



# VSF SERIES 50 HZ

4"/6" SUBMERSIBLE PUMPS



## 4"/6" SUBMERSIBLE PUMPS

### APPLICATION

- Municipal water works, fountains and waste water
- Water distribution and pressure boosting
- Irrigation and sprinkler systems, water treatment plants, filtration and reverse osmosis
- Industrial cooling and processing
- Mining industry, drainage and dewatering
- Fire-fighting equipment
- Water supply to and from tanks, reservoir and wells
- Lifting and distribution of a wide range of liquids
- Autoclave and cistern charge and discharge
- Turf and landscape
- Residential and farm wells and drainage
- General industry

### FEATURES

- Compact, reliable and suited to operate in horizontal position
- 4": Built-in check valve to protect the pump against water hammer risk (for model 4VVSF15 please contact Franklin Electric)
- 6": Built-in check valve, spring loaded for models with more than 19 stages, to protect the pump against water hammer risk
- Floating impellers to grant a better performance and longer life for the pump against abrasion (4" pumps)

### GENERAL PUMP SPECIFICATION

- Pumped liquid: chemically and mechanically non aggressive
- Rotation: counter clockwise when looking into the discharge
- Pump can work continuously in vertical or horizontal position

### PUMP SPECIFICATION

- Flow:
  - 4" pumps: up to 27 m<sup>3</sup>/h at 50 Hz
  - 6" pumps: up to 60 m<sup>3</sup>/h at 50 Hz
- Head:
  - 4" pumps: up to 641 m at 50 Hz
  - 6" pumps: up to 788 m at 50 Hz
- Pumped liquid: chemically and mechanically non aggressive
- Max water temperature: 4" pumps: 45 °C; 6" pumps: 30 °C
- Maximum allowable amount of sand:
  - 4" pumps: 250 g/m<sup>3</sup>; 6" pumps: 60 g/m<sup>3</sup>
- Maximum pump diameter (including cable guard):
  - 4" pumps: 98 mm; 6" pumps: 140 mm
- Outlet diameter:
  - 4" pumps: 1" ¼ for VSF 1-2-3-4, 2" for VSF 6-8-12-15
  - 6" pumps: 3"
- Motor support:
  - 4" pumps: supplied for connection to 4" motor
  - 6" pumps: supplied for connection to 4" motor up to 5.5 kW; from 7.5 kW to 6" motor
- Rotation: counter clockwise when looking into the discharge
- Pump can work continuously in vertical or horizontal position

