

## ESPA Middle East

Since 1962 ESPA has been developing a track record specialising in manufacturing products equipment for pumping and efficient water management. Deploying solutions for professionals, installers and wholesalers, through a range of innovative products.

ESPA has become a leader in manufacturing pumping equipment for domestic, residential and commercial uses. The ESPA product portfolio provides excellent value due to its innovative nature and design engineering. This offers the correct solution for the most demanding market requirements.

Tens of millions of ESPA pumping equipment are in constant operation throughout the world. Thousands of custom installations demonstrate the trust that professionals & users have placed in ESPA. Our customer base covers hotels, education centres, homes for the elderly, housing estates, swimming pools, wellness centres, industrial units, logistic centres, arable & 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 Argentina, Brazil, Chile, China, France, Germany, Hong Kong, India, Italy, Middle East, Russia, Spain, Turkey and the United Kingdom. It also has production centres in Chile, China, France and Spain.

Innovation, engineering & service: These are the attributes that mark ESPA's efficient pumping products and our quality. We are a customer-orientated organisation designed to be immediate and close to the customer. We have a demanding product development process that is based on knowledge of the technological and market requirements.

ESPA Efficient Engineering sums up the spirit of innovation. It focuses on studying & applying the most suitable technologies, plus the concept of efficient equipment for the pumping and engineering sector.





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## IE3, electric motors with maximum efficiency

One of ESPA's core values is the continuous improvement to offer solutions that are adapted to current & future market demands, to meet customers' needs and to safeguard impact to the environment.

With this strong commitment, ESPA complies to the legislation as stated by the European Union to reduce energy consumption and CO2 emissions. The Directive 2005/32/CE introduces environmentally friendly requirements for energy using products to restrict environmental impact.

Since January 1st 2017, ESPA has been manufacturing all its three-phase motors over 0,75 kW for surface pumps in accordance with the directive. At present only coupling pumps are included in the directive, however ESPA have also followed the directive for motors on its mono bloc pumps.

### **THE DIRECTIVE 2005/32/CE**

The third phase of the (CE) 640/2009 Regulation of motor efficiency came into force on 1 January 2017, requiring that three-phase motors with input power between 0,75 and 375 kW must meet the efficiency level IE3, known as Premium Efficiency.

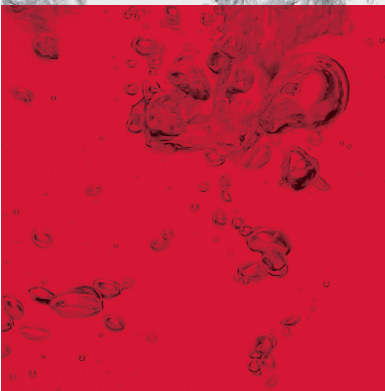
The Directive is applied to three-phase electric induction motors of 50 Hz or 50/60 Hz, having from 2 to 6 poles, with a nominal voltage of up to 1000 V, a nominal power between 0,75 kW and 375 kW and designed for a continuous operation. In the field of pumps, it is applied to surface pumps with coupling motors.



**ESPA**  
**Premium Efficiency**

A large, high-quality photograph of water splashing, with a stream of water falling from the top left and creating a large splash with many bubbles in the center. The background is a light, neutral color.

WATER EVACUATION  
SUBMERSIBLE & DRAINAGE





# ES4 Submersible



## Submersible pump with floating impellers

### Applications

Domestic applications, irrigation, pressurisation, water transfer, suitable for 4" wells 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.  
Espa water & oil cooled on request.  
Class B insulation.  
Protection IP 68.  
Continuous operation.  
Complete with built-in thermal protection.  
Energy Index MEI $\geq$ 0,4.

### Limitations

Maximum liquid temperature: 40 °C.  
Maximum quantity of sand in suspension: 150 g/m<sup>3</sup>.

### Equipment

Complete with pre-fitted cable tail.  
Integral non return valve.



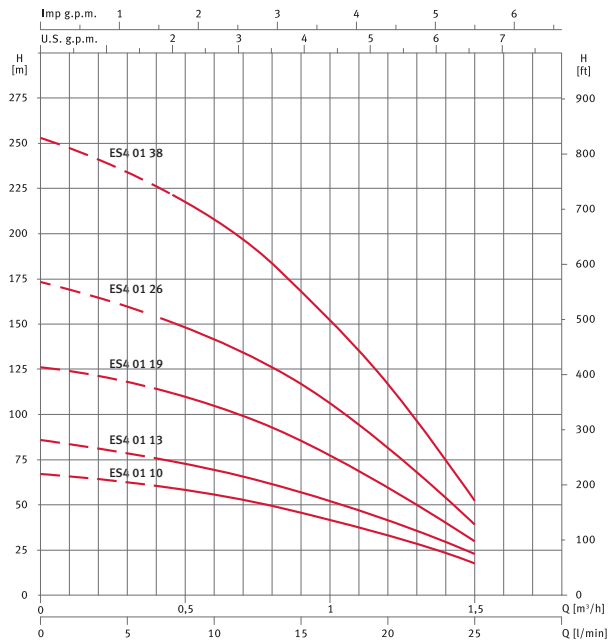
# ES4 01 Submersible



## Hydraulic performance table

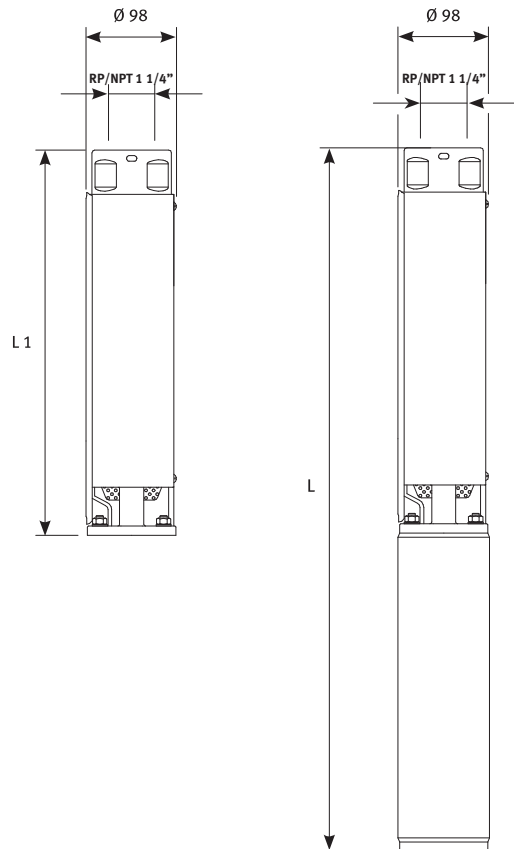
Model	P2		l/min m³/h	0	5	10	15	20	25	Wet-end only Code
	[kW]	[HP]		0	0.3	0.6	0.9	1.2	1.5	
ES4 01 10	0.37	0.5	mwc	67	63	55	46	33	18	157696
ES4 01 13	0.37	0.5		86	78	70	56	42	23	157697
ES4 01 19	0.55	0.75		126	118	105	86	60	30	157698
ES4 01 26	0.75	1		173	160	141	117	81	39	157699
ES4 01 38	1.1	1.5		253	234	208	169	117	52	157700

## Performance curves at 2900 rpm



## Dimensions and weights

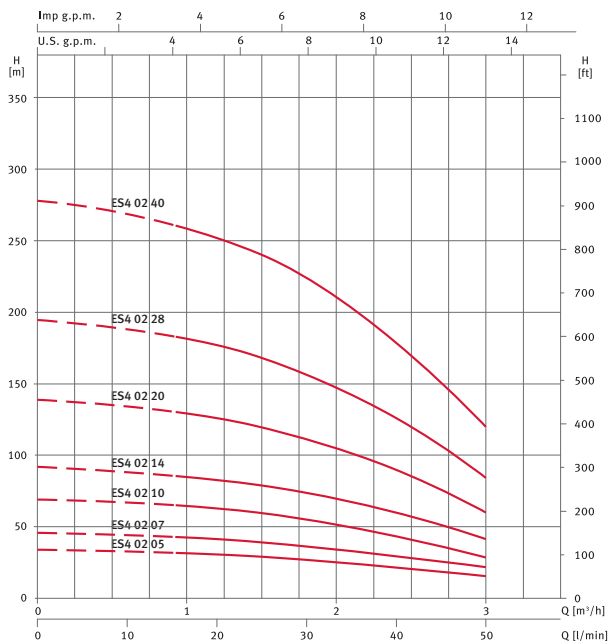
Model	Dimensions [mm]		Weight pump [kg]
	L1	L	
ES4 01 10	324	679	3.3
ES4 01 13	377	732	3.7
ES4 01 19	481	861	4.7
ES4 01 26	642	1057	5.8
ES4 01 38	864	314	8.2



## Hydraulic performance table

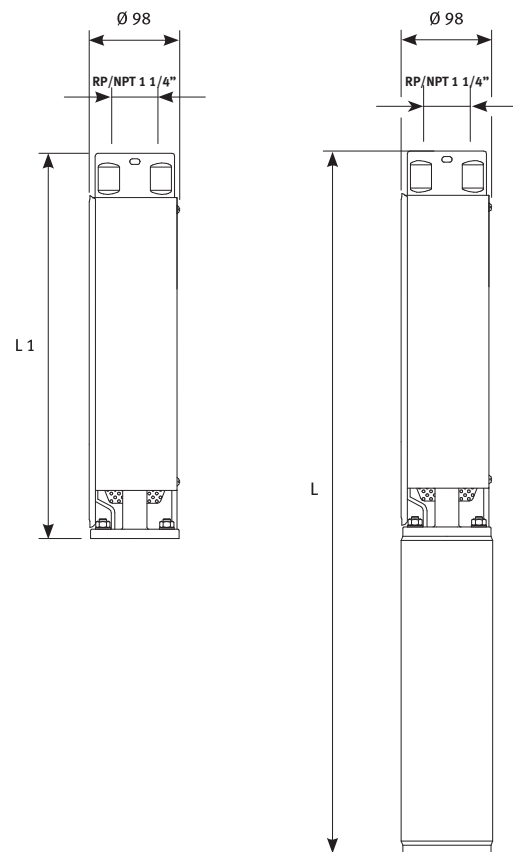
Model	P2		l/min m <sup>3</sup> /h	0	20	25	30	40	50	Wet-end only
	[kW]	[HP]		0	1.2	1.5	1.8	2.4	3.0	Code
ES4 02 05	0.37	0.5	mwc	34	31	29	27	23	16	157701
ES4 02 07	0.37	0.5		46	42	39	36	29	22	157702
ES4 02 10	0.55	0.75		69	63	60	55	44	29	157703
ES4 02 14	0.75	1		92	83	79	74	60	42	157704
ES4 02 20	1.1	1.5		139	127	120	111	90	60	157705
ES4 02 28	1.5	2		193	176	167	155	125	83	162589
ES4 02 40	2.2	3		276	252	239	222	179	118	162590

## Performance curves at 2900 rpm



## Dimensions and weights

Model	Dimensions [mm]		Weight pump
	L1	L	[kg]
ES4 02 05	236	591	2.5
ES4 02 07	271	626	2.8
ES4 02 10	324	679	3.3
ES4 02 14	394	774	3.9
ES4 02 20	499	914	4.9
ES4 02 28	640	1090	6.2
ES4 02 40	851	1351	8.1





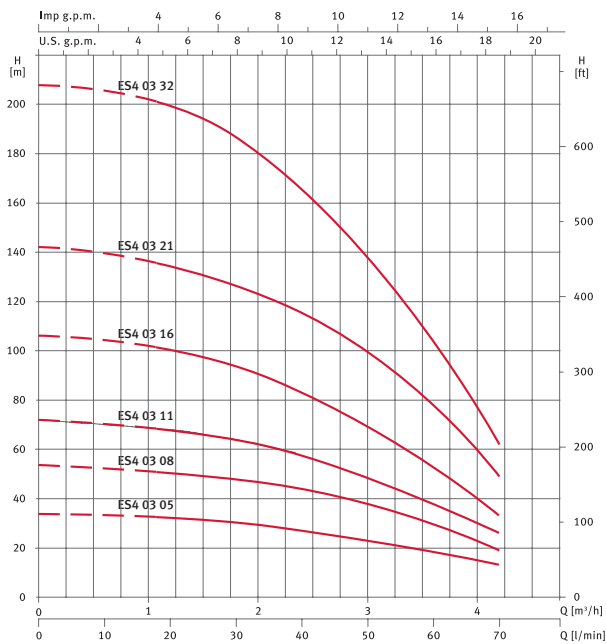
# ES4 03 Submersible



## Hydraulic performance table

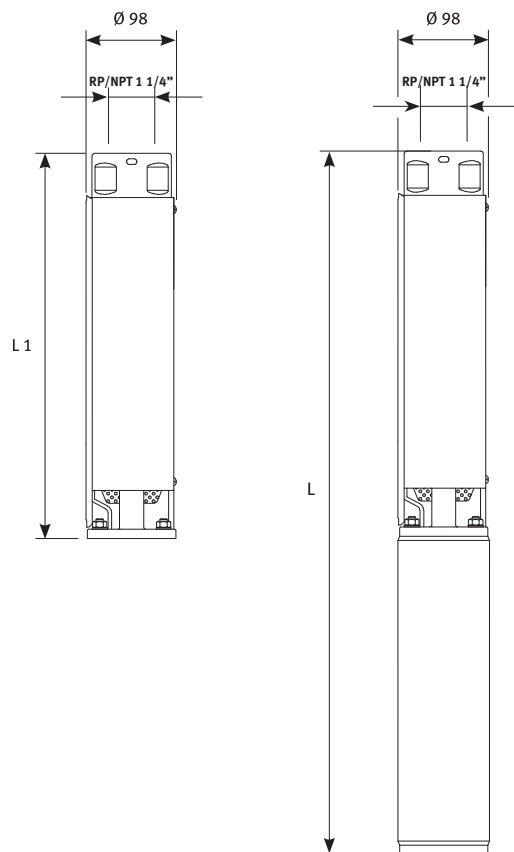
Model	P2		l/min m <sup>3</sup> /h	0	20	30	40	50	70	Wet-end only
	[kW]	[HP]		0	1.2	1.8	2.4	3.0	4.2	Code
ES4 03 05	0.37	0.5	mwc	34	32	30	28	24	13	157706
ES4 03 08	0.55	0.75		54	51	49	43	38	19	157707
ES4 03 11	0.75	1		72	68	64	58	49	26	157708
ES4 03 16	1.1	1.5		106	101	95	83	70	33	157709
ES4 03 21	1.5	2		142	135	127	115	100	49	157710
ES4 03 32	2.2	3		208	200	187	165	138	62	157711

## Performance curves at 2900 rpm



## Dimensions and weights

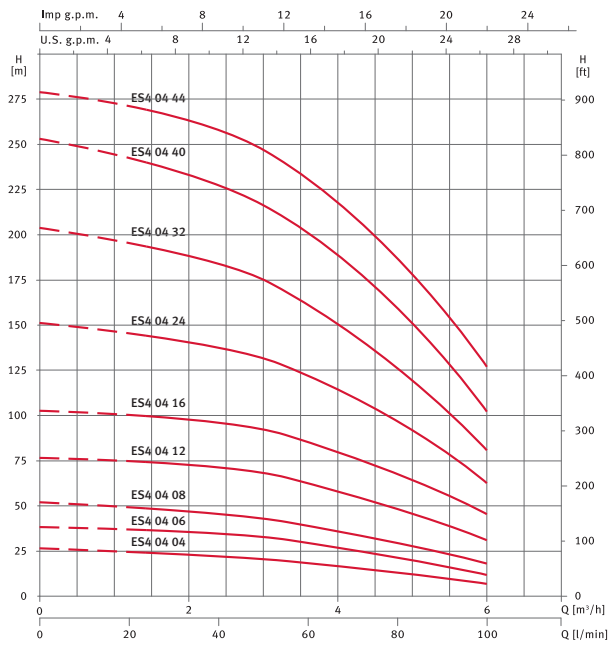
Model	Dimensions [mm]		Weight pump [kg]
	L1	L	
ES4 03 05	236	591	2.5
ES4 03 08	289	644	2.9
ES4 03 11	342	722	3.4
ES4 03 16	430	845	4.2
ES4 03 21	519	969	5.0
ES4 03 32	749	1249	7.1



## Hydraulic performance table

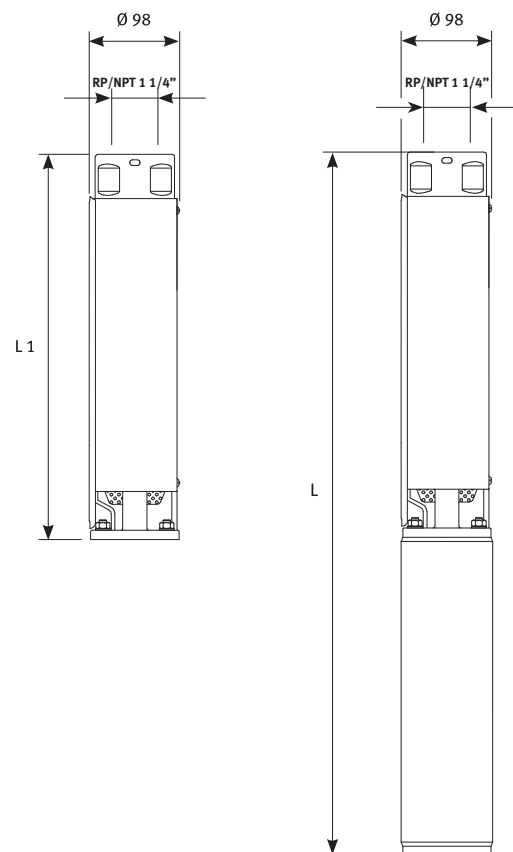
Model	P2		l/min m <sup>3</sup> /h	0	40	50	70	90	100	Wet-end only
	[kW]	[HP]		0	2.4	3.0	4.2	5.4	6.0	Code
ES4 04 04	0.37	0.5	mwc	26	22	21	17	11	7	157712
ES4 04 06	0.55	0.75		38	35	32	26	18	12	157713
ES4 04 08	0.75	1		51	46	43	35	24	18	157714
ES4 04 12	1.1	1.5		77	71	68	57	41	31	157715
ES4 04 16	1.5	2		102	96	92	77	57	46	157716
ES4 04 24	2.2	3		151	139	132	111	80	62	157717
ES4 04 32	3	4		203	185	175	146	105	80	157718
ES4 04 40	3.7	5		253	227	216	182	131	102	157719
ES4 04 44	4	5.5		278	260	247	210	159	127	157720

## Performance curves at 2900 rpm



## Dimensions and weights

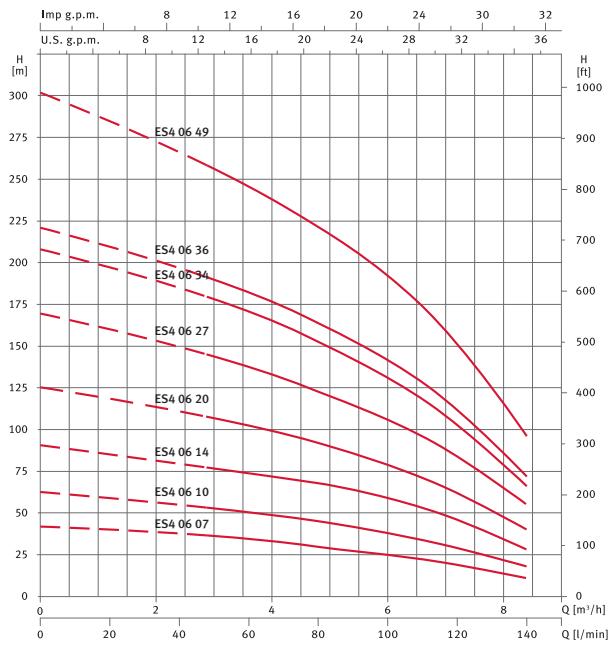
Model	Dimensions [mm]		Weight pump
	L1	L	[kg]
ES4 04 04	247	602	2.4
ES4 04 06	296	651	2.9
ES4 04 08	345	725	3.3
ES4 04 12	433	848	4.1
ES4 04 16	542	992	5.0
ES4 04 24	777	1277	6.6



## Hydraulic performance table

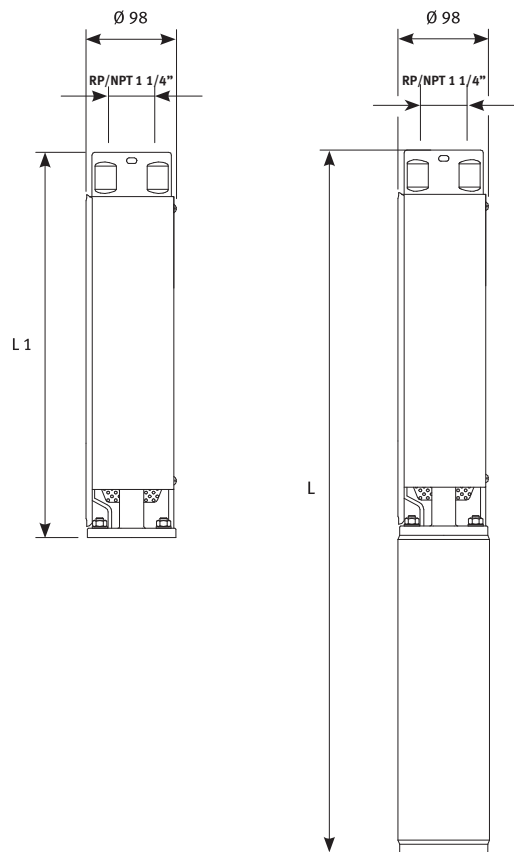
Model	P2		l/min m <sup>3</sup> /h	0	50	70	90	120	140	Wet-end only Code
	[kW]	[HP]		0	3.0	4.2	5.4	7.2	8.4	
ES4 06 07	0.752	1	mwc	42	36	32	28	19	11	157721
ES4 06 10	1.1	1.5		62	53	48	41	29	18	157722
ES4 06 14	1.5	2		90	77	71	63	46	28	157723
ES4 06 20	2.2	3		125	107	97	86	62	40	157724
ES4 06 27	3	4		169	145	131	115	84	55	157725
ES4 06 34	3.7	5		208	178	162	143	103	66	157726
ES4 06 36	4	5.5		221	190	173	154	112	72	157727
ES4 06 49	5.5	7.5		302	257	234	209	151	96	157728

## Performance curves at 2900 rpm



## Dimensions and weights

Model	Dimensions [mm]		Weight pump
	L1	L	[kg]
ES4 06 07	390	770	3.7
ES4 06 10	483	898	4.6
ES4 06 14	607	1057	5.7
ES4 06 20	831	1331	7.5

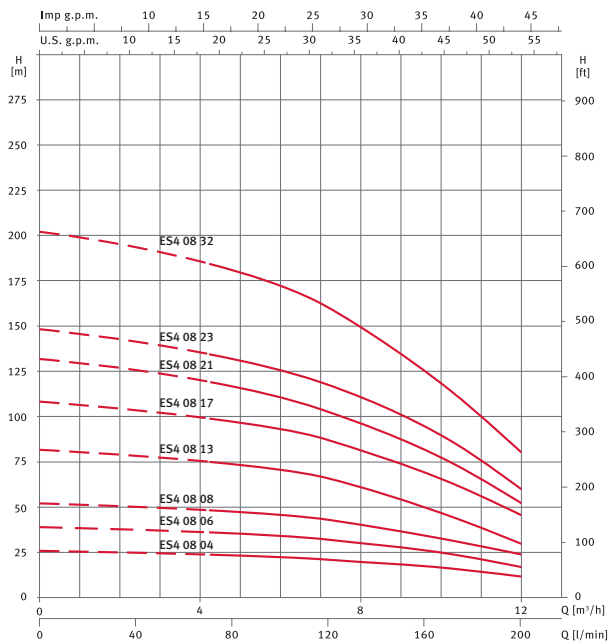




## Hydraulic performance table

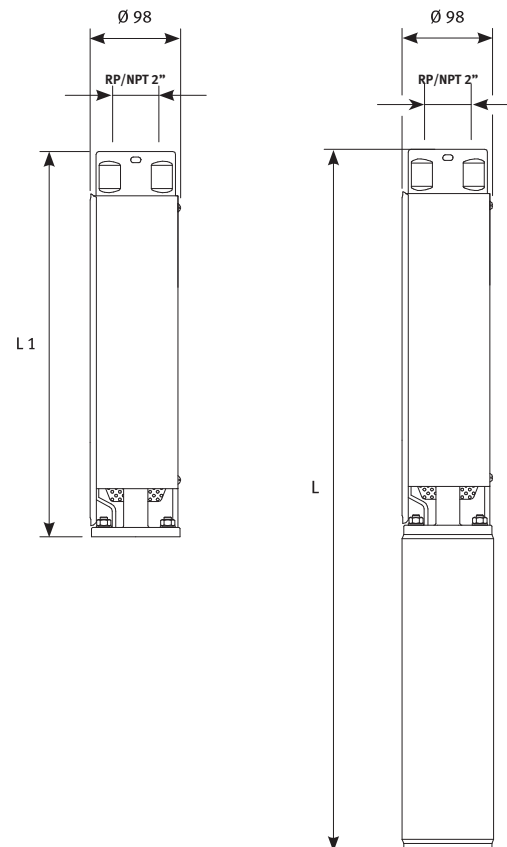
Model	P2		l/min m <sup>3</sup> /h	0	80	100	140	180	200	Wet-end only
	[kW]	[HP]		0	4.8	6.0	8.4	10.8	12	Code
ES4 08 04	0.75	1.0	mwc	26	24	22	19	15	12	157729
ES4 08 06	1.1	1.5		39	36	34	29	22	17	157730
ES4 08 08	1.5	2		52	48	46	39	29	24	157731
ES4 08 13	2.2	3		82	75	71	59	40	30	157732
ES4 08 17	3	4		108	98	94	79	58	46	157733
ES4 08 21	3.7	5		132	117	111	93	68	52	157734
ES4 08 23	4	5.5		148	134	127	108	79	60	157735
ES4 08 32	5.5	7.5		202	182	172	143	105	80	157736

## Performance curves at 2900 rpm



## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 08 04	294	649	2.8	10.7
ES4 08 06	356	736	3.4	12.4
ES4 08 08	418	833	4.0	15.1
ES4 08 13	573	1023	5.5	18.1
ES4 08 17	697	1147	6.6	20.2
ES4 08 21	859	1429	7.8	25.3
ES4 08 23	921	1491	8.4	25.9
ES4 08 32	1238	1868	11.0	32.0



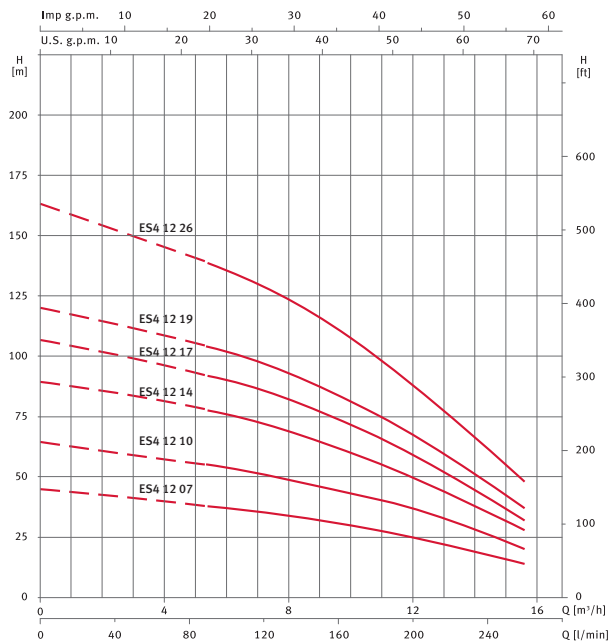
# ES4 12 Submersible



## Hydraulic performance table

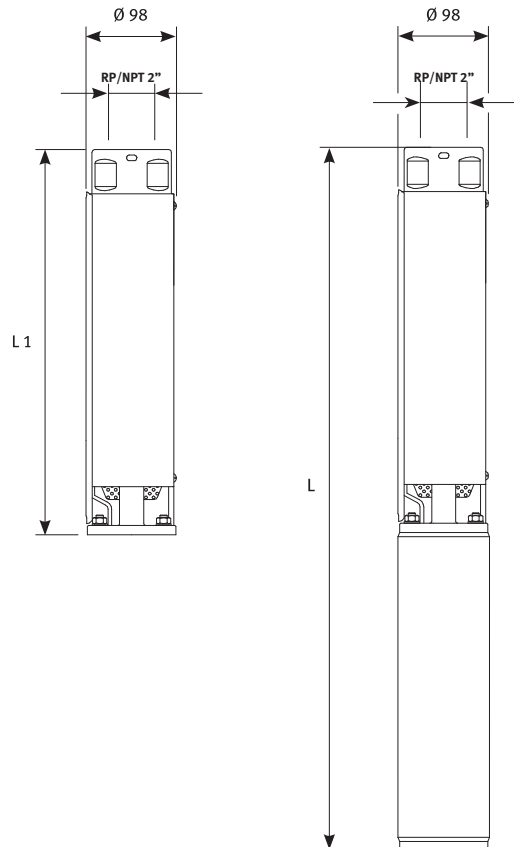
Model	P2		l/min m <sup>3</sup> /h	0	100	140	180	220	260	Wet-end only Code
	[kW]	[HP]		0	6.0	8.4	10.8	13.2	15.6	
ES4 12 07	1.5	2	mwc	45	37	33	28	22	14	157737
ES4 12 10	2.2	3		64	54	48	41	32	20	157738
ES4 12 14	3	4		89	76	67	56	43	28	157739
ES4 12 17	3.7	5		107	90	80	67	51	32	157740
ES4 12 19	4	5.5		120	102	91	76	58	37	157741
ES4 12 26	5.5	7.5		163	136	120	100	75	48	157742

## Performance curves at 2900 rpm



## Dimensions and weights

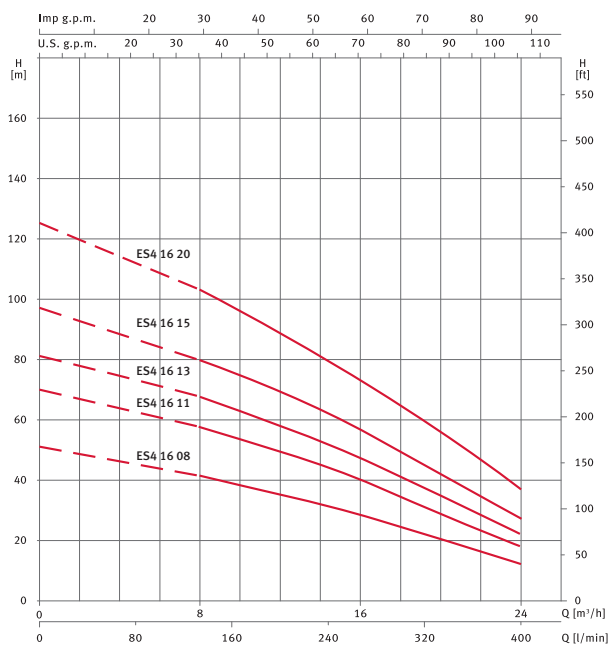
Model	Dimensions [mm]		Weight pump [kg]
	L1	L	
ES4 12 07	534	949	5.3
ES4 12 10	690	1140	6.7
ES4 12 14	989	1439	8.6
ES4 12 17	1092	1662	10.1
ES4 12 19	1195	1765	11.0
ES4 12 26	1559	2189	14.3



## Hydraulic performance table

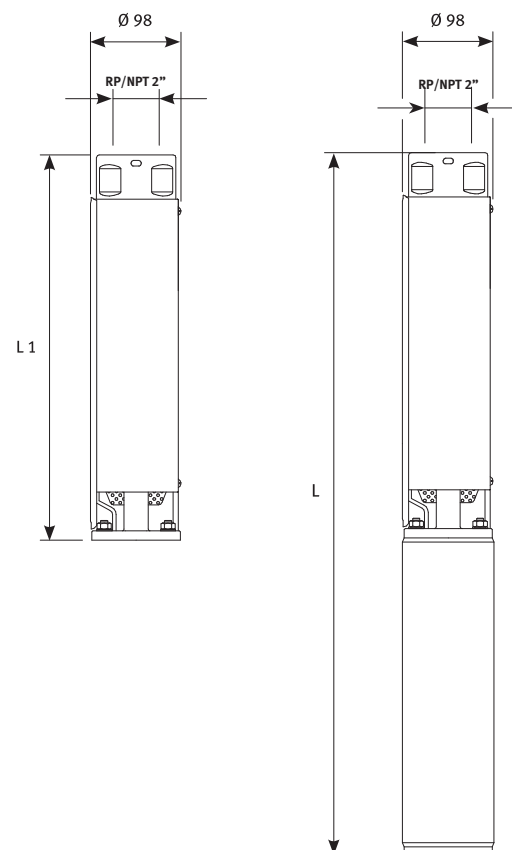
Model	P2		l/min	0	140	200	260	320	400	Wet-end only
	[kW]	[HP]	m <sup>3</sup> /h	0	8.4	12	15.6	19.2	24	Code
ES4 16 08	2.2	3	mwc	51	41	35	29	22	12	157743
ES4 16 11	3	4		70	57	49	41	31	18	157744
ES4 16 13	3.7	5		81	67	58	48	38	22	157745
ES4 16 15	4	5.5		97	79	69	58	46	27	157746
ES4 16 20	5.5	7.5		125	102	89	74	60	37	157747

## Performance curves at 2900 rpm



## Dimensions and weights

Model	Dimensions [mm]		Weight pump	Weight Electropump
	L1	L	[kg]	[kg]
ES4 16 08	676	1126	6.3	18.9
ES4 16 11	880	1330	8.1	21.7
ES4 16 13	1013	1583	9.3	26.8
ES4 16 15	1149	1719	10.5	28.0
ES4 16 20	1489	2119	13.5	34.5





# XS 6/8/10/12" Submersible



Espa Pumps UK can supply the following well pump range for larger applications. Price on Application

## Applications

For deep wells with minimum diameter of 158 mm, water supply, fountains, irrigation, pressure boosting, dewatering, mining & other civil/industrial applications.

## Materials

Suction support in cast iron (EN-GJL-250).  
Shaft & coupling in Stainless Steel AISI 431.  
Impeller & diffuser in cast iron (EN-GJL-250).  
Options:  
Fully Stainless Steel AISI 316 (XSX6).  
Fully Bronze (XSB6).

## Motor

Water or oiled option, 2900 rpm.  
Class B insulation.  
IP 68 protection.  
Continuous & intermittent operation.  
Complete with built-in-thermal protection.  
Connected in accordance with NEMA standard:  
4" NEMA MG1-18.388 or  
6" NEMA MG1-18.401-18.413

## Construction features

Semi-axial impellers.  
3" outlet c/w non-return valve.  
Pump equipped with counter thrust ring in anti-wear resin.  
Diffuser c/w wear ring in anti-wear rubber.  
Driving bushings in anti-wear rubber with metallic shell.  
Components realised with particular materials which assure in high wear resistance.

## Limitations

Maximum liquid temperature 30 °C.  
Maximum immersion depth 300 m under liquid level.  
Clean non-aggressive and non-explosive liquids, not containing solid particles more than 2 mm.

## Range

XS6: Up to 90 m<sup>3</sup>/h or H-Max 390mtrs  
XS8: Up to 228 m<sup>3</sup>/h or H-max 338 mtrs.  
XS10: Up to 400 m<sup>3</sup>/h or H-max 2881 mtrs.  
XS12: Up to 575 m<sup>3</sup>/h or H max: 384 mtrs.



For all these ranges of pump P.O.A.

## Franklin electric 4” motors (water cooled) and cable tails for ES4

### Applications

Domestic applications for 4” or larger water wells.

### Motor

Water cooled encapsulated PSC motors.  
 Class B insulation.  
 IP 68 protection.  
 4” NEMA flange.  
 Rotation: CCW facing shaft end  
 on single phase the motor is connected to only one capacitor which works permanently as start and run capacitor.  
 Voltage available:  
 1~ 230 V  
 3~ 230 V  
 3~ 400 V

### Limitations

Maximum liquid temperature 30 °C.  
 Maximum quantity of sand in suspension:  
 Starts: 20 per hour  
 Frost protection to – 15 °C.

### Accessories

#### Cable tails to suit Franklin Motors

1.5m long.  
 2.5m long.  
 2.5m long c/w stainless steel connector.

#### Motor shrouds (Horizontal mounting)

4” Cooling shroud.  
 4” Support Feet.  
 4” Filter.



### Benefits

Non contamination, water filled design.  
 Hermetically sealed stator.  
 Anti track, self healing stator resin prevents motor burn out.

### 4” 230 V Single phase water cooled c/w lead

Model	I [A]	P2		Cable section in [mm <sup>2</sup> ]					Code
		[kW]	[HP]	4x1.5	4x2.5	4x4	4x6	4x10	
4” PC Franklin motor 230 V 1PH	3.2	0.37	0.5	120	200	320	480	810	2548156700L
4” PC Franklin motor 230 V 1PH	4.1	0.55	0.75	80	130	220	320	550	2548176700L
4” PC Franklin motor 230 V 1PH	5.4	0.75	1	60	100	170	250	430	2548186700L
4” PC Franklin motor 230 V 1PH	8.1	1.1	1.5	40	70	120	180	300	2548196700L
4” PC Franklin motor 230 V 1PH	10.2	1.5	2	30	60	90	130	230	2548206700L
4” PC Franklin motor 230 V 1PH	15.2	2.2	3	20	40	60	90	150	2548216700L

### 4” 400 V Three phase water cooled c/w lead

Model	I [A]	P2		Cable section in [mm <sup>2</sup> ]					Code
		[kW]	[HP]	4x1.5	4x2.5	4x4	4x6	4x10	
4” PC Franklin motor 400 V 3PH	1.1	0.37	0.5	810	1350	2160	3240	5500	2347616700L
4” PC Franklin motor 400 V 3PH	1.6	0.55	0.75	550	920	1480	2230	3780	2347626700L
4” PC Franklin motor 400 V 3PH	2.1	0.75	1	410	680	1090	1640	2780	2347636700L
4” PC Franklin motor 400 V 3PH	3	1.1	1.5	300	500	810	1210	2060	2347246700L
4” PC Franklin motor 400 V 3PH	4	1.5	2	220	370	590	880	1500	2347256700L
4” PC Franklin motor 400 V 3PH	5.9	2.2	3	150	250	400	600	1030	2347266700L
4” PC Franklin motor 400 V 3PH	7.8	3	4	110	190	310	460	790	2347646700L
4” PC Franklin motor 400 V 3PH	9.1	3.7	5	80	140	230	340	590	234 727 3421L
4” PC Franklin motor 400 V 3PH	10	4	5.5	80	140	230	340	590	234 765 3421L
4” PC Franklin motor 400 V 3PH	13.7	5.5	7.5	60	110	170	260	440	234 728 3421L

# A6F Submersible



## 6" Franklin submersible motors

### Applications

6" motors with resin-coated stator for mounting with 6" submersible pumps equipped with a NEMA coupling system.

### Materials

Stainless steel inner and outer casing AISI 304.

Shaft stainless steel AISI 420.

Graphite double radial bearings.

Axial bearing stainless steel AISI 304.

Stators hermetically sealed in resin.

Water lubricated axial and radial bearings. Motors pre-filled with non-contaminating FES91/92 liquid and 100% tested.

"Sandfighter" motor with silicon carbide seal.

### Motor

Asynchronous, two poles.

IP 68 Protection.

Class F insulation.

Continuous service.

### Limitations

Maximum operating temperature: 30 °C up to 30 kW, 50 °C for 37 and 45 kW.

Maximum number of starts per hour: 20.

Voltage tolerance: from +6% to - 10%.

Vertical mounting. Horizontal mounting permitted only with 6" hydraulics ensuring sufficient axial load.



### 6" 380/415 V Three phase water cooled (direct on line)

Ø [mm²]	I [A]	I <sub>a</sub> [A]	P2		Cos φ	Thrust [N]	η %	Cable		Code
			[kW]	[HP]				Ø [mm²]	Length [m]	
6" Franklin motor 400 V 3PH	9.3	43	4	5.5	0.82	6500	78	4x4	4	236 610 9018
6" Franklin motor 400 V 3PH	12.5	64	5.5	7.5	0.82	6500	79	4x4	4	236 611 9018
6" Franklin motor 400 V 3PH	16	83	7.5	10	0.86	15500	79	4x4	4	236 612 9018
6" Franklin motor 400 V 3PH	20.7	112	9.3	12.5	0.80	15500	81	4x4	4	236 001 9018
6" Franklin motor 400 V 3PH	23.3	129	11	15	0.85	15500	81	4x4	4	236 613 9018
6" Franklin motor 400 V 3PH	31.3	169	15	20	0.85	15500	81	4x4	4	236 614 9018
6" Franklin motor 400 V 3PH	38.5	231	18.5	25	0.85	15500	82	4x4	4	236 615 9018
6" Franklin motor 400 V 3PH	45.3	268	22	30	0.86	15500	83	4x4	4	236 616 9018
6" Franklin motor 400 V 3PH	63.5	393	30	40	0.84	27500	83	4x4	4	236 617 9018

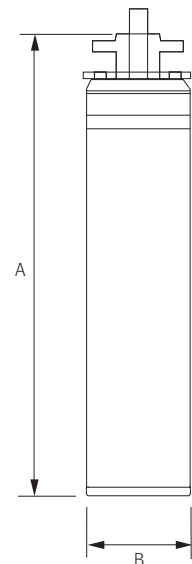
6" Star Delta starting motors (P.O.A)

### Motor characteristics table

Model	P2		Cable section in [mm²]						
	[kW]	[HP]	4x1.5	4x2.5	4x4	4x6	4x10	4x16	4x20
A6F 550	4	5.5	85	140	225	335			
A6F 750	5.5	7.5	65	110	175	260			
A6F 1000	7.5	10	45	80	125	190	320		
A6F 1250	9.2	12.5		65	105	160	265		
A6F 1500	11	15		55	85	130	220	355	
A6F 2000	15	20			65	100	170	270	
A6F 2500	18.5	25				85	140	225	350
A6F 3000	22	30				70	115	185	285
A6F 4000	30	40					85	135	215
A6F 5000	37	50						110	170

### Dimensions and weights

Model	A	B	Kg
6" Franklin motor 400 V 3PH	600	139	39.5
6" Franklin motor 400 V 3PH	631	139	43.2
6" Franklin motor 400 V 3PH	660	139	45.5
6" Franklin motor 400 V 3PH	685	139	49
6" Franklin motor 400 V 3PH	730	139	53
6" Franklin motor 400 V 3PH	758	139	59
6" Franklin motor 400 V 3PH	860	139	66.5
6" Franklin motor 400 V 3PH	920	139	72.5
6" Franklin motor 400 V 3PH	1050	139	85



## Franklin electric 8” motors and cable tails for 8” submersible pumps

### Applications

Domestic applications for 8” or larger water wells.

### Materials

Standard material in stainless steel 304 or stainless steel 316 on request.

### Benefits

Non contamination, water filled design.  
 Hermetically sealed stator.  
 Anti track, self healing stator resin prevents motor burn out.  
 Removable “Water Bloc” lead connector.  
 Cable material according to drinking water regulations.  
 Sand slinger and mechanical seal for high performance in sand.  
 High efficiency electrical design for low operation cost.  
 All motors prefilled and 100% tested.

### Motor

Water cooled encapsulated motors.  
 Class B insulation.  
 IP 68 protection.  
 8” NEMA flange.  
 Standard voltage: 415 V / 50 Hz, 460 V/60 Hz.  
 Voltage tolerance: +6%/-10%.

### Limitations

Maximum liquid temperature 30 °C.  
 Vertical or horizontal installation.  
 Starts: 20 per hour.  
 Frost protection to – 15 °C.  
 Cooling flow: min 0.16 m/s.



### 8” 380 V Three phase water cooled (direct on line)

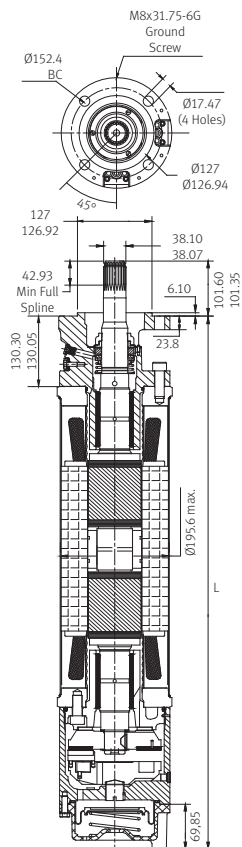
Model	I [A]	P2		Cos φ	Thrust [N]	η %	Cable		Dimensions and weights		Code
		[kW]	[HP]				Ø [mm <sup>2</sup> ]	Length [m]	L [mm]	[Kg]	
8” Franklin motor 400 V 3PH	61	30	40	0.84	45000	86	3x8.4	8	925	145	239 600 7023
8” Franklin motor 400 V 3PH	75	37	50	0.86	45000	87	3x8.4	8	1000	157	239 601 7023
8” Franklin motor 400 V 3PH	89	45	60	0.85	45000	87	3x8.4	8	1077	172	239 602 7023
8” Franklin motor 400 V 3PH	111	55	75	0.87	45000	88	3x16	8	1394	202	239 603 7023
8” Franklin motor 400 V 3PH	148	75	100	0.87	45000	87	3x16	8	1496	240	239 604 7023
8” Franklin motor 400 V 3PH	194	93	125	0.83	45000	87	3x16	8	1748	318	239 105 7019

8” 110-150 kW (P.O.A)

### 8” 380 V Three phase water cooled (Star Delta)

Model	I [A]	P2		Cos φ	Thrust [N]	η %	Cable		Dimensions and weights		380/415 V Three-phase Code
		[kW]	[HP]				Ø [mm <sup>2</sup> ]	Length [m]	L [mm]	[Kg]	
8” Franklin motor 400 V 3PH	61	30	40	0.84	45000	86	3x8.4	8	925	145	239 620 8023
8” Franklin motor 400 V 3PH	75	37	50	0.86	45000	87	3x8.4	8	1000	157	239 621 8023
8” Franklin motor 400 V 3PH	89	45	60	0.85	45000	87	3x8.4	8	1077	172	239 622 8023
8” Franklin motor 400 V 3PH	111	55	75	0.87	45000	88	3x16	8	1394	202	239 623 8023
8” Franklin motor 400 V 3PH	148	75	100	0.87	45000	87	3x16	8	1496	240	239 624 8023
8” Franklin motor 400 V 3PH	194	93	125	0.83	45000	87	3x16	8	1748	318	239 125 8019

8” 110-150 kW (P.O.A)



# Acuaría 07N/17/27 Submersible



## Submersible multi-stage pumps for open wells

### Applications

Irrigation, decanting and hydropneumatic sets. Max. immersion level according to technical table on page 281.

### 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 with built-in thermal protection.

**Acuaría 07N/17/27:** without floating level switch.  
**Acuaría 07N A/17 A/27 A:** with floating level switch.

### Limitations

Maximum liquid temperature: 40 °C.

### Equipment

Complete with 15 m of power cable for M version or 10 m MA version.

**Acuaría 07N M:** for open wells with a minimum Ø 125 mm. Internal capacitor.

**Acuaría 17/27 M:** for open wells with a minimum Ø 140 mm. External capacitor (Box extra).



See page 168 Accessories.

## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c	l/min	10	20	30	40	50	60	65	3~400V T	1~230V M	1~230V MA
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[µF]	m³/h	0.6	1.2	1.8	2.4	3.0	3.6	3.9	Code
Acuaría 07 3N	2.8		0.6		0.37	0.5	12	mwc	33	29	26	21	15	8	4		157967	157968
Acuaría 07 4N	3.5	1.7	0.8	0.8	0.5	0.75	12		41	37	32	26	19	10	6	166210	157964	157965
Acuaría 07 5N	4.1	1.9	1	1	0.75	1	12		50	46	40	32	23	13	8	166211	157969	143389
Acuaría 07 6N	5	2	1.2	1.1	0.9	1.2	12		60	55	47	37	26	15	9	166212	157970	157971
Acuaría 07 7N	5.5	2.4	1.4	1.3	1.1	1.5	30		70	64	55	44	31	18	11	166213	157973	169292

Model	I [A]		P1 [kW]		P2		c	l/min	10	20	30	40	50	60	80	85	3~400V T	1~230V M	1~230V MA
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[µF]	m³/h	0.6	1.2	1.8	2.4	3.0	3.6	4.8	5.1	Code
Acuaría 17 5	7.4		1.6		0.9	1.25	16	mwc	67	65	62	55	48	39	18	12	96251	96265	96266
Acuaría 17 7	10.7	3.8	2.2	2.1	1.5	2.0	25		94	90	85	78	69	58	30	22	96275	96265	96283

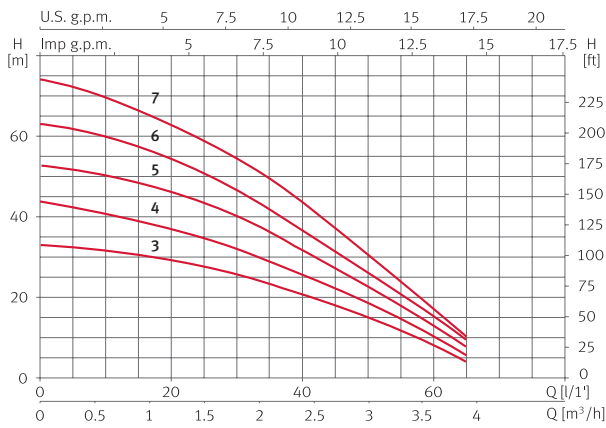
Model	I [A]		P1 [kW]		P2		c	l/min	20	30	40	50	60	80	100	120	3~400V T	1~230V M	1~230V MA
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[µF]	m³/h	1.2	1.8	2.4	3.0	3.6	4.8	6.0	7.2	Code
Acuaría 27 4	7	2.5	1.5	1.4	0.9	1.25	16	mwc	43	42	41	39	38	31	23	14	96328	96342	96343
Acuaría 27 6	10.8	3.8	2.2	2.1	1.5	2.0	25		68	66	64	61	57	47	36	24	96352	96359	96360

# Acuaría 07N/17/27 Submersible

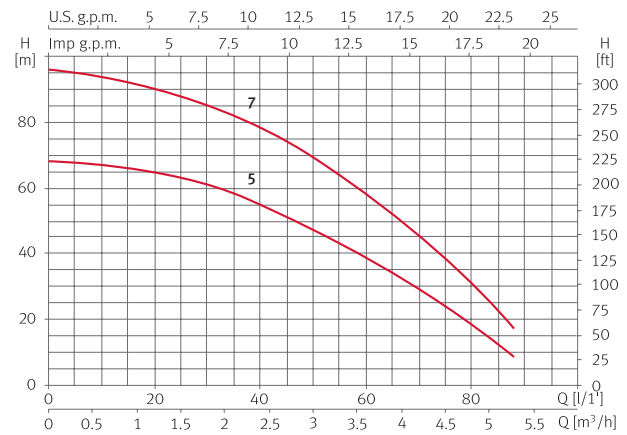


## Performance curves at 2900 rpm

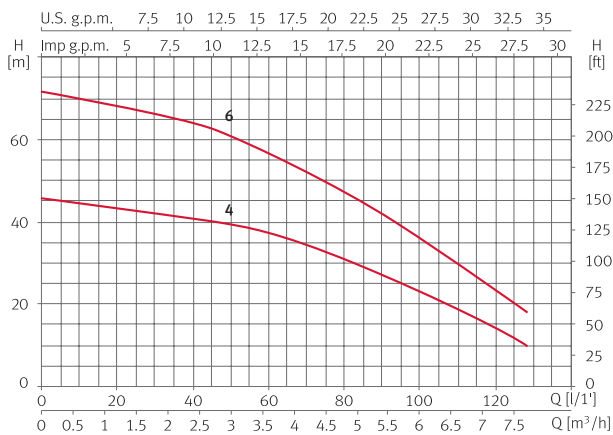
Acuaría 07N



Acuaría 17

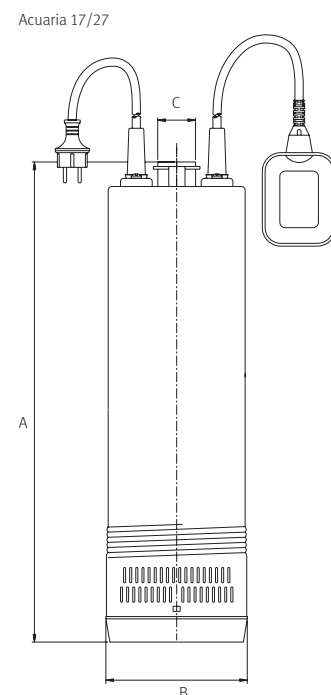
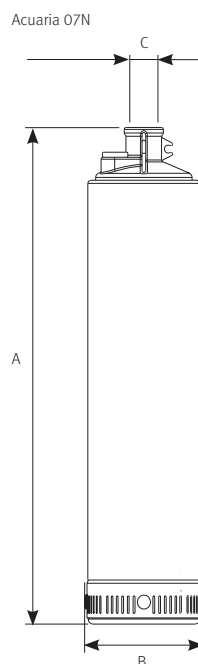


Acuaría 27



## Dimensions and weights

Model	A	B	C	[Kg]
Acuaría 07 3N	470	126	1"	10.0
Acuaría 07 4N	493	126	1"	10.6
Acuaría 07 5N	517	126	1"	11.5
Acuaría 07 6N	560	126	1"	12.4
Acuaría 07 7N	583	126	1"	12.6
Acuaría 17 5	553	138	1"	14
Acuaría 17 7	646	138	1"	14.2
Acuaría 27 4	552	138	1"	17
Acuaría 27 6	655	138	1"	17.2



\*Service kits are available on request

# Acuaría 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.  
Max. immersion level according to the technical table on page 281.

### 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 with cataforesis.  
Foodgrade oil in seal chamber.  
Energy Index MEI ≥ 0,4.

### Equipment

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



See page 168  
Accessories.

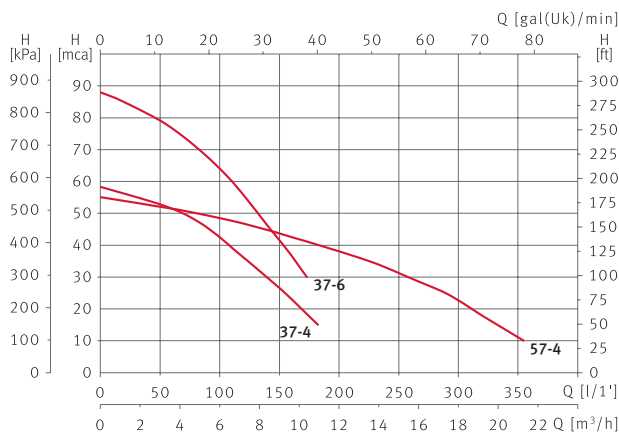
## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c	l/min	12	40	60	100	120	140	160	1~ 230V M	3~ 400V T
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			[μF]	m³/h	1.2	2.4	3.6	6.0	7.2	8.4	8.6
Acuaría 37 4	9.2	3.3	2	1.9	1.1	1.5	30	mwc	55.7	53.4	50.9	41	35.2	29.1	22.3	135380	135379
Acuaría 37 6		5.3		3	2.2	3			84.5	80.7	77.4	64.8	56.3	46.1	37.2		135381

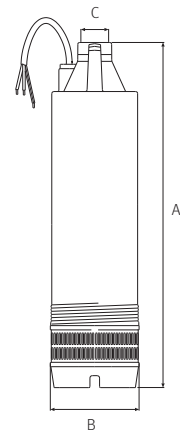
Model	I [A]	P1 [kW]	P2		l/min	50	100	150	200	250	300	350	3~ 400V T
	3~ 400 V	3~ 400 V	[kW]	[HP]	m³/h	3.0	6.0	9.0	12	15	18	21	Code
Acuaría 57 4	5.4	3	2.2	3	mwc	52.5	48.1	42.2	37.8	31.5	23.2	12.1	135382

## Performance curves at 2900 rpm



## Dimensions and weights

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



\*Service kits are available on request







# Vigila 100 Drainage



## Submersible pumps for the drainage of clear water

### Applications

Drainage of clear water, decorative fountains, tanks, etc.

### Materials

Pump body, impellers and suction filter in technopolymer.  
Motor shaft in stainless steel AISI 420.  
Double lip seal and o-rings in NBR.

### Motor

Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Forced cooling through the discharge water.

### Limitations

Maximum solids handling: Ø 5 mm.

### Equipment

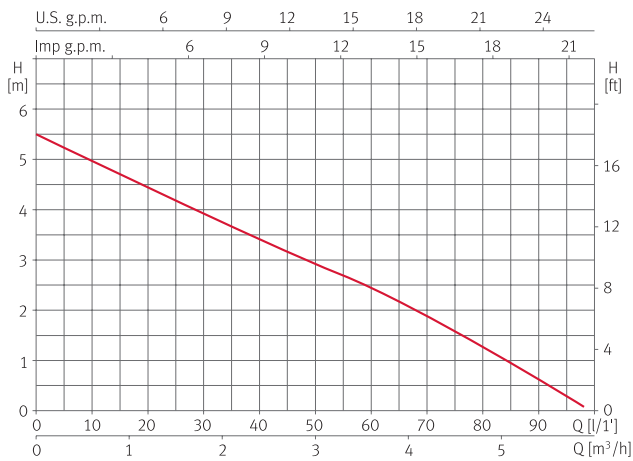
Supplied with 10 m power cable.  
**Vigila 100 M A:** with float switch.



## Hydraulic performance table

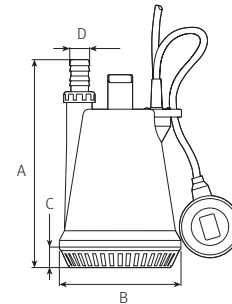
Model	I [A]	P1 [kW]	P2		c	l/min	10	20	30	40	50	60	80	95	1~230 V
	1~230 V	1~230 V	[kW]	[HP]	[µF]	m³/h	0.6	1.2	1.8	2.4	3.0	3.6	4.8	5.7	Code
Vigila 100	1.04	0.23	0.11	0.15	6	mwc	5	4.3	3.7	3.4	3.0	2.5	1.2	0.3	97806

## Performance curves at 2900 rpm



## Dimensions and weights

Model	A	B	C	D	Kg
Vigila 100	272	159	26.5	1"/25	3.8



\*Service kits are available on request

# Vigila 200/350/500 Drainage



## Submersible pumps for the drainage of clear water

### Applications

Emptying of drains, residential sumps, rain water tanks, etc.  
Emergency emptying of flooded garages or basements.  
Water transfer from tanks and cisterns.

### Materials

Pump body, impellers and suction filter in technopolymer.  
Double lip seal and o-rings in NBR.  
Vigila M H A: internal metal parts in stainless steel AISI 316.

### Motor

Asynchronous, two poles.  
IP 68 protection.  
Class F insulation.  
Built-in thermal protection and capacitor.

### Limitations

Maximum solids handling: Ø 10 mm.

### Equipment

Supplied with 10 m power cable.  
**Vigila M A:** with float switch.

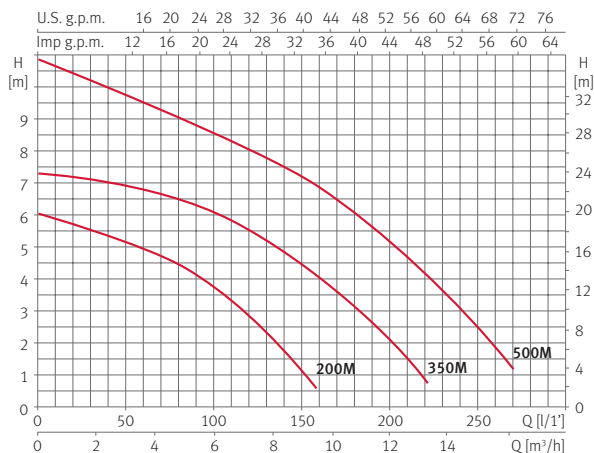


DRAINAGE

### Hydraulic performance table

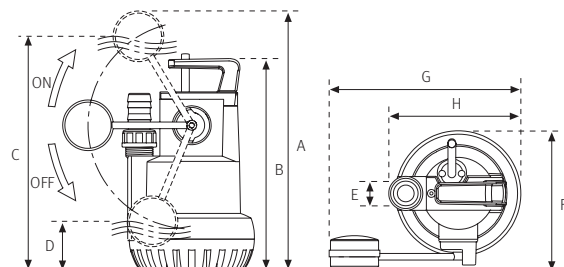
Model	I [A]	P1 [kW]	P2		c	l/min m <sup>3</sup> /h	20	40	80	120	160	200	240	260	1~230 V (Model M A)	1~230 V (Model M H A)
	1~230 V	1~230 V	[kW]	[HP]	[µF]		1.2	2.4	4.8	7.2	9.6	12	14.4	15.6	Code	Code
Vigila 200	1.5	0.35	0.25	0.33	8	mwc	5.6	5.3	4.5	2.8					105776	105779
Vigila 350	2.2	0.5	0.5	0.67	10		7.2	7	6.5	5.5	4	2			105781	105784
Vigila 500	3.7	0.85	0.6	0.8	10		10.4	10	9	8	6.8	5	3	1.8	105787	105790

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	G	H	Kg
Vigila 200	392	319.7	353	72	30	213.5	291	201	4.5
Vigila 350	443.5	372	405	124	30	213.5	291	201	6.7
Vigila 500	443.5	372	405	124	30	213.5	291	201	7.1



\*Service kits are available on request

## Submersible pumps, Vortex system for sewage water

### Applications

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

### Materials

Pump body and pump foot in glass-loaded polypropylene.  
Impeller in glass-loaded polyamide.  
Double lip seal in NBR.  
**Vigilex M H A:** internal metal parts in stainless steel AISI 316.

