

SEMI-AXIAL PUMPS PERFORMANCE AT 2850 rpm

Pump type	Motor rating kW	Rated current 400 V A	Q m ³ /h											Length mm	Weight kg (without cable)						
			6 1/min 400 V	12 200	18 300	24 400	30 500	36 600	42 700	48 800	54 900	60 1000	78 1300			Total head (m)					
6FX4 30-2	3.0	7.0	29	27	23	21	20	16	6							1471	38				
6FX4 30-3	4.0	9.2	43	40	36	33	29	24	9							1653	43.5				
6FX4 30-4	5.5	12.5	58	53	48	44	39	31	12							1765	46.5				
6FX4 30-6	7.5	17.5	87	79	72	66	58	48	30							2039	54.5				
6FX 30-2	3.0	7.6	29	27	23	21	20	16	10							1337	51.5				
6FX 30-3	3.7	8.8	43	40	36	33	29	24	15							1449	54				
6FX 30-4	5.5	12.5	58	53	48	44	39	31	20							1641	64.5				
6FX 30-6	7.5	17.0	87	79	72	66	58	48	30							1915	79.5				
6FX 30-9	11.0	24.5	130	118	108	99	87	71	43							2358	97				
6FX 30-12	15.0	31.0	174	158	144	132	117	95	59							2784	117				
6FX 30-15	18.5	39.0	217	198	180	165	146	119	73							3210	136				
6FX 30-18	22.0	46.0	260	237	216	198	174	142	88							3636	155				
6FX 30-21	30.0	62.0	304	276	262	230	204	167	102							4082	175				
6FX 30-24	30.0	62.0	348	315	288	263	233	190	118							4418	183				
6FX4 42-2	4.0	9.2				23	21	19	18	15	12	9				1581	41				
6FX4 42-3	5.5	12.5				34	31	29	26	22	18	13				1653	44				
6FX4 42-5	7.5	17.5				57	53	49	43	38	30	23				1927	52				
6FX 42-2	3.7	8.8				23	21	19	18	15	12	9				1337	51.5				
6FX 42-3	5.5	12.5				34	31	29	26	22	18	13				1529	62				
6FX 42-5	7.5	17.0				57	53	49	43	38	30	23				1803	77				
6FX 42-7	11.0	24.5				80	74	68	60	52	43	32				2134	91				
6FX 42-9	15.0	31.0				103	96	87	78	67	55	41				2448	109				
6FX 42-10	15.0	31.0				114	106	97	86	75	60	47				2560	112				
6FX 42-12	18.5	39.0				137	127	116	103	90	74	55				2874	129				
6FX 42-15	22.0	46.0				171	159	145	130	111	92	70				3300	147				
6FX 42-17	30.0	62.0				194	180	164	148	128	103	79				3634	165				
6FX 42-19	30.0	62.0				217	201	184	165	142	117	89				3858	170				
6FX4 58-2	4.0	9.0						20	18	17	16	15	9			1581	41				
6FX4 58-3	5.5	12.5						30	28	26	25	13	14			1653	44				
6FX4 58-4	7.5	17.5						40	37	35	33	30	19			1815	49.5				
6FX 58-2	3.7	8.8						20	18	17	16	15	9			1337	51.5				
6FX 58-3	5.5	12.5						30	28	26	25	23	14			1529	62				
6FX 58-4	7.5	17.0						40	37	35	33	30	19			1691	74.5				
6FX 58-6	11.0	24.5						60	56	52	49	46	20			2022	88.5				
6FX 58-8	15.0	31.0						80	74	70	58	61	37			2336	107				
6FX 58-10	18.5	39.0						100	93	87	81	76	47			2650	124				
6FX 58-12	22.0	46.0						120	111	104	99	91	57			2964	140				
6FX 58-14	30.0	62.0						140	130	122	110	106	66			3298	158				
6FX 58-16	30.0	62.0						160	148	139	141	121	76			3522	163				



All series 6FX 30, 6FX 42, and 6FX 58 pumps have a discharge connection with major diameter G3".
The maximum outer diameter is 147 mm.

