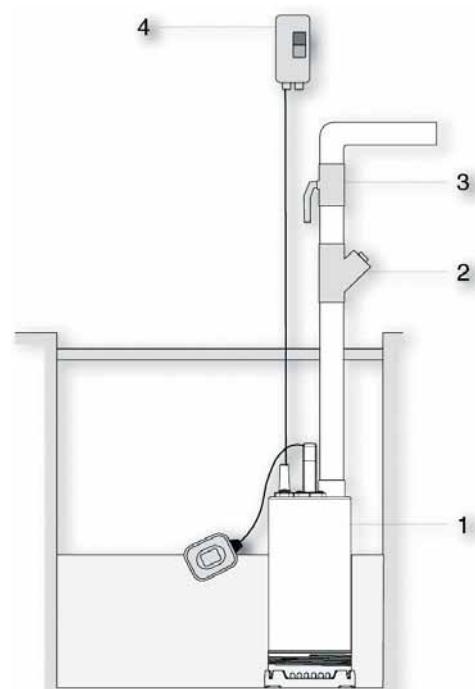
## Borehole application

- 1 Pump.  
2 Pressure vessel.  
3 Pressure switch.  
4 Manometer.  
5 Isolation valve.  
6 Non return vale.  
7 Water tight cable joint.  
8 Power supply cable.  
9 Level probes.  
10 Level probe cable.  
11 Suspension cable.  
12 Dry run protection control panel  
Model: COMPACT 13.  
13 Capacitor box.



## Open well application

- 1 Pump.  
2 Pressure vessel.  
3 Pressure switch.  
4 Pressure gauge.  
5 Isolation valve.  
6 Non return valve.  
7 Starter.  
8 Capacitor box.  
9 Suspension cable.



## Sump application

- 1 Pump.  
2 Non return valve.  
3 Isolation valve.  
4 Capacitor box.





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