



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 5WL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBAEA-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 3.72 in
 Impeller: 5WL-1C
 Ns: 2299
 Nss: 39636
 Suction: 4"
 Discharge: RI 3" RI 4"
 Bowl size: 5.2 in
 Max lateral: ---
 Thrust K factor: 1.4 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 3 hp
 Speed: 3600
 Frame: 182T

Pump Limits:

Temperature: 167 °F
 Pressure: 415 psi g
 Sphere size: 0.125 in
 Power: 30.8 hp
 Eye area: 3.08 in²

---- Data Point ----

Flow: 117 US gpm
 Head: 45.9 ft
 Eff: 74.2%
 Power: 1.83 hp
 NPSHr: 2.4 ft

---- Design Curve ----

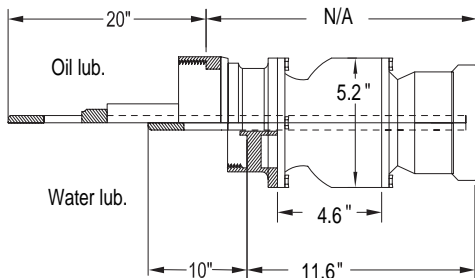
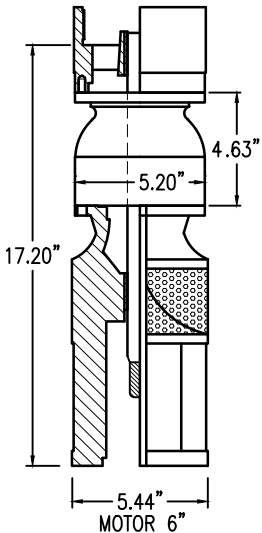
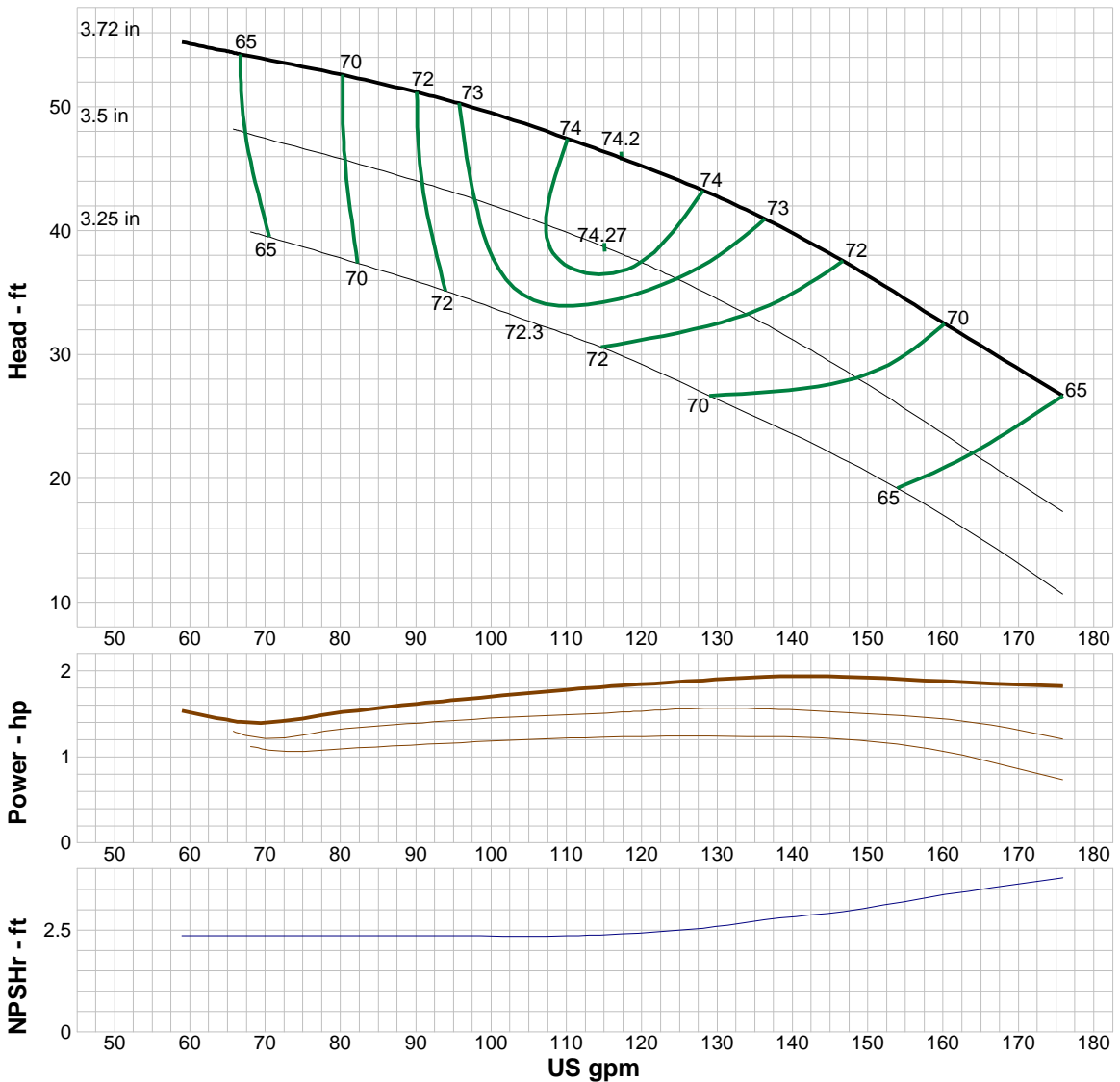
Shutoff head: 64 ft
 Shutoff dP: 27.7 psi
 Min flow: 13 US gpm
 BEP: 74.2% @ 117 US gpm
 NOL power:
 2.14 hp @ 24.5 US gpm

-- Max Curve --

Max power:
 2.14 hp @ 24.5 US gpm

--Additional Data--

Std. Shaft Diameter : 1"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting: 0.125"
 Std. Lateral: 0.462"
 One Stage Subm. WT-LB: 41.2
 One Stage Water Lub. WT-LB: 34.8
 One Stage Oil Lub. WT-LB: N/A
 Add Stage WT-LB: 11.5
 Impeller Weight: 2.7 lb
 Min. Submergence: 38"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
169	3450	29.2	67.2	1.85	3.6
141	3450	39.4	72.5	1.93	2.84
113	3450	46.8	74.1	1.8	2.38
84.6	3450	52	70.9	1.56	2.36
56.4	3450	55.6	49.8	1.58	2.36



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 5WH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBBEA-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 3.72 in
 Impeller: 5WH-1C
 Ns: 2021
 Nss: 32899
 Suction: 4 in
 Discharge: RI 3" RI 4"
 Bowl size: 5.2 in
 Max lateral: ---
 Thrust K factor: 1.4 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 5 hp
 Speed: 3600
 Frame: 184T

Pump Limits:

Temperature: 167 °F
 Pressure: 415 psi g
 Sphere size: 0.125 in
 Power: 49.8 hp
 Eye area: 3.08 in²

---- Data Point ----

Flow: 148 US gpm
 Head: 52.9 ft
 Eff: 75.3%
 Power: 2.63 hp
 NPSHr: 9.9 ft

---- Design Curve ----

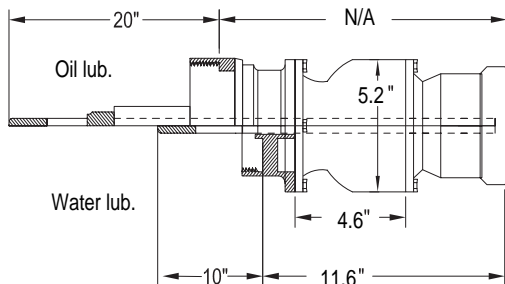
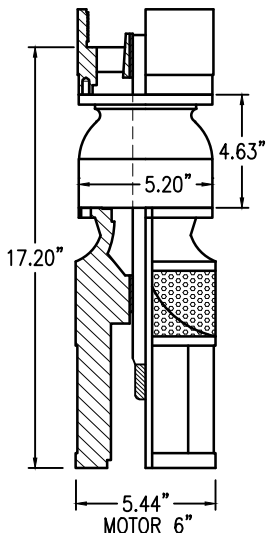
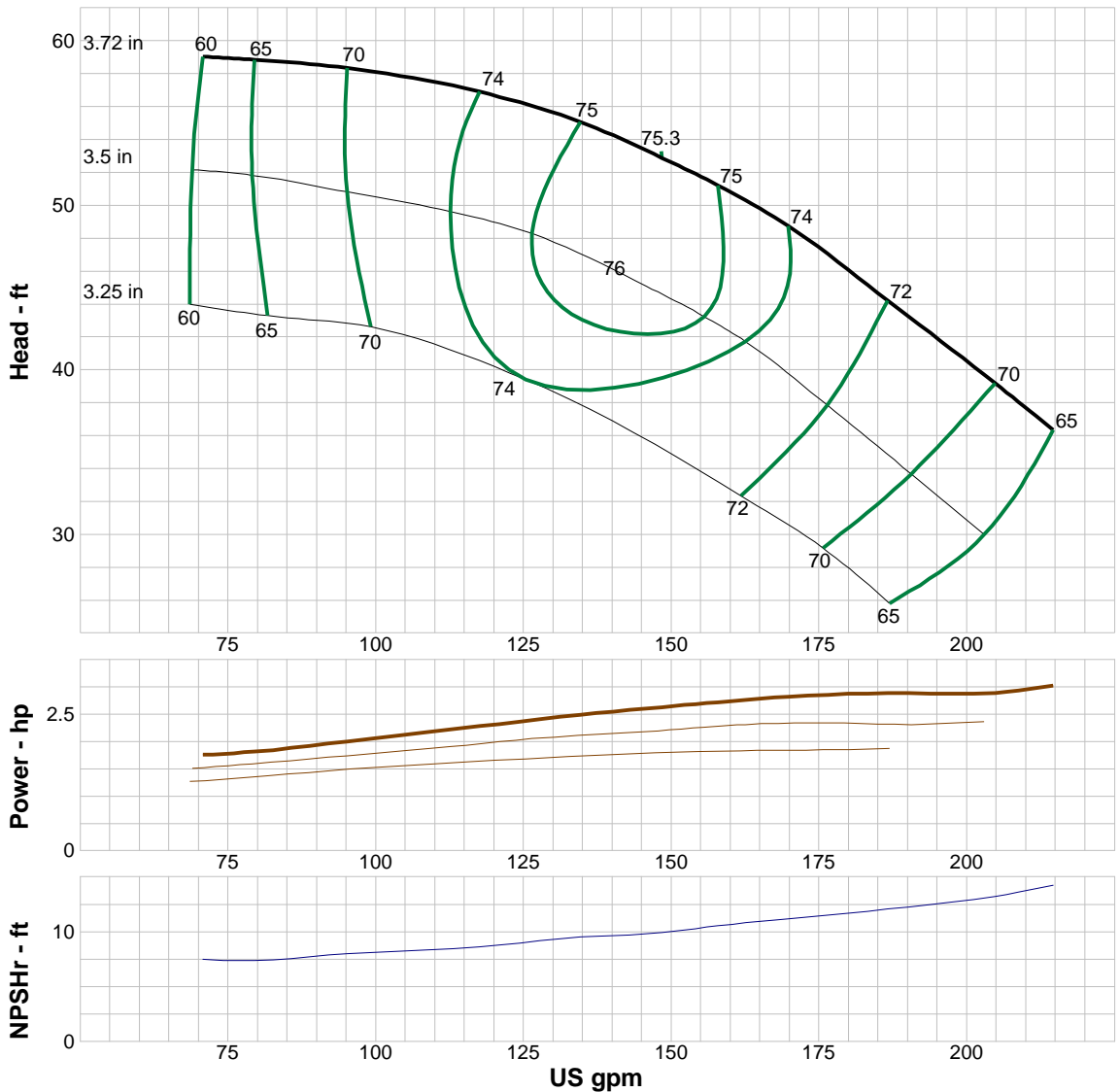
Shutoff head: 60.8 ft
 Shutoff dP: 26.3 psi
 Min flow: 14 US gpm
 BEP: 75.3% @ 148 US gpm
 NOL power:
 3.03 hp @ 215 US gpm

-- Max Curve --

Max power:
 3.03 hp @ 215 US gpm

--Additional Data--

Std. Shaft Diameter : 1"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting: 0.125"
 Std. Lateral: 0.462"
 One Stage Subm. WT-LB: 41.2
 One Stage Water Lub. WT-LB: 34.8
 One Stage Oil Lub. WT-LB: N/A
 Add Stage WT-LB: 11.5
 Impeller Weight: 2.7 lb
 Min. Submergence: 38"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
206	3450	38.8	69.3	2.91	13.3
172	3450	48.1	73.7	2.83	11.3
138	3450	54.5	75.1	2.53	9.62
103	3450	57.8	71.4	2.1	8.23
68.8	3450	59.1	58.9	1.74	7.52



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6WL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBAEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 4.22 in
 Impeller: 6WL-1C
 Ns: 2141
 Nss: 31417
 Suction: 4"
 Discharge: RI 3" RI 4"
 Bowl size: 5.9 in
 Max lateral: ---
 Thrust K factor: 2.1 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 5 hp
 Speed: 3600
 Frame: 184T

Pump Limits:

Temperature: 167 °F
 Pressure: 420 psi g
 Sphere size: 0.375 in
 Power: 38.1 hp
 Eye area: 4.05 in²

---- Data Point ----

Flow: 169 US gpm
 Head: 58.9 ft
 Eff: 78%
 Power: 3.22 hp
 NPSHr: 9.75 ft

---- Design Curve ----

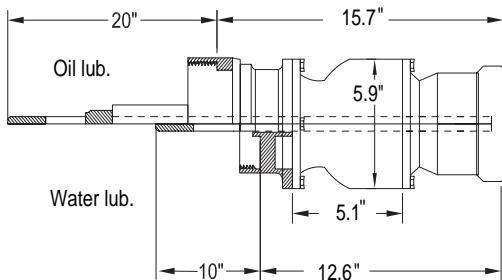
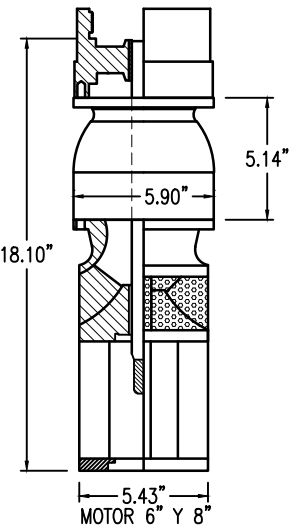
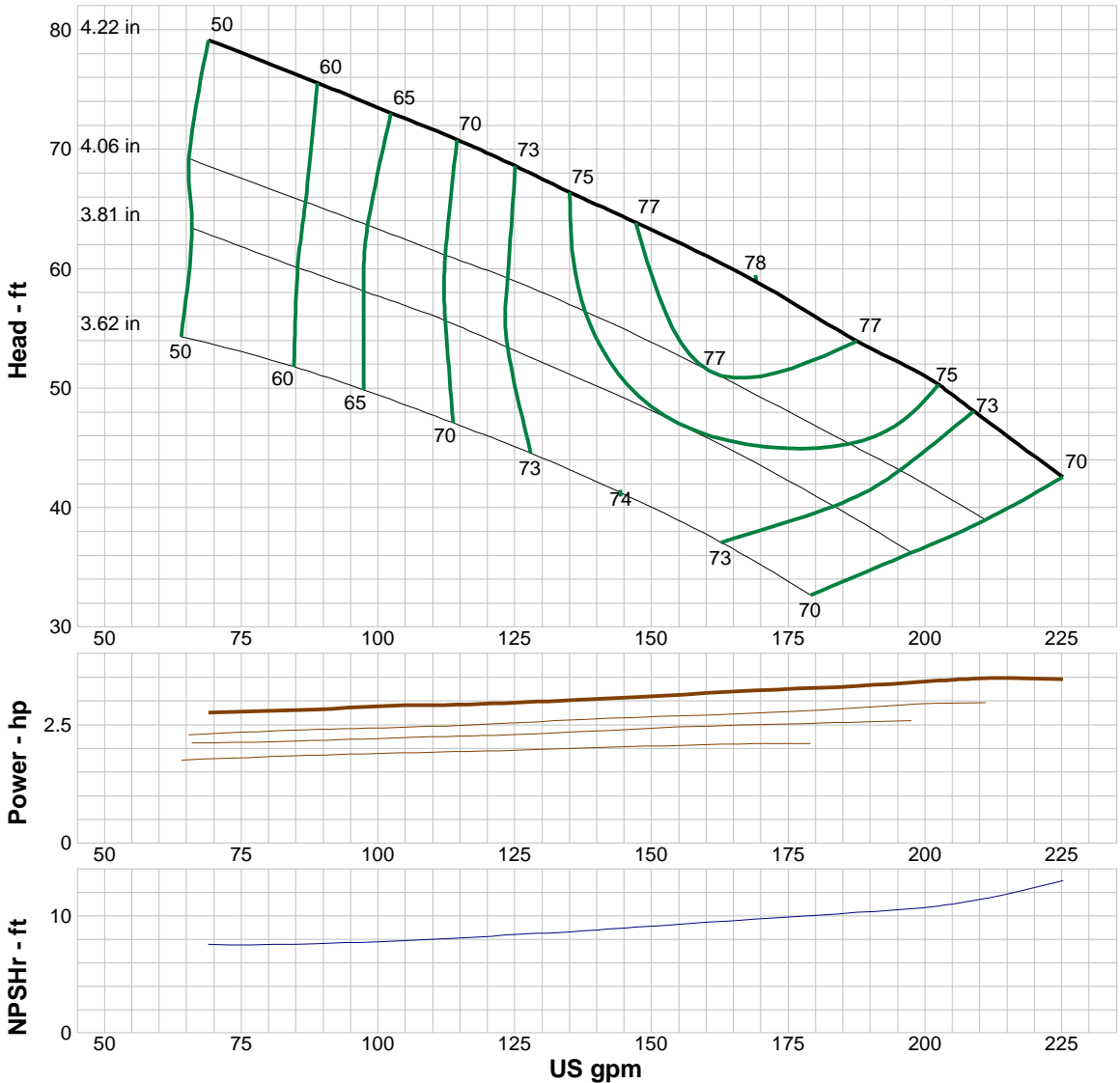
Shutoff head: 89.7 ft
 Shutoff dP: 38.8 psi
 Min flow: 17 US gpm
 BEP: 78% @ 169 US gpm
 NOL power:
 3.47 hp @ 209 US gpm

-- Max Curve --

Max power:
 3.47 hp @ 209 US gpm

--Additional Data--

Std. Shaft Diameter :1"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.533 "
 One Stage Subm. WT-LB:56.5
 One Stage Water Lub. WT-LB:47.9
 One Stage Oil Lub. WT-LB:60.4
 Add Stage WT-LB:17.9
 Impeller Weight:4.7 lb
 Min. Submergence: 38"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
216	3450	45.6	71.7	3.47	12.1
180	3450	55.9	77.4	3.28	10.1
144	3450	64.5	76.5	3.06	8.95
108	3450	72	67.4	2.91	7.98
72	3450	78.6	51.6	2.76	7.57



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6WH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 4.22 in
 Impeller: 6WH-1C
 Ns: 2155
 Nss: 24944
 Suction: 4 in
 Discharge: RI 3" RI 4"
 Bowl size: 5.9 in
 Max lateral: ---
 Thrust K factor: 2.1 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 7.5 hp
 Speed: 3600
 Frame: 213T