MAX. LENGTH OF POWER SUPPLY CABLE WITH DIRECT STARTING - 380 V

Motor power		Cord cross section: 1 cord 3 or 4 x... mm									
kW	HP	1.5	2.5	4	6	10	16	25	35	50	70
3	4	78	128	205	305	503					
3	4	72	120	190	285	470					
3.7	5	62	102	162	243	400					
4	5.5	59	98	155	232	382					
5.5	7.5	43	72	114	171	282	440				
5.5	7.5	43	72	114	171	282	440				
7.5	10	32	53	84	126	207	324	482			
11	15		37	58	87	144	225	335	470		
15	20			46	69	114	178	265	372	490	
18.5	25				55	90	141	210	296	390	
22	30				46	76	120	178	251	330	
30	40					57	89	132	186	245	340

Drop cable

To ensure good pump performances, it is most important that the drop cable is of the appropriate size.

Refer to the table to determine the maximum allowable cable length, as to size and motor ratings. The table refers to H07RNF cables with insulation suitable for operating temperature of the conductor up to 60°C.

For 415 V the maximum admitted length of the drop cable increase by 10% as per the value marked in the table.

MAX. LENGTH OF POWER SUPPLY CABLE WITH STAR-DELTA STARTING - 380 V

Motor power		Cord cross section: 1 cord 3 or 4 x... mm									
kW	HP	1.5	2.5	4	6	10	16	25	35	50	70
3	4	108	180	285	427	705					
3.7	5	93	153	243	365	600					
5.5	7.5	65	108	171	256	423	660				
7.5	10	48	79	126	189	310	486	723			
11	15		55	87	131	216	337	502	705		
15	20			69	103	171	267	397	558	735	
18.5	25				82	135	212	315	444	585	
22	30				69	114	180	267	376	495	
30	40					85	133	198	276	368	510

For 415 V the maximum admitted length of the drop cable increase by 10% as per the value marked in the table.

SPLICE BETWEEN DROP CABLE AND MOTOR CABLE

Motor	Power kW	Splice	Four-core drop cable								Three-core drop cable								Four single-core type drop cables								
			1.5	2.5	4	6	10	16	25	35	50	1.5	2.5	4	6	10	16	25	35	50	4	6	10	16	25		
F4	3 – 5.5	Resin filled	GR1	GR1	GR2	GR2	GR2	GR3	GR3																		
		Heat shrinking	GT1	GT1	GT2	GT2	GT3	GT4																			
		Taping	Self-vulcanizing tape + self-vulcanizing potting + PVC tape*)								Self-vulcanizing tape + self-vulcanizing potting + PVC tape*)																
F6	4 – 30	Resin filled	GR2	GR2	GR2	GR2	GR2	GR3	GR4	GR4																	
		Heat shrinking																									
		Taping	Self-vulcanizing tape + PVC tape								Self-vulcanizing tape + PVC tape																

*)The self-vulcanizing potting serves the purpose of plugging up space between the threcore flat cable and the ground cable in the zone covered by the final taping to restore the protective uninterruptedness of the sheath.



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6FX SUBMERSIBLE PUMPS FOR DEEP WELLS

50 Hz, 6"

ITT Flygt

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6FX SUBMERSIBLE PUMPS FOR DEEP WELLS

A combination of multistage centrifugal pumps and submersible motors, the 6" borehole pump, 6FX series, is designed for applications like:

- Water supply from deep wells
- Sprinkle irrigation schemes
- Booster systems
- Firefighting installations
- Mining applications.

Features

- Up to 410 m head
- Up to 78 m³/h flow rate
Max quantity of suspended sand in water 25 g/m³
- Ratings applied up to 30 kW (40 HP).

Construction, pump

Almost entirely made in stainless steel, the 6FX pumps are sturdy and light, easy to assemble and corrosion-resistant in non-aggressive environments. The guide bearings and wear rings are made of a special high-nitrile rubber to ensure stronger resistance to wear and abrasion. The surfaces in contact with the fluid have been made extremely smooth to ensure high performance and low energy consumption.