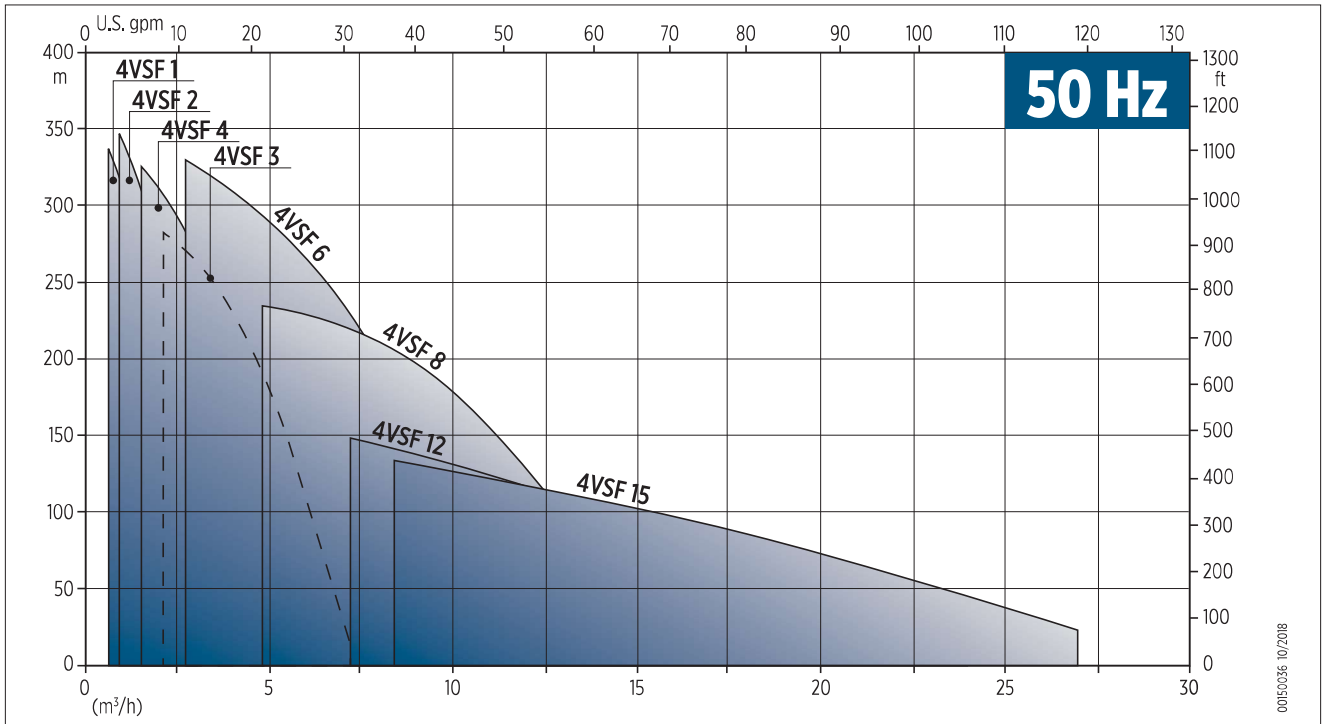
### MOTOR SPECIFICATION

- Motor adapter in compliance with NEMA standard
- For more information consult the product catalog of Submersible motors

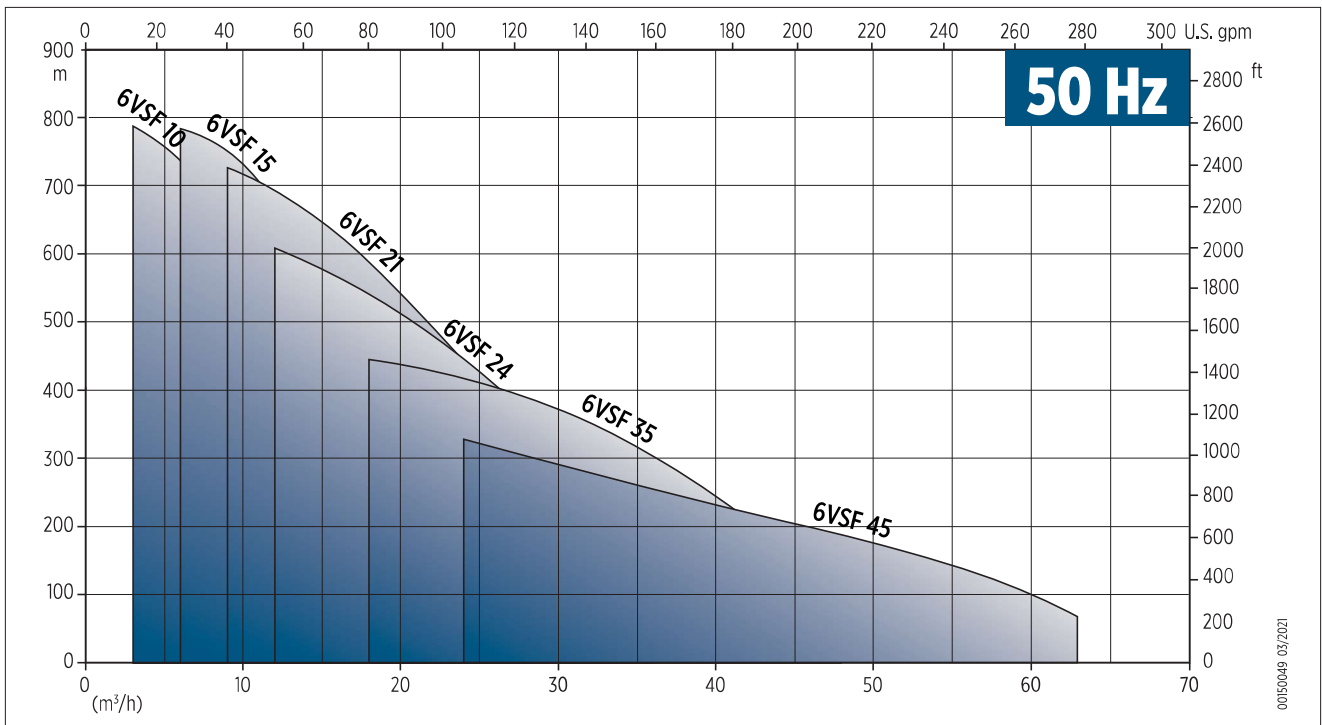
### AVAILABLE ON REQUEST

- Spring loaded check valve for 6" pumps with less than 19 stages
- 6" motor support for 6VVSF up to 5.5 kW
- Cooling shroud
- Discharge head 2" ½
- Double cable guard