Pump Limits:

Temperature: 167 °F
 Pressure: 420 psi g
 Sphere size: 0.375 in
 Power: 62.7 hp
 Eye area: 4.05 in²

---- Data Point ----

Flow: 230 US gpm
 Head: 70.1 ft
 Eff: 78%
 Power: 5.22 hp
 NPSHr: 9.97 ft

---- Design Curve ----

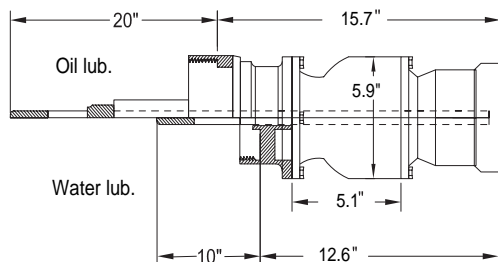
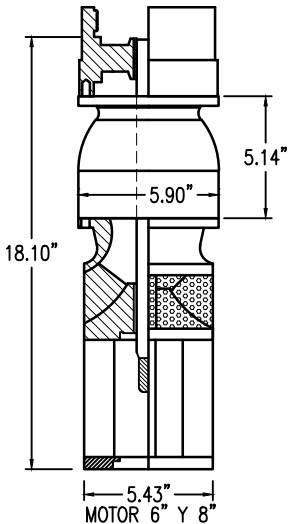
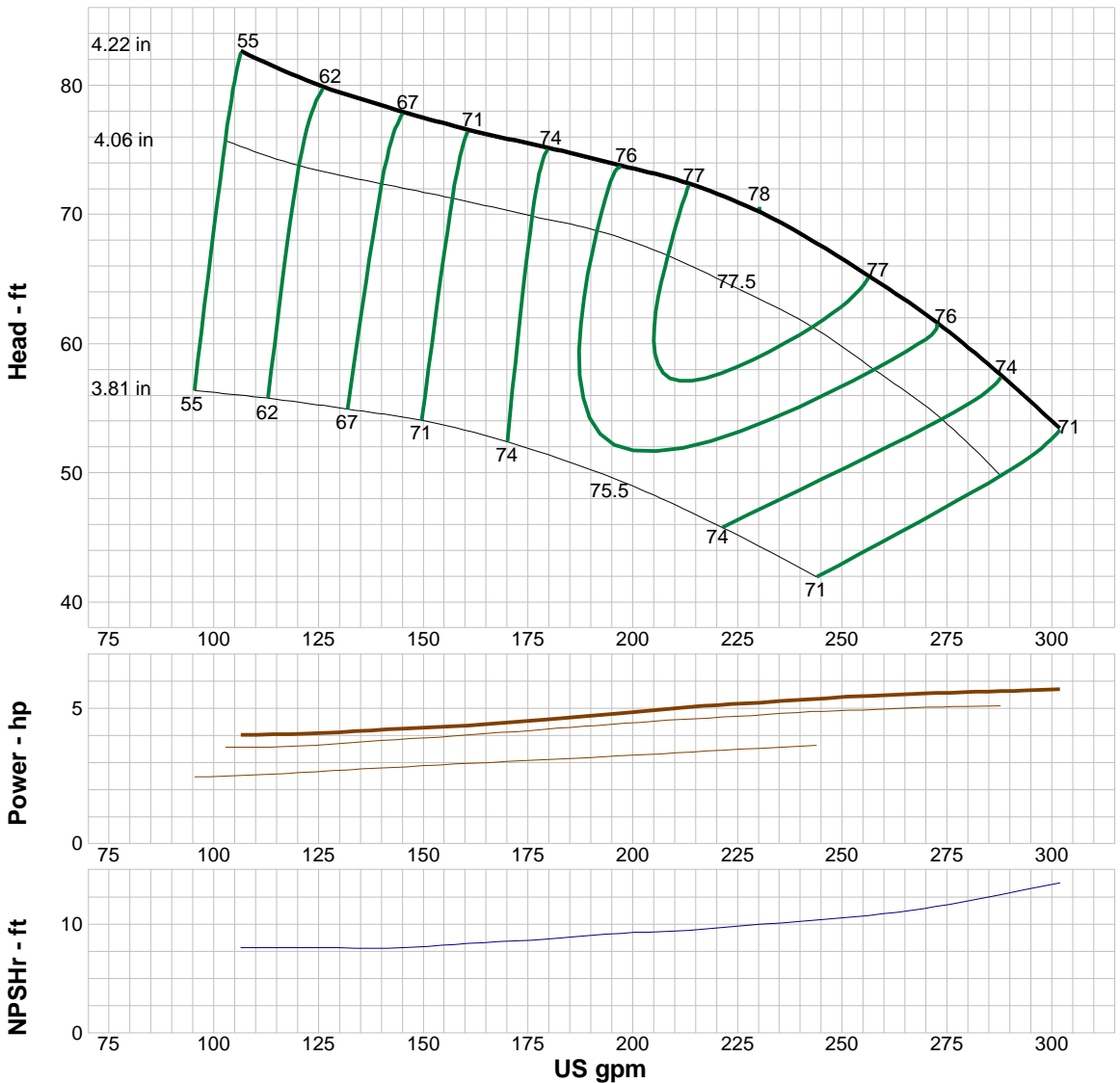
Shutoff head: 89.3 ft
 Shutoff dP: 38.6 psi
 Min flow: 24 US gpm
 BEP: 78% @ 230 US gpm
 NOL power:
 5.72 hp @ 302 US gpm

-- Max Curve --

Max power:
 5.72 hp @ 302 US gpm

--Additional Data--

Std. Shaft Diameter :1 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.533 "
 One Stage Subm. WT-LB: 56.5
 One Stage Water Lub. WT-LB:47.9
 One Stage Oil Lub. WT-LB:60.4
 Add Stage WT-LB:17.9
 Impeller Weight:4.7 lb
 Min. Submergence: 38"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
289	3450	57.1	73.7	5.64	12.8
241	3450	68	77.6	5.32	10.3
193	3450	74	75.5	4.77	9.04
145	3450	77.8	67	4.25	7.82
96.4	3450	83.9	51.5	3.99	7.86



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6HH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETHBAEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 4.69 in
 Impeller: 6HH-1C
 Ns: 4301
 Nss: 32621
 Suction: 4"
 Discharge: RI 4" RI 4"
 Bowl size: 5.6 in
 Max lateral: ---
 Thrust K factor: 4.1 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 7.5 hp
 Speed: 3600
 Frame: 213T

Pump Limits:

Temperature: 167 °F
 Pressure: 360 psi g
 Sphere size: 0.5 in
 Power: 61.5 hp
 Eye area: 6.88 in²

---- Data Point ----

Flow: 396 US gpm
 Head: 42.5 ft
 Eff: 74.3%
 Power: 5.72 hp
 NPSHr: 21.4 ft

---- Design Curve ----

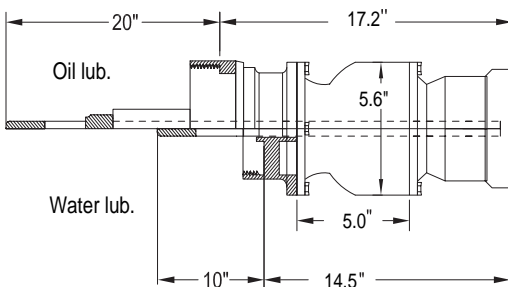
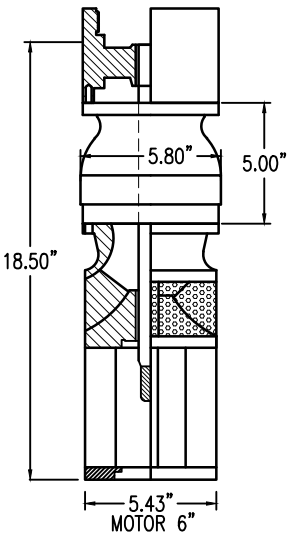
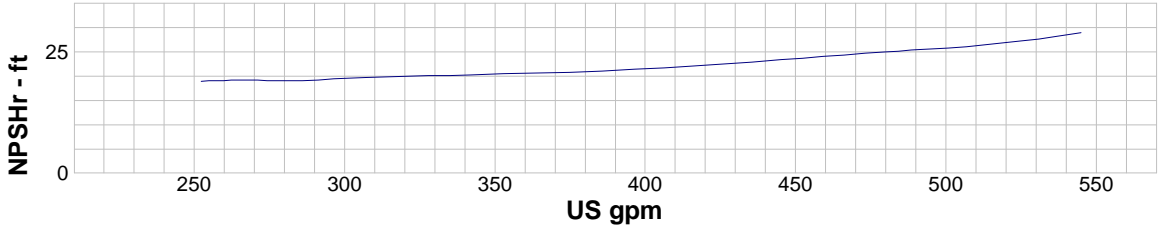
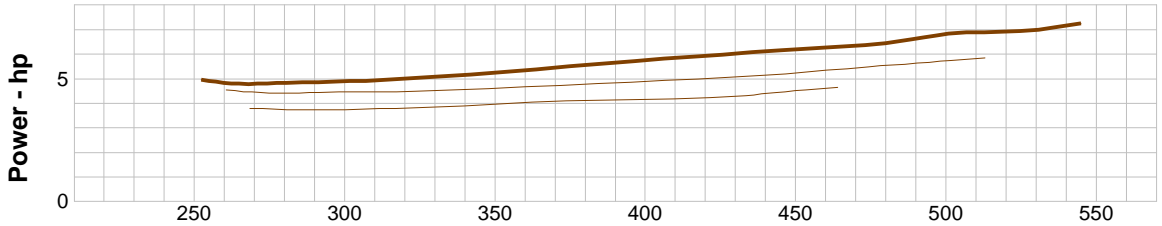
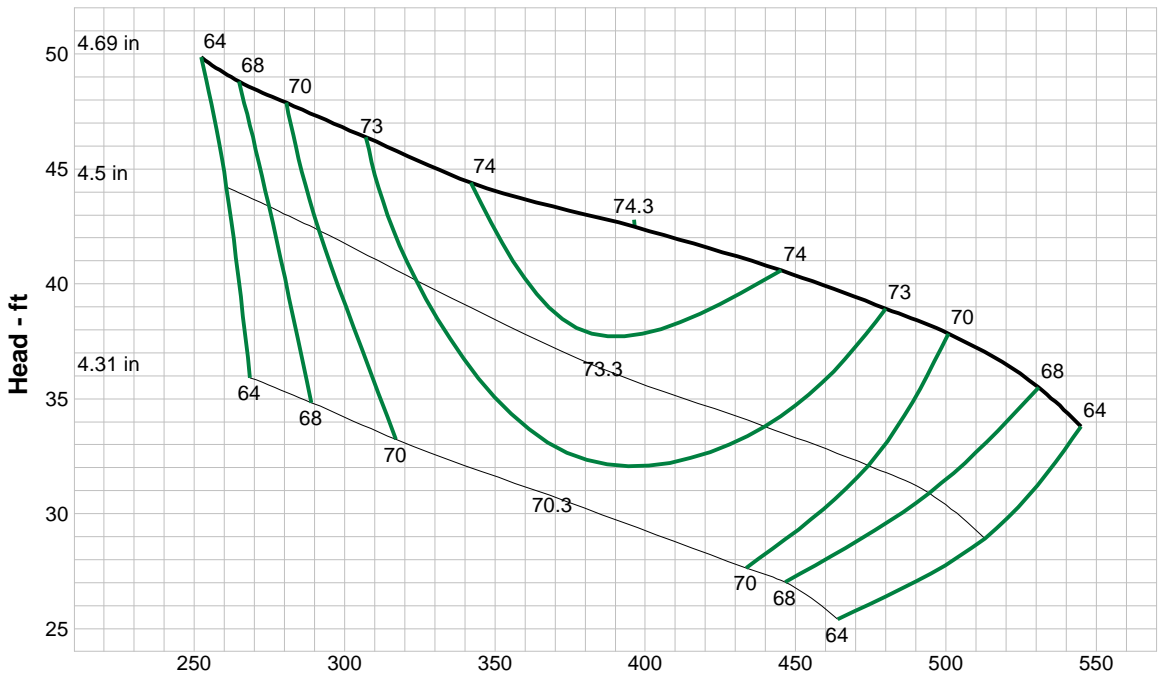
Shutoff head: 69.8 ft
 Shutoff dP: 30.2 psi
 Min flow: 37 US gpm
 BEP: 74.3% @ 396 US gpm
 NOL power:
 7.26 hp @ 545 US gpm

-- Max Curve --

Max power:
 7.26 hp @ 545 US gpm

--Additional Data--

Std. Shaft Diameter :1 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.488 "
 One Stage Subm. WT-LB: 50.1
 One Stage Water Lub. WT-LB:49.3
 One Stage Oil Lub. WT-LB:63.8
 Add Stage WT-LB:18
 Impeller Weight:5.7 lb
 Min. Submergence:58 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
523	3450	36.1	68.5	6.95	27.2
436	3450	40.9	74.1	6.08	23
349	3450	44.1	74	5.25	20.4
262	3450	49	67.2	4.83	19.1
174	3450	56.3	39.2	5.96	17.6



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6HH-2C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETHBBEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 4.69 in
 Impeller: 6HH-2C
 Ns: 4391
 Nss: 28720
 Suction: 4"
 Discharge: RI 4,RI 4"
 Bowl size: 5.6 in
 Max lateral: ---
 Thrust K factor: 4.1 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 10 hp
 Speed: 3600
 Frame: 215T

Pump Limits:

Temperature: 167 °F
 Pressure: 360 psi g
 Sphere size: 0.5 in
 Power: 77.3 hp
 Eye area: 7.51 in²

---- Data Point ----

Flow: 460 US gpm
 Head: 42.4 ft
 Eff: 73.3%
 Power: 6.72 hp
 NPSHr: 21.5 ft

---- Design Curve ----

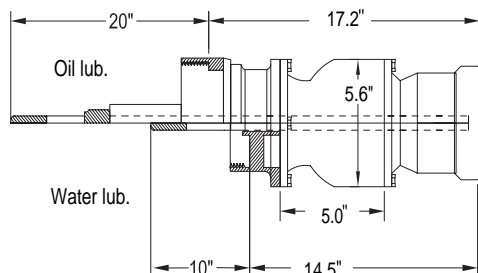
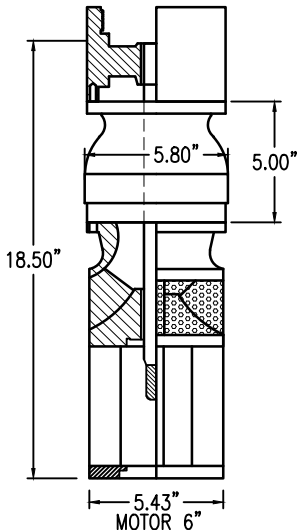
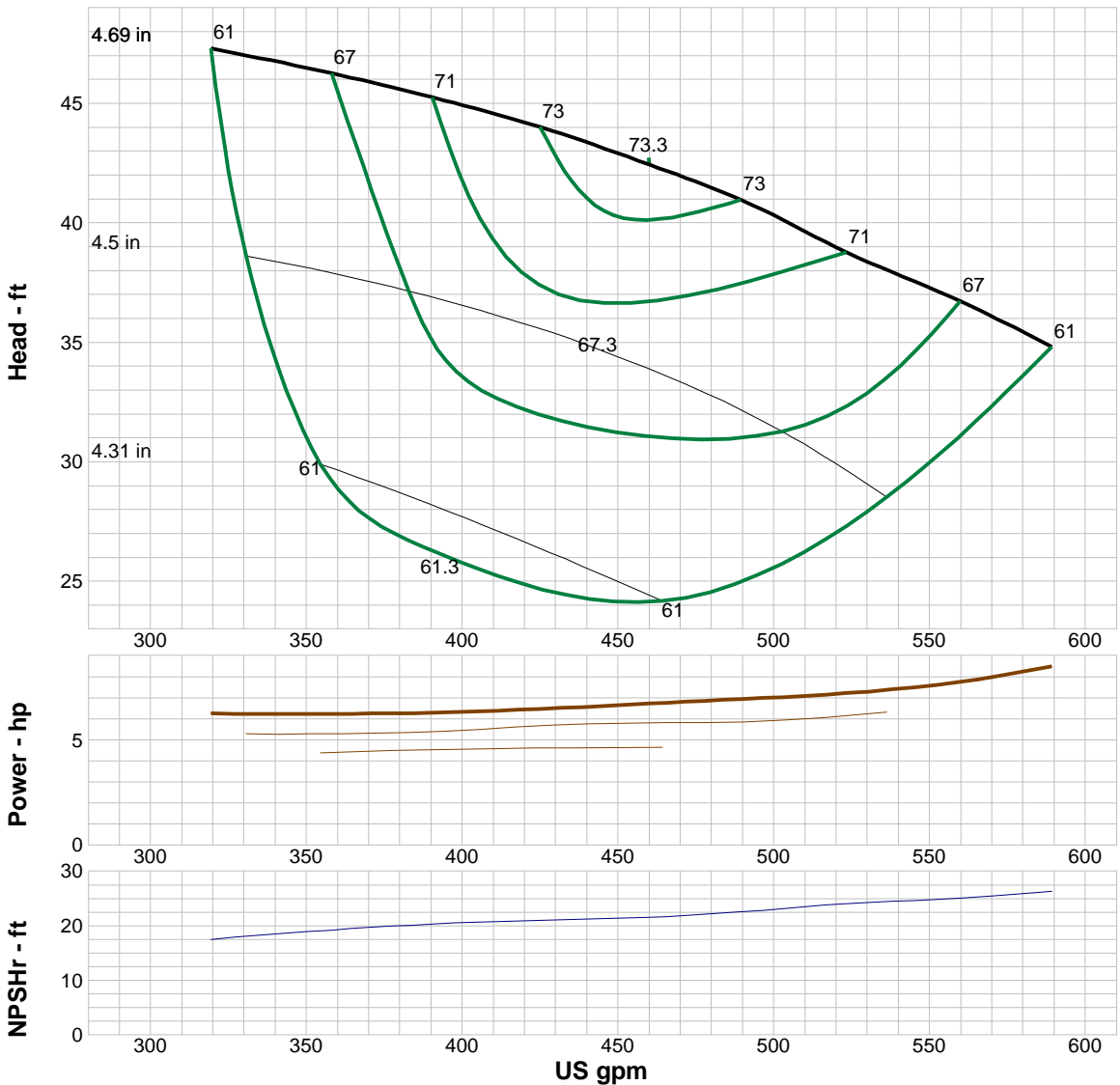
Shutoff head: 73.4 ft
 Shutoff dP: 31.7 psi
 Min flow: 46 US gpm
 BEP: 73.3% @ 460 US gpm
 NOL power:
 8.49 hp @ 589 US gpm

-- Max Curve --

Max power:
 8.49 hp @ 589 US gpm

--Additional Data--

Std. Shaft Diameter : 1 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting: 0.125"
 Std. Lateral: 0.488 "
 One Stage Subm. WT-LB: 50.1
 One Stage Water Lub. WT-LB: 49.3
 One Stage Oil Lub. WT-LB: 63.8
 Add Stage WT-LB: 18
 Impeller Weight: 5.7 lb
 Min. Submergence: 58 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
565	3450	36.4	65.9	7.88	25.3
471	3450	41.9	73.2	6.8	21.9
377	3450	45.7	69.4	6.26	19.9
283	3450	48.3	55.4	6.26	15.9
188	3450	50.8	40.7	6.28	11.7



