

NEW

Submersible Pumps Hydra Series - 60 Hz

Zirantec



www.zirantec.com

Hydra SERIES

An ISO 9001 Company

CE*

* For Specific models only.



ZIRANTEC products are designed & manufactured by well qualified and experienced Engineers in state of the art manufacturing facilities

CERTIFICATION



ZIRANTEC Pumps & Motors are from the house of **Fabbrica Italiana Pompe Sommergibili S.r.l.** a four decades old Italian company of high repute, offering complete waste water solutions around the world. Its current product portfolio includes world class Waste Water Pumps of various types, Multistage Centrifugal Pressure Booster Pumps, Borehole Submersible Pumps & Motors, End Suction Centrifugal Pumps, Industrial Pumps for various applications.

Founded as early as 1978 in Rozzano, South of Milan, Italy by Mr.Orfeo Agostini, the company has witnessed steady growth and market expansion continuously ever since. In these four decades of existence, the company has carved a niche for itself in the waste water and sewage pump market in Italy and other countries. Its products are employed in Municipal, Domestic and Industrial applications. The Company is well known for the unique and robust designs of its products and their workmanship. Due to its superior quality ZIRANTEC products are also exported to many European, African and Asian countries.

ZIRANTEC's products are designed and manufactured to meet high quality Standards and they are 'CE' certified. The Facility is accredited with ISO 9001 Certification.

Over the years, the company has metamorphosed and ventured into manufacturing of high quality water pumps, for domestic, agricultural and industrial applications. In the due process, Fabbrica Italiana Pompe Sommergibili S.r.l. has shed its image of an exclusive sewage and waste water pumps manufacturer to a complete pump production company with an ability to manufacture diverse kinds of pumps for different applications.

C O N T E N T S

SUBMERSIBLE PUMPS & MOTORS HYDRA SERIES (60Hz)

	Page No .
Submersible Pump General Data	5
3" Performance Curve & Data	6-8
4" Performance Curve & Data	9-16
Submersible Motor General Data	17
MIC & Technical Datas	18-19
Exploded View	20

SUBMERSIBLE PUMPS

Zirantec Hydra series pumps are designed for pumping liquid from deep wells. These pumps are of multistage centrifugal type supplied with radial or mixed flow engineering thermoplastic impellers and diffusers for higher head and flow requirements. All the metal and non-metal components that come into contact with the liquid are made of stainless steel and food grade engineering thermoplastic. The optimized hydraulic design offers maximum efficiency at deeper installations. Floating impeller design can handle little higher sand than the normal pump and reduce the down thrust load that is transferred to motor. These pumps are offered in P and Y type construction suitable for 3" & 4" and above diameter borewells. All mounting dimensions of the 4" pumps are in accordance with NEMA standards.

DESIGN FEATURES

- High efficiency
- Wide hydraulic ranges
- Floating impeller design
- Stainless steel Inlet & Outlet

APPLICATIONS

- Ground water supply to residences and commercial buildings
- Agriculture
- Pressure boosting system
- Fountains
- Gardens
- Landscaping
- Livestock watering

PUMPED LIQUIDS

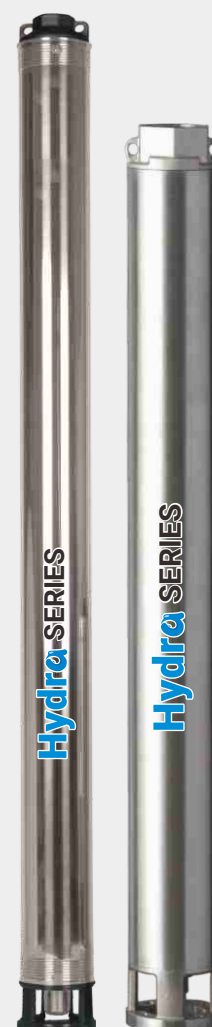
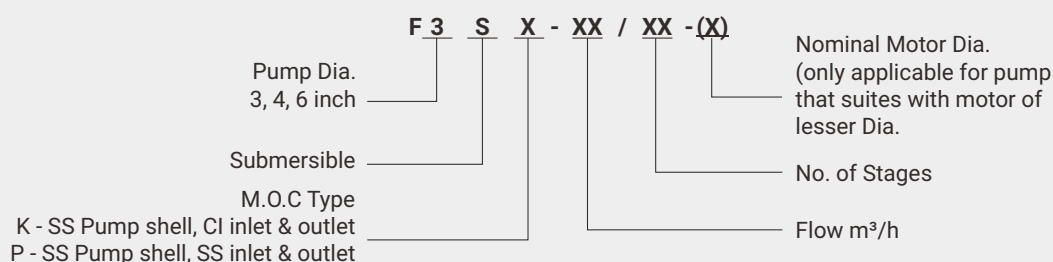
Clear, Thin, Non-aggressive, Non explosive, Clear, Cold, Fresh Water without abrasives, Solid particles or fibre having the following characteristics

a) Temperature	40°C (max.)
b) Permissible amount of sand	50 g/m ³ (max.)
c) Chlorine ion density	500 ppm (max.)
d) Allowable solids	100 ppm (max.)
e) Specific gravity	1.004 (max.)
f) Hardness (Drinking water)	300 (max.)
g) Kinematic viscosity	1 mm ² /s (1cSt) (max.)
h) Turbidity	50 ppm silica scale (max.)
i) pH	6.5 to 8.5

PUMP OPERATING LIMITATIONS

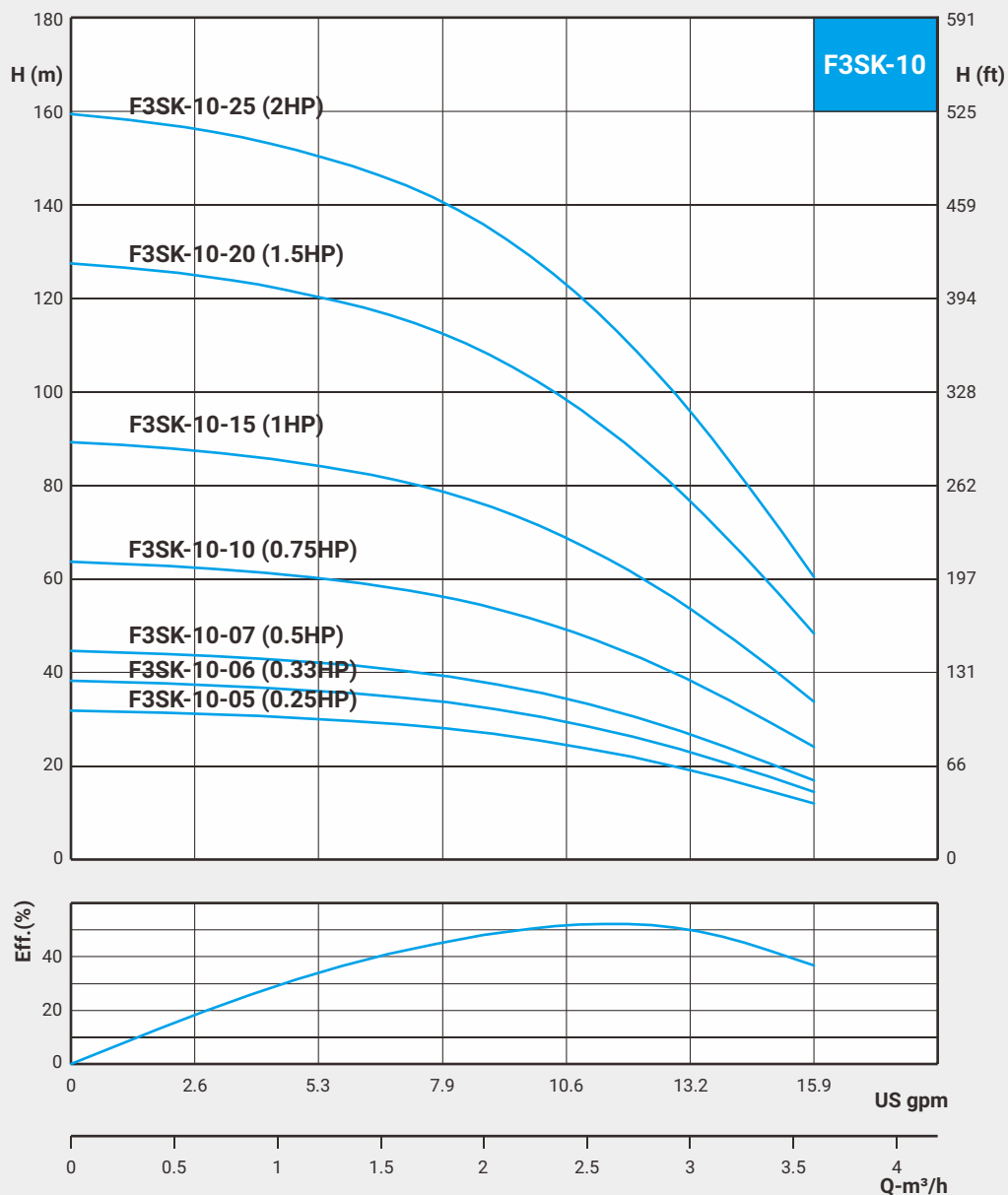
Nominal Diameter	3" (75mm)	4" (97mm)
Power Range	0.33 - 3HP	0.33 to 10HP
Speed	3450 rpm	3450 rpm
Discharge Range	0.60 - 5.4 m ³ /h	0.60 - 24 m ³ /h
Head Range	9 - 156 m	7 - 407 m
Outlet Size	1"	1¼", 1½" & 2"

