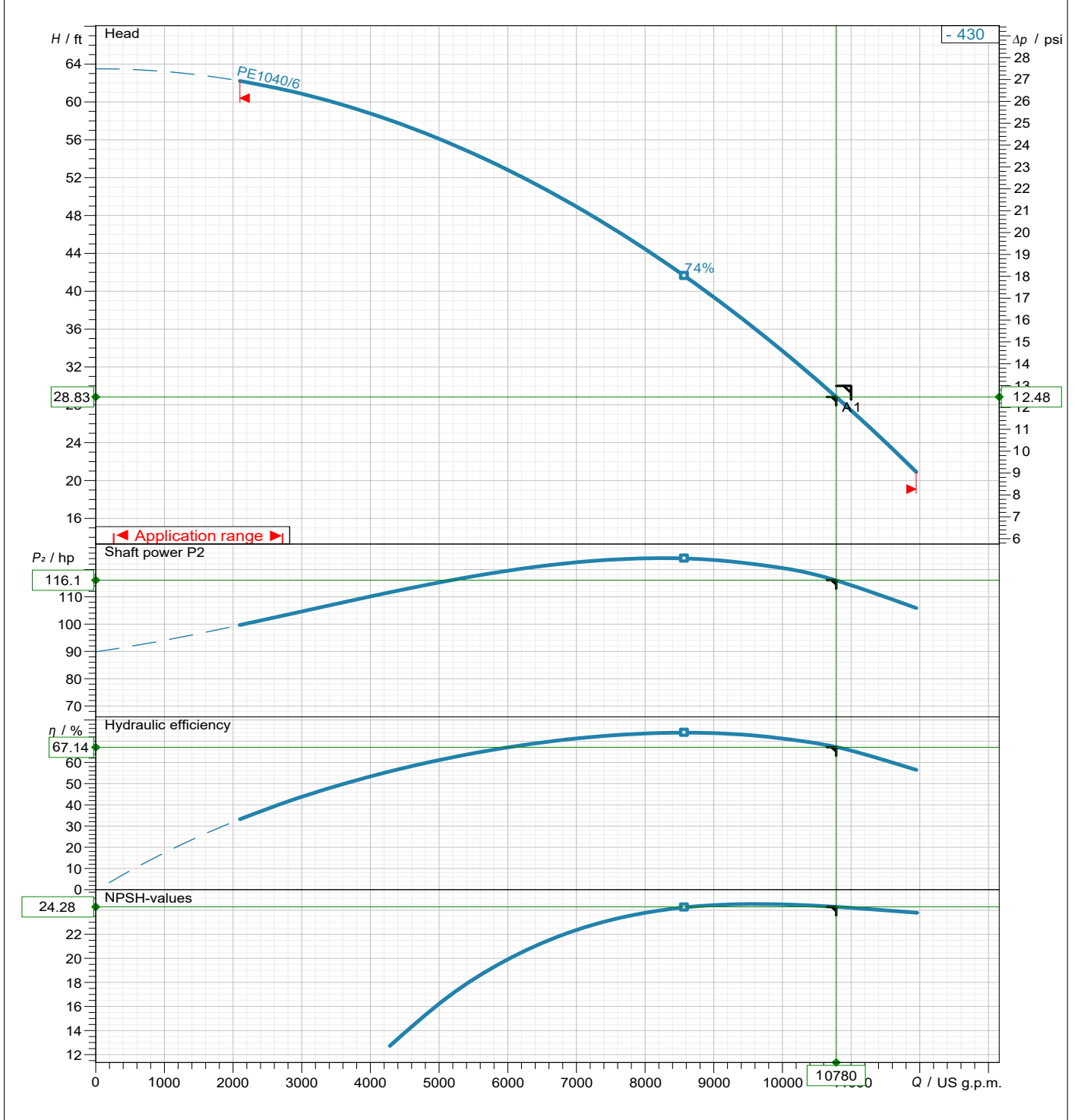


Curve number	Pump performance curves		SULZER
Reference curve XFP 400M-CH2 60 HZ	XFP 400M-CH2 60 HZ		

Town Branch WWTP - Repl. to AFP Pumps				Discharge DN400	Frequency 60 Hz
Density 0,9983 kg/dm ³	Viscosity 1,005 cSt	Testnorm ISO9906:2012, HI 11.6/14.6 Gr1U		Rated speed 1 190 rpm	Date 2020-03-23
Flow 10780 US g.p.	Head 28,8 ft	Shaft power 116 hp	Power input 122 hp	Rated power P2 125 hp	Hydraulic efficiency 67,1 %
					NPSH 24,3 ft