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6LS-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETLBAEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3460 rpm
 Dia: 4.47 in
 Impeller: 6LS-1C
 Ns: 1779
 Nss: 34570
 Suction: 4 in
 Discharge: RI 3 " RI 4"
 Bowl size: 5.8 in
 Max lateral: ---
 Thrust K factor: 1.5 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 3 hp
 Speed: 3600
 Frame: 182T

Pump Limits:

Temperature: 167 °F
 Pressure: 360 psi g
 Sphere size: 0.25 in
 Power: 26.3 hp
 Eye area: 3.38 in²

---- Data Point ----

Flow: 109 US gpm
 Head: 55.5 ft
 Eff: 73.3%
 Power: 2.08 hp
 NPSHr: 6.59 ft

---- Design Curve ----

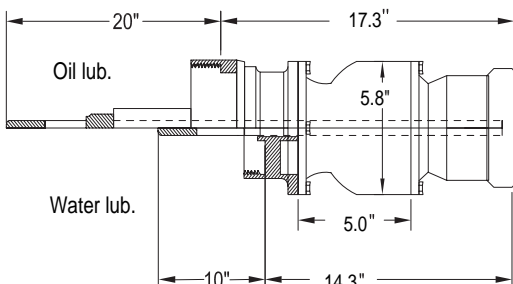
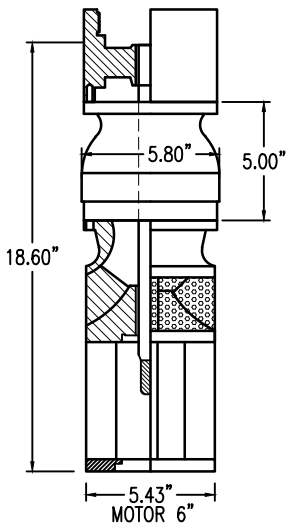
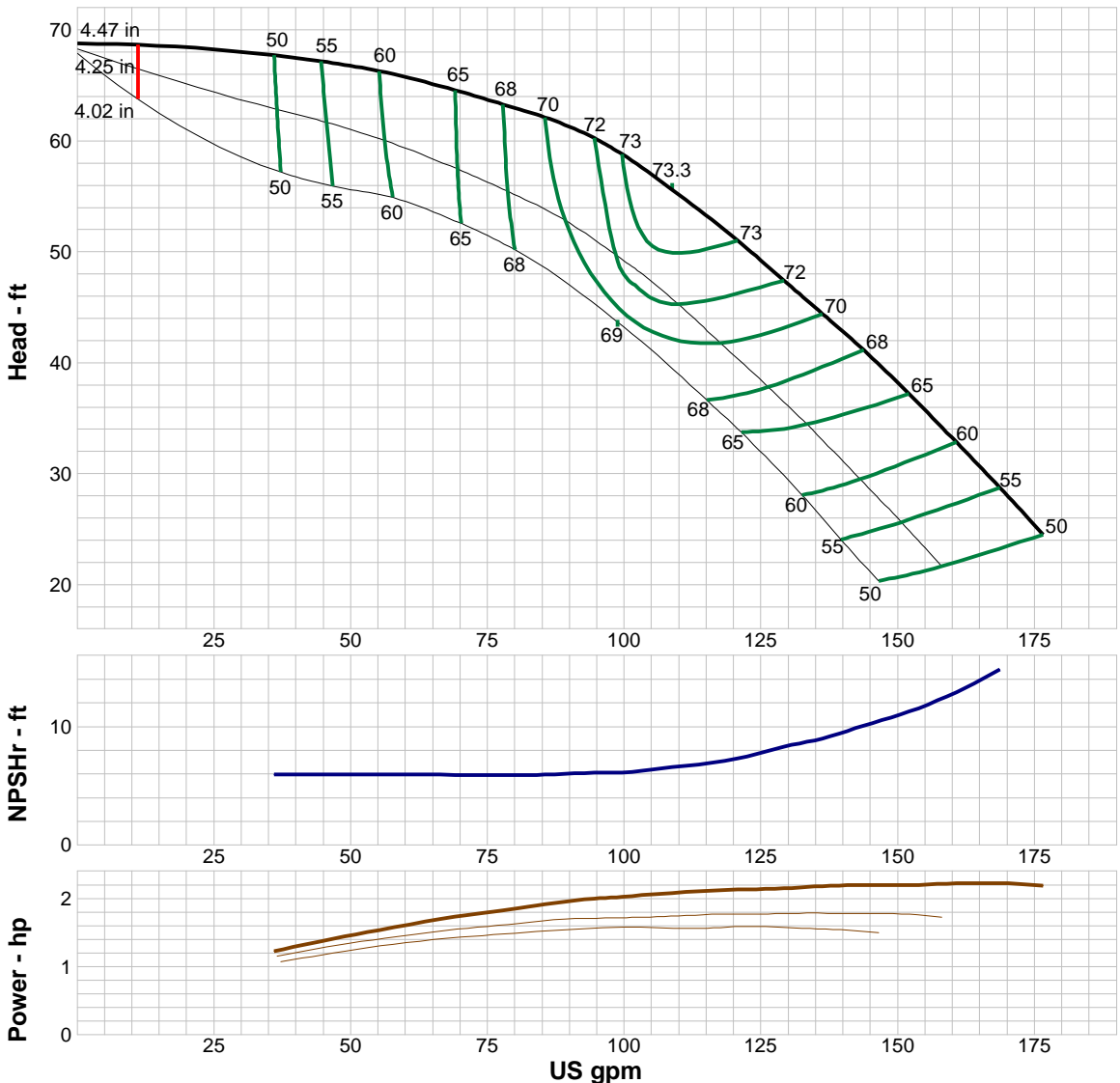
Shutoff head: 68.8 ft
 Shutoff dP: 29.8 psi
 Min flow: 11 US gpm
 BEP: 73.3% @ 109 US gpm
 NOL power:
 2.22 hp @ 169 US gpm

-- Max Curve --

Max power:
 2.22 hp @ 169 US gpm

--Additional Data--

Std. Shaft Diameter :1"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.488 "
 One Stage Subm. WT-LB:56.8
 One Stage Water Lub. WT-LB:51.3
 One Stage Oil Lub. WT-LB:65.9
 Add Stage WT-LB:20.3
 Impeller Weight:4.4 lb
 Min. Submergence:35 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
169	3460	28.5	54.8	2.22	14.9
141	3460	42.3	68.7	2.19	9.7
113	3460	54	73.2	2.1	6.84
84.6	3460	62.3	69.8	1.91	5.95
56.4	3460	66.1	60.5	1.56	5.94



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6LS-2C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETLBBEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3460 rpm
 Dia: 4.47 in
 Impeller: 6LS-2C
 Ns: 2100
 Nss: 32631
 Suction: 4 in
 Discharge: RI 3 " RI 4"
 Bowl size: 5.8 in
 Max lateral: ---
 Thrust K factor: 1.5 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 3 hp
 Speed: 3600
 Frame: 182T

Pump Limits:

Temperature: 167 °F
 Pressure: 360 psi g
 Sphere size: 0.125 in
 Power: 16 hp
 Eye area: 3.38 in²

---- Data Point ----

Flow: 159 US gpm
 Head: 55.4 ft
 Eff: 78.5%
 Power: 2.83 hp
 NPSHr: 12.9 ft

---- Design Curve ----

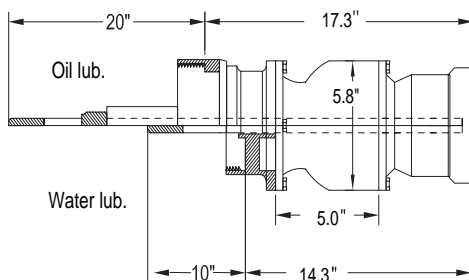
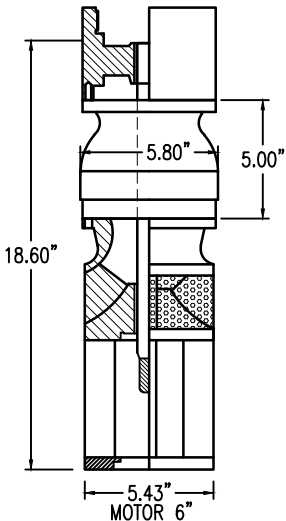
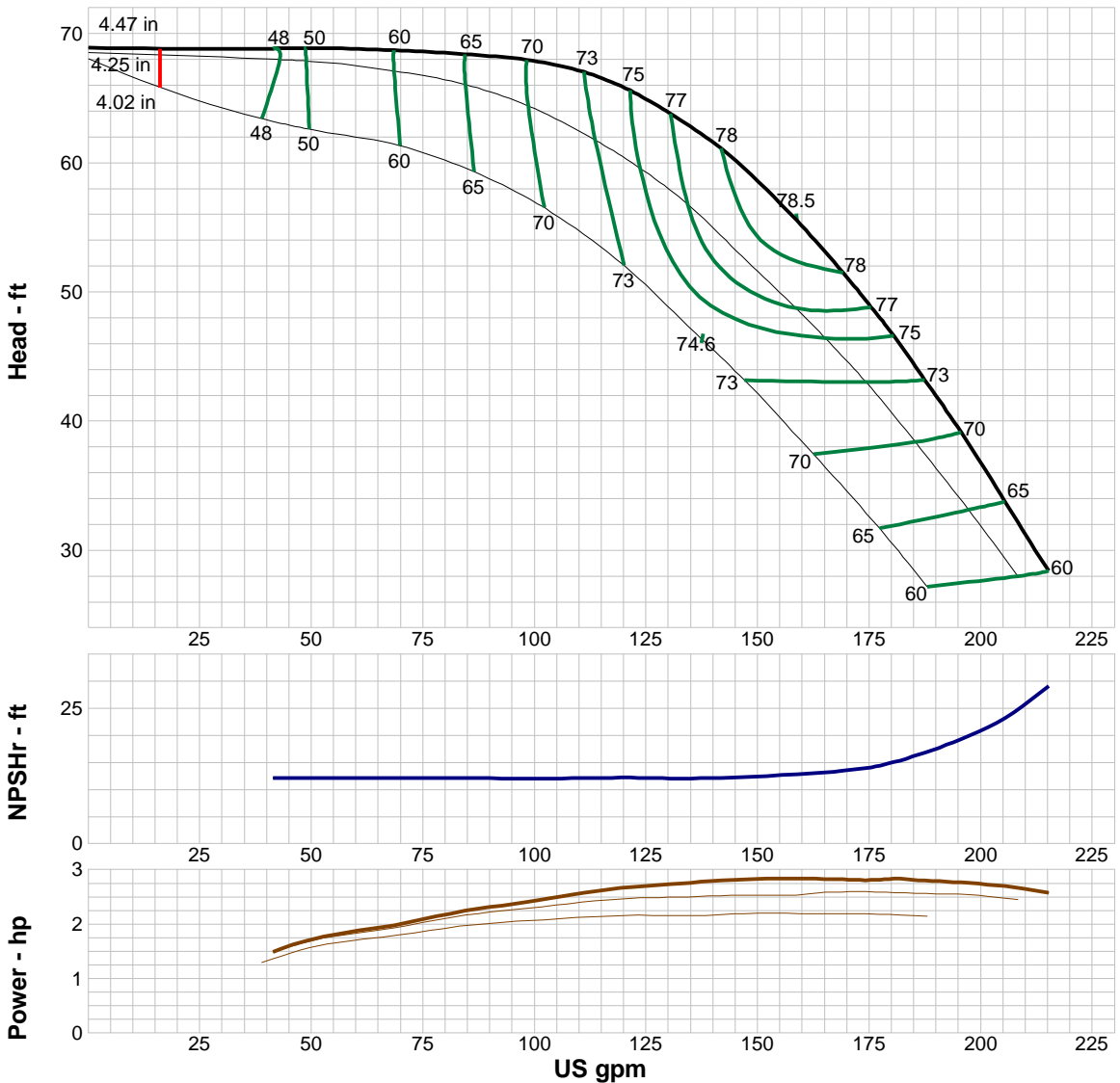
Shutoff head: 68.9 ft
 Shutoff dP: 29.8 psi
 Min flow: 16 US gpm
 BEP: 78.5% @ 159 US gpm
 NOL power:
 2.83 hp @ 159 US gpm

-- Max Curve --

Max power:
 2.83 hp @ 159 US gpm

--Additional Data--

Std. Shaft Diameter :1"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.488"
 One Stage Subm. WT-LB:56.8
 One Stage Water Lub. WT-LB: 51.3
 One Stage Oil Lub. WT-LB: 65.9
 Add Stage WT-LB:20.3
 Impeller Weight:4.4 lb
 Min. Submergence:35 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
206	3460	33.4	64.6	2.69	23.6
172	3460	50.2	77.5	2.81	13.8
138	3460	62	77.7	2.78	12.1
103	3460	67.6	71.1	2.47	12.1
68.8	3460	68.7	60.1	1.98	12.1



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 6LS-3C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETLBCEB-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3460 rpm
 Dia: 4.47 in
 Impeller: 6LS-3C
 Ns: 2182
 Nss: 27609
 Suction: 4 in
 Discharge: RI 3" RI 4"
 Bowl size: 5.8 in
 Max lateral: ---
 Thrust K factor: 1.5 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

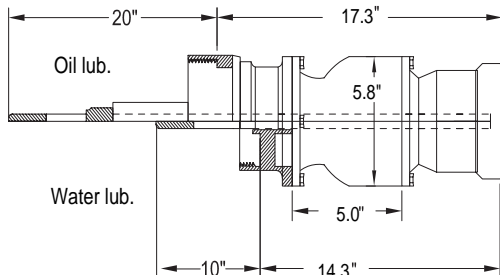
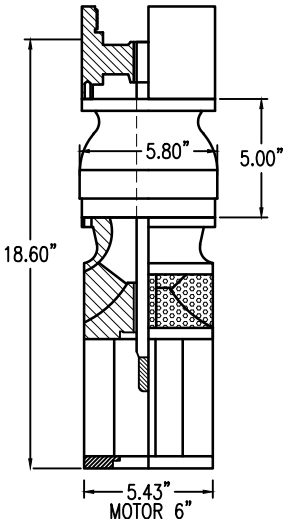
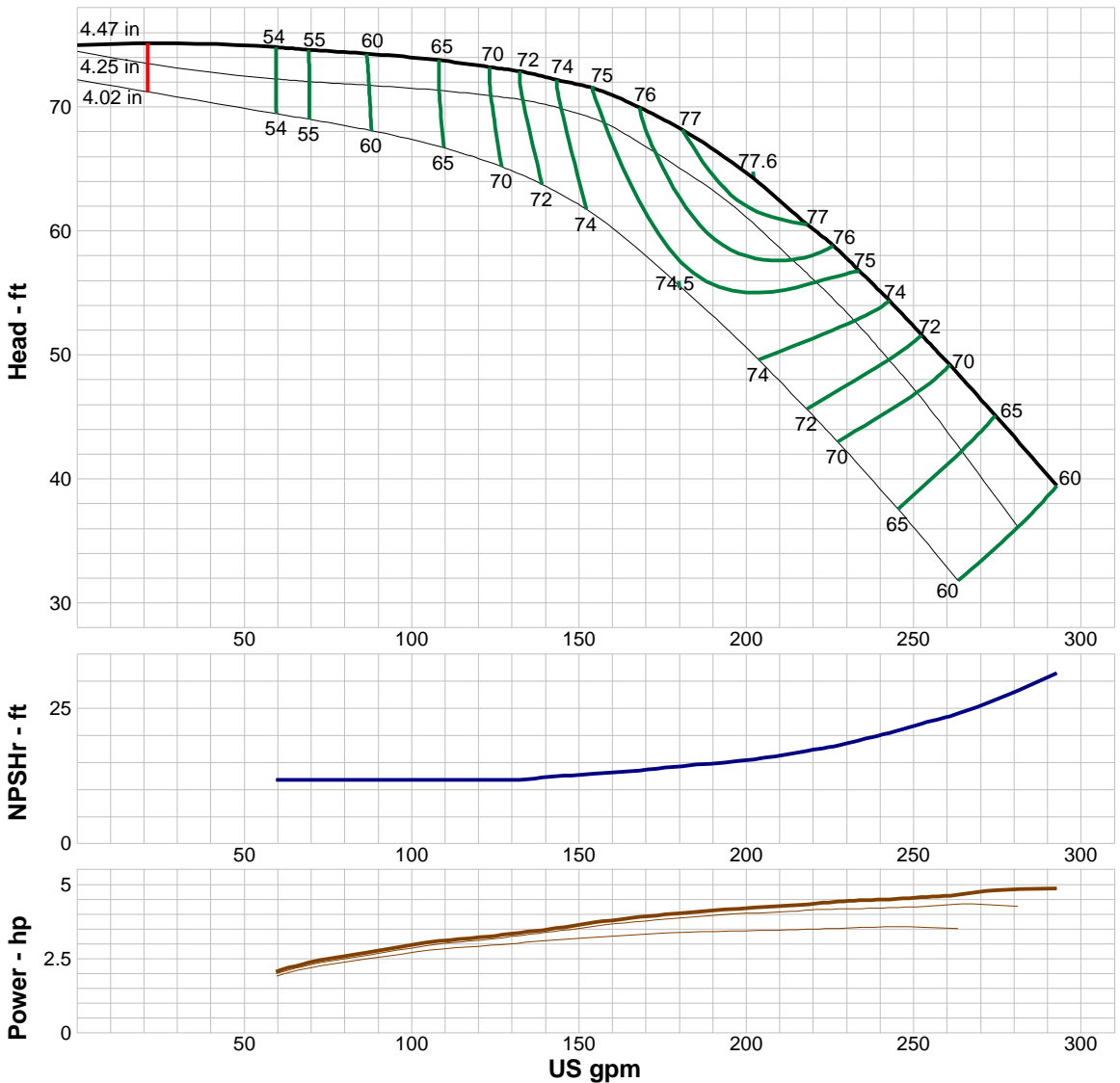
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 5 hp
 Speed: 3600
 Frame: 184T

Pump Limits:

Temperature: 167 °F
 Pressure: 360 psi g
 Sphere size: 0.125 in
 Power: 47.5 hp
 Eye area: 3.38 in²

---- Data Point ----	
Flow:	202 US gpm
Head:	64.2 ft
Eff:	77.6%
Power:	4.22 hp
NPSHr:	15.6 ft
---- Design Curve ----	
Shutoff head:	75 ft
Shutoff dP:	32.5 psi
Min flow:	21 US gpm
BEP:	77.6% @ 202 US gpm
NOL power:	4.86 hp @ 293 US gpm
-- Max Curve --	
Max power:	4.86 hp @ 293 US gpm
--Additional Data--	
Std. Shaft Diameter :	1 "
Max. Shaft Diameter:	C.F.
Opt. Lateral Setting:	0.125
Std. Lateral:	0.488"
One Stage Subm. WT-LB:	56.8
One Stage Water Lub. WT-LB:	51.3
One Stage Oil Lub. WT-LB:	65.9
Add Stage WT-LB:	20.3
Impeller Weight:	4.4 lb
Min. Submergence:	35 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
281	3460	43	63.2	4.82	28.4
234	3460	56.7	75	4.47	19.2
187	3460	67	77.2	4.09	14.7
140	3460	72.4	73.4	3.48	12.3
93.6	3460	74.1	61.7	2.83	11.8