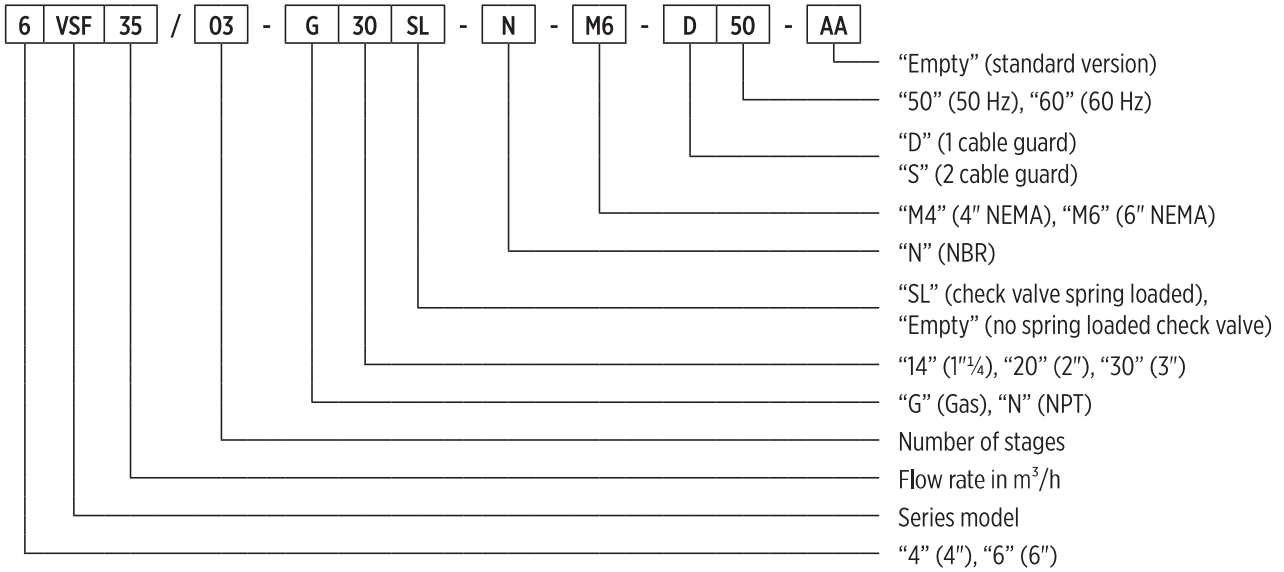
### 4VSF FAMILY CURVES



### 6VSF FAMILY CURVES

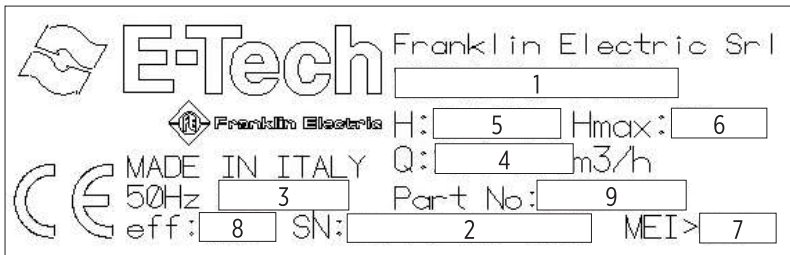


### PUMP IDENTIFICATION CODE



00140047\_03/2021

### PUMP RATING PLATE



- 1) Model
- 2) Serial number
- 3) Nominal Rpm
- 4) Delivery range
- 5) Head range
- 6) Maximum head
- 7) MEI index
- 8) Hydraulic efficiency
- 9) Code