Impeller size 430 mm	N° of vanes 2	Impeller 2-vane channel impeller	Solid size 180 x 150 mm	Revision
-------------------------	------------------	-------------------------------------	----------------------------	----------

Frequency
60 Hz

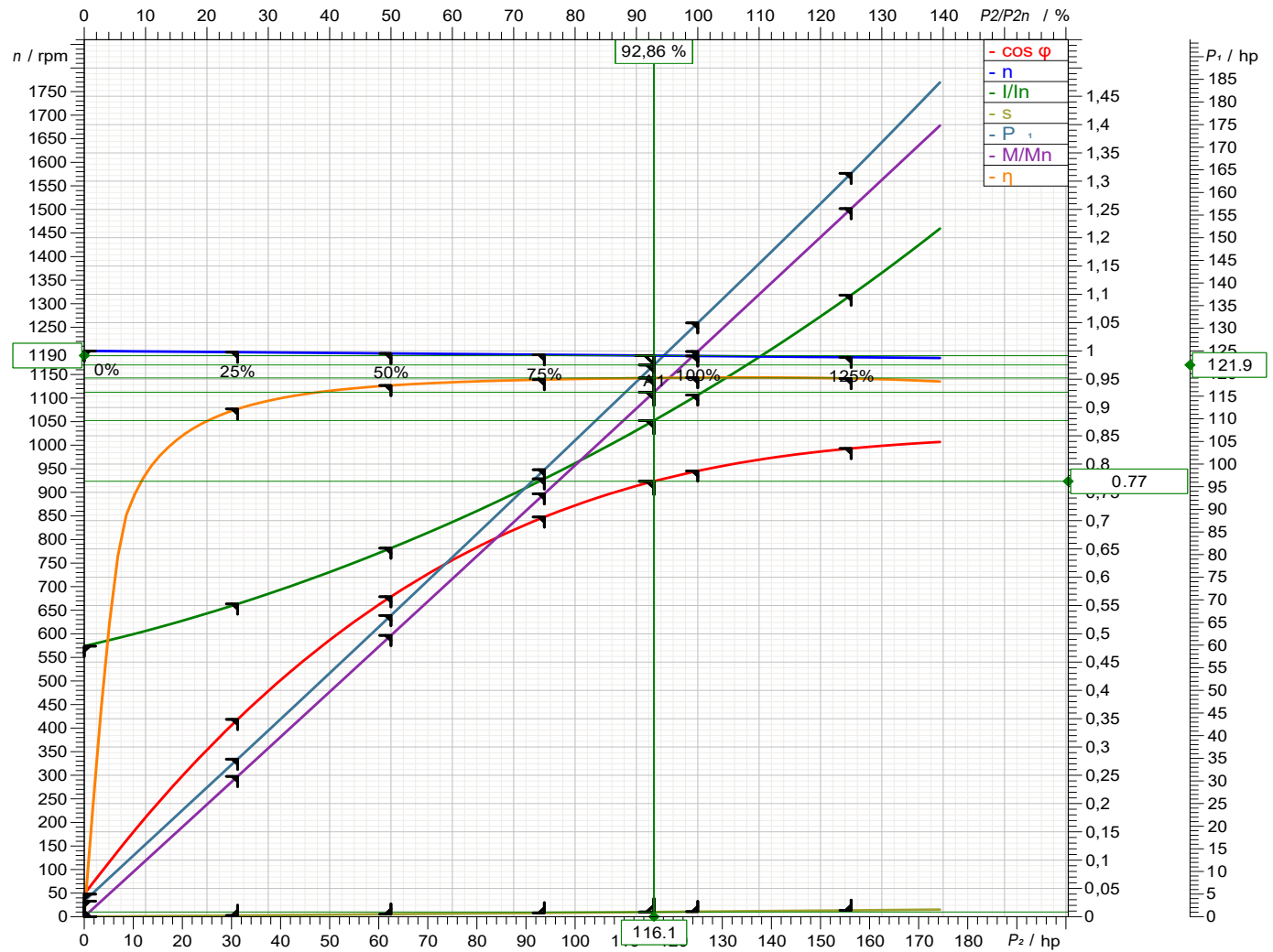
PE5

Motor performance curve



PE1040/6

Rated power 125 hp	Service factor 1,3	Nominal Speed 1190 rpm	Number of poles 6	Rated voltage 460 V	Date 2020-03-23
-----------------------	-----------------------	---------------------------	----------------------	------------------------	--------------------