Construction, motor

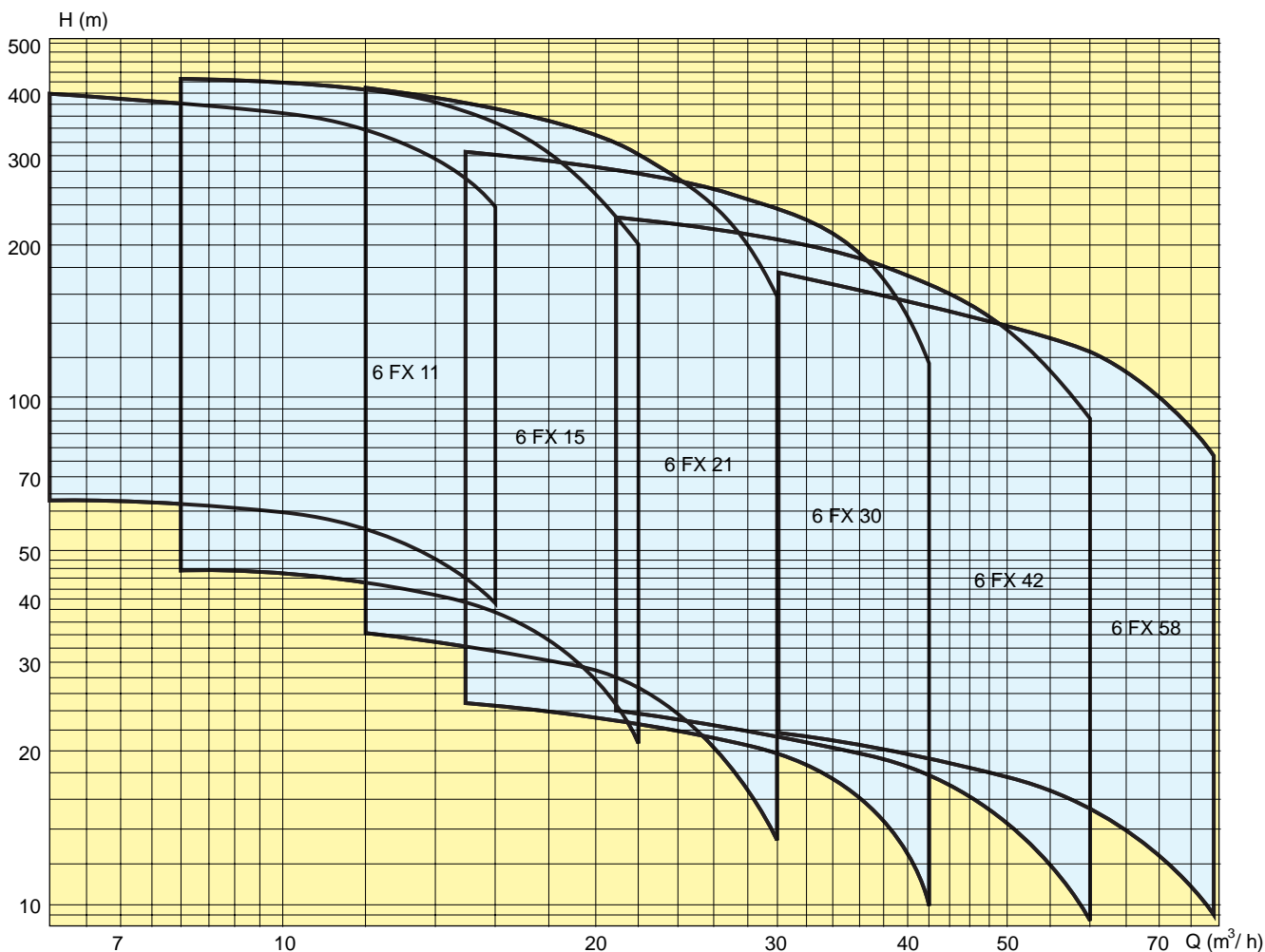
- Outer casing in roll-formed stainless steel

- Non-toxic filling liquid (with purity according to Italian Pharmacopea and FDA standards) lubricating the bearing and cooling the windings
- Shaft supported by angular contact, ball-bearing type
- Mechanical seal on the shaft with external labyrinth sand-proof protection
- Elastic diaphragm compensating the filling liquid thermal expansion and the pressure gradients
- Stator with enamel-coated copper wire
- Rewindable stator