# 6" HYDRAULIC PERFORMANCE AT 50 HZ - 2900rpm

6VSF 10-15-21

Pump model	No. stages	RATED POWER		Q = DELIVERY																				
				m <sup>3</sup> /h 0	1	3	5	6	8	9	11	12	13.5	15	17	18	21	24	27	30	33	36		
		[kW]	[HP]	l/min 0	17	50	75	100	125	150	175	200	225	250	275	300	350	400	450	500	550	600		
				H = TOTAL M.HEAD OF WATER COLUMN [m]																				
6VSF 10	05	2.2	3	78		73	70	67	63	58	53	46	37	27	16									
	06	3.0	4	94		88	84	80	76	70	63	55	44	32	19									
	07	3.7	5	109		102	98	94	89	82	74	64	52	38	22									
	08	3.7	5	125		117	112	107	101	93	84	73	59	43	25									
	09	4.0	5.5	140		131	126	121	114	105	95	82	67	48	28									
	12	5.5	7.5	187		175	169	161	152	140	127	109	89	65	37									
	16	7.5	10	250		234	225	214	202	187	169	146	118	86	50									
	18	9.2	12.5	281		263	253	241	228	210	190	164	133	97	56									
	21	9.2	12.5	328		307	295	281	266	245	222	192	155	113	65									
	24	11.0	15	374		350	337	322	304	280	253	219	178	129	74									
	28	13.0	17.5	437		409	393	375	354	327	295	255	207	151	87									
	32	15.0	20	499		467	450	429	405	374	338	292	237	172	99									
	40	18.5	25	624		584	562	536	506	467	422	365	296	215	124									
	48	22.0	30	749		701	674	643	607	561	506	438	355	258	149									
54	26.0	35	842		788	759	724	683	631	570	492	400	291	167										
Efficiency				-	39%	47%	55%	61%	65%	65%	62%	54%	40%	-										
6VSF 15	05	3.0	4	79			75	74	71	68	64	58	52	45	37	15								
	06	4.0	5.5	94			90	88	86	81	76	70	63	54	44	17								
	07	5.5	7.5	110			106	103	100	95	89	82	73	63	51	20								
	08	5.5	7.5	126			121	118	114	109	102	93	83	72	58	23								
	09	5.5	7.5	141			136	133	128	122	115	105	94	81	66	26								
	12	7.5	10	188			181	177	171	163	153	140	125	108	88	35								
	15	9.2	12.5	236			226	221	214	204	191	175	156	135	110	44								
	18	11.0	15	283			271	265	257	244	229	210	188	162	131	52								
	21	13.0	17.5	330			317	309	299	285	267	245	219	189	153	61								
	24	15.0	20	377			362	354	342	326	306	280	250	216	175	70								
	30	18.5	25	471			452	442	428	407	382	350	313	269	219	87								
	35	22.0	30	550			528	516	499	475	446	408	365	314	256	102								
	40	26.0	35	628			603	589	570	543	509	466	417	359	292	116								
	45	30.0	40	707			679	663	641	611	573	524	469	404	329	131								
52	37.0	50	816			784	766	741	706	662	606	542	467	380	151									
Efficiency				-			54%	59%	64%	67%	68%	68%	64%	58%	46%	-								
6VSF 21	02	1.5	2	28						25	24	24	23	22	21	20	18	15	13	10	7			
	03	2.2	3	42						38	37	35	34	33	32	30	27	23	19	15	10			
	04	3.0	4	56						50	49	47	46	44	42	40	36	31	26	20	14			
	05	4.0	5.5	70						63	61	59	57	55	53	50	45	39	32	25	17			
	07	5.5	7.5	98						88	85	83	80	77	74	70	62	54	45	35	24			
	10	7.5	10	140						125	122	118	114	110	105	100	89	77	64	50	34			
	12	9.2	12.5	168						150	146	142	137	131	126	120	107	93	77	60	41			
	15	11.0	15	210						188	183	177	171	164	158	150	134	116	96	75	51			
	17	13.0	17.5	238						213	207	201	194	186	179	170	152	131	109	85	58			
	20	15.0	20	280						251	244	236	228	219	210	200	178	154	128	100	69			
	25	18.5	25	350						314	305	296	285	274	263	250	223	193	160	125	86			
	30	22.0	30	420						376	366	355	342	329	315	300	268	232	192	149	103			
	35	26.0	35	490						439	427	414	399	383	368	350	312	270	224	174	120			
	40	30.0	40	560						502	488	473	456	438	420	400	357	309	256	199	137			
50	37.0	50	700						627	610	591	571	548	525	500	446	386	320	249	172				
58	45.0	60	812						727	707	686	662	635	609	579	517	448	371	289	199				
Efficiency				-					41%	46%	51%	56%	59%	63%	65%	68%	67%	62%	52%	39%				