Symbol	No load	25 %	50 %	75 %	100 %	125 %
P_2 / hp	0	31,25	62,5	93,75	125	156,2
P_1 / hp	3,45	34,82	66,56	98,75	131,2	164,2
η / %	0	89,74	93,9	94,93	95,28	95,13
n / rpm	1200	1197	1195	1192	1189	1187
$\cos \phi$	0,03994	0,3488	0,5657	0,7065	0,7878	0,8277
I / A	80,85	93,45	110,1	130,8	155,9	185,7
s / %	0	0,2241	0,4481	0,6722	0,8963	1,12
M / lbf ft	0	137,1	274,8	413,1	552,1	691,7

Tolerance according to VDE 0530 T1 12.84 for rated power

Starting current 1560 A	Starting torque 1990 lbf ft	Moment of inertia 56,7 lb ft ²	No. starts per hour 10
----------------------------	--------------------------------	--	---------------------------

Submersible Sewage Pump Type ABS XFP

TF065 LFUCG – Lexington, KY

XFP 400M-CH2 | 16", 6 Pole, 3-Phase, 60 Hz, PE5

Submersible Motor Specifications

Motor Design		NEMA design B, squirrel cage induction	
Motor Type		Fully enclosed Premium Efficiency submersible, IP68 protection rating	
Motor Efficiency Standard and Rating		IEC 60034-30, IE3 rating	
Motor Efficiency Test Protocol		IEC 60034-2-1	
Insulation Material		Class H, 180°C (356°F), copper windings	
Motor Filling Medium		Air	
Temperature Rise		Class A	
Maximum Fluid Temperature		40°C (104°F) continuous, 50°C (122°F) intermittent	
Cooling System		OPT Closed-loop, non-toxic glycol/water mixture (1/3 / 2/3)	
Motor Protection	Thermal	<100 HP	Normally closed bimetallic switch in each phase, connected in series, 140°C (284°F) +/- 5°C (41°F) opening temperature
		→ STD ≥100 HP	Normally closed bimetallic switch in each phase, connected in series, 140°C (284°F) +/- 5°C (41°F) opening temperature, plus 100Ω RTD (PT100) in winding, upper bearing, and lower bearing
	Leakage	<100 HP	STD (<100 HP) plus: upper and lower bearing bimetallic switches or 100Ω RTD (PT100) in winding (option of one RTD or three RTDs in stator) and RTDs in lieu of upper and lower bearing bimetallic switches
		→ STD ≥100 HP	STD (≥100 HP) plus: three 100Ω RTDs (PT100) in windings in lieu of one
Vibration		OPT <100 HP	STD plus: probes in motor housing and junction chamber
Sensing Chamber Filling Medium		OPT ≥100 HP	Vibration sensor (4-20 mA) in junction chamber
Bearing Type		Oil	
Bearing Type	Upper	Cylindrical roller, permanently lubricated, electrically insulated	
	Lower	Dual angular contact ball bearings plus single cylindrical roller bearing, permanently lubricated	
Motor Starter Types		Suitable for use with electronic soft starters, and PWM type Variable Frequency Drives ¹	
Maximum Starts per Hour		10 evenly spaced w/ soft starters; N/A with PWM type VFDs	
Inverter Duty Rating		Motors meet NEMA MG1, part 31 requirements	
Maximum Submergence		20 meters (65 feet)	
Available Voltages		460, 600 (consult factory for other voltages)	
Voltage Tolerance from Rated		+/-10%	
Agency Approvals		Factory Mutual, CSA	
Explosion Proof Rating		NEC 500 Class 1, Division 1, Group C & D, Class T3C max surface temp	



XFP CB2 PLUS

The picture above may differ from the actual product. For illustrative purposes only.

¹ Output filters may be required on VFDs. See document DS-E00-001 for details.

Motor Ratings

Motor Model	Input Power (P1)	Rated Power Output (P2)	Nominal RPM	Rated Voltage	Full Load Amps	Locked Rotor Amps	NEMA Code Letter	NEMA Service Factor	Motor Efficiency at % Load			Power Factor at % Load		
									100	75	50	100	75	50
PE 1040/6	97.9 kW	93.3 kW 125 HP	1189	460 600	156 120	1560 1196	L	1.3	95.3	94.9	93.9	.788	.707	.566