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 7HXH-2C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETXBAEC-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3460 rpm
 Dia: 5.34 in
 Impeller: 7HXH-2C
 Ns: 3987
 Nss: 22775
 Suction: 6 in
 Discharge: R1 6"
 Bowl size: 7 in
 Max lateral: ---
 Thrust K factor: 3.4 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 15 hp
 Speed: 3600
 Frame: 254T

Pump Limits:

Temperature: 167 °F
 Pressure: 410 psi g
 Sphere size: 0.5 in
 Power: 114.4 hp
 Eye area: 8.5 in²

---- Data Point ----

Flow: 605 US gpm
 Head: 60.4 ft
 Eff: 81%
 Power: 11.4 hp
 NPSHr: 26 ft

---- Design Curve ----

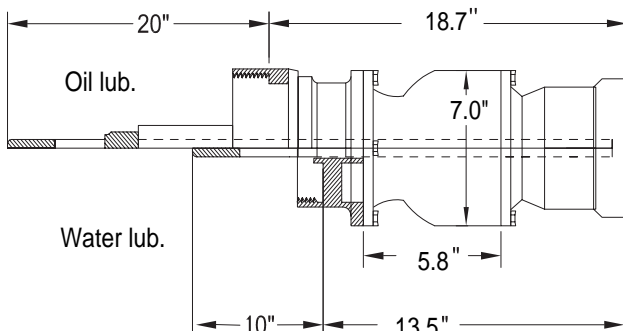
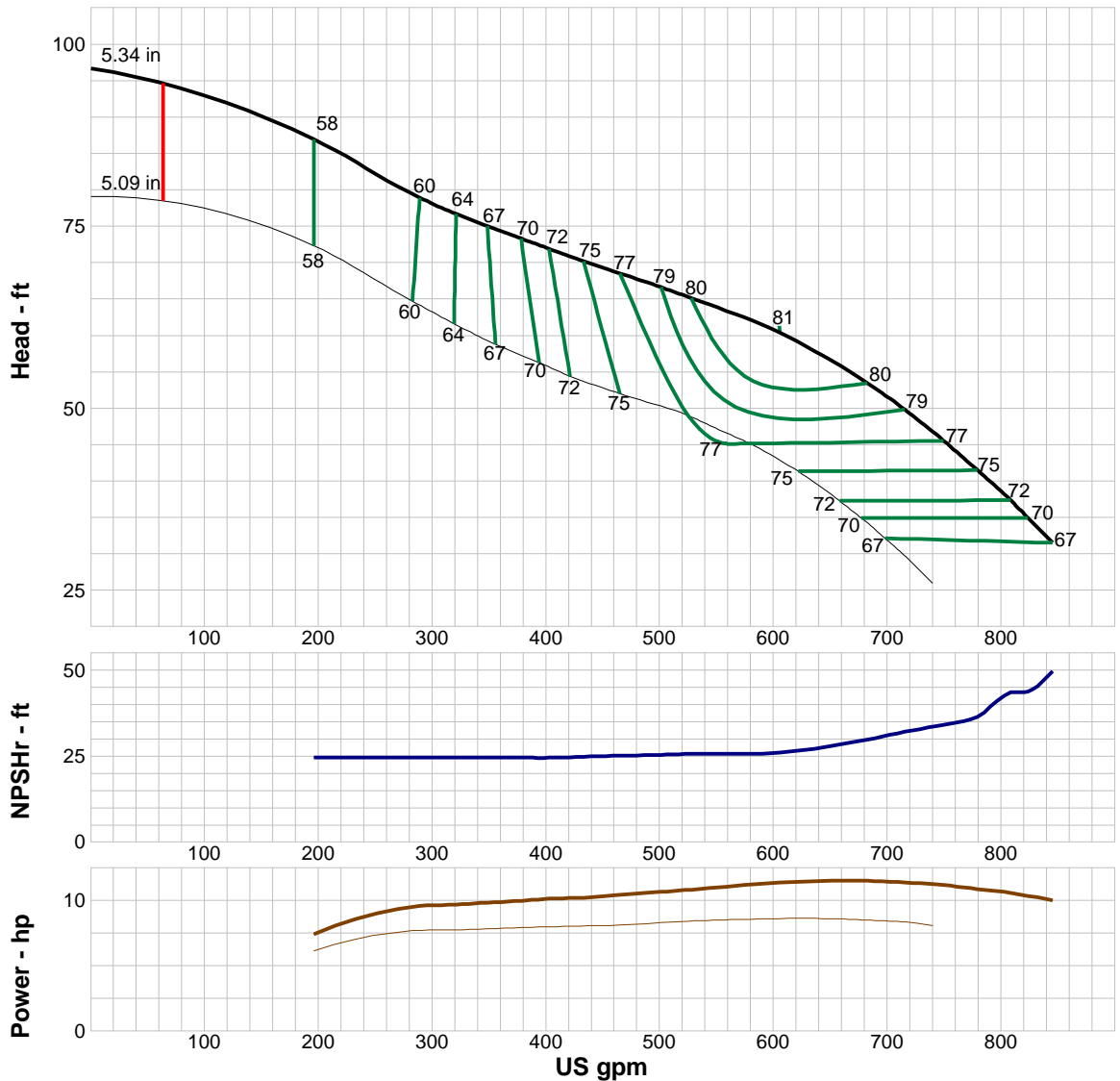
Shutoff head: 96.7 ft
 Shutoff dP: 41.8 psi
 Min flow: 63 US gpm
 BEP: 81% @ 605 US gpm
 NOL power: 11.5 hp @ 682 US gpm

-- Max Curve --

Max power: 11.5 hp @ 682 US gpm

--Additional Data--

Std. Shaft Diameter :1 3/16 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.13 "
 Std. Lateral:0.53 "
 One Stage Subm. WT-LB: 75.4
 One Stage Water Lub. WT-LB: 76.3
 One Stage Oil Lub. WT-LB:85.3
 Add Stage WT-LB:27
 Impeller Weight:7.2 lb
 Min. Submergence: 46"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
811	3460	36.9	71.6	10.6	43.6
676	3460	54	80.1	11.5	29.5
541	3460	64.3	80.2	10.9	25.8
406	3460	71.7	72.4	10.2	24.6
270	3460	80.5	59.6	9.15	24.5



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 11/1/2017

Pump:

Size: 7WH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBEC-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 5.25 in
 Impeller: 7WH-1C
 Ns: 2247
 Nss: 16102
 Suction: 6 in
 Discharge: RI 4" RI 6"
 Bowl size: 7.1 in
 Max lateral: ---
 Thrust K factor: 3.8 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 20 hp
 Speed: 3600
 Frame: 256T

Pump Limits:

Temperature: 167 °F
 Pressure: 415 psi g
 Sphere size: 0.375 in
 Power: 138.6 hp
 Eye area: 7.54 in²

---- Data Point ----

Flow: 469 US gpm
 Head: 109 ft
 Eff: 81%
 Power: 15.9 hp
 NPSHr: 13.7 ft

---- Design Curve ----

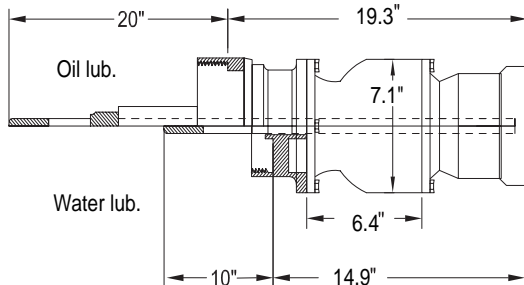
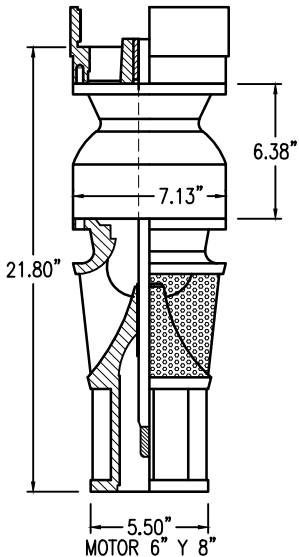
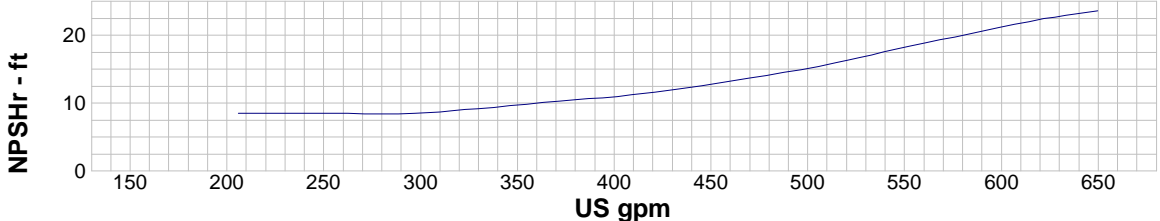
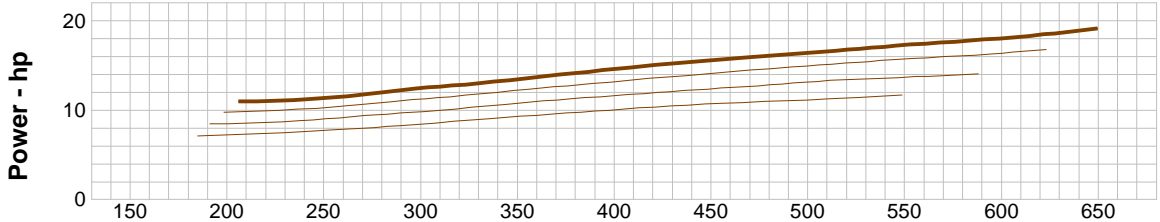
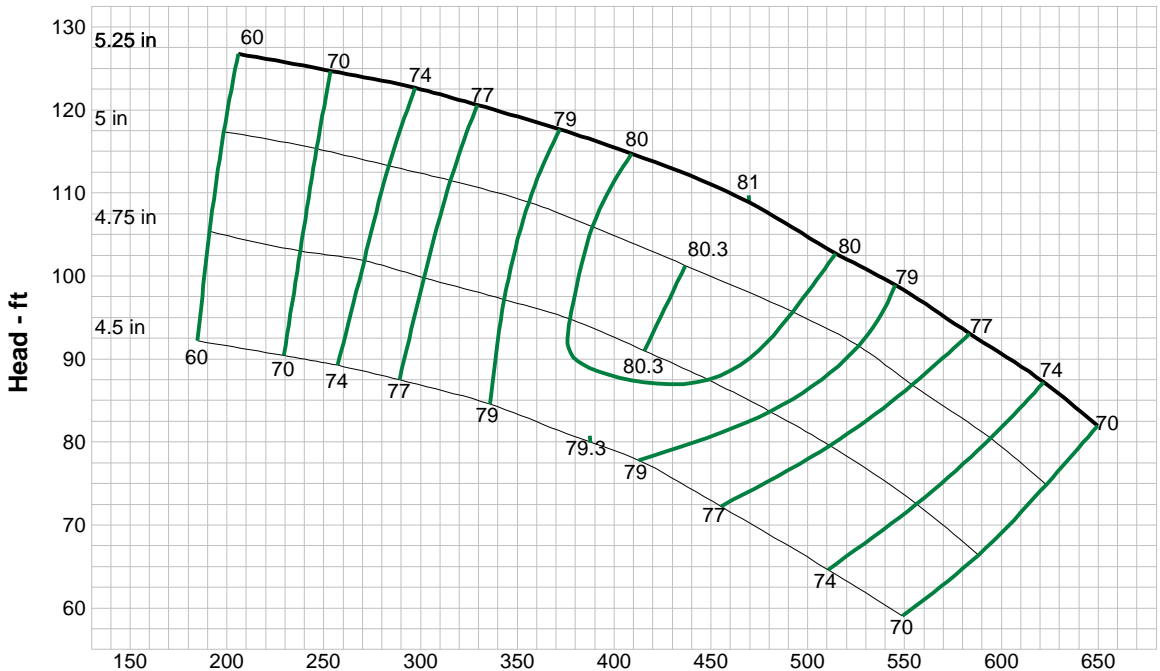
Shutoff head: 133 ft
 Shutoff dP: 57.6 psi
 Min flow: 47 US gpm
 BEP: 81% @ 469 US gpm
 NOL power:
 19.2 hp @ 649 US gpm

-- Max Curve --

Max power:
 19.2 hp @ 649 US gpm

--Additional Data--

Std. Shaft Diameter :1 3/16 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.445 "
 One Stage Subm. WT-LB: 82.9
 One Stage Water Lub. WT-LB:66.9
 One Stage Oil Lub. WT-LB:77.2
 Add Stage WT-LB:30
 Impeller Weight: 6.8 lb
 Min. Submergence: 58 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
623	3450	86.9	73.8	18.5	22.5
519	3450	102	79.8	16.8	16.3
415	3450	114	80.1	14.9	11.5
311	3450	122	75.3	12.7	8.83
208	3450	127	60.5	11	8.54



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 11/1/2017

Pump:

Size: 7WL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBAEC-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 5.25 in
 Impeller: 7WL-1C
 Ns: 2147
 Nss: 18844
 Suction: 6 in
 Discharge: RI 4" RI 6"
 Bowl size: 7.5 in
 Max lateral: ---
 Thrust K factor: 3.8 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 15 hp
 Speed: 3600
 Frame: 254T

Pump Limits:

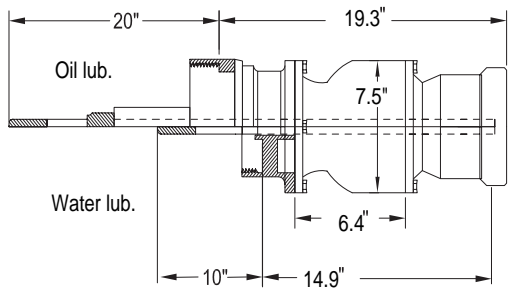
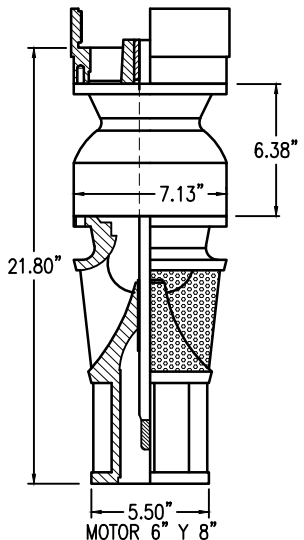
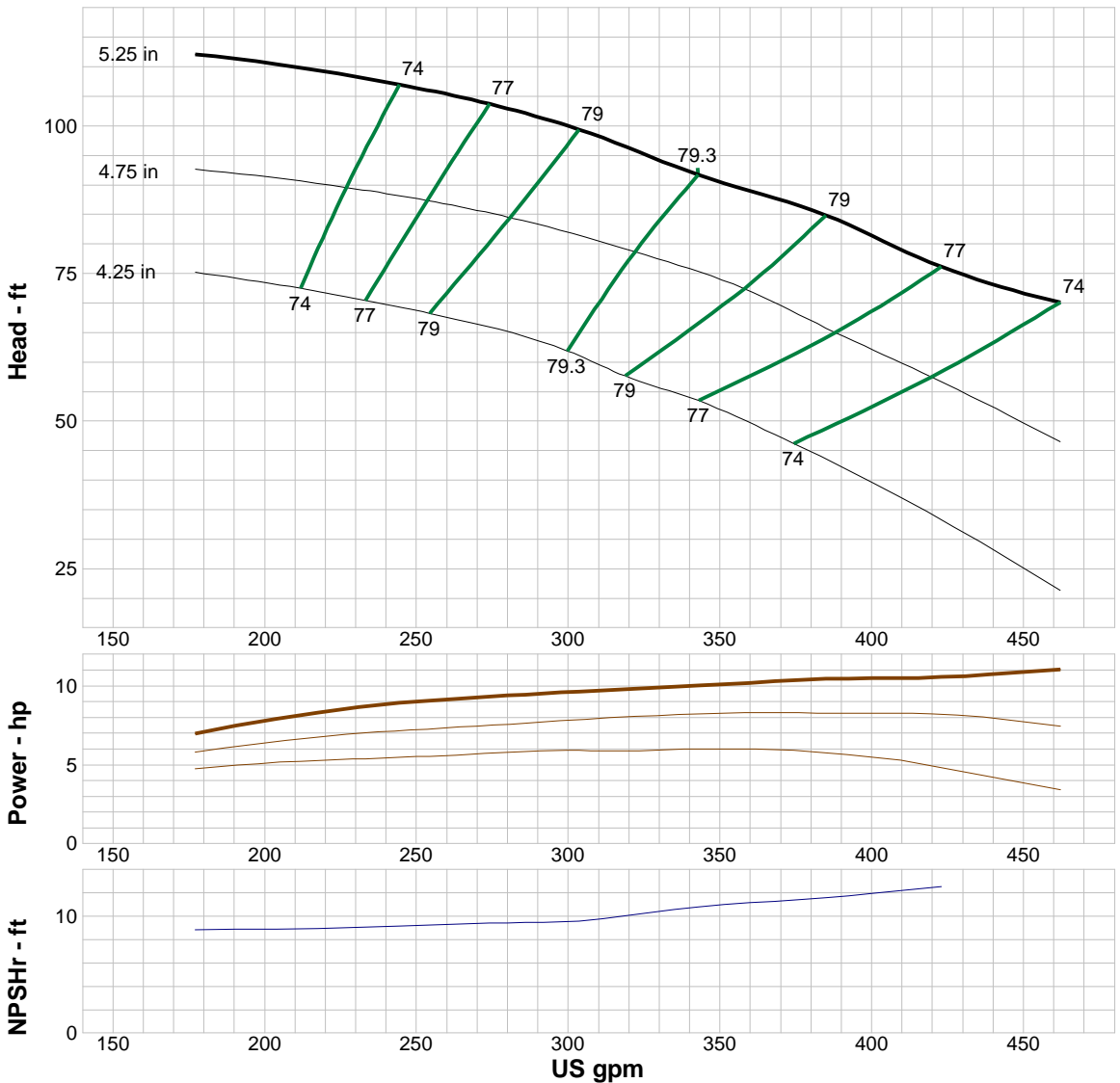
Temperature: 167 °F
 Pressure: 415 psi g
 Sphere size: 0.375 in
 Power: 87.4 hp
 Eye area: 7.54 in²

---- Data Point ----
 Flow: 343 US gpm
 Head: 91.6 ft
 Eff: 79.3%
 Power: 10 hp
 NPSHr: 10.8 ft

---- Design Curve ----
 Shutoff head: 128 ft
 Shutoff dP: 55.5 psi
 Min flow: 35 US gpm
 BEP: 79.3% @ 343 US gpm
 NOL power: 11.1 hp @ 462 US gpm

-- Max Curve --
 Max power: 11.1 hp @ 462 US gpm

--Additional Data--
 Std. Shaft Diameter : 1 3/16"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting: 0.125"
 Std. Lateral: 0.445 "
 One Stage Subm. WT-LB: 82.9
 One Stage Water Lub. WT-LB: 66.9
 One Stage Oil Lub. WT-LB: 77.2
 Add Stage WT-LB: 30
 Impeller Weight: 6.8 lb
 Min. Submergence: 58 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
444	3450	72.9	75.4	10.8	13.1
370	3450	87.3	79.1	10.3	11.3
296	3450	100	78.5	9.56	9.56
222	3450	109	73.3	8.27	9.05
148	3450	114	71.1	6.12	8.74