MODEL IDENTIFICATION OF SUBMERSIBLE PUMPS



PERFORMANCE CURVE & DATA

3"



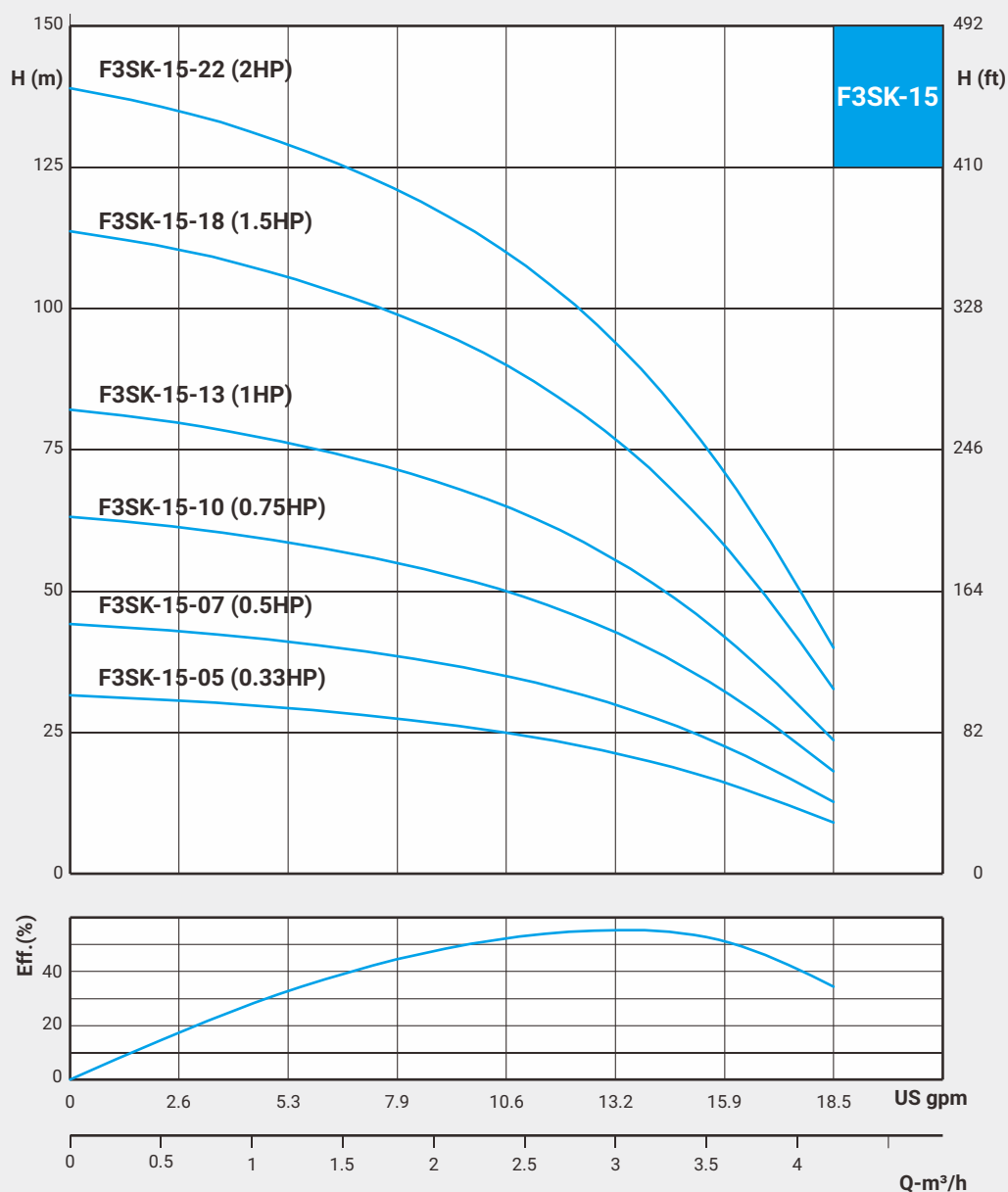
SPEED : 3450 rpm

OUTLET SIZE : 1" NPT

PUMP MODEL	POWER		m³/h	0	0.6	1.2	1.8	2.4	3	3.6
	kW	HP		US gpm	2.6	5.3	7.9	10.6	13.2	15.9
F3SK-10-05	0.18	0.25	Head in Feet	105	102	98	92	82	62	39
F3SK-10-06	0.25	0.33		125	125	118	112	95	76	46
F3SK-10-07	0.37	0.5		148	144	138	128	112	89	56
F3SK-10-10	0.55	0.75		210	207	197	184	161	125	79
F3SK-10-15	0.75	1.0		315	308	295	276	243	187	118
F3SK-10-20	1.1	1.5		420	410	394	368	322	253	158
F3SK-10-25	1.5	2.0		522	512	492	463	404	315	197

PERFORMANCE CURVE & DATA

3"



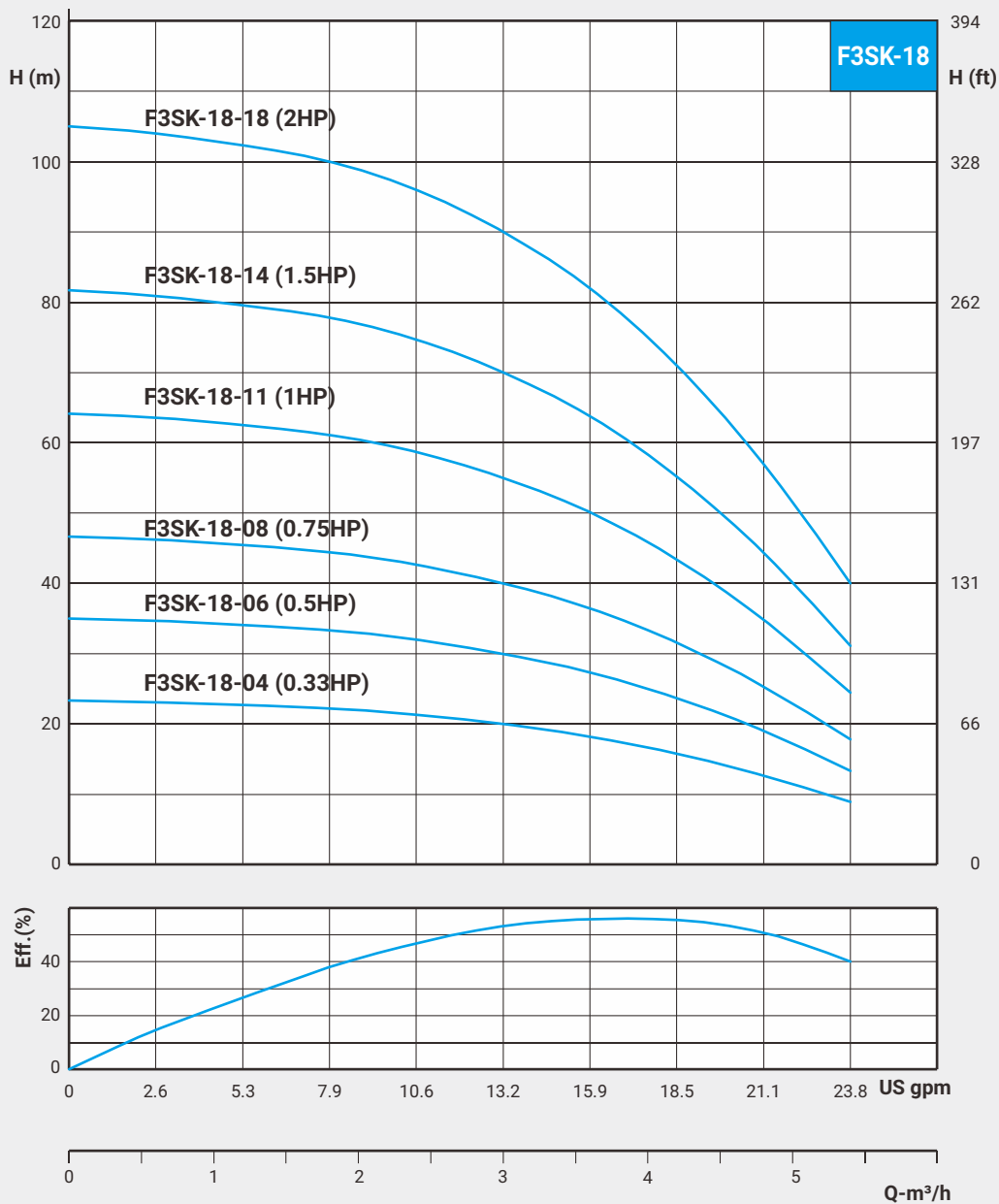
SPEED : 3450 rpm

OUTLET SIZE : 1" NPT

PUMP MODEL	POWER		m³/h	0	0.6	1.2	1.8	2.4	3	3.6	4.2
	kW	HP	US gpm	0	2.6	5.3	7.9	10.6	13.2	15.9	18.5
F3SK-15-05	0.25	0.33	Head in Feet	105	102	95	92	82	69	53	30
F3SK-15-07	0.37	0.5		144	141	135	128	115	98	76	43
F3SK-15-10	0.55	0.75		207	200	194	180	164	141	105	59
F3SK-15-13	0.75	1		269	263	249	233	213	184	138	79
F3SK-15-18	1.1	1.5		374	361	348	325	295	253	190	108
F3SK-15-22	1.5	2		456	443	423	397	361	308	233	131