Operating features, motor

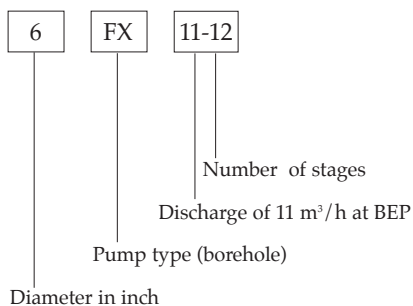
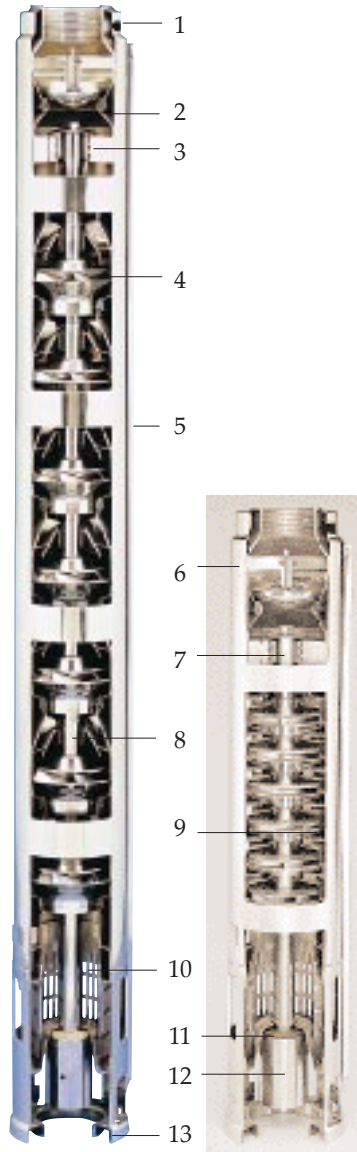
- Max depth of immersion 150 m
- Max number of starts per hour
OS4: 30 for direct start
20 for OS4-1000
OS6: 15 for direct start
20 for impedance starting

GENERAL VIEW OF THE PERFORMANCE CURVES AT 50 Hz



PUMP COMPONENTS

- 1 Grub screw preventing pipes from screwing off
- 2 Check valve
- 3 Upper bearing designed to optimize lubrication
- 4 Semi-axial impeller
- 5 Cable guard
- 6 Pump's casing & discharge connection
- 7 Upper bearing designed to optimize lubrication
- 8 4-spline shaft, transfers the drive directly without keys
- 9 Radial impeller
- 10 Suction grid
- 11 Thrust washer to protect the hydraulic elements from upthrust at the start
- 12 Splined coupling suitable for coupling with NEMA standard motors
- 13 Lower bracket in pressed stainless steel, ensuring perfect alignment



MOTOR DATA

Motor type 3-phases 380-415 V 50 Hz	Motor Ratings		Direct start		Max. liquid temp. °C
	kW	HP	Cs Cn	Is In	
OS4 400 T53	3	4	3.5	5.3	40
OS4 550 T53	4	5.5	3.1	6.2	35
OS4 750 T53	5.5	7.5	2.8	5.3	30
OS4 1000 T534	7.5	10	2.4	4.1	20
OS6 400 T53	3	4	5.2	6.6	40
OS6 500 T53	3.7	5	3.5	6	40
OS6 750 T53	5.5	7.5	4	6.6	40
OS6 1000 T53	7.5	10	4.3	6.5	40
OS6 1500 T53	11	15	4.8	7	30
OS6 2000 T53	18.5	25	3.5	6.3	30
OS6 2500 T53	18.5	25	3.5	6.3	30
OS6 3000 T53	22	30	3.4	6.6	30
OS6 4000 T53	30	40	2.4	5.8	30

Motor type 3-phases 380-415 V 50 Hz	Running features at rated current efficiency			
	RPM min ⁻¹	η%	cos φ	Rated current In (A)
OS4 400 T53	2850	75.5	0.82	7
OS4 550 T53	2820	79.0	0.86	9.2
OS4 750 T53	2830	79.0	0.84	12.5
OS4 1000 T534	2800	77.0	0.86	17.5
OS6 400 T53	2800	75.0	0.82	7.6
OS6 500 T53	2800	74.0	0.82	8.8
OS6 750 T53	2830	78.0	0.83	12.5
OS6 1000 T53	2820	79.0	0.83	17
OS6 1500 T53	2830	81.0	0.83	24.5
OS6 2000 T53	2850	83.0	0.83	39
OS6 2500 T53	2850	83.0	0.83	39
OS6 3000 T53	2870	84.0	0.82	46
OS6 4000 T53	2850	83.0	0.85	62

Two flow versions. The pumps are subdivided into two groups (A) radial flow for high discharge heads, up to 410 m, and low flow rates, up to 30 m³/h; (B) semi-axial flow for medium flow heads and rates, up to 270 m and 78 m³/h.