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 8HH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETHBAED-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 6.38 in
 Impeller: 8HH-1C
 Ns: 4507
 Nss: 16621
 Suction: 6 in
 Discharge: RI 6 "
 Bowl size: 7.5 in
 Max lateral: ---
 Thrust K factor: 6.4 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

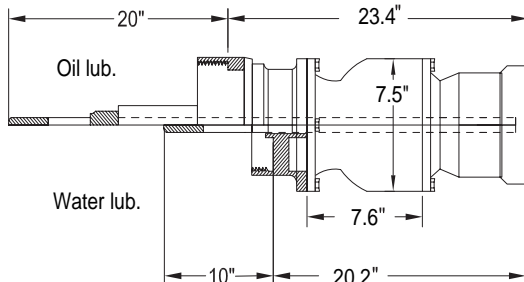
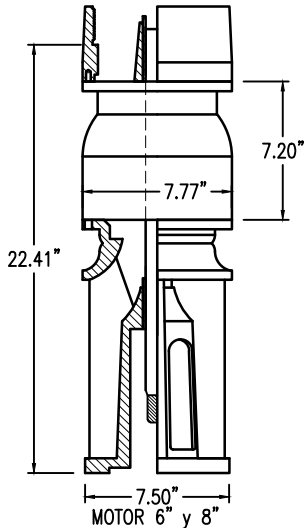
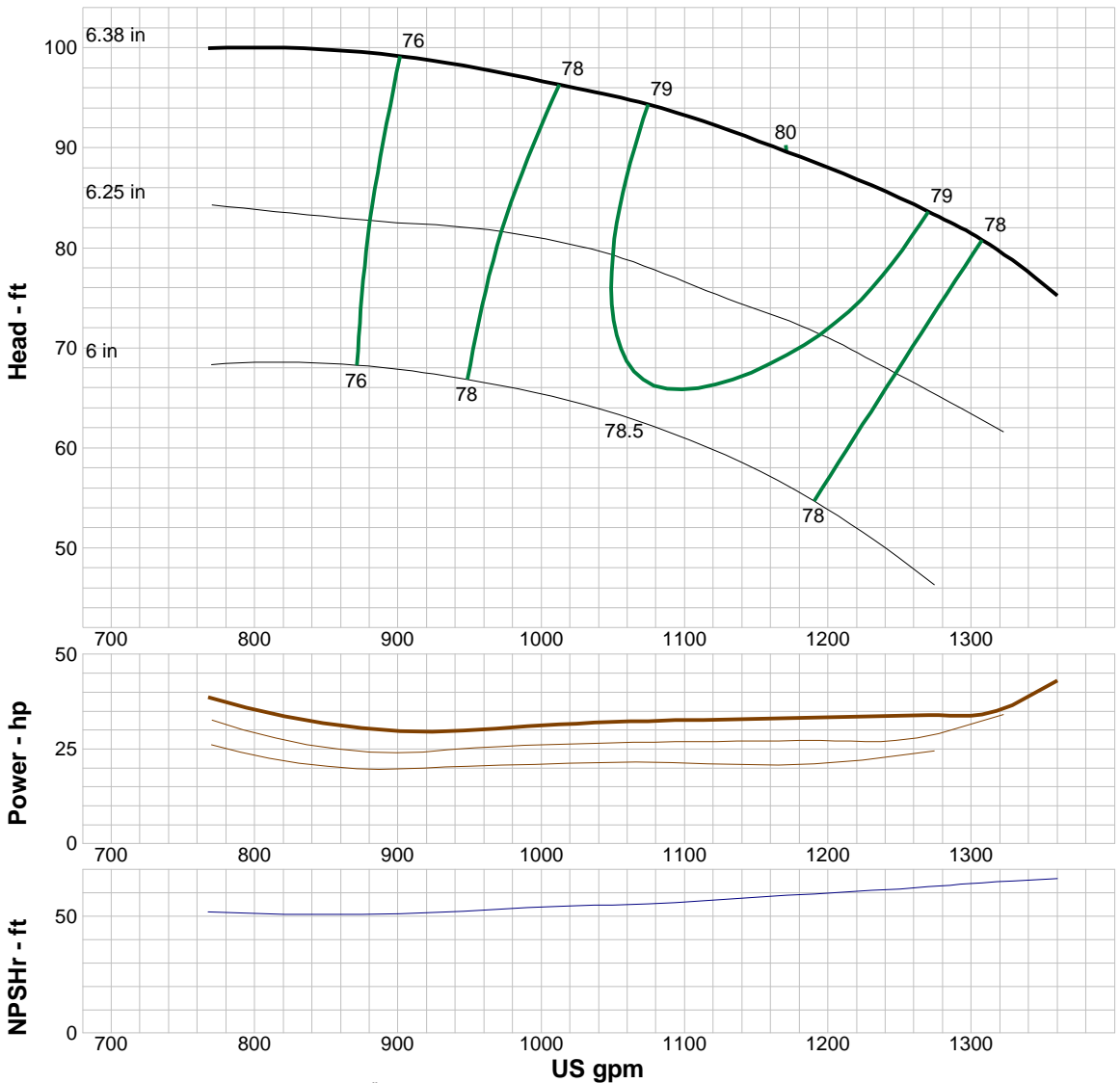
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 50 hp
 Speed: 3600
 Frame: 326TS

Pump Limits:

Temperature: 167 °F
 Pressure: 425 psi g
 Sphere size: 1.125 in
 Power: 174.0 hp
 Eye area: 15.9 in²

---- Data Point ----	
Flow:	1171 US gpm
Head:	89.6 ft
Eff:	80%
Power:	33.1 hp
NPSHr:	59 ft
---- Design Curve ----	
Shutoff head:	145 ft
Shutoff dP:	62.7 psi
Min flow:	111 US gpm
BEP:	80% @ 1171 US gpm
NOL power:	49.8 hp @ 603 US gpm
-- Max Curve --	
Max power:	49.8 hp @ 603 US gpm
--Additional Data--	
Std. Shaft Diameter :	1 3/16 "
Max. Shaft Diameter:	C.F.
Opt. Lateral Setting:	0.25 "
Std. Lateral:	0.481 "
One Stage Subm. WT-LB:	99.8
One Stage Water Lub. WT-LB:	91.7
One Stage Oil Lub. WT-LB:	95.7
Add Stage WT-LB:	36.2
Impeller Weight:	9.7lb
Min. Submergence:	77 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1306	3450	80.9	78	34.2	64.3
1088	3450	93.7	79.1	32.5	55.9
870	3450	99.4	70	31.8	51.3
653	3450	101	27.9	46.4	52.4
435	3450	102	---	---	53.5



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 8LS-2C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETLBBED-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3460 rpm
 Dia: 5.94 in
 Impeller: 8LS-2C
 Ns: 1973
 Nss: 13851
 Suction: 6 in
 Discharge: RI 4"RI 6"
 Bowl size: 7.5 in
 Max lateral: ---
 Thrust K factor: 2.6 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 25 hp
 Speed: 3600
 Frame: 284TS

Pump Limits:

Temperature: 167 °F
 Pressure: 390 psi g
 Sphere size: 0.188 in
 Power: 119.2 hp
 Eye area: 6.92 in²

---- Data Point ----

Flow: 462 US gpm
 Head: 125 ft
 Eff: 80%
 Power: 18.2 hp
 NPSHr: 19.7 ft

---- Design Curve ----

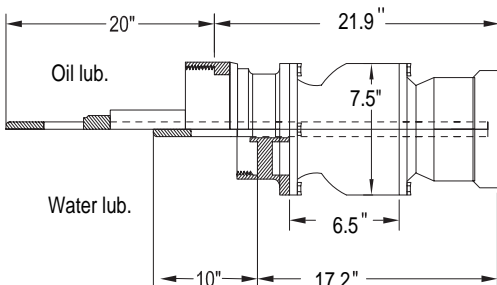
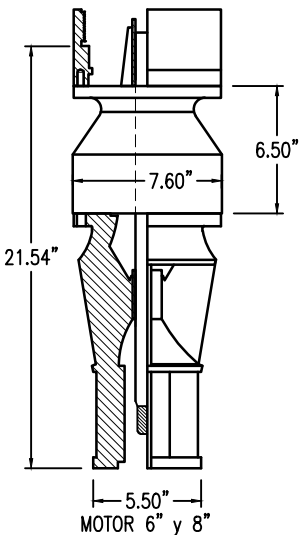
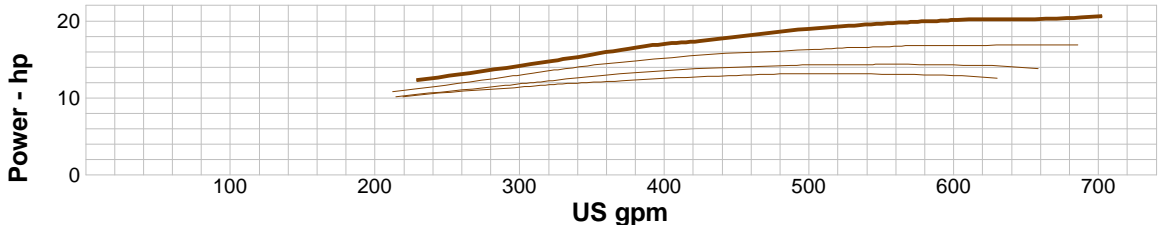
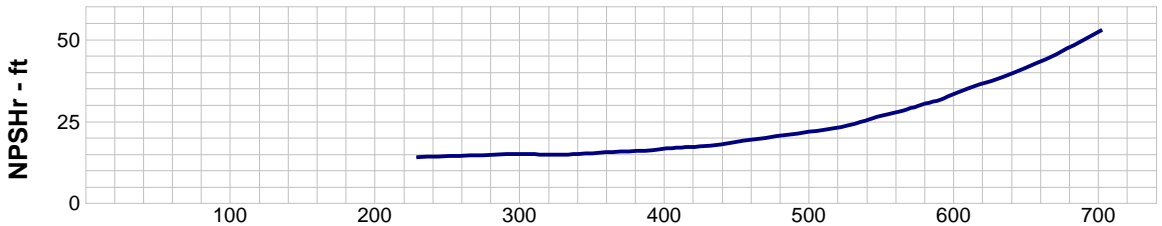
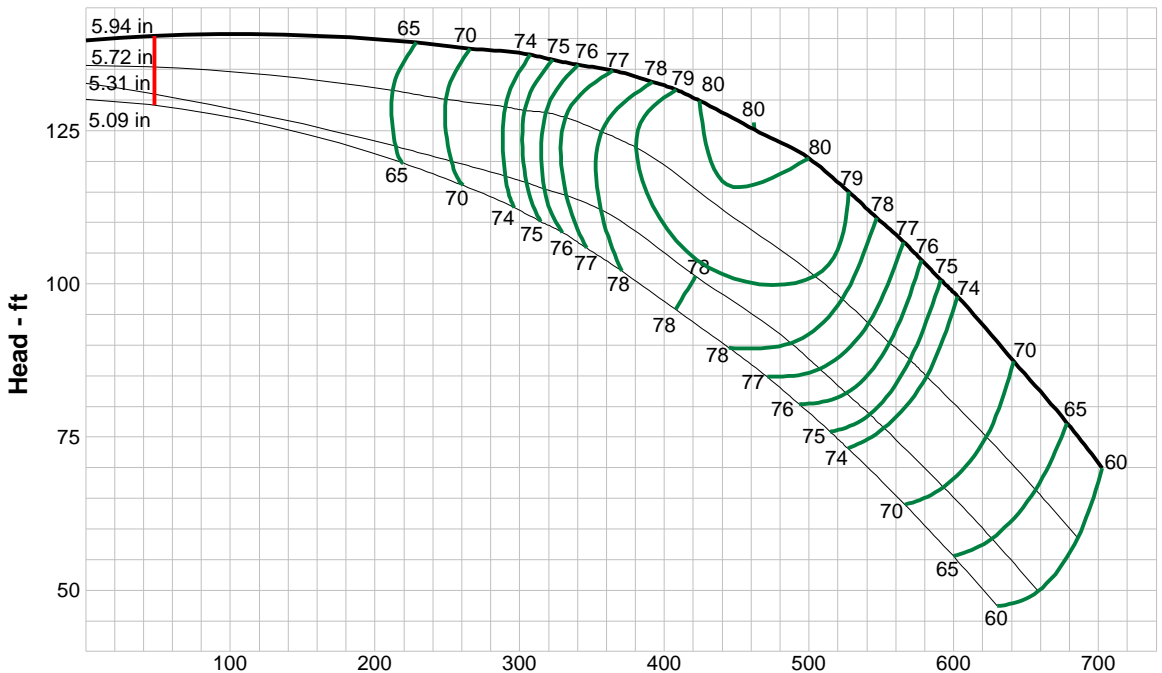
Shutoff head: 140 ft
 Shutoff dP: 60.5 psi
 Min flow: 47 US gpm
 BEP: 80% @ 462 US gpm
 NOL power:
 20.7 hp @ 702 US gpm

-- Max Curve --

Max power:
 20.7 hp @ 702 US gpm

--Additional Data--

Std. Shaft Diameter :1 3/16"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.625 "
 One Stage Subm. WT-LB: 89.0
 One Stage Water Lub. WT-LB: 82.7
 One Stage Oil Lub. WT-LB: 91.7
 Add Stage WT-LB:33.7
 Impeller Weight:6.0 lb
 Min. Submergence:42 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
674	3460	78.4	65.5	20.3	46.5
562	3460	108	77.2	19.8	28.1
450	3460	127	80	18	19
337	3460	136	75.8	15.2	15.1
225	3460	139	64.6	12.3	14.2



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 8WH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBED-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 5.25 in
 Impeller: 8WH-1C
 Ns: 2858
 Nss: 15875
 Suction: 6 in
 Discharge: RI 4"RI 6"
 Bowl size: 7.5 in
 Max lateral: ---
 Thrust K factor: 5.3 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 20 hp
 Speed: 3600
 Frame: 256T

Pump Limits:

Temperature: 167 °F
 Pressure: 425 psi g
 Sphere size: 0.375 in
 Power: 154.0 hp
 Eye area: 8.51 in²

---- Data Point ----

Flow: 628 US gpm
 Head: 92.9 ft
 Eff: 78.5%
 Power: 18.8 hp
 NPSHr: 33.7 ft

---- Design Curve ----

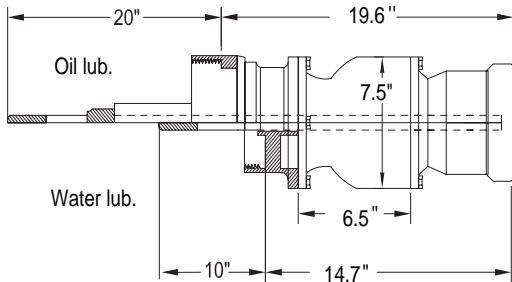
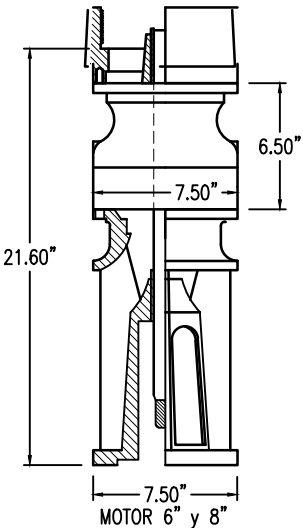
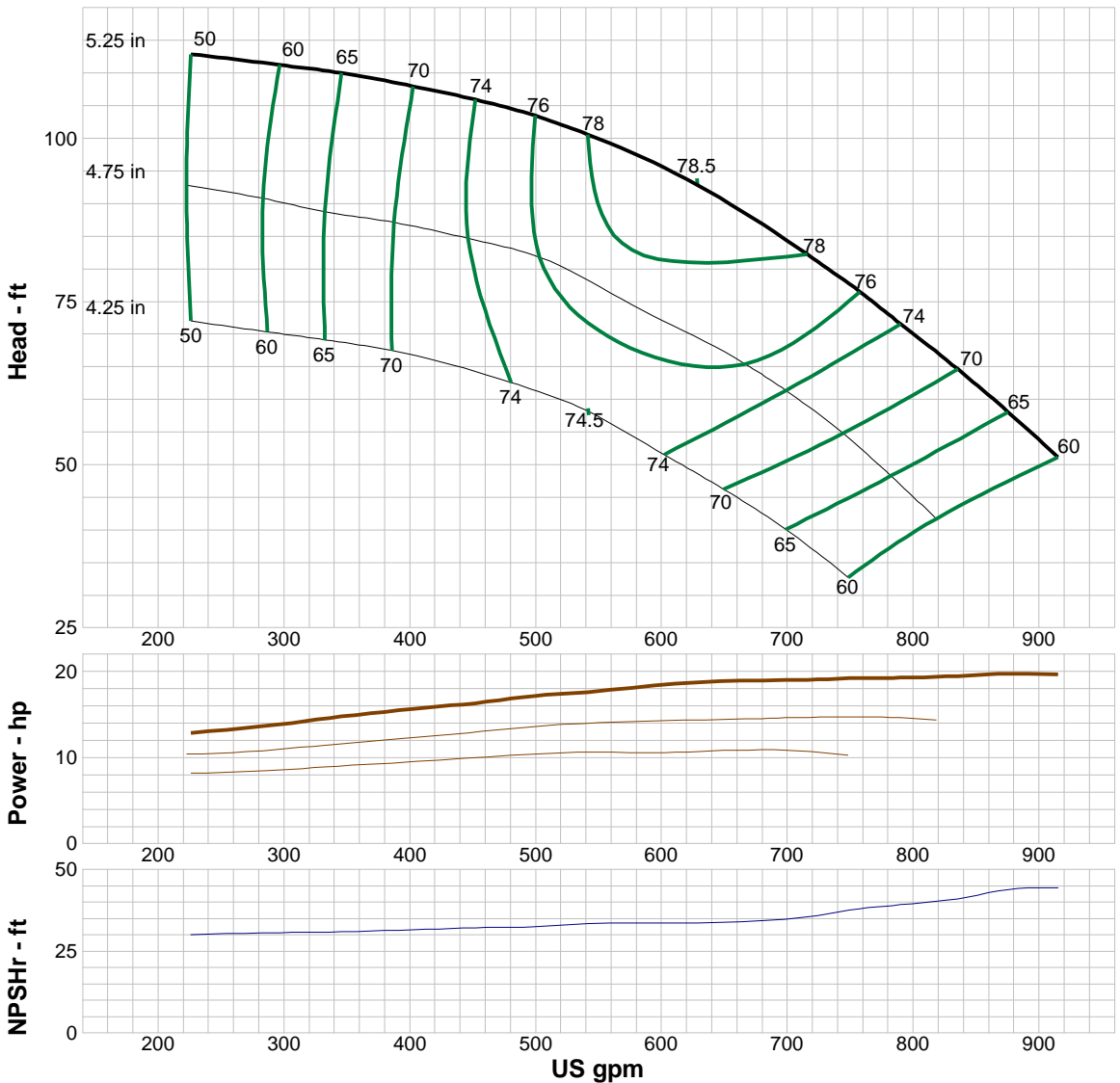
Shutoff head: 120 ft
 Shutoff dP: 52 psi
 Min flow: 64 US gpm
 BEP: 78.5% @ 628 US gpm
 NOL power:
 19.7 hp @ 875 US gpm