PERFORMANCE CURVE & DATA

3"



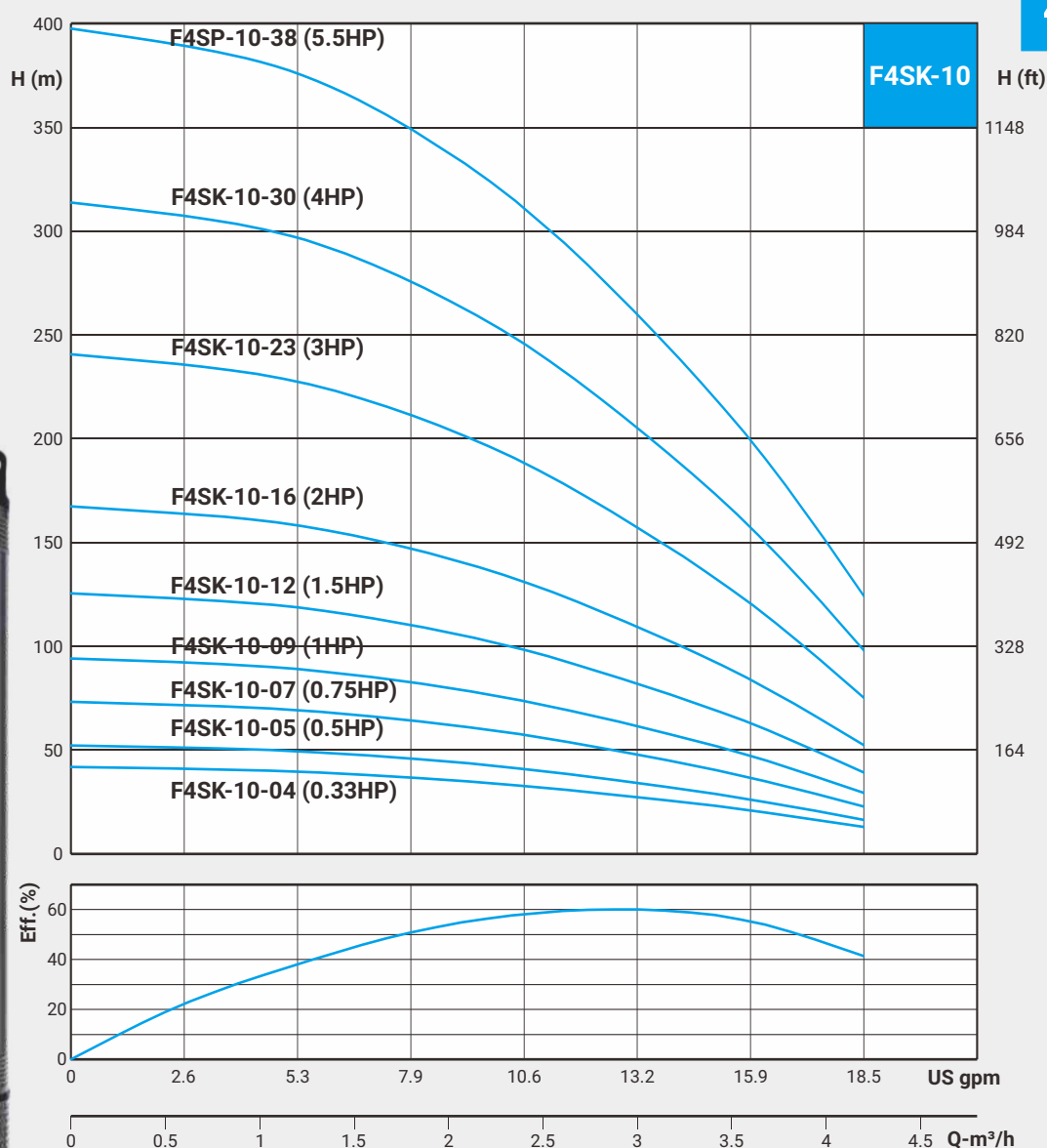
SPEED : 3450 rpm

OUTLET SIZE : 1" NPT

PUMP MODEL	POWER		m³/h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4
	kW	HP	US gpm	0	2.6	5.3	7.9	10.6	13.2	15.9	18.5	21.1	23.8
F3SK-18-04	0.25	0.33	Head in Feet	76	76	76	72	69	66	59	53	43	30
F3SK-18-06	0.37	0.5		115	115	112	108	105	98	89	79	62	43
F3SK-18-08	0.55	0.75		154	151	148	144	141	131	118	105	82	59
F3SK-18-11	0.75	1		210	210	207	200	194	180	164	141	115	79
F3SK-18-14	1.1	1.5		269	266	263	256	246	230	210	180	144	102
F3SK-18-18	1.5	2		345	341	335	328	315	295	269	233	187	131

PERFORMANCE CURVE & DATA

4"