### Motor

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

### Limitations

Maximum solids handling: Ø 24 mm.  
Maximum immersion: 5 m.

### Equipments

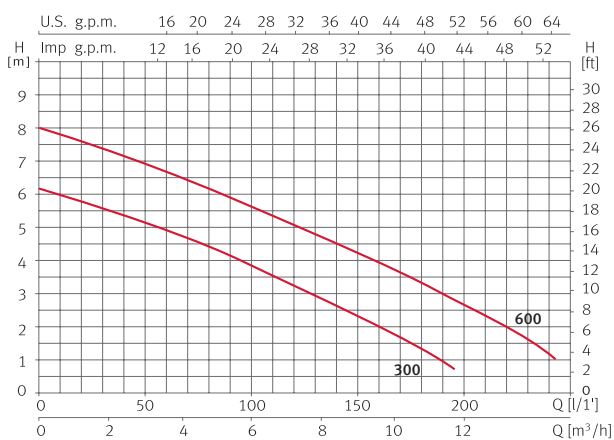
Supplied with capacitor box.  
Supplied with 10 m power cable.  
**Vigilex M A:** with float switch.



### Hydraulic performance table

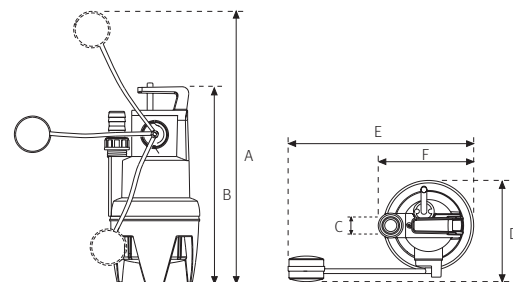
Model	I [A]	P1 [kW]	P2		c	l/min	25	50	75	100	125	150	190	240	1~230 V (Model M A)	1~230 V (Model M H A)
	1~230 V	1~230 V	[kW]	[HP]	[µF]	m³/h	1.5	3.0	4.5	6.0	7.5	9.0	11.4	14.4	Code	Code
Vigilex 300	3	0.7	0.5	0.67	10	mwc	5.7	5.2	4.6	3.8	3.2	2.3	1		105796	134347
Vigilex 600	3.4	0.8	0.6	0.8	10		7.5	7	6.3	5.6	5	4.3	3	1	105800	134348

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	Kg
Vigilex 300	380	362	30	213.5	410	201	4.5
Vigilex 600	380	362	30	213.5	410	201	6.7



\*Service kits are available on request

## Portable submersible pumps for drainage

### Applications

Emptying of drains, residential sumps, rain water tanks, etc.  
Emergency emptying of flooded garages or basements.  
Water transfer from tanks and cisterns.

### Materials

Outer casing: stainless steel AISI 304.  
Impeller in tecnopolymer.  
Diffuser, motor casing, pump base and upper cover in stainless steel AISI 304.  
Pump shaft in stainless steel AISI 303.  
Double sealed. Mechanical seal on the pump side in silicon carbide/alumina oxidized. Lip seal on motor side in NBR.  
O-rings: NBR.

### Motor

Asynchronous single-phase, two poles.  
Built-in thermal protection and capacitor.  
Cooling via circulation of pumped liquid.  
Protection IP 68.  
Isolation class F.

### Limitations

Maximum immersion: 5 m.  
Maximum liquid temperature: 40 °C.  
Maximum passage of solids: Ø10 mm.

### Equipment

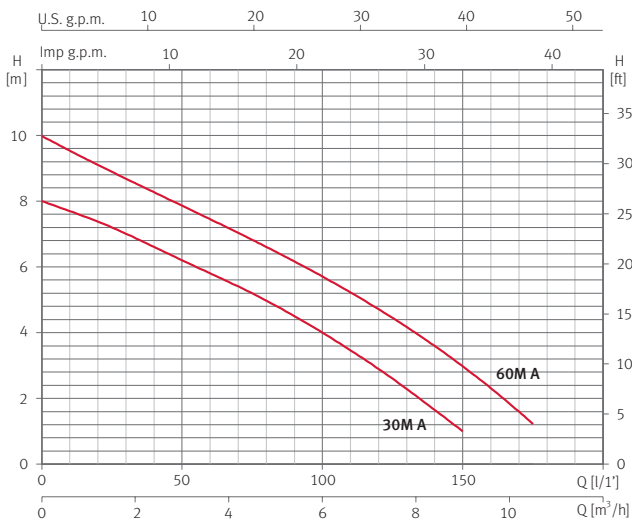
Supplied with 5 m of electric cable HO7RN-F and plug.  
With float switch.  
**MXO M:** without float switch.  
**MXO M A:** with float switch.



### Hydraulic performance table

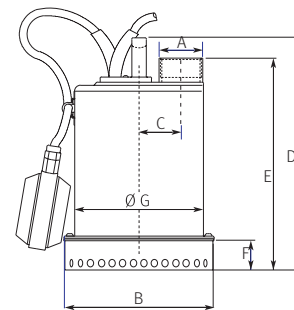
Model	I [A]	P1 [kW]	P2		c	l/min	0	25	50	75	100	125	150	175	Code
	1~230 V	1~230 V	[kW]	[HP]	[µF]	m³/h	0	1.5	3.0	4.5	6.0	7.5	9.0	10.5	
MXO 30	2.2	0.5	0.25	0.33	8	mwc	8.0	7.2	6.2	5.2	4.0	2.6	1.0		197365
MXO 60	3.0	0.7	0.45	0.6	10		10.0	8.8	8.0	6.8	5.6	4.5	3.0	1.2	197366

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	G	Kg
MXO 30	1 1/4"	154	47	249	228	45	Ø132	5.5
MXO 60	1 1/4"	154	47	249	228	45	Ø132	6.2



\*Service kits are available on request

## Submersible pumps for clear water

### Applications

Drainage of water without solids in suspension.  
Drainage of seepage water or rainwater, via tanks and vats.

### Materials

External housing, suction filter, cover and impeller made of AISI 304 stainless steel.  
Diffusor in cast iron (G20)  
Mechanical seal in silicon carbide-alumina and alumina-carbon  
NBR O-ring seals.  
Motor shaft pump side in stainless steel AISI 316.

### Limitations

Through section: 8 mm.  
Maximum immersion: 9 m.  
Maximum liquid temperature: 40 °C. with pump totally immersed.

### Motor

Asynchronous two poles with oil bath lubrication.  
Class F insulation.  
IP 68 protection.

### Features

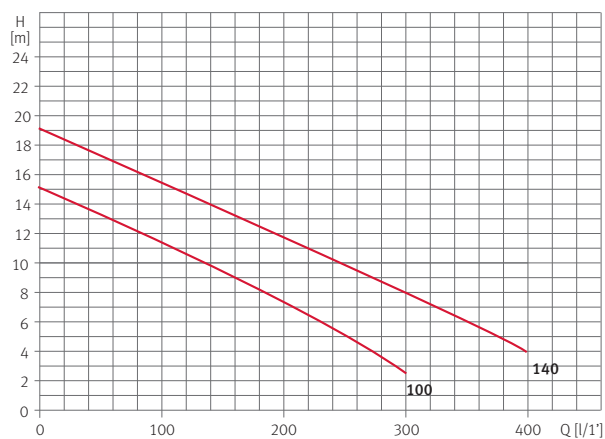
10 m long power cable.  
Single-phase versions with built-in capacitor and thermal protection.



### Hydraulic performance table

Model	I [A]		P1 [kW]	P2		l/min m <sup>3</sup> /h	0	25	50	100	150	200	250	300	400	1~230 V (Model M A)
	1~230 V	3~400 V		[kW]	[HP]		0	1.5	3	6	9	12	15	18	24	Code
DMR 100	6.5	2.6	1.3	0.75	1	mwc	15	14	12.8	11.2	9.2	7.4	5.2	2.6		DMR 100MA
DMR 140	9	3	2	1.1	1.5		19.5	19	18.5	17.5	16	14	11.8	9.2	4	DMR 140MA

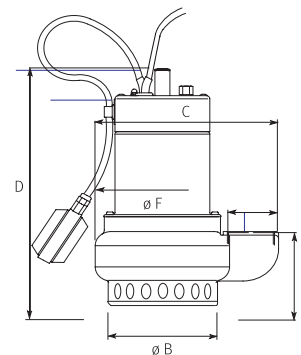
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

Model	A	B	C	D	Kg
DMR 100	1 1/2"	190	213.5	300	13.5
DMR 140	1 1/2"	190	213.5	344	18.2





## Portable submersible pumps for drainage

### Applications

Drainage of filtered water.  
Emptying of pools and operation in decorative fountains, and emptying of rainwater.

### Materials

Outer casing, impeller, diffuser, motor casing, pump base and upper cover in stainless steel AISI 304.  
Pump shaft in stainless steel AISI 316.  
Double mechanical seal on the pump side in silicon carbide/alumina oxidized.  
Lip seal on motor side in NBR.  
O-rings: NBR.

### Limitations

Maximum immersion: 5 m.  
Maximum liquid temperature: 50 °C.  
Maximum passage of solids: Ø10 mm.

### Motor

Asynchronous, two poles.  
Cooling via circulation of pumped liquid.  
Oil-filled motor.  
Protection IP 68.  
Isolation class F.  
Single-phase with built-in thermal protection and capacitor.  
The thermal protection for the three-phase motors is to be provided by the user.

### Equipment

Supplied with 10 m of electric cable HO7RN-F.  
**Viginox M:** without float switch.  
**Viginox M A:** with float switch.  
**Viginox T:** three phase without float switch.

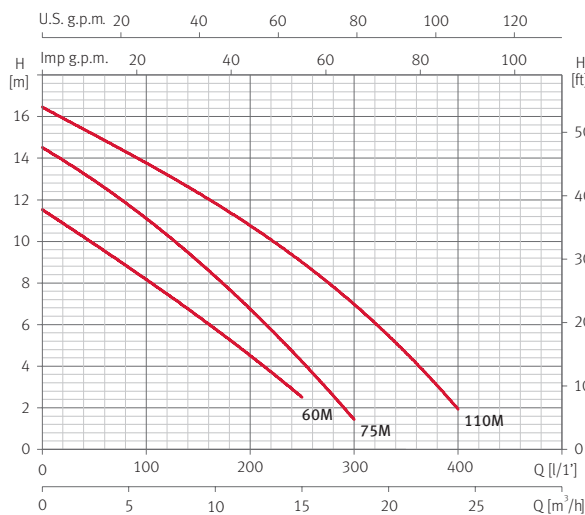


DRAINAGE

### Hydraulic performance table

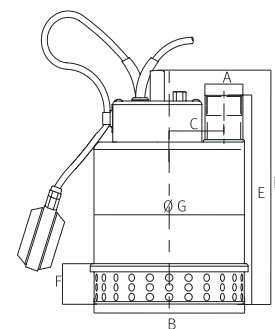
Model	I [A]		P1 [kW]		P2		c [µF]	l/min	mwc						1~230 V (Model M)	1~230 V (Model M A)	3~400 V (Model T)
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			0	100	200	300	350	400	Code	Code	Code
Viginox 60	4.5	2.1	1.1	0.9	0.6	0.8	16	mwc	11.5	8.0	4.5	2.5			197367	197368	197369
Viginox 75	6.5	2.2	1.5	1.3	0.75	1.0	20		14.5	11.0	7.0	4.0	1.5		197370	197371	197372
Viginox 110	10.6	3.3	2.2	2.0	1.1	1.5	30		16.5	14.0	11.0	9.0	7.0	2.0	197373	197377	197378

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	G	Kg
Viginox 60	1 1/2"	212.4	89.7	290.2	259.2	50.5	Ø202.4	9.0
Viginox 75	1 1/2"	212.4	89.7	290.2	259.2	50.5	Ø202.4	11.0
Viginox 110	2"	212.4	89.7	326.7	294.7	50.5	Ø202.4	18.0



\*Service kits are available on request

## Portable submersible pumps for drainage, Vortex system

### Applications

Drainage of sewage/dirty water, operation in septic tanks, small purifying installations and emptying of rainwater. Specially adapted for building use.

### Materials

Outer casing, impeller, diffuser, motor casing, pump base and upper cover in stainless steel AISI 304. Pump shaft in stainless steel AISI 316. Double mechanical seal on the pump side in silicon carbide/alumina oxidized. Lip seal on motor side in NBR. O-rings: NBR.

### Limitations

Maximum immersion: 5 m.  
Maximum liquid temperature: 50 °C.  
Maximum passage of solids: Ø30 mm.

### Motor

Asynchronous, two poles. Cooling via circulation of pumped liquid. Oil-filled motor. Protection IP 68. Isolation class F. Single-phase with built-in thermal protection and capacitor.

### Equipment

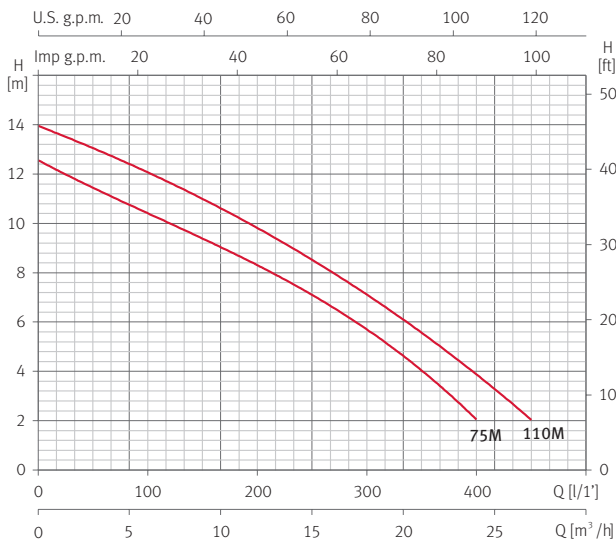
Supplied with 10 m of electric cable H07RN-F.  
**Viginox V M:** without float switch.  
**Viginox V M A:** with float switch.  
**Viginox V T:** three phase without float switch.



### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c	l/min	0	100	200	300	350	400	1~230 V (Model M A)	1~230 V (Model M H A)	3~400 V (Model T)
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]	[µF]	m³/h	0.0	6.0	12.0	18.0	21.0	24.0	Code	Code	Code
Viginox V 75	6.8	2.4	1.5	1.5	0.75	1.0	20	mwc	10.5	8.5	6.5	3.5	2.0		197379	197380	197381
Viginox V 110	9.0	3.3	2.2	2.0	1.1	1.5	30		12.5	10.5	8.0	6.0	4.0	2.0	197382	197383	197384

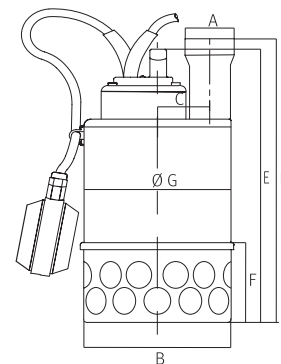
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

Model	A	B	C	D	E	F	G	Kg
Viginox V 75	1 1/2"	204	73	344.2	325.2	106	Ø202	13.0
Viginox V 110	2"	204	73	384.7	393.2	106	Ø203	20.0





## Submersible pumps for drainage and sewage

### Applications

Emptying of septic tanks, cesspools, sewage collection wells, pumping of sewage water with solids in suspension by means of vortex impeller.

### Materials

Outer casing, suction filter, support, counter flange, cover, handle and impeller in AISI 304 stainless steel.  
 Motor flange mount and pump body in cast iron (G20).  
 Mechanical seal on pump side in silicon carbide and alumina and NBR ring on motor side.  
 O-ring: NBR.  
 Motor shaft pump side in stainless steel AISI 316.

### Motor

Asynchronous two poles with oil bath lubrication.  
 Oil-filled motor.  
 IP 68 protection.  
 Class F isolation.

### Limitations

Maximum immersion: 5 m.  
 Maximum liquid temperature: 50 °C.  
 Maximum passage of solids: Ø30 mm.

### Features

10m long power cable  
**TGR M:** without float switch  
**TGR M A:** c/w float switch  
**TGR T:** three phase without float switch  
**TGR F:** three phase with flanged discharge

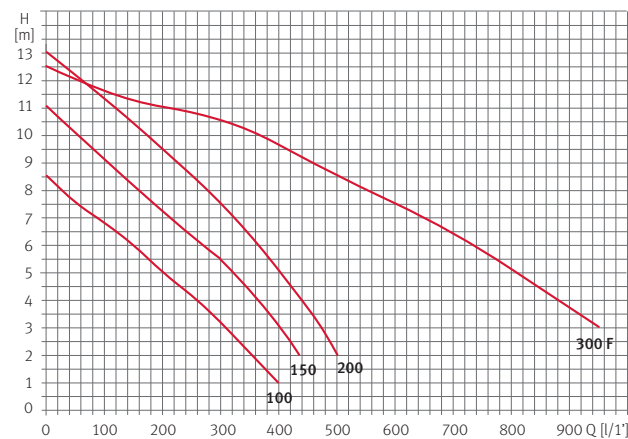


DRAINAGE

### Hydraulic performance table

Model	I [A]		P1 [kW]	P2		l/ min m³/h	mwc													1~230 V (Model M A)		3~400 V (Model T)	
	1~230 V	3~400 V		[kW]	[HP]		0	100	200	300	400	500	700	950	0	6	12	18	24	30	42	57	Code
TGR 100	7	3.2	1.3	0.75	1	8.5	6.8	5	3.2	1												TGR 100 MA	TGR 100T
TGR 150	11.5	4.5	1.7	1.1	1.5	11	9	7.3	5.6	3.2												TGR 150 MA	TGR 150T
TGR 200		4.8	2.2	1.5	2	13	11.2	9.5	7.5	3.2													TGR 200T
TGR 300 F		6.5	3.5	2.25	3	12.5	11.5	11	10.5	9.6	8.5	6.5	3										TGR 300F

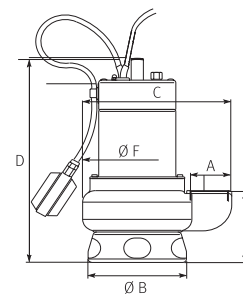
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

Model	A	B	C	D	E	F	G	[Kg]
TGR 100	2"	150	232	396	125	50	150	13
TGR 150	2"	150	232	396	125	180	150	15
TGR 200	2"	150	232	396	125	180	150	15
TGR 300 F	3"	214	290	523	133	170	253	32



# 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  $\varnothing$  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.

### Limitations

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

### Equipment

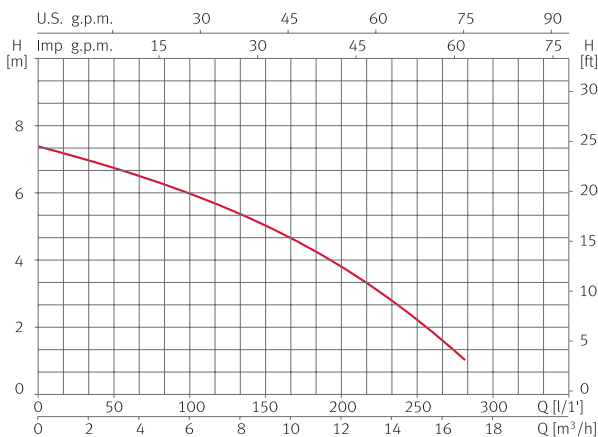
Supplied with 10 m power cable.  
Single-phase supplied with capacitor box.  
**Drainex 100M:** without float switch.  
**Drainex 100M A:** with float switch.



## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c	l/min	25	50	100	125	150	200	250	280	1~230 V (Model M)	1~230 V (Model M A)
	1~230 V	1~230 V	[kW]	[HP]	[ $\mu$ F]	m <sup>3</sup> /h	1.5	3.0	6.0	7.5	9.0	12	15	16.8	Code	Code
Drainex 100	3.4	0.75	0.75	1	12	mwc	7	6.7	5.9	5.5	5	3.7	2	1	96631	96625

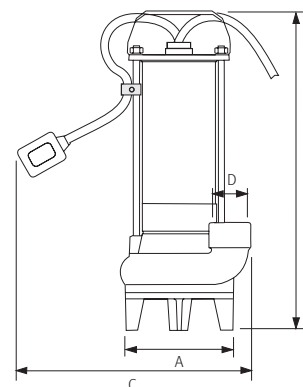
## Performance curves at 2900 rpm



\*Service kits are available on request

## Dimensions and weights

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



# Drain 100 Drainage



## Submersible pumps for the drainage of water without solids in suspension

### Applications

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

### Materials

Discharge body and upper mounting in cast iron.  
 Impeller in tecnopolimer.  
 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 M:** without float switch.  
**Drain 100 M A:** with 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.

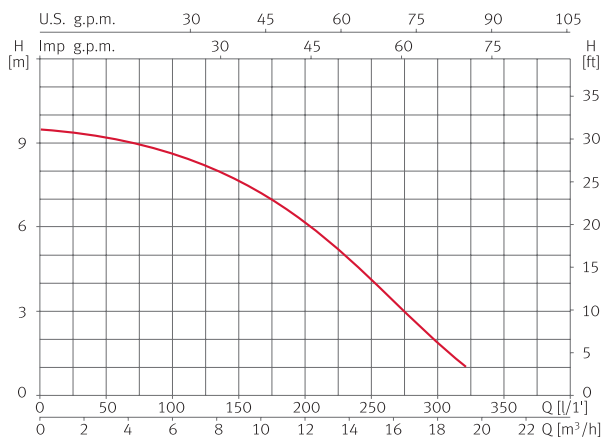


DRAINAGE

### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c	l/min	25	50	100	150	200	250	300	320	1~230 V (Model M)	1~230 V (Model M A)
	1~230 V	1~230 V	[kW]	[HP]	[μF]	m³/h	1.5	3.0	6.0	9.0	12	15	18	19.2	Code	Code
Drain 100	3.1	0.7	0.75	1	12	mwc	92	91	87	78	6	4	2	1	96605	96603

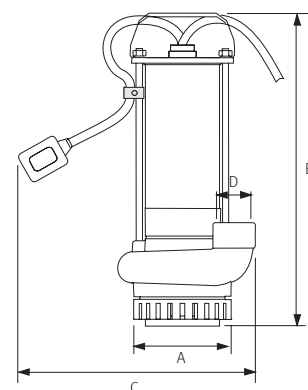
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

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



# 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, high torque.  
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:** without float switch.  
**Drainex M A:** with float switch.  
**Drainex T:** three phase without float switch.  
Transportable versions include elbow and s/s feet.



## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c	l/min	50	100	200	300	400	500	1~230V M	1~230V MA	3~400V
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[µF]	m³/h	3.0	6.0	12	18	24	30	Code
Drainex 200	5.4	2.3	1.1	1.1	1.1	1.5	16	mwc	10.7	9.7	7.4	4.9	2.3		96652	96654	96648
Drainex 201	6.6	2.6	1.4	1.4	1.1	1.5	16		13.2	11.9	9.4	6.7	3.8		96664	96666	96662
Drainex 202	7.4	2.8	1.6	1.6	1.1	1.5	16		15.1	13.8	11.3	8.5	5.6	2.5	96674	96676	96672

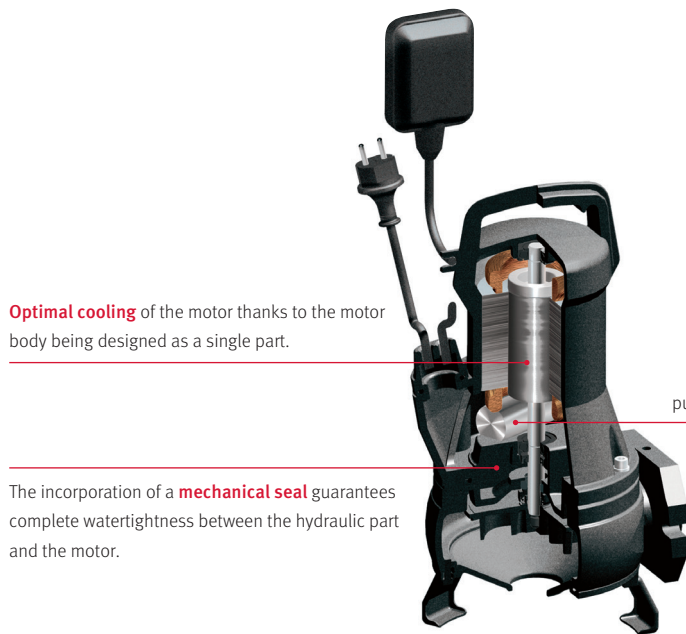
Model	I [A]		P1 [kW]		P2		c	l/min	50	100	200	400	500	650	1~230V M	1~230V MA	3~400V
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[µF]	m³/h	3.0	6.0	12	24	30	39	Code
Drainex 300	5.50	2.4	1.2	1.2	1.1	1.5	16	mwc	7.1	6.6	5.4	2.9	1.8		96684	96686	96682
Drainex 301	6.80	2.7	1.5	1.5	1.1	1.5	12		9.2	8.5	7	4.1	2.8		96694	96696	96692
Drainex 302	7.20	3	1.8	1.8	1.1	1.5	12		11	10.5	9	5.8	4.2	1.8	96704	96706	96702

Elbow flange set (P.O.A)

# Drainex 200/300 Drainage



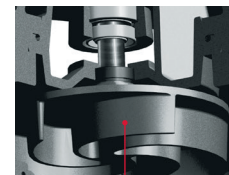
DRAINAGE



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

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

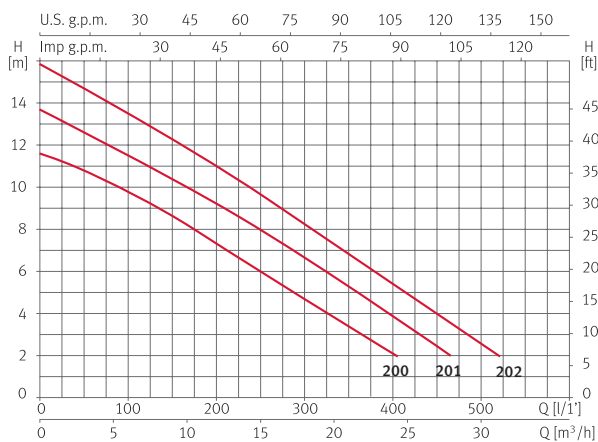
The incorporation of a **mechanical seal** guarantees complete watertightness between the hydraulic part and the motor.



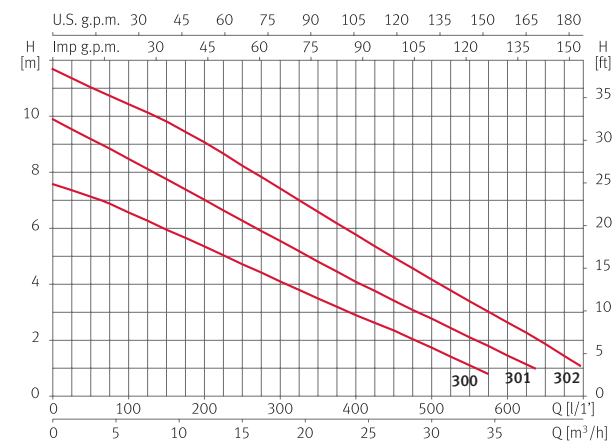
**Large chamber** between the impeller and the aspiration cone which allows suspended solid particles to pass through. Drainex 200, 45 mm. and Drainex 300, 60 mm.

## Performance curves at 2900 rpm

Drainex 200



Drainex 300

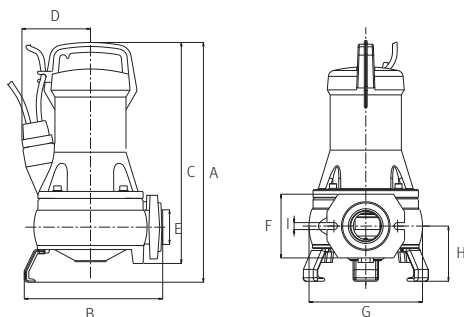


## Dimensions and weights

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

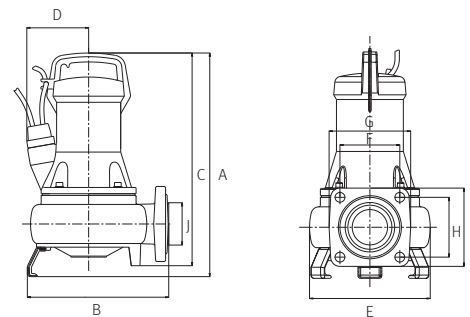
Impeller ext. Ø: Drainex 200: 105 mm. Drainex 201: 115 mm. Drainex 202: 124 mm.



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.



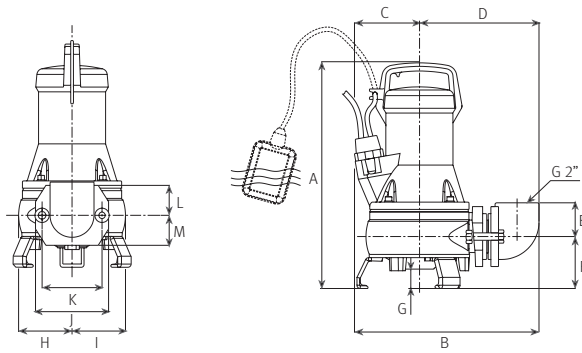
# Drainex 200/300 Drainage



## Portable version

### Drainex 200/201/202

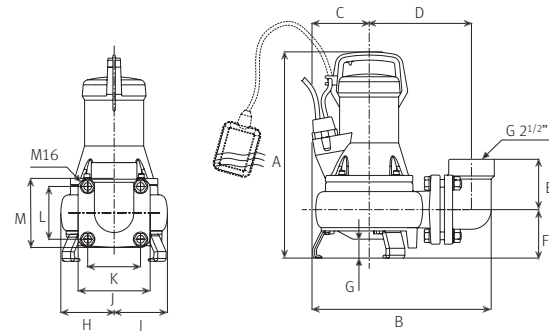
A	B	C	D	E	F	G	H	I	J	K	L	M
437	338	110	219	62	95	49	98	98	134	110	55	55



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



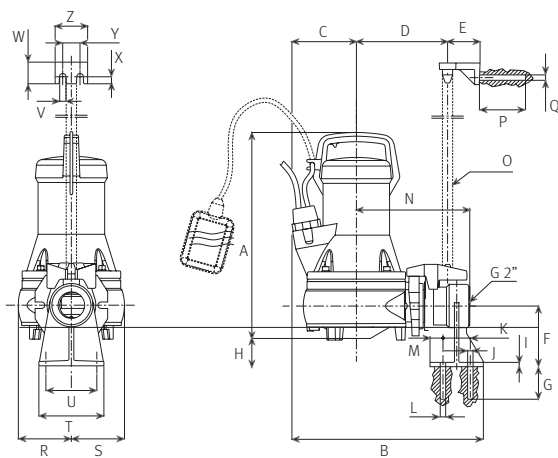
## Fixed version, guide rail system

### 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



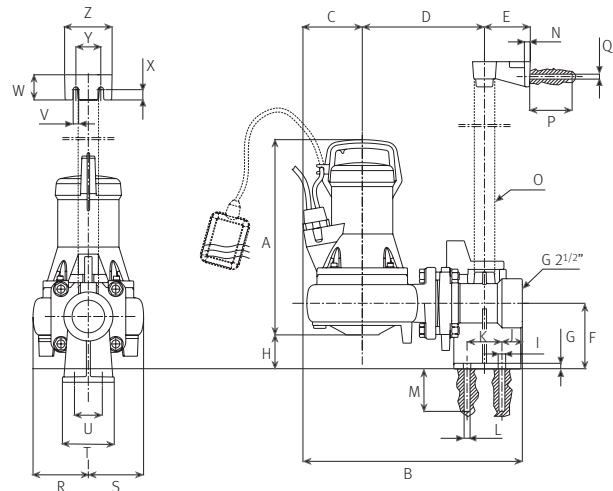
Passage Ø of particles in suspension: 60mm  
**Drainex 200/300:** without float switch. **Drainex 200 A/300 A:** supplied built-in float switch

### 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



\*Service kits are available on request

# 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 installation of 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, wastewater and non-corrosive liquids in general.



### Solids passage Ø

**Drainex 400/500:** the passage of solids of up to 40 mm with a DN 50 impeller.  
**Drainex 600:** the passage of solids of up to 65 mm with a DN 65 impeller.

## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		l/min	100	200	400	500	600	700	800	3~400V	
	3~400 V	3~400 V	[kW]	[HP]	m³/h	6.0	12	24	30	36	42	48	Code	
Drainex 400	4.1	1.9	2.6	3.5	mwc	14.6	12.7	8.3	5.9	2.8			137506	
Drainex 401	4.8	2.45	2.6	3.5		17.3	15.5	11.6	9.3	5.2	3			137503
Drainex 402	5.6	3.1	2.6	3.5		20.7	18.6	13.7	12	9.3	5	2		129725

Model	I [A]	P1 [kW]	P2		l/min	100	300	400	500	600	750	810	3~400V	
	3~400 V	3~400 V	[kW]	[HP]	m³/h	6.0	18	24	30	36	45	49	Code	
Drainex 500	7.2	4.2	3.7	5	mwc	23.2	19.7	17.6	15.6	13	8.5	6	137507	
Drainex 501	8.3	5	3.7	5		27.4	23.5	21.2	19.1	16.8	12	5.2		137504
Drainex 502	8.7	5.3	3.7	5		30.1	26.8	24.5	22.2	20	15.4	10		129726

Model	I [A]	P1 [kW]	P2		l/min	200	400	600	800	1000	1200	1300	3~400V	
	3~400 V	3~400 V	[kW]	[HP]	m³/h	12	24	36	48	60	72	78	Code	
Drainex 600	5.7	3	3.7	5	mwc	14.8	13.3	10.4	6.3	3.4			137508	
Drainex 601	6.8	3.9	3.7	5		18	16.3	14	9.8	6	3.1			137505
Drainex 602	8.1	4.8	3.7	5		21	19	16.8	13.3	9	5.8	4.3		129730

DRAINAGE

# Drainex 400/500/600 Drainage

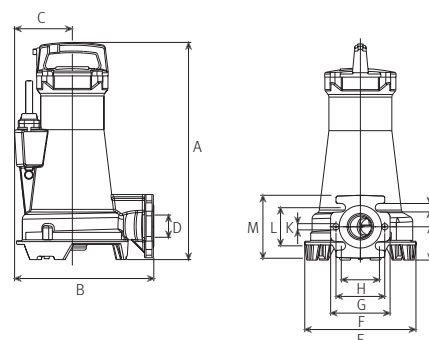


## Dimensions and weights

### 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

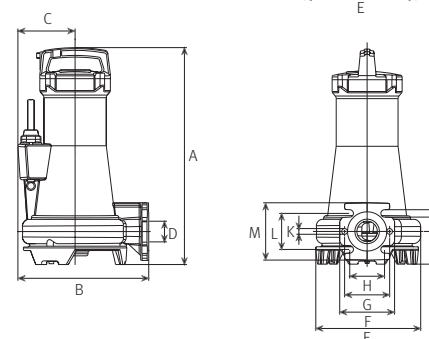
Impeller ext. Ø: Drainex 400: 115mm. Drainex 401: 125mm. Drainex 402: 136mm.



### 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

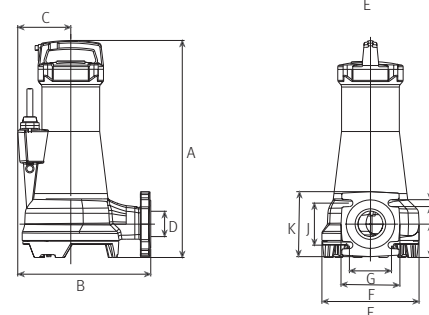
Impeller ext. Ø: Drainex 500: 140mm. Drainex 501: 150mm. Drainex 502: 160mm.



### 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

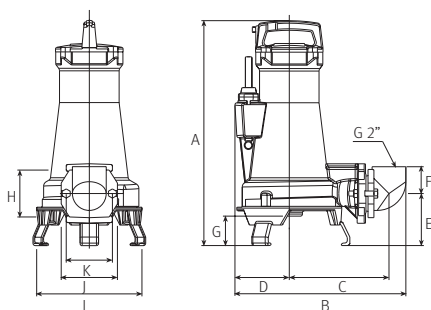
Impeller ext. Ø: Drainex 600: 125mm. Drainex 601: 135mm. Drainex 602: 145mm.



## Portable version

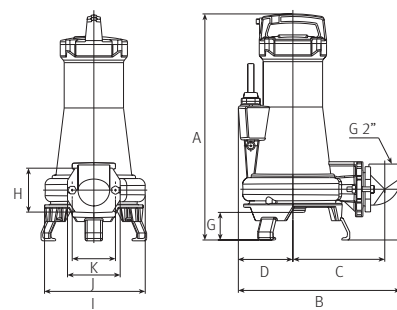
### Drainex 400/401/402

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



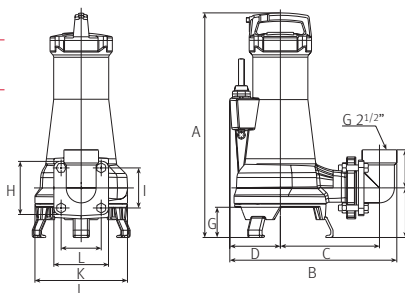
### Drainex 500/501/502

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

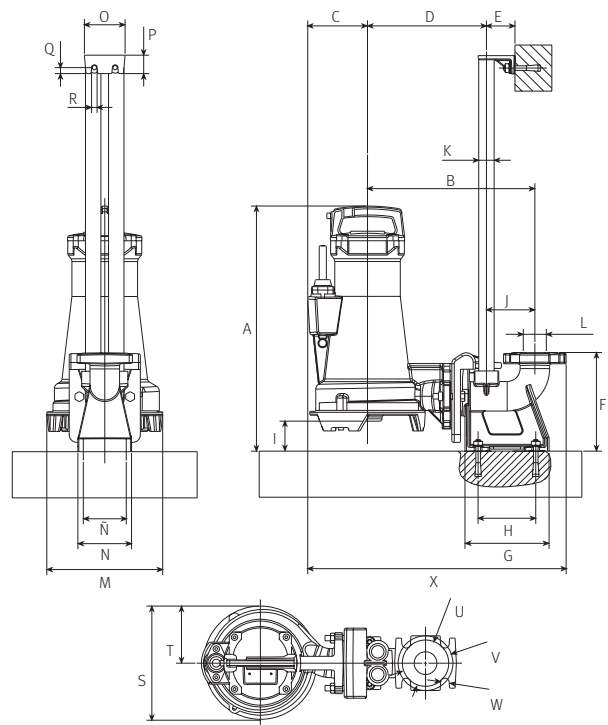




## Fixed version, guide rail system

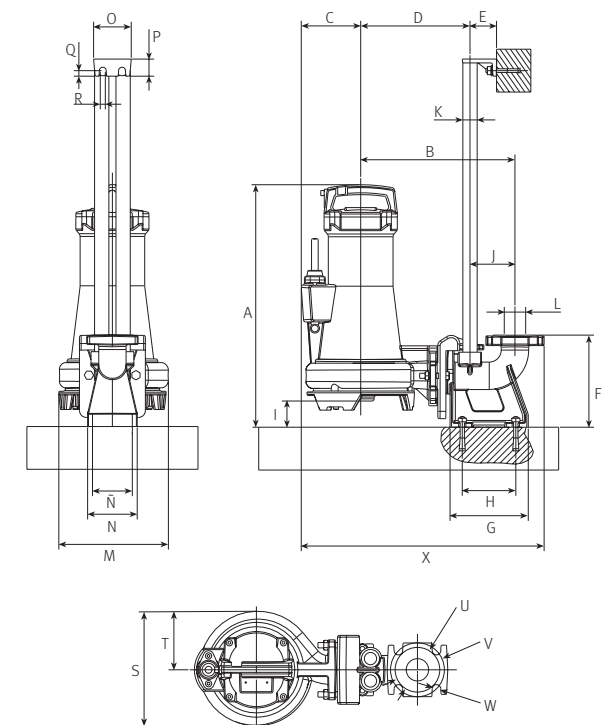
Drainex 400/401/402

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



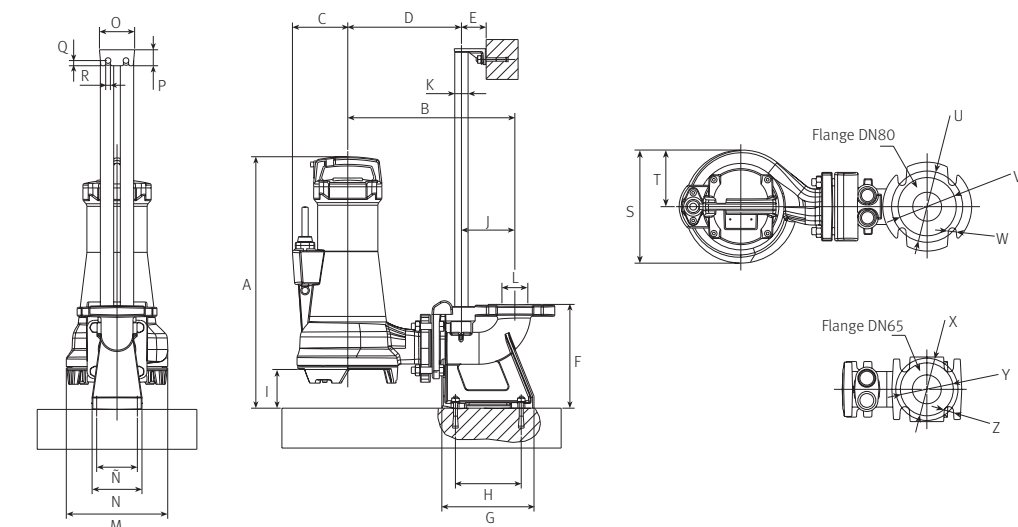
Drainex 500/501/502

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	566.8

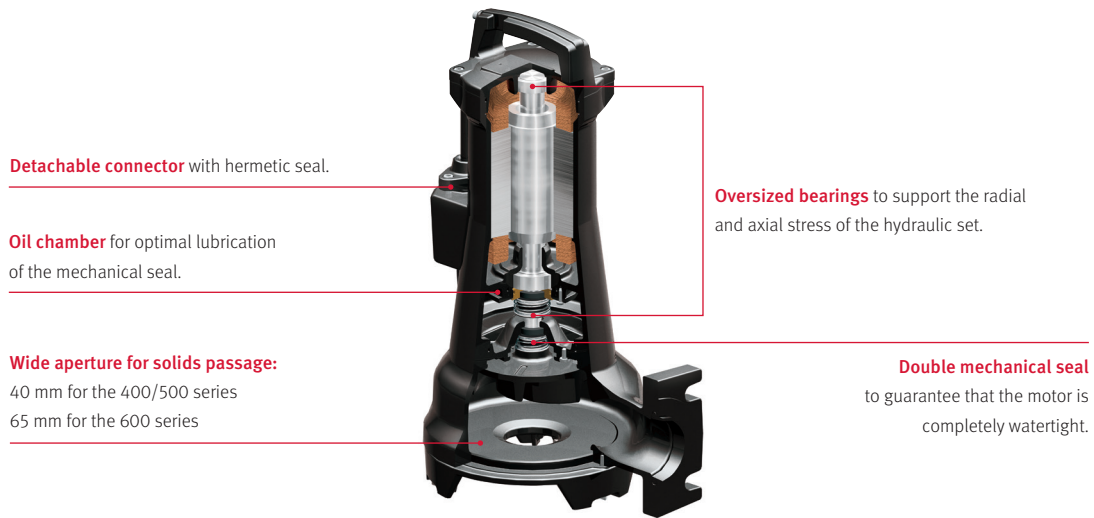


Drainex 600/601/602

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

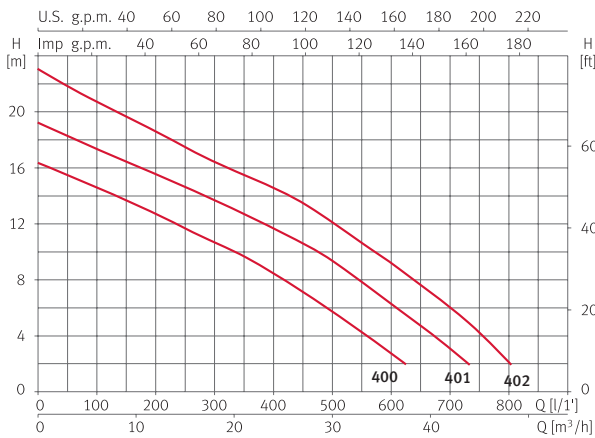


# Drainex 400/500/600 Drainage

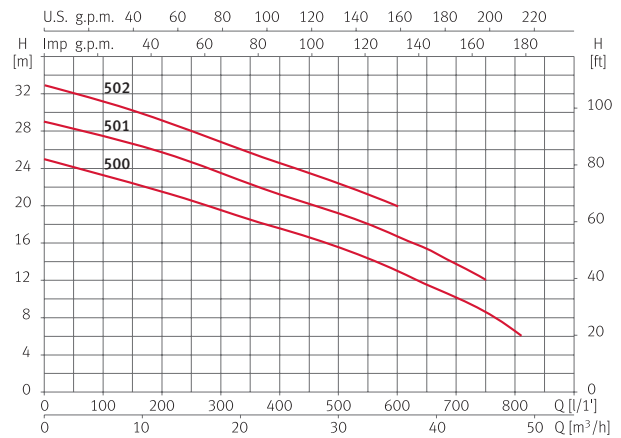


## Performance curves at 2900 rpm

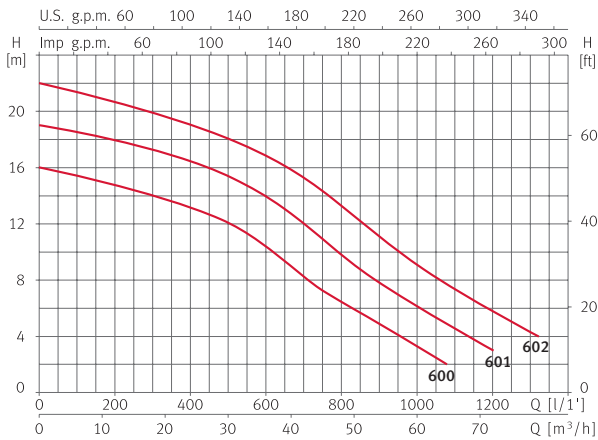
Drainex 400



Drainex 500



Drainex 600



\*Service kits are available on request

# Accessories



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

DRAINAGE

### Stationary version for Drainex 200 models

Kit	Code
DR1	100527



Support base for automatic anchoring.



Clamping flange.



Upper anchoring on guide.

### Stationary version for Drainex 300 models

Kit	Code
DR2	100528



Support base for automatic anchoring.



Clamping flange.



Upper anchoring on guide tube.

### Stationary version for Drainex 400/500 models

Kit	Code
DR3	132136

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

Kit	Code
DR6	132139



90° elbow at 2".



Stainless steel feet.

### Stationary version for Drainex 600 models

Kit	Code
DR4	132137

DN 65 (flange 65)



Support base with elbow for automatic anchoring.

DIN 2501 PN16



Clamping flange.

ANSI 150 2 1/2"



Upper anchoring on double guide tube.

### Transportable version for Drainex 600 models

Kit	Code
DR7	132140



90° elbow at 2 1/2".



Stainless steel feet.

Kit	Code
DR5	132138

DN 65 (flange 80)



Support base with elbow for automatic anchoring.

DIN 2501 PN16



Clamping flange.

ANSI 150 2 1/2"



Upper anchoring on double guide tube.

## 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

1 1/2" BSP female threaded discharge elbow.  
Single-phase supplied with capacitor box.

**Draincor M:** without float switch.

**Draincor M A:** with float switch.

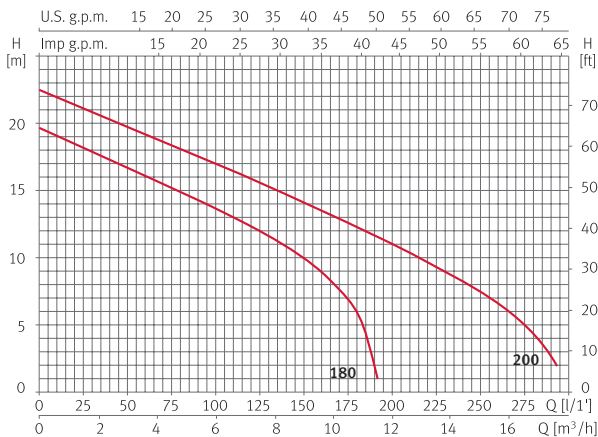
**Draincor T:** three phase without float switch.



### Hydraulic performance table

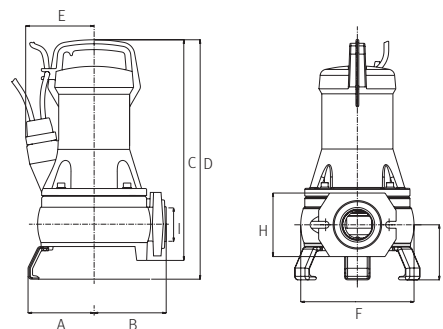
Model	I [A]		P1 [kW]		P2		c	l/min	25	50	100	150	200	290	1~230 V (model M)	1~230 V (model MA)	3~400 V (model T)	
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[µF]	m³/h	1.5	3.0	6.0	9.0	12	17.4	Code	Code
DRAINCOR 180M	7.8		1.7		1.1	1.5	16/50	invc	18	16.7	13.7	10			96611			
DRAINCOR 180MA	7.8		1.7		1.1	1.5	16/50		18	16.7	13.7	10				96613		
DRAINCOR 200T		3		1.8	1.25	1.7			21	19.7	17	14.1	11	2.5				96617

### Performance curves at 2900 rpm



### 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	92.25	110	1 1/2"	25
Draincor 200	114.5	125	382.5	415.1	118.7	196	92.25	110	1 1/2"	25



## Accessories

### Stationary version

Kit	Code
DR1	100527



Support base for automatic anchoring.



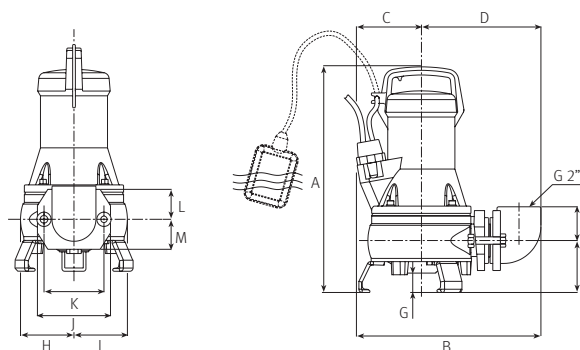
Clamping flange.



Upper anchoring on guide.

### 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

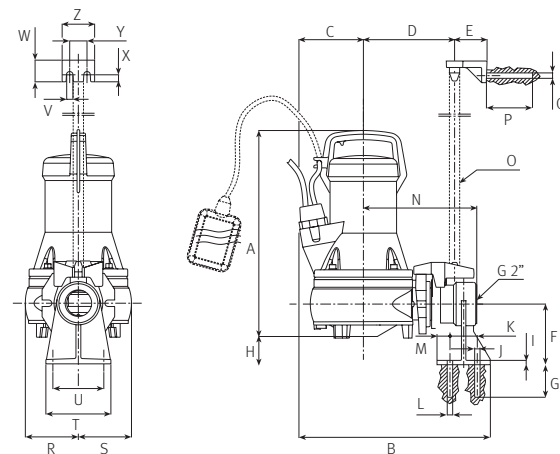


### Fixed version, guide rail system

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



\*Service kits are available on request

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

# 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 ESPA 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.



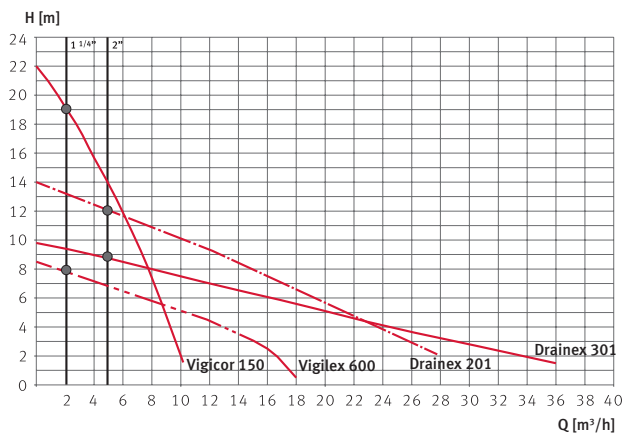
## Characteristics table

Model	Pump	I [A]		P1 [kW]		P2		Ø Free flows	Ø Connection	Q max. [l/min]	Weight [Kg]	Control top panel	Impeller	1~230 V (Model M A)
		1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]							Code
Drainbox 300 800M A TP	Vigilex 600 MA	3.4	-	0.8	-	0.6	0.8	24	1 1/4"	240	28.1	-	Vortex	125485
Drainbox 300 1200M D TP FL	Vigicor 150 M	5.4	-	1.2	-	0.9	1.2		1 1/4"	140	41	-	Grinder	142479
Drainbox 300 1400M TP KE FL	Drainex 201M	6.2	2.6	1.4	1.4	1.1	1.5	45	2"	450	55	Top 1	Vortex	142480
Drainbox 300 1400 TP KE FL	Drainex 201	6.2	2.6	1.4	1.4	1.1	1.5	45	2"	450	55	Top 2	Vortex	142481
Drainbox 600 1400M TP KE FL	Drainex 201M	6.2	2.6	1.4	1.4	2 x 1.1	2 x 1.5	45	2"	900	110	Top	Vortex	142482
Drainbox 600 1400 TP KE FL	Drainex 201	6.2	2.6	1.4	1.4	2 x 1.1	2 x 1.5	45	2"	900	110	Top	Vortex	142483
Drainbox 600 1500M TP KE FL	Drainex 301M	6.8	2.7	1.5	1.5	1.1	1.5	60	2"	600	122	Top	Vortex	142484
Drainbox 600 1500 TP KE FL	Drainex 301	6.8	2.7	1.5	1.5	1.1	1.5	60	2"	600	122	Top	Vortex	142485

# Drainbox 300/600 Drainage



## Performance curves at 2900 rpm



Minimum flow for preventing particles from acculating in the pipes



Vigilex M A



Drainex 201/301 M/T



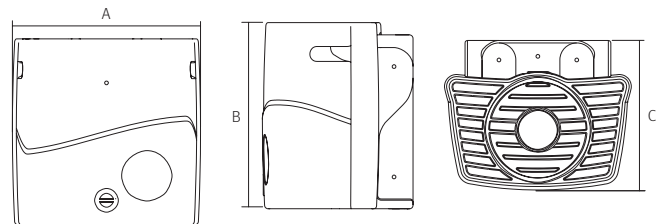
Vigicor 150 M

DRAINAGE

## Dimensions and weights

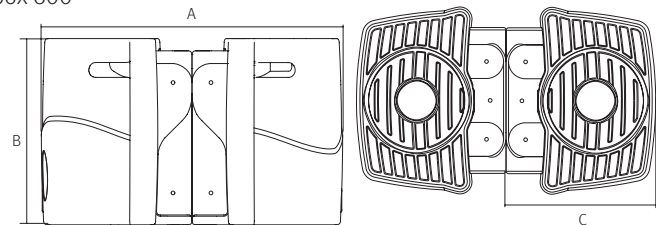
Model	A	B	C
Drainbox 300	770	760	615
Drainbox 600	1230	760	615

## Drainbox 300

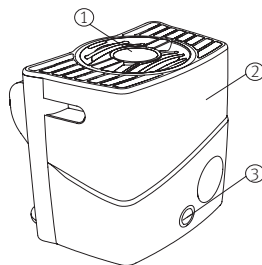


1 pump - 1 Tank of 300 liters - Packaging kit - Control Panel

## Drainbox 600



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



1 Tank cover - 2 Tank - 3 Drain plug

## Control Panel Options (depending on model)

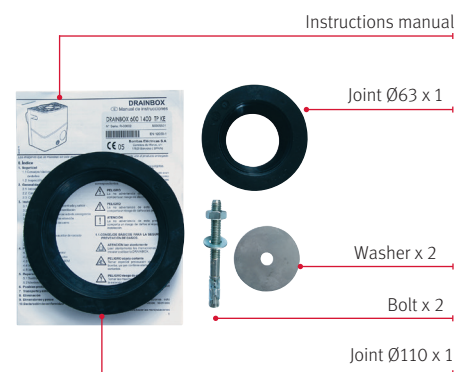


Control top panel



Wall box

## Packaging kit



## Accessories



Ø 63/Ø110 joint



Ø100 elbow male/female



Extension



Ball valve



Non return valve



Float switch kit









WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL



# 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.  
 Efficiency IE2.

### Limitations

Maximum liquid temperature: 40 °C.



### 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 (model M)	3~400 V (model T)
	1~230 V	3~230 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	Code	Code
	Prisma 15 3	2.74	2.1	1.21	0.61	0.61	0.37			0.5	12	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	43	39	35	32	27	21.5	14	9	97150	97148	
Prisma 15 5	4.13	3.3	1.9	0.95	0.95	0.75	1.0	12	51	47	42	38	34	25	17	12	97159	97157	

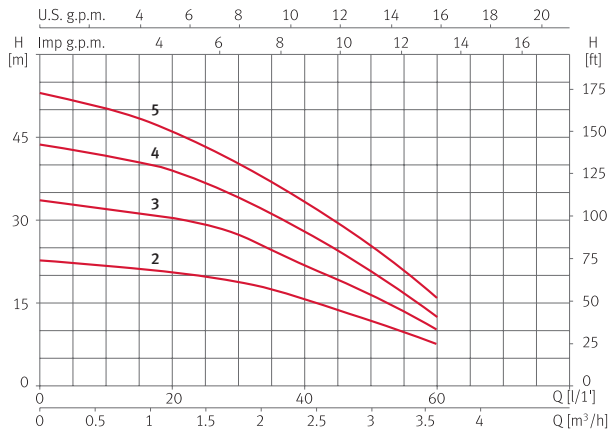
Model	I [A]			P1 [kW]		P2		c [μF]	l/min m³/h	15	30	45	60	75	90	105	120	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2	Code	Code
	Prisma 25 3	5.5	3.5	2	1.2	1	0.75			1	16	33	32	30.5	28	26	22	17	12
Prisma 25 4	6.8	4.3	2.5	1.5	1.4	0.92	1.25	16	43	42	40	37	33	28	22	15	97188	97185	
Prisma 25 5	7.4	5.2	3	1.7	1.7	1.1	1.5	25	56	55	52.5	48	43	37	29	20	97196	97194	
Prisma 25 6	9.8	6.7	3.9	2.2	2	1.5	2	30	72	68	65	58	50	40	32	24	97203	97202	

# Prisma 15/25 Surface Horizontal

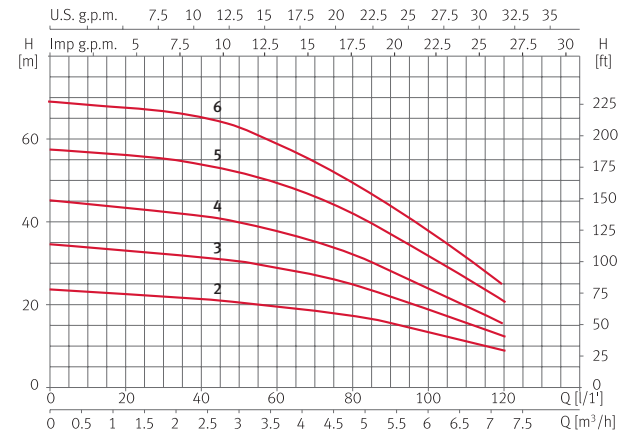


## Performance curves at 2900 rpm

Prisma 15



Prisma 25



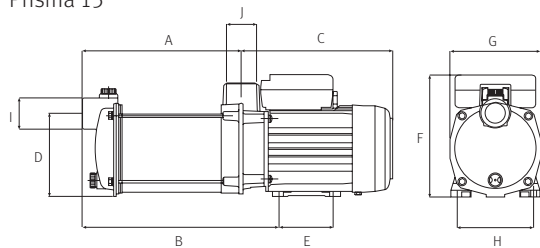
WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## 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

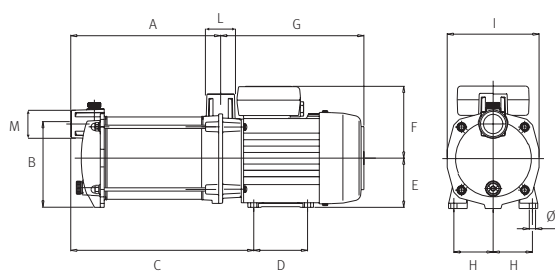
Prisma 15



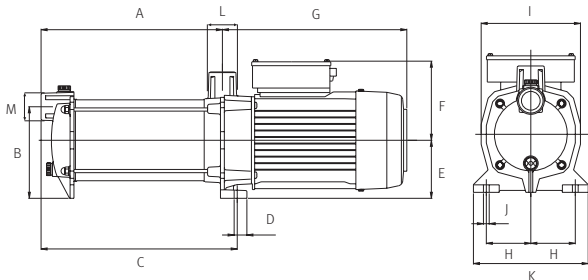
Prisma 25

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	Kg
Prisma 25 3	202	127	252.5	82	75	109.5	218	59	138	8		1"	1"	13.5
Prisma 25 4	228.5	127	279	82	75	109.5	218	59	138	8		1"	1"	14.6
Prisma 25 5	255	127	328	82	75	109.5	240.5	59	138	8		1"	1"	17.2
Prisma 25 6	281	142	304	20	89.5	122	286	69	154	10	178	1"	1"	20

Prisma 25 3/4/5



Prisma 25 6



\*Service kits are available on request

# Prisma 35N/45N Surface Horizontal



## Quiet-running multi-stage centrifugal pumps

### Applications

For domestic and industrial supply.  
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.  
Efficiency IE2.