-- Max Curve --

Max power:
 19.7 hp @ 875 US gpm

--Additional Data--

Std. Shaft Diameter :1 3/16 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.345 "
 One Stage Subm. WT-LB: 93.1
 One Stage Water Lub. WT-LB:72.6
 One Stage Oil Lub. WT-LB: 81.6
 Add Stage WT-LB:32.2
 Impeller Weight:8 lb
 Min. Submergence:61"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
878	3450	57.5	64.6	19.7	43.9
732	3450	79.9	77.2	19.1	36.5
586	3450	96.6	78.3	18.2	33.6
439	3450	106	73	16.2	32.1
293	3450	111	59.5	13.8	30.7



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 8WL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBAED-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 5.25 in
 Impeller: 8WL-1C
 Ns: 2589
 Nss: 18335
 Suction: 6 in
 Discharge: RI 4" RI 6"
 Bowl size: 7.5 in
 Max lateral: ---
 Thrust K factor: 5.3 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 15 hp
 Speed: 3600
 Frame: 254T

Pump Limits:

Temperature: 167 °F
 Pressure: 425 psi g
 Sphere size: 0.375 in
 Power: 96.0 hp
 Eye area: 8.51 in²

---- Data Point ----

Flow: 454 US gpm
 Head: 84 ft
 Eff: 80%
 Power: 12 hp
 NPSHr: 13.5 ft

---- Design Curve ----

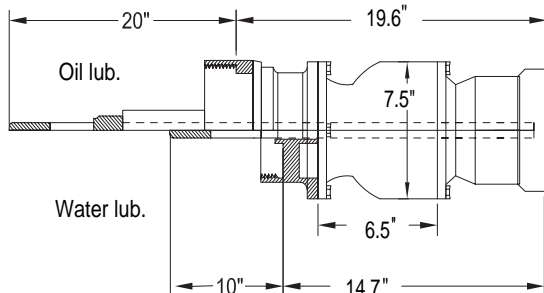
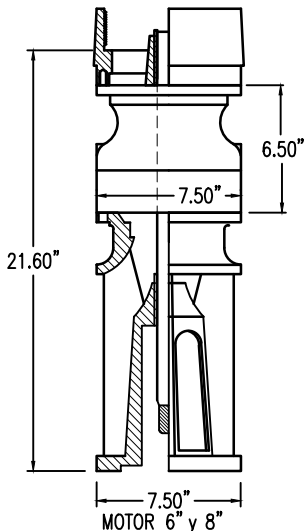
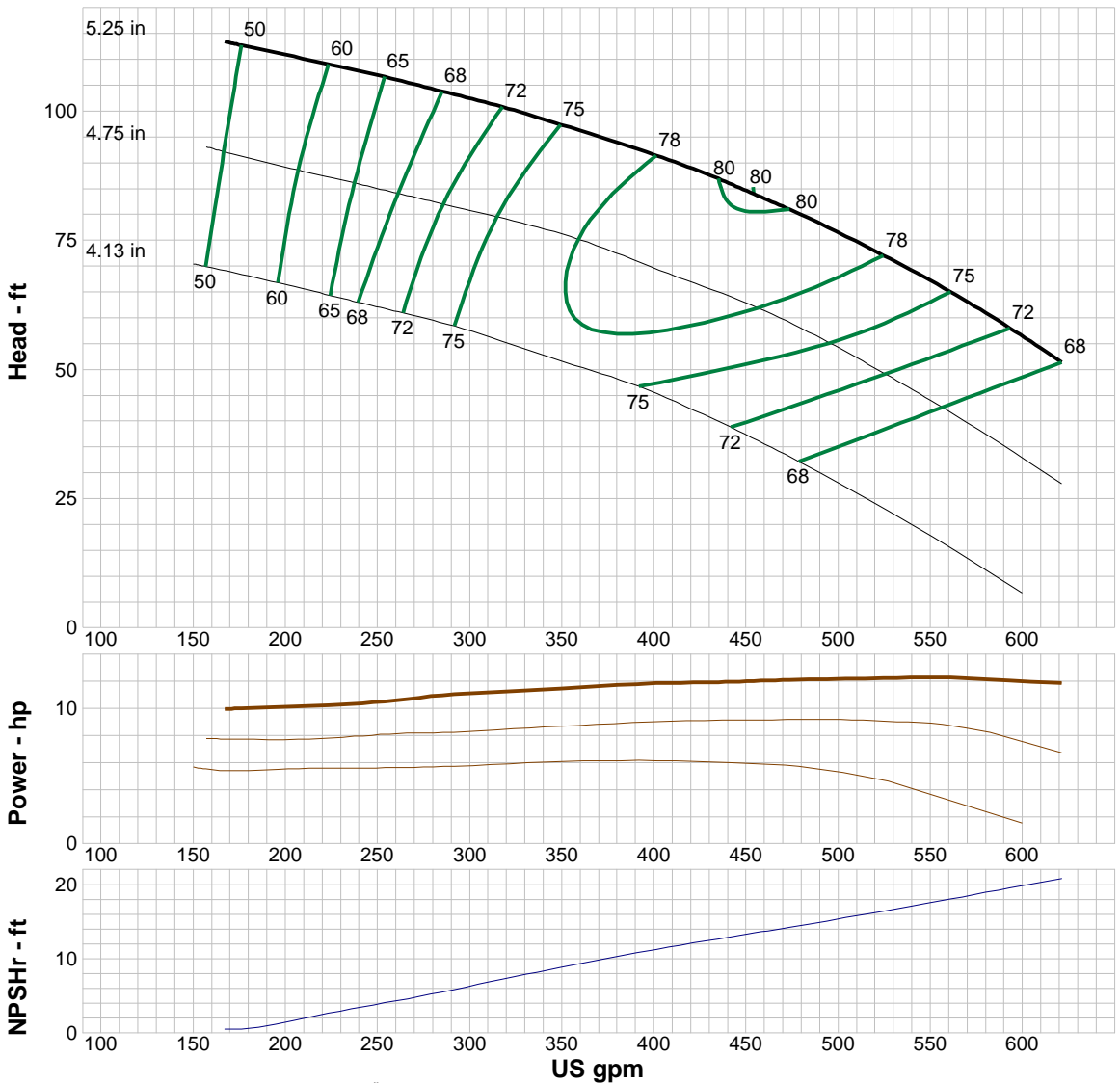
Shutoff head: 128 ft
 Shutoff dP: 55.2 psi
 Min flow: 47 US gpm
 BEP: 80% @ 454 US gpm
 NOL power:
 12.3 hp @ 561 US gpm

-- Max Curve --

Max power:
 12.3 hp @ 561 US gpm

--Additional Data--

Std. Shaft Diameter :1 3/16 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.345 "
 One Stage Subm. WT-LB:93.1
 One Stage Water Lub. WT-LB:72.6
 One Stage Oil Lub. WT-LB:81.6
 Add Stage WT-LB:32.2
 Impeller Weight:8 lb
 Min. Submergence:61 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
596	3450	57.3	71.6	12	19.7
497	3450	76.9	79.1	12.2	15.3
398	3450	91.8	77.8	11.8	11.1
298	3450	103	69.6	11.1	6.22
199	3450	111	54.9	10.1	1.61



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 9WBH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBJEE-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3550 rpm
 Dia: 7.31 in
 Impeller: 9WBH-1C
 Ns: 1663
 Nss: 8604
 Suction: 8 in
 Discharge: RI 6" R18"
 Bowl size: 9.5 in
 Max lateral: ---
 Thrust K factor: 4.7 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 60 hp
 Speed: 3600
 Frame: 364TS

Pump Limits:

Temperature: 167 °F
 Pressure: 375 psi g
 Sphere size: 0.438 in
 Power: 176.7 hp
 Eye area: 11.9 in²

---- Data Point ----

Flow: 733 US gpm
 Head: 211 ft
 Eff: 84.5%
 Power: 46.1 hp
 NPSHr: 24 ft

---- Design Curve ----

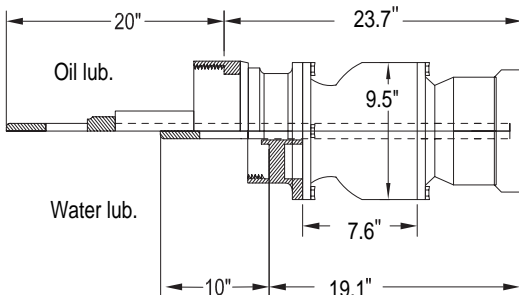
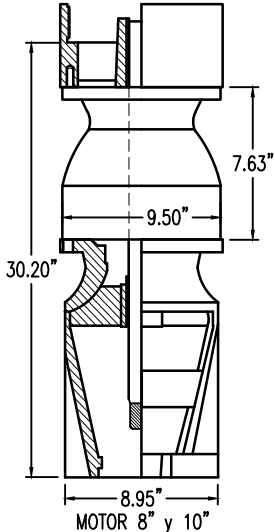
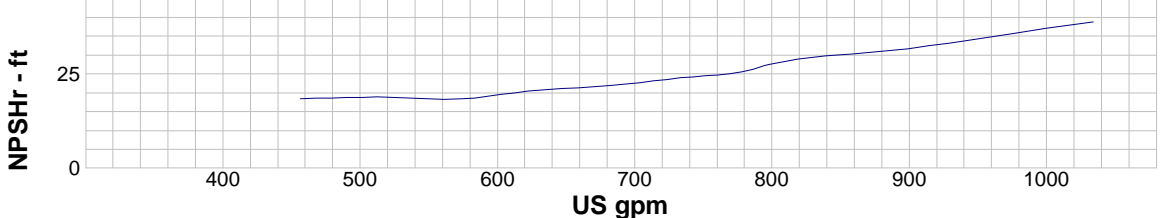
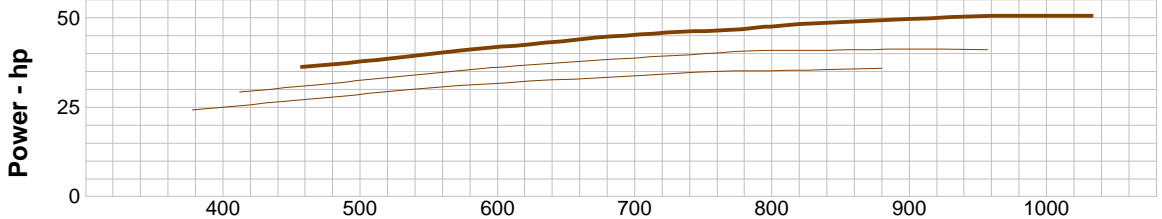
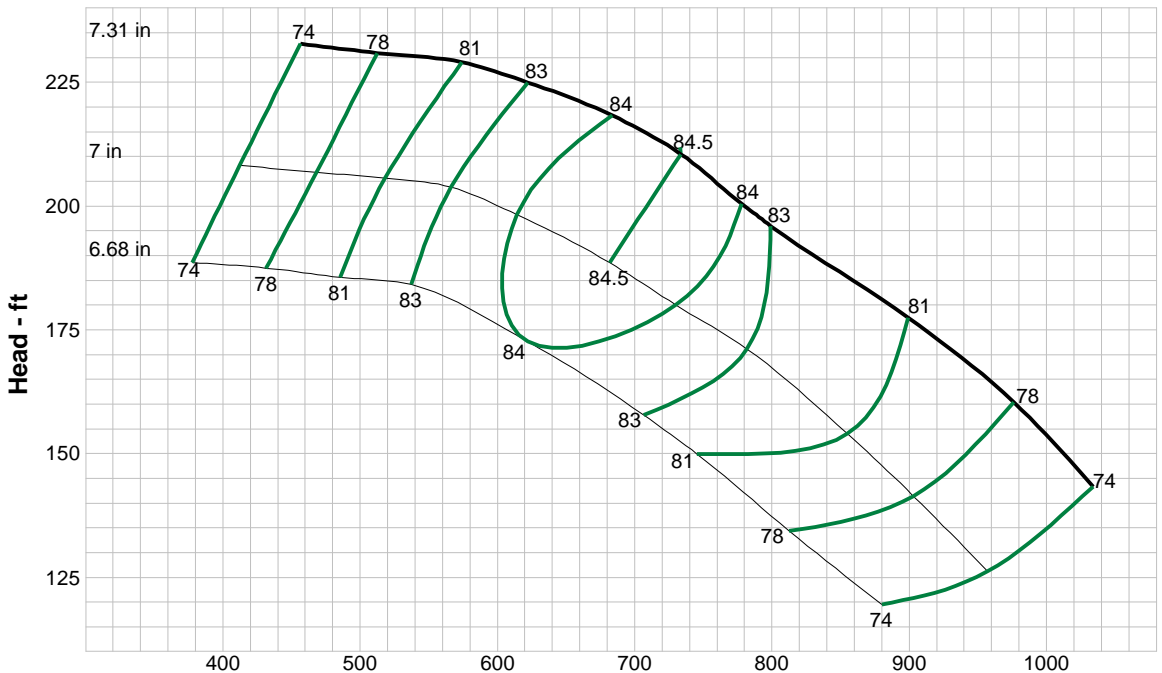
Shutoff head: 238 ft
 Shutoff dP: 103 psi
 Min flow: 75 US gpm
 BEP: 84.5% @ 733 US gpm
 NOL power:
 50.7 hp @ 976 US gpm

-- Max Curve --

Max power:
 50.7 hp @ 976 US gpm

--Additional Data--

Std. Shaft Diameter :1 1/2 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral: 0.233 "
 One Stage Subm. WT-LB: 154.8
 One Stage Water Lub. WT-LB:138.2
 One Stage Oil Lub. WT-LB: 162.2
 Add Stage WT-LB:59.1
 Impeller Weight:12.9 lb
 Min. Submergence:72 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
992	3550	156	76.9	50.6	36.7
827	3550	191	82.4	48.2	28.7
662	3550	221	83.7	44	21.4
496	3550	231	76.9	37.7	18.7
331	3550	237	65	31.7	17.2



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 9WBL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBIEE-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3550 rpm
 Dia: 7.31 in
 Impeller: 9WBL-1C
 Ns: 1686
 Nss: 10070
 Suction: 8 in
 Discharge: RI 6" RI 8"
 Bowl size: 9.5 in
 Max lateral: ---
 Thrust K factor: 4.7 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 40 hp
 Speed: 3600
 Frame: 324TS

Pump Limits:

Temperature: 167 °F
 Pressure: 375 psi g
 Sphere size: 0.438 in
 Power: 121.9 hp
 Eye area: 11.9 in²

---- Data Point ----

Flow: 602 US gpm
 Head: 186 ft
 Eff: 83.5%
 Power: 33.8 hp
 NPSHr: 49.3 ft

---- Design Curve ----

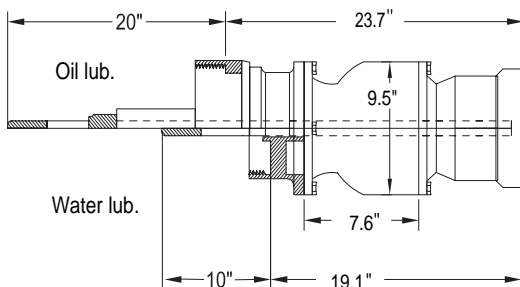
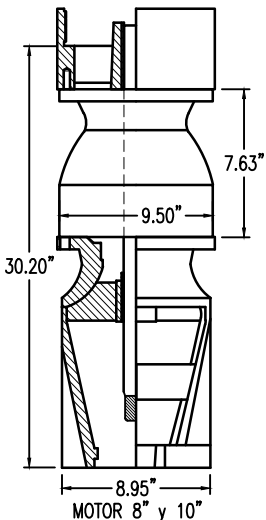
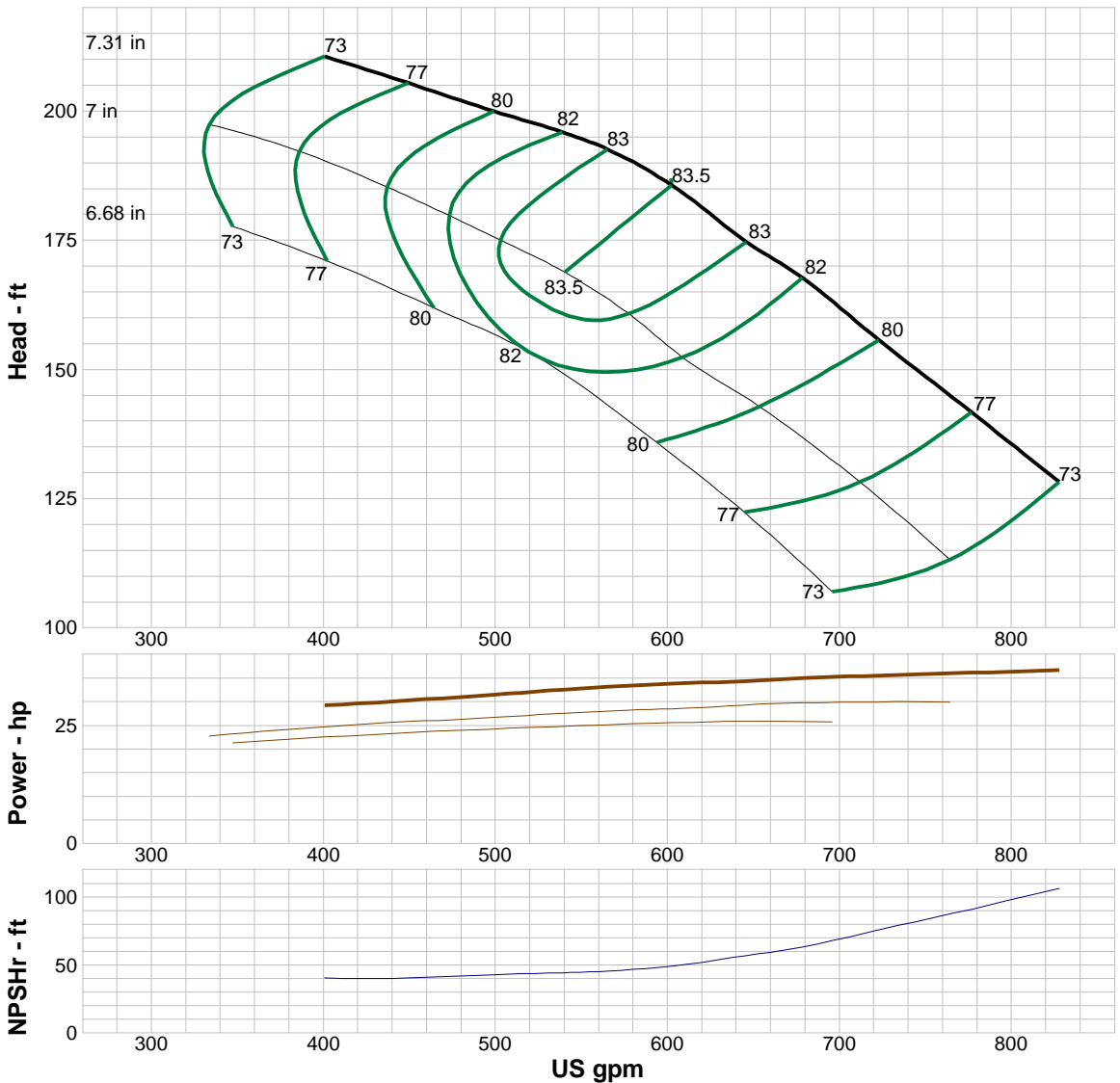
Shutoff head: 241 ft
 Shutoff dP: 104 psi
 Min flow: 61 US gpm
 BEP: 83.5% @ 602 US gpm
 NOL power:
 36.7 hp @ 827 US gpm

