

ONE PUMP. DIVERSE APPLICATIONS.



OPENWELL SUBMERSIBLE PUMPS **TOV - SERIES** **50Hz**

OPENWELL SUBMERSIBLE PUMPS > TOV - SERIES

Tormac centrifugal openwell pump's volute chamber and impellers are carefully designed to give the best possible hydraulic efficiency and suction lift characteristic. State of the art machinery, technology and expertise gained over the years are employed in the manufacture of these pumps using quality raw material, journal bushes and dynamically balanced rotating components to ensure long life. Tormac openwell submersible prime movers are squirrel cage water filled and water-cooled rewindable type made of a special waterproof pure electrolytic copper insulated with synthetic film material. A uniquely designed thrust bearings with high thrust capacity and good quality shaft seals are used to enhance the strength and durability. All single-phase motors are incorporated with thermal overload protector. All Tormac openwell submersible pumps are produced in accordance with ISO 9001 standards.

Pumped Liquid Characteristics

pH value	6.5 to 8.5
Hardness (Drinking Water)	300 maximum
Temperature	33°C maximum
Specific Gravity	1.004 maximum
Chlorine ion Density	500 ppm maximum
Allowable solids	3000 ppm maximum
Allowable sand	25 grams / m ³ maximum
Viscosity	1.75 x 10 ⁶ m ² maximum
Turbidity	50 ppm silica scale maximum

Pumped Liquid : Clean, cold, non-aggressive, non-explosive water free solids or fibres and abrasives substance.

Note : The given performance data are based on rated input

Applications

- Domestic usage
- Agriculture
- Drip and Sprinkler irrigations
- Washing system
- Farms, Gardens and Fountains
- Fire fighting and mining
- Pressure boosting system for domestic and industrials
- Civil and Industrials applications

Special features

- High operating efficiency
- S.S 410 Stainless steel shaft
- Stainless steel impeller in specific models
- Water lubricated thrust & journal bearings
- Dynamically balanced rotating parts
- In built - thermal over load protector
- Designed for wide voltage fluctuations
- Can be easily dismantled and repaired

TECHNICAL DATA

Power Range	0.55kW - 2.2kW Single phase, 0.75kW - 37kW Three phase
Version	Single phase 200-220V, Three phase 380 - 415V, A.C.
Frequency	50 Hz
Speed	2900 rpm
Degree of Protection	IP - 58
Duty Type	S1 (Continuous)
Maximum Starts per hour	6 times
Direction of rotation	Clockwise from driving end
Method of starting	Single phase CSCR & CSR, Three phase DOL - 0.75kW - 5.5kW, SD - 3.5kW - 37kW

OPERATING DATA

Maximum Head	320 metres
Maximum Flow rate	215m ³ /hr
Nominal outlet size in inch	1, 1 1/2, 2, 2 1/2, 3, 4 & 6
Maximum operating pressure	30 bar
Maximum Liquid temperature	33°C
Maximum Ambient temperature	40°C

MATERIAL OF CONSTRUCTION

Part Name	Material
Pump casing	Cast iron
Impeller	Cast iron / Stainless steel
Stator shell	Stainless steel 304 / Mild steel
Shaft	Stainless steel 410
Journal bush	Leaded bronze
Thrust assembly	Leaded bronze & Compostos / S.S. 420 with Graphite Carbon

TOV - SERIES > Performance Data - Single and Three Phase

PUMP MODEL	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM								
	kW	HP			40	50	60	70	80	90	100	110	120
					Total Head in METRES								
TOV-04-05S	0.75	1.0	5	1	41	40	39	37	34	31	24	21	15
TOV-04-07S	1.1	1.5	7	1¼	57	56	53.5	52	47.5	42	26	20	19
TOV-04-09S	1.5	2.0	9	1¼	74	72	69	66	60	52	46	37	27

PUMP MODEL	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM											
	kW	HP			30	60	90	120	150	180	210	240	270	300	330	360
					Total Head in METRES											
TOV-10-30T	2.2	3.0	3	2	57	56	54	53	49	43	37	30	20			
TOV-14-40T	3.0	4.0	3	2						49	47	44	39	34	28	21
TOV-10-40T	3.0	4.0	5	2			87	86	78	68	56	41	32 (258LPM)			
TOV-14-50T	3.7	5.0	4	2						64	61	55	50	43	36	27
TOV-10-50T	3.7	5.0	6	2			110	107	99	88	72	55	38 (264LPM)			
TOV-14-60T	4.5	6.0	5	2					84	82	79	73	66	59	49	38
TOV-10-60T	4.5	6.0	7	2			132	126	118	103	90	69	48			
TOV-14-75T	5.5	7.5	6	2					106	104	98	90	80	72	57	44
TOV-10-75T	5.5	7.5	9	2			164	158	146	130	108	83	58			
TOV-10-100T	7.5	10	11	2			200	192	180	160	135	104	72			
TOV-10-125T	9.3	12.5	13	2			240	232	216	194	166	133	93			
TOV-10-150T	11	15	16	2		300	292	278	258	232	202	160	115			
TOV-10-200T	15	20	16	2		300	290	280	266	246	226	212	186	158	125	