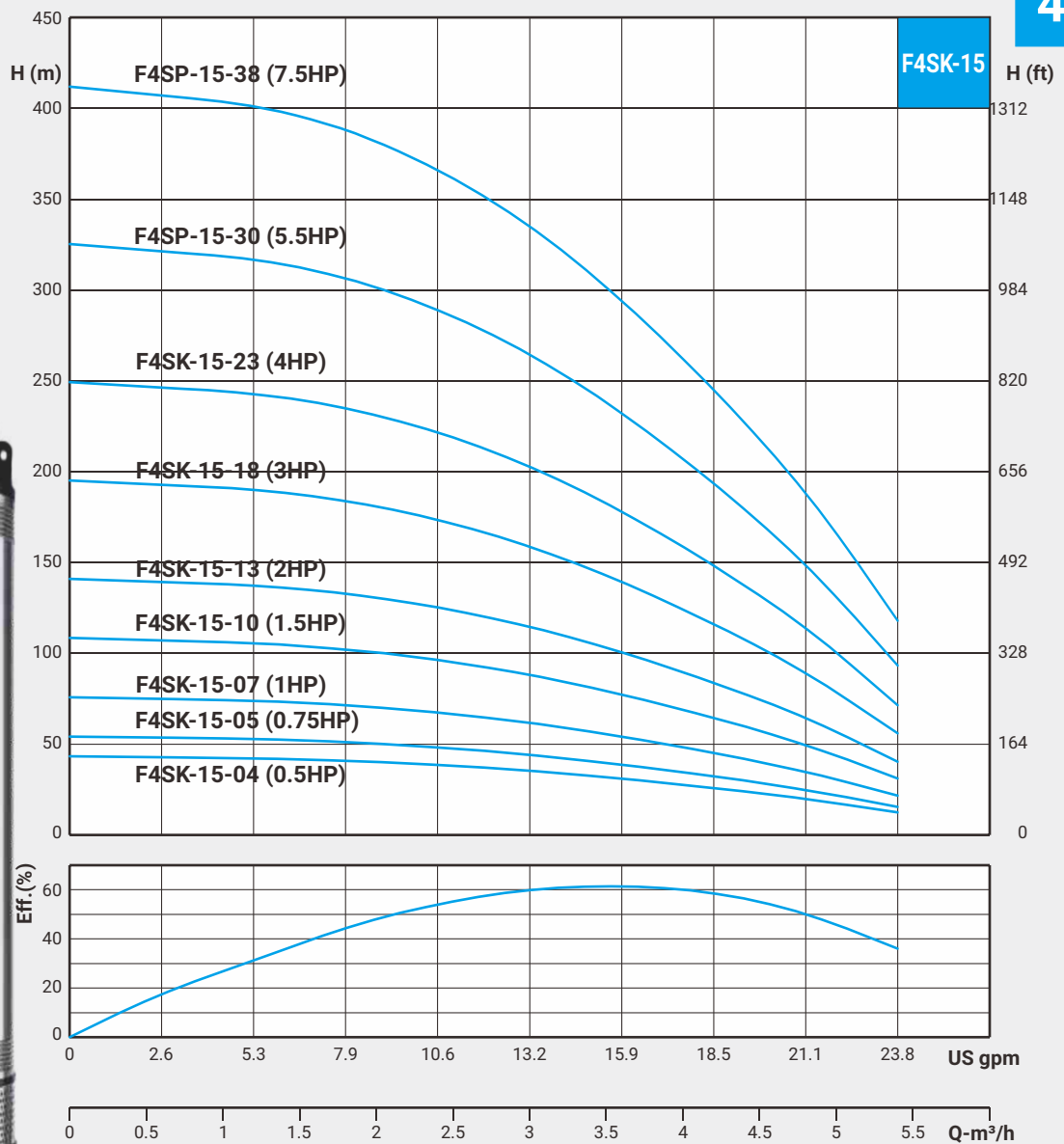
SPEED : 3450 rpm

OUTLET SIZE : 1¼" NPT

PUMP MODEL	POWER		m³/h	0	0.6	1.2	1.8	2.4	3	3.6	4.2
	kW	HP									
			US gpm	0	2.6	5.3	7.9	10.6	13.2	15.9	18.5
F4SK-10-04	0.25	0.33	Head in Feet	138	135	131	121	105	85	59	30
F4SK-10-05	0.37	0.5		171	167	161	151	131	105	72	39
F4SK-10-07	0.55	0.75		240	236	226	210	184	148	102	53
F4SK-10-09	0.75	1		308	302	292	272	236	190	131	69
F4SK-10-12	1.1	1.5		413	404	390	361	318	256	177	92
F4SK-10-16	1.5	2		548	538	518	482	423	338	236	125
F4SK-10-23	2.2	3		791	774	748	692	607	489	338	177
F4SK-10-30	3	4		1030	1007	974	906	794	637	443	233
F4SP-10-38	4	5.5		1303	1276	1234	1145	1004	804	558	292

PERFORMANCE CURVE & DATA

4"



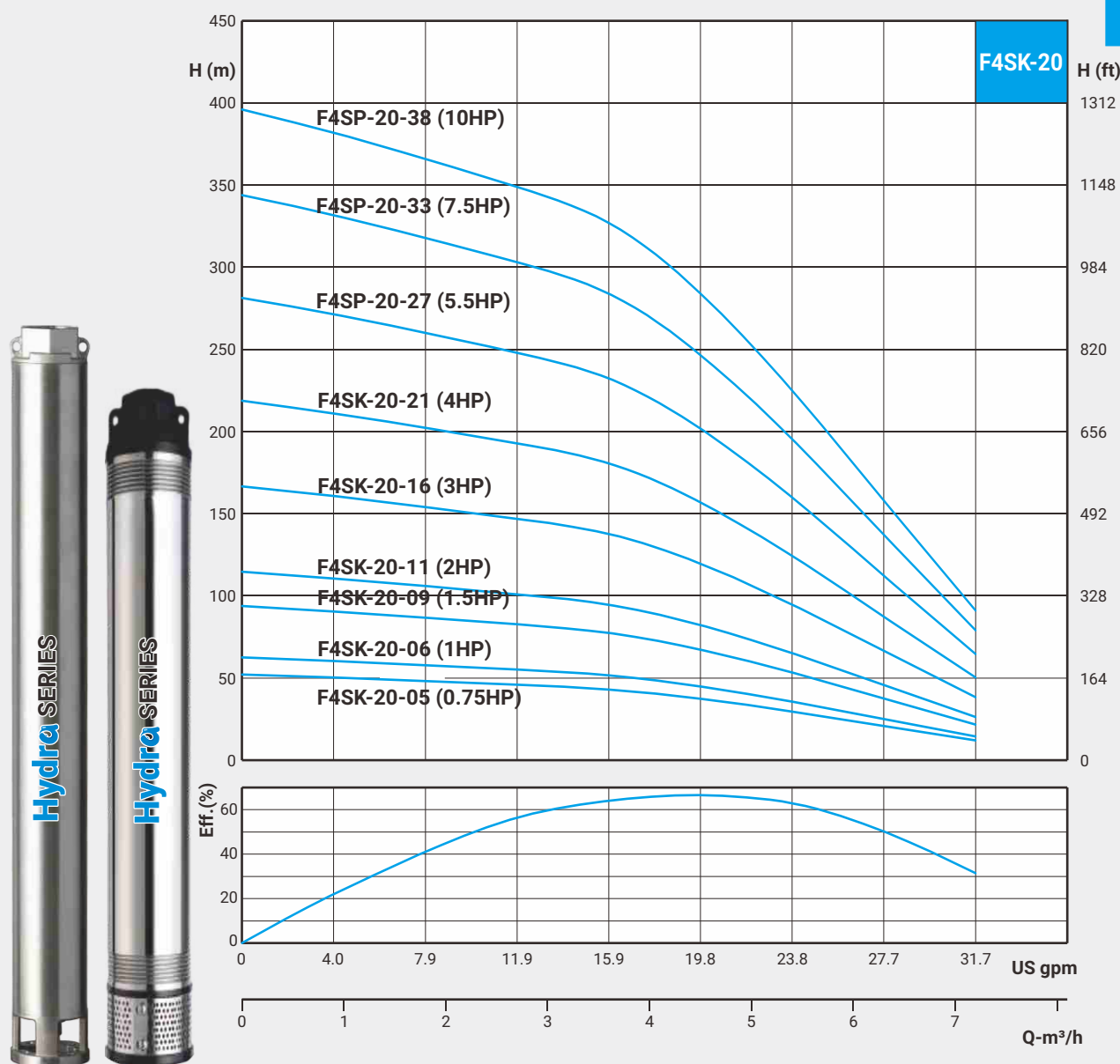
SPEED : 3450 rpm

OUTLET SIZE : 1½" NPT

PUMP MODEL	POWER		m³/h	0	0.6	1.2	1.8	2.4	3	3.6	4.2	4.8	5.4
	kW	HP		0	2.6	5.3	7.9	10.6	13.2	15.9	18.5	21.1	23.8
F4SK-15-04	0.37	0.5	Head in Feet	141	141	138	135	128	115	102	85	66	39
F4SK-15-05	0.55	0.75		177	177	174	167	158	144	128	105	82	53
F4SK-15-07	0.75	1		249	246	243	233	220	203	177	148	115	72
F4SK-15-10	1.1	1.5		354	351	348	335	315	289	253	210	161	102
F4SK-15-13	1.5	2		463	456	450	436	410	377	331	276	210	131
F4SK-15-18	2.2	3		640	633	623	604	568	522	456	381	292	184
F4SK-15-23	3	4		817	807	797	771	728	666	584	486	374	233
F4SP-15-30	4	5.5		1066	1053	1040	1004	948	866	761	633	486	305
F4SP-15-38	5.5	7.5		1352	1335	1316	1273	1201	1099	965	804	617	387

PERFORMANCE CURVE & DATA

4"