-- Max Curve --

Max power:
 36.7 hp @ 827 US gpm

--Additional Data--

Std. Shaft Diameter : 1 1/2"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125"
 Std. Lateral:0.233 "
 One Stage Subm. WT-LB:154.8
 One Stage Water Lub. WT-LB:138.2
 One Stage Oil Lub. WT-LB:162.2
 Add Stage WT-LB:59.1
 Impeller Weight:12.9 lb
 Min. Submergence:73 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
794	3550	137	75.6	36.3	96.2
662	3550	171	82.5	34.7	60
530	3550	197	81.6	32.3	44
397	3550	211	72.7	29.1	40.4
265	3550	225	61.8	26.2	40.4



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 9WH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBEE-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 6.88 in
 Impeller: 9WH-1C
 Ns: 2331
 Nss: 9150
 Suction: 8 in
 Discharge: RI 6" RI 8"
 Bowl size: 9.3 in
 Max lateral: ---
 Thrust K factor: 6 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 75 hp
 Speed: 3600
 Frame: 365TS

Pump Limits:

Temperature: 167 °F
 Pressure: 400 psi g
 Sphere size: 0.5 in
 Power: 251.8 hp
 Eye area: 12.6 in²

---- Data Point ----

Flow: 1077 US gpm
 Head: 177 ft
 Eff: 86%
 Power: 56.1 hp
 NPSHr: 27.1 ft

---- Design Curve ----

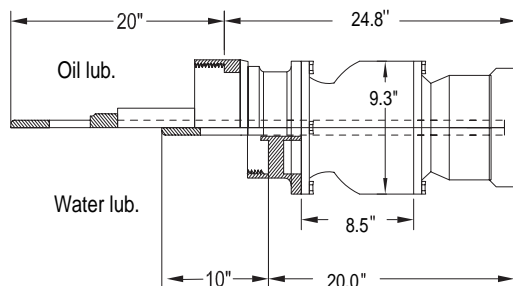
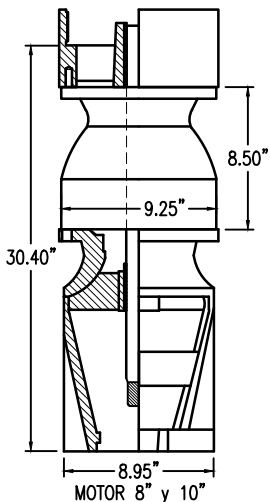
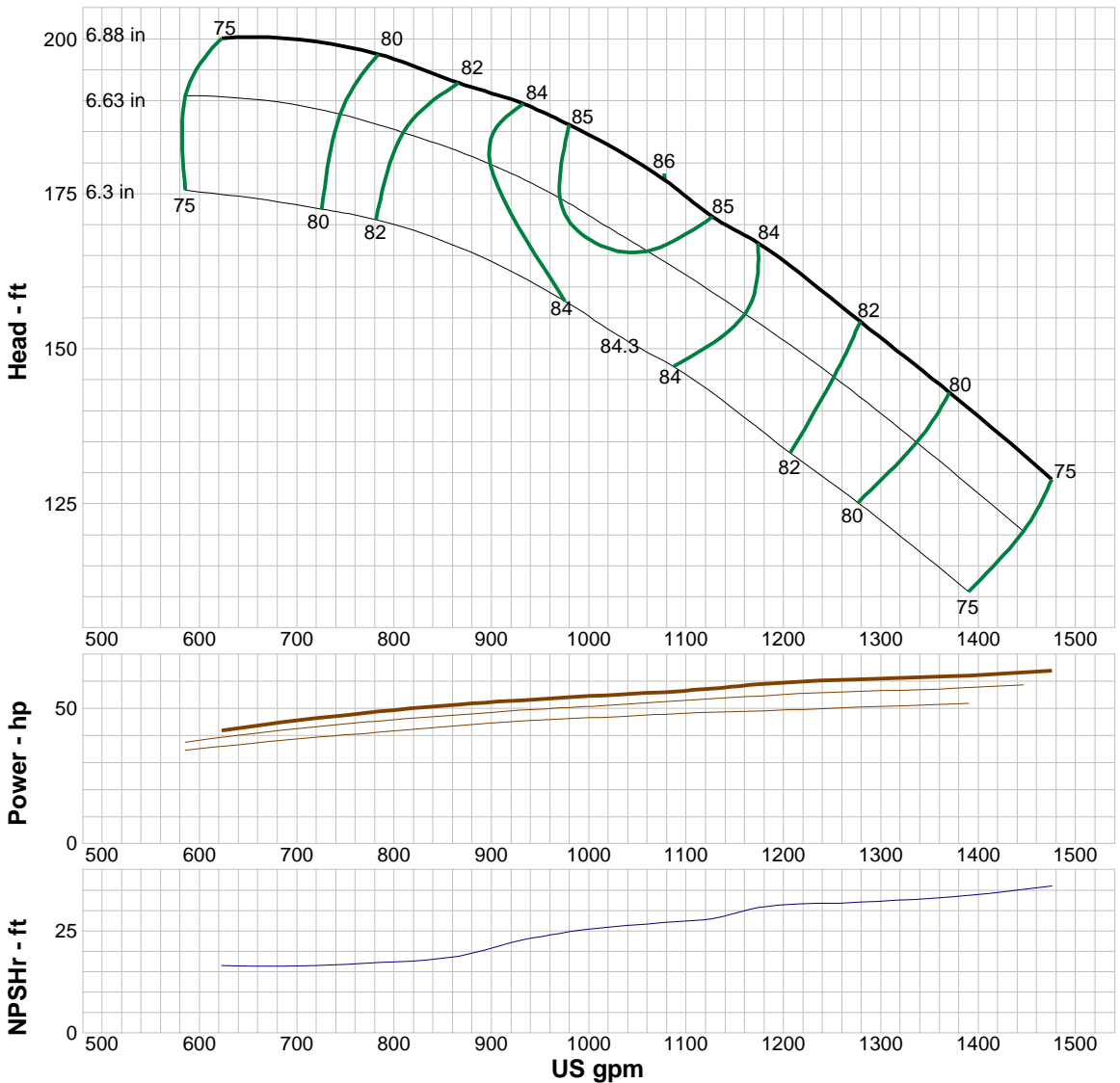
Shutoff head: 210 ft
 Shutoff dP: 91 psi
 Min flow: 110 US gpm
 BEP: 86% @ 1077 US gpm
 NOL power:
 64 hp @ 1475 US gpm

-- Max Curve --

Max power:
 64 hp @ 1475 US gpm

--Additional Data--

Std. Shaft Diameter : 1 1/2"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting: 0.125"
 Std. Lateral: 0.53"
 One Stage Subm. WT-LB: 159.5
 One Stage Water Lub. WT-LB: 143.1
 One Stage Oil Lub. WT-LB: 165.1
 Add Stage WT-LB: 62
 Impeller Weight: 14.6 lb
 Min. Submergence: 72"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1416	3450	137	77.8	62.8	34.5
1180	3450	166	83.9	59	30.8
944	3450	189	84.2	53.4	23.3
708	3450	199	77.7	45.6	16.9
472	3450	203	70.3	35.5	15.9



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 9WL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBAAE-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 6.88 in
 Impeller: 9WL-1C
 Ns: 2307
 Nss: 10744
 Suction: 8 in
 Discharge: RI 6" RI 8"
 Bowl size: 9.3 in
 Max lateral: ---
 Thrust K factor: 6 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 50 hp
 Speed: 3600
 Frame: 326TS

Pump Limits:

Temperature: 167 °F
 Pressure: 400 psi g
 Sphere size: 0.5 in
 Power: 162.9 hp
 Eye area: 12.6 in²

---- Data Point ----

Flow: 847 US gpm
 Head: 155 ft
 Eff: 86%
 Power: 38.7 hp
 NPSHr: 18.4 ft

---- Design Curve ----

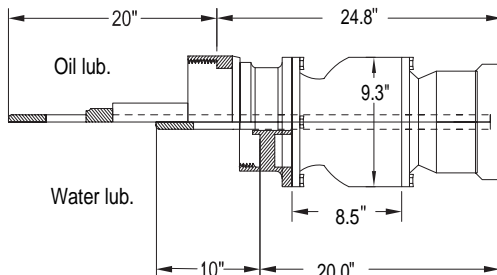
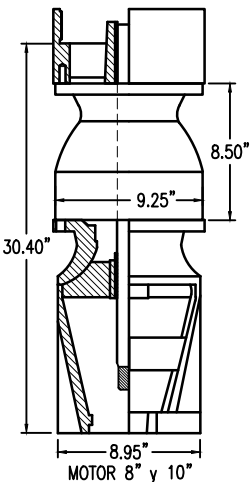
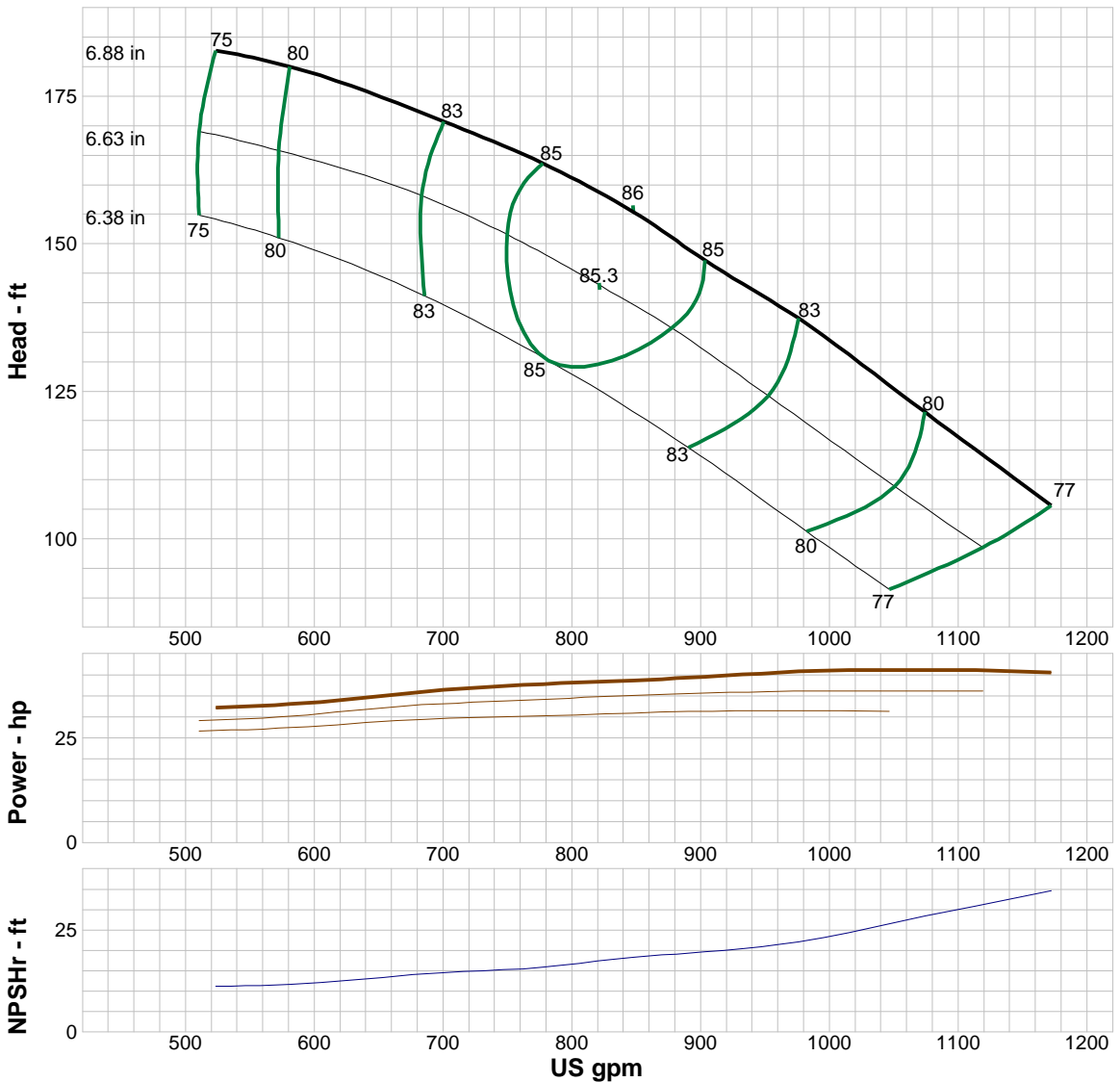
Shutoff head: 215 ft
 Shutoff dP: 92.8 psi
 Min flow: 88 US gpm
 BEP: 86% @ 847 US gpm
 NOL power:
 41.2 hp @ 1074 US gpm

-- Max Curve --

Max power:
 41.2 hp @ 1074 US gpm

--Additional Data--

Std. Shaft Diameter :1 1/2"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.53 "
 One Stage Subm. WT-LB:159.5
 One Stage Water Lub. WT-LB:143.1
 One Stage Oil Lub. WT-LB:165.1
 Add Stage WT-LB:62
 Impeller Weight:14.6 lb
 Min. Submergence: 72"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1126	3450	113	78.4	40.9	31.7
938	3450	142	84	40.1	20.8
750	3450	166	84.3	37.3	15.4
563	3450	181	78.5	32.7	11.6
375	3450	190	62.2	30.1	10.2



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 10CC-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETCBAEF-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 7.7 in
 Impeller: 10CC-1C
 Ns: 1543
 Nss: 9377
 Suction: 6 in
 Discharge: RI 6" RI 8"
 Bowl size: 9.5 in
 Max lateral: ---
 Thrust K factor: 4 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 50 hp
 Speed: 3600
 Frame: 326TS

Pump Limits:

Temperature: 167 °F
 Pressure: 280 psi g
 Sphere size: 0.531 in
 Power: 84.4 hp
 Eye area: 10.4 in²

---- Data Point ----

Flow: 591 US gpm
 Head: 205 ft
 Eff: 84%
 Power: 36.4 hp
 NPSHr: 40.7 ft

---- Design Curve ----

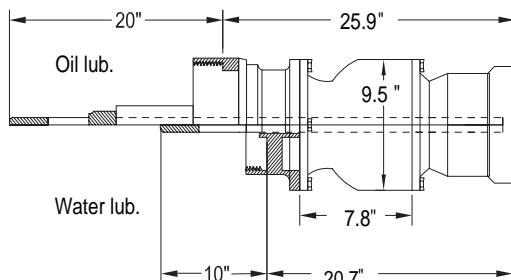
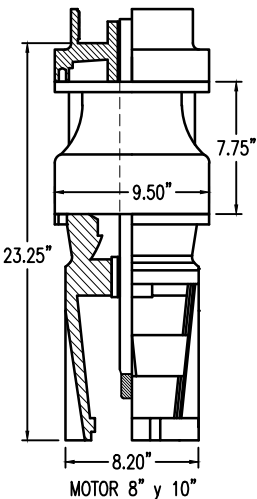
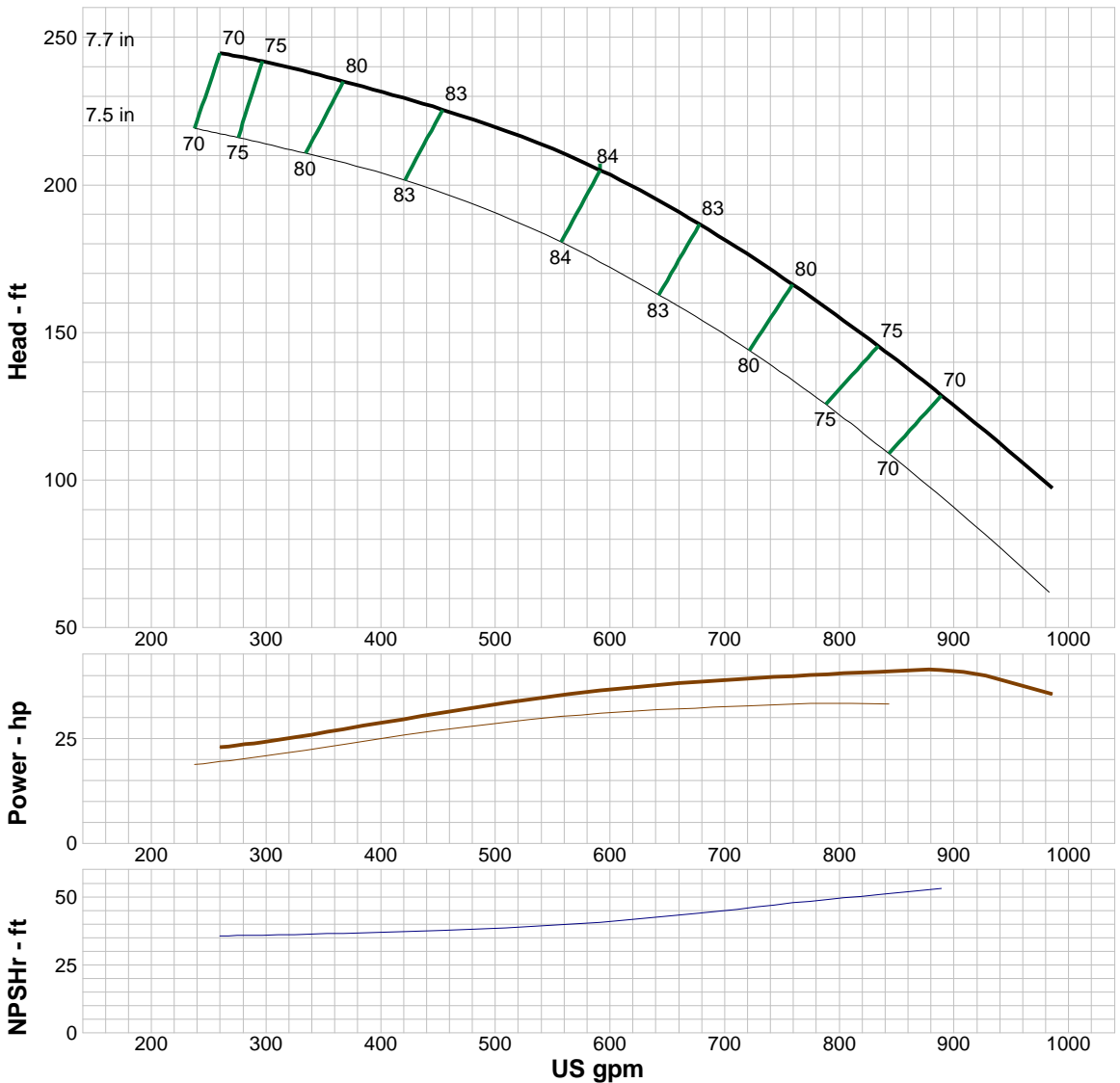
Shutoff head: 251 ft
 Shutoff dP: 109 psi
 Min flow: 60 US gpm
 BEP: 84% @ 591 US gpm
 NOL power:
 41.3 hp @ 889 US gpm

