

Project:  
Project number:

Created on: 2010-01-14  
Created by: Long, Scott



Technical data  
Submersible sewage pump

FA 10.33E

with motor  
T 17-4/8KEx

Pump						
Pump type		FA 10.33E		Installation type		
Impeller Ø	max. possible	9.8	inch	Suspension device		
	standard	194	mm	DN100/2RK 51.17585		
	designed	7.6	inch	Free passage		
	min. possible	7.6	inch	2.8 inch		
Nominal speed		1740	1/min	Suction port	Pressure rating	
Frequency		60	Hz		Rated diameter	PN10
Impeller type		Single-channel		Discharge port	Standard	
Impeller construction		Closed			Pressure rating	ANSI B16.1 Class 125 Std.-S
					Rated diameter	PN10
				Standard	Size3	
				Standard	ANSI B16.1 Class 125 Std.-D	
				Standard	Size4	
				Standard	ANSI B16.1 Class 125 Std.-D	
Weights						
Weight of pump end		max. 68.3	lb	Weight of unit		
Weight of motor		94.8	lb	max. 163.1 lb		
Materials						
Pump housing		EN-GJL-250				
Stationary wear ring		1.4308				
Impeller		EN-GJS-500-7				
Mobile wear ring		1.4462/1.4470				
Motor						
Motor name		T 17-4/8KEx		Number of poles		
Rated power		5.7	hp	4		
Power input with rated power				1690 rpm		
Rated voltage				7.2 hp		
Current input with rated power				460 ~3 V		
Efficiency with rated power				8 A		
cos phi with rated power		0.84		79 %		
cos phi with starting				Rated frequency		
Starting current, direct starting		33	A	60 Hz		
Starting current, star-delta		11	A	Operation type wet		
Starting torque		31	lbf ft	S1		
Inertia moment		0.1732	lb ft <sup>2</sup>	Operation type dry		
Sel. explosion protection		FM		Max. fluid temperature		
Ex-designation		FM		104 °F		
Motor connection cable				Starts per hour max.		
				15		
				Degree of protection		
				IP 68		
				Ex-number		
				-		
				Motor connection cable		
				7G1,5 H07RN		
Duty point data						
Volume flow		400.8	US g.p.m.	Fluid		
Head		35.1	ft	Water, pure		
Shaft power		P <sub>2</sub> 5.2	hp	Required pump NPSH		
Pump efficiency		69.5	%	9.7 ft		
Power input		P <sub>1</sub> 6.5	hp	Speed		
				1706 rpm		
				Total efficiency		
				= $\frac{P_2 * \text{Pump efficiency}}{P_1}$		

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**Tender text**

Submersible Sewage Pump as submersible, single-stage block unit in stationary, vertical installation to pump untreated sewage which doesn't attack the pump neither chemically nor mechanically. Pump with radially arranged discharge piece and axial pump intake. Service-friendly design by separated motor and pump casing. Pumping values to be guaranteed as per ISO 9906 Annex A

Submersible motor in pressure-resistant design, double mechanical shaft seal in EMU block design, as well as separate sealing chamber with medical white oil. Motor chamber dry. Sealing of the motor at the shaft by a double, wear-resistant mechanical shaft seal independent of the direction of rotation entirely made of silicon-carbide as closed unit, in stainless steel sealing cartridge. Both seals in the sealing cartridge are cooled and lubricated by medical white oil. Power supply cable and control cable with longitudinally tight cable trumpet, cores embedded in casting resin and soldered strands as additional protection against penetrating humidity by capillary action. Protection of the motor winding by thermistors installed. Both closed ball bearings are maintenance-free and filled with high-quality-grease. Possibility for retrofitting a moisture probe by means of a pencil electrode as protection against penetrating humidity. All casing parts are of cast iron. Shaft and connecting elements are of stainless steel.