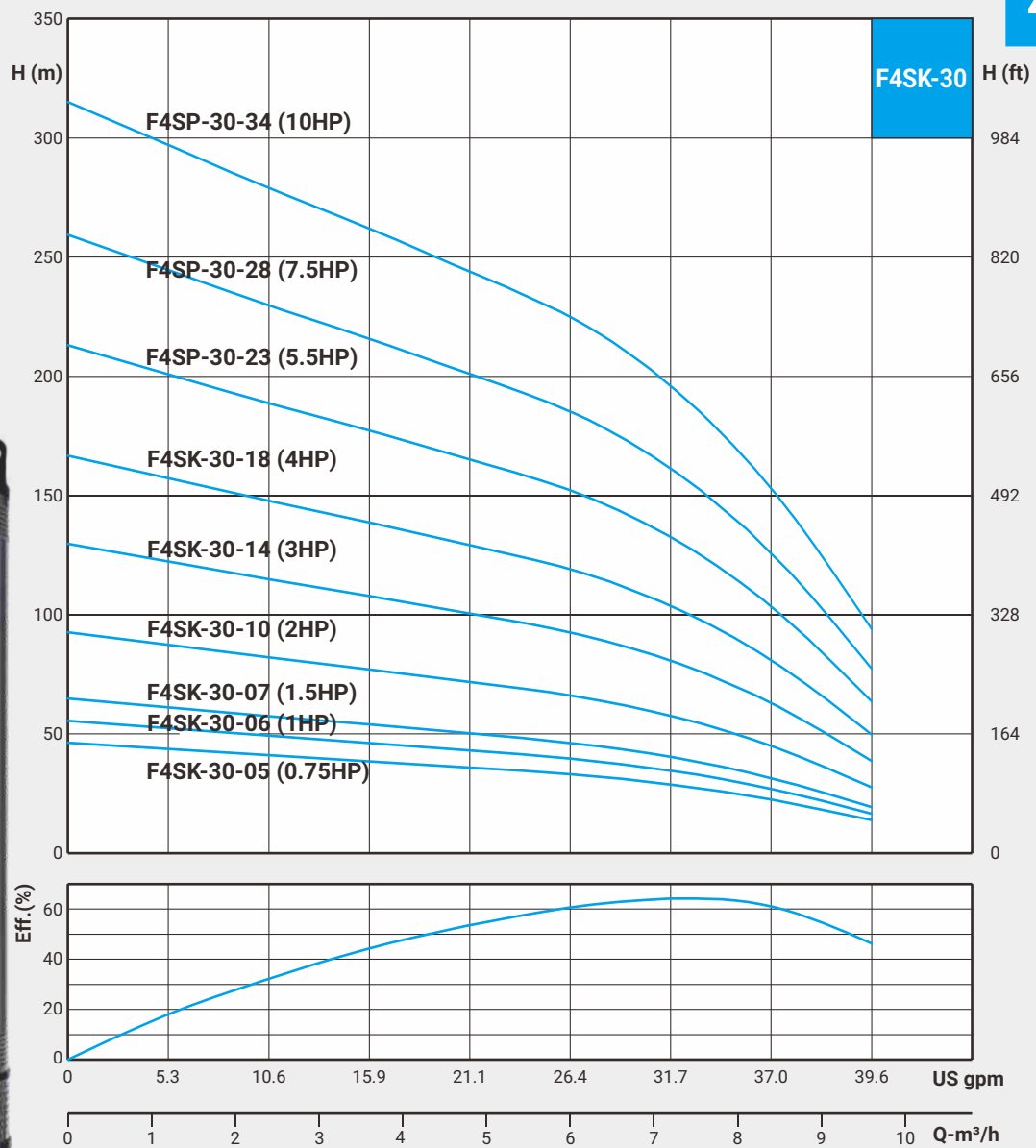
SPEED : 3450 rpm

OUTLET SIZE : 1¼" NPT

PUMP MODEL	POWER		m³/h	0	0.9	1.8	2.7	3.6	4.5	5.4	6.3	7.2
	kW	HP										
F4SK-20-05	0.55	0.75	Head in Feet	171	164	158	151	141	121	98	69	39
F4SK-20-06	0.75	1		207	197	190	180	171	148	118	82	46
F4SK-20-09	1.1	1.5		308	295	285	272	253	220	174	121	72
F4SK-20-11	1.5	2		377	364	348	331	312	269	213	151	85
F4SK-20-16	2.2	3		548	528	505	482	453	394	312	220	125
F4SK-20-21	3	4		719	692	663	633	594	515	407	285	164
F4SP-20-27	4	5.5		922	889	853	814	761	663	525	368	213
F4SP-20-33	5.5	7.5		1129	1089	1043	994	932	810	640	450	259
F4SP-20-38	7.5	10		1299	1253	1201	1145	1073	932	738	518	299

PERFORMANCE CURVE & DATA

4"



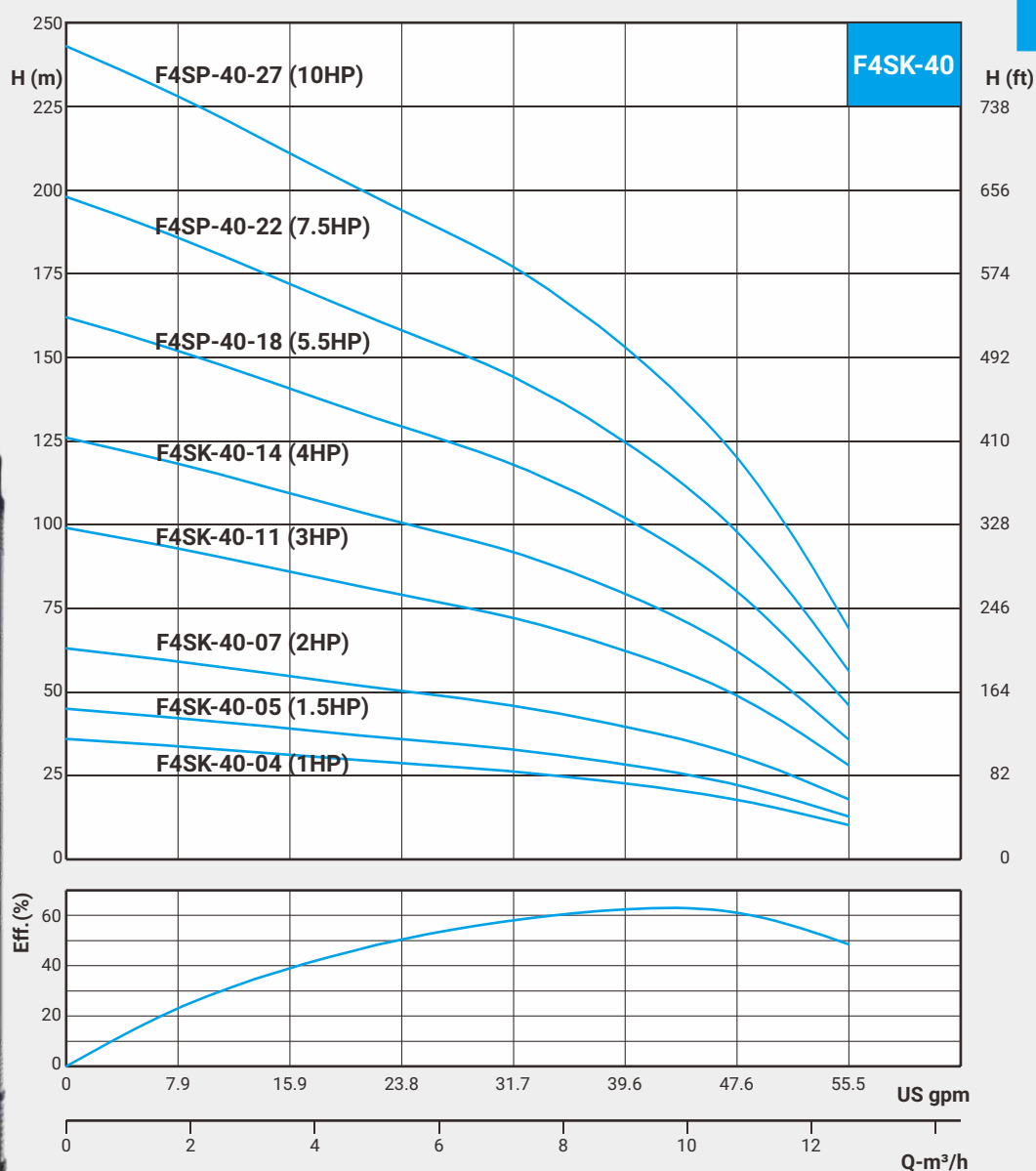
SPEED : 3450 rpm

OUTLET SIZE : 1½" NPT

PUMP MODEL	POWER		m³/h	0	1.2	2.4	3.6	4.8	6	7.2	8.4	9.6
	kW	HP		US gpm	5.3	10.6	15.9	21.1	26.4	31.7	37.0	39.6
F4SK-30-05	0.55	0.75	Head in Feet	151	144	135	128	118	108	95	72	46
F4SK-30-06	0.75	1		184	171	161	151	141	131	115	89	56
F4SK-30-07	1.1	1.5		213	200	187	177	164	151	131	102	62
F4SK-30-10	1.5	2		305	285	269	253	236	217	190	148	92
F4SK-30-14	2.2	3		427	400	377	354	328	305	266	207	128
F4SK-30-18	3	4		548	515	486	456	423	390	341	266	164
F4SP-30-23	4	5.5		699	659	620	581	541	499	436	338	210
F4SP-30-28	5.5	7.5		850	804	755	709	659	607	528	413	253
F4SP-30-34	7.5	10		1034	974	915	860	801	738	643	502	308

PERFORMANCE CURVE & DATA

4"