### Limitations

Maximum liquid temperature: 40 °C.



## Hydraulic performance table

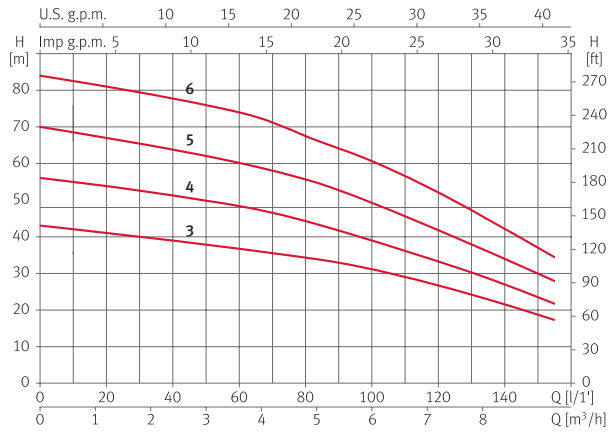
Model	I [A]			P1 [kW]		P2		c	l/min	20	40	60	80	100	120	140	150	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[μF]	m³/h	1.2	2.4	3.6	4.8	6.0	7.2	8.4	9.0
	Prisma 35 3N	6.7	4.5	2.6	1.5	1.4	0.8	1	25	mwc	41	39	36	34	31	27	22	18	129343
Prisma 35 4N	8.4	5.3	3.1	1.8	1.8	1.1	1.5	25	54		51	48	44	39	33	27	23	129344	129347
Prisma 35 5N	10.2	6.9	4	2.3	2.2	1.5	2	30	68		64	60	55	49	41	34	30	129345	129348
Prisma 35 6N		8.3	4.8		2.7	2.2	3		81		78	74	67	60	52	42	37		129349

Model	I [A]			P1 [kW]		P2		c	l/min	25	50	75	100	125	150	200	250	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			[μF]	m³/h	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	25	mwc	37	36	35	33	30	27	18	8	132082
Prisma 45 4N	10	6.9	4	2.2	2.2	1.5	2	30	48		47	45	42	39	36	24	11	132083	132085
Prisma 45 5N		8.6	5		2.8	2	3		61		59	56	54	50	45	31	15		132086

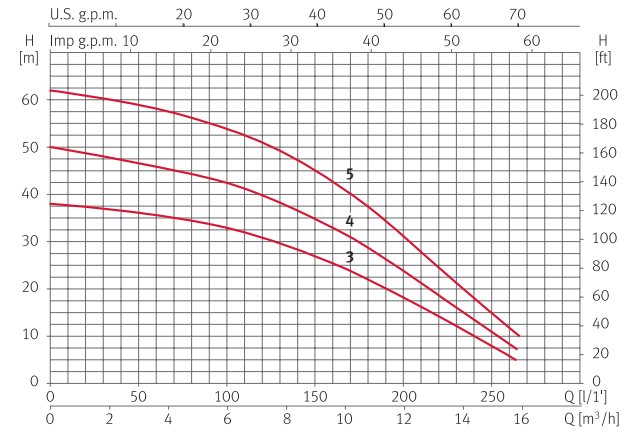
# Prisma 35N/45N Surface Horizontal

## Performance curves at 2900 rpm

Prisma 35N



Prisma 45N

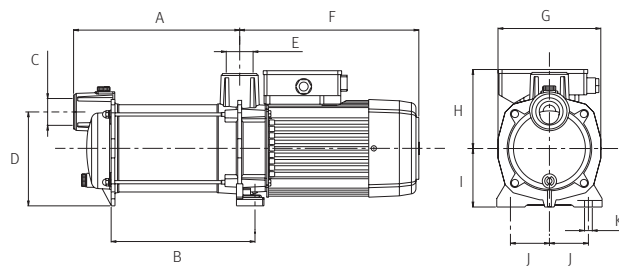


WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## Dimensions and weights

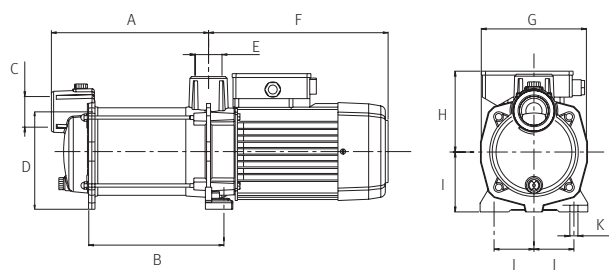
Prisma 35N

Model	A	B	C	D	E	F	G	H	I	J	K	Kg
Prisma 35 3	221.1	187.3	1 1/4"	147	1 1/4"	281.5	158	125.3	90	60	12	18.5/18.2
Prisma 35 4	246.6	211.8	1 1/4"	147	1 1/4"	281.5	158	125.3	90	60	12	20.5/18.6
Prisma 35 5	271.1	236.3	1 1/4"	147	1 1/4"	281.5	158	125.3	90	60	12	23.5/20.6
Prisma 35 6	295.6	260.8	1 1/4"	147	1 1/4"	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	1 1/2"	152	1 1/4"	281.5	158	125.3	90	60	12	22.6/18.6
Prisma 45 4	276.6	242.3	1 1/2"	152	1 1/4"	281.5	158	125.3	90	60	12	23.7/21.2
Prisma 45 5	307.3	273	1 1/2"	152	1 1/4"	281.5	158	125.3	90	60	12	25.3



\*Service kits are available on request

# Prisma ESD Surface Horizontal



## Pump with VFD built-in

### Applications

Constant water supply in dripping irrigation installations.  
Industrial applications where constant pressure is required.

### Operation principle

The VFD increase and decrease the speed of the motor according to the installation demand supplying constant pressure.  
The input signal comes from a pressure transducer installed on the discharge pipe.  
Speedrives are manufactured with all the protections in order to protect the pump, from dry running, temperature, over intensity, etc.

### Voltage range

Low voltage: disconnect at 180 V (M2) 310 V (T2).  
Automatic reset: 195 V (M2) 335 V (T2).  
High voltage: disconnect at 270 V (M2) 485 V (T2).  
Automatic reset: 250 V (M2) 475 V (T2).

### Materials and motor

As per the pump and Speedrive pages.

### Equipment

Pumps supplied with VDF integrated.  
Pressure transducer included.

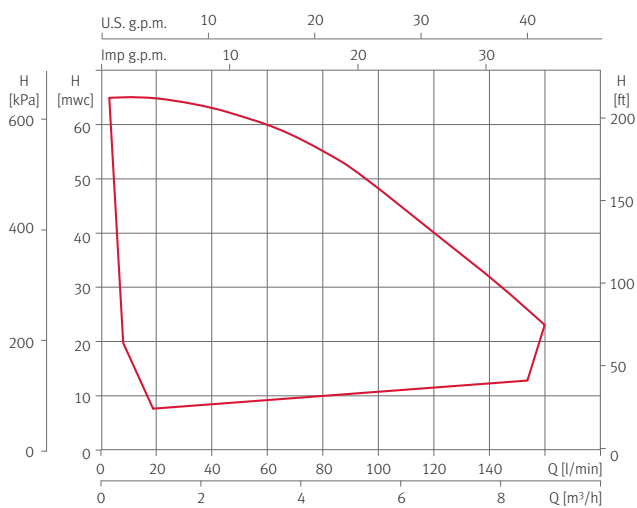


## Hydraulic performance table

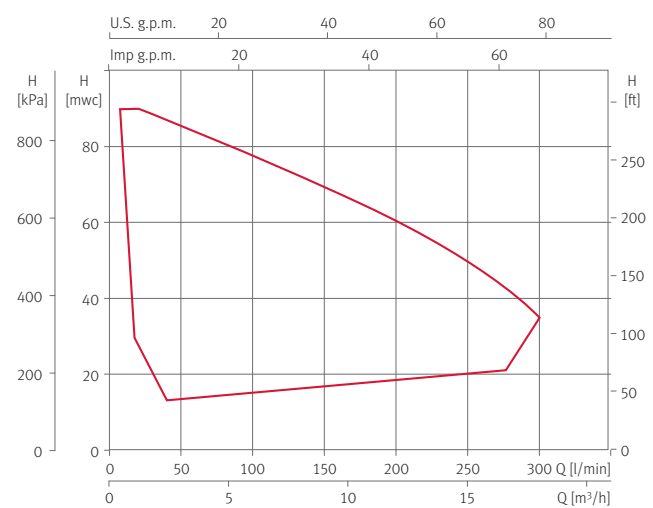
Model	Pump	Unit	P2 [kW]	Vfd	Pump		1~230V	3~400V
					Suction	Discharge	Code	Code
Prisma ESD 25 4	Prisma 25 4	1	0.92	M2/T2	1"	1"	185785	185786
Prisma ESD 25 6	Prisma 25 6	1	1.5	M2/T2	1"	1"	185787	185788
Prisma ESD 35 4	Prisma 35 4	1	1.1	M2/T2	1 1/4"	1 1/4"	185789	185790
Prisma ESD 35 5	Prisma 35 5	1	1.5	M2/T2	1 1/4"	1 1/4"	185791	185792
Prisma ESD 35 6	Prisma 35 6	1	2.2	T2	1 1/4"	1 1/4"		185793
Prisma ESD 45 4	Prisma 45 4	1	1.5	T2	1 1/2"	1 1/4"	185794	185795
Prisma ESD 45 5	Prisma 45 5	1	2	T2	1 1/2"	1 1/4"		185796

Pressure transducer 4-20 mA (10 bar)

## Performance area Prisma ESDM at 2900 rpm



## Performance area Prisma ESD at 2900 rpm



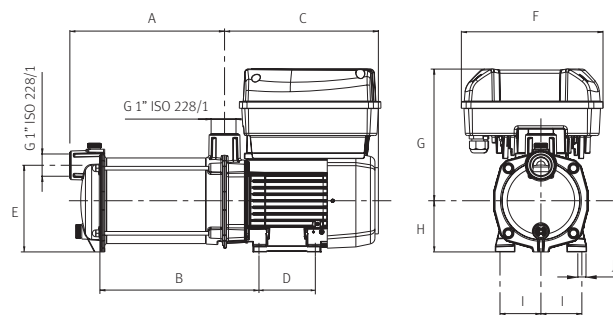
# Prisma ESD Surface Horizontal



## Dimensions and weights

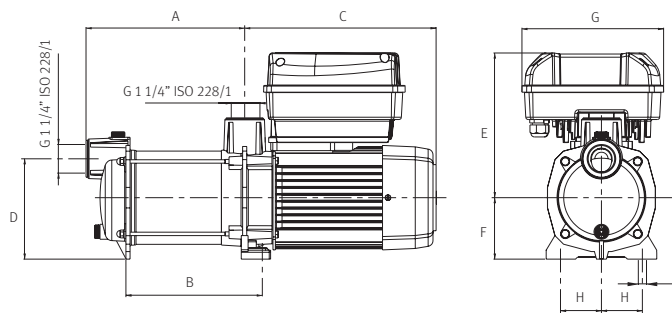
### Prisma ESD 25

Model	A	B	C	D	E	F	G	H	I	J	Kg
Prisma ESD 25 4M	228.5	279	225	82	127	207	213	75	59	Ø8	16.5
Prisma ESD 25 4T	228.5	279	225	82	127	207	213	75	59	Ø8	16.5
Prisma ESD 25 6M	281	328	225	82	127	207	213	75	59	Ø8	19.3
Prisma ESD 25 6T	281	328	225	82	127	207	213	75	59	Ø8	19.3



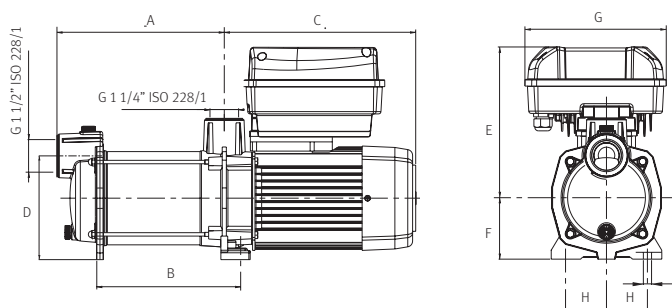
### Prisma ESD 35

Model	A	B	C	D	E	F	G	H	I	Kg
Prisma ESD 35 4M	246.6	211.8	280.5	147	212	90	207	60	Ø12	22.6
Prisma ESD 35 4T	246.6	211.8	280.5	147	212	90	207	60	Ø12	20.9
Prisma ESD 35 5M	271.1	236.3	280.5	147	212	90	207	60	Ø12	25.6
Prisma ESD 35 5T	271.1	236.3	280.5	147	212	90	207	60	Ø12	22.9
Prisma ESD 35 6T	295.6	260.8	280.5	147	212	90	207	60	Ø12	26



### Prisma ESD 45

Model	A	B	C	D	E	F	G	H	I	Kg
Prisma ESD 45 4M	276.6	242.3	281.5	152	221	90	207	60	Ø12	25.8
Prisma ESD 45 4T	276.6	242.3	281.5	152	221	90	207	60	Ø12	23.5
Prisma ESD 45 5T	307.3	273	281.5	152	221	90	207	60	Ø12	27.5



WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

# 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 connections in brass.  
 Mechanical seal in graphite and alumine.  
 Motor housing in aluminium.  
 Built-in self priming valve.  
 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.  
 Efficiency IE2.

### Limitations

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



## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c	l/min	5	10	20	30	35	40	50	60	1~230 V (model M)	3~400 V (model T)	
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[μF]	Code	Code
	m³/h	0.3	0.6	1.2	1.8	2.1	2.4											3.0	3.6	
Aspri 15.3B	2.74	2.1	1.21	0.61	0.61	0.37	0.5	12	mwc	33	32	30	26	24	22	17		96419	96413	
Aspri 15.4B	3.53	2.3	1.3	0.7	0.7	0.55	0.75	45		44	43	39	35	32	27	21.5		96427	96422	
Aspri 15.5B	4.13	3.3	1.9	0.95	0.95	0.75	1.0	12		53	51	47	42	38	34	25	17	96436	96431	

Model	I [A]			P1 [kW]		P2		c	l/min	15	30	45	60	75	90	105	120	1~230 V (model M)	3~400 V (model T)	
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[μF]	Code	Code
	m³/h	0.9	1.8	2.7	3.6	4.5	5.4											6.3	7.2	
Aspri 25.3B	5.5	3.5	2	1.2	1	0.75	1	16	mwc	33	32	30.5	28	26	22	17		96452	96488	
Aspri 25.4B	6.8	4.3	2.5	1.5	1.4	0.92	1.25	16		43	42	40	37	33	28	22	14.5	96462	96456	
Aspri 25.5B	7.4	5.2	3	1.7	1.7	1.1	1.5	25		56	55	52.5	48	43	37	29	20	96468	96465	

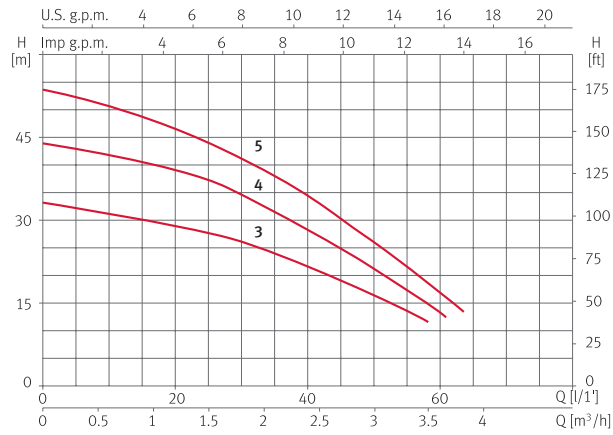


# Aspri 15/25 MB Surface Horizontal

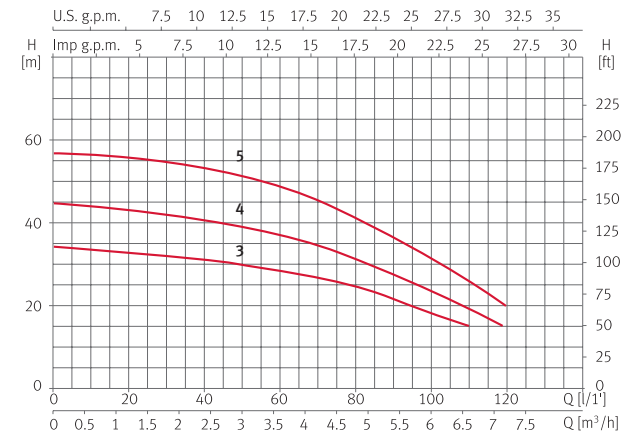


## Performance curves at 2900 rpm

Aspri 15 MB



Aspri 25 MB



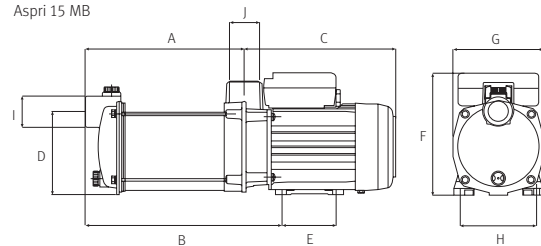
WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## 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

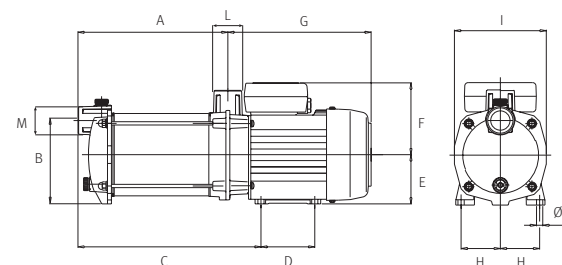
Aspri 15 MB



Aspri 25 MB

Model	A	B	C	D	E	F	G	H	I	J	L	M	Kg
Aspri 25 3 MB	202	127	252.5	82	75	109.5	218	59	138	8	1"	1"	13.5
Aspri 25 4 MB	228.5	127	279	82	75	109.5	218	59	138	8	1"	1"	14.6
Aspri 25 5 MB	255	127	328	82	75	109.5	240.5	59	138	8	1"	1"	17.2

Aspri 25 MB



\*Service kits are available on request

# 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 connections in cast iron.

Mechanical seal in graphite and alumine.

Built-in self priming valve.

O-rings in EPDM and NBR.

### Aspri 35N:

Motor shaft in stainless steel AISI 420 and steel F-114.

Motor housing in aluminium L-2521. **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.

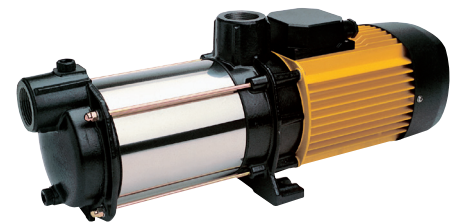
Continuous operation.

Efficiency IE2.

### Limitations

Maximum suction lift: 9 m.

Maximum temperature of liquid: 40 °C.



## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c	l/min	20	40	60	80	100	120	140	150	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[μF]	m³/h
Aspri 35.3N	6.7	4.5	2.6	1.5	1.5	0.8	1	25	mwc	41	39	36	34	31	27	22	18	129699	129696
Aspri 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	129700	129697
Aspri 35.5N	10.2	6.9	4	2.3	2.2	1.5	2	30		68	64	60	55	49	41	34	30	129701	129698
Aspri 35.6N		8.3	4.8		2.7	2.2	3			81	78	74	67	60	52	42	37		130368

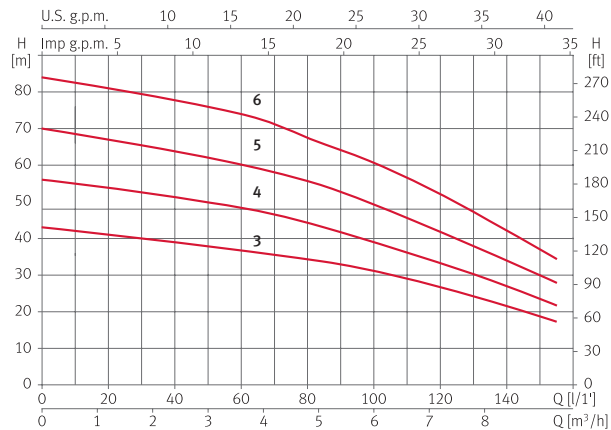
Model	I [A]			P1 [kW]		P2		c	l/min	20	40	60	80	100	120	140	150	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[μF]	m³/h
Aspri 45.3N	7.9	5.2	3	1.8	1.7	1.1	1.5	25	mwc	37	36	35	33	30	27	18	8	132087	132089
Aspri 45.4N	10	6.9	4	2.2	2.2	1.5	2	30		48	47	45	42	39	36	24	11	132088	132090
Aspri 45.5N		8.6	5		2.8	2	3			61	59	56	54	50	45	31	15		132091

# Aspri 35N/45N Surface Horizontal

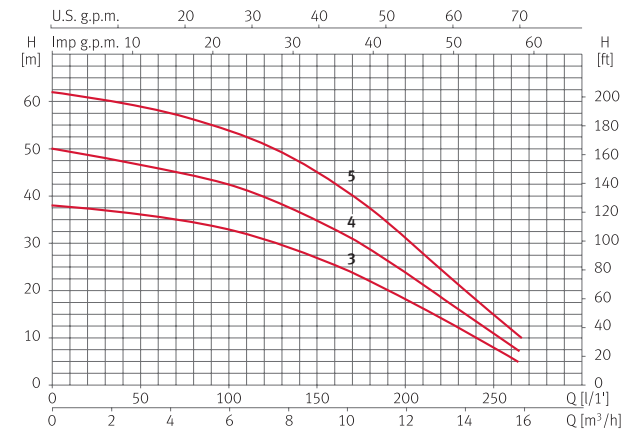


## Performance curves at 2900 rpm

Aspri 35N



Aspri 45N

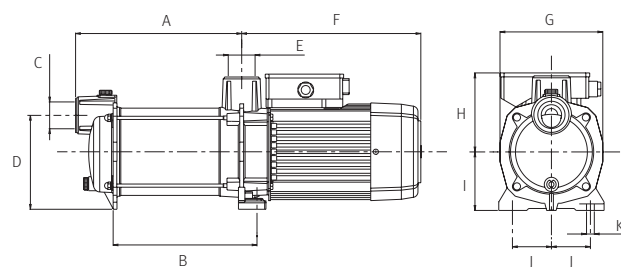


WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## Dimensions and weights

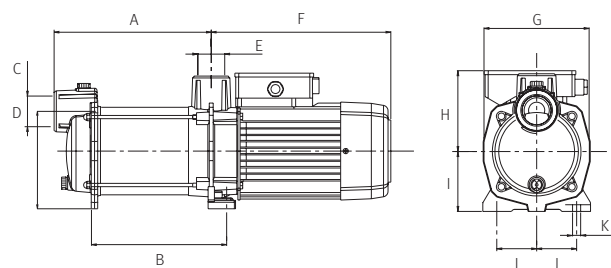
Aspri 35N

Model	A	B	C	D	E	F	G	H	I	J	K	Kg
Aspri 35 3	221.1	187.3	1 1/4"	147	1 1/4"	281.5	158	125.3	90	60	12	18.5/18.2
Aspri 35 4	246.6	211.8	1 1/4"	147	1 1/4"	281.5	158	125.3	90	60	12	20.5/18.6
Aspri 35 5	271.1	236.3	1 1/4"	147	1 1/4"	281.5	158	125.3	90	60	12	23.5/20.6
Aspri 35 6	295.6	260.8	1 1/4"	147	1 1/4"	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 1/2"	152	1 1/4"	281.5	158	125.3	90	60	12	22.6/18.6
Aspri 45 4	276.6	242.3	1 1/2"	152	1 1/4"	281.5	158	125.3	90	60	12	23.7/21.2
Aspri 45 5	307.3	273	1 1/2"	152	1 1/4"	281.5	158	125.3	90	60	12	25.3



\*Service kits are available on request

# Aspri ESD B Surface Horizontal



## Pump with VFD built-in

### Applications

Constant water supply in dripping irrigation installations.  
Industrial applications where constant pressure is required.

### Operation principle

The VFD increase and decrease the speed of the motor according to the installation demand supplying constant pressure.  
The input signal comes from a pressure transducer installed on the discharge pipe.  
Speedrives are manufactured with all the protections in order to protect the pump, from dry running, temperature, over intensity, etc.

### Voltage range

Low voltage: disconnect at 180 V (M2) 310 V (T2).  
Automatic reset: 195 V (M2) 335 V (T2).  
High voltage: disconnect at 270 V (M2) 485 V (T2).  
Automatic reset: 250 V (M2) 475 V (T2).

### Materials and motor

As per the pump and Speedrive pages.

### Equipment

Pumps supplied with VDF integrated.  
Pressure transducer included.



## Hydraulic performance table

Model	Pump	Unit	P2	Vfd	Pump		1~230 V (model M)	3~400 V (model T)
			[kW]		Suction	Discharge	Code	Code
Aspri-ESD 15.5B	Aspri 15 5 B	1	0.75	M2/T2	1"	1"	185775	Aspri 15.5TBESD
Aspri-ESD 25.4B	Aspri 25 4	1	0.75	M2/T2	1"	1"	185777	185778
Aspri-ESD 25.5B	Aspri 25 5	1	1.1	M2/T2	1"	1"	185736	Aspri 25.5TBESD

Pressure transducer 4-20 mA (10 bar)

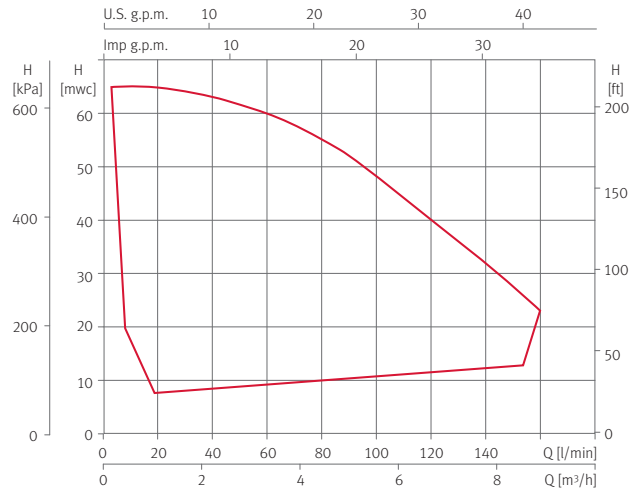
Model	Pump	Unit	P2	Vfd	Pump		1~230 V (model M)	3~400 V (model T)
			[kW]		Suction	Discharge	Code	Code
Aspri-ESD 35.4N	Aspri 35.4N	1	1.1	M2-T2	1 1/4"	1 1/4"	Aspri 35.4MNESD	Aspri 35.4NESD
Aspri-ESD 35.5N	Aspri 35.5N	1	1.5	M2/T2	1 1/4"	1 1/4"	185781	185782
Aspri-ESD 35.6N	Aspri 35.6N	1	2.2	T2	1 1/4"	1 1/4"		185783
Aspri-ESD 45.3N	Aspri 45.3N	1	1.1	M2/T2	1 1/2"	1 1/4"	Aspri 45.3MNESD	Aspri 45.3NESD
Aspri-ESD 45.4N	Aspri 45.4N	1	1.5	M2/T2	1 1/2"	1 1/4"	Aspri 45.4MNESD	Aspri 45.4NESD
Aspri-ESD 45.5N	Aspri 45.5N	1	2	T2	1 1/2"	1 1/4"		185784

All ESD pumps are c/w Speedrive & Transducer (you must fit a pressure vessel on every ESD unit)  
Minimum sizes are Prisma 15 (8 ltrs). Prisma 25 (18 ltrs). Prisma 35 (18 ltrs) & Prisma 45 (24 ltrs).

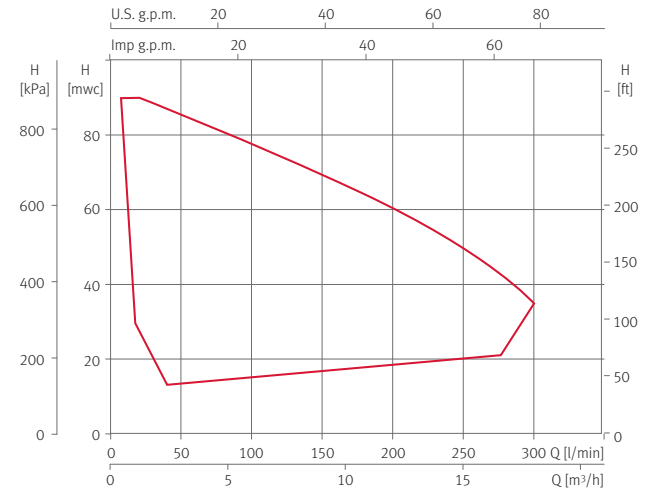
# Aspri ESD B Surface Horizontal



Performance area Aspri ESDM B at 2900 rpm



Performance area Aspri ESD B at 2900 rpm

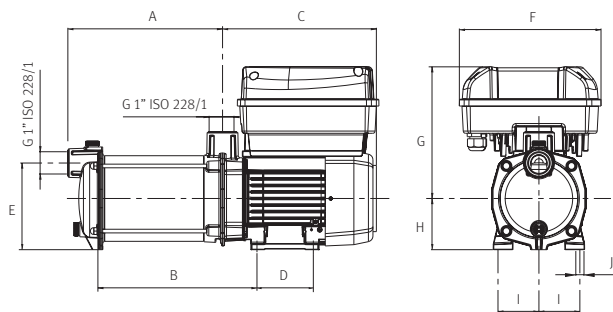


WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## Dimensions and weights

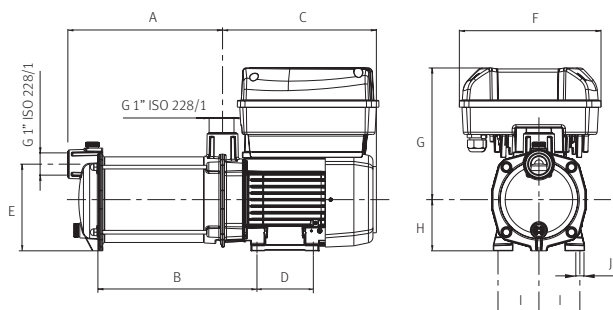
### Aspri ESD 15 B

Model	A	B	C	D	E	F	G	H	I	J	Kg
Aspri ESD 15 B 5M	235	285	202	74	110	207	220	73	51	Ø8	13
Aspri ESD 15 B 5T	235	285	202	74	110	207	220	73	51	Ø8	13



### Aspri ESD 25 B

Model	A	B	C	D	E	F	G	H	I	J	Kg
Aspri ESD 25 B 4M	228.5	279	225	82	127	207	213	75	59	Ø8	16.5
Aspri ESD 25 B 4T	228.5	279	225	82	127	207	213	75	59	Ø8	16.5
Aspri ESD 25 B 5M	255	328	240	82	127	207	227	79	59	Ø8	18
Aspri ESD 25 B 5T	255	328	240	82	127	207	227	79	59	Ø8	18



## 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 up to 9 m.

### Motor

Asynchronous, two poles.  
IP 55 protection.  
Class F insulation.  
Continuous operation.  
Efficiency IE2.  
**Tecno 05:** Built-in thermal protection.  
**Tecno/Tecnoself 15:** Single-phase version with built-in thermal protection.  
**Tecno 25:** Single-phase version up to 1.25 HP with built-in thermal protection.



### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c	l/min	10	20	30	35	40	50	60	65	1~230 V (model M)	3~400 V (model T)
	1~230 V	1~230 V	[kW]	[HP]			[μF]	m³/h	0.6	1.2	1.8	2.1	2.4	3.0	3.6	3.9
Tecno 15.3	2.74	0.61	0.37	0.5	12	mwc	32	30	26	24	22	17	10.5	7	97518	97515
Tecno 15.4	3.53	0.79	0.55	0.75	12		43	39	35	32	27	21.5	14	9	97520	97519
Tecno 15.5	4.13	0.95	0.75	1	12		51	47	42	38	34	25	17	12	97522	97521

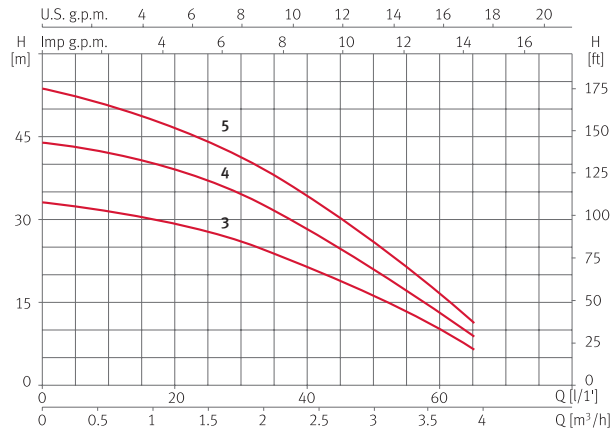
Model	I [A]	P1 [kW]	P2		c	l/min	15	30	45	60	75	90	105	120	1~230 V (model M)	3~400 V (model T)
	1~230 V	1~230 V	[kW]	[HP]			[μF]	m³/h	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2
Tecno 25.3	5.5	1.2	0.75	1	16	mwc	33	32	30.5	28	26	22	17	12	97526	97525
Tecno 25.4	6.8	1.5	0.92	1.25	16		43	42	40	37	33	28	22	15	97528	97527
Tecno 25.5	8.2	1.8	1.1	1.5	25		56	55	52.5	48	43	37	29	20	97530	97529

Model	I [A]	P1 [kW]	P2		c	l/min	10	20	30	35	40	50	60	65	1~230 V (model M)	3~400 V (model T)
	1~230 V	1~230 V	[kW]	[HP]			[μF]	m³/h	0.6	1.2	1.8	2.1	2.4	3.0	3.6	3.9
Tecno / Tecnoself 15.3	2.74	0.61	0.37	0.5	12	mwc	32	30	26	24	22	17	10.5	7	97557	97553
Tecno / Tecnoself 15.4	3.53	0.79	0.55	0.75	12		43	39	35	32	27	21.5	14	9	97561	97559
Tecno / Tecnoself 15.5	4.13	0.95	0.75	1	12		51	47	42	38	34	25	17	12	97565	97563

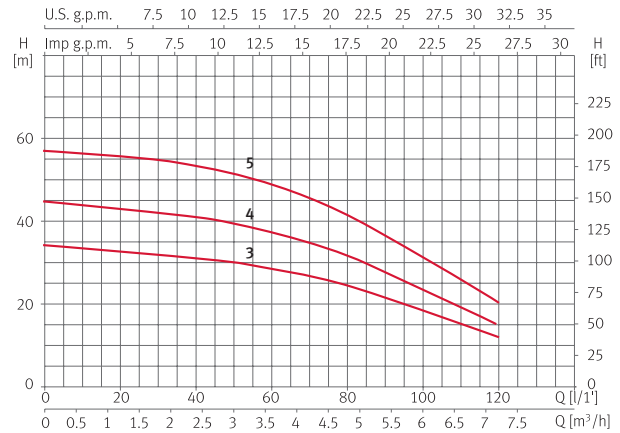
Model	I [A]	P1 [kW]	P2		c	l/min	15	30	45	60	75	90	105	120	1~230 V (model M)	3~400 V (model T)
	1~230 V	1~230 V	[kW]	[HP]			[μF]	m³/h	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2
Tecno / Tecnoself 25.3	5.5	1.2	0.75	1	16	mwc	33	32	30.5	28	26	22	17	12	97573	97571
Tecno / Tecnoself 25.4	6.8	1.5	0.92	1.25	16		43	42	40	37	33	28	22	15	97577	97575
Tecno / Tecnoself 25.5	8.2	1.8	1.1	1.5	25		56	55	52.5	48	43	37	29	20	97581	97579

## Performance curves at 2900 rpm

Tecno 15/Tecnoself 15



Tecno 25/ Tecnoself 25

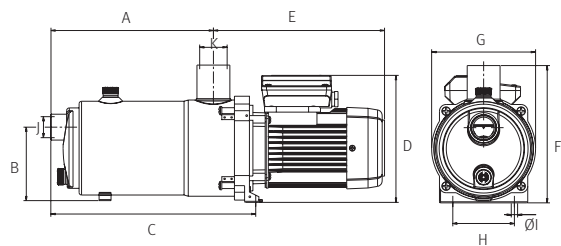


WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

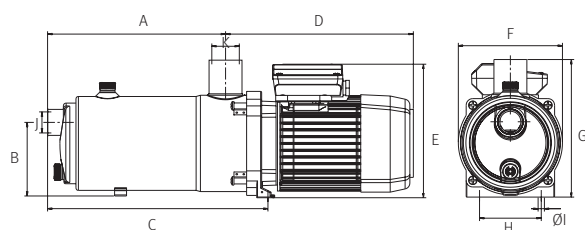
## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	Kg
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 15 / Tecnoself 15



Tecno 25 / Tecnoself 25



# Tecno ESD Surface Horizontal



## Pump with VFD built-in

### Applications

Constant water supply in dripping irrigation installations.  
Industrial applications where constant pressure is required.

### Operation principle

The VFD increase and decrease the speed of the motor according the installation demand supplying constant pressure.  
The input signal comes from a pressure transducer installed on the discharge pipe.  
Speedrive are manufactured with all the protections in order to protect the pump, from dry running, temperature, over intensity, etc.

### Voltage range

Low voltage: disconnect at 180 V (M2) 310 V (T2).  
Automatic reset: 195 V (M2) 335 V (T2).  
High voltage: disconnect at 270 V (M2) 485 V (T2).  
Automatic reset: 250 V (M2) 475 V (T2).

### Materials and motor

As per the pump and Speedrive pages.

### Equipment

Pumps supplied with VDF integrated.  
Pressure transducer included.



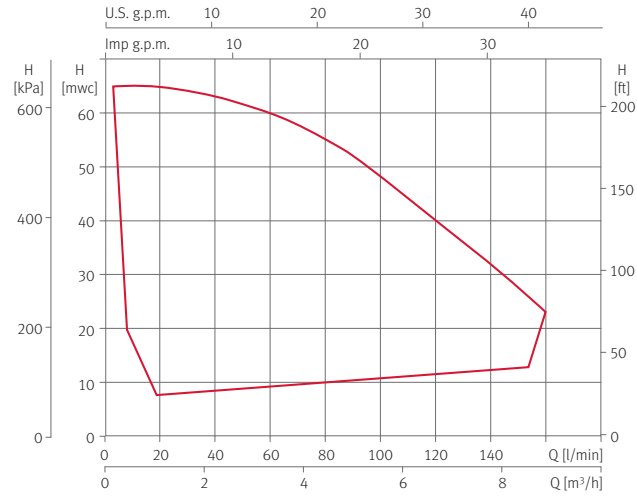
## Hydraulic performance table

Model	Pump	Unit	P2 [kW]	Vfd	Pump		1~230 V (model M)	3~400 V (model T)
					Suction	Discharge	Code	Code
Tecno 25.4MESD	Tecno 25 4	1	0.92	M2/T2	1"	1"	Tecno 25.4MESD	Tecno 25.4TESD
Tecno 25.5MESD	Tecno 25 5	1	1.1	M2/T2	1"	1"	Tecno 25.5MESD	Tecno 25.5TESD
Tecno self 25.4MESD	Tecno self 25 4	1	0.92	M2/T2	1"	1"	Tecno self 25.4MESD	Tecno self 25.4TESD
Tecno self 25.5MESD	Tecno self 25 5	1	1.1	M2/T2	1"	1"	Tecno self 25.5MESD	Tecno self 25.5TESD

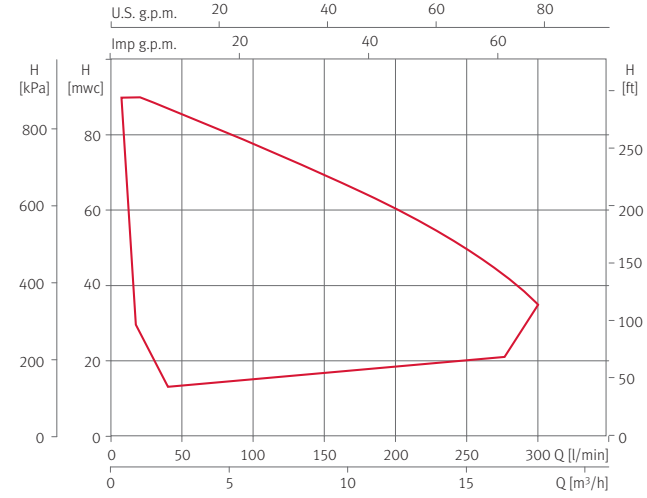
All ESD pumps are c/w Speedrive & Transducer  
(you must fit a pressure vessel on every ESD unit) Minimum sizes are Tecno/Tecno self 25 (18 ltrs).



Performance area Tecno ESDM at 2900 rpm



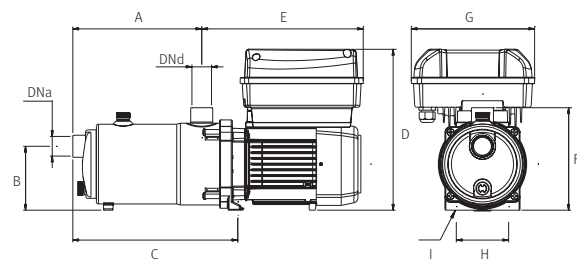
Performance area Tecno ESD at 2900 rpm



WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	DNa	DNd	Kg
Tecno ESD 25 4	236.6	107.5	298.1	270	272	196.3	207	88	9	G1"	G1"	14.9
Tecno ESD 25 5	263.2	107.5	324.7	270	272	196.3	207	88	9	G1"	G1"	16.2



\*Service kits are available on request

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

### Applications

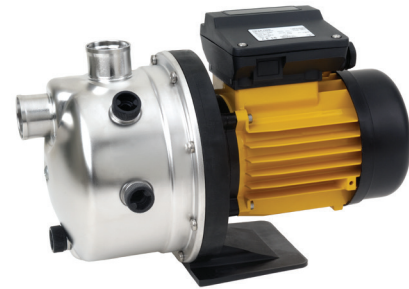
To work with clean water.  
Irrigation and hydropneumatic sets.

### 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.

### 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.



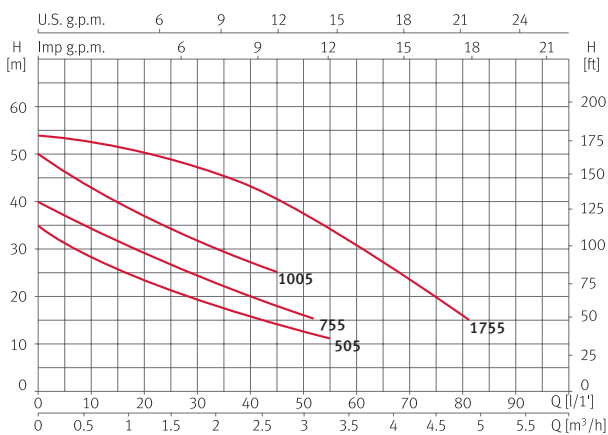
### Limitations

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

## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c [μF]	l/min m³/h	5	15	25	35	40	50	60	75	1~230 V	3~400 V	
	1~230 V	230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											(model M)	(model T)	
																		Code	Code	
Delta 505	2.8	2.2	1.2	0.6	0.6	0.37	0.5	12	mwc	33	26	22	18	17	13			146271	146291	
Delta 755	3.4	2.6	1.3	0.8	0.8	0.55	0.75	12		37	32	27	23	21	17			146270	146309	
Delta 1005	4.8	3.3	1.9	1.0	1.0	0.75	1.0	16		47	40	34	29	27					146018	146061
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			146017

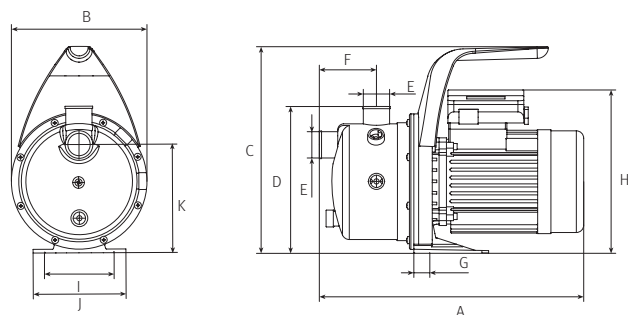
## Performance curves at 2900 rpm



\*Service kits are available on request

## 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	215	94	126	147	9.6
Delta 1755M	410	184	280	200	1"	125	22	215	94	126	147	12.1



## 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 connections in cast iron.

Motor shaft in stainless steel AISI 420.

**Multi35N 8 and 10 / Multi55N 6 and 7:** in stainless steel AISI 303.

### Motor

Asynchronous, two poles.

IP 44 protection.

Class F insulation.

Continuous operation.

Efficiency IE3.

**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.

Energy Index  $MEI \geq 0,4$  for Multi 25/35.

Energy Index  $MEI \geq 0,4$  for Multi 55.

### Limitations

Maximum temperature of liquid: 40 °C

### Equipment

Supplied with oval counter flanges DIN 2558.

**ErP READY**



WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

### Hydraulic performance table

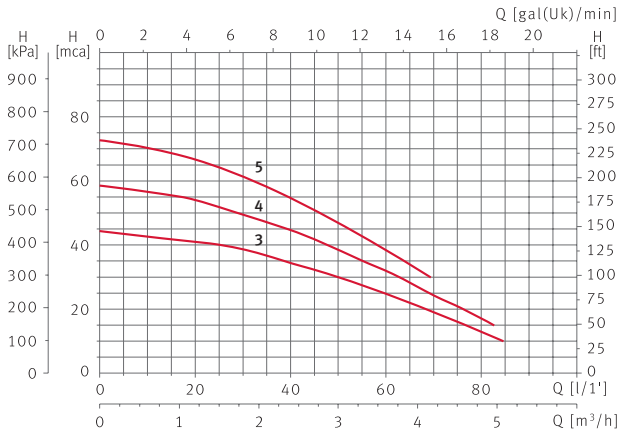
Model	I [A]			P1 [kW]		P2		c	l/min	8	17	25	33	42	58	75	92	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[µF]	Code
	m³/h	0.5	1.0	1.5	2.0	2.5	3.5	4.5	5.5	7.2	9	12	134926	134929					
MULTI 25.3M	4.5	3.2	1.9	1.0	0.9	0.55	0.75	6	mwc	38.2	38	35.7	33.5	31	25	17	7.2	134926	134929
MULTI 25.4M	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	134927	134930
MULTI 25.5M	6.4	4.2	2.5	1.4	1.3	0.9	1.25	16		66.5	64	61.2	57.5	52.5	41	27	12	134928	134931

Model	I [A]			P1 [kW]		P2		c	l/min	17	33	50	75	100	125	150	175	1~230 V (Model M)	3~400 V (Model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[µF]	Code
	m³/h	1.0	2.0	3.0	4.5	6.0	7.5	9.0	10.5	12.9334	12.9338								
MULTI 35.3MN	6.7			1.5		0.75	1	25	mwc	39	37.5	35.5	31.5	27	21	15	7	129334	129338
MULTI 35.4MN	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	129335	129339
MULTI 35.5MN	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	129336	129340
MULTI 35.6N		8.3	4.8		2.7	2.2	3			82	79.5	76	69	61	49	36.7	23		129341
MULTI 35.8N		11.9	6.5		3.6	3	4			108	105	101	93	85	70	53	35		129342
MULTI 35.10N		15.4	8.9		4.9	4	5.5			134	130	125	117	105	90	70	47		129337

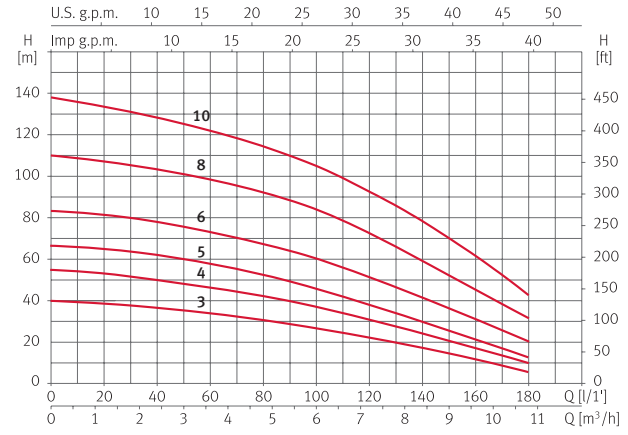
Model	I [A]			P1 [kW]	P2		l/min	20	50	75	100	150	200	250	300	1~230 V (Model M)	3~400 V (model T)
	3~230 V	3~400 V	3~400 V	[kW]	[HP]	m³/h										1.2	3.0
	37	35	33	31	28	24	18	10	131483	131484							
MULTI 55.3MN	6.6	3.8	2.1	1.5	2	mwc	37	35	33	31	28	24	18	10	131483	131484	
MULTI 55.4N	8.3	4.8	2.8	2.2	3		50	47	45	43	39	33	26	16		131485	
MULTI 55.6N	12.1	7	4.2	3	4		77	73	70	66	60	52	43	29		131486	
MULTI 55.7N	15.6	9	4.9	4	5.5		90	86	82	78	70	60	50	35		131487	

## Performance curves at 2900 rpm

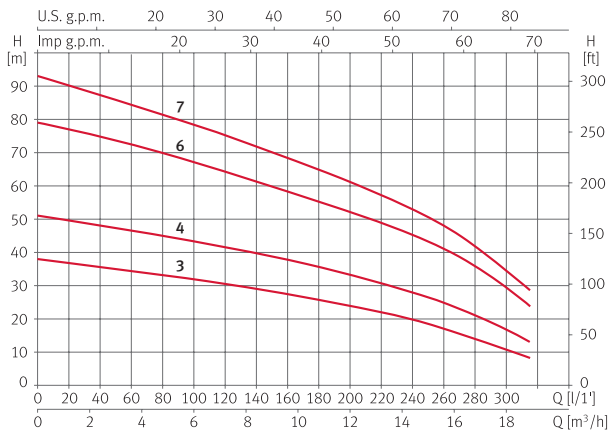
### Multi25



### Multi35 N



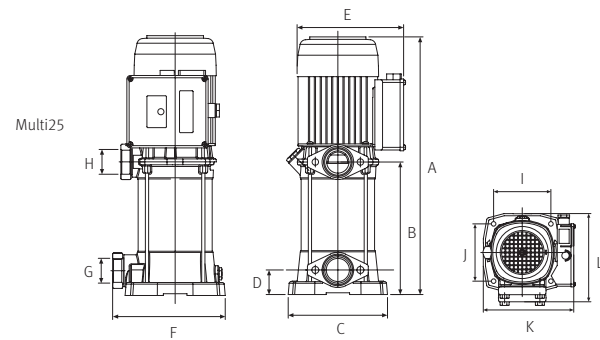
### Multi55 N



## Dimensions and weights

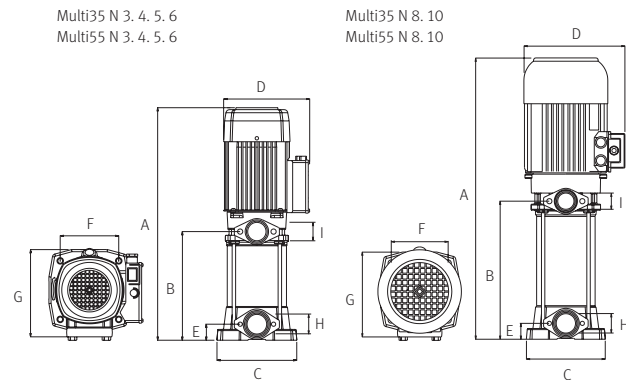
### Multi25

Model	A	B	C	D	E	F	G	H	I	J	K	L	Kg
MULTI 25.3M	398	194	170	42	182	191	1 1/4"	1 1/4"	125	197	193	125	16.2
MULTI 25.4M	422	205	170	42	182	191	1 1/4"	1 1/4"	125	197	193	125	17.3
MULTI 25.5M	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
MULTI 35.3MN	487	201.5	184	203	37	133	201	1 1/2"	1 1/4"	20.2/20
MULTI 35.4MN	511.5	226	184	203	37	133	201	1 1/2"	1 1/4"	22.4/20.4
MULTI 35.5MN	536	250.5	184	203	37	133	201	1 1/2"	1 1/4"	25.1/22.7
MULTI 35.6N	561	275	184	203	37	133	201	1 1/2"	1 1/4"	25.7
MULTI 35.8N	657.5	323	184	233	37	133	201	1 1/2"	1 1/4"	32.6
MULTI 35.10N	707.5	373	184	233	37	133	201	1 1/2"	1 1/4"	39.4
MULTI 55.3MN	531	245	184	203	37	133	201	1 1/2"	1 1/4"	25.7/23.3
MULTI 55.4N	571	285	184	203	37	133	201	1 1/2"	1 1/4"	26.6
MULTI 55.6N	696	362	184	203	37	133	201	1 1/2"	1 1/4"	35.4
MULTI 55.7N	736	402	184	203	37	133	201	1 1/2"	1 1/4"	39.7



\*Service kits are available on request

# Multi ESD Surface Vertical



## Pump with integrated inverter

### Applications

Constant water supply in dripping irrigation installations.  
Industrial applications where constant pressure is required.

### Materials and motor

As per the pump and Speedrive pages.  
Efficiency IE3.  
Energy Index MEI $\geq$ 0,4 for Multi 25/35.  
Energy Index MEI $\geq$ 0,4 for Multi 55.

### Equipment

Pumps supplied with VDF integrated.  
Pressure transducer must be ordered separately.

### Voltage range

Low voltage: disconnect at 180 V (M2)  
310 V (T2/T3).  
Automatic reset: 195 V (M2) 335 V (T2/T3).  
High voltage: disconnect at 270 V (M2)  
485 V (T2/T3).  
Automatic reset: 250 V (M2) 475 V (T2/T3).

### Operation principle

The VFD increase and decrease the speed of the motor according to the installation demand supplying constant pressure.  
The input signal comes from a pressure transducer installed on the discharge pipe.  
Speedrive are manufactured with all the protections in order to protect the pump, from dry running, temperature, over intensity, etc.



WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

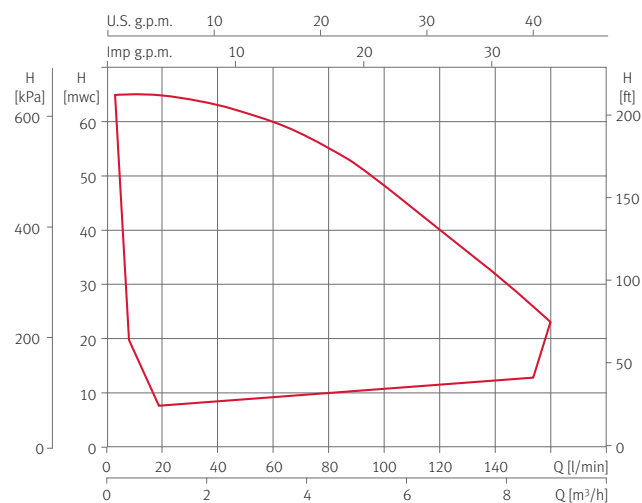
**ErP READY**

## Hydraulic performance table

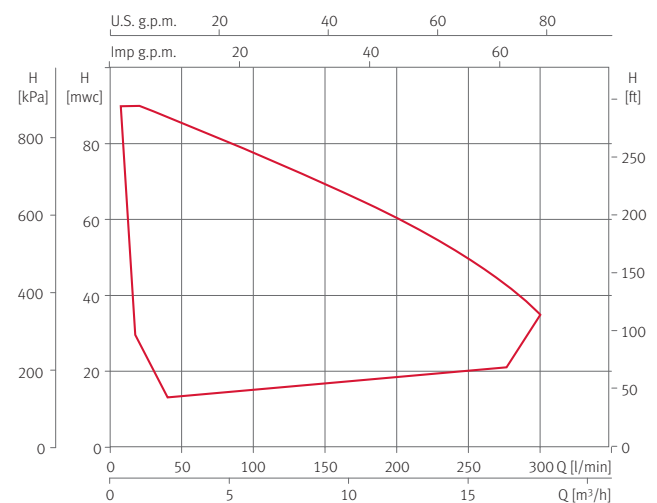
Model	Pump	Unit	P2 [kW]	Vfd	Pump		1~230 V (Model M)	3~400 V (model T)
					Suction	Discharge	Code	Code
MULTI 25.4 MESD	Multi 25 4	1	0.75	M2/T2	1 1/2"	1 1/4"	174102	174192
MULTI 25.5 MESD	Multi 25 5	1	0.92	M2/T2	1 1/2"	1 1/4"	174195	174194
MULTI 35.4 MNESD	Multi 35 4	1	1.1	M2/T2	1 1/2"	1 1/4"	174103	174191
MULTI 35.5 MNESD	Multi 35 5	1	1.5	M2/T2	1 1/2"	1 1/4"	174108	169761
MULTI 35.6 NESD	Multi 35 6	1	2.2	T2	1 1/2"	1 1/4"		169984
MULTI 35.8 NESD	Multi 35 8	1	3	T3	1 1/2"	1 1/4"		174101
MULTI 55.3 MNESD	Multi 55 3	1	1.5	T2	1 1/2"	1 1/4"	176600	176283
MULTI 55.4 NESD	Multi 55 4	1	2.2	T2	1 1/2"	1 1/4"		175488
MULTI 55.6 NESD	Multi 55 6	1	3	T3	1 1/2"	1 1/4"		175489
MULTI 55.7 NESD	Multi 55 7	1	4	T3	1 1/2"	1 1/4"		174100

Pressure transducer 4-20 mA (10 bar)

## Performance area Multi ESDM at 2900 rpm



## Performance area Multi ESD at 2900 rpm



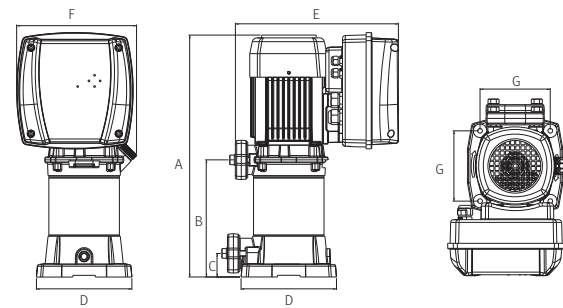
# Multi ESD Surface Vertical



## Dimensions and weights

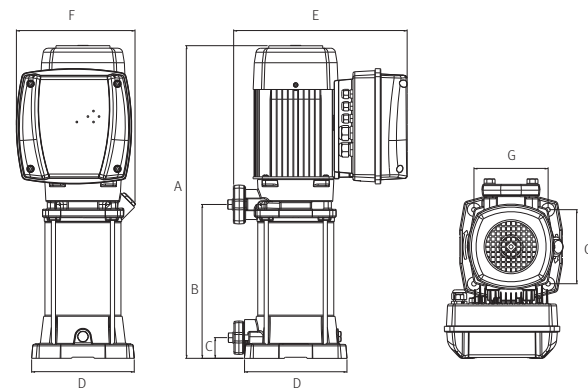
### Multi ESD 25

Model	A	B	C	D	E	F	G	Suction	Discharge	Kg
Multi ESD 25 4M	420	205	42	170	290	213	125	1 1/4"	1 1/4"	20.3
Multi ESD 25 4T	420	205	42	170	290	213	125	1 1/4"	1 1/4"	20
Multi ESD 25 5M	442	226	42	170	290	213	125	1 1/4"	1 1/4"	21.1
Multi ESD 25 5T	442	226	42	170	290	213	125	1 1/4"	1 1/4"	20.9



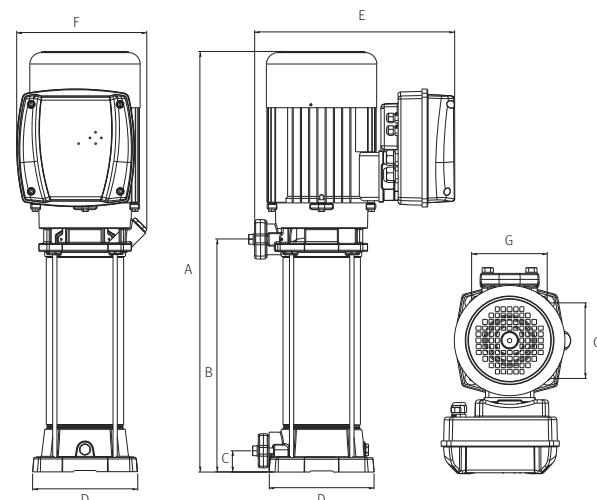
### Multi ESD 35

Model	A	B	C	D	E	F	G	Suction	Discharge	Kg
Multi ESD 35 4M	511.5	226	37	184	312	213	133	1 1/2"	1 1/4"	25.4
Multi ESD 35 4T	511.5	226	37	184	312	213	133	1 1/2"	1 1/4"	23.4
Multi ESD 35 5M	536	250.5	37	184	312	213	133	1 1/2"	1 1/4"	28.1
Multi ESD 35 5T	536	250.5	37	184	312	213	133	1 1/2"	1 1/4"	25.7
Multi ESD 35 6T	561	275	37	184	312	213	133	1 1/2"	1 1/4"	28.7
Multi ESD 35 8T	657.5	323	37	184	312	213	133	1 1/2"	1 1/4"	35.6
Multi ESD 35 10T	707.5	373	37	184	312	213	133	1 1/2"	1 1/4"	42.4



### Multi ESD 55

Model	A	B	C	D	E	F	G	Suction	Discharge	Kg
Multi ESD 55 3M	531	245	37	184	352	228	133	1 1/2"	1 1/4"	26.3
Multi ESD 55 3T	531	245	37	184	352	228	133	1 1/2"	1 1/4"	28.7
Multi ESD 55 4T	571	285	37	184	352	228	133	1 1/2"	1 1/4"	29.6
Multi ESD 55 6T	696	362	37	184	352	228	133	1 1/2"	1 1/4"	38.4
Multi ESD 55 7T	736	402	37	184	352	228	133	1 1/2"	1 1/4"	42.7



# Multi 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.  
Rods F 212 Zn.  
Pump motor coupling system V18.  
EnergyIndex MEI $\geq$ 0, 4.