PUMP MODEL	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM											
	kW	HP			300	360	420	480	540	600	660	720	780	840	900	960
					Total Head in METRES											
TOV-29-30T	2.2	3.0	2	2½	26	24	22	20	17	13						
TOV-43-50T	3.7	5.0	1	2½					24.5	23	22	20	19	17	15	12
TOV-27-50T	3.7	5.0	2	2½	38	37	35	32	30	26	19					
TOV-34-60T	4.5	6.0	2	2½		41	37	35	33	30	25	20				
TOV-41-75T	5.5	7.5	2	2½		47	44	43	42	39	35	33	29			
TOV-29-75T	5.5	7.5	3	2½		55	52	48	42	38	28			27	24	
TOV-25-75T	5.5	7.5	5	2½	58	63	55	48	34							
TOV-41-100T	7.5	10	2	2½	69					50	47.5	45	42.5			
TOV-40-100T	7.5	10	3	2½			57	56	52	48	42	36	28	40	36	24

PUMP MODEL	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM													
	kW	HP			240	300	360	420	480	540	600	660	720	780	840	900	960	1020
					Total Head in METRES													
TOV-29-100T	7.5	10	4	2½		81	77	70	65	58	50	42	38					
TOV-25-100T	7.5	10	6	2½		104	97	90	80	68	53							
TOV-40-125T	9.3	12.5	3	2½		67	65	64	63	62	60	57	53	49	45	40	33	
TOV-28-125T	9.3	12.5	4	2½			80	76	72	65	58	50	40					
TOV-31-125T	9.3	12.5	6	2½		112	108	96	85	73	58	50						
TOV-45-150T	11	15	3	2½					74	71	69	64	59	54	49	36		
TOV-44-150T	11	15	4	2½				78	76	72	68	64	58	52	38			
TOV-30-150T	11	15	6	2½			119	110	105	96	83	70	60					
TOV-46-200T	15	20	4	2½						95	90	85	80	75	70	60	54	44
TOV-45-200T	15	20	6	2½	122	119	116	114	113	110	108	103	98	91	81	71	60	

Pump Model	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM										
	kW	HP			240	300	360	420	480	540	600	660	720	780	840
	Total Head in METRES														
TOV-43-250T	18.5	25	8	3	139	137	134	132	129	124	117	109	100	90	78
TOV-44-250T	18.5	25	6	3	131	129	126	123	122	118	114	109	105	95	85
TOV-41-300T	22	30	8	3	170	165	162	160	157	153	149	142	134	122	110
TOV-40-300T	22	30	10	3	184	179	175	172	168	162	154	145	133	117	103
TOV-39-350T	26	35	12	3	212	210	207	202	198	189	180	167	153	136	119
TOV-44-400T	30	40	10	3	220	210	207	203	194	191	180	176	160	150	140
TOV-42-400T	30	40	13	3	270	260	255	250	240	230	210	190	172	155	122

Pump Model	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM												
	kW	HP			600	720	840	960	1080	1200	1320	1440	1560	1680	1800	1920	2040
	Total Head in METRES																
TOV-87-150T	11	15	2	4	43	41	40	39	38	37	36	35.5	33	31	27	23	18
TOV-100-200T	15	20	3	4	61	60	59	57	56	53	51	49	46	44	41	35	29
TOV-84-250T	18.5	25	4	4	69	67	65	63	61	58	54	51	47	43	36		
TOV-104-300T	22	30	5	4	82	80	78	75	72	70	67	64	62	58	53		
TOV-88-350T	26	35	6	4	100	98	91	89	84	80	77	71	65	58	48		
TOV-88-400T	30	40	7	4	120	115	111	107	100	95	90	82	78	70	60		

Pump Model	Motor Power		No of Stage	Pump outlet size in inch	Discharge in LPM														
	kW	HP			1260	1680	1800	1920	2040	2160	2280	2400	2520	2640	2760	2880	3000	3120	3240
	Total Head in METRES																		
TOV-110-250T	18.5	25	2	6	42	38	37	36	35	34	33	32	31.5	30	28	25	23	20	
TOV-110-300T	22	30	2	6	50	45	44	42.5	41.5	40	39	37.5	36	35	33.5	32	30	28	25.5
TOV-160-350T	26	35	3	6	68	61	59	65	56	54	52	49	47	44	40	38	36	33	29
TOV-160-500T	37	50	3	6	89	84	82	80	78	76	74	72	70	67	65	62	59	56	52

Note : The company reserves the right to modify the technical specifications and illustrations without prior notice.



T H E P O W E R B E H I N D T H E F O R C E

Naargo Industries Private Limited, one of the leading manufacturers of latest state of art, large range of pumps and motors, is managed by veterans who are in the pump industry for almost half a century. The products are employed in various applications like irrigation, domestic, civil construction, de-watering etc; The Company has a strong distribution network in India for sales & service and a strong global presence.

Quality is the key factor in Naargo's products. The expansive infrastructure and environment accredited with ISO 9001 quality certification, latest engineering softwares, high-tech machinery, futuristic pumping technology and high caliber workforce facilitate the production of flawless and efficient products on par with international standards under the brand name of "Tormac". The well equipped R & D wing stays alive to the changing global trends and comes out with viable solutions for innovative product development and upgradation.

The Products currently available include Stainless Steel Submersible Pumps, 4" Thermoplastic Submersible Pumps, 6" & 8" Cast Iron Submersible Pumps, Submersible Motors and Controls, Centrifugal Pumps, Inline Booster Pumps, Jet Self-priming Pumps and Peripheral Pumps.

The power, performance and endurance of the products backed by the uncompromising teamwork and value systems will certainly propel the company's growth towards new horizons in the pump industry.

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