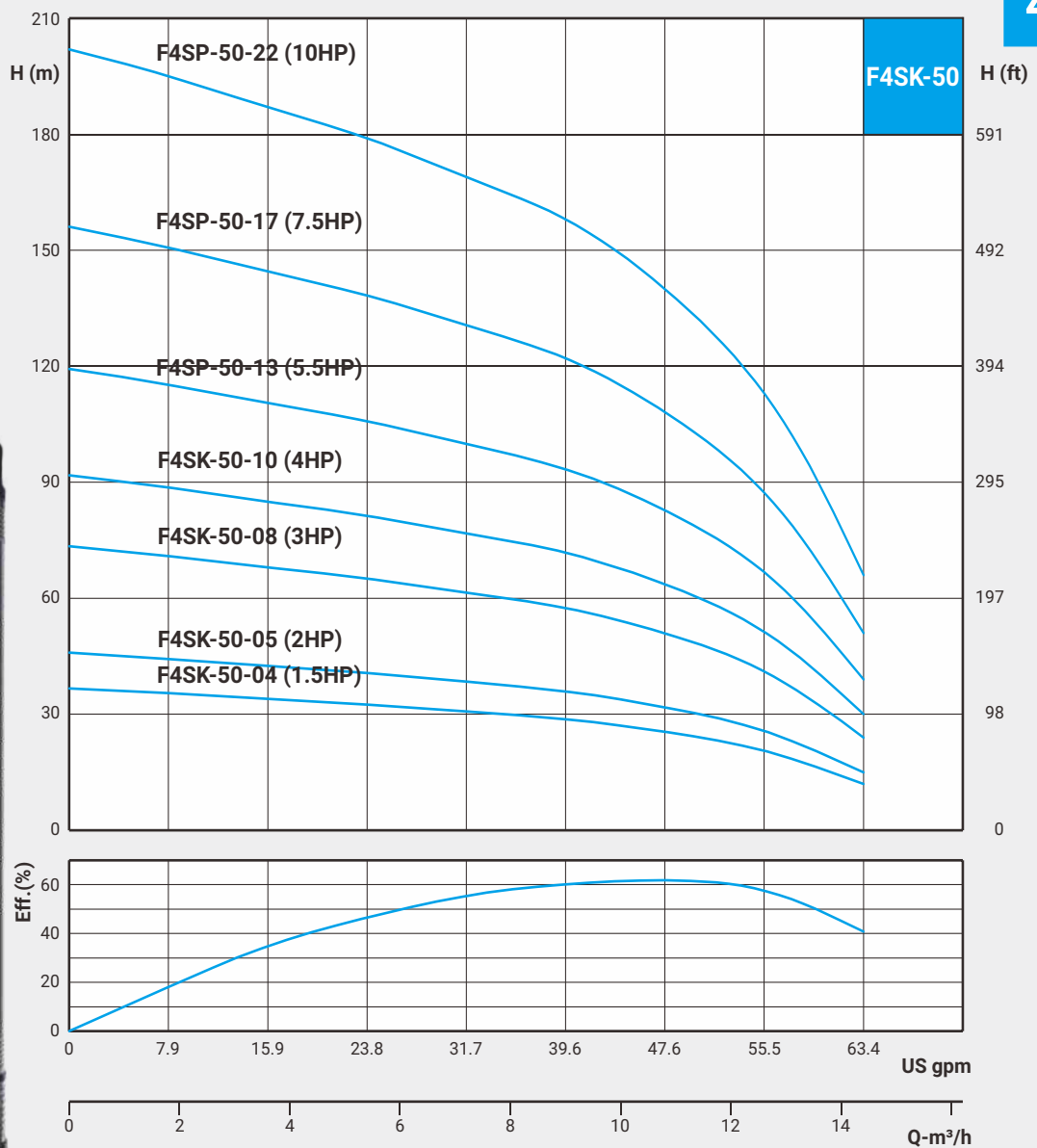
SPEED : 3450 rpm

OUTLET SIZE : 2" NPT

PUMP MODEL	POWER		m³/h	0	1.8	3.6	5.4	7.2	9	10.8	12.6
	kW	HP		US gpm	7.9	15.9	23.8	31.7	39.6	47.6	55.5
F4SK-40-04	0.75	1	Head in Feet	118	112	102	95	85	76	59	33
F4SK-40-05	1.1	1.5		148	138	128	118	108	92	72	43
F4SK-40-07	1.5	2		207	194	180	164	151	131	102	59
F4SK-40-11	2.2	3		325	305	282	259	236	203	161	92
F4SK-40-14	3	4		413	387	358	331	302	259	203	118
F4SP-40-18	4	5.5		532	499	463	423	387	335	263	151
F4SP-40-22	5.5	7.5		650	610	564	518	472	410	322	184
F4SP-40-27	7.5	10		797	748	692	637	581	502	394	226

PERFORMANCE CURVE & DATA

4"



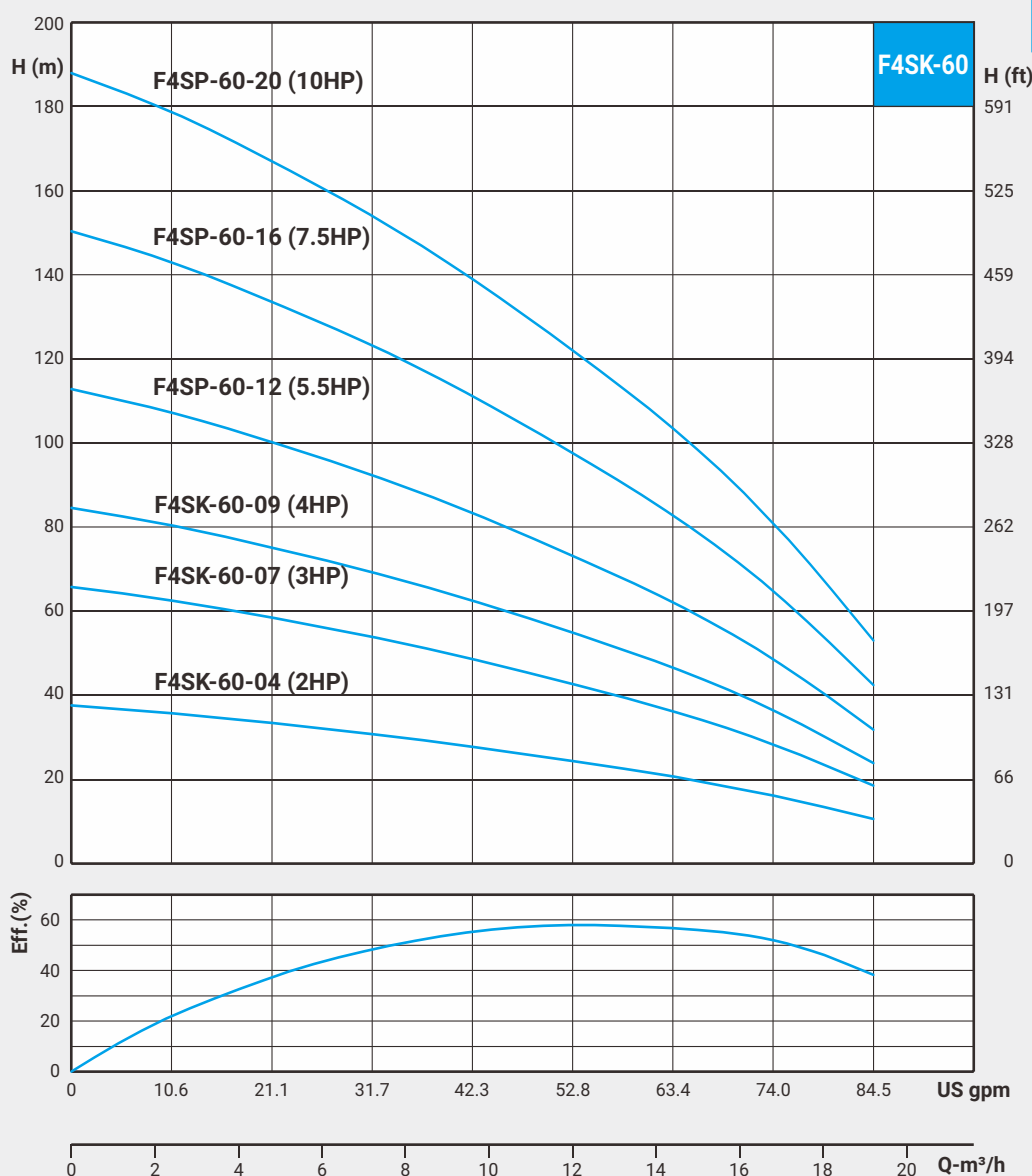
SPEED : 3450 rpm

OUTLET SIZE : 2" NPT

PUMP MODEL	POWER		m³/h	0	1.8	3.6	5.4	7.2	9	10.8	12.6	14.4
	kW	HP	US gpm	0	7.9	15.9	23.8	31.7	39.6	47.6	55.5	63.4
F4SK-50-04	1.1	1.5	Head in Feet	121	115	112	108	102	95	82	69	39
F4SK-50-05	1.5	2		151	144	138	135	125	118	105	85	49
F4SK-50-08	2.2	3		240	233	223	213	200	187	167	135	79
F4SK-50-10	3	4		302	292	279	266	253	236	210	167	98
F4SP-50-13	4	5.5		390	377	361	348	328	305	272	220	128
F4SP-50-17	5.5	7.5		512	495	476	453	430	400	354	285	167
F4SP-50-22	7.5	10		663	640	614	587	555	518	459	371	217

PERFORMANCE CURVE & DATA

4"