### Motor

Asynchronous, two poles.  
IP 54 protection.  
Class F insulation.  
Continuous operation.  
Efficiency IE2.

### Limitations

Maximum temperature of liquid: 40 °C.

### Equipment

Supplied with counter flanges and gaskets.

**ErP READY**



WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

### Hydraulic performance table

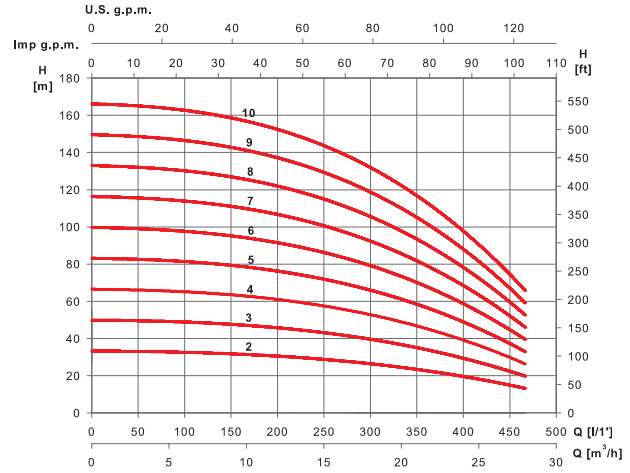
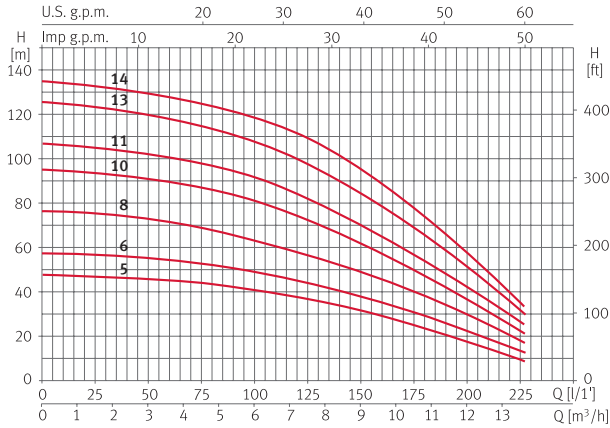
Model	I [A]			P1 [kW]	P2		l/min m <sup>3</sup> /h	25	50	100	125	150	175	200	225	1~230 V (Model M)	3~400 V (Model T)
	3~230 V	3~400 V	3~692 V	3~400 V	[kW]	[HP]		1.5	3.0	6.0	7.5	9.0	10.5	12	13.5	Code	Code
Multi VE94.5	6	3.5		2	1.5	2	mwc	47	46	41	37	32	25	18	9	97743	97740
Multi VE94.6	6.7	3.9		2.3	1.5	2		56	55	49	44	38	31	22	13	97750	97746
Multi VE94.8	8.9	5.2		3	2.2	3		75	73	63	56	49	40	30	18		97759
Multi VE94.10	11.7	6.8		3.9	3	4		93	91	81	72	62	50	36	22		97710
Multi VE94.11	12.4	7.2		4.4	3	4		105	102	91	82	70	56	42	26		97717
Multi VE94.11T		8.6	5	5	4	5.5		123	120	107	97	85	68	51	32		97717
Multi VE94.12T		9.7	5.4	5.5	5.5	7.5		132	129	118	109	95	77	57	35		97723
Multi VE94.13T		8.6	5	5	4	5.5		123	120	107	97	85	68	51	32		97726
Multi VE94.14T		9.7	5.4	5.5	5.5	7.5		132	129	118	109	95	77	57	35		97729

Model	I [A]			P1 [kW]	P2		l/min m <sup>3</sup> /h	0	65	130	195	260	325	390	455	3~400 V (Model T)
	3~230 V	3~400 V	3~692 V	3~400 V	[kW]	[HP]		0.0	3.9	7.8	11.7	15.6	19.5	23.4	27.3	Code
Multi VE121 2 N	10.4	6		3.4	3	4	mwc	33	33	32	31	28	25	20	14	203425
Multi VE121 3 N		8.3	4.8	4.8	4	5.5		50	49	48	46	42	37	31	21	203427
Multi VE121 4 N		11	6.3	6.5	5.5	7.5		66	66	64	61	57	50	41	29	203429
Multi VE121 5 N		13.6	7.8	8.2	5.5	7.5		83	82	80	77	71	62	51	36	203431
Multi VE121 6 N		15.8	9.1	9.7	7.5	10		100	99	96	92	85	75	61	43	203433
Multi VE121 7 N		18.5	10.7	11.3	9.2	12.5		116	115	112	107	99	87	71	50	203434
Multi VE121 8 N		23.1	13.3	13.8	11	15		133	132	128	123	113	100	81	57	203435
Multi VE121 9 N		23.5	13.5	14.3	15	20		150	148	145	138	127	112	92	64	203436
Multi VE121 10 N		24	13.9	15	15	20		166	165	161	153	141	125	102	71	203437

\* VE94 5 to VE94 11 optional 230 1ph motors



## Performance curves at 2900 rpm

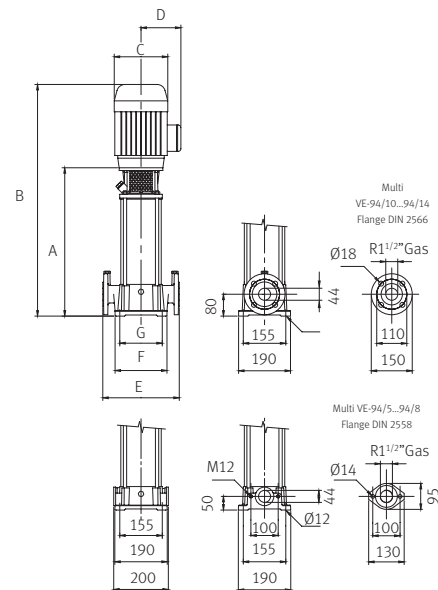


## Dimensions and weights

### Multi VE 94

Model	A	B	C	D	E	F	G	KgB
Multi VE94 5	450	700	176	127	280	190	155	34
Multi VE94 6	486	738	176	127	280	190	155	35
Multi VE94 8	563	838	176	127	280	190	155	38
Multi VE94 10	666	974	194	138	280	190	155	51
Multi VE94 11	703	1010	194	138	280	190	155	52
Multi VE94 13	780	1086	194	138	280	190	155	57
Multi VE94 14	816	1134	220	146	280	190	155	66

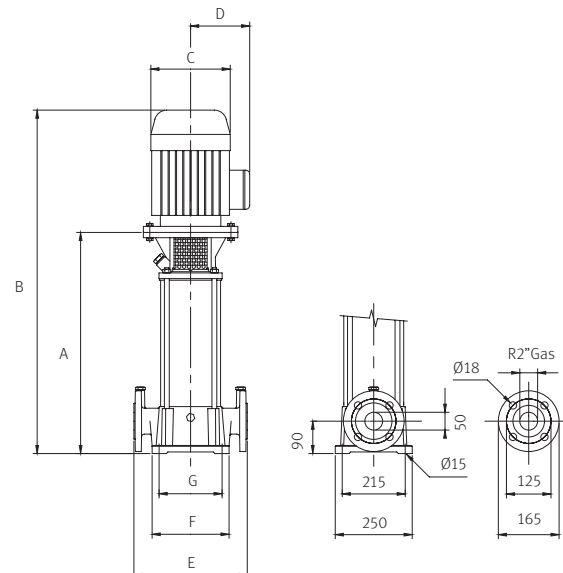
**KgB:** Hydraulic + motor.



### Multi VE121

Model	A	B	C	D	E	F	G	KgB	KgA
Multi VE121 2	470	776	195	140	300	210	130	58.4	37.8
Multi VE121 3	522	847	195	140	300	210	130	64.9	39.2
Multi VE121 4	574	943	220	182	300	210	130	81.7	42.6
Multi VE121 5	626	995	220	182	300	210	130	83.4	44.3
Multi VE121 6	678	1085	220	182	300	210	130	85.5	45.8
Multi VE121 7	730	1137	220	182	300	210	130	94.2	47.3
Multi VE121 8	782	1189	220	182	300	210	130	95.8	48.9
Multi VE121 9	834	1241	220	182	300	210	130	102.7	50.4
Multi VE121 10	886	1293	220	182	300	210	130	104.2	51.9

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



\*Service kits are available on request

# Multi VS Surface Vertical



## Vertical multistage pumps in stainless Steel AISI 304 (316 for N models)

### Specifications

ESPA introduces a new range of pumps, the Multi VS range which is manufactured completely in stainless steel AISI 304 (version F). AISI 316 (version N) is available on request.

The Multi VS has been developed by ESPA to offer the market a range of vertical multistage pumps coupled to standard motors which are ready to operate with variable speed controllers such as ESPA Speedrive. All standard motors comply with the IE3 efficiency standards as well as regulations EC640/2009 and 04/2014. The new Multi VS range uses a new hydraulic design which provides a wide range of performances to satisfy the demands of every installation. The Espa Multi VS range utilises the latest technologies in stainless steel production. With this new range ESPA has focused on reaching the highest levels of efficiency in hydraulic performance and pump reliability in any working requirement.

### Applications

Water supply in building and services, clear water transfer in industrial processes, civil construction and irrigation systems. Water boosting in multi pump sets or single pumps uses, automatic and manual irrigations systems. Cleaning installations, demineralized water transfer, cold and hot water circulation for industrial process or water exchange heating systems.

### Operation limits

Liquid temperature: from -20 to 120 °C.  
Maximum working pressure: 25 bar for version F.  
Flow range:  
Multi VS 4 from 7 to 108 l/min. BEP: 67 l/min.  
Multi VS 6 from 10 to 150 l/min. BEP: 100 l/min.  
Multi VS 10 from 18 to 220 l/min. BEP: 167 l/min.  
Multi VS 15 from 27 to 375 l/min. BEP: 250 l/min.  
Multi VS 25 from 43 to 583 l/min. BEP: 417 l/min.

### Motor

Protection IP55 class F.  
Efficiency rate IE3 (for all three-phase motors).  
Voltage: 230/400V 50HZ up to 3 kW  
400/690V 50HZ for power above 3 kW.

### Material

Multi VS F all wetted components in stainless steel AISI 304  
Multi VS N all wetted components in stainless steel AISI 316  
Multi VS C all wet parts in AISI 304 and foot in cast iron.

WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL



## Operation

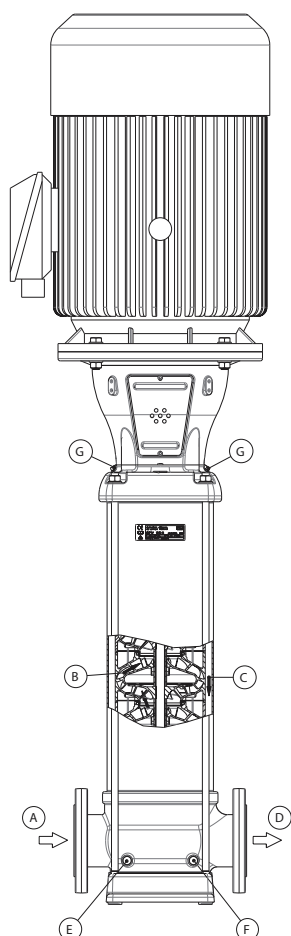


Figure 1: Multi VS

During centrifugal operation of the pump a negative pressure is created at the inlet of the impeller. This negative pressure enables the medium to enter the pump at the suction connection (A).

Every stage (B) consists of an impeller and diffuser. The passage of this stage determines the capacity of the pump. The diameter of the stages is related to the centrifugal forces and its “stage pressure”: the more stages, the more pressure.

This total capacity and raised pressure will be guided to the outside of the pump, between the pump stages and the outer sleeve (C) and the medium will leave the pump at the discharge connection (D).

## Measuring, draining and venting

The pump is provided with plugs for measuring, draining and venting.

Connection (E) is meant to drain the inlet part of the pump. Or to measure the inlet / suction pressure using a G ¼ connection.

Connection (F) is meant to drain the outlet part of the pump. Or to measure the discharge pressure using a G ¼ connection.

Connections (G) are meant to vent the pump system when the pump is not in operation. Or to measure the discharge pressure of the pump using a G 3/8 connection.

## Working range

The working range is depending on the application and a combination of pressure and temperature. For specific and detailed limits please consult the working ranges as described in the chapter 1.8 Modular selection. The overall working range of the pumps can be summarised as follows:

Table 2: Specification of the working range

Pump type	Multi VS	note
Ambient temperature [°C]	-20 up to 40	1
Minimum inlet pressure	$NPSH_{req.} + 1m$	
Viscosity [cSt]	1-100	2
Density [kg/m <sup>3</sup> ]	1000-2500	2
Cooling	forced motor cooling	3
Minimum frequency [Hz]	30	
Maximum frequency [Hz]	60	4
Allowable size of solids pumped	5µm to 1mm	

1. If the ambient temperature exceeds the above value or the motor is located more than 1000 m above sea level, the motor cooling is less effective and could require an adapted motor power. See table 9: Motor load dep. sea level or amb. temp or please contact your supplier for more detailed advice.
2. Deviation in viscosity and/or density could require an adapted motor power. Please contact your supplier for more detailed advice.
3. The free space above the motor cooling fan must be at least 1/4 of the diameter of the inlet of the cooling fan in order to have a sufficient flow of (cooling) air.
4. Pumps that are intended for 50 Hz operation, may not be connected to 60 Hz power supply.

## Minimum capacity

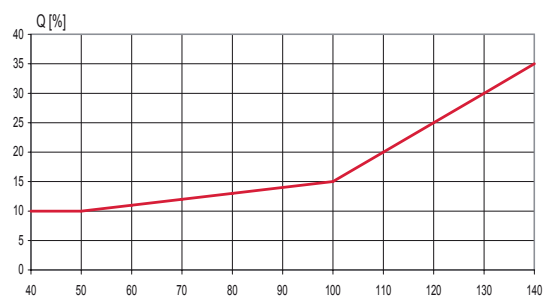
For minimum capacity at medium temperature of 20 °C, see table: 3 Minimum capacity (Q<sub>min</sub>); for higher temperatures, see table: 4 Minimum capacity vs. temperature (in % of Q optimum).

To prevent the pump from overheating, gathering gas, cavitation etc. a minimum capacity has to be secured. The minimum capacity corresponds to all percentage of the optimum flow Q<sub>opt</sub> in relation to the temperature of the liquid pumped.

Table 3: Minimum capacity (Q<sub>min</sub>)

size	Q <sub>min</sub> [m <sup>3</sup> /h]			
	50 Hz		60 Hz	
	2 pole	4 pole	2 pole	4 pole
2	0,2		0,2	
4	0,4		0,5	
6	0,6		0,8	
10	1,1	0,5	1,3	0,6
15	1,6	0,8	2,0	1,0
25	2,6	1,3	3,2	1,6
40	4	2	4,8	2,4
60	6	3	7,2	3,6
85	8,5	4,3	10,2	5,1

Table 4: Minimum capacity vs temperature (in % of Q optimum)



## Ambient temperature and higher altitude

If the ambient temperature exceeds the above value, or if the motor is located more than 1000 m above sea level, the motor cooling is less effective and could require an adapted motor power. See below table for the increased percentage of the motor power or contact your supplier for more detailed advice.

Table 5: Increase of required motor power

Ambient temperature [°C]	Above sea level [m]	Increase of required power
40	1000	0%
45	1625	2%
50	2250	5%
55	2875	11%
60	3500	18%
65	4125	25%
70	4750	33%

## Basic material variants

Table 6: Basic material variants

Model	Hydraulic	Casing	Sealing
F	1.4301	1.4308	EPDM
N	1.4404	1.4408	FPM
C	1.4301	JL1040	EPDM

## Pump bearing

Medium lubricated stage bearing  
Tungsten Carbide against Ceramic

## Modular selection

To suit almost every application the pump is assembled out of modules which can be selected depending on the required working range. Basic modules are:

- **Basic pump model**, which defines the capacity, pressure and basic material.  
Temperature range -20 up to 140 °C
- **Connections**, which define the suction and discharge connection as well as the base plate.
- **Sealings**, which define the elastomers, the mechanical seal and the shaft seal type.  
Temperature range, see chapter 4.1
- **Electric motor**, which defines all requirements of the motor such as motor size, power, voltage, frequency and all possible motor accessories.

WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## Performance characteristics

### Performance range

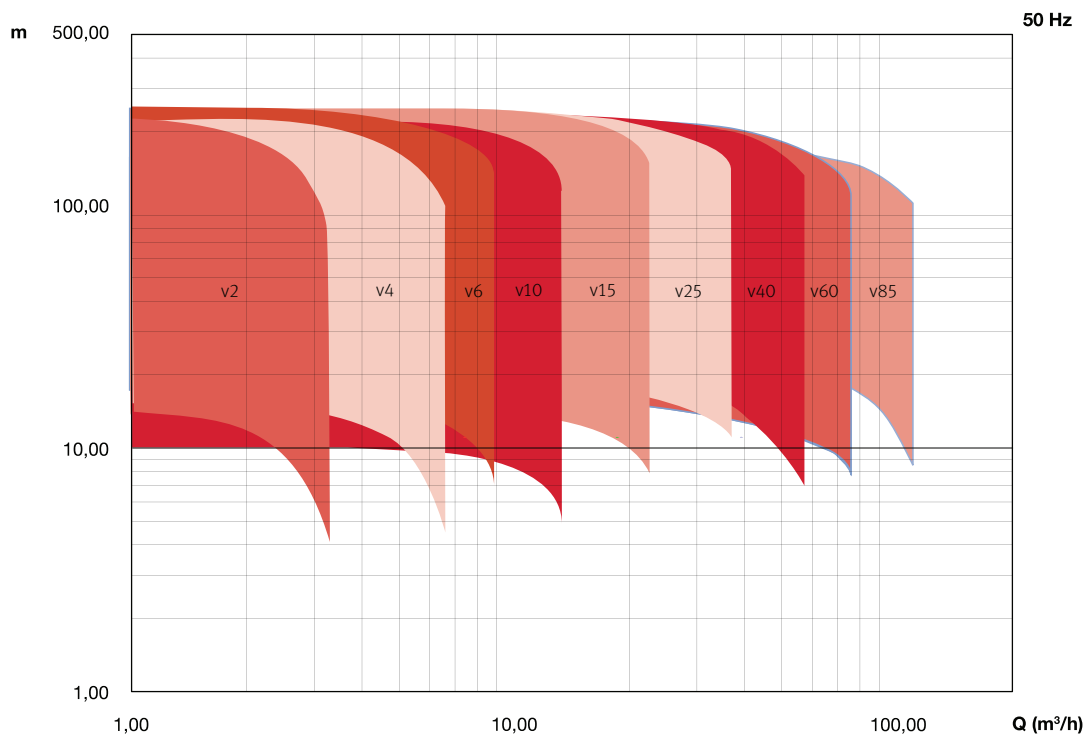


Figure 2: Performance range Multi VS 2-4-6-10-15-25-40-60-85

### Performance curve details

The performance diagrams give a global overview of all the pump models the shaded models are mentioned in this documentation. Detailed characteristics are given for each model showing the hydraulic efficiency,  $NPSH_{req}$ , and shaft power as well.

The performance of the pump depends on the number of stages.

The detailed performance curves are in accordance with ISO 9906:2012 (Grade 3B).

The pumps can be configured with multiple types of motors. Therefore the performance data, like Q/H, efficiency and shaft power used for published curves are converted to the average speed per motor power. To refine this data the published data has to be corrected accordingly.

The published curves and data mentioned on the pump are based on the following rotational speed:

Table 7: Rated motor power and speed in 2 & 4 pole

Rated motor power	Rated speed at 50 Hz [rpm] 2P	Rated speed at 60 Hz [rpm] 2P
0,37 and 0,55 kW	2800	3460
to 2,2 kW	2880	3460
to 4 kW	2920	3510
to 7,5 kW	2940	3530
to 22 kW	2950	3550
to 45 kW	2960	3550

Rated motor power	Rated speed at 50 Hz [rpm] 4P	Rated speed at 60 Hz [rpm] 4P
0,55 kW	1450	1740
0,75 kW	1440	1730
to 2,2 kW	1425	1710
to 4 kW	1450	1740
to 7,5 kW	1460'	1750

The characteristics given are based on:

- De-aerated water at a temperature of 20 °C
- Density of 1,0 kg/dm<sup>3</sup>
- Kinematical viscosity of 1 mm<sup>2</sup>/s (1 cst)

To prevent the pump from overheating, gathering gas, cavitation etc. a minimum capacity has to be secured. The minimum capacity corresponds to a percentage of the optimum flow  $Q_{opt}$  in relation to the temperature of the liquid pumped.

## Minimum efficiency index

Per January 1st 2013 for multistage pumps (reference 50Hz and 2 poles) a new Commission Regulation (EU) No 547/2012 as part of the Directive 2009/125/EC is mandatory.

According to this the pumps need to apply to a new Minimum Efficiency Index (MEI). This value is set to be  $\geq 0.10$

Pump range the following values are applicable:

Table 8: Minimum efficiency index

Pump range	Minimum Efficiency index
Multi VS 2	MEI $\geq 0.70$
Multi VS 4	MEI $\geq 0.70$
Multi VS 6	MEI $\geq 0.70$
Multi VS 10	MEI $\geq 0.70$
Multi VS 15	MEI $\geq 0.40$
Multi VS 25	MEI $\geq 0.70$
Multi VS 40	MEI $\geq 0.70$
Multi VS 60	MEI $\geq 0.70$
Multi VS 85	MEI $\geq 0.60$

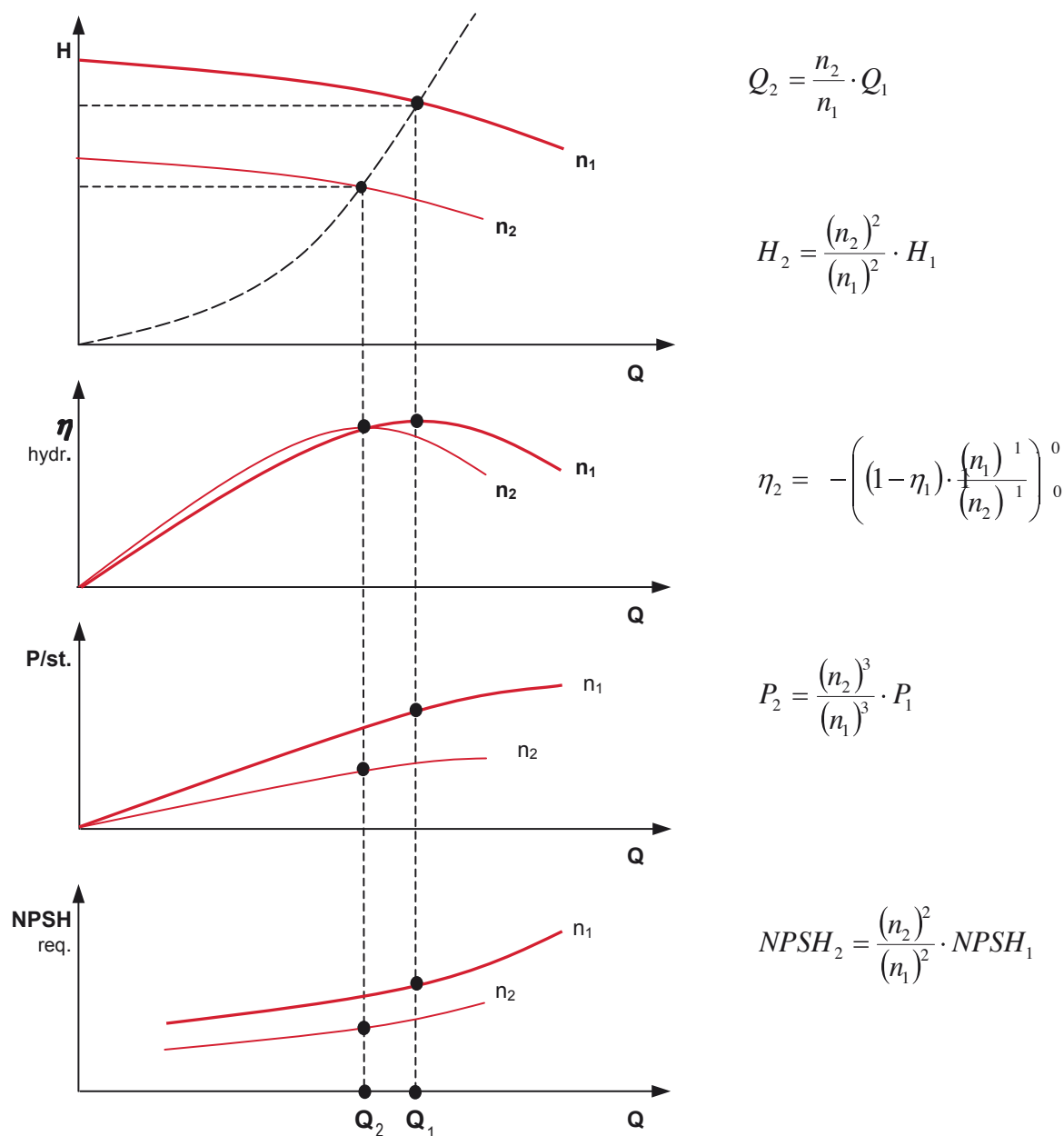


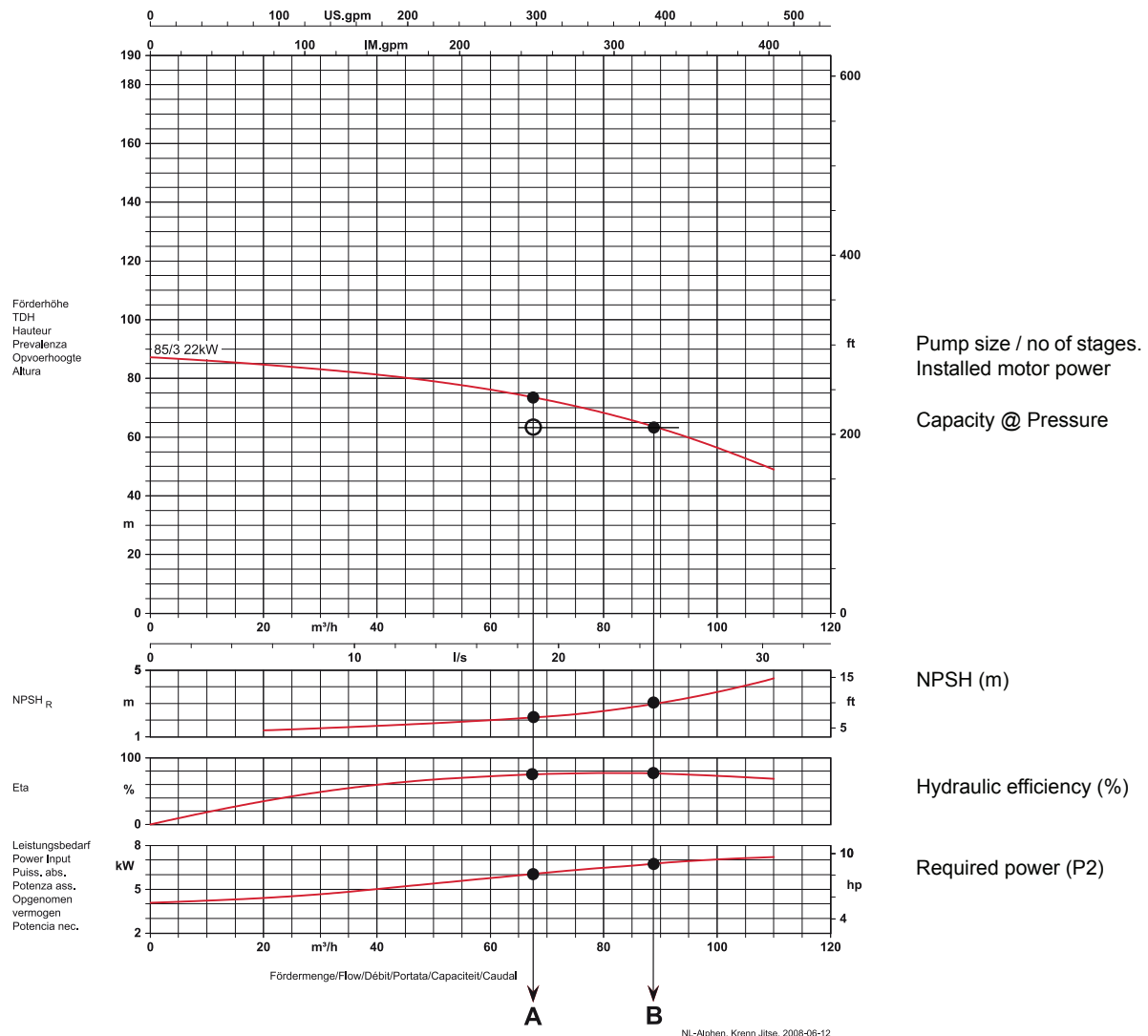
Figure 3: Performance characteristics

### How to read the values from the curves

To find the required hydraulic information from the published curves, it is important to know the application in which the pump has to be installed. There are two main distinction to be made:

- A Flow determined (like booster sets and cleaning) Opening taps
- B Pressure determined (like boiler feed and reverse osmosis systems) Facing counter pressure.





WATER SUPPLY SURFACE  
 HORIZONTAL & VERTICAL

Figure 4: How to read the values from the curves

- Calculated duty point
- Actual hydraulic performance
- A Flow determined
- B Pressure determined

Hydraulic performance curve Multi VS2 - 50Hz - 2 pole

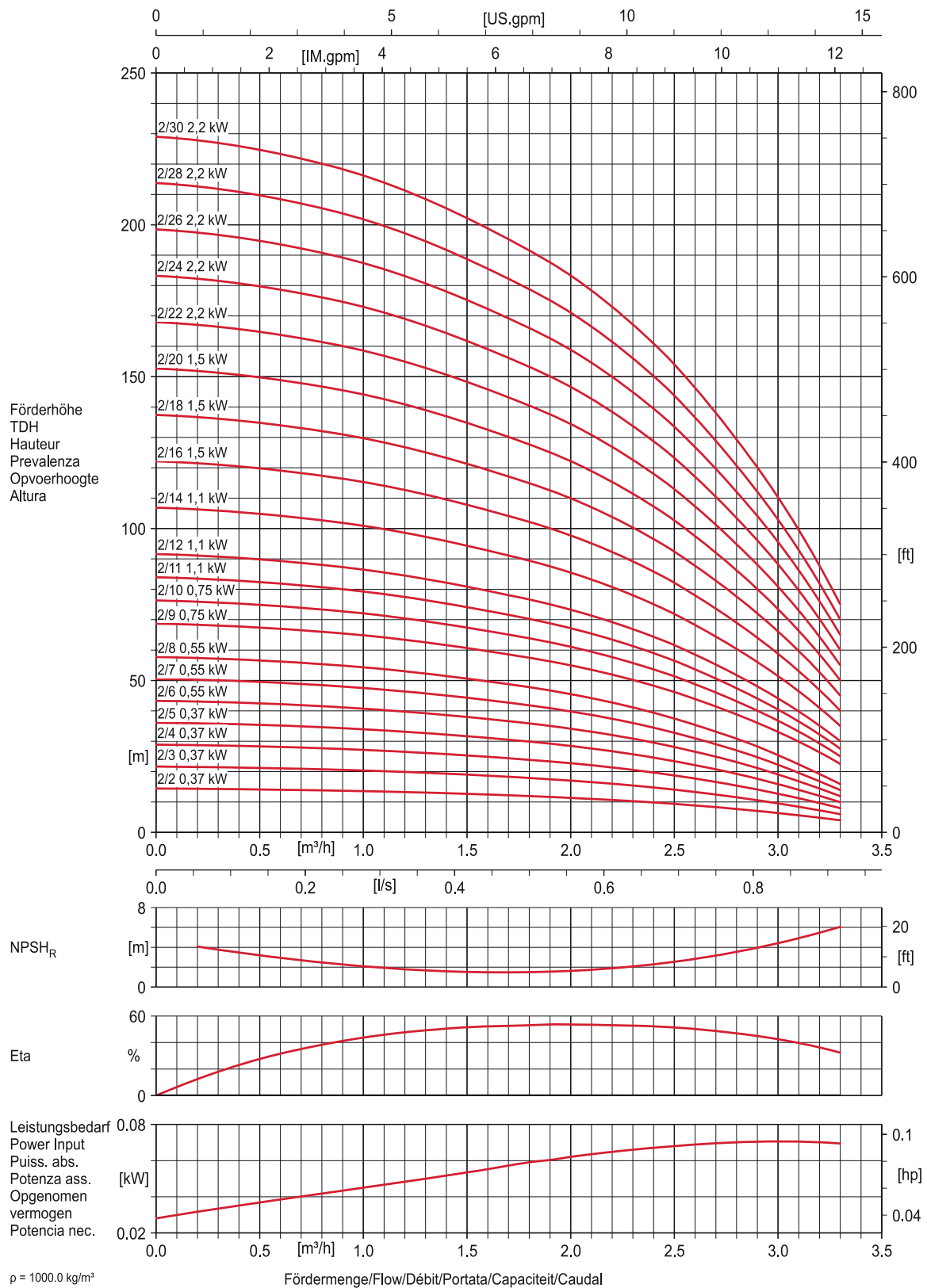
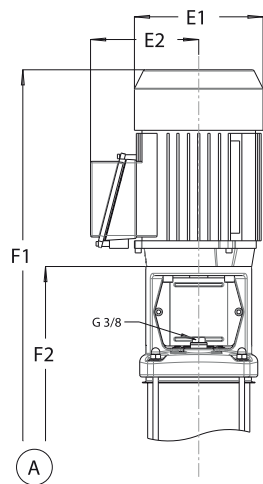


Figure 5: Performance curve Multi VS 2 - 50Hz - 2 pole

**Dimensions: Multi VS2 - 50Hz - 2 pole - DIN**

Table 10: coupled motor construction type



Model	pressure class	Power [kW]	Motor dimensions			Multi VS_N (E-casing PN16)			Multi VS F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
2/2	PN10	0,37	134	107		472	259	18	497	284	22
2/3		0,37	134	107		493	280	18	518	305	23
2/4		0,37	134	107		515	302	18	540	327	23
2/5		0,37	134	107		536	323	19	561	348	24
2/6		0,55	134	107		558	345	19	583	370	24
2/7		0,55	134	107		579	366	20	604	391	25
2/8		0,55	134	107		601	398	20	626	423	25
2/9		0,75	150	115		676	419	27	701	444	32
2/10		0,75	150	115		698	441	27	723	466	32
2/11		1,1	150	115		719	462	28	744	487	32
2/12		1,1	150	115		741	484	28	766	509	33
2/14		PN16	1,1	150	115		784	527	29	809	552
2/16	1,5		176	141		833	580	36	858	605	40
2/18	1,5		176	141		876	623	36	901	648	41
2/20	1,5		176	141		919	666	37	944	691	42
2/22	PN25/40	2,2	176	141		991	709	45	1016	734	46
2/24		2,2	176	141		1034	752	46	1059	777	46
2/26		2,2	176	141		1077	795	46	1102	820	47
2/28		2,2	176	141		1120	838	47	1145	863	48
2/30		2,2	176	141		1163	881	64	1188	906	64

All above mentioned dimensions in mm. weight in kg

	<p><b>Multi VS F Loose plate flange</b>                  Cataphoric coated loose plate flange                  Norm: EN 1092-1/1092-2                  Size: NW25                  Pressure Class: PN40                  Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308</p>
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WATER SUPPLY SURFACE HORIZONTAL & VERTICAL

Hydraulic performance curve Multi VS4 - 50Hz - 2 pole

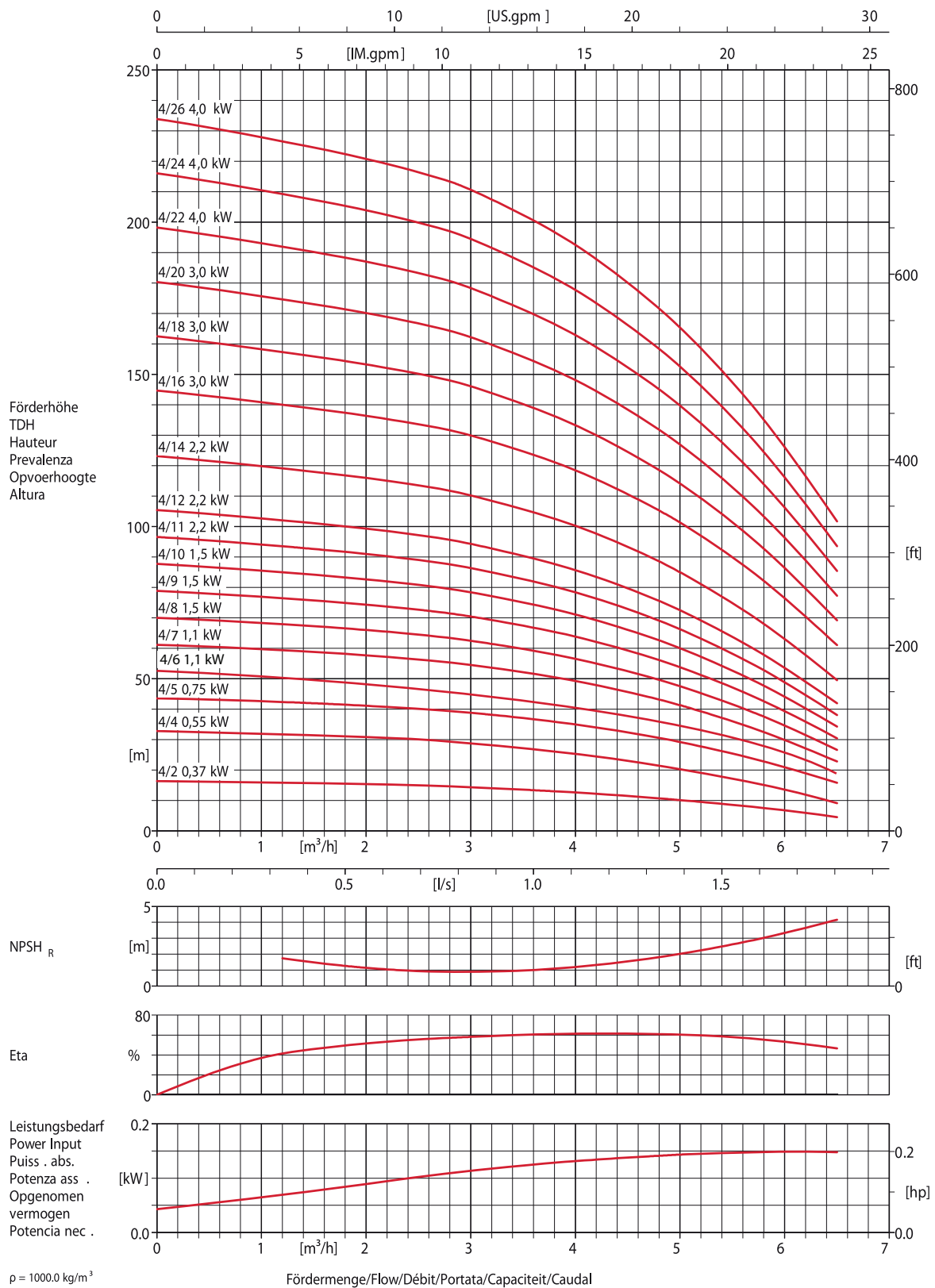
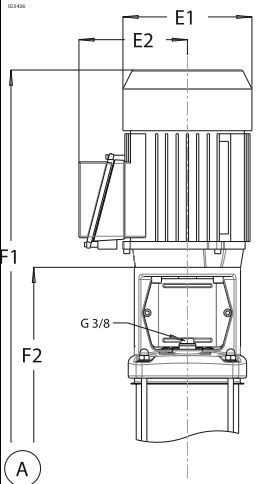


Figure 6: Performance curve Multi VS4 - 50Hz - 2 pole

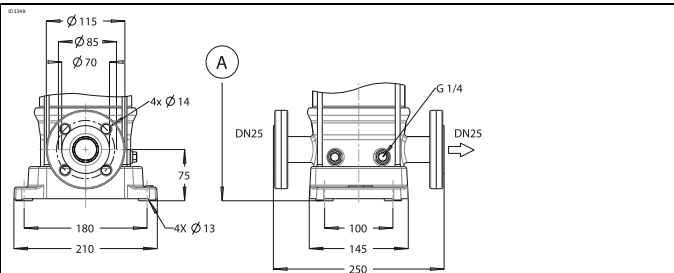
**Dimensions: Multi VS4 - 50Hz - 2 pole - DIN**

Table 12: coupled motor construction type; V1 8



Model	pressure class	Power [kW]	Motor dimensions			Multi VS_N (E-casing PN16)			Multi VS_F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
4/2	PN10	0,37	134	107		472	259	18	497	284	22
4/3		0,55	134	107		493	280	18	518	305	23
4/4		0,55	134	107		515	302	19	540	327	23
4/5		0,75	150	115		590	333	25	615	358	30
4/6		1,1	150	115		612	355	26	637	380	30
4/8		1,5	176	141		661	408	32	686	433	37
4/9		1,5	176	141		682	429	33	707	454	37
4/10		1,5	176	141		704	451	33	729	476	38
4/11		2,2	176	141		754	472	34	779	497	39
4/12		PN16	2,2	176	141		776	494	35	801	519
4/14	2,2		176	141		819	537	36	844	562	41
4/16	PN25/40	3	195	145		904	590	47	929	615	52
4/18		3	195	145		947	633	52	972	658	53
4/20		3	195	145		990	676	53	1015	701	53
4/22		4	223	167		1042	719	60	1067	744	61
4/24		4	223	167		1085	762	61	1110	787	62
4/26		4	223	167		1128	805	61	1153	830	62

All above mentioned dimensions in mm. weight in kg



**Multi VS F Loose plate flange**  
 Cataphoric coated loose plate flange  
 Norm: EN 1092-1/1092-2  
 Size: NW25  
 Pressure Class: PN40  
 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

Hydraulic performance curve Multi VS6 - 50Hz - 2 pole

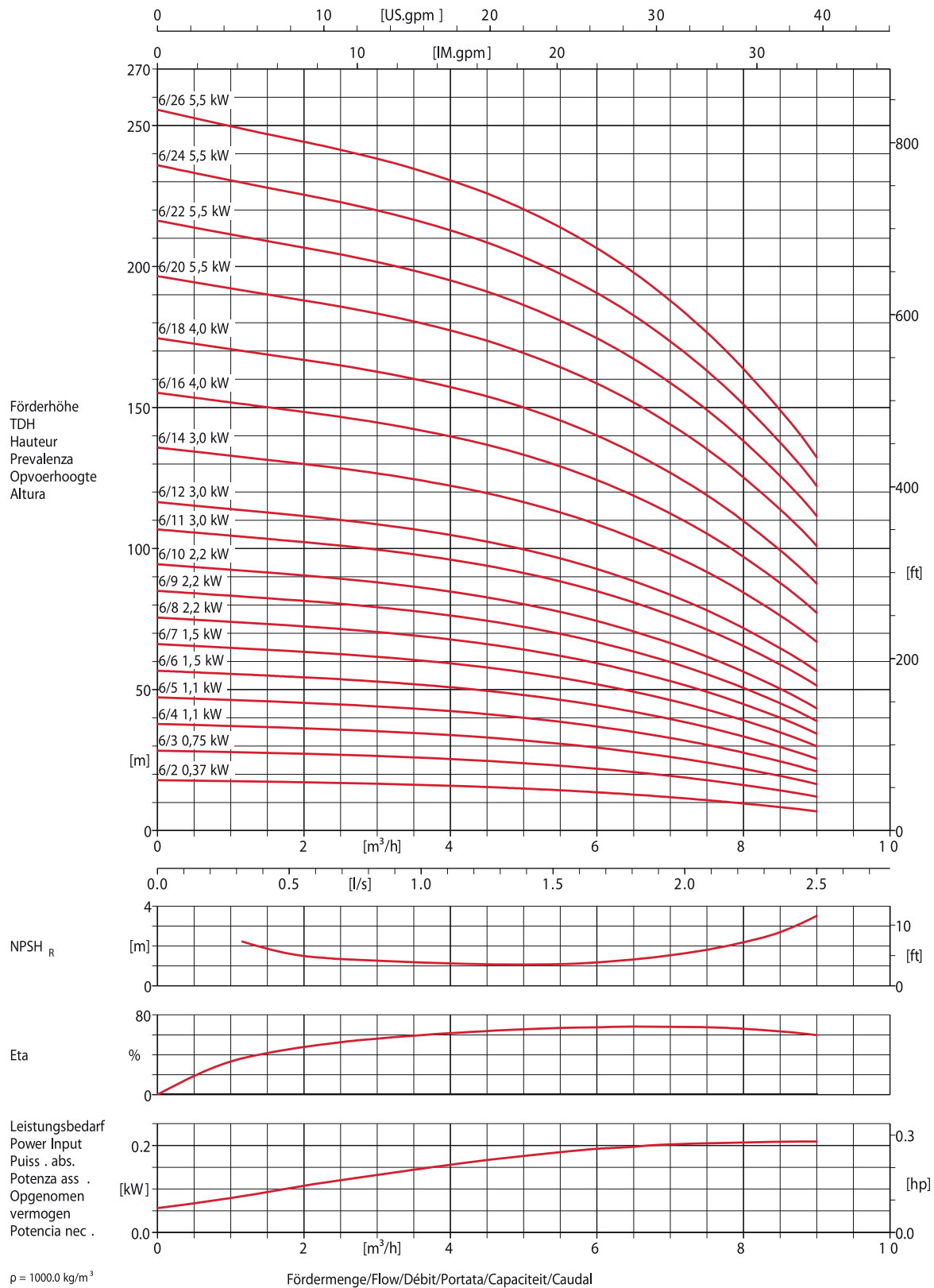
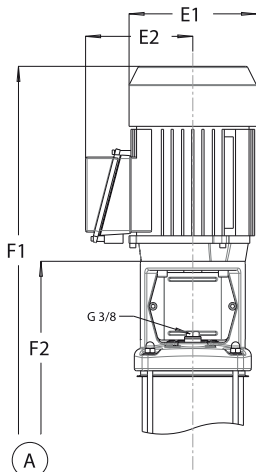


Figure 7: Performance curve Multi VS6 - 50Hz - 2 pole

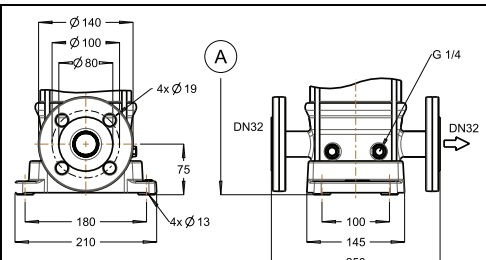
**Dimensions: MULTI VS6 - 50Hz - 2 pole - DIN**

Table 14: coupled motor construction type; V1 8



Model	pressure class	Power [kW]	Motor dimensions			Multi VS_N (E-casing PN16)			Multi VS F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
6/2	PN10	0,37	134	107		479	266	18	504	291	26
6/3		0,75	150	115		558	301	25	583	326	31
6/4		1,1	150	115		583	326	25	608	351	31
6/5		1,1	150	115		608	351	26	633	376	32
6/6		1,5	176	141		639	386	32	664	411	38
6/7		1,5	176	141		664	411	32	689	436	38
6/8		2,2	176	141		718	436	34	743	461	40
6/9		2,2	176	141		743	461	34	768	486	41
6/10		2,2	176	141		768	486	35	793	511	41
6/11		PN16	3	195	145		835	521	45	860	546
6/12	3		195	145		860	546	46	885	571	52
6/14	3		195	145		910	596	47	935	621	53
6/16	4		223	167		969	646	51	994	671	61
6/18	PN25/40	4	223	167		1016	696	61	1044	721	62

All above mentioned dimensions in mm. weight in kg



**MULTI VS F Loose plate flange**  
 Cataphoric coated loose plate flange  
 Norm: EN 1092-1/1092-2  
 Size: NW32  
 Pressure Class: PN40  
 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

WATER SUPPLY SURFACE HORIZONTAL & VERTICAL



Hydraulic performance curve Multi VS10 - 50Hz - 2 pole

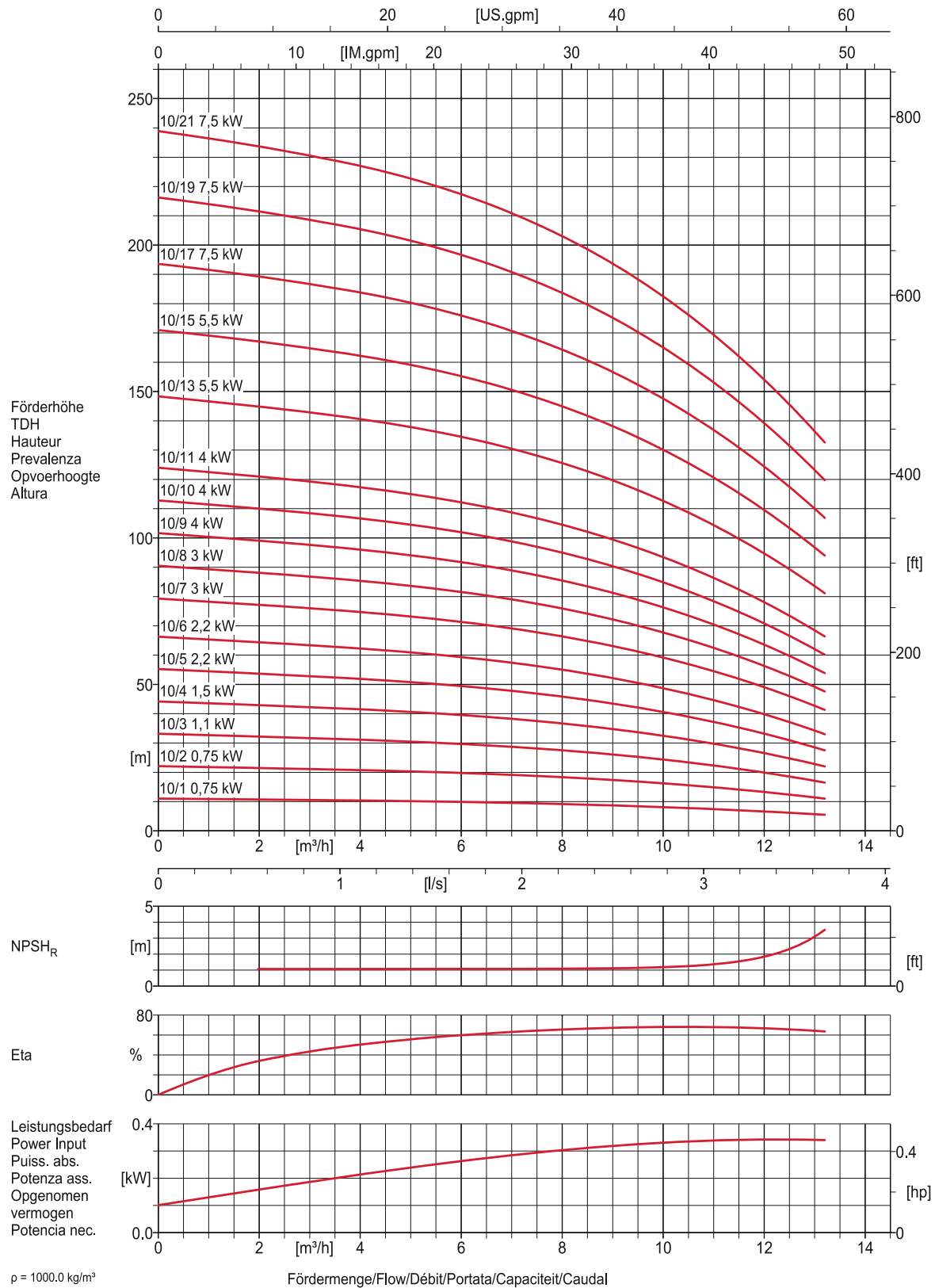
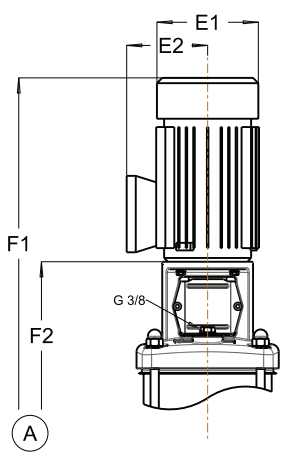


Figure 8: Performance curve Multi VS10 - 50Hz- 2 pole

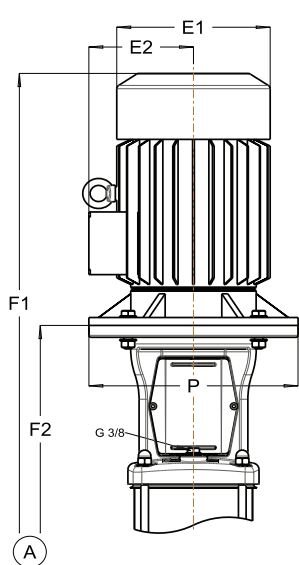
## Dimensions: Multi VS10 - 50Hz - 2 pole - DIN

Table 16: coupled motor construction type; V1 8



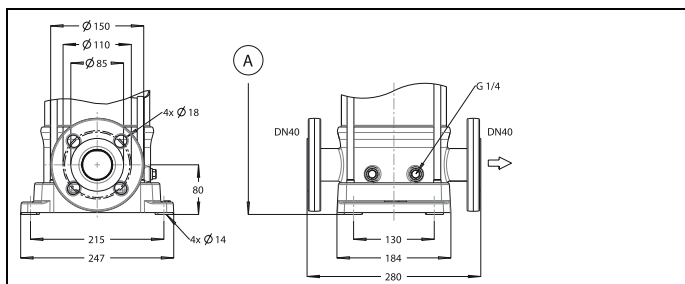
Model	pressure class	Power [kW]	Motor dimensions			Multi VS-N (E-casing PN16)			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
10/1	PN10	0,75	150	115		621	346	32	621	346	36
10/2		0,75	150	115		621	346	33	621	346	36
10/3		1,1	150	115		647	372	36	647	372	39
10/4		1,5	176	141		679	409	41	679	409	45
10/5		2,2	176	141		720	435	45	720	435	48
10/6		2,2	176	141		747	462	45	747	462	49
10/7		3	195	145		828	498	54	828	498	58
10/8		3	195	145		855	525	55	855	525	59
10/9	PN16	4	223	167		891	551	62	891	551	65
10/10		4	223	167		918	578	63	918	578	66
10/11		4	223	167		944	604	64	944	604	67

Table 17: coupled motor construction type; V1



Model	pressure class	Power [kW]	Motor dimensions			Multi VS-N			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
10/13	PN16	5,5	266	178	300	1102	737	104	1102	737	108
10/15	PN25/40	5,5	266	178	300	1155	790	108	1155	790	112
10/17		7,5	266	178	300	1208	843	116	1208	843	118
10/19		7,5	266	178	300	1261	896	118	1261	896	120
10/21		7,5	266	178	300	1314	949	120	1314	949	122

All above mentioned dimensions in mm. weight in kg



<p><b>Multi VS F Loose plate flange</b>                  Cataphoric coated loose plate flange                  Norm: EN 1092-1/1092-2                  Size: NW40                  Pressure Class: PN40                  Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308</p>
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WATER SUPPLY SURFACE HORIZONTAL & VERTICAL

Hydraulic performance curve Multi VS15 - 50Hz - 2 pole

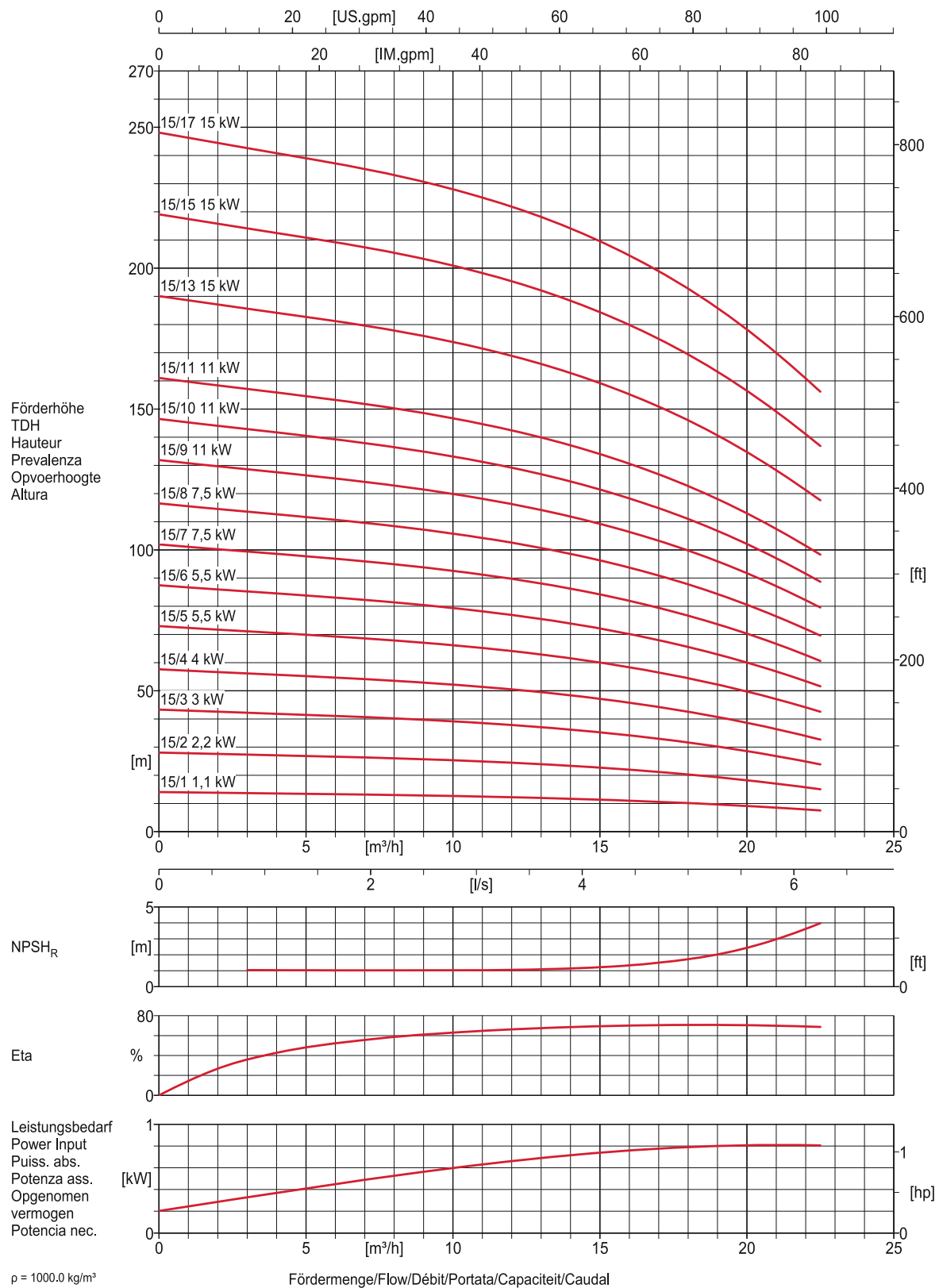


Figure 10: Performance curve Multi VS15 - 50Hz - 2 pole

**Dimensions: Multi VS15 - 50 Hz - 2 pole - DIN**

Table 19: coupled motor construction type; V1 8

Model	pressure class	Power [kW]	Motor dimensions			Multi VS-N			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
15/1	PN10	1,1	150	115		621	346	34	631	356	40
15/2		2,2	176	141		641	356	41	651	366	47
15/3		3	195	145		722	392	50	732	402	56
15/4		4	223	167		759	419	56	769	429	62