Best efficiency point

# 6" TECHNICAL DATA AT 50 HZ

## 6VSF 10

Pump model	No. stages	Motor			Dimensions [mm]			Diameter [mm]			Weight [Kg]			
					L1	L2	Lt	Pump (PD)		Motor (MD)	Pump	Motor		Total
		Type	[Kw]	[HP]		3-	3-	1 cable	2 cable			3-	3-	
6VSF 10	05	E4 HT	2.2	3	477	422.2	899.2	140	-	95.25	8.9	15	23.9	
	06		3	4	515	477.2	992.2	140	-	95.25	9.6	17	26.6	
	07		3.7	5	553	520.2	1073.2	140	-	95.25	10.2	19.1	29.3	
	08		3.7	5	591	520.2	1111.2	140	-	95.25	10.8	19.1	29.9	
	09		4	5.5	629	543.2	1172.2	140	-	95.25	11.4	20	31.4	
	12		5.5	7.5	743	625.5	1368.5	140	-	95.25	13.3	26.6	39.9	
	05	E6	4	5.5	477	581.2	1058.2	140	143	135.52	8.9	38	46.9	
	06		4	5.5	515	581.2	1096.2	140	143	135.52	9.6	38	47.6	
	07		4	5.5	553	581.2	1134.2	140	143	135.52	10.2	38	48.2	
	08		4	5.5	591	581.2	1172.2	140	143	135.52	10.8	38	48.8	
	09		4	5.5	629	581.2	1210.2	140	143	135.52	11.4	38	49.4	
	12		5.5	7.5	743	614.4	1357.4	140	143	135.52	13.3	41	54.3	
	16		7.5	10	895	646.2	1541.2	140	143	135.52	15.9	44	59.9	
	18		9.2	12.5	971	678.7	1649.7	140	143	135.52	17.1	47.5	64.6	
	21		9.2	12.5	1100	678.7	1778.7	140	143	135.52	21	47.5	68.5	
	24		11	15	1214	711.2	1925.2	140	143	135.52	22.9	50	72.9	
	28		15	20	1418	776.2	2194.2	140	143	135.52	26.3	56	82.3	
	32		15	20	1718	776.2	2494.2	140	143	135.52	35.9	56	91.9	
	40		18.5	25	2022	841.5	2863.5	140	143	135.52	41.7	63	104.7	
	48		22	30	2326	906.5	3232.5	140	143	135.52	47.5	68.5	116	
	54		30	40	2658	1036.6	3694.6	140	143	135.52	53.6	83	136.6	
	05		RW6	4	5.5	477	679	1156	140	143	142	8.9	43	51.9
	06			4	5.5	515	679	1194	140	143	142	9.6	43	52.6
	07			4	5.5	553	679	1232	140	143	142	10.2	43	53.2
	08	4		5.5	591	679	1270	140	143	142	10.8	43	53.8	
	09	4		5.5	629	679	1308	140	143	142	11.4	43	54.4	
	12	5.5		7.5	743	679	1422	140	143	142	13.3	43	56.3	
	16	7.5		10	895	699	1594	140	143	142	15.9	45	60.9	
	18	9.2		12.5	971	729	1700	140	143	142	17.1	49	66.1	
	21	9.2		12.5	1100	729	1829	140	143	142	21	49	70	
	24	11		15	1214	759	1973	140	143	142	22.9	53	75.9	
	28	13		17.5	1418	809	2227	140	143	142	26.3	57	83.3	
	32	15		20	1718	854	2572	140	143	142	35.9	61	96.9	
	40	18.5		25	2022	899	2921	140	143	142	41.7	66	107.7	
	48	22		30	2326	989	3315	140	143	142	47.5	77	124.5	
	54	26		35	2658	1094	3752	140	143	142	53.6	88	141.6	