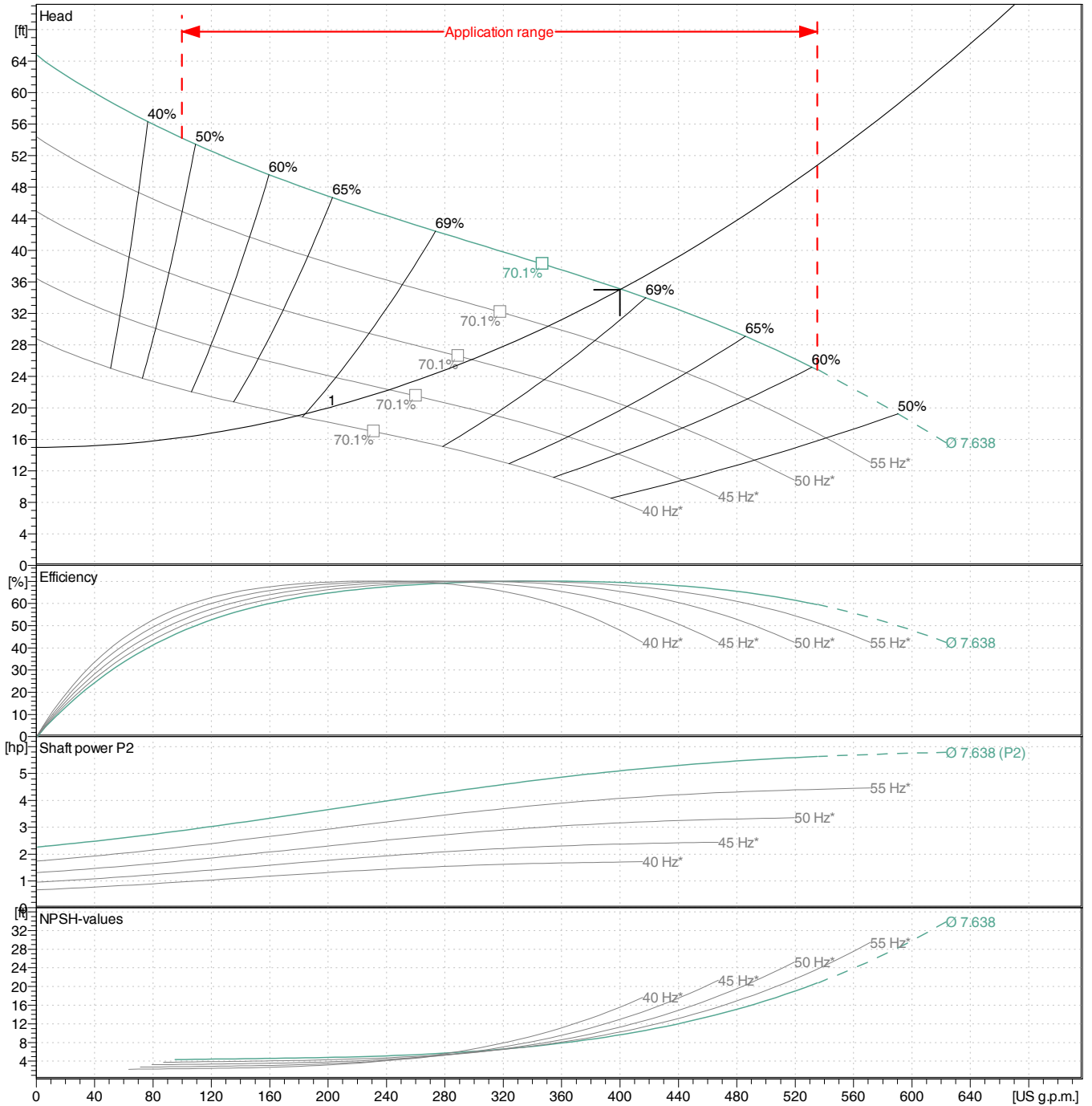


Performance curves  
Submersible sewage pump

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Power data referred to: Water, pure [100%]; 68°F; 62.322lb/ft³; 1.0818E-5ft²/s  
Tolerance as per ISO 9906 / Annex A.2