Table 20: coupled motor construction type; V 1

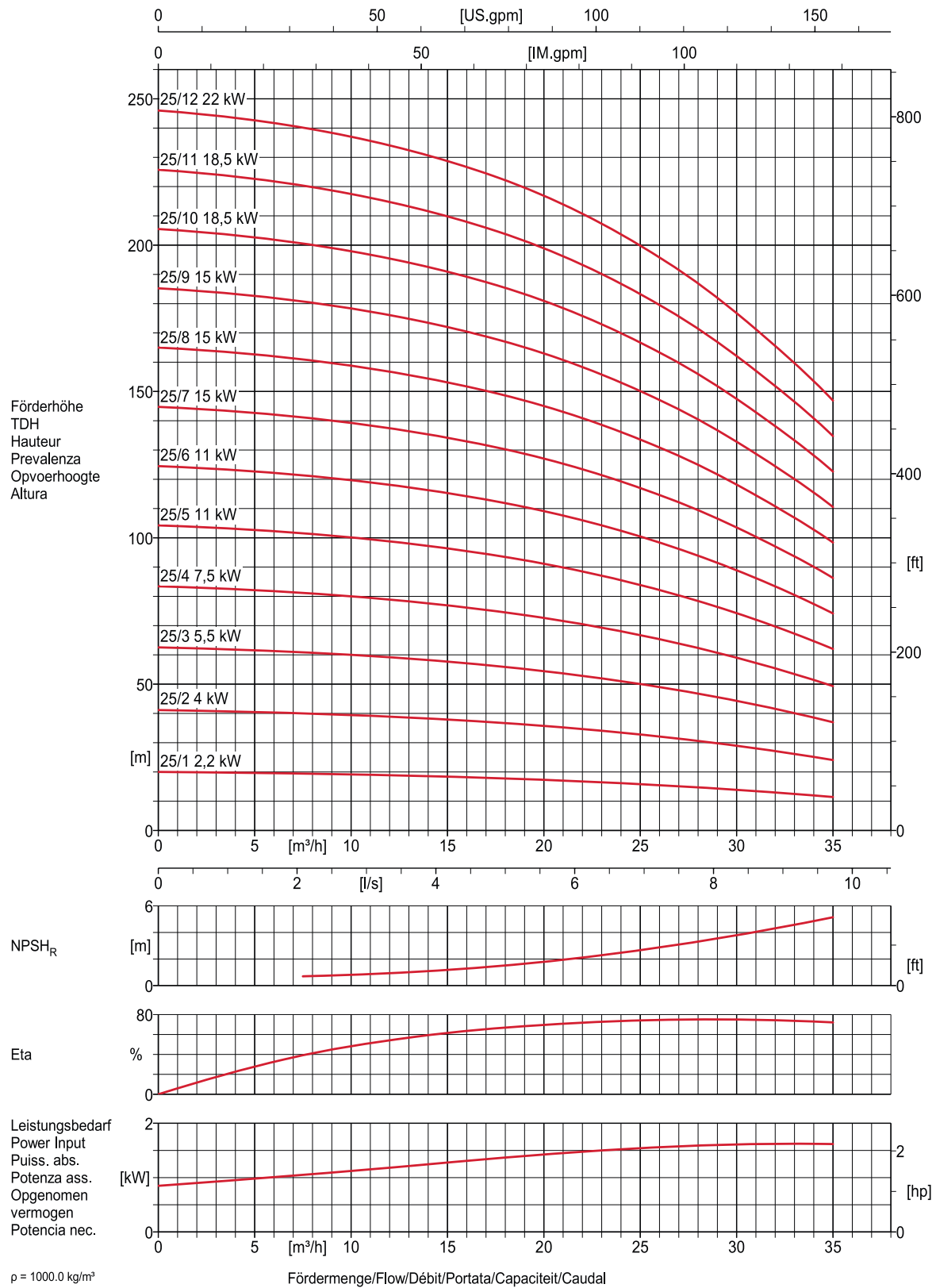
Model	pressure class	Power [kW]	Motor dimensions			Multi VS-N			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]	F1 [mm]	F2 [mm]	Mass [kg]
15/5	PN10	5,5	266	178	300	890	525	95	900	535	101
15/6		5,5	266	178	300	916	551	96	926	561	102
15/7	PN16	7,5	266	178	300	943	578	101	953	588	107
15/8		7,5	266	178	300	969	604	103	979	614	109
15/9		11	315	204	350	1159	661	180	1169	671	186
15/10		11	315	204	350	1185	687	181	1195	697	187
15/11	PN25	11	315	204	350				1222	724	188
15/13		15	315	204	350				1275	777	203
15/15		15	315	204	350				1328	830	205
15/17		15	315	204	350				1381	883	207

All above mentioned dimensions in mm. weight in kg

**Multi VS F Loose plate flange**  
 Cataphoric coated loose plate flange  
 Norm: EN 1092-1/1092-2  
 Size: NW50  
 Pressure Class: PN40  
 Option: Loose plate flange (PN25) and/or base plate in cast SS 1.4308

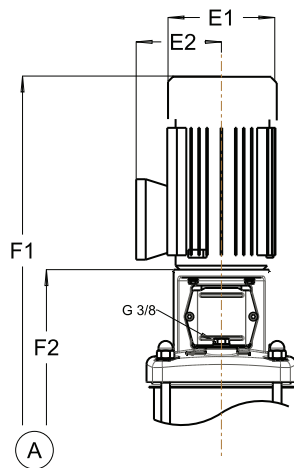
WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

Hydraulic performance curve Multi VS25 - 50Hz - 2 pole



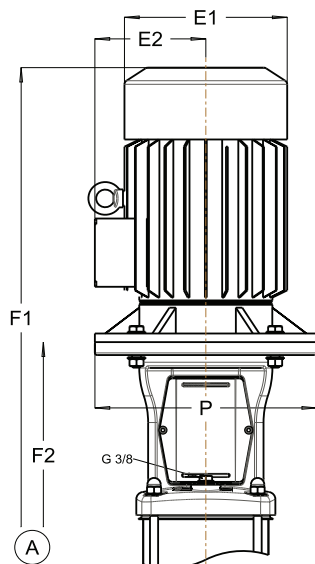
**Dimensions Multi VS25 - 50Hz - 2 pole - DIN**

Table 22: coupled motor construction type; V1 8



Model	pressure class	Power [kW]	Motor dimensions			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/1	PN10	2,2	176	141		693	408	70
25/2		4	223	167		818	478	85

Table 23: coupled motor construction type; V1



Model	pressure class	Power [kW]	Motor dimensions			Multi VS F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
25/3	PN10	5,5	266	178	300	999	634	114
25/4		7,5	266	178	300	1064	699	121
25/5	PN16	11	315	204	350	1292	794	203
25/6		11	315	204	350	1357	859	206
25/7		15	315	204	350	1422	924	218
25/8	PN25	15	315	204	350	1487	989	231
25/9		15	315	204	350	1552	1054	233
25/10		18,5	315	204	350	1699	1119	253
25/11		18,5	315	204	350	1764	1184	256
25/12		22	350	223	350	1829	1249	294

All above mentioned dimensions in mm. weight in kg

	<p><b>Multi VS C F Cast iron flange</b>                      Norm: EN 1092-1/1092-2                      Size: NW65                      Pressure Class: PN40</p>
	<p><b>Multi VS-N Loose plate flange</b>                      Cataphoric coated loose plate flange                      Norm: EN 1092-1/1092-2                      Size: NW65                      Pressure Class: PN40                      Option: Loose plate flange (PN25) in SS 1.4308</p>

WATER SUPPLY SURFACE HORIZONTAL & VERTICAL

Hydraulic performance curve Multi VS40 - 50Hz - 2 pole

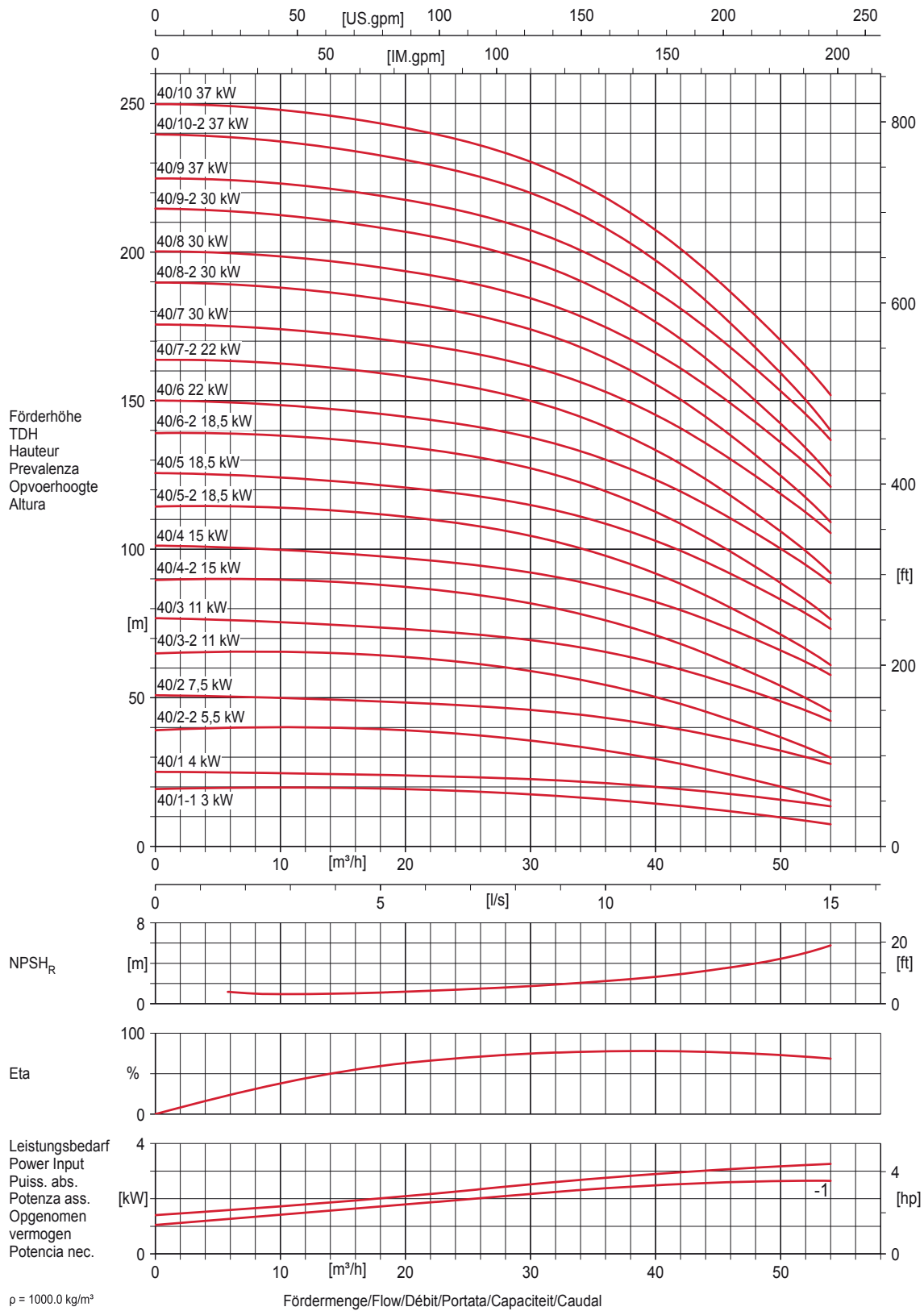
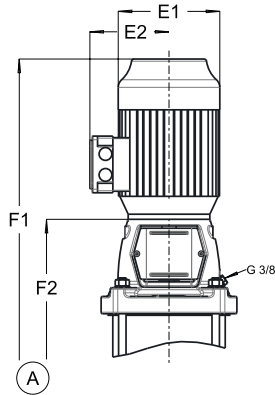


Figure 14: Performance curve Multi VS40 - 50Hz - 2 pole

**Dimensions: Multi VS40 - 50Hz - 2 pole - DIN**

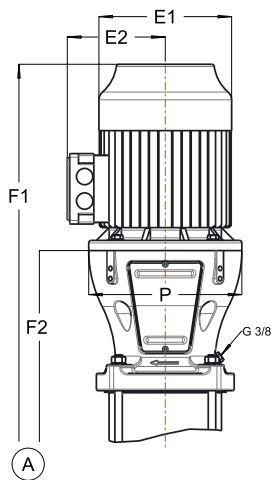
Table 25: coupled motor construction type; V1 8



Model	pressure class	Power [kW]	Motor dimensions			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/1-1	PN10	3	195	145		817	487	92
40/1		4	223	167		827	487	98

WATER SUPPLY SURFACE HORIZONTAL & VERTICAL

Table 26: coupled motor construction type; V1



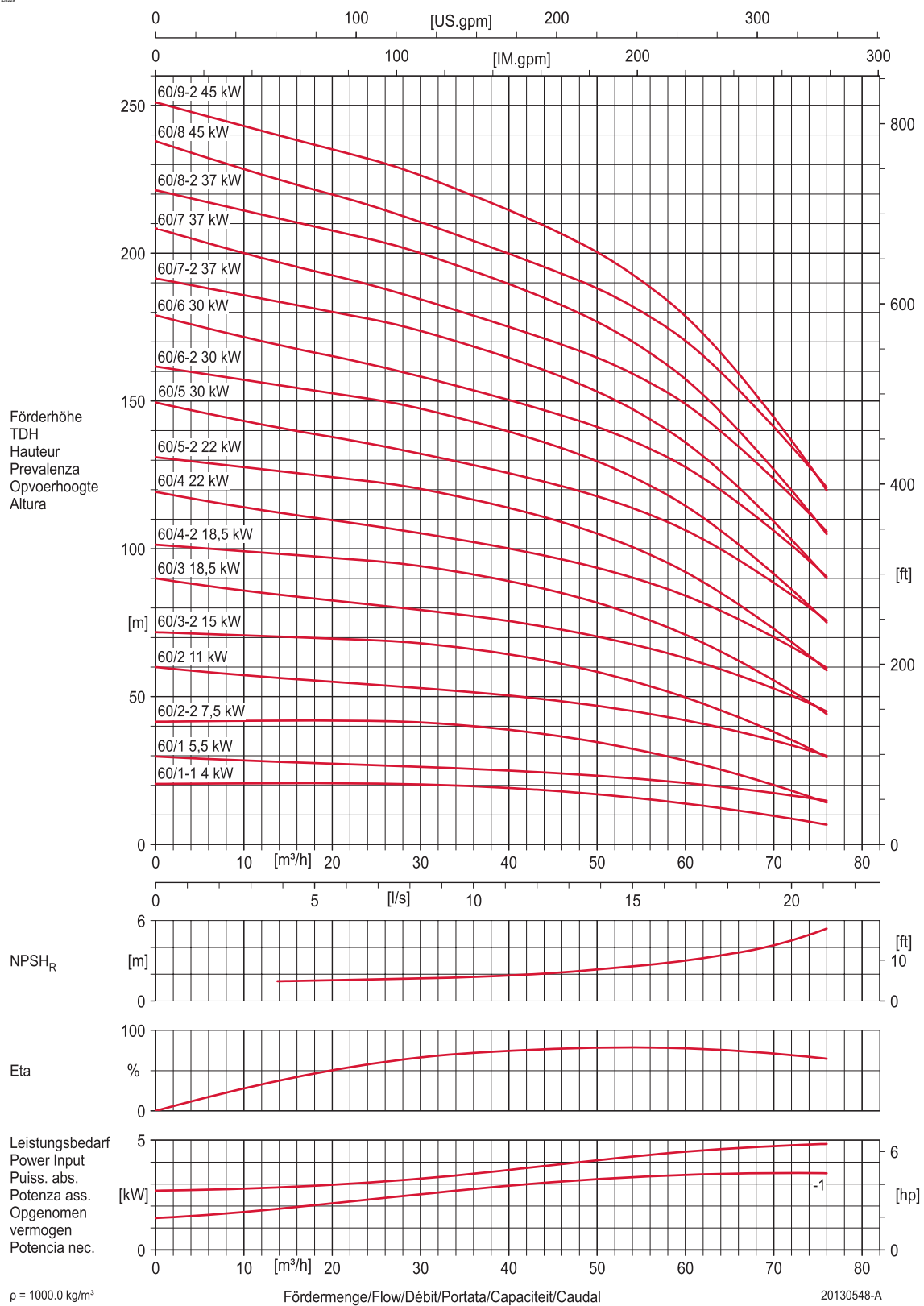
Model	pressure class	Power [kW]	Motor dimensions			Multi VS-F/C		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
40/2/2	PN10	5,5	266	178	300	1002	655	129
40/2		7,5	266	178	300	1002	655	133
40/3-2		11	315	204	350	1261	763	214
40/3		11	315	204	350	1261	763	214
40/4-2		15	315	204	350	1339	841	230
40/4	PN16	15	315	204	350	1339	841	230
40/5-2		18,5	315	204	350	1499	919	261
40/5		18,5	315	204	350	1499	919	261
40/6-2		18,5	315	204	350	1577	997	264
40/6	PN25	22	350	223	350	1577	997	300
40/7-2		22	350	223	350	1655	1075	308
40-7		30	400	290	400	1725	1075	374
40/8-2		30	400	290	400	1803	1153	397
40/8		30	400	290	400	1803	1153	397
40/9-2		30	400	290	400	1881	1231	402
40/9		37	400	290	400	1881	1231	406
40/10-2		37	400	290	400	1959	1309	410
40/10		37	400	290	400	1959	1309	410

All above mentioned dimensions in mm. weight in kg



	<p><b>Multi VS C F Cast iron flange</b>                  Norm: EN 1092-1/1092-2                  Size: NW80                  Pressure Class:PN16/25/40</p>
	<p><b>Multi VS Loose plate flange</b>                  Cataphoric coated loose plate flange                  Norm: EN 1092-1/1092-2                  Size: NW80 interchangeable range 45                  Pressure Class: PN16/25</p>

Hydraulic performance curve Multi VS60 - 50Hz - 2 pole



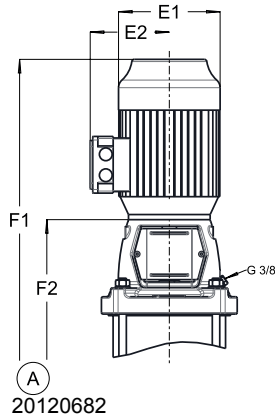
WATER SUPPLY SURFACE  
 HORIZONTAL & VERTICAL

Figure 16: Performance curve Multi VS60 - 50Hz - 2 pole

20080076-B

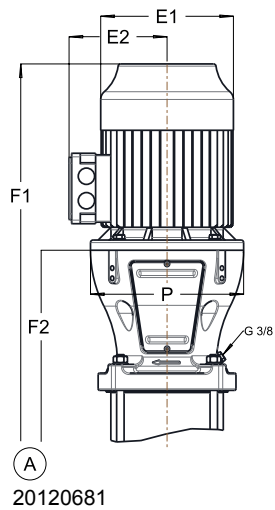
**Dimensions: Multi VS60 - 50Hz - 2 pole - DIN**

Table 29: coupled motor construction type; V18



Model	pressure class	Power [kW]	Motor dimensions			Multi VS(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/1-1	PN10	4	223	167		827	487	102

Table 30: coupled motor construction type; V1



Model	pressure class	Power [kW]	Motor dimensions			Multi VS(C/S)F		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
60/1	PN10	5,5	266	178	300	942	577	130
60/2-2		7,5	266	178	300	1020	655	138
60/		11	315	204	350	1183	685	215
60/3-2		15	315	204	350	1261	763	228
60/3		18,5	315	204	350	1341	763	245
60/4-2		PN16	18,5	315	204	350	1421	841
60/4	22		350	223	350	1421	841	287
60/5-2	22		350	223	350	1499	919	300
60/5	30		400	290	400	1569	919	362
60/6-2	PN25	30	400	290	400	1647	997	370
60/6		30	400	290	400	1647	997	376
60/7/2		37	400	290	400	1725	1075	384
60/7		37	400	290	400	1725	1075	384
60/8-2		37	400	290	400	1803	1153	407
60/8		45	466	335	450	1848	1153	484
60/9-2	PN40	45	466	335	450	1926	1231	488

All above mentioned dimensions in mm. weight in kg

	<p><b>Multi VS C F Cast iron flange</b>                      Norm: EN 1092-1/1092-2                      Size: NW100                      Pressure Class:PN16</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">20120677</p>
	<p><b>Multi VS C F Cast iron flange</b>                      Norm: EN 1092-1/1092-2                      Size: NW100                      Pressure Class:PN25/40</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">20090643</p>
	<p><b>Multi VS N Loose plate flange</b>                      Cataphoric coated loose plate flange                      Norm: EN 1092-1/1092-2                      Size: NW100                      Pressure Class: PN16                      Option: Loose plate flange cast SS1.4308</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">20101155</p>
	<p><b>Multi VS N Loose plate flange</b>                      Cataphoric coated loose plate flange                      Norm: EN 1092-1/1092-2                      Size: NW100                      Pressure Class: PN25/40                      Option: Loose plate flange cast SS1.4308</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">20120679</p>

WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

Hydraulic performance curve Multi VS85 - 50Hz - 2 pole

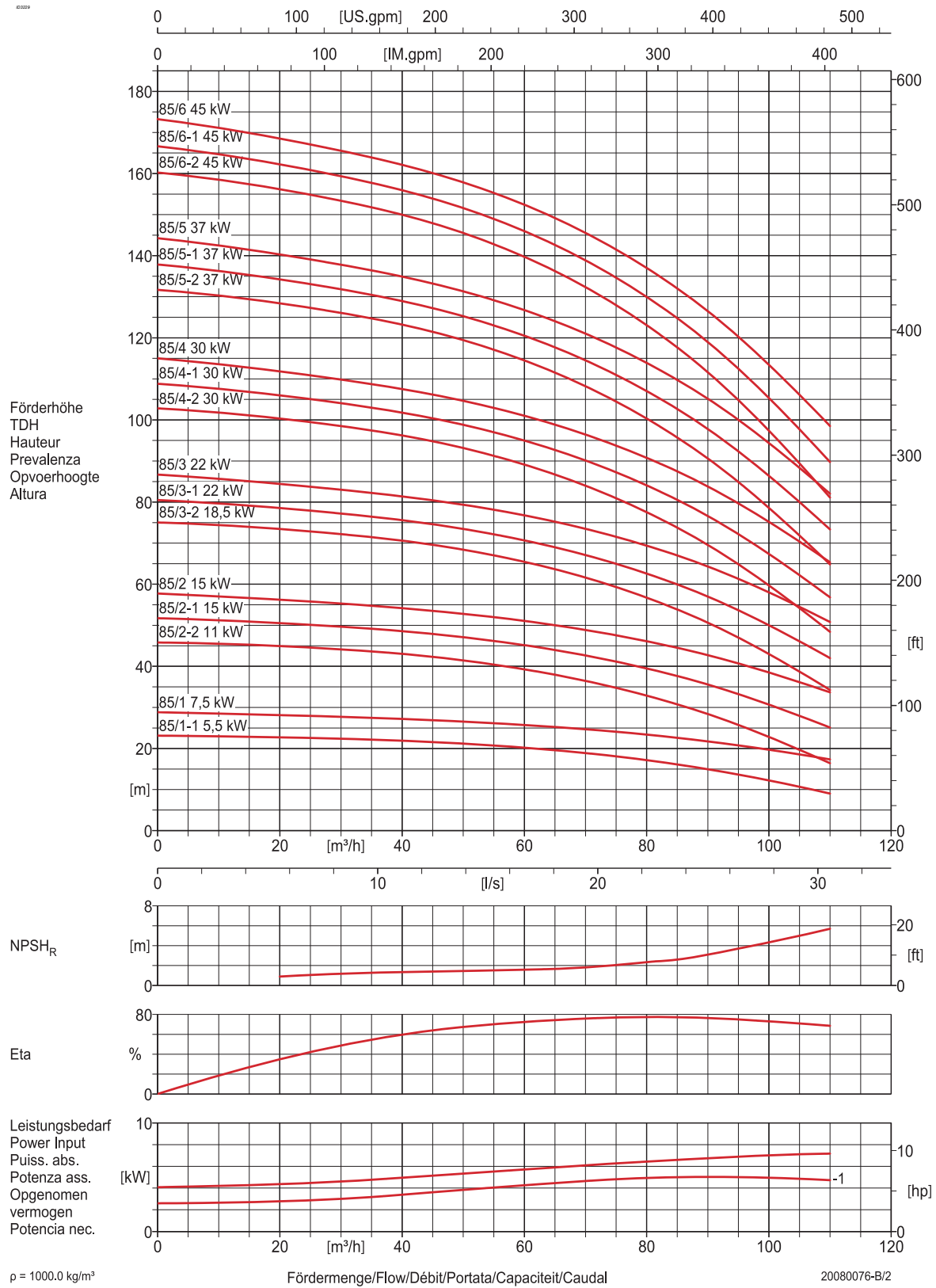


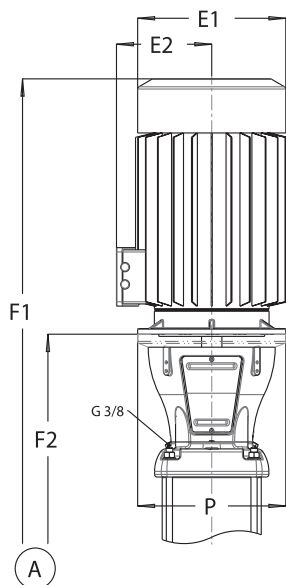
Figure 18: Performance curve Multi VS85 - 50Hz - 2 pole

20080076-B

**Dimensions: MULTI VS85 - 2 and 4 pole - DIN**

Table 33: coupled motor construction type; V1

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Model	pressure class	Power [kW]	Motor dimensions			Multi VS F-C-N		
			E1 [mm]	E2 [mm]	P [mm]	F1 [mm]	F2 [mm]	Mass [kg]
85/1-1	PN10	5,5	266	178	300	970	641	143
85/1		7,5	266	178	300	998	641	147
85/2-2		11	315	204	350	1282	780	234
85/2-1		15	315	204	350	1282	780	248
85/2		15	315	204	350	1282	780	248
85/3-2		18,5	315	204	350	1435	889	276
85/3-1		22	350	223	350	1484	889	312
85/3		22	350	223	350	1484	889	312
85/4-2	PN16	30	400	290	400	1648	998	406
85/4-1		30	400	290	400	1648	998	406
85/4		30	400	290	400	1648	998	406
85/5-2		37	400	290	400	1757	1107	438
85/5-1		37	400	290	400	1757	1107	438
85/5		37	400	290	400	1757	1107	438
85/6-2	PN25/40	45	466	335	450	1923	1216	574
85/6-1		45	466	335	450	1923	1216	575
85/6		45	466	335	450	1923	1216	575

All above mentioned dimensions in mm. weight in kg

WATER SUPPLY SURFACE HORIZONTAL & VERTICAL

## Seals

### Mechanical seal option specifications

Table 35: Seal code

Shaft seal Type	Material mechanical seal	Seal code	Material shaft seal	Material pump elastomer	Temperature range shaft seal [°C]	Max. pressure [bar]	Fixed	Easy Access	Cartridge
MG-G60	B Q1 E GG	11	Ca / SiC / EPDM	EPDM	-20 - 100	10	●	●	●
MG-G60	B Q1 V GG	12	Ca / SiC / FPM	FPM	-20 - 120	10	●	●	●
RMG-G606	Q1 B E GG	13	SiC / Ca / EPDM	EPDM WRAS / ACS	-20 - 100	25	●	●	●
RMG-G606	Q1 B V GG	14	SiC / Ca / FPM	FPM	-20 - 120	25	●	●	●
RMG-G606	U3 U3 X4 GG	15	TuC / TuC / HNBR	HNBR	-20 - 120 (140)	25 (16)	●	●	●
RMG-G606	U3 U3 V GG	16	TuC / TuC / FPM	FPM	-20 - 120 (140)	25 (16)	●	●	●
RMG-G606	U3 B E GG	18	TuC / Ca / EPDM	EPDM 559236	-20 - 120 (140)	25 (16)	●	●	●
H7N	Q1 A E GG	20	SiC / Ca / EPDM	EPDM 559236	-20 - 120 (140)	40 (25)			●
H7N	Q1 A V GG	21	SiC / Ca / FPM	FPM	-20 - 120 (140)	40 (25)			●
H7N	Q1 A X4 GG	22	SiC / Ca / HNBR	HNBR	-20 - 120 (140)	40 (25)			●
RMG-G606	Q1 B E GG	23	SiC / Ca / EPDM	EPDM	-20 - 100	25	●	●	●
MG-G606	Q1 Q1 V GG	24	SiC / SiC / FPM	FPM	-20 - 120	10	●	●	●
MG-G606	Q1 Q1 X4 GG	28	SiC / SiC / HNBR	HNBR	-20 - 120	10	●	●	●
MG-G606	Q1 Q1 E GG	29	SiC / SiC / EPDM	EPDM	-20 - 100	10	●	●	●



#### ATTENTION

Seal dimensions according to EN24960

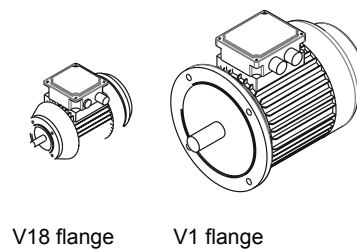
#### Seal material description

Seal part		Code	Description
Face material	synthetic carbon	A	Carbon graphite antimony impregnated
		B	Carbon graphite resin impregnated
	carbides	Q1	SiC, silicon carbide, sintered
		U3	Tungsten carbide, NiCrMo-binder
Elastomer		E	Ethylene propylene rubber (EPDM)
		V	Fluorcarbon rubber (FKM)
		X4	Hydrogenated Nitrile-rubber (HNBR)
Spring material		G	CrNiMo steel (1.4571)
Construction material		G	CrNiMo steel (1.4571)

# Motors and motor options

## General

The standard ESPA motors are produced conform the latest technical design, and comply with the international standards and EU directives regarding safety measures.



The motors can be specified as:

- Standard IE2  $\geq 0,75\text{kW}$ ,  $< 7,5\text{ kW}$
- T.E.F.C. (totally enclosed fan cooled) Squirrel cage.
- AC induction motor.
- Protection IP55.
- Insulation class F.
- Temperature rise class B.
- Duty class S1, maximum 20 starts per hour.
- Noise levels conform IEC 60034-9.
- $> 2,2\text{ kW}$  standard 3 x PTC.
- Standard Motors IE3  $\geq 7,5\text{ kW}$

The motors come in 3 different configurations.  
Mounting in acc. with IEC60034-7 and dimensions in acc. with IEC 60072-1

WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL

## Standard motor data

Table 36: Motor data 1 and 3 phase, 2p 50 Hz

Article number	Rated power output [kW]	Rated Voltage [V]	Rated current [A]	Starting current Ia/In	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3700000003	0,37	1x230	2,6	3,7	0,92	10%	2750	67	58	1xM18x1,5	20
3700000005	0,55	1x230	3,69	3,9	0,92	10%	2760	70	56	1xM18x1,5	20
3700000007	0,75	1x230	5,0	3,9	0,92	10%	2780	70	56	1xM20x1,5	20
3700000011	1,1	1x230	6,68	4,3	0,95	10%	2790	75	58	1xM20x1,5	20
3700000015	1,5	1x230	8,99	4,8	0,95	10%	2800	76	58	1xM20x1,5	20
3700000022	2,2	1x230	13,04	4,8	0,95	10%	2800	77	58	1xM20x1,5	20



Article number	Rated power output [kW]	Rated Voltage [V]	Rated current [A]	Starting current I <sub>st</sub> /I <sub>n</sub>	Cos Phi	Tolerance rated voltage	Rated speed [rpm]	Motor efficiency	Sound pressure [dB(A)]	Cable gland	Max. starts per hour
3710021003	0,37	230/400	1,6/0,95	4,5	0,76	10%	2865	76	60	1xM20x1,5	50
3710021005	0,55	230/400	2,1/1,2	5,3	0,8	10%	2880	82	60	1xM20x1,5	50
3710011007	0,75	230/400	3,1/1,8	6,0	0,77	10%	2865	80	60	1xM20x1,5	50
3710011011	1,1	230/400	4,2/2,4	6,8	0,79	10%	2870	81	60	1xM20x1,5	50
3710011015	1,5	230/400	5,7/3,3	7,6	0,81	10%	2900	81,8	56	1xM20x1,5	50
3710011022	2,2	230/400	8,2/4,7	7,3	0,81	10%	2870	83,5	56	1xM20x1,5	30
3710111030	3	230/400	10,2/6,2	8,3	0,83	10%	2900	84,6	58	2xM20x1,5	30
3710112030	3	400/690	6,2/3,7	8,3	0,83	10%	2900	84,6	58	2xM20x1,5	30
3710111040	4	230/400	13,4/7,7	8,5	0,87	10%	2915	86,3	59	2xM20x1,5	30
3710112040	4	400/690	7,7/4,5	8,5	0,87	10%	2915	86,3	59	2xM20x1,5	30
3710111055	5,5	230/400	17,5/10,1	8,8	0,9	10%	2930	87,5	64	2xM25x1,5	20
3710112055	5,5	400/690	10,1/5,9	8,8	0,9	10%	2930	87,5	64	2xM25x1,5	20
3710111075	7,5	230/400	22,9/13,2	8,5	0,92	10%	2920	88,6	64	2xM25x1,5	20
3710112075	7,5	400/690	13,2/7,7	8,5	0,92	10%	2920	88,6	64	2xM25x1,5	20
3710111110	11	230/400	36,5/21,0	7,8	0,84	10%	2950	90	71	2xM32x1,5	15
3710112110	11	400/690	21,0/12,2	7,8	0,84	10%	2950	90	71	2xM32x1,5	15
3710111150	15	230/400	49,0/28,2	7,6	0,85	10%	2945	90,3	70	2xM32x1,5	15
3710112150	15	400/690	28,2/16,3	7,6	0,85	10%	2945	90,3	70	2xM32x1,5	15
3710111185	18,5	230/400	58,5/33,6	9,3	0,87	10%	2950	91,3	73	2xM32x1,5	15
3710112185	18,5	400/690	33,6/16,5	9,3	0,87	10%	2950	91,3	73	2xM32x1,5	15
3710111220	22	230/400	68,7/39,5	7,5	0,88	10%	2945	91,3	75	2xM32x1,5	12
3710112220	22	400/690	39,5/22,4	7,5	0,88	10%	2945	91,3	75	2xM32x1,5	12
3700111300	30	230/400	89,7/51,8	7,5	0,91	10%	2955	92,9	80	2xM50x1,5	12
3700112300	30	400/690	51,8/29,9	7,5	0,91	10%	2955	92,9	80	2xM50x1,5	12
3700111370	37	230/400	110/63,5	7,5	0,91	10%	2957	93,3	80	2xM50x1,5	20
3700112370	37	400/690	63,5/36,7	7,5	0,91	10%	2950	93,3	80	2xM50x1,5	12

# Multi VS-ESD Surface vertical variable speed



## Pump with integrated inverter

The ESPA Speedrive (ESD) variable-frequency controller can be integrated with the following **ESPA** pumps: **MULTI-ESD**, **PRISMA-ESD** and **Multi VS-ESD**. Combining the pump with the ESD extends the hydraulic range for each model. This guarantees the most efficient operation at various duty points by working beyond the restrictions of a fixed speed pump curve.

The **ESD module can be adapted to the three-phase** motors of both new ESPA pumps and units **in existing installations**.

Using ESPA ESD improves the service quality of the system and extends the unit's life span.

A further advantage of ESD is that the large accumulation vessel used in fixed speed systems can be replaced by a far smaller unit.

The variable-speed system **delivers constant pressure in varying demand systems**.

### Applications

Water supply and pressure boosting for residential, commercial or services buildings.

Clean water transfer, water treatment, irrigation, etc.

### Materials

Hydraulic completely in stainless steel AISI 304 or AISI 316 (version N). Mechanical seal in silicon/carbon/EPDM.

### Motor

Voltage range for the ESPA inverter Speedrive

M2-M3:

Low voltage disconnect at 180 V, automatic reset at 195V

High voltage disconnect at 270V, automatic reset at 250V

T2-T3 T4:

Low voltage disconnect at 310 V, automatic reset at 335V

High voltage disconnect at 485V, automatic reset at 475V

### Equipment

Supplied with a standard pressure transducer 10, 16 or 25 bar.

Counter flanges (optional extra)



**ESPA**  
Eco-Efficient  
Engineering

ETP READY

WATER SUPPLY SURFACE  
HORIZONTAL & VERTICAL



## Hydraulic performance table

Model	I [A]		P1 [kW]	P2		ESD	1~230 V (model M)	3~400 V (model T)
	3~230 V	3~400 V	3~400 V	[kW]	[HP]		Code	Code
MULTI VS-ESD 4 05F	3.1	1.8	1	0.75	1	M2/T2	206803	206732
MULTI VS-ESD 4 07F	4.2	2.4	1.3	1.1	1.5	M2/T2	202181	202182
MULTI VS-ESD 4 10F	5.7	3.3	1.8	1.5	2	M2/T2	205502	205111
MULTI VS-ESD 4 14F	8.2	4.7	2.6	2.2	3	M3/T3	205259	205099
MULTI VS-ESD 4 20F	10.2	6.2	3.6	3	4	T3		205667

Model	I [A]		P1 [kW]	P2		ESD	1~230 V (model M)	3~400 V (model T)
	3~230 V	3~400 V	3~400 V	[kW]	[HP]		Code	Code
MULTI VS-ESD 6 03F	3.1	1.8	1	0.75	1	M2/T2	203112	203113
MULTI VS-ESD 6 05F	4.2	2.4	1.3	1.1	1.5	M2/T2	203480	203481
MULTI VS-ESD 6 07F	5.7	3.3	1.8	1.5	2	M2/T2	203999	203998
MULTI VS-ESD 6 10F	8.2	4.7	2.6	2.2	3	M3/T3	205260	203876
MULTI VS-ESD 6 14F	10.2	6.2	3.6	3	4	T3		203783
MULTI VS-ESD 6 18F	13.4	7.7	4.6	4	5.5	T4		203779
MULTI VS-ESD 6 22F	17.5	10.1	6.3	5.5	1.8	T4		203781

# Multi VS-ESD Surface vertical variable speed



## Hydraulic performance table

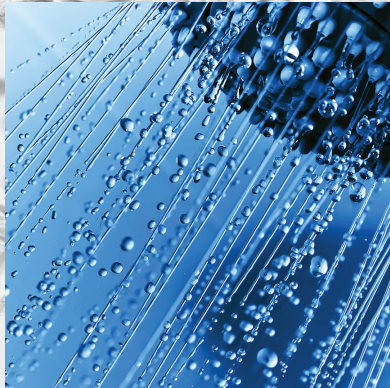
Model	I [A]		P1 [kW]	P2		ESD	1~230 V (model M)	3~400 V (model T)
	3~230 V	3~400 V	3~400 V	[kW]	[HP]		Code	Code
MULTI VS-ESD 10 03F	3.1	1.8	1	1.1	1.5	M2/T2	203196	203055
MULTI VS-ESD 10 04F	4.2	2.4	1.3	1.5	2	M2/T2	203198	203129
MULTI VS-ESD 10 06F	5.7	3.3	1.8	2.2	3	M3/T3	205261	205269
MULTI VS-ESD 10 08F	8.2	4.7	2.6	3	4	T3		203000
MULTI VS-ESD 10 09F	10.2	6.2	3.6	4	5.5	T4		203009
MULTI VS-ESD 10 11F	13.4	7.7	4.6	4	5.5	T4		202231
MULTI VS-ESD 10 15F	17.5	10.1	6.3	5.5	7.5	T4		202201

Model	I [A]		P1 [kW]	P2		ESD	1~230 V (model M)	3~400 V (model T)
	3~230 V	3~400 V	3~400 V	[kW]	[HP]		Code	Code
MULTI VS-ESD 15 02F	5.7	3.3	1.8	2.2	3	M3/T3	205262	202321
MULTI VS-ESD 15 03F	8.2	4.7	2.6	3	4	T3		202189
MULTI VS-ESD 15 04F	10.2	6.2	3.6	4	5.5	T4		204731
MULTI VS-ESD 15 06F	17.5	10.1	6.3	5.5	7.5	T4		205421

Model	I [A]		P1 [kW]	P2		ESD	1~230 V (model M)	3~400 V (model T)
	3~230 V	3~400 V	3~400 V	[kW]	[HP]		Code	Code
MULTI VS-ESD 25 01F	5.7	3.3	1.8	2.2	3	M3/T3	205263	213456
MULTI VS-ESD 25 02F	10.2	6.2	3.6	4	5.5	T4		205385
MULTI VS-ESD 25 03F	17.5	10.1	6.3	5.5	7.5	T4		202191

The background of the entire page is a high-speed photograph of water splashing, creating numerous bubbles and droplets. The water is clear and bright, with some areas appearing slightly blurred due to motion.

IN-LINE CIRCULATORS



# FLD, FLD4 In-line circulators



## Twin inline electric monobloc pumps in cast iron

### Applications

Water supply and pressure boosting, irrigation.  
Circulation of hot water and liquid refrigerants in air conditioning systems.

### Materials

Pump body, shield, lantern and cover in cast iron.  
Impeller: cast iron (stainless steel or bronze on request at extra cost). Shaft: AISI 420 stainless steel. Mechanical seal: silicone carbide / silicone carbide.

### Limitations

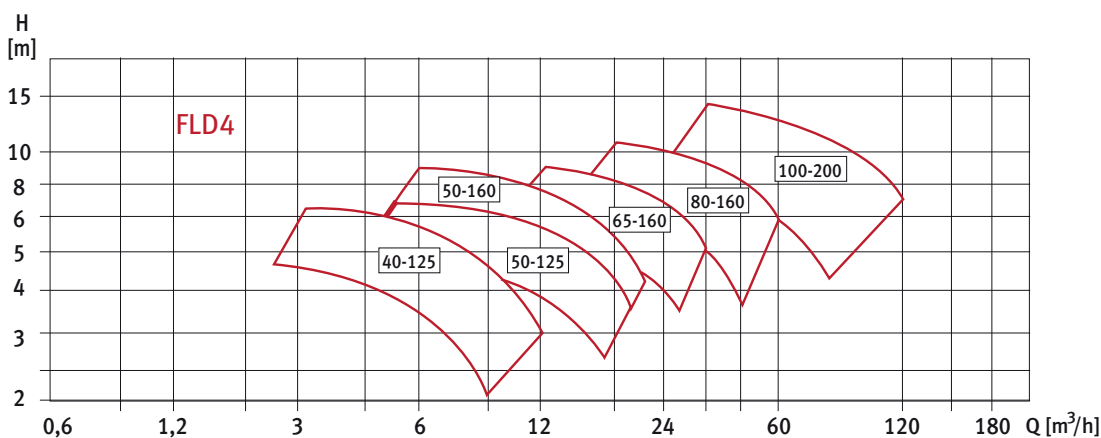
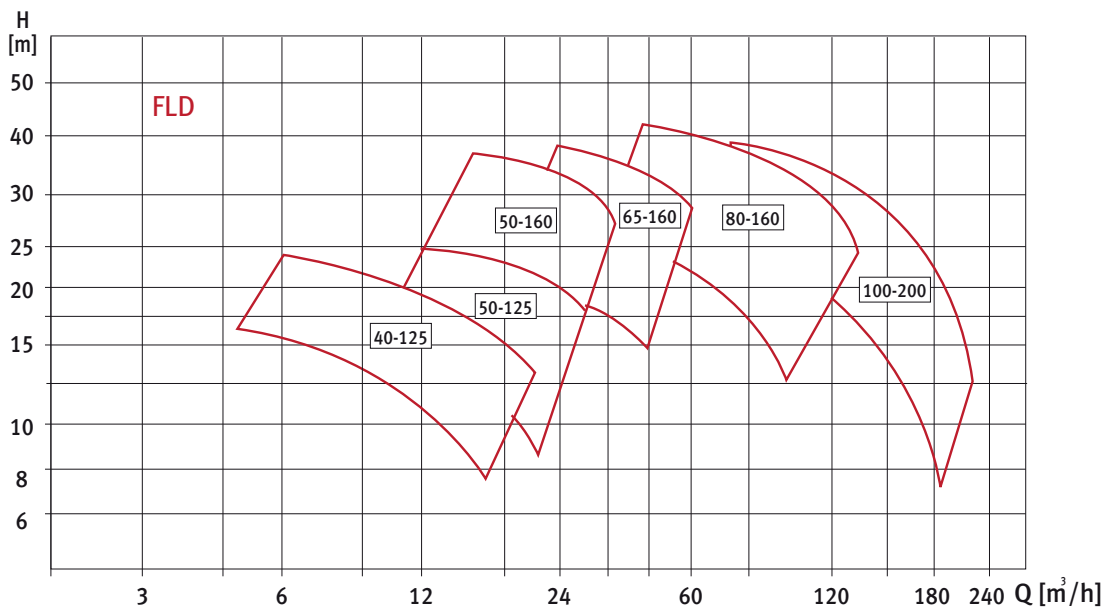
Maximum ambient temperature: +40° C.  
Temperature of pumped liquid: -10°C+130°C.  
Maximum operating pressure: 10 bar.  
Maximum liquid viscosity: 5 °E.

### Motor

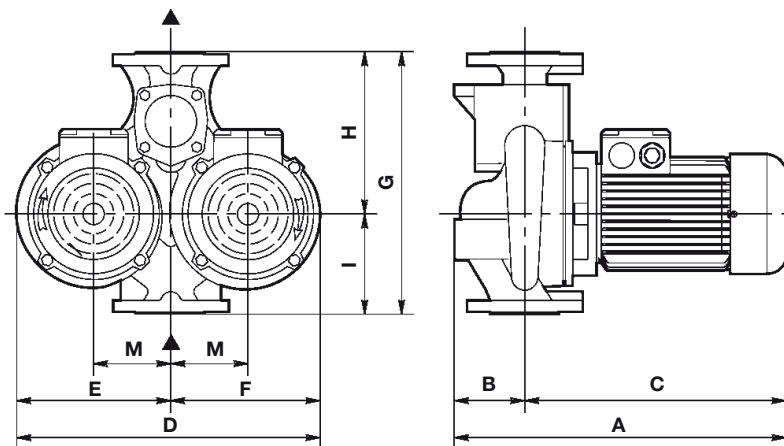
Three-phase asynchronous motor.  
Degree of protection IP55.  
Class F insulation.  
Standard voltage:  
230/400V 50Hz up to 4 kW,  
400/690V 50Hz for higher power.  
FLD: 2-pole motor (2900 rpm)  
FLD4: 4-pole motor (1450 rpm)  
Counter flanges available on request



### Hydraulic performance table



## Dimensions and weights



DN : Flange

DN	a1	b1	c1	d1	e1
40	88	110	150	4	18
50	102	125	165	4	18
65	122	145	185	4	18
80	138	160	200	8	18
100	158	180	220	8	18

Model	DNm DNa	A	B	C	D	E	F	G	H	I	M	Kg
FLD 40x125D	40	425	100	325	397	200	197	340	130	210	100	50
FLD 40x125C	40	425	100	325	397	200	197	340	130	210	100	50
FLD 40x125B	40	445	100	345	397	200	197	340	130	210	100	52
FLD 40x125A	40	445	100	345	397	200	197	340	130	210	100	54
FLD 50x125C	50	455	110	345	427	217	210	365	145	220	105	56
FLD 50x125B	50	455	110	345	427	217	210	365	145	220	105	58
FLD 50x125A	50	495	110	385	427	217	210	365	145	220	105	66
FLD 50x160B	50	535	110	425	480	245	235	410	170	240	120	86
FLD 50x160A	50	455	110	345	427	217	210	365	145	220	105	56
FLD 65x160D	65	485	130	345	543	275	268	450	180	270	140	81
FLD 65x160C	65	565	130	435	543	275	268	450	180	270	140	101
FLD 65x160B	65	670	130	540	543	275	268	450	180	270	140	125
FLD 65x160A	65	495	110	385	480	245	235	410	170	240	120	67
FLD 80x160D	80	690	150	540	550	280	270	510	205	305	135	141
FLD 80x160C	80	690	150	540	550	280	270	510	205	305	135	162
FLD 80x160B	80	690	150	540	550	280	270	510	205	305	135	175
FLD 80x160A	80	565	130	435	543	275	268	450	180	270	140	110
FLD 100x200F	100	720	180	540	670	325	345	630	240	390	165	162
FLD 100x200E	100	720	180	540	670	325	345	630	240	390	165	162
FLD 100x200D	100	720	180	540	670	325	345	630	240	390	165	162
FLD 100x200C	100	720	180	540	670	325	345	630	240	390	165	162
FLD 100x200B	100	720	180	540	670	325	345	630	240	390	165	162
FLD 100x200A	100	720	180	540	670	325	345	630	240	390	165	162

IN-LINE CIRCULATORS

Single operation hydraulic performance table

FLD 40, FLD 50, FLD 65

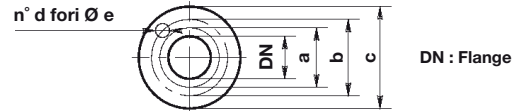
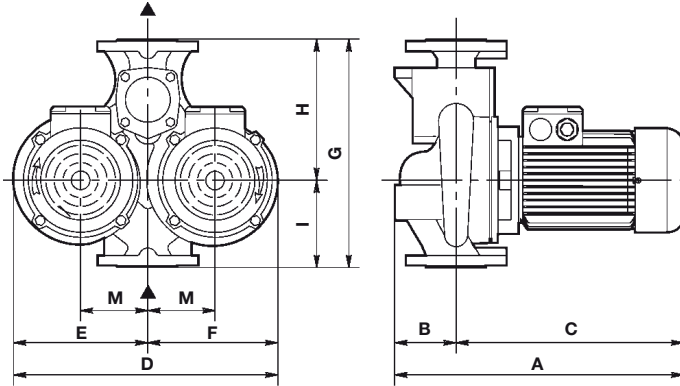
Model	giri min.	P2		I (A)	l/min m <sup>3</sup> /h	0	100	150	200	225	250	300	350	400	450	500	600	700	800	900	1000	
		Hp	Kw	3~400 V		0	6	9	12	13,5	15	18	21	24	27	30	36	42	48	54	60	
						mwc																
FLD 40x125D	2900	1	0,75	1,7	mwc	25	12,5	10,5	8,1	6,8	5,2											
FLD 40x125C	2900	1	0,75	1,7		17	16,5	14,5	12,3	11	9,5	6										
FLD 40x125B	2900	1,5	1,1	2,5		21,5	20,5	19	17	16	15	11,5	7,5									
FLD 40x125A	2900	2	1,5	3,4		25	24,5	23,5	22	21	20	16,5	13									
FLD 50x125C	2900	2	1,5	3,4		16,8					15,5	15	14,1	13	11,8	10,5	7					
FLD 50x125B	2900	3	2,2	4,4		20					19	18,5	17,6	16,6	15,5	14,2	10,5					
FLD 50x125A	2900	4	3	5,9		25					24,5	24	23,5	23	22	20,5	17					
FLD 50x160B	2900	4	3	5,9		31					30	29	28	26,5	25	23	18					
FLD 50x160A	2900	5,5	4	7,8		38					36,5	35,6	34,6	33,5	32,3	30,7	26,5					
FLD 65x160D	2900	4	3	5,9		24							23	22,5	22	21,5	19,8	17,5	15			
FLD 65x160C	2900	5,5	4	7,8		27,5								26,5	26	25,5	24,3	22,6	20,2	18		
FLD 65x160B	2900	7,5	5,5	10,4		33									32,5	32	31,5	30,5	29,5	28	26	23,5
FLD 65x160A	2900	10	7,5	14,2		37									37	36,5	36	35	34	32,5	31	29

FLD 80, FLD 100

Model	giri min.	P2		I (A)	l/min m <sup>3</sup> /h	0	700	800	900	1000	1250	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	
		Hp	Kw	3~400 V		0	42	48	54	60	75	90	105	120	135	150	165	180	195	210	225	240	
						mwc																	
FLD 80x160D	2900	10	7,5	14,2	mwc	26,1	25,3	24,9	24,1	23,4	20,5	17	12,7										
FLD 80x160C	2900	15	11	19,8		31	30,5	30	29,5	28,9	26,8	24	20,5	16									
FLD 80x160B	2900	20	15	27		37	36,5	36	35,3	34,5	32,5	30	27	23	19								
FLD 80x160A	2900	20	15	27		42	41	40,5	40	39,5	37,7	35,5	32,5	28,8	24								
FLD 100x200F	2900	20	15	27		34				33	32,2	30,7	29	26,8	24,5	22	19						
FLD 100x200E	2900	20	15	27		39					37,5	36,5	35	33	31	28,5	26						
FLD 100x200D	2900	15	11	19,8		25,3				24,5	23,5	22	20,5	18,5	16	13,5	10,5	7	3				
FLD 100x200C	2900	20	15	27		28				27,5	26,5	25,5	24	22	20	17,5	15	12	8,6	5			
FLD 100x200B	2900	20	15	27		29					28	27	25,5	23,5	21,5	19	16,5	13,8	10,8	7,5	3		
FLD 100x200A	2900	20	15	27		31						29	27,7	26	24,3	22	19,6	17,2	14,3	11,3	7,5	3,5	



## Dimensions and weights



DN	a1	b1	c1	d1	e1
40	88	110	150	4	18
50	102	125	165	4	18
65	122	145	185	4	18
80	138	160	200	8	18
100	158	180	220	8	18

Model	DNm DNa	A	B	C	D	E	F	G	H	I	M	Kg
FLD4 40x125Z	40	425	100	325	397	200	197	340	130	210	100	41
FLD4 40x125Y	40	425	100	325	397	200	197	340	130	210	100	41
FLD4 40x125X	40	425	100	325	397	200	197	340	130	210	100	41
FLD4 50x125Y	50	435	110	325	427	217	210	365	145	220	105	44
FLD4 50x125X	50	435	110	325	427	217	210	365	145	220	105	46
FLD4 50x160X	50	435	110	325	480	245	235	410	170	240	120	52
FLD4 65x160Z	65	475	130	345	543	275	268	450	180	270	140	65
FLD4 65x160Y	65	475	130	345	543	275	268	450	180	270	140	65
FLD4 65x160X	65	475	130	345	543	275	268	450	180	270	140	67

Model	DNm DNa	A	B	C	D	E	F	G	H	I	M	Kg
FLD4 80x160W	80	485	150	335	550	280	270	510	205	305	135	72
FLD4 80x160Z	80	485	150	335	550	280	270	510	205	305	135	74
FLD4 80x160Y	80	535	150	335	550	280	270	510	205	305	135	79
FLD4 80x160X	80	535	150	335	550	280	270	510	205	305	135	83
FLD4 100x200W	100	535	180	355	670	325	345	630	240	390	165	110
FLD4 100x200Z	100	605	180	425	670	325	345	630	240	390	165	130
FLD4 100x200Y	100	605	180	425	670	325	345	630	240	390	165	138
FLD4 100x200X	100	615	180	425	670	325	345	630	240	390	165	150

## Single operation hydraulic performance table

Model	giri min.	P2		I (A)	l/min m <sup>3</sup> /h	0	40	50	75	100	125	150	175	200	225	250	300	350	400	450	500	600		
		Hp	Kw	3~400 V		0	2,4	3	4,5	6	7,5	9	10,5	12	13,5	15	18	21	24	27	30	36		
FLD4 40x125Z	1450	0,33	0,25	1,4	mwc	4	3,7	3,6	3,15	2,6	1,9													
FLD4 40x125Y	1450	0,33	0,25	1,4		6,2	4,6	4,5	4,1	3,6	3	2,2												
FLD4 40x125X	1450	0,33	0,25	1,4		6,3		6,2	6,05	5,7	5,2	4,6	3,9	3										
FLD4 50x125Y	1450	0,33	0,25	1,4		4,8				4,6	4,5	4,3	4,1	3,9	3,6	3,3	2,4							
FLD4 50x125X	1450	0,5	0,37	2,2		6,4				6,3	6,2	6,1	6	5,8	5,5	5,2	4,4	3						
FLD4 50x160X	1450	0,75	0,55	2,7		9,2				8,8	8,6	8,3	8	7,7	7,3	6,9	5,9	4,5						
FLD4 65x160Z	1450	0,75	0,55	1,8		6,8								6,6	6,5	6,4	6,1	5,7	5,1	4,3	3,3			
FLD4 65x160Y	1450	1	0,75	1,8		8,3								8,1	8	7,9	7,7	7,4	7	6,5	5,8	4		
FLD4 65x160X	1450	1,5	1,1	2,5		9,1								9	8,9	8,8	8,6	8,4	8,1	7,7	7,1	5,5		
Model	giri min.	P2		I (A)		l/min m <sup>3</sup> /h	0	300	350	400	450	500	600	700	800	900	1000	1100	1200	1300	1500	1750	2000	
		Hp	Kw	3~400 V	0		18	21	24	27	30	36	42	48	54	60	66	72	78	90	105	120		
FLD4 80x160W	1450	1	0,75	1,8	mwc	6,4	6,3	6,2	6,1	5,9	5,6	4,9	4,1	3,2										
FLD4 80x160Z	1450	1,5	1,1	2,5		7,3	7,3	7,2	7,1	7	6,8	6,3	5,6	4,8	3,9									
FLD4 80x160Y	1450	1,5	1,1	2,5		8,6	8,6	8,5	8,4	8,3	8,2	7,9	7,4	6,8	6	5								
FLD4 80x160X	1450	2	1,5	3,4		10,3	10,2	10,1	10	9,9	9,8	9,45	9	8,4	7,5	6,5								
FLD4 100x200W	1450	2	1,5	3,4		8,5					8,1	7,8	7,4	7	6,5	6	5,3	4,6	3,8					
FLD4 100x200Z	1450	3	2,2	5,1		10,4						10	9,7	9,3	8,9	8,5	8	7,5	7	6				
FLD4 100x200Y	1450	4	3	6,5		12,8						12	11,8	11,6	11,3	10,9	10,5	10	9,5	8,5	7			
FLD4 100x200X	1450	5,5	4	8,5		15						14,4	14,2	14	13,8	13,5	13,1	12,7	12,2	11	9	6,5		

IN-LINE CIRCULATORS









POOL & WELLNESS



# Silen I Swimming Pool



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

### Applications

Recirculation 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 431.**

**Special mechanical seal in AISI 316.**

Motor housing in aluminium.

O-rings in NBR.

**Bearings up to 160 °C**

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Single-phase version with built-in thermal protection.