RADIAL PUMPS PERFORMANCE AT 2850 rpm

Pump type	Motor rating kW	Rated current 400 V A	m ³ /h ³ l/min ⁵⁰	6	9	12	15	18	21	24	27	30	Length mm	Weight kg (without cable)
				100	150	200	250	300	350	400	450	500		
Total head (m)														
6FX4 11-6	3.0	7	66	63	60	54	44	28					1455	39.5
6FX4 11-8	4.0	92	88	85	80	72	59	37					1603	44.5
6FX4 11-12	5.5	12.5	131	128	120	109	88	56					1759	49
6FX4 11-16	7.5	17.5	175	170	160	146	117	70					1965	57
6FX 11-6	3.0	7.6	66	63	60	54	44	28					1320	53
6FX 11-8	3.7	8.8	88	85	80	72	59	37					1399	55
6FX 11-12	5.5	12.5	131	128	120	109	88	56					1634	67
6FX 11-16	7.5	17.0	175	170	160	146	117	73					1840	82
6FX 11-21	11.0	24.5	230	223	211	191	153	97					2143	96
6FX 11-24	11.0	24.5	262	255	241	219	175	110					2259	99
6FX 11-28	15.0	31.0	306	298	281	255	204	130					2505	115
6FX 11-31	15.0	31.0	339	329	311	282	226	142					2623	118
6FX 11-34	18.5	39.0	371	361	342	310	249	157					2829	133
6FX 11-37	18.5	39.0	404	393	372	337	270	171					2947	136
6FX4 15-4	3.0	7.0		47	45	43	39	32	21				1377	37.5
6FX4 15-6	4.0	9.2		70	68	65	59	49	32				1525	42.5
6FX4 15-9	5.5	12.5		104	102	98	89	73	48				1642	46
6FX4 15-12	7.5	17.5		140	135	129	119	99	73				1809	52
6FX 15-4	3.0	7.6		47	45	43	39	32	21				1242	51
6FX 15-6	3.7	8.8		70	68	65	59	49	32				1320	53
6FX 15-9	5.5	12.5		104	102	98	89	73	48				1518	64
6FX 15-12	7.5	17.0		140	135	129	119	99	64				1684	77
6FX 15-15	11.0	24.5		175	170	161	149	123	80				1909	90
6FX 15-18	11.0	24.5		210	203	195	178	148	97				2025	93
6FX 15-21	15.0	31.0		245	238	228	208	171	113				2233	108
6FX 15-24	15.0	31.0		280	271	259	238	197	130				2349	111
6FX 15-28	18.5	40.0		326	317	302	277	230	150				2595	127
6FX 15-31	18.5	39.0		361	350	335	307	254	167				2713	130
6FX 15-34	22.0	46.0		396	384	368	336	279	183				2919	144
6FX 15-37	22.0	46.0		431	419	400	366	302	200				3037	147
6FX4 21-3	3.0	7.0				34	32	30	28	23	20	13	1354	36.5
6FX4 21-4	4.0	9.2				47	44	41	37	32	26	19	1469	40.5
6FX4 21-6	5.5	12.5				69	65	61	55	48	38	28	1558	43.5
6FX4 21-9	7.5	17.5				103	99	92	83	72	58	42	1741	49.5
6FX 21-3	3.0	7.6				34	32	30	28	23	20	13	1220	50
6FX 21-4	3.7	8.8				47	44	41	37	32	26	19	1264	51
6FX 21-6	5.5	12.5				69	65	61	55	48	38	28	1434	61.5
6FX 21-9	7.5	17.5				103	99	92	83	72	58	42	1618	74.5
6FX 21-13	11.0	24.5				149	142	132	120	103	83	60	1903	88.5
6FX 21-17	15.0	31.0				196	187	173	157	136	110	80	2169	105
6FX 21-22	18.5	39.0				252	241	224	203	176	141	102	2483	123
6FX 21-26	22.0	46.0				299	285	266	240	208	168	120	2751	138
6FX 21-30	30.0	62.0				345	328	306	277	240	193	140	3039	155
6FX 21-34	30.0	62.0				391	372	347	313	271	220	159	3217	160



All series FX 11, FX 15 and FX 21 pumps have a discharge connection with major diameter G 2 1/2." The maximum outer diameter is 147 mm.