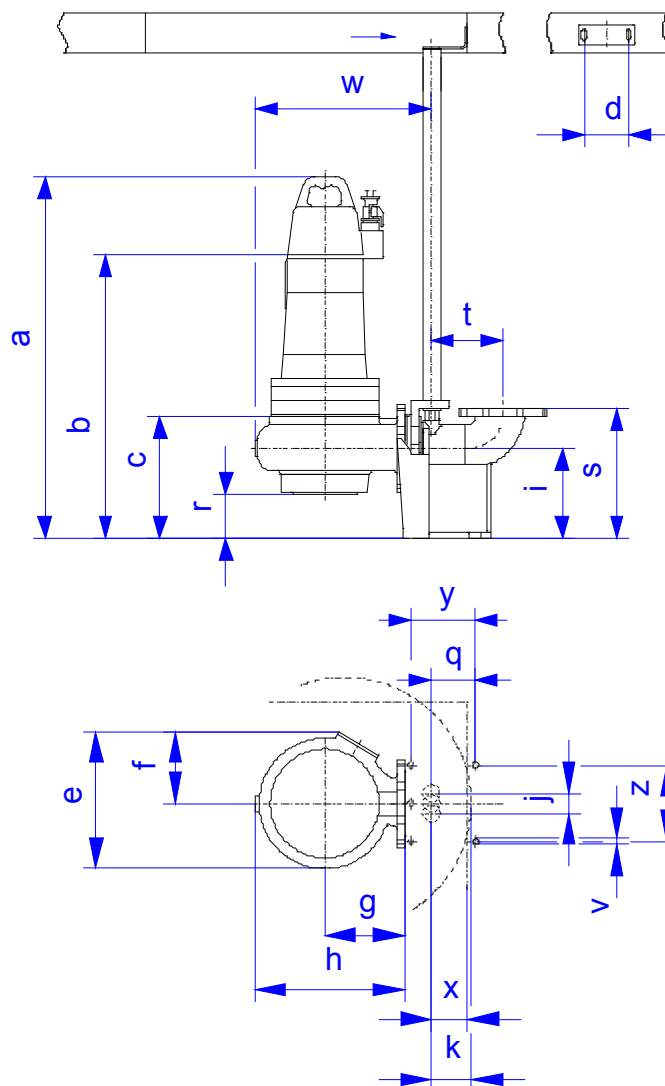


Pump			Duty point data		
Impeller Ø	designed	7 <sup>5</sup> / <sub>8</sub> inch	Volume flow	400.8	US g.p.m.
Nominal speed		1740 rpm	Head	35.1	ft
Frequency		60 Hz	Shaft power	P <sub>2</sub> 5.2	hp
Impeller type		Single-channel	Pump efficiency	69.5	%
			Power input	P <sub>1</sub> 6.5	hp
Rated power		5.7 hp	Required pump NPSH	9.7	ft
Sel. explosion protection		FM	Speed	1706	rpm

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Dimensions in inch				Connections
a	27 <sup>11</sup> / <sub>16</sub>	r	5 <sup>3</sup> / <sub>16</sub>	Suction port Size3 PN10
b	24 <sup>7</sup> / <sub>8</sub>	s	12 <sup>13</sup> / <sub>16</sub>	
c	11 <sup>9</sup> / <sub>16</sub>	t	6 <sup>15</sup> / <sub>16</sub>	
d	4 <sup>5</sup> / <sub>16</sub>	v	9/ <sub>16</sub>	Discharge port Size4 PN10
e	14 <sup>3</sup> / <sub>4</sub>	w	20 <sup>3</sup> / <sub>4</sub>	
f	7 <sup>3</sup> / <sub>4</sub>	x	3 <sup>9</sup> / <sub>16</sub>	
g	10 <sup>9</sup> / <sub>16</sub>	y	6 <sup>5</sup> / <sub>16</sub>	Suspension device DN100/2RK 51.17585
h	18 <sup>3</sup> / <sub>16</sub>	z	7 <sup>1</sup> / <sub>2</sub>	
i	8 <sup>7</sup> / <sub>8</sub>			
j	1 <sup>15</sup> / <sub>16</sub>			
k	3 <sup>7</sup> / <sub>8</sub>			
q	4 <sup>5</sup> / <sub>16</sub>			