**10.000 hours P2 capacitor with aluminium casing.**

### Equipment

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



**NEW DESIGN**  
**NEW MATERIALS**  
**ULTRA-SILENT**  
**SELF-PRIMING 4m**  
**EXTENDED WARRANTY**

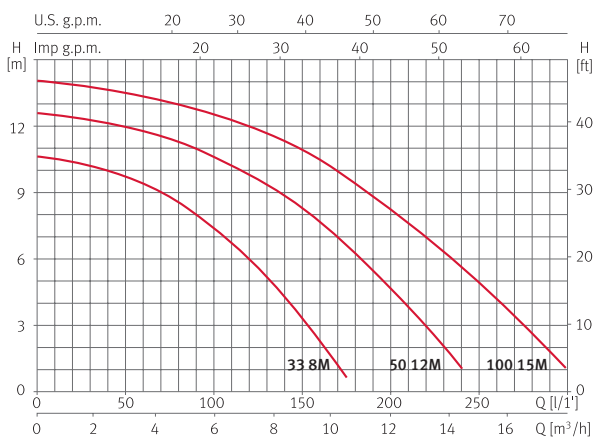


### Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c	* Pool volume [m <sup>3</sup> ]	l/min	25	50	75	100	150	200	250	290	1~230 V (model M)
	1~230 V	1~230 V	[kW]	[HP]	[μF]			m <sup>3</sup> /h	1.5	3.0	4.5	6.0	9.0	12	15	17.4
SILEN I 33 8M	2	0.45	0.25	0.33	12	65	mwc	10.2	9.7	8.6	7.2	3.2				203144
SILEN I 50 12M	2.8	0.65	0.37	0.5	12	75		12.3	11.9	11.3	10.5	8.1	4.6			203145
SILEN I 100 15M	3.8	0.85	0.75	1	12	85		13.8	13.3	13	12.5	10.8	8.1	4.8	1.8	203146

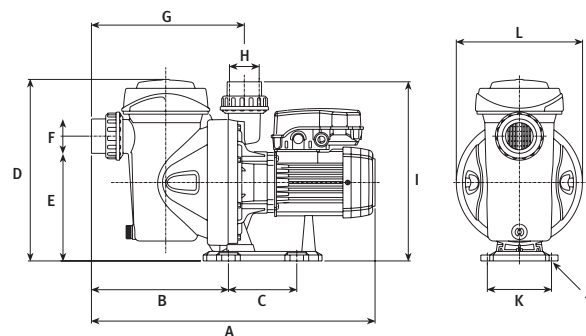
(\*) Swimming pool volume (m<sup>3</sup>): Considering water circulation of 8 hours/day.

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	Kg
SILEN I 33 8M	438.5	191.5	115	304	210	2 1/4"	221	2 1/4"	264	Ø9	108	Ø212	8.9
SILEN I 50 12M	438.5	191.5	115	304	210	2 1/4"	221	2 1/4"	264	Ø9	108	Ø212	10.2
SILEN I 100 15M	438.5	191.5	115	304	210	2 1/4"	221	2 1/4"	264	Ø9	108	Ø212	10.9



\*Service kits are available on request

# Silen S Swimming Pool



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

### Applications

Recirculation 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 431.**

**Special mechanical seal in AISI 316.**

Motor housing in aluminium.

O-rings in NBR.

**Bearings up to 160 °C.**

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Single-phase version with built-in thermal protection.

**10.000 hours P2 capacitor with aluminium casing.**

### Equipment

Supplied with suction (metric 63 / 50 mm or Imperial 2" / 1 1/2") and discharge unions (metric 50 mm or Imperial 1 1/2").

**NEW DESIGN**

**NEW MATERIALS**

**ULTRA-SILENT**

**SELF-PRIMING 4m**

**EXTENDED WARRANTY**

**IMPROVED HYDRAULICS**



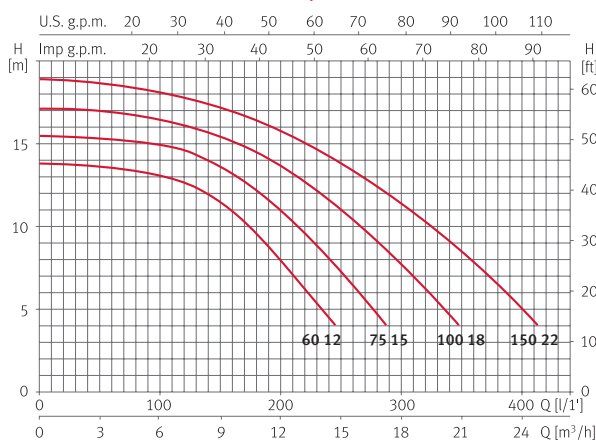
POOL & WELLNESS

### Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c	* Pool volume [m <sup>3</sup> ]	l/min	40	80	120	160	215	265	325	400	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]				[μF]	m <sup>3</sup> /h	2.4	4.8	7.2	9.6	12.9	15.9	19.5	24
SILEN S 60 12	3.7	2.4	1.4	0.8	0.8	0.44	0.6	16	90	mwc	13.6	13.2	12.6	10.9	6.7				203147	203151
SILEN S 75 15	5.5	3.3	1.9	1.2	1.0	0.55	0.75	16	110		15.2	15	14.3	13.1	9.9	6			203148	203152
SILEN S 100 18	6.0	3.8	2.2	1.4	1.2	0.75	1.0	16	125		16.9	16.5	16	15	12.9	10	5.9		203149	203153
SILEN S 150 22	7.1	4.8	2.8	1.6	1.6	1.1	1.5	25	150		18.6	18.2	17.7	16.9	15.1	13	10	5.1	203150	203154

(\*) Swimming pool volume (m<sup>3</sup>): Considering water circulation of 8 hours/day.

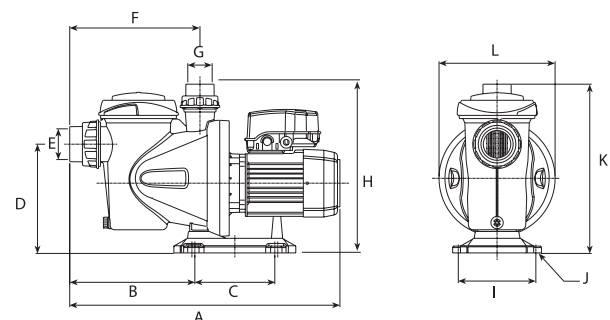
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	Kg
SILEN S 60 12	495	211	170	225	2 3/4"	225	2 1/4"	308	159	Ø9	319	238	8.9
SILEN S 75 15	495	211	170	225	2 3/4"	225	2 1/4"	308	159	Ø9	319	238	10.2
SILEN S 100 18	495	211	170	225	2 3/4"	225	2 1/4"	308	159	Ø9	319	238	10.9
SILEN S 150 22	495	211	170	225	2 3/4"	225	2 1/4"	308	159	Ø9	319	238	13.5



# Silen S2 Swimming Pool



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

### Applications

Recirculation and filtering of large pools.

### Materials

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

**Motor shaft in stainless steel AISI 431.**

**Special mechanical seal in AISI 316.**

Motor housing in aluminium.

O-rings in NBR.

**Bearings up to 160 °C.**

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

Single-phase version built-in thermal protection.

**10.000 hours P2 capacitor with aluminium casing.**

### Equipment

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

**NEW DESIGN**  
**NEW MATERIALS**  
**ULTRA-SILENT**  
**SELF-PRIMING 4m**  
**EXTENDED WARRANTY**

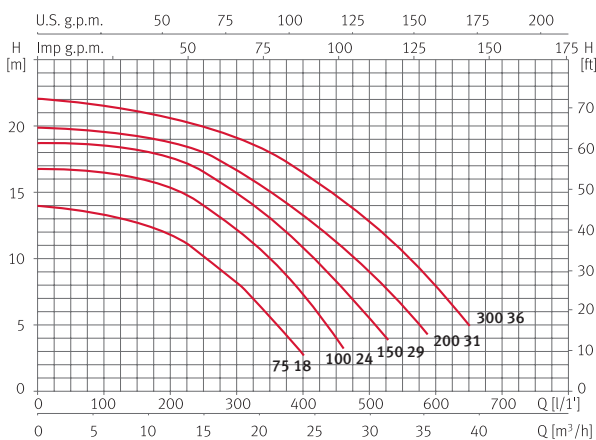


### Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c	* Pool volume [m³]	l/min m³/h	100	150	250	350	450	500	550	650	1~230 V (model M)	3~400 V (model T)
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]				[μF]	6.0	9.0	15	21	27	30	33	39	Code
SILEN S2 75 18	4.5	3.8	2.2	1.0	1.0	0.55	0.75	25	110	mwc	13.2	12.8	10	5.5					203155	203160
SILEN S2 100 24	7	4.8	2.8	1.5	1.6	0.92	1.25	25	150		16.5	16	14.2	10	4				203156	203161
SILEN S2 150 29	8.5	5.3	3.1	1.9	1.9	1.1	1.5	25	180		18.5	18.2	16.5	13	8.2	5.5			203157	203162
SILEN S2 200 31	9.7	6.5	3.8	2.2	2.2	1.5	2.0	30	200		19.5	19.1	18	15	11.1	9	6.3		203158	203163
SILEN S2 300 36	12.5	8.6	5	2.8	2.6	2.2	3.0	60	240		21.5	21	19.9	18	14.9	12.9	10.3	5	203159	203164

(\* Swimming pool volume (m³): Considering water circulation of 8 hours/day.

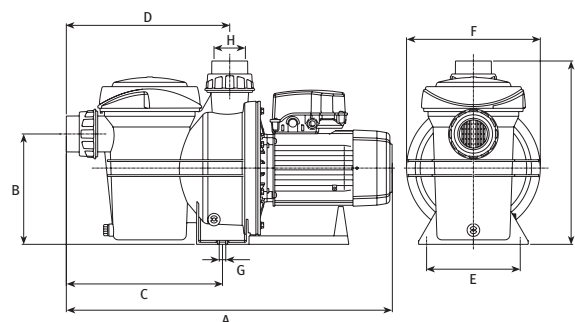
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	Kg
SILEN S2 75 18	623.5	222	272	285	188	268	Ø13	2 3/4"	326.5	14
SILEN S2 100 24	623.5	222	272	285	188	268	Ø13	2 3/4"	326.5	15
SILEN S2 150 29	623.5	222	272	285	188	268	Ø13	2 3/4"	326.5	18
SILEN S2 200 31	623.5	222	272	285	188	268	Ø13	2 3/4"	326.5	21
SILEN S2 300 36	623.5	222	272	285	188	268	Ø13	2 3/4"	326.5	23





# Silen Plus Swimming Pool



Quiet-running single stage centrifugal pump with frequency driver

### Applications

Recirculation and filtering of water from swimming pools.  
Quiet-running.

### Materials

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

**Motor shaft in stainless steel AISI 431.**

**Special mechanical seal in AISI 316.**

Mechanical seal in graphite and alumine.

Motor housing in aluminium.

O-rings in NBR.

**Bearings up to 160 °C.**

### Motor

Asynchronous, two poles.

IP 55 protection.

Class F insulation.

Continuous operation.

### Equipment

Supplied with suction and discharge unions.

### evopool®

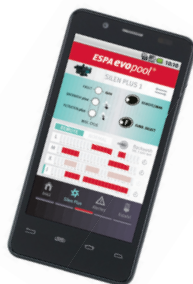
The Silen Plus includes a frequency inverter with a major innovation in its operation to adapt it for usage in pools: the speed variation in the swimming pool working cycles.

Silen Plus includes an ESPA pool pump and a frequency inverter with a major innovation in its operation to adapt it for usage in pools.

### evopool® Control System

The ESPA **evopool®** control system detects the position of the selector valve and transmits it to the pump to automatically activate or deactivate the operation cycle depending on the position.

**NEW DESIGN**  
**NEW MATERIALS**  
**ULTRA-SILENT**  
**SELF-PRIMING 4m**  
**EXTENDED WARRANTY**



Silen Plus 1M



Silen Plus 3M

POOL & WELLNESS

## Electric features

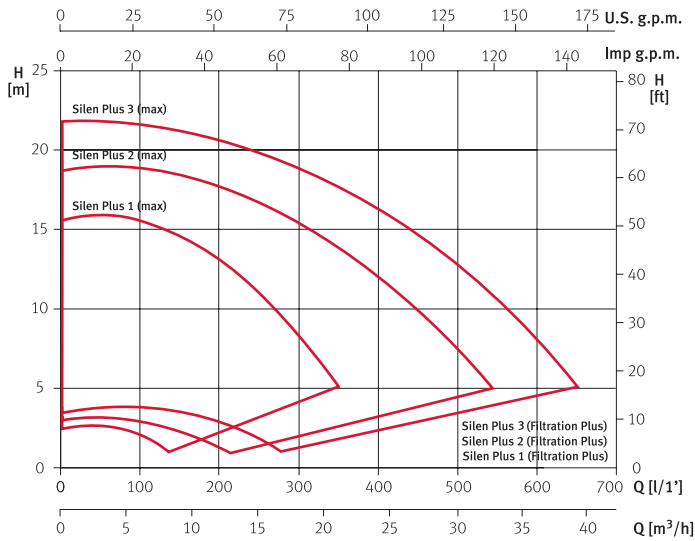
Model	Working cycle <b>evopool®</b>	Current [A]	Input power P1 [kW]	Motor power P2		1~230 V (model M)
		1~ 230 V	1~	[kW]	[HP]	Code
Silen Plus 1M	Max	3.9	1.2	0.75	1.0	199398
	Filtration Plus	0.25	0.07			
Silen Plus 2M	Max	6.5	2.2	1.5	2.0	199399
	Filtration Plus	0.42	0.14			
Silen Plus 3M	Max	16.0	2.7	2.2	3.0	200519
	Filtration Plus	1.6	0.22			

\*Service kits are available on request

# Silen Plus Swimming Pool



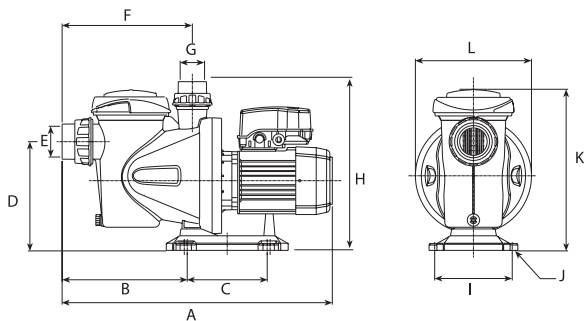
## Performance curves



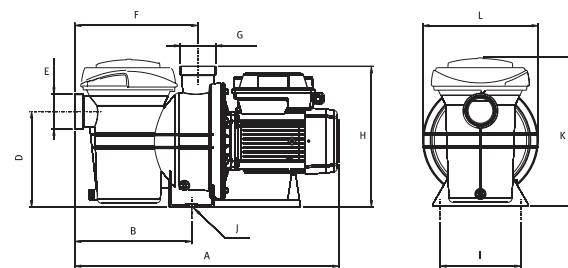
## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	L	Kg
Silen Plus 1M	495	211	170	225	2 1/4"	225	2 1/4"	308	159	Ø9	319	238	11.9
Silen Plus 2M	623.5	272	-	222	2 3/4"	285	2 3/4"	326	188	Ø13	334	268	21.9
Silen Plus 3M	623.5	272	-	222	2 3/4"	285	2 3/4"	326	188	-	368	268	23.9

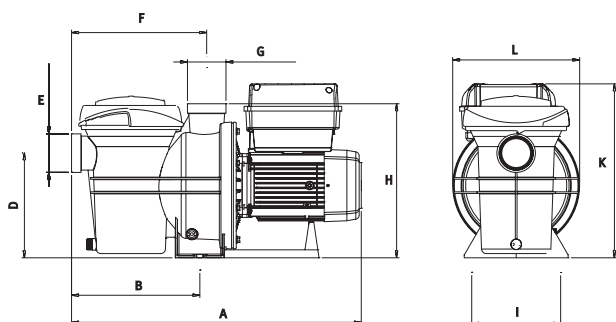
Silen Plus 1M



Silen Plus 2M



Silen Plus 3M



\*Service kits are available on request

## Quiet-running horizontal single-stage centrifugal pumps

### Applications

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

### Materials

Pump body, impellers and diffusers in technopolymer.  
 Motor shaft in stainless steel AISI 431.  
 Mechanical seal in graphite and alumine.  
 Motor housing in aluminium.  
 Windings impregnated with polyester resin.

### 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.

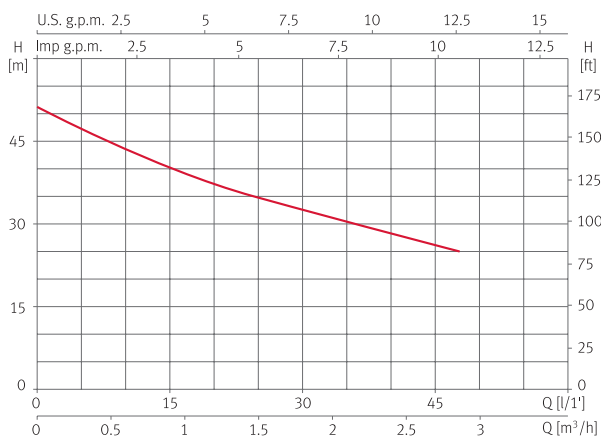


POOL & WELLNESS

### Hydraulic performance table

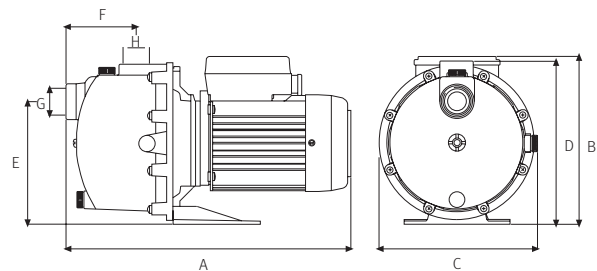
Model	I [A]			P1 [kW]		P2		c	l/min m³/h	5	10	15	20	25	30	40	45	1~230 V (model M)	3~400 V (model T)	
	1~230 V	3~		1~230 V	3~400 V	[kW]	[HP]											[µF]	Code	Code
		230 V	400 V																	
Pool	5	3.3	1.9	1.1	1.0	0.97	1.0	16	<b>mwc</b>	47	43	40	37	35	33	28	26	146048	146054	

### Performance curves at 2900 rpm



### 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



\*Service kits are available on request



## 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 431.**

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.

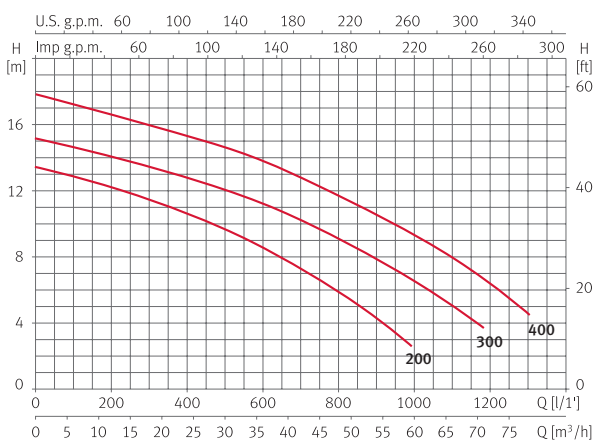
**10.000 hours P2 capacitor with aluminium casing.**



### Hydraulic performance table

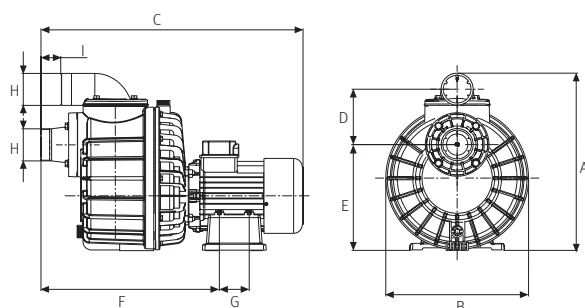
Model	I [A]			P1 [kW]		P2		c	l/min m³/h	100	200	400	600	800	1000	1200	1300	1~230 V	3~400 V	
	1~230 V	3~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]											[µF]	(model M)	(model T)
																		Code	Code	
Nadorself 200	10.2	6.7	4	2.2	2.2	1.5	2	40	mwc	12.9	12.2	10.6	8.5	6				96985	96984	
Nadorself 300	13.4	8.6	5	3	3	2.3	3	60		14.6	14	12.8	11.3	9	6.5			203166	203168	
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		203169	

### Performance curves at 2900 rpm



### 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 1/2"	46.5	25.1/23.1
Nadorself 300	416	335	615	130	248.5	418.5	70	2 1/2"	46.5	26.1/25.8
Nadorself 400	416	335	615	130	248.5	418.5	70	2 1/2"	46.5	28



\*Service kits are available on request

## 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 431.

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.  
**10.000 hours P2 capacitor with aluminium casing.**

### Equipment

**Wiper 0:** 2<sup>1/4</sup> inlet and outlet ports.  
Complete with suction and discharge unions (metric 50 mm).

**Wiper 3:** 2<sup>3/4</sup> inlet and outlet ports.  
Complete with suction and discharge unions (metric 63 mm).



Wiper 0



Wiper 3

POOL & WELLNESS

### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [μF]	l/min m³/h	25	50	100	150	200	250	300	350	1~230 V (model M)
	1~230 V	1~230 V	[kW]	[HP]	[kW]	[HP]			Code								
Wiper0 50	2.3	0.5	0.24	0.33	12	mwc	10	9.4	7.9	6.0	3.6	1					97841
Wiper0 70	2.9	0.64	0.37	0.5	12		11	10.6	9.7	8.5	6.6	4.5	2.2				97844
Wiper0 90	3.74	0.85	0.74	1.0	12		11.7	11.3	10.5	9.6	8.4	6.7	4.6	2.2			99497

### 1 x 230 V Single-phase

Model	I [A]		P1 [kW]		P2		c [μF]	l/min m³/h	50	100	200	300	400	500	600	900	1~230 V (model M)
	1~230 V	1~230 V	[kW]	[HP]	[kW]	[HP]			Code								
Wiper3 150	6.4	1.4	1.1	1.5	25	mwc	13.3	13	12.1	10.8	8.2	5					97851
Wiper3 200	8.8	2	1.5	2	40		14.8	14.5	13.9	12.9	11.1	9.1	6.8				99501
Wiper3 300	11	2.5	2	3	60		14.8	14.5	14.1	13.5	12.8	11.9	10.7	4.7			129316

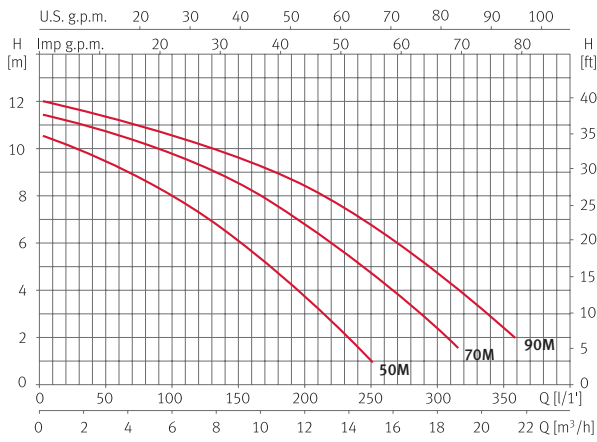
Model	I [A]		P1 [kW]		P2		c [μF]	l/min m³/h	50	100	200	300	400	500	600	900	1~230 V (model M)
	1~230 V	1~230 V	[kW]	[HP]	[kW]	[HP]			Code								
Wiper3 150M 2P4P	2P	6.4	1.4	1.1	1.5	25	mwc	14.0	13.3	13.0	12.1	10.8	8.2	5.0			97854
	4P	1.4	0.35	0.18	0.25	16		3.0	2.9	2.8	2.0						
Wiper3 200M 2P4P	2P	8.8	2.0	1.5	2	40		15.0	14.8	14.5	13.9	12.9	11.1	9.1	6.8		129317
	4P	1.7	0.4	0.18	0.25	16		3.0	2.9	2.8	2.6	1.5					

### 3 x 230/400 V Three-phase

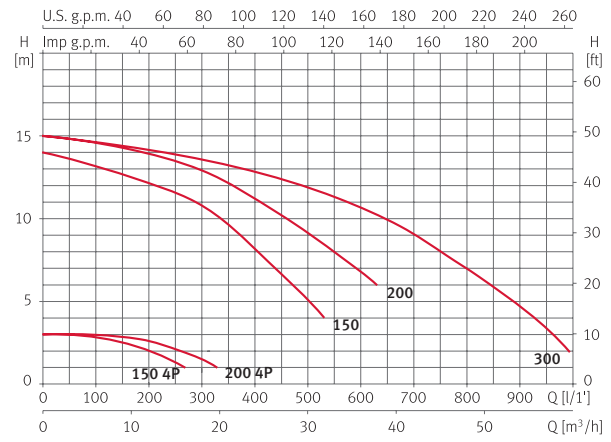
Model	I [A]		P1 [kW]		P2		l/min m³/h	50	100	200	300	400	500	600	900	3~400 V (model T)	
	3~230 V	3~400 V	3~	[kW]	[HP]	Code											
Wiper3 150	5	2.9	1.1	1.1	1.5	mwc	13.3	13	12.1	10.8	8.2	5				203176	
Wiper3 200	6.6	3.8	1.8	1.5	2		14.8	14.5	13.9	12.9	11.1	9.1	6.8				203177
Wiper3 300	7.1	4.1	2.4	2	3		14.8	14.5	14.1	13.5	12.8	11.9	10.7	4.7			203178

## Performance curves at 2900 rpm

### Wiper0



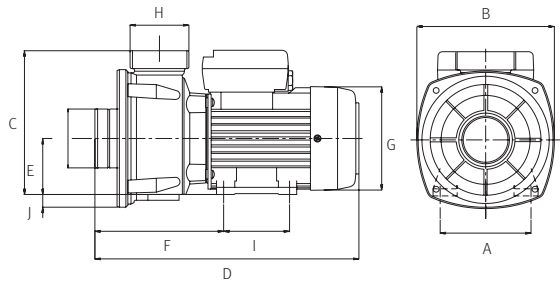
### Wiper3



## Dimensions and weights

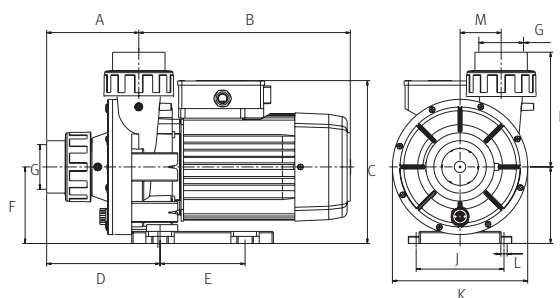
### Wiper0

Model	A	B	C	D	E	F	G	H	I	J	Kg
Wiper0 50	102	154.5	162	295.5	63	144.5	116	2 1/4"	74	15	5.7
Wiper0 70	102	154.5	162	295.5	63	144.5	116	2 1/4"	74	15	6
Wiper0 90	102	154.5	162	295.5	63	144.5	116	2 1/4"	74	15	6.8



### Wiper3

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

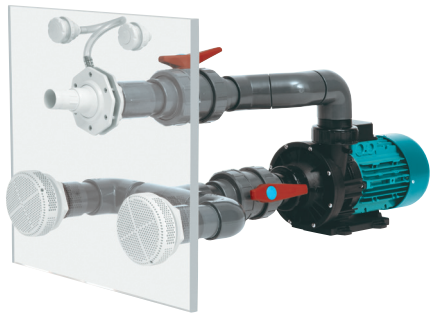


\*Service kits are available on request

# Accessories Wiper/Nadorself Swimming Pool



## Wiper3



Suction for Kit NCB in lined pool	Code
Kit NCB AL	130634



We recommend 2 units per kit. See regulations for country in question  
Ø63 mm connection.

Suction for Kit NCB in concrete pool	Code
Kit NCB AH	130633



We recommend 2 units per kit. See regulations for country in question  
Ø63 mm connection.

Jet Kit (lined/concrete)	Code
Kit NCB	130632

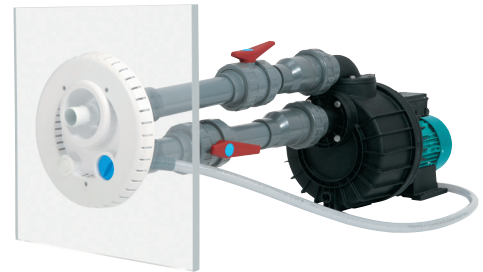


Hose kit	Code
Kit NC M	104153

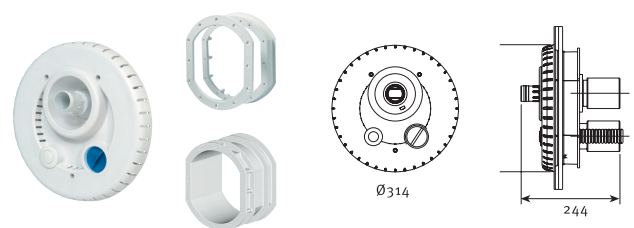


Flexible hose 1.5 m. (pump to jet nozzle)

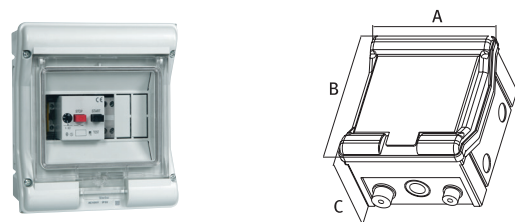
## Nadorself



Complete circular kit (universal for lined concrete)	Code
Universal kit (circular)	128188 146558



Control panel	Code
NC CM 2 (Single-phase)	134548
NC CT 2 (three-phase) 2.2 kW	134549



Unions	Code
Suction/Discharge	25000111



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

## 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

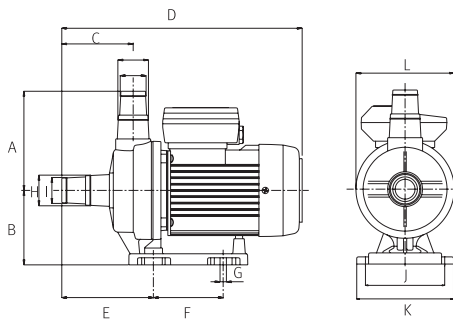
Complete with suction and discharge unions. In imperial or metric.



## Dimensions and weights

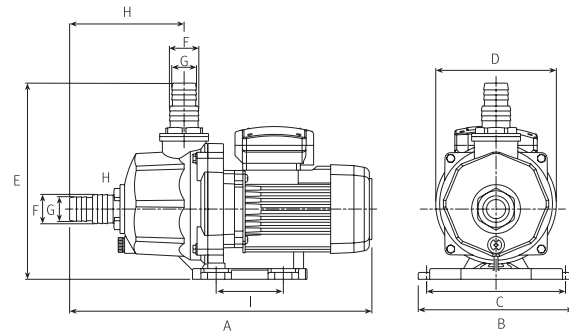
Piscis 1

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



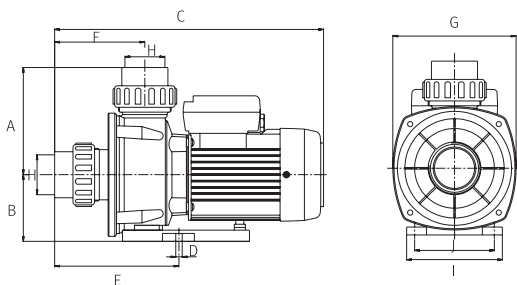
Piscis 2

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



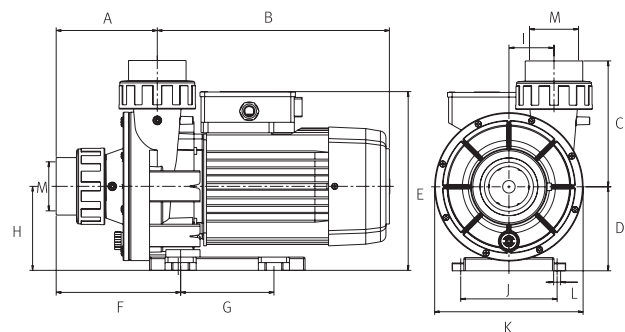
Piscis 3

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



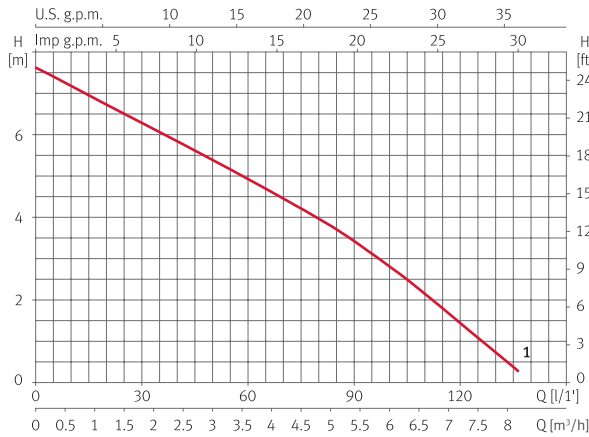
Piscis 4

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

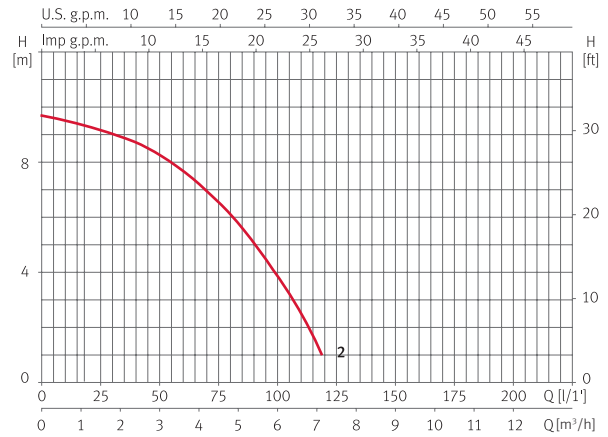


## Performance curves at 2900 rpm

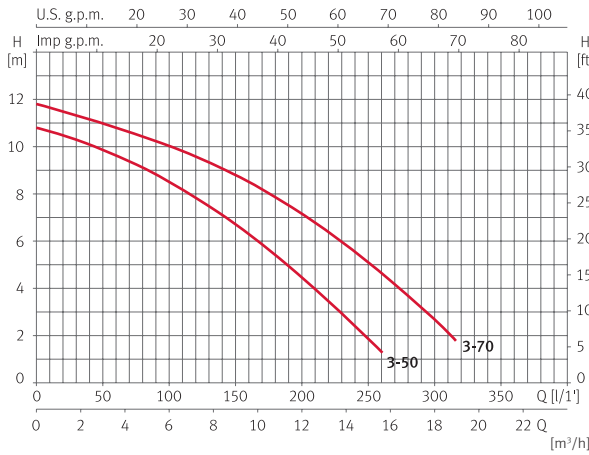
Piscis 1



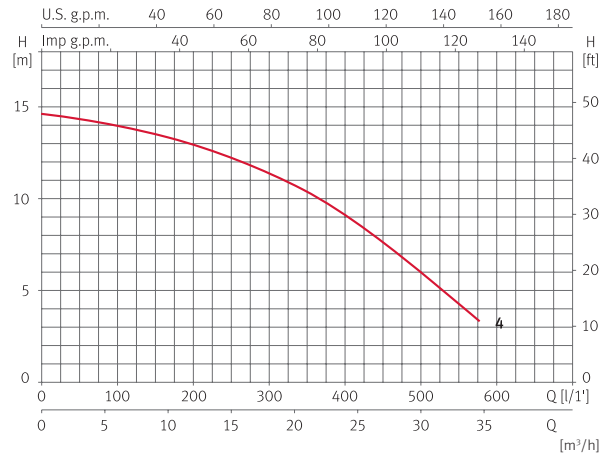
Piscis 2



Piscis 3



Piscis 4



POOL & WELLNESS

## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	15	30	45	60	75	90	110	135	Code 230v
	1~230 V	1~230 V	[kW]	[HP]											
Piscis 1M	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	97118
Piscis 2M	1.3	0.27	0.15	0.20	6	mwc	9.4	9	8.5	7.6	6.5	5	3.2	1.6	97119
Piscis 3 50M	2.4	0.5	0.37	0.5	10	mwc	10.5	9.7	8.5	7.1	5.4	4	2		97120
Piscis 3 70M	3.3	0.7	0.5	0.75	10		11.5	10.8	10	9.1	7.9	6.8	5	2.7	97121
Piscis 4M	6.3	1.4	1.1	1.5	25	mwc	14.5	14	13.2	12.2	11	9	7	4.2	97122

\*Service kits are available on request

## Monobloc centrifugal pumps complete with prefilter, for filtering and purifying equipment in medium and large swimming pools

### 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 304.  
 Mechanical seal in graphite/ceramic.  
 O-ring in NBR.  
 Motor casing in aluminum.

### Motor

Asynchronous, two poles.  
 IP 55 protection.  
 Class F insulation.  
 Continuous operation.  
 Nuts and bolts in stainless steel.  
 Flange in galvanized iron.

### Equipment

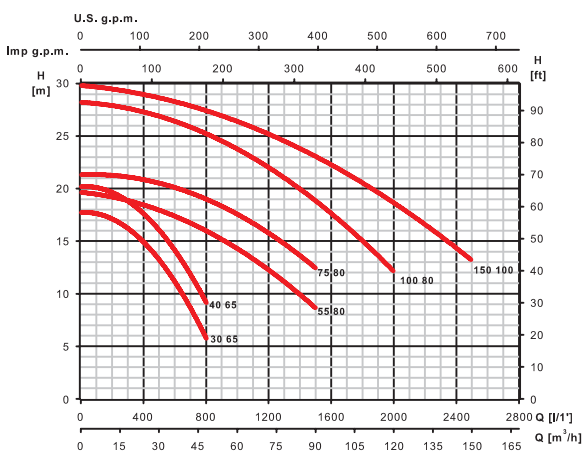
Complete with suction and discharge connection flanges.



### Hydraulic performance table

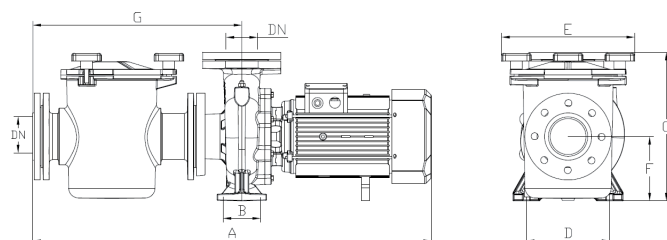
Model	I [A]			P1 [kW]	P2		V/ min m³/h	mwc																	Code
	1~ 230 V	3~ 400 V	3~ 692 V		3~	[kW]		[HP]	0	100	200	300	400	500	600	800	1000	1500	2000	2500					
STAR 30 65	8.1	4.7		2.9	2.2	3.0	17.7	17.6	17.1	16.2	14.9	13.2	11.1	5.7							205412				
STAR 40 65	10.7	6.2		3.9	3.0	4.0	20.2	20.1	19.6	18.8	17.6	16.0	14.1	9.1							205413				
STAR 55 80		8.1	4.7	4.9	4.0	5.5	19.6			18.9	18.4	17.9	17.4	16.0	14.3	8.6					205414				
STAR 75 80		10.9	6.3	6.7	5.5	7.5	21.3			21.1	20.9	20.5	20.1	19.0	17.6	12.4					205415				
STAR 100 80		14.7	8.5	9.1	7.5	10.0	28.3				27.3	26.9	26.5	25.3	23.8	18.9	12.1				205416				
STAR 150 100		20.9	12.1	12.9	11.0	15.0	29.9						28.3	27.5	26.4	23.1	18.7	13.2			205417				

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	G	DN1	DN2	Kg
STAR 30 65	799	70	376	190	339	132	510	80	50	92.0
STAR 40 65	799	70	376	190	339	132	510	80	50	94.0
STAR 55 80	854	95	376	212	339	160	510	100	65	113.0
STAR 75 80	854	95	376	212	339	160	510	100	65	119.0
STAR 100 80	854	95	376	212	339	160	510	100	65	122.0
STAR 150 100	1024	95	376	250	339	180	542	100	80	162.0





# Filterkit Base Swimming Pool



## Filters with valves

### Filterkit Base

Filters with valves made of chemical and weather-resistant polyethylene. Moulded in single piece, with base built into the filter.

Highly versatile, with top or side mounted, six-way valve.

Wide range, from Ø300 to Ø650 mm for pools with a volume of water up to 128 m<sup>3</sup>.

### Features

Working pressure: 2 bar; maximum pressure: 2.5 bar.

Connection with 1 1/2" six-way valve.

Fitted with pressure gauge and air valve.

Double drainage in the lower section of the filter: 1/2" to totally empty the filter; 1/4" to drain water without loss of sand.

Transparent lid on the side-mounted version for easy inspection.

Filter connected to valve/lid (depending on top-/side-mounted version)

via a 177 mm clamp in Ø300 - Ø550 models;

via a 203 mm anti-blockage threaded filter in the Ø650 mm model.



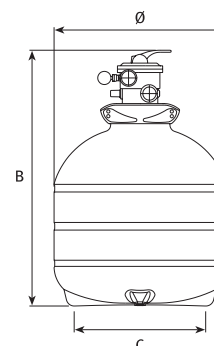
## Characteristics

Model	Filter				Code
	Ø filter [mm]	Nominal flow [m <sup>3</sup> /h]	* Pool volume [m <sup>3</sup> ]	Silex load [Kg]	
FKB 450 6TP	450	8	64	75	134538
FKB 550 6TP	550	12	96	125	134539
FKB 650 6TP	650	16	128	225	134540

(\*) Swimming pool volume (m<sup>3</sup>): Considering water circulation of 8 hours/day.

## Dimensions and weights

Model	A	B	C	Ø	Kg
FKB 450 6TP	-	832	330	450	7.7
FKB 550 6TP	-	832	440	550	10.1
FKB 650 6TP	-	1.076	550	650	17.1





# Filterkit Plus Swimming Pool



## Filters with valves

### Filterkit Plus

Filters with valves made of chemical and weather-resistant modified polypropylene.

Injection moulded, with the two halves thermally welded.

Highly versatile, with top or side-mounted, six-way valve.

Highest quality, from Ø520 to Ø760 mm for pools with a volume of water up to 176 m<sup>3</sup>.

### Features

Working pressure: 2.5 bar; maximum pressure: 3.5 bar.

Connection with 1 1/2" six-way valve for Ø520 and Ø620 mm models; 2" for Ø760 mm models.

Fitted with pressure gauge and air valve. Double drainage in the lower section of the filter: 1 1/2" to totally empty the filter; 1/2" to drain water without loss of sand.

Transparent lid on the side-mounted version for easy inspection.

Valve joint/lid (depending on top- or side-mounted version) to the filter via a 203 mm anti-blockage seal.



## Characteristics

### FKP 6TP (Top-mounted valve)

Model	Filter				Code
	Ø filter [mm]	Nominal flow [m <sup>3</sup> /h]	* Pool volume [m <sup>3</sup> ]	Sillex load [Kg]	
FKP 520 6TP	520	10	80	75	131045
FKP 620 6TP	620	15	120	150	131046

### FKP 6LT (Side-mounted valve)

Model	Filter				Code
	Ø filter [mm]	Nominal flow [m <sup>3</sup> /h]	* Pool volume [m <sup>3</sup> ]	Sillex load [Kg]	
FKP 520 6LT	520	10	80	75	130906
FKP 620 6LT	620	15	120	150	130907
FKP 760 6LT	760	22	176	300	130908

\* Considering water circulation of 8 hours/day.

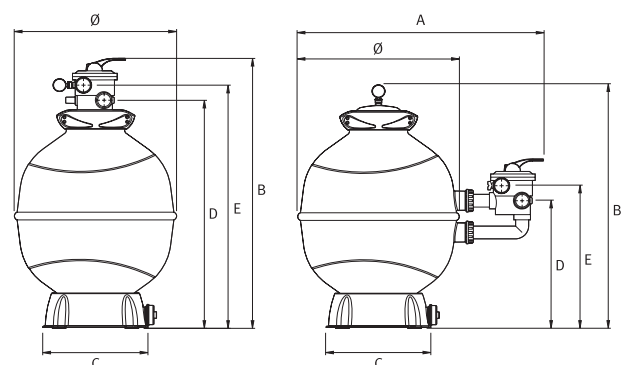
## Dimensions and weights

### FKP 6TP (Top-mounted valve)

Model	A	B	C	D	E	Ø	Kg
FKP 520 6TP	-	983	422	820	879	520	21.0
FKP 620 6TP	-	1.056	422	892	951	620	23.0

### FKP 6LT (Side-mounted valve)

Model	A	B	C	D	E	Ø	Kg
FKP 520 6LT	844	886	422	460	519	520	21.7
FKP 620 6LT	943	957	422	501	560	620	23.7
FKP 760 6LT	1.102	1.114	422	630	715	767	34.0



# Filterpak Base Swimming Pool



## Filters with valves

### Filterpak Base

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

Highly versatile, with top-mounted, six-way valve.

Extensive range, with filters from Ø450 to Ø650 mm and pumps up to 1 HP.

### Features

Compact centrifugal pump.

Single piece, moulded polyethylene filter.

Six-way valve 1 1/2".

Base unit in modified polypropylene.

Flexible pump-filter connection kit.



POOL & WELLNESS

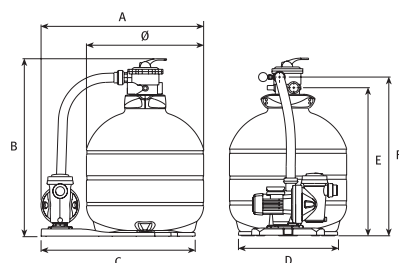
## Characteristics

Model	Filter				Pump			Valve	Code
	Ø filter [mm]	Nominal flow [m <sup>3</sup> /h]	* Pool volume [m <sup>3</sup> ]	Sillex load [Kg]	P2 (HP)	I (A) 1~	Ø Suc. (mm)	Connection	
FPB 450 6TP SILEN I 50 12M	450	12.0	64	75	0.5	2.8	50	1 1/2"	134697
FPB 550 6TP SILEN I 100 15M	550	15.0	96	125	1.0	3.8	50	1 1/2"	134698
FPB 650 6TP SILEN S 100 18M	650	18.0	136	225	1.0	6.0	63	1 1/2"	131200

(\*) Swimming pool volume (m<sup>3</sup>): Considering water circulation of 8 hours/day.

## Dimensions and weights

Model	A	B	C	D	E	F	Kg
FPB 450 6TP SILEN I 50 12M	697	855	613	350	671	731	21.1
FPB 550 6TP SILEN I 100 15M	855	855	855	550	671	731	22.8
FPB 650 6TP SILEN S 100 18M	902	988	855	550	824	883	32.5



# Filterpak Plus Swimming Pool



## Filters with valves

### Filterpak Plus

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

Highly versatile, with top or side-mounted, six-way valve.

Maximum quality, with injection-moulded filters from Ø520 up to Ø760 mm and pumps up to 1.5 HP.

### Features

Compact centrifugal pump.

Thermally welded, modified polypropylene filter.

Six-way valve 1 1/2" in the Ø520 mm and Ø620 mm models; 2" in the Ø760 mm model.

Base unit in modified polypropylene.

Rigid pump-filter connection kit.



## Characteristics

### FPP 6TP (Top-mounted valve)

Model	Filter				Pump			Valve	Code
	Ø filter [mm]	Nominal flow [m <sup>3</sup> /h]	* Pool volume [m <sup>3</sup> ]	Silex load [Kg]	P2 (HP)	I (A) 1~	Ø Suc. (mm)	Connection	
FPP 520 6TP SILEN S 75 15M	520	15.0	88	75	0.75	5.5	63/50	1 1/2"	133291
FPP 620 6TP SILEN S 100 18M	620	18.0	128	150	1.0	6.0	63/50	1 1/2"	151546

### FPP 6LT (Side-mounted valve)

Model	Filter				Pump			Valve	Code
	Ø filter [mm]	Nominal flow [m <sup>3</sup> /h]	* Pool volume [m <sup>3</sup> ]	Silex load [Kg]	P2 (HP)	I (A) 1~	Ø Suc. (mm)	Connection	
FPP 520 6LT SILEN S 75 15M	520	15.0	88	75	0.75	5.5	63/50	1 1/2"	132669
FPP 620 6LT SILEN S 100 18M	620	18.0	128	150	1.0	6	63/50	1 1/2"	132671
FPP 760 6LT SILEN S 150 22M	760	22.0	184	300	1.5	7.1	63/50	2"	132673

(\*) Swimming pool volume (m<sup>3</sup>): Considering water circulation of 8 hours/day.

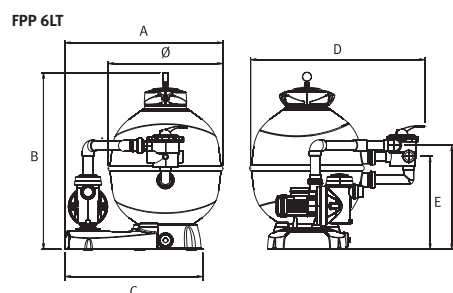
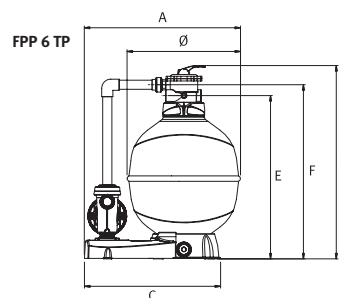
## Dimensions and weights

### FPP 6TP (Top-mounted valve)

Model	A	B	C	D	E	F	Kg
FPP 520 6TP SILEN S 75 15M	803	981	744	-	815	873	33.4
FPP 620 6TP SILEN S 100 18M	853	1054	744	-	887	946	37.9

### FPP 6LT (Side-mounted valve)

Model	A	B	C	D	E	F	Kg
FPP 520 6LT SILEN S 75 15M	803	866	744	845	463	524	34.1
FPP 620 6LT SILEN S 100 18M	853	957	744	945	501	562	38.6
FPP 760 6LT SILEN S 150 22M	1054	1100	871	1076	630	711	51.6



## Underground technical box

### Tekbox NT

Prefabricated technical box for buried fitting in the garden. Perfectly blends in 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.

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

### Characteristics

**High resistance:** Strengthened, injection-moulded thermoplastic that keeps its shape.

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

**Security:** Reinforced lock and hinges. Looks: Design and colour that blends in with the environment.

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



POOL & WELLNESS

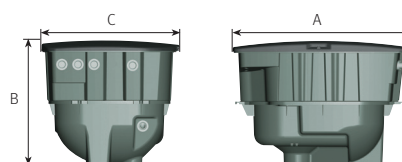
### Characteristics

Model	Filter					Pump			Valve	Code
	Model	Ø filter [mm]	Nominal flow [m³/h]	* Pool volume [m³]	Silex load [Kg]	P2 (HP)	I (A) 1~	Ø Suc. (mm)	Connection	
TKB NT 450 SILEN I 50 12M	ARIES	450	8.0	64	75	0.5	2.8	50	SIDE 1 1/2"	134425
TKP NT 520 SILEN I 100 15M	LIBRA	520	11.0	88	75	1.0	3.8	50	SIDE 1 1/2"	134465

Model	Filter				Pump			Valve	Code
	Ø filter [mm]	Nominal flow [m³/h]	* Pool volume [m³]	Silex load [Kg]	P2 (HP)	I (A) 1~	Ø Suc. (mm)	Connection	
TKP NT EMPTY	-	-	-	-	-	-	-	-	134529

### Dimensions and weights

Model	A	B	C	Kg
TKB NT 450 SILEN I 50 12M	1.460	1.032	1.145	88
TKP NT 520 SILEN I 100 15M	1.460	1.032	1.145	102



Model	A	B	C	Kg
TK NT EMPTY	1.460	1.032	1.145	60

(\*) Swimming pool volume (m³): Considering water circulation of 8 hours/day.

\*For different Tekbox equipment options please contact one of our technicians.

# Tiper 0/2/15 Hydromassage/Spa



## Single-stage centrifugal pumps with complete selfdraining

### 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.

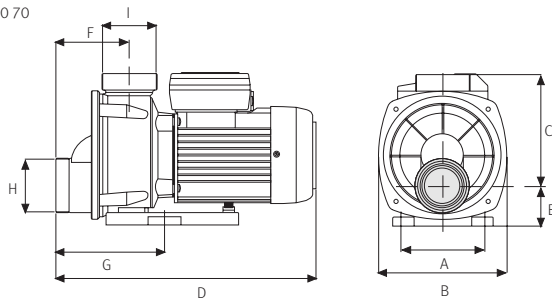


## Dimensions and weights

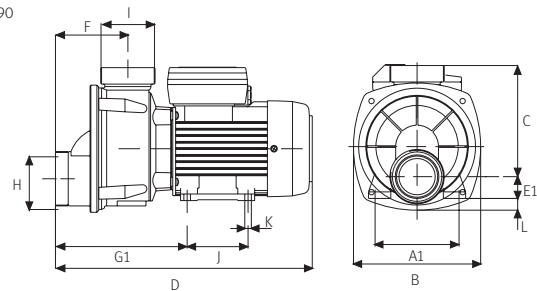
### Tiper 0

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 1/4"	2 1/4"	74	9	14	3.9
Tiper 0 90	100	101	154.5	135	312	47	26.5	88	130	160	2 1/4"	2 1/4"	74	9	14	4.4

Tiper 0 70

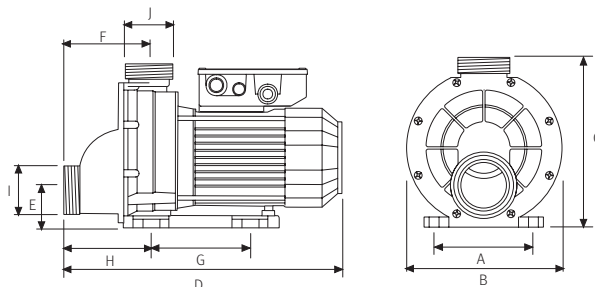


Tiper 0 90



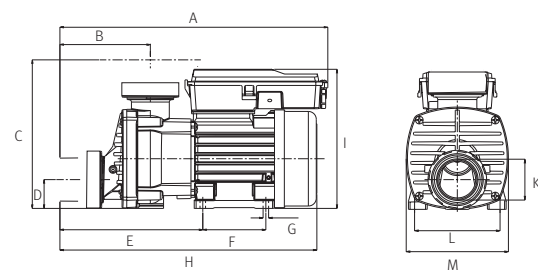
### Tiper 2

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

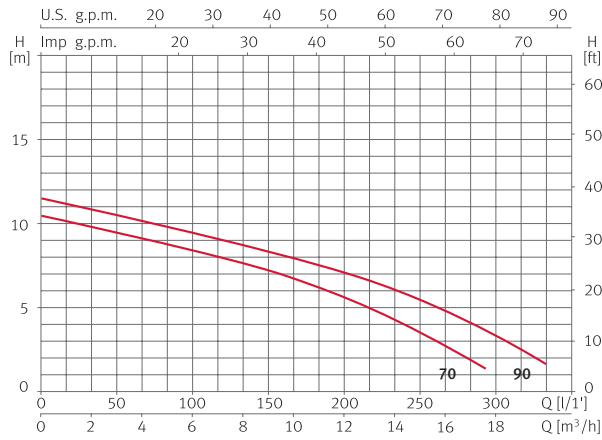


# Tiper 0/2/15 Hydromassage/Spa

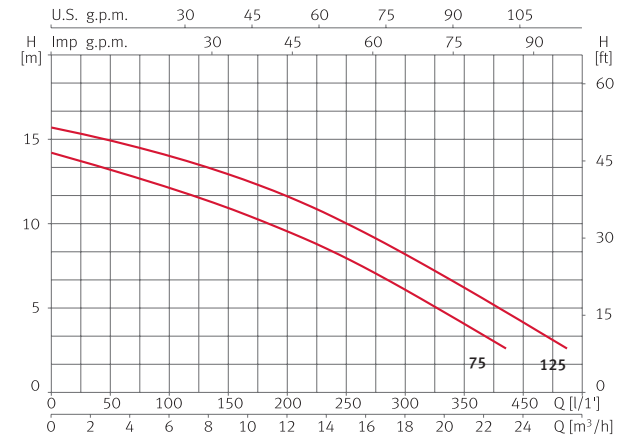


## Performance curves at 2900 rpm

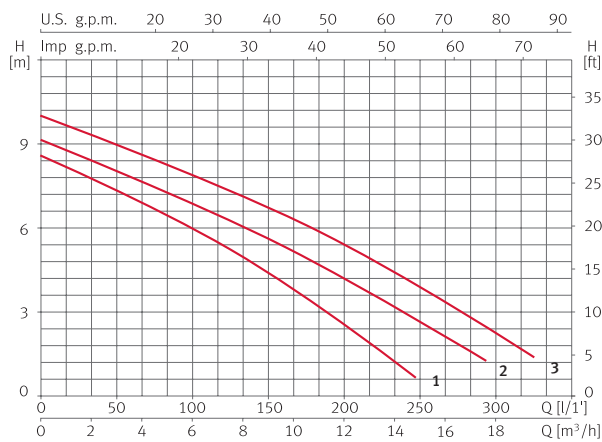
Tiper 0



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	Code 230v
	1~230 V	1~230 V	[kW]	[HP]											
Tiper 0 70M	2.9	0.64	0.37	0.5	12	mwc	9.5	8.3	7.1	6.5	5.7	3.6			97622
Tiper 0 90M SP42	3.74	0.85	0.75	1	12	mwc	10.5	9.4	8.4	7.8	7.1	5.4	3.3	1.9	199188

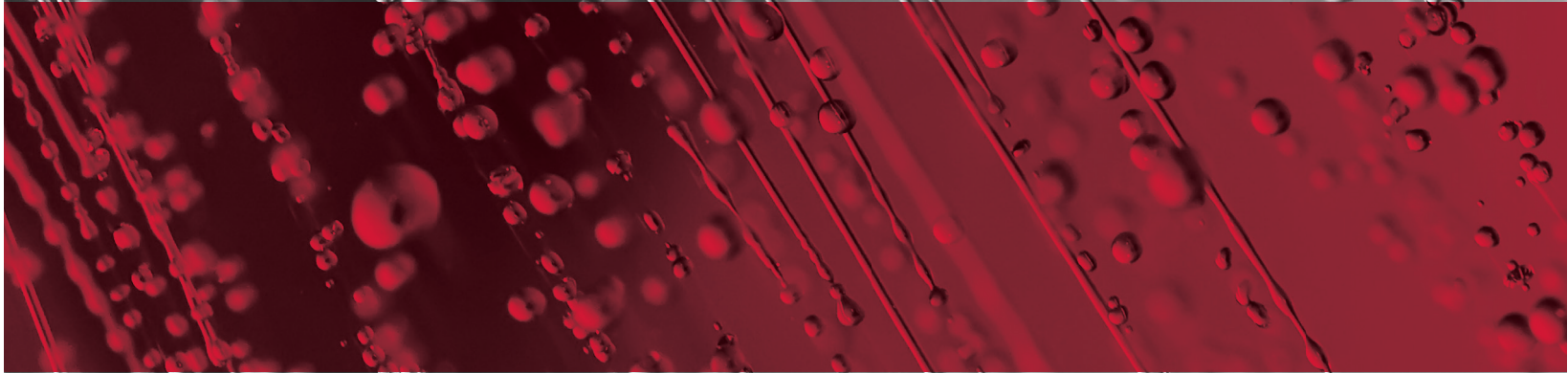
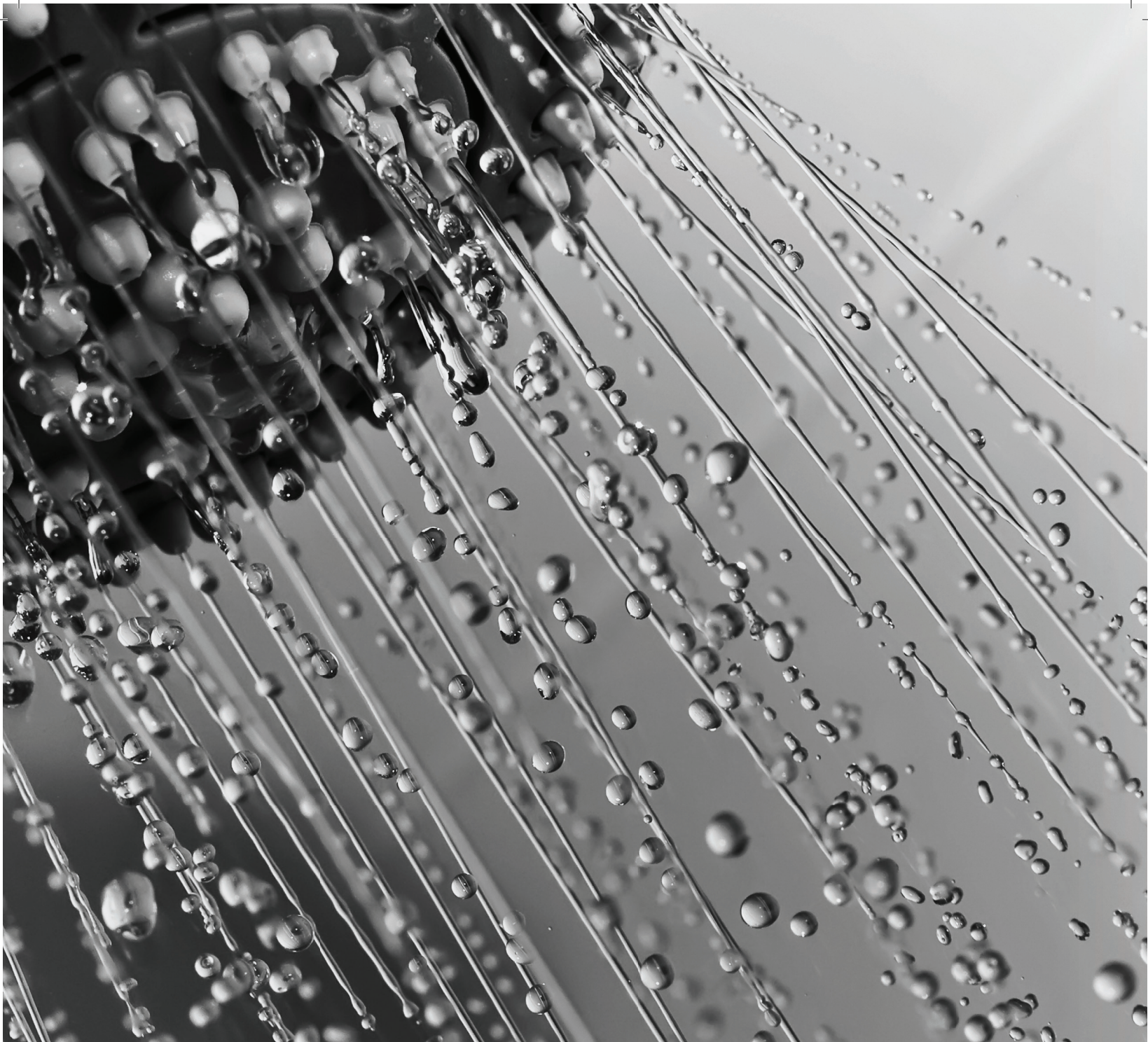
Model	I [A]	P1 [kW]	P2		c [μF]	l/min	83	133	183	233	283	333	383	433	Code 230v
	1~230 V	1~230 V	[kW]	[HP]											
Tiper 2 75M	5.3	1.2	0.55	0.75	16	mwc	12.3	11.1	10	8.5	6.5	5	2.5		137549
Tiper 2 125M	5.6	1.5	0.9	1.25	16	mwc	14.2	13.2	12	10.6	9	7	5	2.7	137578

Model	I [A]	P1 [kW]	P2		c [μF]	l/min	83	133	183	233	283	333	383	433	Code 230v
	1~230 V	1~230 V	[kW]	[HP]											
Tiper 15 1M SP1	1.7	0.36	0.18	0.25	6	mwc	8	7.3	6	4.3	2.6				130795
Tiper 15 2M SP2	2.3	0.5	0.37	0.5	10	mwc	8.6	8	6.9	5.6	4.2	2.7			131343M
Tiper 15 3M SP2	3	0.7	0.55	0.75	12	mwc	9.5	9	7.9	6.8	5.3	3.9	2.2	1.5	131344M

\*Service kits are available on request

POOL & WELLNESS









PRESSURE BUILDING  
SERVICES





# Delta + Kit 02 Automatic system for pressure



## Self-priming surface pump

### Applications

To work with clean water.  
Irrigation and hydropneumatic sets.