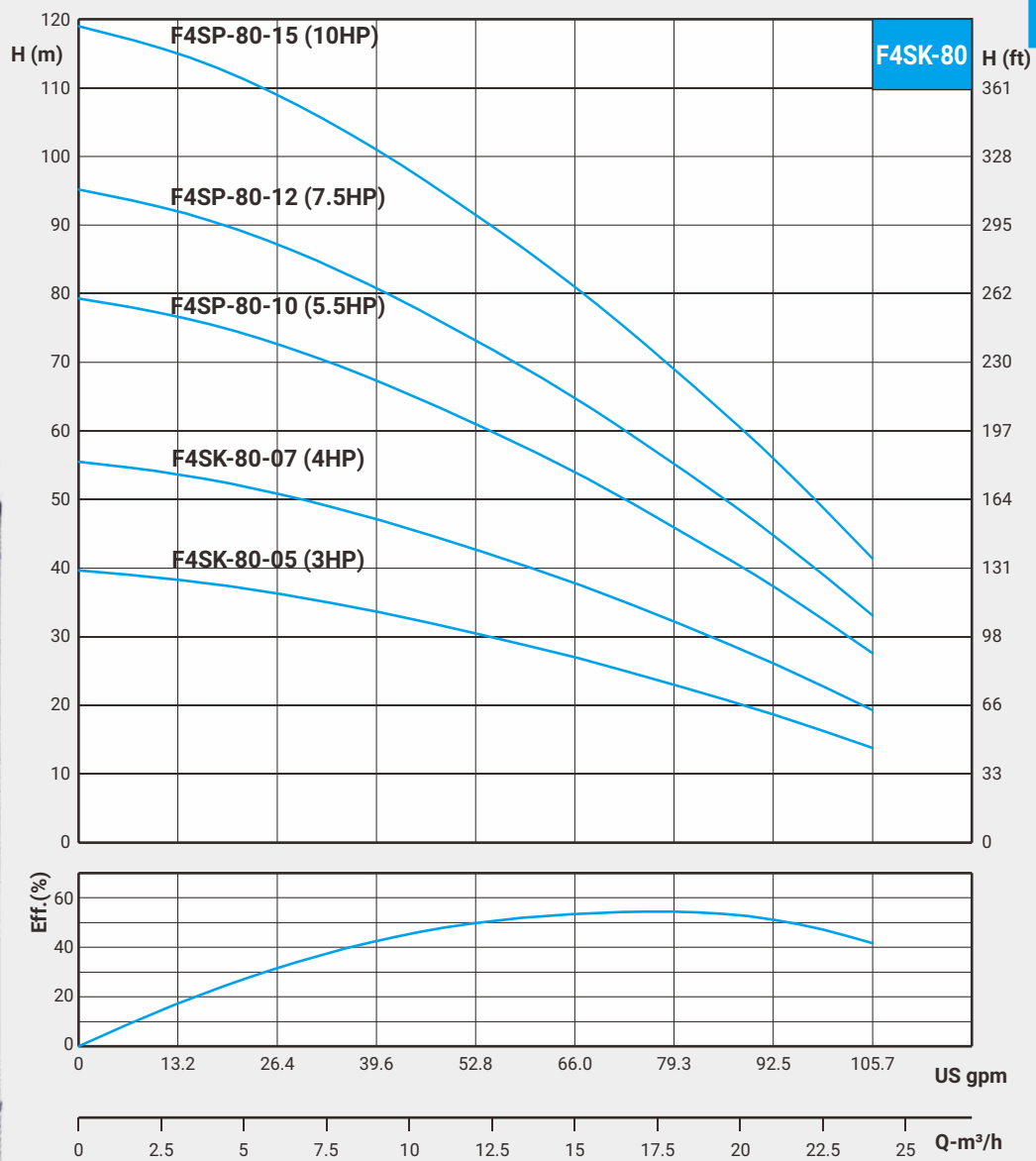
SPEED : 3450 rpm

OUTLET SIZE : 2" NPT

PUMP MODEL	POWER		m³/h	0	2.4	4.8	7.2	9.6	12	14.4	16.8	19.2
	kW	HP		0	10.6	21.1	31.7	42.3	52.8	63.4	74.0	84.5
F4SK-60-04	1.5	2	Head in Feet	125	118	108	102	92	79	69	53	23
F4SK-60-07	2.2	3		217	207	190	177	161	141	118	92	39
F4SK-60-09	3	4		279	263	246	226	207	180	154	118	49
F4SP-60-12	4	5.5		371	351	328	302	272	240	203	161	66
F4SP-60-16	5.5	7.5		492	469	440	404	364	322	272	213	85
F4SP-60-20	7.5	10		617	587	548	505	456	400	341	266	108

PERFORMANCE CURVE & DATA

4"



SPEED : 3450 rpm

OUTLET SIZE : 2" NPT

PUMP MODEL	POWER		m³/h	0	3	6	9	12	15	18	21	24
	kW	HP		0	13.2	26.4	39.6	52.8	66.0	79.3	92.5	105.7
F4SK-80-05	2.2	3	Head in Feet	131	125	118	112	98	89	76	62	46
F4SK-80-07	3	4		184	177	167	154	141	125	105	85	62
F4SP-80-10	4	5.5		259	253	240	220	200	177	151	121	92
F4SP-80-12	5.5	7.5		312	302	285	266	240	213	180	148	108
F4SP-80-15	7.5	10		390	377	358	331	302	266	226	184	135

OIL FILLED SUBMERSIBLE MOTORS

Oil filled submersible motors are energy-efficient, durable, low maintenance, quiet, versatile, easy to install and reliable. The oil in the motor provides lubrication for the bearings, reducing wear and tear, resulting in a longer lifespan. This makes them an ideal choice for applications where durability and longevity are important. Ball and angular contact bearings are used to handle radial and axial thrust loads. The oil in the motor also provides cooling to the motor, which helps to prevent overheating.

Motor sealing is done by 'O' rings, oil seal and mechanical seal. Pressure equalizing rubber diaphragm is provided to balance the pressure and volume variation due to thermal expansion of oil in the motor. Oil-filled submersible motors are often preferred in light duty applications where the installation depth is less than 150 meters.

Design Features

- High efficiency
- Corrosion resistant stainless-steel parts
- Extremely hardwearing ball and angular contact bearings
- Rewindable motor
- Cable connected directly to the winding for better sealing & reliability

Applications

These submersible motors are suitable for use with deepwell submersible pump ends.

- Ground water supply to residences and commercial buildings
- Agriculture
- Pressure boosting system
- Fountains
- Gardens
- Landscaping
- Livestock watering

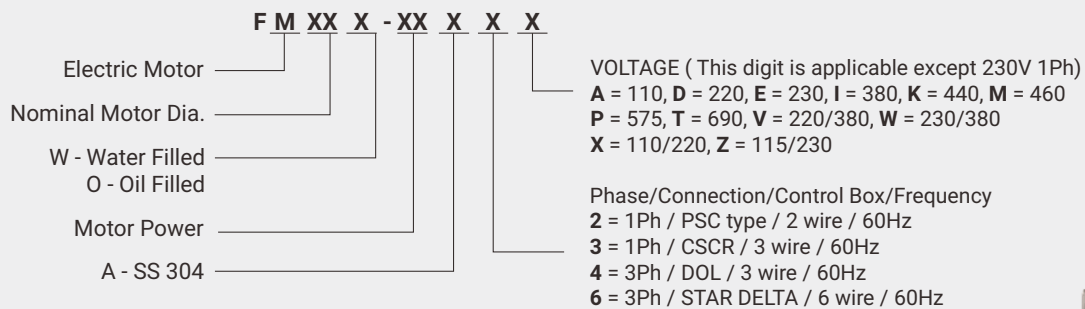
Technical Specifications - 60Hz

Nominal Dia	3" & 4"
Maximum Outer Diameter	75 mm & 97 mm
Power Range	0.33 to 3HP - Single Phase
	0.33 to 10HP - Three Phase
Speed	3450 rpm
Version	Single Phase - 115, 220 - 240V, 60Hz, A.C Supply
	Three Phase - 220, 380 & 440V, 60Hz, A.C Supply
Class of Insulation	B
Degree of Protection	IP68
Direction of Rotation	CCW - When viewed from driving end - Single Phase
	Electrically Reversible - Three Phase
Type of Duty	S1 (Continuous)
Down Thrust Load	0.37 - 0.75 kW - 1500 N
	1.1 - 4.0 kW - 2500 N
	5.5 - 7.5 kW - 4500 N
Minimum Cooling Flow Along the Motor	0.15 m/sec
Maximum Liquid Temperature	40°C
Maximum Immersion Depth	150 m
Max. Starts per Hour	20 Times
Shaft End	Splines
Mounting Standard	4" NEMA
Method of Starting	Single Phase - Permanent Split Capacitor (PSC)
	Three Phase - Direct On Line (DOL)
Cable Lead out	3+1 PVC Flat cable