Submersible Sewage Pump Type ABS XFP

TF065 LFUCG – Lexington, KY

XFP 400M-CH2 | 16", 6 Pole, 3-Phase, 60 Hz, PE5

Cable Data							
Power Cable	Motor	Motor Voltage	Cable Qty	Cable Type	Cable Nominal Outside Diameter +/- .5mm (.02")		
					Power	Ground	
PE 1040/6		460 volt	1	G-GC 2/0-3	44.5mm (1.75")	Integrated w/ Power	
		600 volt	1	G-GC 1/0-3	41.9mm (1.65")	Integrated w/ Power	
Control Cable	Motor Monitoring Type ³		Cable Qty	Cable Type	Cable Nominal Outside Diameter +/- .5mm (.02")		
	Std monitoring	1			SOOW 16/4	10.6mm (0.42")	
	Opt full monitoring	1	SOOW 16/8	14.2mm (0.56")			
	Opt full monitoring w/ VS ⁴	1	SOOW 16/10	17.2mm (0.68")			
	Opt full monitoring w/ 3 RTDs	1	SOOW 16/12	17.7mm (0.70")			
	Opt full monitoring w/ 5 RTDs	2	SOOW 16/10	17.2mm (0.68")			
	Opt full monitoring w/ 3 RTDs & VS ⁴	2	SOOW 16/8	14.2mm (0.56")			
Opt full monitoring w/ 5 RTDs & VS ⁴	2	SOOW 16/10	17.2mm (0.68")				
Cable Length		Standard: 15m (49 feet)				Optional: 5m (16 feet) increments up to 30m (98 feet), Consult Factory for longer lengths	

³ See motor protection on page 1. Optional full monitoring systems with RTD options do not include bearing bi-metallic switches. ⁴ VS = Vibration Sensor

Pump Data	
Discharge Size	16" flanged, compatible with 16" class 125 ANSI flanges
Suction Size (Wet-Pit / Dry-Pit) ⁵	16" undrilled / 16" flanged, compatible with 16" class 125 ANSI flanges, threaded for 16x1-8 UNC bolts, 29mm (1.13") deep
Volute Pressure Rating	10 bar (145 psi)
Impeller Type	Closed Channel, 2-vane, w/ Seal Protection System
Impeller Code	-
Impeller Diameter, mm (in.)	430 (16.9)
Solids Passage Size, mm (in.)	180x150 (7.1x5.9)
Min. Recommended Flow, GPM ⁶	4300

⁵ Wet-pit version can be drilled to dry-pit specifications upon request. Consult factory for details. ⁶ Recommend minimum continuous flow. Consult factory for applications below this flow rate.

Materials of Construction		
	Standard	Optional
Power/Control Cable Jacket	Chlorinated Polyethylene (CPE)	Chlorinated Polyethylene (CPE) w/ Viton® Sleeve
Lifting Hoop	Steel 1.0060 (ASTM A-572, Grade 65)	Duplex Stainless Steel 1.4462 (UNS S31803)
Cable Connection Chamber	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Motor Housing	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Cooling Jacket	Steel 1.0036 (ASTM A-570, Grade D)	Stainless Steel 1.4571 (AISI 316Ti)
Intermediate Housing	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Seal Plate/Cooling Chamber	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	
Pump and Motor Shaft	Stainless Steel 1.4021 (AISI 420)	Duplex Stainless Steel 1.4462 (UNS S31803)
Impeller	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	Duplex Stainless Steel 1.4470 (ASTM A890, CD3MN Grade 4A)
Wear Parts	Impeller Wear Ring	N/A
	Volute Wear Ring	Cast Iron EN-GJL-300 (ASTM A-48, Class 40B)
	Bottom/Wear Plate	N/A
	Shroud	N/A
Volute	Cast Iron EN-GJL-250 (ASTM A-48, Class 35B)	Duplex Stainless Steel 1.4470 (ASTM A890, CD3MN Grade 4A)
External Hardware	Stainless Steel 1.4401 (AISI 316)	
O-Rings and Cable Glands	Nitrile (Buna-N)	Viton®
Mechanical Seals	Silicon Carbide / Silicon Carbide, Nitrile, 316 SS	Silicon Carbide / Silicon Carbide, Viton®, 316 SS
Lower Bearing Lip Seal	Nitrile (Buna-N)	
Coating/Protection	Two-part epoxy, blue, 100µm (3.9 mil) DFT	Two-part epoxy, blue, 200 µm (7.9 mil) or 360 µm (14.2 mil); Coal tar epoxy, blue, 200 µm (7.9 mil); Non-toxic epoxy, blue, 200 µm (7.9 mil); Zinc Anodes

General Data (Standard Materials of Construction & Cable Length)					
	PE 1040/6				
Overall Height	2023mm (79.6")				
≈ Pump Weight (Non-Cooled)	1830 kg (4035 lb)				

DS-E05-043 REV: 0 DATE: 03/20 | © Sulzer | Specifications Subject to Change Without Notice