### Materials

#### Delta

Pump body in stainless steel AISI 304.  
Motor shaft in stainless steel AISI 420.  
Mechanical seal in graphite and alumine.  
Motor housing in aluminium L-2521.

#### Kit02

Pump body, base and diffusers in polymeric materials.

### Motor

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

### Specifications

The set starts automatically when a consumption is detected and pressurizes the installation continuously.  
Stops automatically when there is no consumption, or lack of water.

### Limitations

Maximum suction lift: 9 m.  
Maximum temperature of liquid: 40 °C.  
Starting pressure: 1.5 kg/cm<sup>2</sup>.

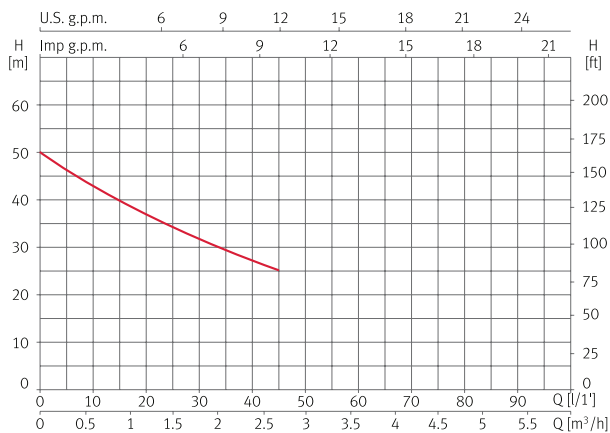


## Hydraulic performance table

Model	I [A]			P1 [kW]		P2		c [μF]	l/min m <sup>3</sup> /h	5	15	25	35	40
	1~ 230 V	3~		1~ 230 V	3~ 400 V	[kW]	[HP]							
		230 V	400 V											
Delta 1005	4.8	3.3	1.9	1.0	1.0	0.75	1.0	7.5	mwc	47	40	34	29	27

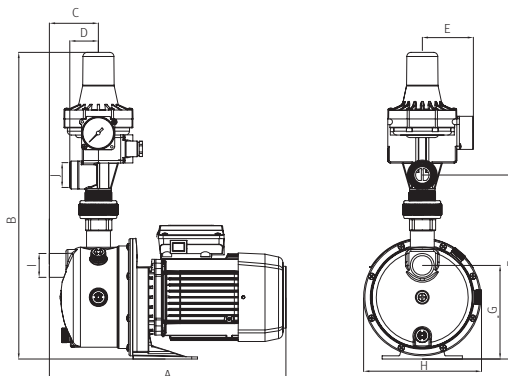
Model	I [A]	Hz	Protection	Max. Pressure [kg/cm <sup>2</sup> ]	Starting Pressure [bar]	Diferential Pressure [kg/cm <sup>2</sup> ]	Max. building pressure	Max. temperature [°C]	Ø Inlet connection	Ø Outlet connection	Code
Kit 02	10	50/60	IP 54	7.5	1.5 - 2.5	≥ 0.7	12	50	1" male	1" female	27012

## Performance curves at 2900 rpm



## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	Kg
Delta 1005 - Kit 02	343	481.25	77	45	80.25	288.75	147	185	1"	1"	9.95



## Automatic pressure unit

### Applications

Assembled on a pump for automatic water supply and to reduce the water hammer.

Free of maintenance without preload of air.

### Specifications

Quiet running operation.

Non return valve built-in, pressure gauge, pressure switch and electronic control with dry running function integrated with manual reset button.

Adjustable starting pressure 1.5 - 2.5 bar.

Plastic union connection included.

### Materials

Plastic components in polypropylene.

Internal membrane in natural rubber.

Screws in stainless steel AISI 304.

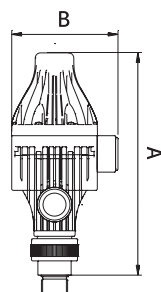


## Technical features

Model	I [A]	Hz	Protection	Max. Pressure [kg/cm <sup>2</sup> ]	Starting Pressure [bar]	Diferential Pressure [kg/cm <sup>2</sup> ]	Stopping Pressure	Max. temperature [°C]	Ø Inlet connection	Ø Outlet connection	Code
Pressdrive AM	10	50/60	IP 55	7.5	1.5 - 2.5	≥ 0.7	Max. given by the pump	50	Union 3 pieces	1" female	199361

## Dimensions and weights

Model	A	B	Kg
Pressdrive	281	134	0.9



### Automatic pressure set for water supply

**Applications**

Electronic pressure set for domestic use.

**Materials**

**Pressdrive (PD):** Plastic components in polypropylene. Internal membrane in natural rubber. Screws in stainless steel AISI 304.

**Specifications**

The set starts automatically when a consumption is detected and pressurizes the installation continuously. Stops automatically when there is no consumption, or lack of water.

**Adjustable starting pressure 1,5-2,5 bar.**

**Features**

**Prisma:** See Prisma 15 features.

**Pressdrive (PD):**

**Starting pressure 1,5 - 2,5 kg/cm<sup>2</sup>.**

Maximum stop pressure delivered by the pump.

IP 55 protection.

Non return valve included.

Automatic reset button.

Quiet-running.

**Dry-protection function incorporated.**

Supplied with power cable and plug.

**Supplied with 3 pieces unions.**

Connection pump-Pressdrive from factory.

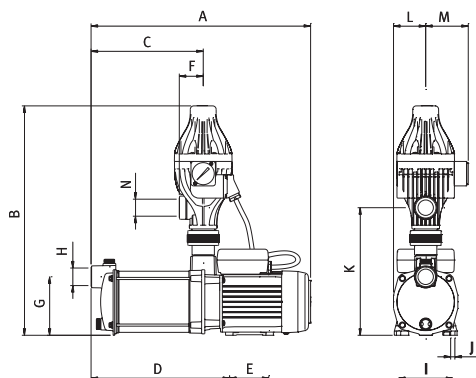


**Technical features**

Model	P1 [kW]	P2		Max. Pressure (Kg/cm <sup>2</sup> )	1~230 V (model M)
	1~230 V	[kW]	[HP]		Code
PDS 3-50	0,61	0,36	0,5	3,2	199512
PDS 3-75	0,79	0,55	0,75	4,3	199513
PDS 3-100	0,95	0,75	1	5,1	199514

**Dimensions and weights**

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	Kg
PDS 3-50	389,6	431	187,5	237,5	75	45	110	G 1"	102	Ø8	240	61	80	G 1"	11,2
PDS 3-75	413	431	211	261	75	45	110	G 1"	102	Ø8	240	61	80	G 1"	11,7
PDS 3-100	436,5	431	234,5	284,5	75	45	110	G 1"	102	Ø8	240	61	80	G 1"	12,7



# Pressdrive 05 Pressure



## Automatic pressure unit

### Applications

Assembled on a pump for automatic water supply and to reduce the water hammer.

Maximum working temperature: 60 °C.  
Supplied with power cable.  
Plastic union connection included.

### Materials

Plastic components in polypropylene.  
Internal membrane in natural rubber.  
Screws in stainless steel AISI 304.

### Features

Maximum pressure 10 bar.  
Voltage: 1x 230V 50/60 Hz.  
Maximum current 12 A.  
IP 55 protection.  
Adjustable starting pressure 1,5-2,5 bar.  
Non return valve built-in, pressure gauge, pressure switch and electronic control with dry running function integrated with manual reset button.



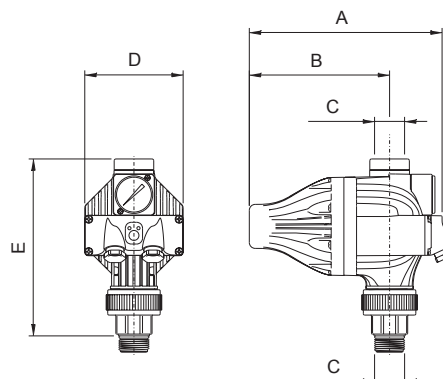
PRESSURE BUILDING SERVICES

## Technical features

Model	I [A]	Hz	Protection	Max. Pressure [kg/cm <sup>2</sup> ]	Starting Pressure [bar]	Diferential Pressure [kg/cm <sup>2</sup> ]	Stopping Pressure	Max. temperature [°C]	Ø Inlet connection	Ø Outlet connection	Code
Pressdrive 05	12	50/60	IP54	10	1,5-2,5	1	Max. given by the pump	60	1"	1"	202222

## Dimensions and weights

Model	A	B	C	D	E	Kg
Pressdrive 05	213	155	G1"	108	195	0,9



# PDS 05 Pressure



## Automatic pressure set for water supply

### Applications

Automatic pumping of clean water for domestic supply.

### Materials

**Pressdrive 05:** Plastic components in polypropylene. Internal membrane in natural rubber. Screws in stainless steel AISI 304.

### Specifications

The set starts automatically when a consumption is detected and pressurizes the installation continuously. Stops automatically when there is no consumption, or lack of water.

**Adjustable starting pressure 1,5-2,5 bar.**

### Features

**Prisma:** See Prisma 15 features.

**Pressdrive (PD):**

**Starting pressure 1,5 - 2,5 kg/cm<sup>2</sup>.**

Maximum stop pressure delivered by the pump.

IP 54 protection.

Non return valve included.

Automatic reset button.

Quiet-running.

**Dry-protection function incorporated.**

Supplied with power cable and plug.

**Supplied with 3 pieces unions.**

Connection pump-Pressdrive from factory.

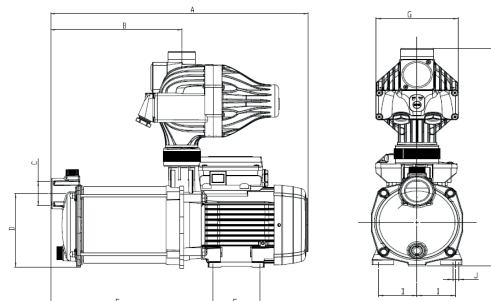


## Technical features

Model	P1	P2		Max. Pressure	1~230 V (model M)
	[kW]	[kW]	[HP]		
PDS05 3-50	0,61	0,36	0,5	3,2	204702
PDS05 3-75	79	0,55	0,75	4,3	204703
PDS05 3-100	0,95	0,75	1	5,1	204704
PDS05 6-100	1,2	0,75	1	3,5	204705
PDS05 6-125	1,5	0,92	1,25	4,5	204706

## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	Kg
PDS05 3-50	389,6	176	67	110	237,5	75	G 1"	345	8	10,8
PDS05 3-75	413	176	67	110	261	75	G 1"	345	8	11,3
PDS05 3-100	436,5	176	67	110	284,5	75	G 1"	345	8	12,3
PDS05 6-100	420	176	67	127	252	82	G 1"	443	8	14,8
PDS05 6-125	447	176	67	127	279	82	G 1"	443	8	15,9



# Pressure Sets **Pressure**



## Domestic single pump boosting units

### Applications

Automatic supply of water whilst maintaining constant system pressure.

### Configuration

These domestic booster units can be built in various configurations using different types of pumps, larger vessels and alternative control devises.

For further assistance/selection please contact our sales team.



PRESSURE BUILDING SERVICES

### Technical features

Model	Code		P2		Size		Vessel Position	Code
	With Vessel	With Pressdrive 05	[kW]	[HP]	Vessel	Pressdrive		
Delta 505		D505/05	0.37	0.5	8 ltr	05	Vertical	50505
Delta 505	D505/24		0.37	0.5	24 ltr		Horizontal	75524
Delta 755		D755/05	0.5	0.75	8 ltr	05	Vertical	75505
Delta 755	D755/24		0.5	0.75	24 ltr		Horizontal	75524
Delta 1005		D1005/05	0.75	1	8 ltr	05	Vertical	100505
Delta 1005	D1005/24		0.75	1	24 ltr		Horizontal	100524
Delta 1755		D1755/05	0.75	1	8 ltr	05	Vertical	175505
Delta 1755	D1755/24		0.75	1	24 ltr		Horizontal	175524
Tecno 25.3		T25.3/05	0.75	1	18 ltr	05	Vertical	25305
Tecno 25.3	T25.3/24		0.75	1	24 ltr		Horizontal	25324
Tecno 25.4		T25.4/05	0.9	1.25	18 ltr	05	Vertical	25405
Tecno 25.4	T25.4/24		0.92	1.25	24 ltr		Horizontal	25424
Tecno 25.5		T25.5/05	1.1	1.5	18 ltr	05	Vertical	25505
Tecno 25.5	T25.5/24		1.1	1.5	24 ltr		Horizontal	25524
Aspri 35.3	C35.3/24		1.1	1.5	24 ltr		Horizontal	35324
Aspri 35.3		C35.3/05	1.1	1.5		05		35305
Aspri 35.4	C35.4/24		1.5	2	24 ltr		Horizontal	35324
Aspri 35.4		C35.3/05	1.5	2		05		35305

(You must fit a pressure vessel on the discharge pipework for every Acuapres)  
(Minimum size is 24 ltrs)

# Tecnoplus 25 Pressure



## A horizontal, multistage, centrifugal pump with frequency converter

### Applications

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

### Materials

Pump body and impellers in stainless steel AISI 304.  
Diffusors 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 thermal protector inside the windings.  
Continuous operation.  
Three-phase motor 230 V and single-phase supply 230 V.

### Voltage range

Low voltage: Disconnect at 180 V.  
Automatic Reset at 200 V.  
High voltage: Disconnect at 260 V.  
Automatic Reset at 240 V.

### Equipment

A horizontal, multistage, centrifugal pump with frequency converter with keypad.  
Built-in pressure sensor.  
Built-in dry running control, pressure gauge and dry running control with sequential re-starts in the event of failure.  
Reduces water hammer effect on the installations.  
With 2 m cable HO7RNF 3 x 1 mm<sup>2</sup>.  
You must install a pressure vessel on the discharge pipework minimum 24 ltrs.

### Limitations

Maximum suction 5 m lift when installed 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.  
Noise level dBA at 1 mtr.

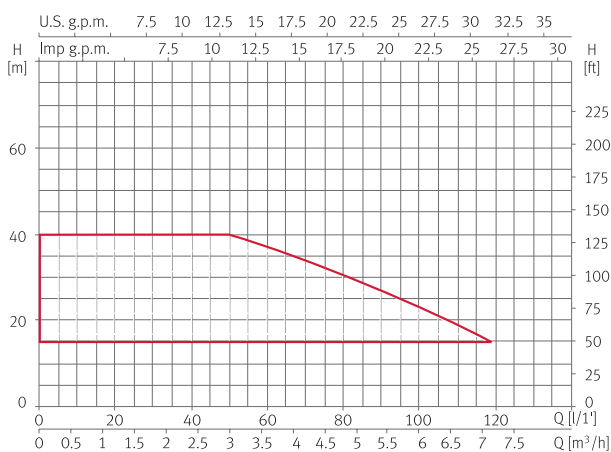


## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		l/min	45	60	75	90	105	120	1~230 V (model M)
	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	Code
Tecnoplus 25M	6.8	1.5	0.92	1.25	mwc	40	37	33	28	22	15	167577

Tecnoplus 15/25 pumps are c/w Kit Press, pressure gauge and stainless steel discharge adaptor  
(You must fit a pressure vessel on the discharge pipework for every Tecnoplus 15/25) (Minimum size is 8 ltrs for 15 & 24 ltrs for 25)

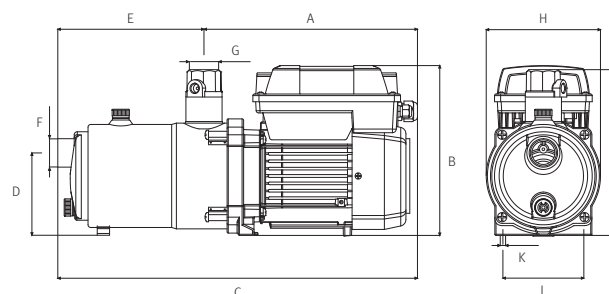
## Performance curves at 2900 rpm



\*Service kits are available on request

## Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K	Kg
Tecnoplus 25M	277.5	221	467.5	107	190	1"	1 1/4"	148.5	216	88	Ø9	15.5





## Submersible multistage pumps with 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 with built-in pressure control and non return valve.

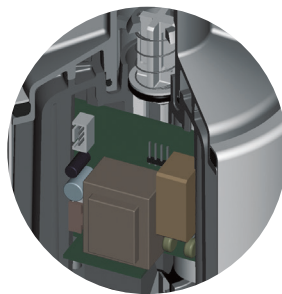
Dry running control with four trials if no water.

Oil chamber with two mechanical seals.

Model 4: starting pressure at 2 bar.

Model 6: starting pressure at 3 bar.

You must install a pressure vessel on the discharge pipework minimum 24 ltrs.



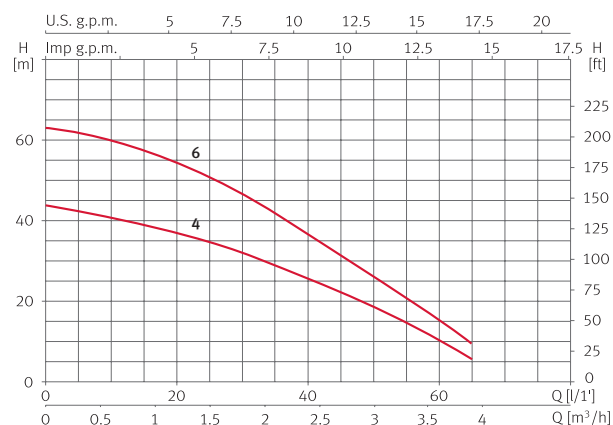
PRESSURE BUILDING SERVICES

### Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [µF]	l/min m³/h	10	20	30	40	45	50	60	65	1~230 V (model M)
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			0.6	1.2	1.8	2.4	2.7	3.0	3.6	3.9	Code
Acuapres 4M N	3.5	1.7	0.8	0.8	0.5	0.75	12	mwc	41	37	32	26	22	19	10	6	157966
Acuapres 6M N	5	2	1.2	1.1	0.9	1.2	16		60	55	47	37	32	26	15	9	157972

(For sets with larger vessels please add the larger vessel price to the above set price)

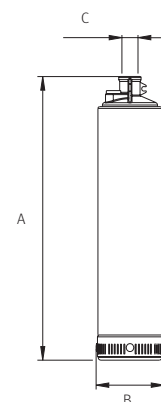
### Performance curves at 2900 rpm



\*Service kits are available on request

### Dimensions and weights

Model	A	B	C	Kg
Acuapres 4M N	493	126	1"	10.6
Acuapres 6M N	560	126	1"	12.4



# Acuaplus N Pressure



## Submersible multistage pump with variable speed

### 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.

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

You must install a pressure vessel on the discharge pipework minimum 18 ltrs.

### Electronics

Advanced ESPA Speed Drive 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.

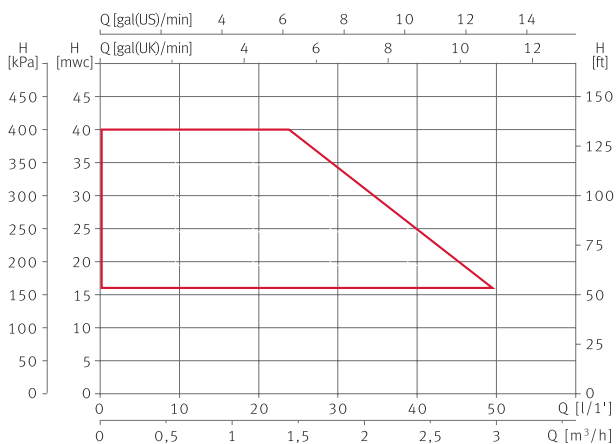


## Hydraulic performance table

Model	I [A]	P1 [kW]	P2		c [µF]	l/min	0	10	20	30	40	50	1~230 V (model M)
	1~230 V	1~230 V	[kW]	[HP]		m³/h	0	0.6	1.2	1.8	2.4	3.0	Code
AcuaplusN	4.7	1	0.75	1	12	mwc	40	40	40	34.6	25.3	16.1	149285

AcuaplusN pumps are c/w Kit Press & pressure gauge  
(You must fit a pressure vessel on the discharge pipework for every AcuaplusN) (Minimum size is 18 ltrs)

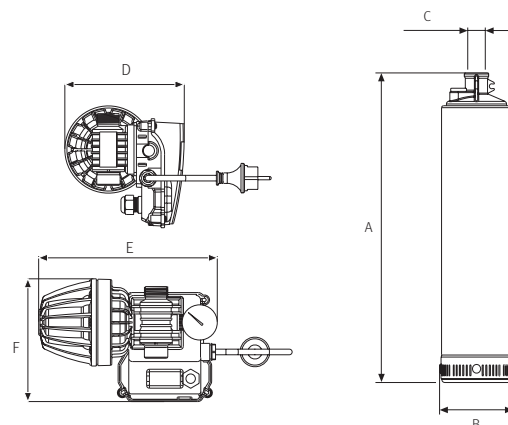
## Performance curves at 2900 rpm (similar to acuaria 07/4)



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.

## Dimensions and weights

Model	A	B	C	D	E	F	Kg
AcuaplusN	517	126	1"	170	254	175	11.5



## Compact storage tank and pressurisation unit (with air gap)

**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 of these two components combined is an innovative unit offering high levels of convenience in water use, guaranteeing not only its permanent availability (even when the water supply is cut off), but also strong, regular, constant pressure. The 200 ltr tank can be used as a backup system in the event 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 multi-purpose and can be used on sites 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 Acuapres

Automatic pressurisation system incorporating the submersible Acuapres pump with built-in pressure control.

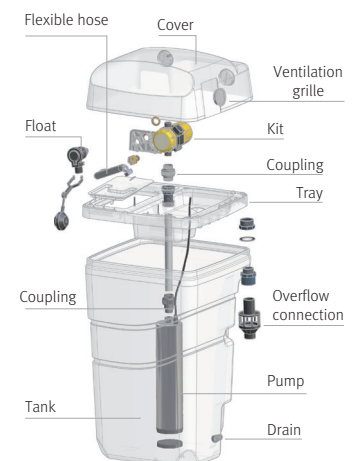
### With Variable Speed Pump

An advanced technology option: maximum pressure control convenience, low noise levels and 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 constant pressure according to needs. Besides saving energy, this technological innovation makes minimal noise and provides remarkable regularity in the water supply flow.



## Pump model

Description	Pump model	Code
Aquabox 350 Acuapres 4 230 50	Acuapres07 4M N	170118

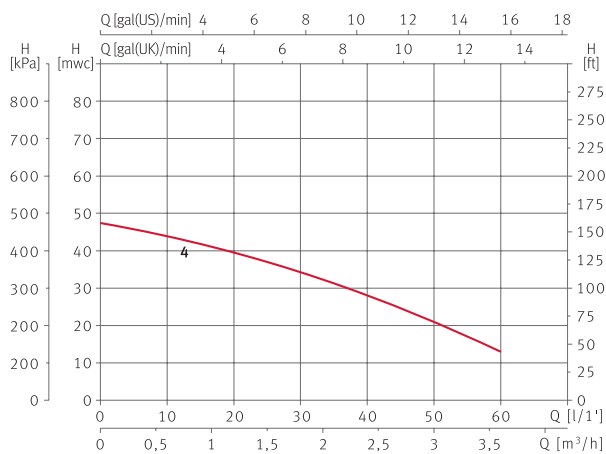
Description	Pump model	Code
Aquabox 350 Acuaplus 230 50	Acuaplus N	170123

(You must fit a pressure vessel on the discharge pipework for every Aquabox)  
(Minimum size is 24 ltrs)

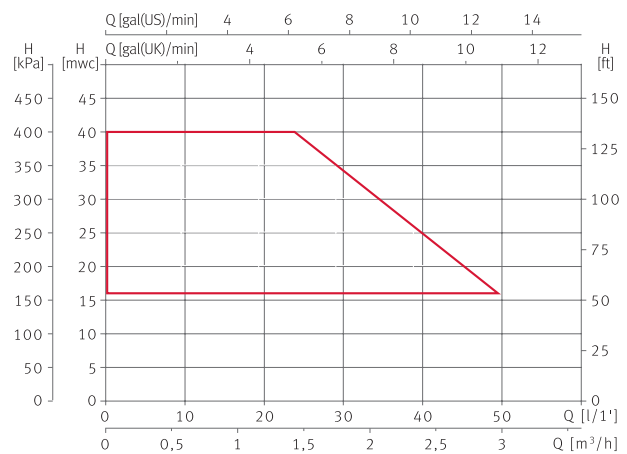
All overflow outlet has been built into the tank to safeguard against the possible contamination of drinking water in the public network, in the case of back flow, in compliance with European standard EN 1717.

## Performance curves at 2900 rpm

Acuapres07 4

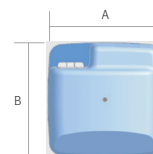


Acuaplus N



## Pump options for the Aquabox unit / Dimensions

	Acuaplus N	Acuapres07 4
Submersible	X	X
Surface		
Constant pressure-variable speed	X	
Automatic control	X	X
Dry operation protection	X	X
Inlet float	X	X
Overflow duct in accordance with regulation EN1717	X	X
Water supply/outlet connection	3/4"	3/4"
Overflow connection	DN 50	DN 50
Width A [mm]	600	600
Depth B [mm]	600	600
Height C [mm]	1150	1150
Empty tank weight [Kg]	25.5	25.5
Useful tank capacity	200	200
Working pressure [bar]	3	2.5
Flow at working pressure [l/min]	40	30/45
Installed capacity at P1 [kW]	0.95	0.6/0.95
Drain connection	1/2"	1/2"



# AFE/ACS/AFOSB/AFESB Series Pressure Vessels



## Accumulation of pressurised water

### Applications

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

### Features

WRAS approval for drinking water usage, CE marked.

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, which should be periodically checked.

### Options

Stainless steel vessels.  
Stainless steel flange.  
Fixed membrane.

### Limitations

Temperature range:  
3 to 500 lt (-10 to +100 °C)  
750 to 4000 lt (-10 to +50 °C)



## Technical features

### Vertical In-Line

Model	Capacity [Ltr]	Max Press Bar	Working Temp °C	Connection BSPM	Ø [mm]	Length [mm]	Weight [Kg]	Code
ACS 3	3	10	-10 to +100	3/4" M	170	245	1.3	0251000003
ACS CE 8 (510812)	8	10	-10 to +100	3/4" M	220	305	1.8	0251000008
ACS CE 18 (511824)	18	10	-10 to +100	3/4" M	260	380	3.2	0251000018
ACS CE 24 (512442/10)	24	10	-10 to +100	1" M	260	490	3.6	0251000024
ACSCE 24 3/4" (512442/101)	24	10	-10 to +100	3/4" M	260	490	3.6	0251003424
AFC/CAR CE24	24	16	-10 to +100	3/4" M	265	490	7.5	0251001624

A complete range of Rainwater components are available on request (P.O.A)  
(\* Net prices)

### Vertical (blue) c/w legs

#### Pressure wave, vertical pipeline (10 bar)

Model	Capacity [Ltr]	Max Press Bar	Working Temp °C	Connection BSPM	Ø [mm]	Length [mm]	Weight [Kg]	Code
AFE CE 50	50	10	-10 to +100	1" M	380	720	8.4	0251000050
AFE CE 60 ct	60	10	-10 to +100	1" M	380	830	10.7	0251000060
AFE/CAR CE 60	60	16	-10 to +100	1" M	380	830	21.5	0251001660
AFE CE 80 ct	80	10	-10 to +100	1" M	460	760	12.2	0251000080
AFE CE 100 ct	100	10	-10 to +100	1" M	460	880	13.5	0251000100
AFE/CAR CE 100	100	16	-10 to +100	1" M	460	880	30.1	01510016100
AFE CE 150	150	10	-10 to +100	1" M	510	1030	23.4	0251000150
AFE CE 200	200	10	-10 to +100	1 1/4" M	590	1100	33	0251000200
AFE/CAR CE 200	200	16	-10 to +100	1 1/4" M	590	1100	48.4	02510016200
AFE CE 300	300	10	-10 to +100	1 1/4" M	650	1280	44.5	0251000300
AFE/CAR CE 300	300	16	-10 to +100	1 1/4" M	650	1280	67	02510016300
AFE CE 500	500	10	-10 to +100	1 1/4" M	750	1600	58.5	0251000500
AFE/CAR CE 500	500	16	-10 to +100	1 1/4" M	750	1600	78.1	02510016500
AFE CE 750 d750	750	8	-10 to +100	2" F	750	2045	153.5	0251000750
AFE CE 1000	1000	10	-10 to +50	2 1/2" F	800	2130	183.5	0251001000
AFE CE 1500	1500	10	-10 to +50	2 1/2" F	1000	2130	230.5	0251001500
AFE CE 2000	2000	10	-10 to +50	DN 65	1100	2550	367	0251002000
AFE CE 2500	2500	10	-10 to +50	DN 66	1100	2845	440	0251002500
AFE CE 3000	3000	10	-10 to +50	DN 67	1250	2930	603	0251003000
AFE CE 4000	4000	10	-10 to +50	DN 68	1450	3030	880	0251004000
AFE CE 5000	5000	10	-10 to +50	DN 69	1450	3800	980	0251005000

# AFE/ACS/AFOSB/AFESB Series Pressure Vessels



## Technical features

### Horizontal (blue)

Model	Capacity [Ltr]	Max Press Bar	Working Temp °C	Connection BSPM	Ø [mm]	Length [mm]	Weight [Kg]	Code
AFOSB CE 24	24	8	-10 to +100	3/4" M	260	485	4.7	0252003424
AFOSB CE 24	24	8	-10 to +100	1" M	260	485	4.7	0252000024
AFESB CE 60 ct	60	10	-10 to +100	1" M	380	690	10.4	0252000060
AFESB CE 80 ct	80	10	-10 to +100	1" M	460	655	12.3	0252000080
AFESB CE 100 ct	100	10	-10 to +100	1" M	460	780	14	0252000100
AFESB CE 200	200	10	-10 to +100	1 1/4" M	590	1000	34.2	0252000200
AFESB CE 300	300	10	-10 to +100	1 1/4" M	650	1150	44	0252000300
AFESB CE 500	500	10	-10 to +100	1 1/4" M	750	1420	58	0252000500

### Vertical pipeline (25 bar)

Model	Capacity [Ltr]	Max Press Bar	Working Temp °C	Connection BSPM	Ø [mm]	Length [mm]	Weight [Kg]	Code
UMB-8 LX	8	25	90	1" M	203	313	3.5	0301002508
UMB-24 LX	24	25	90	1" M	290	447	8.8	0301002524

### Vertical c/w legs (25 bar)

Model	Capacity [Ltr]	Max Press Bar	Working Temp °C	Connection BSPM	Ø [mm]	Length [mm]	Weight [Kg]	Code
SF 60 V	60	25	90	1" M	380	810	33	0301002560
SF 100 V	100	25	90	1" M	460	990	51	03010025100
SF 200 V	200	25	90	1 1/4" M	590	1120	112	03010025200
SF 300 V	300	25	90	1 1/4" M	640	1230	130	03010025300
SF 500 V	500	25	90	1 1/4" M	750	1550	202	03010025500
SF 750 V	750	25	90	2" M	750	1950	328	03010025750
SF 1000 V	1000	25	90	2" M	800	2180	344	030100251000

Dry check panels one 230V & 400V (submersible or surface pumps)

## Replacement membranes

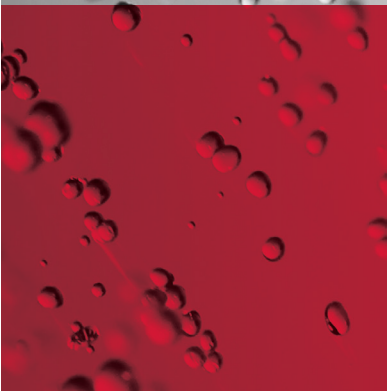
Model	Capacity [Ltr]	Code
ZMC100	60/100 ltrs without hole	09560100
ZMC100H	60/100 ltrs with hole	09560201
ZMC150	150 ltrs with hole	095150
ZMC200	200 ltrs with hole	095200
ZMC500	300/500/750 ltrs with hole	0953575
ZMC500/1000	1000/1500 ltrs with hole	0951015
ZMC2000	2000 ltrs with hole	0952000

Challenger pressure vessels (5 year warranty)





ADVANCED SOLUTIONS  
IN AUTOMATIC  
BOOSTER SETS





## Advanced solutions in automatic pumping equipment's

### Water supply booster sets, firefighting units and special solutions in pumping systems.

**ESPA** offers a large range of solutions to provide the best solutions to the more challenging applications in pumping requirements for automatic water supply for household, building services, hotels, agricultural, hospitals and industrial processes.

**ESPA** evaluates, designs and manufactures booster sets for the automatic supply of water. The **ESPA** range of products can be adapted to the installation requirements. The **ESPA** engineering application department can adjust the standard range of **ESPA** booster sets to satisfy specific requirements in all installations.

The standard range of **ESPA** booster sets can be configured for various operational systems. These include fixed speed DOL, star-delta, variable speed, duty assist in cascade operation and duty-standby configurations. As a result, the standard **ESPA** range booster sets can cover applications requiring the smallest and compact domestic systems to the largest commercial installations. Evidently, **ESPA** can offer a booster set to cover virtually all practical requirements.

The standard range of **ESPA** booster sets can be configured from 1 to 4 pumps with sophisticated communication enabling duty assist and periodic pump demand rotation. **ESPA** can also offer control systems for pump sets consisting of up to 8 pumps used in larger systems.

**ESPA** offers the best solutions in energy saving by utilising variable speed pump controllers. The aim of using these controllers is to ensure the booster set is operating at the BEP (Best Efficient Point) of the performance curve within a variable flow demand system. All standard **ESPA** motors comply with the new IE3 efficiency requirements.

In addition to the standard constant pressure booster sets, **ESPA** can also produce constant flow systems which utilise constant flow sensors. These systems can service applications such as golf course irrigation.

The **ESPA** Applications Engineering Department offers the assistance service for booster set sizing and can also analyse the best option regarding the LCC (Life Cycle Cost) of the system. The **ESPA** after sales service offers, on request, the commissioning and service of all **ESPA** booster sets which guarantees the equipment is operating to the best point of efficiency and reliability.

**ESPA** also offers a standard range of firefighting booster sets which are designed, manufactured and tested according to standards such as BS 12845:2015. The standard range includes duty, standby and jockey pumps which can be driven by either electrical motors or diesel engines. Please see our specific catalogue for more information on the firefighting booster sets **ESPA** can offer.

# Speedrive



## 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 frequency

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

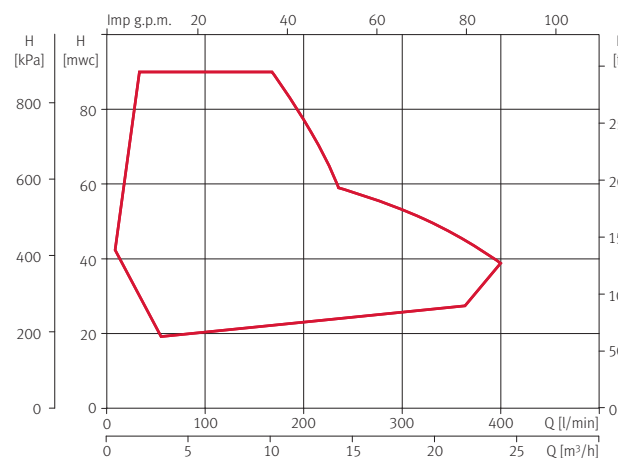
Activation frequency: activation frequency of auxiliary pumps.

Auxiliary pump activation frequency.

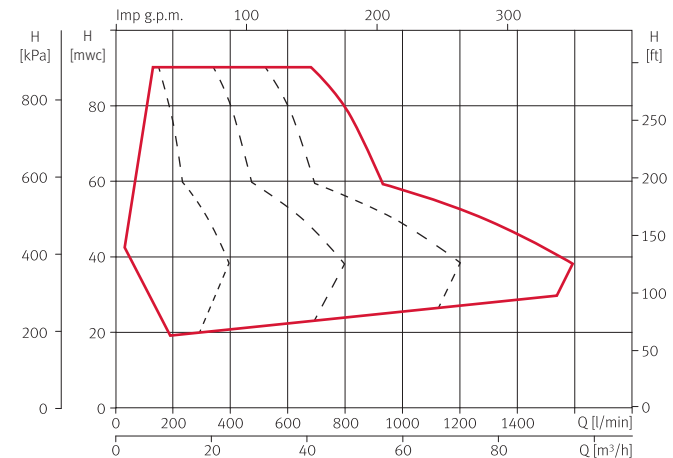
Auxiliary pump maximum intensity.

ADVANCED SOLUTIONS IN AUTOMATIC BOOSTER SETS

## Performance area with one pump



## Performance area with sets of 4 pumps in parallel

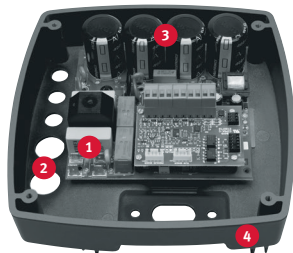


# Speedrive

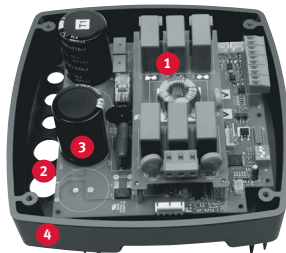


## Electronic circuit

Speedrive M2



Speedrive T3



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

## Pressure transducer

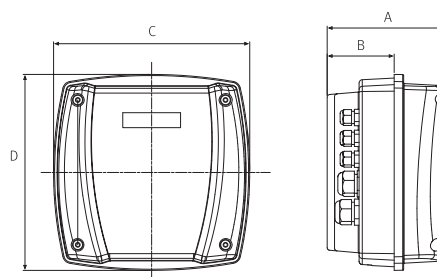


Device for digital pressure reading



## 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 M2	Three-phase T3/T4
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.

# Speeddrive



## 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 **eliminates with fluctuations in the water flow**.

CKE2 MULTI 35 6

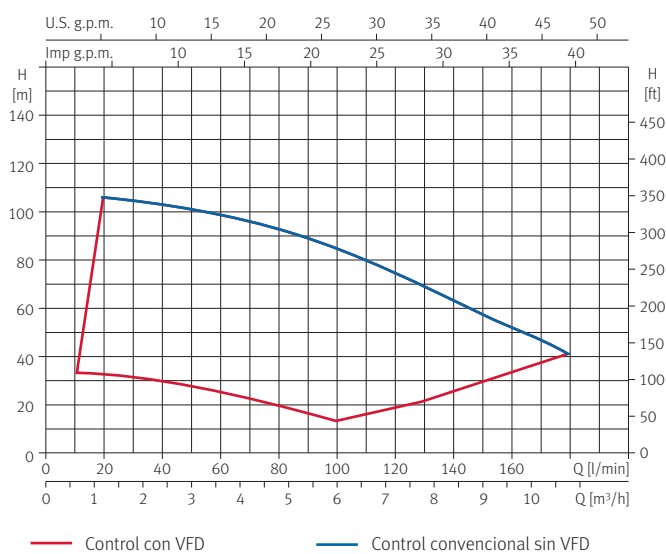


MULTI ESD 35 6



PRISMA ESD 35 6

## Control comparison with and without VFD



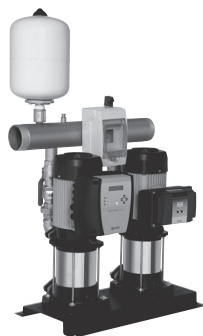
ADVANCED SOLUTIONS IN AUTOMATIC BOOSTER SETS

## Booster sets with ESD control

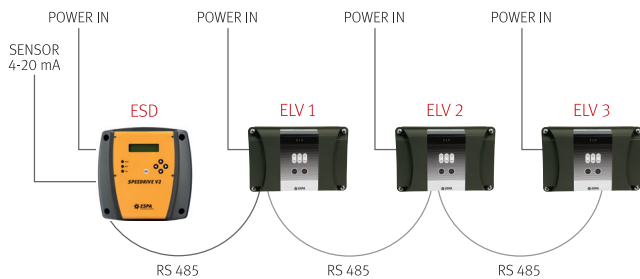
The ESD modules can control the operation of pressure booster sets up to 4 pumps.  
The ESD modules can control the operation of pressure into two different manners:

### 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.



CKED MULTI

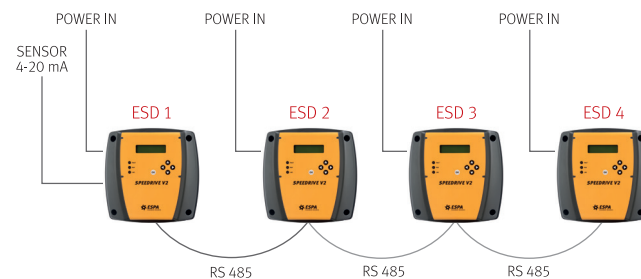


### 2. Units with multiple ESD modules (up to 4):

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



CKE4 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.

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)	A (mm)	B (mm)	(kg)
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
T4	3~400 V AC ± 10 %	13	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).

# CKE1 MULTI VS Variable speed pressurization



## Single pump booster sets

### 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 the building or application. 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 ESPA booster sets offer a small footprint in relation to performance. Installation is straightforward, with site work usually limited to connecting site pipework and the provision of a suitable electrical supply.

### Operation principle

Fully automatic variable speed operation single pump booster set. Complete unit controlled by **ESPA ESD** Speedrive (Variable Frequency Driver) for water supply at constant pressure. The booster set adapts the speed of the motor to the water demand in order to ensure the pressure requested at any flow demand. The pressure of the installation is controlled at any time by a pressure transducer placed on the discharge manifold and the information provided by this instrument allows the ESPA Speedrive to regulate the pump speed operation to the flow demand; and consequently saves energy adapting the power consumption to the water demand at any time.

### Features

Stainless steel suction and discharge manifolds AISI 304.  
Stain chassis finished in black epoxy coating.  
WRAS approved nickel plated brass ball valves on each pump providing individual isolation if necessary.  
WRAS check valves on each pump.  
Anti-vibration mounts as standard.  
8- 12- 24 lt. expansion vessel depending on the pumps size. (WRAS Approved)  
Control panel with MCB's.  
FVC (Free volt contacts) for the external control of the alarms.  
Full documentation provided with each booster set.

### ESPA ESD advantages

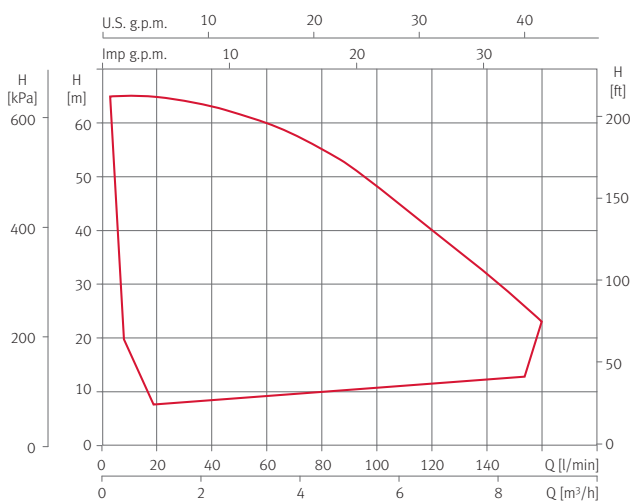
An innovative system that can be used with a variation of pump types including multistage vertical or horizontal pumps. Saves energy up to 50% silent running compact and can extend the life cycle of the pump.



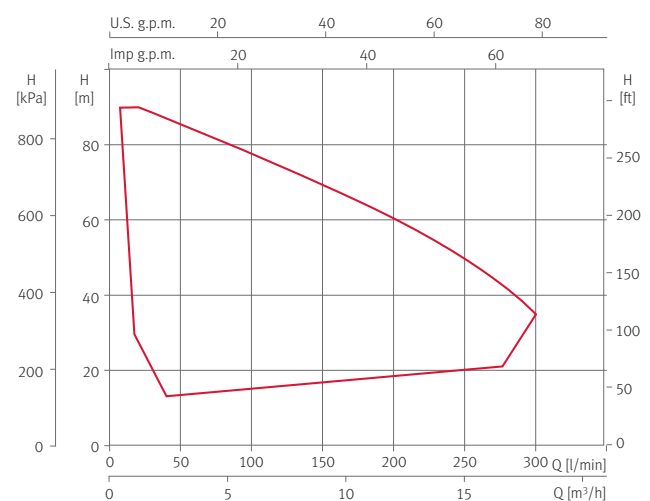
*The ESPA Engineering Application Service is ready to design and manufacture customised solutions for any required application, modifying the standard range increasing the flow, the head or changing operation mode.*

ADVANCED SOLUTIONS IN  
AUTOMATIC BOOSTER SETS

### Hydraulic performance area CKE1M



### Hydraulic performance area CKE1

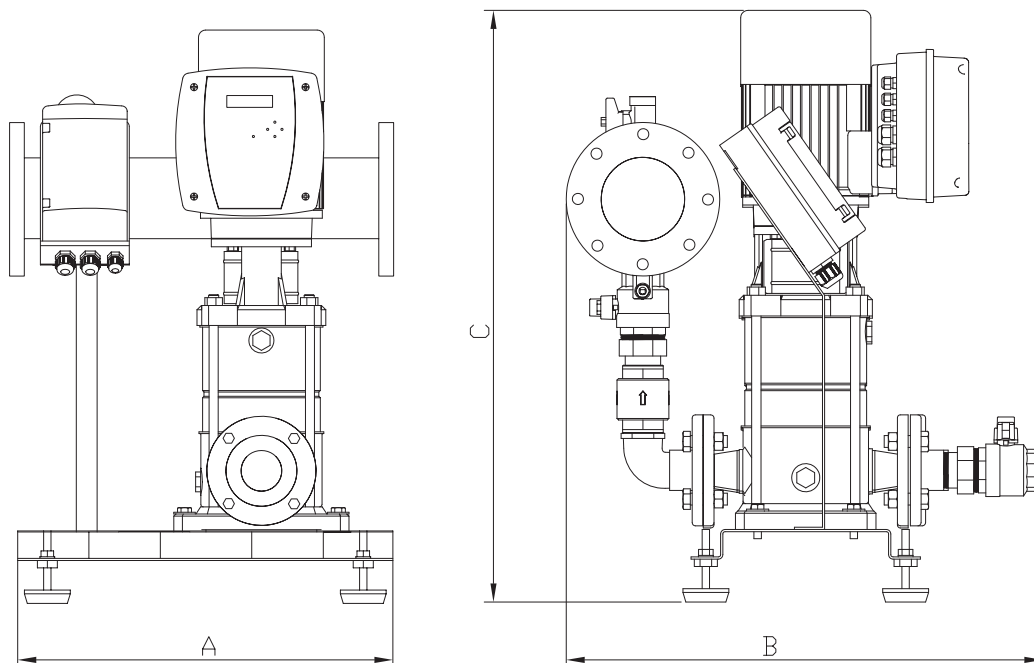




# CKE1 MULTI VS Variable speed pressurization



CKE1 MULTI



## Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct	Disch.	Suc.	Disch.	A	B	C		
CKE1M Multi VS4 05F07 UK	Multi VS4 05F07	1	0.75	M2	1	25	25	1"	1"		2"	400	440	904	42	191837
CKE1M Multi VS4 07F11 UK	Multi VS4 07F11	1	1.1	M2	1	25	25	1"	1"		2"	400	440	904	52	191838
CKE1M Multi VS4 10F15 UK	Multi VS4 10F15	1	1.5	M2	1	25	25	1"	1"		2"	400	440	904	53	196237
CKE1M Multi VS4 14F22 UK	Multi VS4 14F22	1	2.2	M3	1	25	25	1"	1"		2"	400	440	904	57	185238
CKE1M Multi VS6 03F07 UK	Multi VS6 03F07	1	0.75	M2	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	43	185239
CKE1M Multi VS6 05F11 UK	Multi VS6 05F11	1	1.1	M2	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	45	185240
CKE1M Multi VS6 07F15 UK	Multi VS6 07F15	1	1.2	M2	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	53	194999
CKE1M Multi VS6 10F22 UK	Multi VS6 10F22	1	2.2	M3	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	57	185242
CKE1M Multi VS10 03F11 UK	Multi VS10 03F11	1	1.1	M2	1	40	40	1 1/2"	1 1/2"		2"	448	540	904	55	185241
CKE1M Multi VS10 04F15 UK	Multi VS10 04F15	1	1.5	M2	1	40	40	1 1/2"	1 1/2"		2"	448	540	904	63	185243
CKE1M Multi VS10 06F22 UK	Multi VS10 06F22	1	2.2	M3	1	40	40	1 1/2"	1 1/2"		2"	448	540	904	69	185244



# CKE1 MULTI VS Variable speed pressurization



## Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct.	Disch.	Suc.	Disch.	A	B	C		
CKE1 Multi VS4 05F07 UK	Multi VS4 05F07	1	0.75	T2	1	25	25	1"	1"		2"	400	440	904	42	197250
CKE1 Multi VS4 07F11 UK	Multi VS4 07F11	1	1.1	T2	1	25	25	1"	1"		2"	400	440	904	52	185251
CKE1 Multi VS4 10F15 UK	Multi VS4 10F15	1	1.5	T2	1	25	25	1"	1"		2"	400	440	904	53	185254
CKE1 Multi VS4 14F22 UK	Multi VS4 14F22	1	2.2	T2	1	25	25	1"	1"		2"	400	440	904	57	185255
CKE1 Multi VS4 20F30 UK	Multi VS4 02F03	1	3	T3	1	25	25	1"	1"		2"	400	440	990	74	185244
CKE1 Multi VS6 03F07 UK	Multi VS6 03F07	1	0.75	T2	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	43	185245
CKE1 Multi VS6 05F11 UK	Multi VS6 05F11	1	1.1	T2	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	45	185246
CKE1 Multi VS6 07F15 UK	Multi VS6 07F15	1	1.5	T2	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	53	185247
CKE1 Multi VS6 10F22 UK	Multi VS6 10F22	1	2.2	T3	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	57	185248
CKE1 Multi VS6 14F30 UK	Multi VS6 14F30	1	3	T3	1	32	32	1 1/4"	1 1/4"		2"	400	440	904	74	185249
CKE1 Multi VS6 18F40 UK	Multi VS6 18F40	1	4	T4	1	32	32	1 1/4"	1 1/4"		2"	640	679	967	87	185250
CKE1 Multi VS10 03F11 UK	Multi VS10 03F11	1	1.1	T2	1	40	40	1 1/2"	1 1/2"		2"	640	679	904	55	185252
CKE1 Multi VS10 04F15 UK	Multi VS10 04F15	1	1.5	T2	1	40	40	1 1/2"	1 1/2"		2"	640	679	904	63	185253
CKE1 Multi VS10 06F22 UK	Multi VS10 06F22	1	2.2	T3	1	40	40	1 1/2"	1 1/2"		2"	640	679	904	69	185254
CKE1 Multi VS10 08F30 UK	Multi VS10 08F30	1	3	T3	1	40	40	1 1/2"	1 1/2"		2"	640	679	904	83	185255
CKE1 Multi VS10 09F40 UK	Multi VS10 09F40	1	4	T4	1	40	40	1 1/2"	1 1/2"		2"	640	679	904	91	185256
CKE1 Multi VS10 11F40 UK	Multi VS10 11F40	1	4	T4	1	40	40	1 1/2"	1 1/2"		2"	640	679	964	94	185257
CKE1 Multi VS10 15F55 UK	Multi VS10 15F55	1	5.5	T4	1	40	40	1 1/2"	1 1/2"		2"	640	679	1127	157	185258
CKE1 Multi VS15 02F22 UK	Multi VS15 02F22	1	2.2	T3	1	50	50	2"	2"		4"	640	679	914	66	185260
CKE1 Multi VS15 03F30 UK	Multi VS15 03F30	1	3	T3	1	50	50	2"	2"		4"	640	679	914	78	185261
CKE1 Multi VS15 04F40 UK	Multi VS15 04F40	1	4	T4	1	50	50	2"	2"		4"	640	679	914	87	185262
CKE1 Multi VS15 06F55 UK	Multi VS15 06F55	1	5.5	T4	1	50	50	2"	2"		4"	640	679	946	143	185263
CKE1 Multi VS25 01F22 UK	Multi VS25 01F22	1	2.2	T3	1	65	65	2 1/2"	2 1/2"		4"	710	734	920	98	185265
CKE1 Multi VS25 02F40 UK	Multi VS25 02F40	1	4	T4	1	65	65	2 1/2"	2 1/2"		4"	710	734	920	119	185266
CKE1 Multi VS25 03F55 UK	Multi VS25 03F55	1	5.5	T4	1	65	65	2 1/2"	2 1/2"		4"	710	734	1024	160	185267

The dimensions stated in the table above are for guidance purposes only. Please contact ESPA UK prior to order to confirm these dimensions.  
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ADVANCED SOLUTIONS IN  
 AUTOMATIC BOOSTER SETS

# CKE2 MULTI VS Variable speed pressurization



## Twin pumps booster sets

### 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 the building or application. 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 ESPA booster sets offer a small footprint in relation to performance. Installation is straightforward, with site work usually limited to connecting site pipework and the provision of a suitable electrical supply.

### Operation principle

Fully automatic variable speed operation twin pump booster set. Complete unit controlled by **ESPA ESD** Speeddrive (Variable Frequency Driver) for water supply at constant pressure. Two pumps booster set in duty –assist or duty stand-by configuration. All pumps in variable speed operation. The booster set adapts the speed of the motors to the water demand in order to ensure the pressure requested at any flow demand.

The pressure of the installation is controlled at any time by a pressure transducer placed on the discharge manifold and the information provided by this instrument allows the ESPA Speeddrive to regulate the pump speed operation to the flow demand; and consequently saves energy adapting the power consumption to the water demand at any time.

### Features

- Stainless steel suction and discharge manifolds AISI 304.
- Stain chassis finished in black epoxy coating.
- WRAS approved nickel plated brass ball valves on each pump providing individual isolation if necessary.
- WRAS check valves on each pump.
- Anti-vibration mounts as standard.
- 8- 12- 24 lt. expansion vessel (WRAS approved) depending on the pumps size.
- Control panel with MCB's.
- FVC (Free volt contacts) for the external control of the alarms.
- Full documentation provided with each booster set.

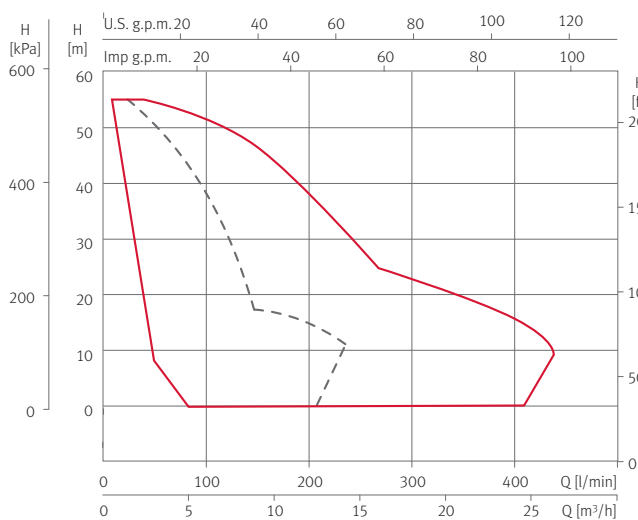


### ESPA ESD advantages

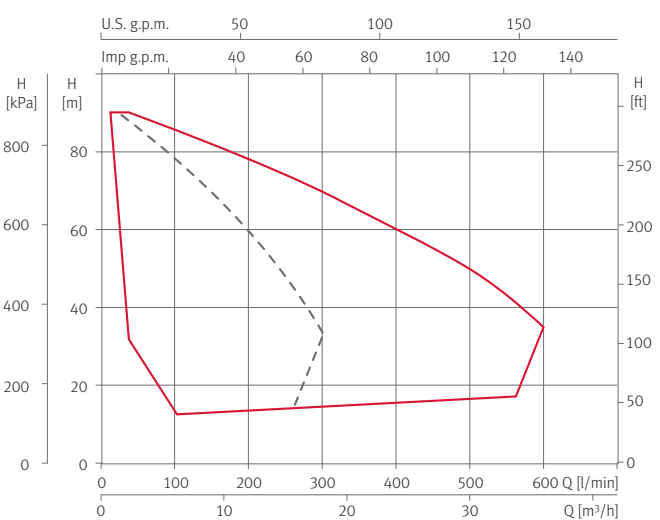
An innovative system that can be used with a variation of pump types including multistage vertical or horizontal pumps. Saves energy up to 50% silent running compact and can extend the life cycle of the pump.