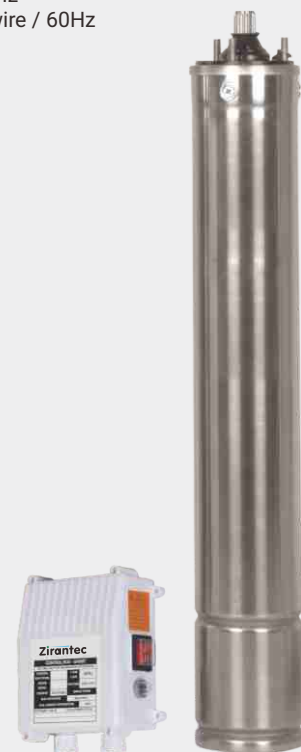
OIL FILLED SUBMERSIBLE MOTORS

MODEL IDENTIFICATION OF SUBMERSIBLE PUMPS



MODEL IDENTIFICATION OF SMART MODEL CONTROL BOX

FCP	Plastic Enclosure	FCP	Plastic Enclosure
-	-	-	-
6	60Hz	6	60Hz
O	for Oil Filled Motor	O	for Oil filled Motor
E	220 - 240V	E	220 - 240V
-	-	-	-
07	0.75HP	07	0.75HP
M3	Smart Control Box for 3" Motor	M4	Smart Control Box for 4" Motor



Technical Datas : 3 - Wire, 3" Submersible Motor - PSC, 3Phase, 220-240V, 60Hz, 3450rpm

MODEL	POWER		RATED CURRENT	POWER FACTOR (COSØ)	EFFICIENCY	RUN CAPACITOR
	kW	HP				
FM30-03AT	0.25	0.33	2.5 A	0.93	55%	20 µF
FM30-05AT	0.37	0.50	3.6 A	0.93	57%	25 µF
FM30-07AT	0.55	0.75	4.8 A	0.93	60%	30 µF
FM30-10AT	0.75	1.00	6.2 A	0.93	63%	40 µF
FM30-15AT	1.10	1.50	8.5 A	0.93	66%	50 µF
FM30-20AT	1.50	2.00	10.8 A	0.93	68%	55 µF

OIL FILLED SUBMERSIBLE MOTORS

Technical Datas : 3 - Wire, 4" Submersible Motor - PSC, 1Phase, 220-240V, 60Hz, 3450rpm

MODEL	POWER		RATED CURRENT	POWER FACTOR (COSØ)	EFFICIENCY	RUN CAPACITOR
	kW	HP				
FM40-03A3	0.25	0.33	2.5 A	0.93	55%	20 µF
FM40-05A3	0.37	0.50	3.6 A	0.93	57%	20 µF
FM40-07A3	0.55	0.75	4.8 A	0.93	60%	25 µF
FM40-10A3	0.75	1.00	6.2 A	0.93	63%	30 µF
FM40-15A3	1.10	1.50	8.5 A	0.93	66%	40 µF
FM40-20A3	1.50	2.00	10.8 A	0.93	68%	50 µF
FM40-30A3	2.20	3.00	18 A	0.93	69%	70 µF

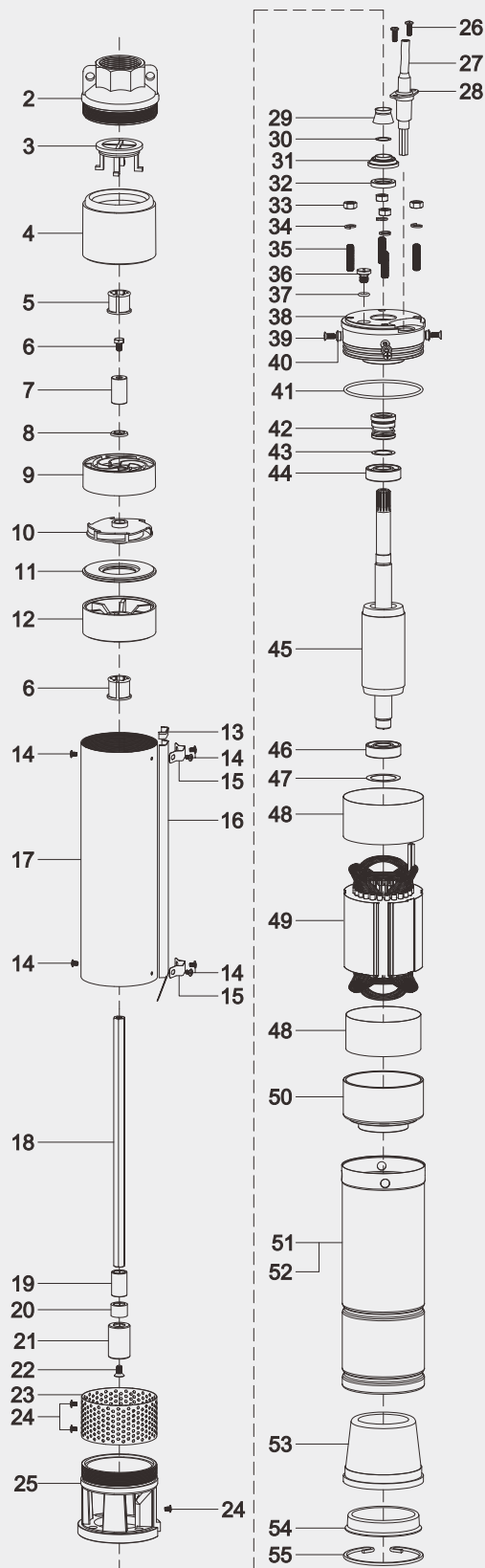
Technical Datas : 4" Submersible Motor - DOL, 3Phase, 220 -240V, 60Hz, 3450rpm

MODEL	POWER		RATED CURRENT	POWER FACTOR (COSØ)	EFFICIENCY
	kW	HP			
FM40-03A4E	0.25	0.33	2.1 A	0.70	55%
FM40-05A4E	0.37	0.50	2.4 A	0.72	58%
FM40-07A4E	0.55	0.75	3.5 A	0.74	61%
FM40-10A4E	0.75	1.00	4.3 A	0.75	64%
FM40-15A4E	1.10	1.50	5.9 A	0.76	67%
FM40-20A4E	1.50	2.00	7.5 A	0.77	69%
FM40-30A4E	2.20	3.00	10.4 A	0.78	71%
FM40-40A4E	3.00	4.00	13.9 A	0.79	72%
FM40-55A4E	4.00	5.50	18 A	0.79	74%
FM40-75A4E	5.50	7.50	24 A	0.80	75%

Technical Datas : 4" Submersible Motor - DOL, 3Phase, 380V, 60Hz, 3450rpm

MODEL	POWER		RATED CURRENT	POWER FACTOR (COSØ)	EFFICIENCY
	kW	HP			
FM40-03A4I	0.25	0.33	1.2 A	0.70	55%
FM40-05A4I	0.37	0.50	1.4 A	0.72	58%
FM40-07A4I	0.55	0.75	2.0 A	0.74	61%
FM40-10A4I	0.75	1.00	2.5 A	0.75	64%
FM40-15A4I	1.10	1.50	3.3 A	0.76	67%
FM40-20A4I	1.50	2.00	4.3 A	0.77	69%
FM40-30A4I	2.20	3.00	6.0 A	0.78	71%
FM40-40A4I	3.00	4.00	8.0 A	0.79	72%
FM40-55A4I	4.00	5.50	10.4 A	0.79	74%
FM40-75A4I	5.50	7.50	13.9 A	0.80	75%

EXPLODED VIEW



Part No.	Part Name
2	Pump Outlet
3	Non Return Valve
4	Non Return Valve Seat
5	Rubber bearing bush
6	Lock Screw
7	Upper bearing sleeve
8	Washer
9	Diffuser
10	Impeller
11	Diffuser top plate
12	Bearing bracket
13	Cable shield Rubber
14	Screw
15	Cable Guard Clamp
16	Cable
17	Pump shell
18	Pump shaft
19	Bottom Bearing Sleeve
20	Spacer Sleeve
21	Coupling
22	Coupling screw
23	Strainer
24	Screw
25	Pump Inlet
26	Cable screw
27	Motor cable Lead
28	Cable clamp
29	Sand Guard Rubber
30	Sand Guard Washer
31	Sand Guard Plastic
32	Oil seal
33	Nut
34	Spring Washer
35	Allen Stud
36	Oil Filling Plug
37	'O' ring
38	Upper Housing
39	Side screw
40	Side Collar Bush
41	'O' ring
42	Mechanical seal
43	Mechanical seal washer
44	Top bearing
45	Rotor with shaft
46	Bottom bearing
47	Bearing washer
48	Winding Guard
49	Stator
50	Lower Housing
51	Motor Shell
52	Oil
53	Rubber Diaphragm
54	Base Plate
55	Snap Ring

In view of continuous development, the informations / descriptions / specification / illustration are subjected to change without notice.



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