*The ESPA Engineering Application Service is ready to design and manufacture customised solutions for any required application, modifying the standard range increasing the flow, the heat or changing operation mode.*

### Hydraulic performance area CKE1M



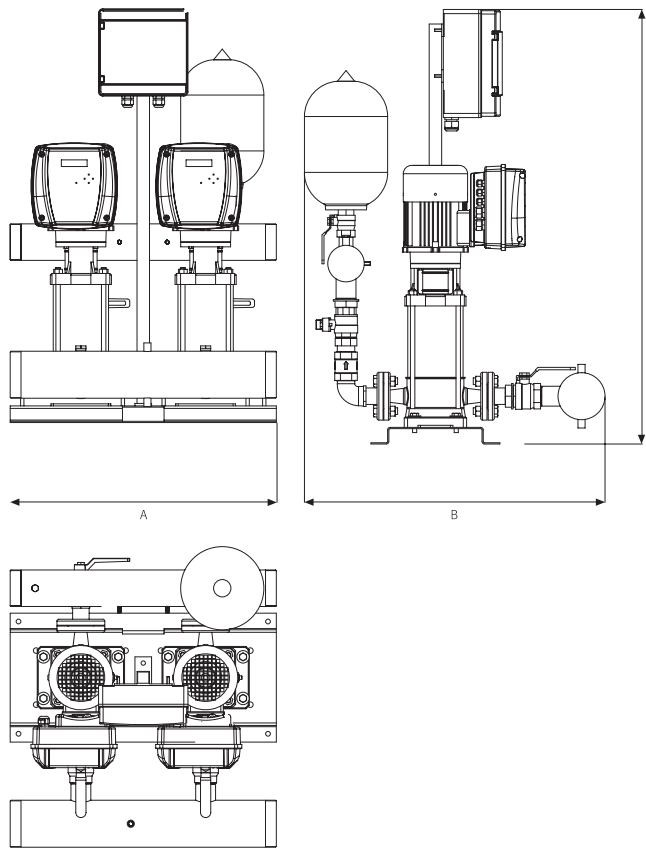
### Hydraulic performance area CKE1



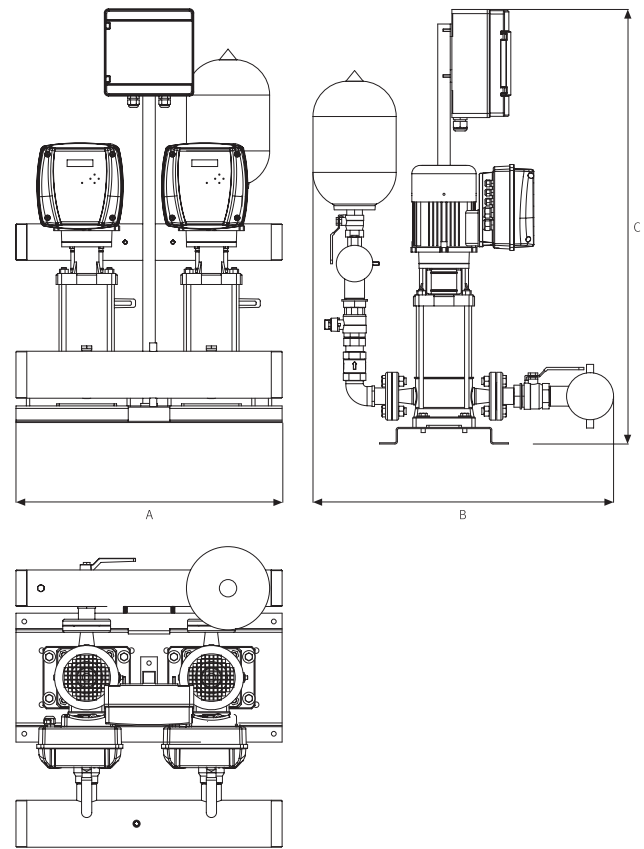
# CKE2 MULTI VS Variable speed pressurization



CKE2M MULTI VS



CKE2 MULTI VS



## Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct.	Disch.	Suc.	Disch.	A	B	C		
CKE2M Multi VS4 05F07 UKASP	Multi VS4 05F07	2	0.75	M2	2	25	25	1"	1"	2"	2"	620	800	1188	101	191841
CKE2M Multi VS4 07F11 UKASP	Multi VS4 07F11	2	1.1	M2	2	25	25	1"	1"	2"	2"	620	800	1188	117	191842
CKE2M Multi VS4 10F15 UKASP	Multi VS4 10F15	2	1.5	M2	2	25	25	1"	1"	2"	2"	620	800	1188	129	191843
CKE2M Multi VS4 14F22 UKASP	Multi VS4 14F22	2	2.2	M3	2	25	25	1"	1"	2"	2"	620	800	1188	135	191844
CKE2M Multi VS6 03F07 UKASP	Multi VS6 03F07	2	0.75	M2	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	71	191850
CKE2M Multi VS6 05F11 UKASP	Multi VS6 05F11	2	1.1	M2	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	74	191851
CKE2M Multi VS6 07F15 UKASP	Multi VS6 07F15	2	1.2	M2	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	87	191852
CKE2M Multi VS6 10F22 UKASP	Multi VS6 10F22	2	2.2	M3	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	94	191853
CKE2M Multi VS10 03F11 UKASP	Multi VS10 03F11	2	1.1	M2	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	90	191860
CKE2M Multi VS10 04F15 UKASP	Multi VS10 04F15	2	1.5	M2	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	104	191861
CKE2M Multi VS10 06F22 UKASP	Multi VS10 06F22	2	2.2	M3	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	113	191862

ADVANCED SOLUTIONS IN  
AUTOMATIC BOOSTER SETS

## Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct.	Disch.	Suc.	Disch.	A	B	C		
CKE2 Multi VS4 05F07 UKASP	Multi VS4 05F07	2	0.75	T2	2	25	25	1"	1"	2"	2"	620	800	1188	69	191870
CKE2 Multi VS4 07F11 UKASP	Multi VS4 07F11	2	1.1	T2	2	25	25	1"	1"	2"	2"	620	800	1188	85	191871
CKE2 Multi VS4 10F15 UKASP	Multi VS4 10F15	2	1.5	T2	2	25	25	1"	1"	2"	2"	620	800	1188	87	191872
CKE2 Multi VS4 14F22 UKASP	Multi VS4 14F22	2	2.2	T2	2	25	25	1"	1"	2"	2"	620	800	1188	94	191873
CKE2 Multi VS4 20F30 UKASP	Multi VS4 02F03	2	3	T3	2	25	25	1"	1"	2"	2"	620	800	1188	122	191874
CKE2 Multi VS6 03F07 UKASP	Multi VS6 03F07	2	0.75	T2	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	71	191880
CKE2 Multi VS6 05F11 UKASP	Multi VS6 05F11	2	1.1	T2	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	74	191881
CKE2 Multi VS6 07F15 UKASP	Multi VS6 07F15	2	1.5	T2	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	87	191882
CKE2 Multi VS6 10F22 UKASP	Multi VS6 10F22	2	2.2	T3	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	94	191883
CKE2 Multi VS6 14F30 UKASP	Multi VS6 14F30	2	3	T3	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	122	191884
CKE2 Multi VS6 18F40 UKASP	Multi VS6 18F40	2	4	T4	2	32	32	1 1/4"	1 1/4"	2"	2"	620	800	1188	143	191885
CKE2 Multi VS10 03F11 UKASP	Multi VS10 03F11	2	1.1	T2	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	90	191890
CKE2 Multi VS10 04F15 UKASP	Multi VS10 04F15	2	1.5	T2	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	104	191891
CKE2 Multi VS10 06F22 UKASP	Multi VS10 06F22	2	2.2	T3	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	113	191892
CKE2 Multi VS10 08F30 UKASP	Multi VS10 08F30	2	3	T3	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	136	191893
CKE2 Multi VS10 09F40 UKASP	Multi VS10 09F40	2	4	T4	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	150	191894
CKE2 Multi VS10 11F40 UKASP	Multi VS10 11F40	2	4	T4	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	154	191895
CKE2 Multi VS10 15F55 UKASP	Multi VS10 15F55	2	5.5	T4	2	40	40	1 1/2"	1 1/2"	2"	2"	620	800	1188	258	191896
CKE2 Multi VS15 02F22 UKASP	Multi VS15 02F22	2	2.2	T3	2	50	50	2"	2"	4"	4"	620	800	1188	108	191900
CKE2 Multi VS15 03F30 UKASP	Multi VS15 03F30	2	3	T3	2	50	50	2"	2"	4"	4"	620	800	1188	129	191901
CKE2 Multi VS15 04F40 UKASP	Multi VS15 04F40	2	4	T4	2	50	50	2"	2"	4"	4"	620	800	1188	143	191902
CKE2 Multi VS15 06F55 UKASP	Multi VS15 06F55	2	5.5	T4	2	50	50	2"	2"	4"	4"	620	800	1188	235	191903
CKE2 Multi VS25 01F22 UKASP	Multi VS25 01F22	2	2.2	T3	2	65	65	2 1/2"	2 1/2"	4"	4"	620	800	1188	161	191910
CKE2 Multi VS25 02F40 UKASP	Multi VS25 02F40	2	4	T4	2	65	65	2 1/2"	2 1/2"	4"	4"	620	800	1188	196	191911
CKE2 Multi VS25 03F55 UKASP	Multi VS25 03F55	2	5.5	T4	2	65	65	2 1/2"	2 1/2"	4"	4"	620	800	1188	262	191912

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# CKE3 MULTI VS Variable speed pressurization



## Three pumps booster sets

### 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 the building or Application. 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 ESPA booster sets offer a small footprint in relation to performance. Installation is straightforward, with site work usually limited to connecting site pipework and the provision of a suitable electrical supply.

### Operation principle

Fully automatic variable speed operation twin pump booster set. Complete unit controlled by **ESPA ESD** Speedrive (Variable Frequency Driver) for water supply at constant pressure. Two pumps booster set in duty – assist – assist or duty – assist - stand-by configuration. All pumps in variable speed operation. The booster set adapts the speed of the motors to the water demand in order to ensure the pressure requested at any flow demand.

The pressure of the installation is controlled at any time by a pressure transducer placed on the discharge manifold and the information provided by this instrument allows the ESPA Speedrive to regulate the pump speed operation to the flow demand; and consequently saves energy adapting the power consumption to the water demand at any time.

### Features

- Stainless steel suction and discharge manifolds AISI 304.
- Stain chassis finished in black epoxy coating.
- WRAS approved nickel plated brass ball valves on each pump providing individual isolation if necessary.
- WRAS check valves on each pump.
- Anti-vibration mounts as standard.
- 8- 12- 24 lt. expansion vessel depending on the pumps size (WRAS Approved).
- Control panel with MCB's.
- FVC (Free volt contacts) for the external control of the alarms.
- Full documentation provided with each booster set.

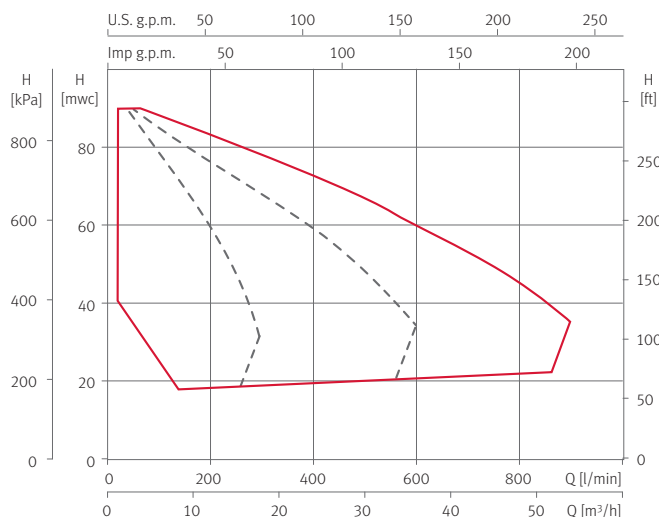
### ESPA ESD advantages

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 cycle of the pump.



*The ESPA Engineering Application Service is ready to design and manufacture customised solutions for any required application, modifying the standard range increasing the flow, the head or changing operation mode.*

## Hydraulic performance area CKE3

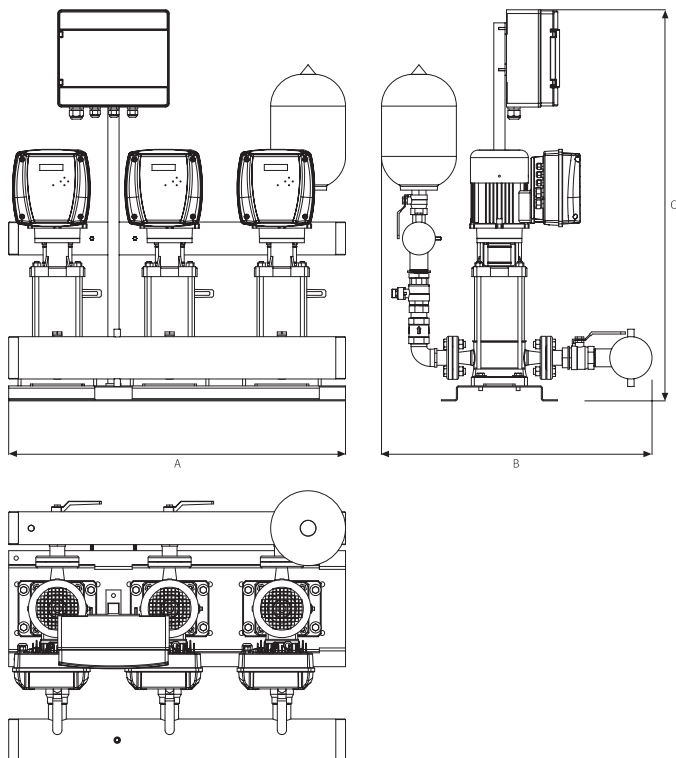


ADVANCED SOLUTIONS IN AUTOMATIC BOOSTER SETS

# CKE3 MULTI VS Variable speed pressurization



## CKE3 MULTI VS



### Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct	Disch.	Suc.	Disch.	A	B	C		
CKE3M Multi VS4 05F07 UKASP	Multi VS4 05F07	3	0.75	M2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	151	191920
CKE3M Multi VS4 07F11 UKASP	Multi VS4 07F11	3	1.1	M2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	172	191921
CKE3M Multi VS4 10F15 UKASP	Multi VS4 10F15	3	1.5	M2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	183	191922
CKE3M Multi VS4 14F22 UKASP	Multi VS4 14F22	3	2.2	M3	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	205	191923
CKE3M Multi VS6 03F07 UKASP	Multi VS6 03F07	3	0.75	M2	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	163	191930
CKE3M Multi VS6 05F11 UKASP	Multi VS6 05F11	3	1.1	M2	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	174	191931
CKE3M Multi VS6 07F15 UKASP	Multi VS6 07F15	3	1.2	M2	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	190	191932
CKE3M Multi VS6 10F22 UKASP	Multi VS6 10F22	3	2.2	M3	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	205	191933
CKE3M Multi VS10 03F11 UKASP	Multi VS10 03F11	3	1.1	M2	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	195	191940
CKE3M Multi VS10 04F15 UKASP	Multi VS10 04F15	3	1.5	M2	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	225	191941

# CKE3 MULTI VS Variable speed pressurization



## Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct.	Disch.	Suc.	Disch.	A	B	C		
CKE3 Multi VS4 05F07 UKASP	Multi VS4 05F07	3	0.75	T2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	150	191950
CKE3 Multi VS4 07F11 UKASP	Multi VS4 07F11	3	1.1	T2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	185	191952
CKE3 Multi VS4 10F15 UKASP	Multi VS4 10F15	3	1.5	T2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	190	191953
CKE3 Multi VS4 14F22 UKASP	Multi VS4 14F22	3	2.2	T2	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	205	191954
CKE3 Multi VS4 20F30 UKASP	Multi VS4 02F03	3	3	T3	3	25	25	1"	1"	2 1/2"	2 1/2"	1300	870	1320	265	191955
CKE3 Multi VS6 03F07 UKASP	Multi VS6 03F07	3	0.75	T2	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	155	191960
CKE3 Multi VS6 05F11 UKASP	Multi VS6 05F11	3	1.1	T2	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	160	191961
CKE3 Multi VS6 07F15 UKASP	Multi VS6 07F15	3	1.5	T2	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	190	191962
CKE3 Multi VS6 10F22 UKASP	Multi VS6 10F22	3	2.2	T3	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	205	191963
CKE3 Multi VS6 14F30 UKASP	Multi VS6 14F30	3	3	T3	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	265	191964
CKE3 Multi VS6 18F40 UKASP	Multi VS6 18F40	3	4	T4	3	32	32	1 1/4"	1 1/4"	2 1/2"	2 1/2"	1300	870	1320	310	191965
CKE3 Multi VS10 03F11 UKASP	Multi VS10 03F11	3	1.1	T2	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	195	191970
CKE3 Multi VS10 04F15 UKASP	Multi VS10 04F15	3	1.5	T2	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	225	191971
CKE3 Multi VS10 06F22 UKASP	Multi VS10 06F22	3	2.2	T3	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	245	191972
CKE3 Multi VS10 08F30 UKASP	Multi VS10 08F30	3	3	T3	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	295	191973
CKE3 Multi VS10 09F40 UKASP	Multi VS10 09F40	3	4	T4	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	325	191974
CKE3 Multi VS10 11F40 UKASP	Multi VS10 11F40	3	4	T4	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	335	191975
CKE3 Multi VS10 15F55 UKASP	Multi VS10 15F55	3	5.5	T4	3	40	40	1 1/2"	1 1/2"	2 1/2"	2 1/2"	1300	870	1320	560	191976
CKE3 Multi VS15 02F22 UKASP	Multi VS15 02F22	3	2.2	T3	3	50	50	2"	2"	4"	4"	1300	870	1320	235	191980
CKE3 Multi VS15 03F30 UKASP	Multi VS15 03F30	3	3	T3	3	50	50	2"	2"	4"	4"	1300	870	1320	280	191981
CKE3 Multi VS15 04F40 UKASP	Multi VS15 04F40	3	4	T4	3	50	50	2"	2"	4"	4"	1300	870	1320	310	191982
CKE3 Multi VS15 06F55 UKASP	Multi VS15 06F55	3	5.5	T4	3	50	50	2"	2"	4"	4"	1300	870	1320	510	191983
CKE3 Multi VS25 01F22 UKASP	Multi VS25 01F22	3	2.2	T3	3	65	65	2 1/2"	2 1/2"	4"	4"	1300	870	1320	350	191990
CKE3 Multi VS25 02F40 UKASP	Multi VS25 02F40	3	4	T4	3	65	65	2 1/2"	2 1/2"	4"	4"	1300	870	1320	425	191991
CKE3 Multi VS25 03F55 UKASP	Multi VS25 03F55	3	5.5	T4	3	65	65	2 1/2"	2 1/2"	4"	4"	1300	870	1320	570	191992

The dimensions stated in the table above are for guidance purposes only. Please contact ESPA UK prior to order to confirm these dimensions.  
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ADVANCED SOLUTIONS IN  
AUTOMATIC BOOSTER SETS



# CKE4 MULTI VS Variable speed pressurization



## Four pumps booster sets

### 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 the building or Application. 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 ESPA booster sets offer a small footprint in relation to performance. Installation is straightforward, with site work usually limited to connecting site pipework and the provision of a suitable electrical supply.

### Operation principle

Fully automatic variable speed operation twin pump booster set. Complete unit controlled by **ESPA ESD** Speedrive (Variable Frequency Driver) for water supply at constant pressure. Two pumps booster set in duty –assist – assist – assist or duty – assist – assist - stand-by configuration. All pumps in variable speed operation. The booster set adapts the speed of the motors to the water demand in order to ensure the pressure requested at any flow demand.

The pressure of the installation is controlled at any time by a pressure transducer placed on the discharge manifold and the information provided by this instrument allows the ESPA Speedrive to regulate the pump speed operation to the flow demand; and consequently saves energy adapting the power consumption to the water demand at any time.

### Features

- Stainless steel suction and discharge manifolds AISI 304.
- Stain chassis finished in black epoxy coating.
- WRAS approved nickel plated brass ball valves on each pump providing individual isolation if necessary.
- WRAS check valves on each pump.
- Anti-vibration mounts as standard.
- 8- 12- 24 lt. expansion vessel depending on the pumps size (WRAS Approved).
- Control panel with MCB's.
- FVC (Free volt contacts) for the external control of the alarms.
- Full documentation provided with each booster set.

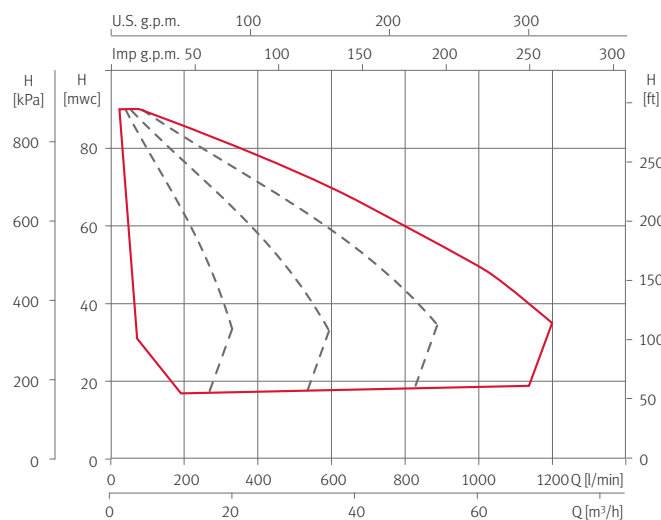


### ESPA ESD advantages

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 cycle of the pump.

*The ESPA Engineering Application Service is ready to design and manufacture customised solutions for any required application, modifying the standard range increasing the flow, the head or changing operation mode.*

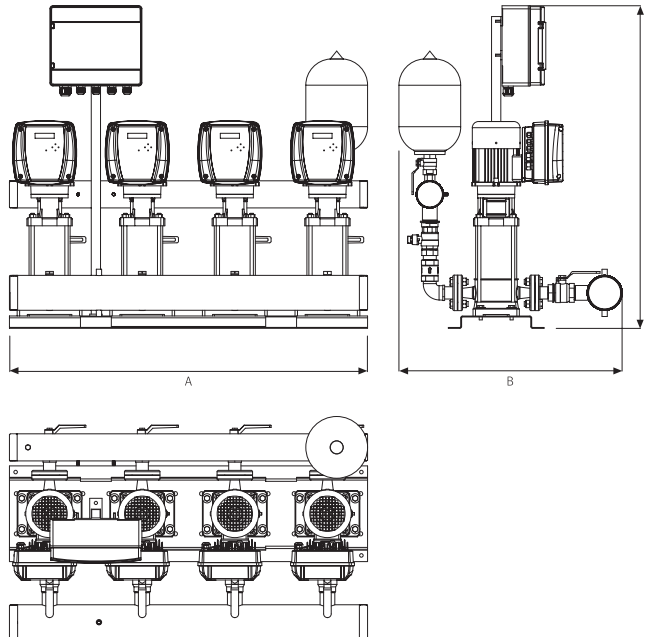
## Campo de aplicación CKE4 a 2900 rpm



# CKE4 MULTI VS Variable speed pressurization



CKE4 MULTI VS



## Technical features, dimensions and weights

Single pump sets Single-phase	Pump model	Units	P2 [kW]	Inverter	Units	Pump		Ø Valves		Ø Manifold		Dimensions			Weight	Code
						Suc.	disch.	Suct.	Disch.	Suc.	Disch.	A	B	C		
CKE4 Multi VS4 05F07 UKASP	Multi VS4 05F07	4	0.75	T2	4	25	25	1"	1"	4"	4"	1160	703	1046	210	192000
CKE4 Multi VS4 07F11 UKASP	Multi VS4 07F11	4	1.1	T2	4	25	25	1"	1"	4"	4"	1160	703	1136	259	192001
CKE4 Multi VS4 10F15 UKASP	Multi VS4 10F15	4	1.5	T2	4	25	25	1"	1"	4"	4"	1160	703	1136	266	192002
CKE4 Multi VS4 14F22 UKASP	Multi VS4 14F22	4	2.2	T2	4	25	25	1"	1"	4"	4"	1160	703	1136	287	191003
CKE4 Multi VS4 20F30 UKASP	Multi VS4 02F03	4	3	T3	4	25	25	1"	1"	4"	4"	1160	703	1136	371	192003
CKE4 Multi VS6 04F07 UKASP	Multi VS6 03F07	4	0.75	T2	4	32	32	1 1/4"	1 1/4"	4"	4"	1160	703	1046	217	192010
CKE4 Multi VS6 05F11 UKASP	Multi VS6 05F11	4	1.1	T2	4	32	32	1 1/4"	1 1/4"	4"	4"	1160	703	1136	224	192011
CKE4 Multi VS6 07F15 UKASP	Multi VS6 07F15	4	1.5	T2	4	32	32	1 1/4"	1 1/4"	4"	4"	1160	703	1136	266	192012
CKE4 Multi VS6 10F22 UKASP	Multi VS6 10F22	4	2.2	T3	4	32	32	1 1/2"	1 1/2"	4"	4"	1160	703	1136	287	192013
CKE4 Multi VS6 14F30 UKASP	Multi VS6 14F30	4	3	T3	4	32	32	1 1/4"	1 1/4"	4"	4"	1160	703	1136	371	192014
CKE4 Multi VS6 18F40 UKASP	Multi VS6 18F40	4	4	T4	4	32	32	1 1/4"	1 1/4"	4"	4"	1160	703	1136	434	192015
CKE4 Multi VS6 22F55 UKASP	Multi VS6 22F55	4	5.5	T4	4	32	32	1 1/4"	1 1/4"	4"	4"	1160	703	1136	579	192016
CKE4 Multi VS10 03F11 UKASP	Multi VS10 03F11	4	1.1	T2	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1046	273	192020
CKE4 Multi VS10 04F15 UKASP	Multi VS10 04F15	4	1.5	T2	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1046	315	192021
CKE4 Multi VS10 06F22 UKASP	Multi VS10 06F22	4	2.2	T3	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1046	343	192022
CKE4 Multi VS10 08F30 UKASP	Multi VS10 08F30	4	3	T3	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1136	413	192023
CKE4 Multi VS10 09F40 UKASP	Multi VS10 09F40	4	4	T4	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1136	455	192024
CKE4 Multi VS10 11F40 UKASP	Multi VS10 11F40	4	4	T4	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1136	469	192025
CKE4 Multi VS10 15F55 UKASP	Multi VS10 15F55	4	5.5	T4	4	40	40	1 1/2"	1 1/2"	4"	4"	1160	703	1136	784	192026
CKE4 Multi VS15 02F22 UKASP	Multi VS15 02F22	4	2.2	T3	4	50	50	2"	2"	6"	6"	1160	703	1188	329	192030
CKE4 Multi VS15 04F30 UKASP	Multi VS15 03F30	4	3	T3	4	50	50	2"	2"	6"	6"	1160	703	1188	392	192031
CKE4 Multi VS15 04F40 UKASP	Multi VS15 04F40	4	4	T4	4	50	50		2"	6"	6"	1160	703	1188	434	192032
CKE4 Multi VS15 06F55 UKASP	Multi VS15 06F55	4	5.5	T4	4	50	50	2"	2"	6"	6"	1160	703	1188	714	192033
CKE4 Multi VS25 01F22 UKASP	Multi VS25 01F22	4	2.2	T3	4	65	65	2 1/2"	2 1/2"	6"	6"	1230	800	1089	490	192040
CKE4 Multi VS25 02F40 UKASP	Multi VS25 02F40	4	4	T4	4	65	65	2 1/2"	2 1/2"	6"	6"	1160	800	1089	595	192041
CKE4 Multi VS25 04F55 UKASP	Multi VS25 03F55	4	5.5	T4	4	65	65	2 1/2"	2 1/2"	6"	6"	1160	800	1089	798	192042

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ADVANCED SOLUTIONS IN AUTOMATIC BOOSTER SETS

# 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 the traditional principles of quality engineering.

Due to the compact design, ESPA 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 Danfos inverter(s) (depending on control choice). Door interlocked isolator. Pump controller via transducer. Manual/Off/Auto parameter for each pump. Duty pump alternation 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”.

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)



P.O.A. Please contact ESPA for price and availability.

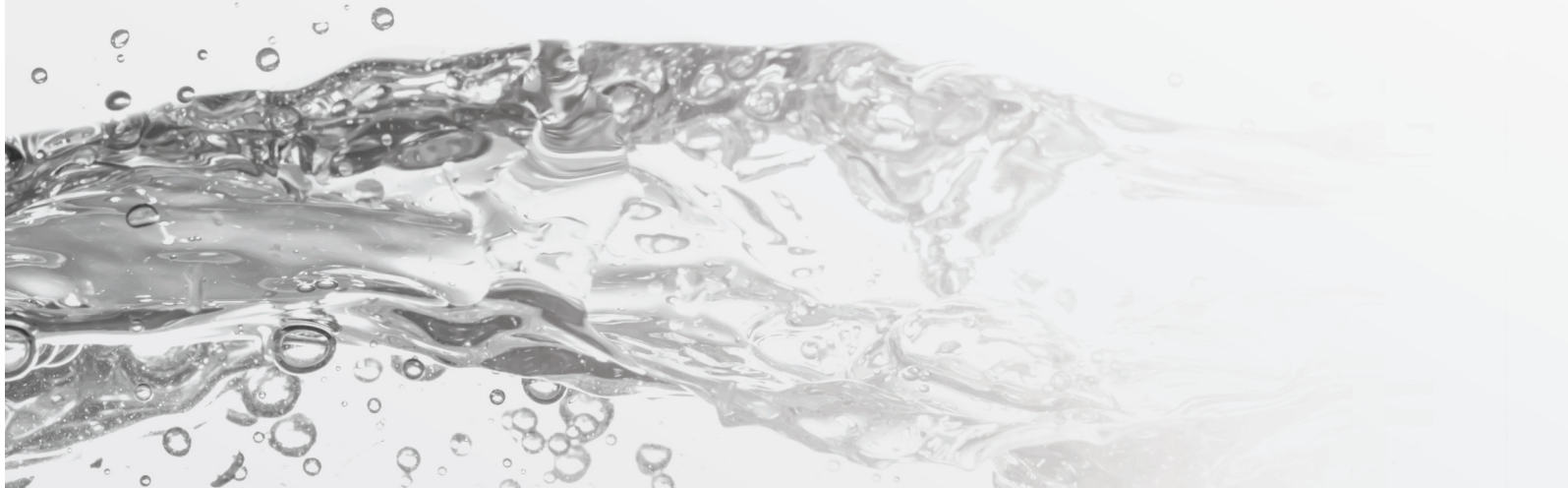
## Other Package booster sets

### Fixed speed booster sets

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

Espe 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. Low cost fixed speed booster sets available on request.



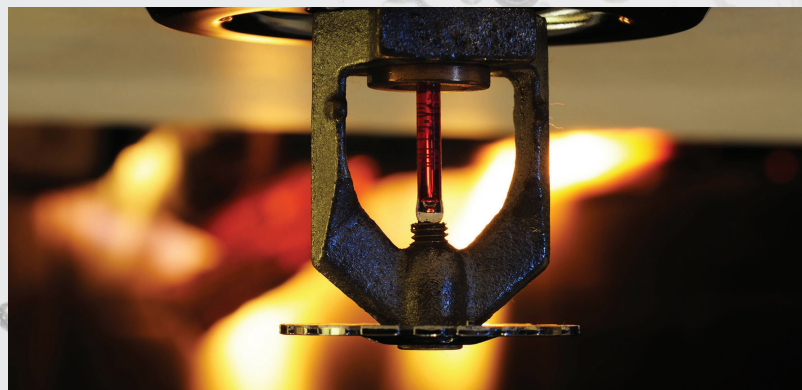
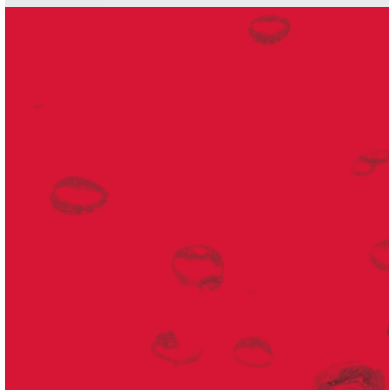


## FIRE-FIGHTING BOOSTER SETS

### Range overview

UE/U2E/UD/UED Fire sprinkler systems for domestic and residential occupancies according with BS 9251:2014 and BRE LPS 1131

RE/RD/RED for sprinklers water supply according to BS 12845: 2015





## 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 fighting systems**

Booster sets according with the following rules:

BS 9251:2014

BRE LPS 1131

#### **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**

Booster sets for fire fighting installations according with

BS 12845:2015

#### **Models**

**RE:** jockey pump + electric pump.

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

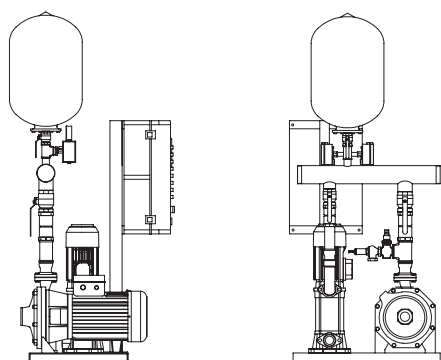
**RED:** jockey pump + electric service pump + engine driven auxiliary pump.



## Components

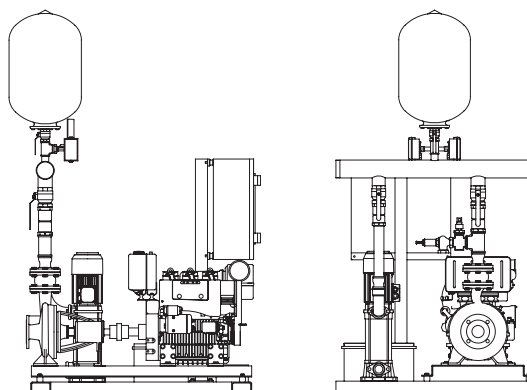
UE

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.



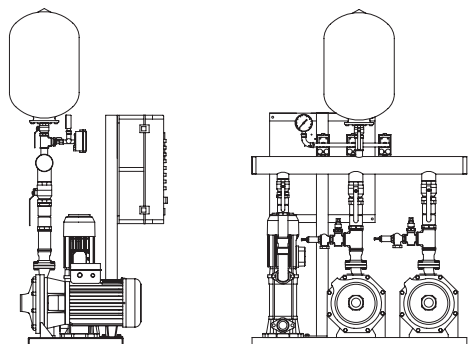
UD

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.



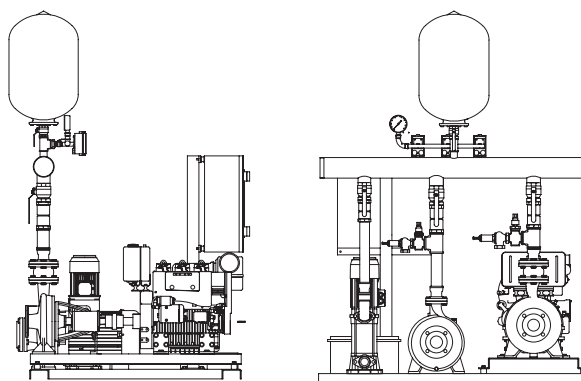
U2E

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.

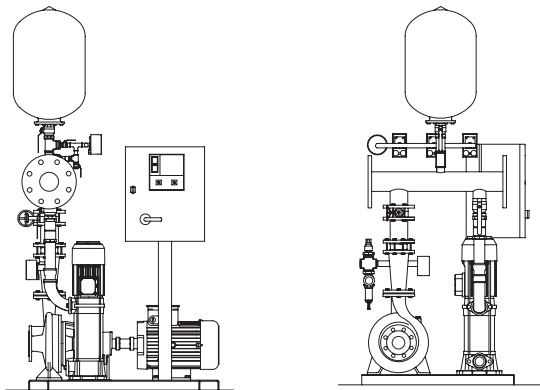


FIRE-FIGHTING  
BOOSTER SETS

## Components

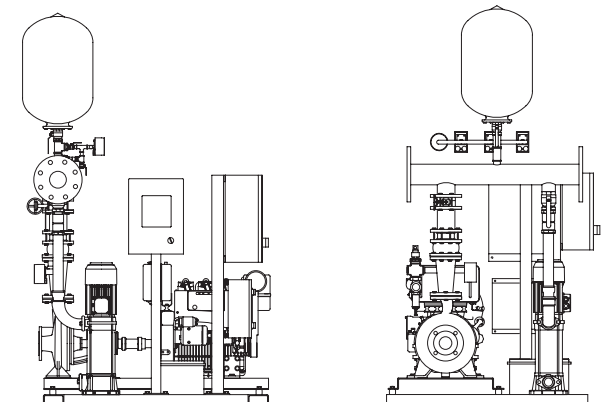
RE

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



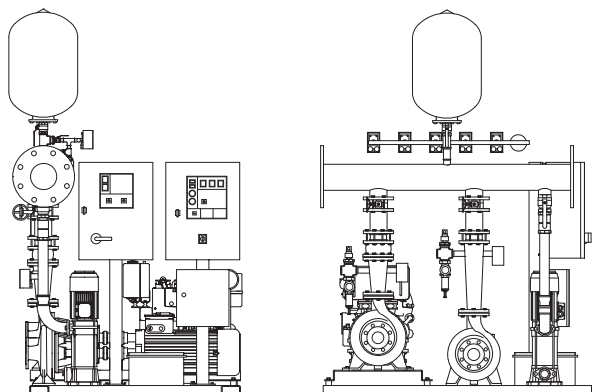
RD

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.



RED

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.







## RAINWATER HARVESTING



## Compact unit for automatic management of rainwater recovered in homes

### Applications

Domestic Rainwater Harvesting.

### Materials

High-density polyethylene tank.  
 Pump body and impellers in stainless steel AISI 304.  
 Suction and discharge connections in brass.  
 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.  
 ESPA Aspri 15 4M with Pressdrive.  
 Dual suction.  
 Dry operation protection.

### Equipment

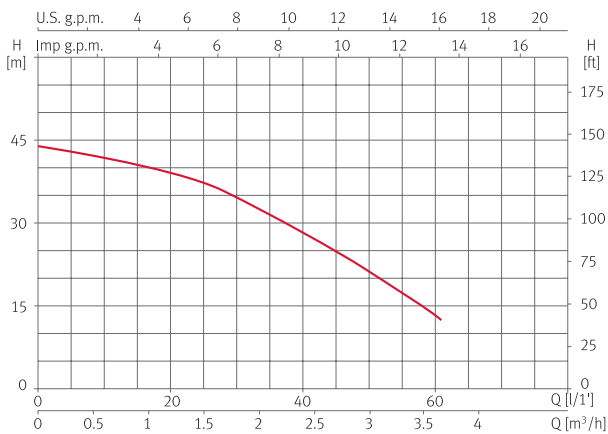
Drinking water inlet valve.  
 Power socket for controlling the 3-way valve.  
 Drainage pipe connection.  
 Level switch. Float with 20 m of cable.  
 Connections: rainwater - 1" M, impulsion - 1" M, mains water - 3/8" H.



### Hydraulic performance table

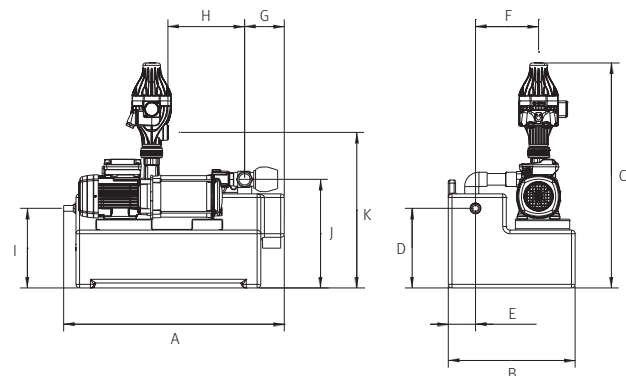
Model	I [A]	P1 [kW]	P2		c [μF]	l/min m³/h	10 0.6	20 1.2	30 1.8	35 2.1	40 2.4	45 2.7	50 3.0	60 3.6	Code
	1~230 V	1~230 V	[kW]	[HP]											
Eco System (with pump)	3.5	0.8	0.55	0.75	12	<b>mwc</b>	43	39	35	32	27	25	21.5	17	149979

### Performance curves at 2900 rpm



### Dimensions and weights

Model	A	B	C	D	E	F	G	H	I	J	K
Eco-System	609	350	620	220	75	174	110	212	220	300	430



## To work in installations for rain water recovery

### 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 with built-in pressure control and non return valve. 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.  
You must install a pressure vessel on the discharge pipework minimum 24 ltrs.  
Equipped with a suction base, with connection for a floating suction.

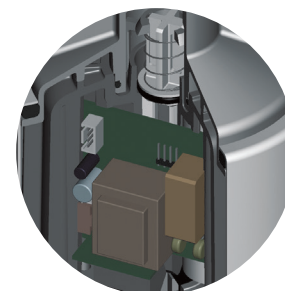
### Floating suction

#### Equipment

IRM-floating extraction TWIST with 1 m or 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

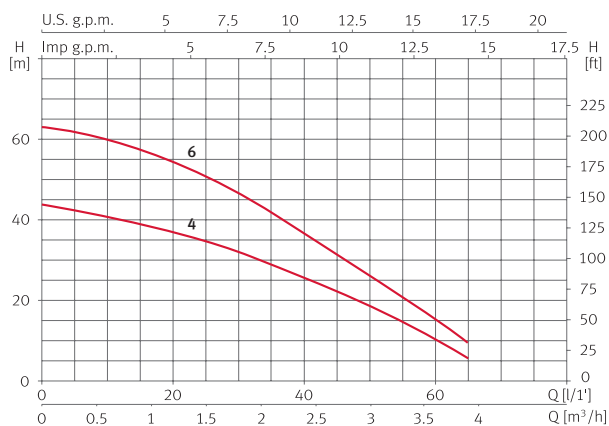
Rainwater harvesting for domestic and commercial use.  
For tanks where rainwater is filtered (TWIST) or unfiltered (SAFF) prior to holding tank. To extract cleanest water, place 15 cm below water surface.



### Hydraulic performance table

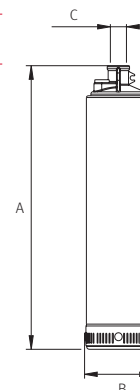
Model	I [A]		P1 [kW]		P2		c [µF]	l/min m³/h	10	20	30	40	45	50	60	65	Code
	1~ 230 V	3~ 400 V	1~ 230 V	3~ 400 V	[kW]	[HP]			0.6	1.2	1.8	2.4	2.7	3.0	3.6	3.9	
Acuapres 4M N	3.5	1.7	0.8	0.8	0.5	0.75	12	mvc	41	37	32	26	22	19	10	6	157966
Acuapres 6M N	5	2	1.2	1.1	0.9	1.2	16		60	55	47	37	32	26	15	9	157972
Floating intake c/w 1 mtr hose																	4.000.610.00
Floating intake c/w 2 mtr hose																	4.000.620.00

### Performance curves at 2900 rpm



### Dimensions and weights

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



RAINWATER HARVESTING

## To work in installations for rain water recovery

### Applications

To work in installations for rain water recovery.

### 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.  
Equipped with a suction base, connection for a floating suction.

### Floating suction

#### Equipment

IRM-floating extraction TWIST with 1 m or 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

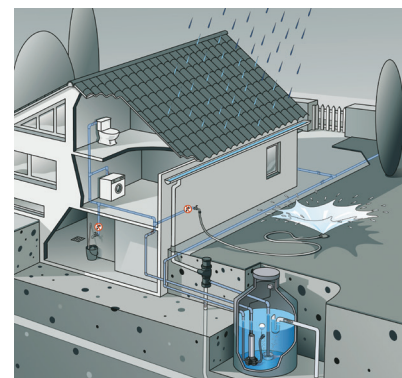
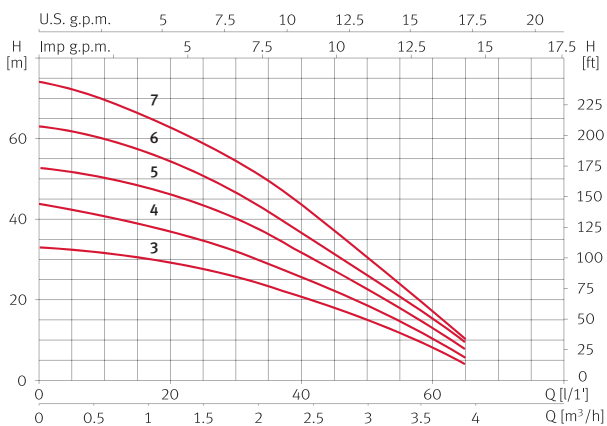
Rainwater harvesting for domestic and commercial use.  
For tanks where rainwater is filtered (TWIST) or unfiltered (SAFF) prior to holding tank. To extract cleanest water, place 15 cm below water surface.



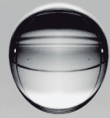
## Hydraulic performance table

Model	I [A]		P1 [kW]		P2		c [µF]	l/min m³/h	10	20	30	40	45	50	60	65	Code	
	1~230 V	3~400 V	1~230 V	3~400 V	[kW]	[HP]			0.6	1.2	1.8	2.4	2.7	3.0	3.6	3.9		
Rainsub 07N 3	2.8	1.2	0.6	0.6	0.37	0.5	12	mwc	33	29	26	21	18	15	8	4	157967+4000681	
Rainsub 07N 4	3.5	1.7	0.8	0.8	0.5	0.75	12		41	37	32	26	22	19	10	6	157964+4000681	
Rainsub 07N 5	4.1	1.9	1	1	0.75	1	12		50	46	40	32	27	23	13	8	157969+4000681	
Rainsub 07N 6	5.0	2.0	1.2	1.1	0.9	1.2	16		60	55	47	37	32	26	15	9	157970+4000681	
Rainsub 07N 7	5.5	2.4	1.4	1.3	1.1	1.5	30		70	64	55	44	38	31	18	11	157973+4000681	
Floating intake c/w 1 mtr hose																	4.000.610.00	
Floating intake c/w 2 mtr hose																	4.000.620.00	

## Performance curves at 2900 rpm







ACCESSORIES,  
CONTROL PANELS &  
INVERTERS



# Accessories **Accessories**



## Capacitor boxes 4" 230 V (Acuaría pumps)



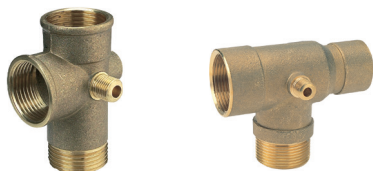
Model	Code
12 µF 230 V	8200051001
16 µF 230 V	8200051002
25 µF 230 V	8200051005
30 µF 230 V	8200051006

## Cable connectors



Model	Code
Heat shrink (1-2.5 mm <sup>2</sup> ) (new type)	369210000
Resin joint kit (1-4 mm <sup>2</sup> )	8500000004
Resin joint kit (5-10 mm <sup>2</sup> )	8500000010

## Brass Connectors



Model	Code
Bronze 5 way connector 1"	5M0202

## Pressure gauges



Model	Code
0-6 bar (Radial 63 mm. 1/4" connection)	600200
0-10 bar (Radial 63mm. 1/4" connection)	600201
0-6 bar Glycerine (Radial 63 mm. 1/4" connection)	600300
0-10 bar Glycerine (Radial 63 mm. 1/4" connection)	600302
0-16 bar Glycerine (Radial 63 mm. 1/4" connection)	600303
0-25 bar Glycerine (Radial 63 mm. 1/4" connection)	600401

## Pressure switches



Model	Code
4 bar Square D (1.4-4.6 bar)	600100
7 bar Square D (3 -7 bar)	600101
10 bar Square D (6-10.5 bar)	600102
0-6 bar (Teddington type)	ZPS100
5-24 bar (Teddington type)	ZPS100H
0-12 bar Telemecanic	5140041035
0-6 bar Telemecanic	5140041034

## Floating level switch

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



Model	Code
Olympic water float switch c/w weight 3mtr	ZIN15/3T
Olympic water float switch c/w weight 10mtr	ZIN15/10T
Taurus sewage float switch PVC 10 m	VVF A07 3X1-10M
Taurus sewage float switch PVC 20 m	VVF A07 3X1-20M

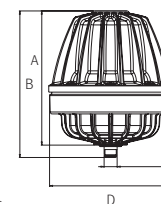
## Pressure transducers

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.



Model	Code
518 S/S Transducer 0-10 bar	520.930S03L401
518 S/S Transducer 0-16 bar	520.931S03L401
518 S/S Transducer 0-25 bar	520.932S03L401

## Kit Press



To prevent water hammer in pressurised systems with minor leaks.

Model	A	B	C	D	Code
Kit Press 1/4"	148	135.5	1/4"	124	8500000107

## Control Panel for two booster pumps fixed speed

### General features

Control panel for 2 motor pumps with electronic protection, Q2P series.

Power supply:

**Q2PME16EI** Single phase:

1~ 50/60 Hz 230/240 V ±10%.

**Q2PTE08EI** Three phase:

3~ 50/60 Hz internal selection for 230/240 V or 400/415 V ±10%.

Main disconnecter with door lock.

Thermoplastic enclosure.

IP 55 protection rating.

### Power section

2 motor pump outputs: single phase or three phase with built-in capacitor (depending on model).

Direct motor start-up.

### Control inputs

4 very low voltage inputs for float or pressure switch for:

Shut-down level or shut-down pressure (S0 input).

Motor pumps control level or motor pumps control pressure (S1, S2 inputs).

Alarm level or alarm pressure (W input).

### Controls and signals

2 buttons for each motor pump for: AUTOMATIC / RESET alarm.

MANUAL / OFF.

Enabling of motor data self-learning function (current and  $\cos\phi$ ) for operating.

3 indicator lights to show:

Power presence and/or failure.

Stop sensor intervention (S0 input).

Alarm sensor intervention (W input).

3 indicator lights for each motor pump to show:

Operating mode (AUTOMATIC/OFF/ MANUAL).

Motor state (running, stand still due to dry running protection intervention) with individually distinguishable signals.

Motor protection triggered (due to over current or minimum charge) with individually distinguishable signals.

Acoustic signal for:

Continuous for system alarm: W input, S0 input (excludable), dry running protection intervention (excludable).

Intermittent acoustic signal for:

Motor alarm: intervened protection (due to over current or minimum charge).

Single and double acoustic signal for: Warning off internal selectors particular settings.

### Functions which can be set by selectors

Auxiliary functions:

Reversing polarity of shut-down input S0.

Reversing polarity of alarm input W.

Latching for motor pumps shut-down only from input S0, while starting depends on input S1 and S2 (useful for drainage systems).

Alternating motor pumps starting and motor pumps exchange in case of 12 hours uninterrupted operation.

Alarm warning for intervention on shut-down input S0 or for dry running protection intervention.

Ever-active motor protection (over current, minimum charge, dry running) or temporarily disabled motor protection (10 sec.).

Motor protection against dry running.

### Functions which can be set by potentiometers

Protection intervention threshold due to over current of motor 1 and motor 2: Automatically delayed starting (0-30 sec.) of the second motor started.

Automatically delayed shut down (0-180 sec.) of the first motor started.

### General functions

Delay (10 sec.) of motor pumps starting after power supply restoration.

Automatic non contemporaneous starting and shut down of the pumps, with 2 seconds interval time, if not differently set on "delay second pump starting" potentiometer and "delay first pump shut down" potentiometer.

Automatic periodic impeller release (running 2 sec. every 48 hours).

MANUAL running could be:

PERMANENT: (by briefly pressing the command button) with control from input S0 or from dry running protection enabled.

TEMPORARY: (by holding down the command button) with control from input S0 or from dry running protection disabled.

### Alarms and protections

Float or pressure shutdown

intervention (input S0): motor pumps shutdown.

Float or pressure alarm intervention (input W): only warning, without motor pumps shutdown.

Intervention of protection against motor over current with accumulated energy calculation ( $I^2t$ ): causing motor pump shutdown.

Intervention of protection against motor minimum charge: causing motor pump shutdown.

Intervention of protection against dry running: causing motor pump temporary shutdown with periodic attempt of restoration (every 10 min.).

Motor 2 starting, if available, when motor 1 is shut down by any protection (except for dry running).

Protection fuses for each motor (2 for **Q2PME16EI** and 3 for **Q2PTE08EI**).

Auxiliary circuits protection fuses.

### Operating conditions

Ambient Temperature -5/+40 °C

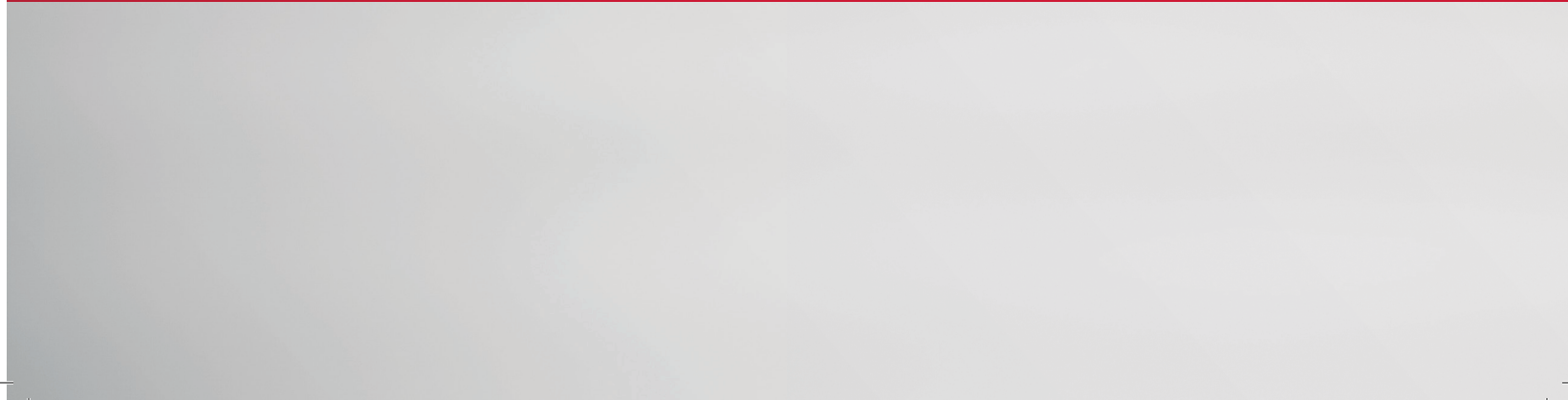
Maximum relative humidity 50% with maximum temperature +40°C.



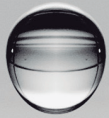
### Technical features and power section

Model	I [A]		P1 [kW]		Height [mm]	Width [mm]	Depth [mm]	Weight [Kg]	Notes	Code
	230 V	400 V	230 V	400 V						
Q2PME16EI	1 - 16		0.09 - 2.2		245	195	150	1.8	P	527.51
Q2PME16EI	1 - 8	1 - 8	0.12 - 1.8	0.25 - 3.7	245	195	150	2.5	P	527.93









## 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.

## Abreviations

**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):**

$7 + 5 + 1.3 + 60 + 7 + 0.3 + 1.3 = 81.9$  m. <sub>H</sub>

Pipe losses **(Table 3):**

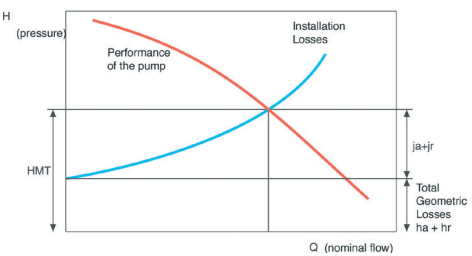
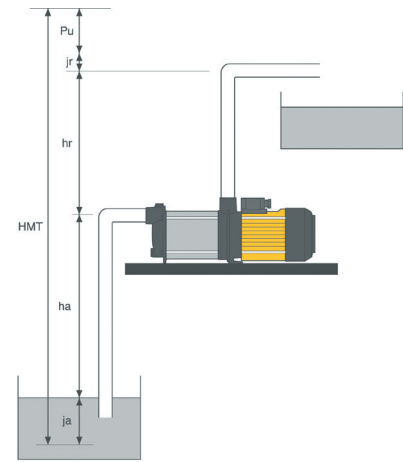
$81.9 \times 2 / 100 = 1.6$  mwc.

**Total manometric head:**

$HMT = 4 + 6 + 1.6 + 20.2 = 31.8$  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
Inces	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

**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**

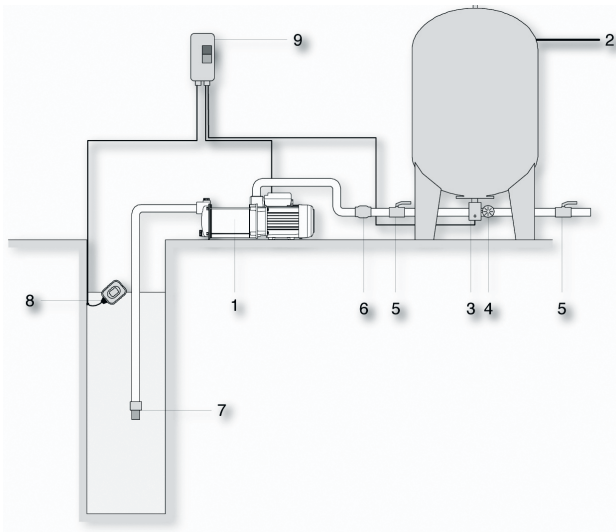
Deration due to altitude		Deration due to pumped liquid	
Altitude [m]	Head loss [mwc]	Temperature [°C]	Head loss [mwc]
0		20	0.20
500	0.6	30	0.40
1.000	1.15	40	0.70
1.500	1.70	50	1.20
2.000	2.20	60	1.90
2.500	2.65	70	3.10
3.000	3.20	80	4.70
3.500	3.60	90	7.10
		100	10.33

**Maximum level of immersion for submersible monobloc pumps**

Model	Max. P	IMM. Max* [m]	IMM. Max** [m]
Acuaría 07N 3	6	36	50
Acuaría 07N 4	6	30	47
Acuaría 07N 5	12	80	102
Acuaría 07N 6	12	73	100
Acuaría 07N 7	12	66	96
Acuaría 17 5	12	70	50
Acuaría 17 6	12	50	25
Acuaría 27 4	12	85	70
Acuaría 27 6	12	67	45
Acuaría 37 4	10	60	42
Acuaría 37 6	10	33	15
Acuaría 57 4	10	70	52

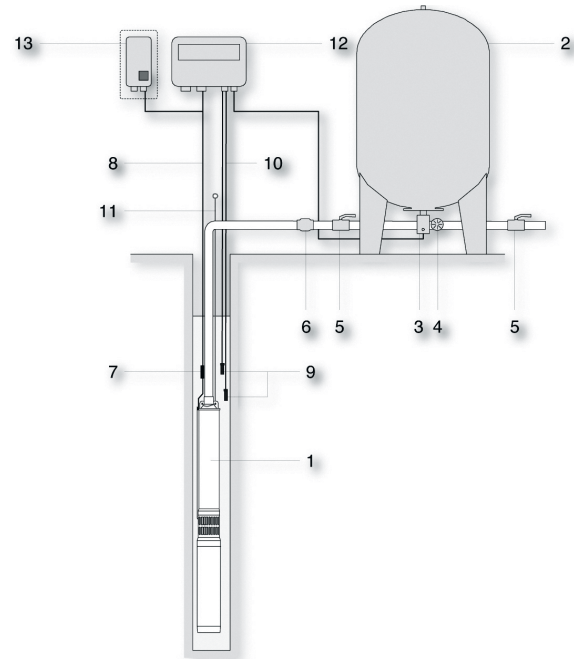
Maximum level of immersion: Working height + Immersion height < Pression maximum.  
 \* Maximum level of immersion at the maximum performance point in metres.  
 \*\* Maximum level of immersion at the most unfavourable point in metres.

# Typical applications



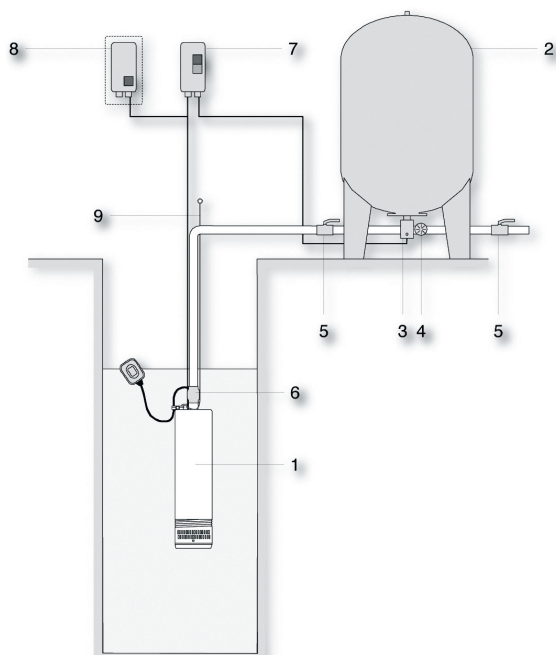
### Self priming application

- 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.



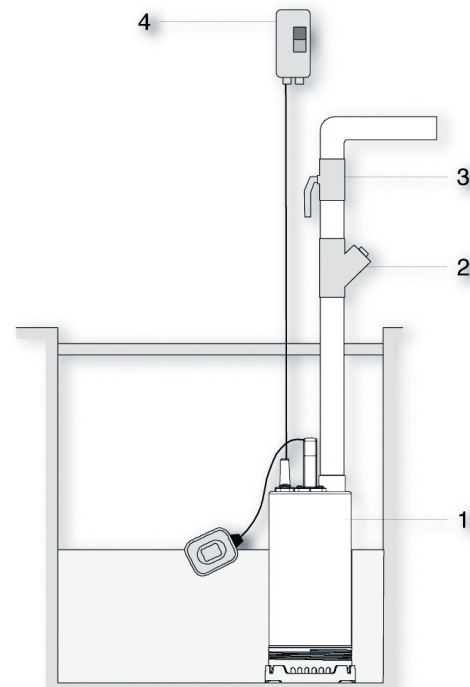
### Borehole application

- 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.



Notes