-- Max Curve --

Max power:
 41.3 hp @ 889 US gpm

--Additional Data--

Std. Shaft Diameter :1 1/2 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.76 "
 One Stage Subm. WT-LB:159.2
 One Stage Water Lub. WT-LB:153.8
 One Stage Oil Lub. WT-LB: 175.6
 Add Stage WT-LB:61.6
 Impeller Weight:13.1lb
 Min. Submergence:58 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
946	3450	110	68.8	37.9	55.3
788	3450	158	78	40.2	49
630	3450	197	83.6	37.4	42.2
473	3450	223	83.1	31.9	38.1
315	3450	240	76.3	25	36.1



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 10CC-2C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETCBBEF-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3460 rpm
 Dia: 7.7 in
 Impeller: 10CC-2C
 Ns: 1463
 Nss: 8444
 Suction: 6 in
 Discharge: RI 6" RI 8"
 Bowl size: 9.5 in
 Max lateral: ---
 Thrust K factor: 4 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 60 hp
 Speed: 3600
 Frame: 364TS

Pump Limits:

Temperature: 167 °F
 Pressure: 280 psi g
 Sphere size: 0.531 in
 Power: 113.0 hp
 Eye area: 9.74 in²

---- Data Point ----

Flow: 623 US gpm
 Head: 234 ft
 Eff: 85.3%
 Power: 43.1 hp
 NPSHr: 30.7 ft

---- Design Curve ----

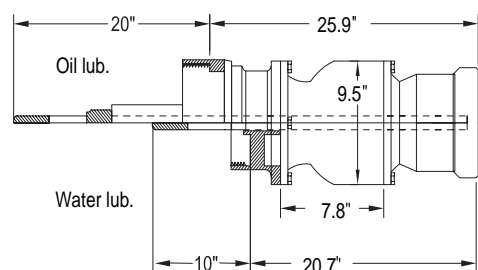
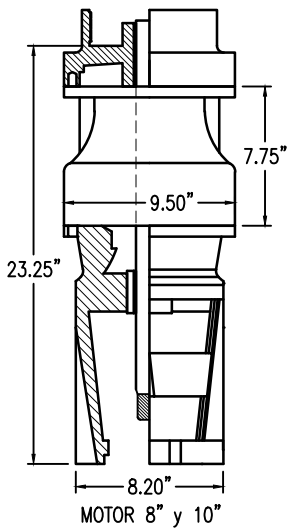
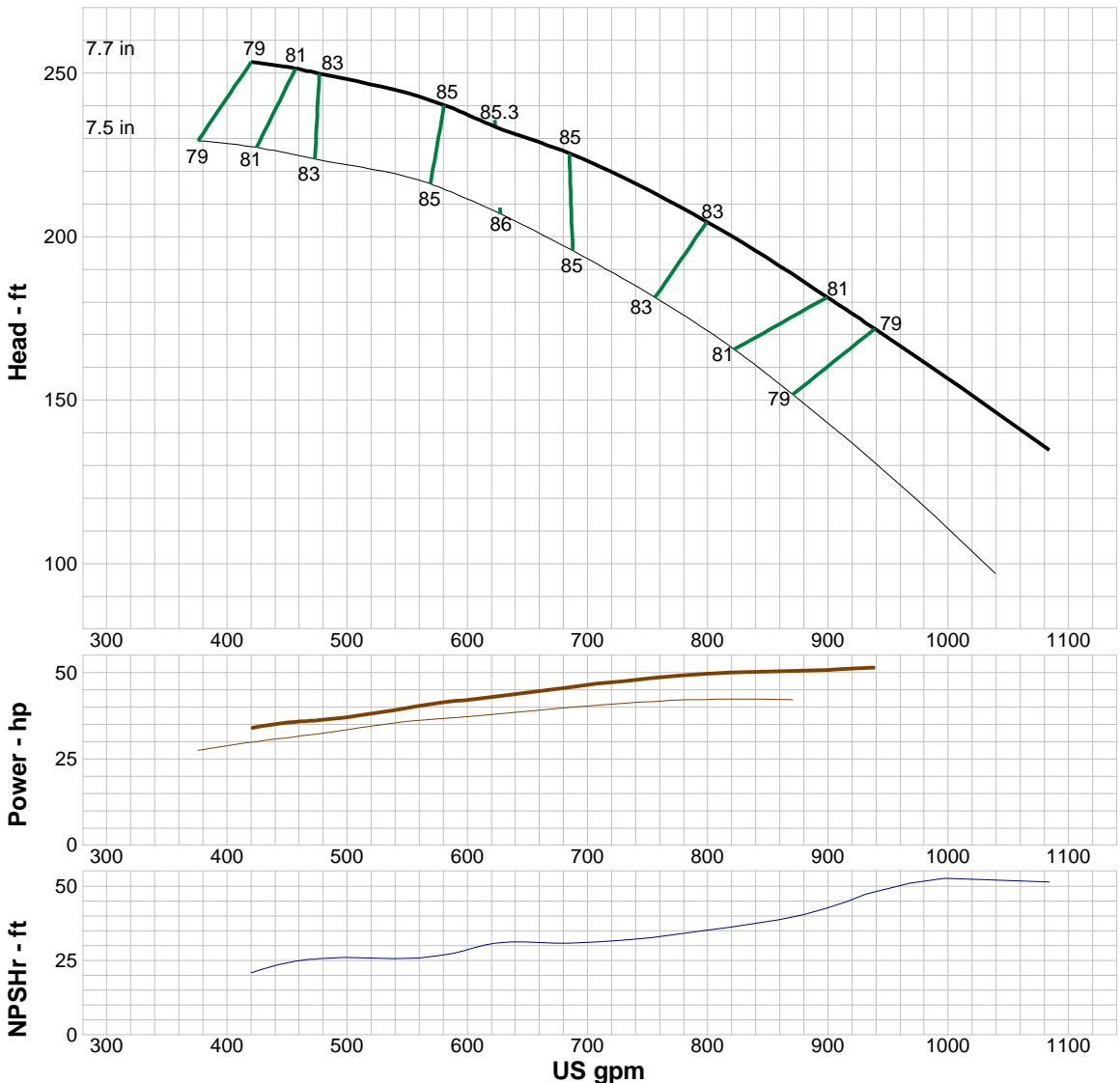
Shutoff head: 260 ft
 Shutoff dP: 112 psi
 Min flow: 65 US gpm
 BEP: 85.3% @ 623 US gpm
 NOL power:
 53.4 hp @ 1047 US gpm

-- Max Curve --

Max power:
 53.4 hp @ 1047 US gpm

--Additional Data--

Std. Shaft Diameter :1 1/2 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral:0.76 "
 One Stage Subm. WT-LB: 159.2
 One Stage Water Lub. WT-LB:153.8
 One Stage Oil Lub. WT-LB:175.6
 Add Stage WT-LB:61.6
 Impeller Weight:13.1 lb
 Min. Submergence:58 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1040	3460	146	73.9	53.2	50.3
867	3460	189	81.6	50.5	40.2
694	3460	224	84.8	46.2	31.1
520	3460	246	83.8	38.4	26.1
347	3460	257	75	30.5	13



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 10WH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBBEF-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3520 rpm
 Dia: 7.75 in
 Impeller: 10WH-1C
 Ns: 2874
 Nss: 9257
 Suction: 8 in
 Discharge: RI 6" RI 8"
 Bowl size: 9.6 in
 Max lateral: ---
 Thrust K factor: 6.1 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 75 hp
 Speed: 3600
 Frame: 365TS

Pump Limits:

Temperature: 167 °F
 Pressure: 450 psi g
 Sphere size: 0.61 in
 Power: 204.0 hp
 Eye area: 14.9 in²

---- Data Point ----

Flow: 1438 US gpm
 Head: 152 ft
 Eff: 84.4%
 Power: 65.6 hp
 NPSHr: 29.5 ft

---- Design Curve ----

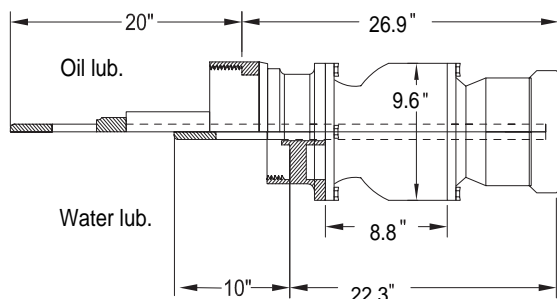
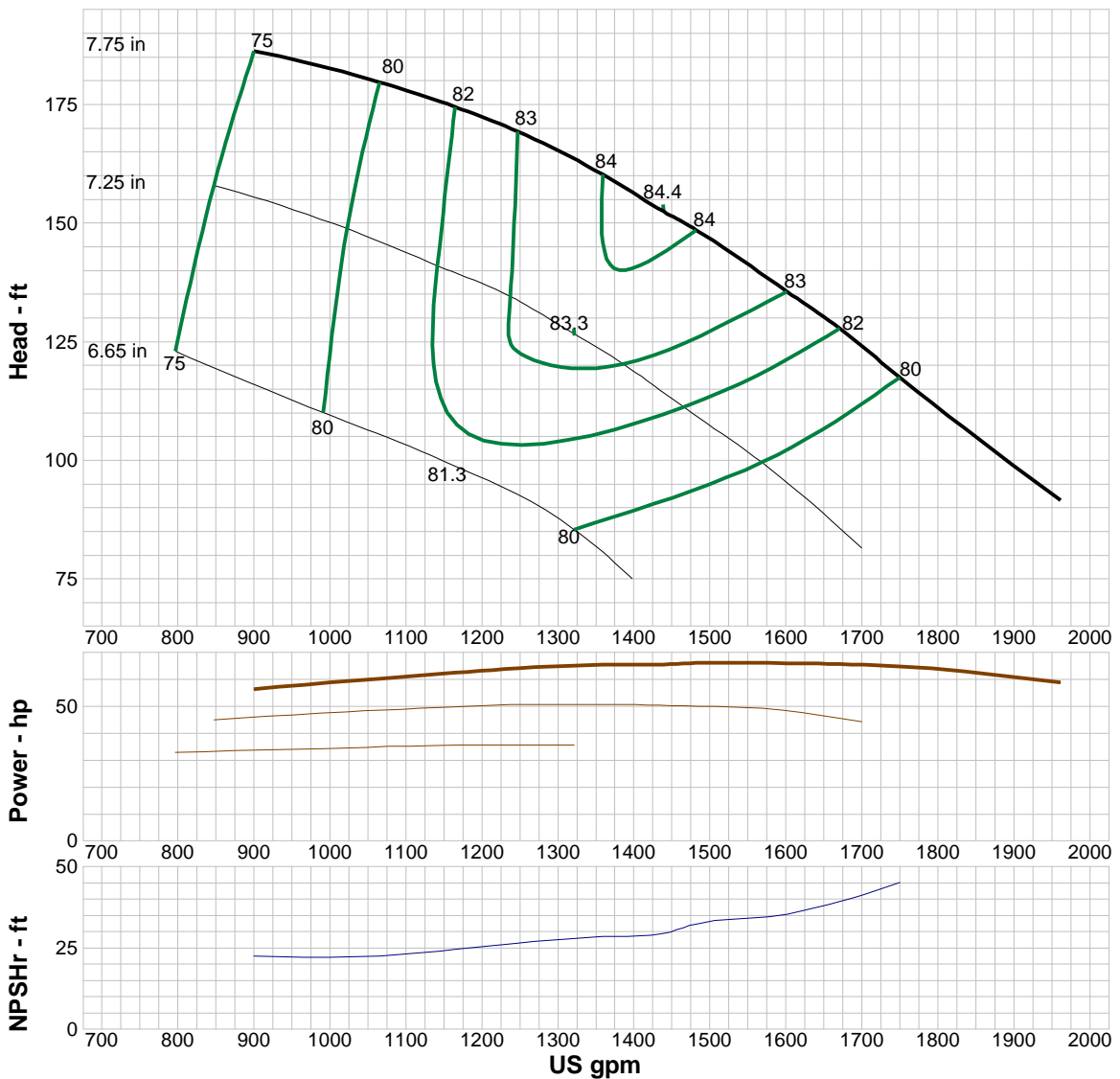
Shutoff head: 224 ft
 Shutoff dP: 97 psi
 Min flow: 140 US gpm
 BEP: 84.4% @ 1438 US gpm
 NOL power:
 66.2 hp @ 1481 US gpm

-- Max Curve --

Max power:
 66.2 hp @ 1481 US gpm

--Additional Data--

Std. Shaft Diameter :1 1/2 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.125 "
 Std. Lateral: 0.576"
 One Stage Subm. WT-LB: 162.2
 One Stage Oil Lub. WT-LB:157.8
 One Stage Oil Lub. WT-LB:179.7
 Add Stage WT-LB:64.3
 Impeller Weight:15.8 lb
 Min. Submergence:76 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1883	3520	101	78.1	61.1	55.2
1569	3520	139	83.3	66.1	34.6
1255	3520	169	83.1	64.3	26.7
941	3520	185	76.3	57.4	22.6
628	3520	197	66.8	49.8	22.6



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 10HH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETHBAEF-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 8.25 in
 Impeller: 10HH-1C
 Ns: 4953
 Nss: 9210
 Suction: 8 in
 Discharge: RI 8"
 Bowl size: 9.6 in
 Max lateral: ---
 Thrust K factor: 13.6 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 125 hp
 Speed: 3600
 Frame: 444TS

Pump Limits:

Temperature: 167 °F
 Pressure: 450 psi g
 Sphere size: 1.438 in
 Power: 429.3 hp
 Eye area: 26.7 in²

---- Data Point ----

Flow: 2865 US gpm
 Head: 122 ft
 Eff: 82.3%
 Power: 108 hp
 NPSHr: 53.4 ft

---- Design Curve ----

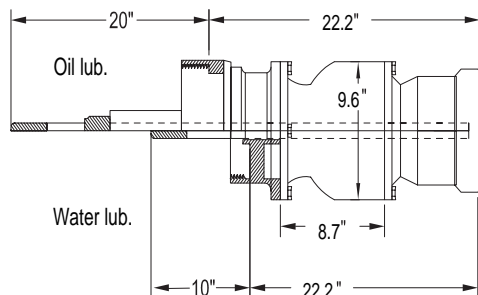
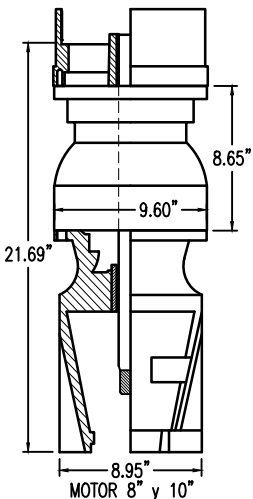
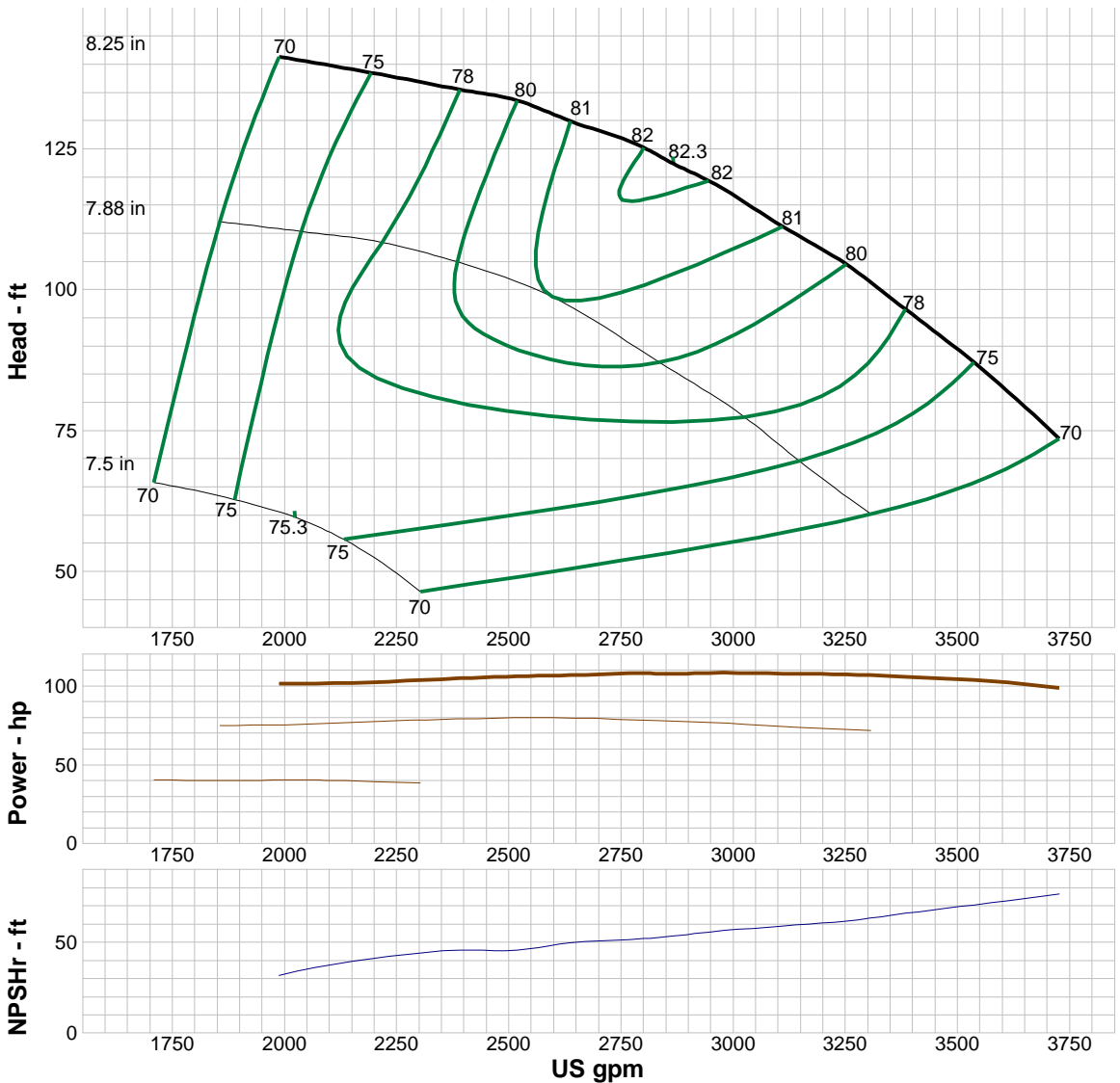
Shutoff head: 224 ft
 Shutoff dP: 96.9 psi
 Min flow: 284 US gpm
 BEP: 82.3% @ 2865 US gpm
 NOL power: 108 hp @ 2944 US gpm

-- Max Curve --

Max power: 108 hp @ 2944 US gpm

--Additional Data--

Std. Shaft Diameter : 1 1/2 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting: 0.125 "
 Std. Lateral: 0.538 "
 One Stage Subm. WT-LB: 166.6
 One Stage Water Lub. WT-LB: 149.2
 One Stage Oil Lub. WT-LB: 156
 Add Stage WT-LB: 59.8
 Impeller Weight: 14.7 lb
 Min. Submergence: 115 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3577	3450	84.1	73.9	103	71.9
2981	3450	118	81.8	108	56.4
2385	3450	136	77.9	105	45.5
1789	3450	144	65.2	100	23.1
1192	3450	152	50.7	97.4	-3.37



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 10HXH-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETXB AEF-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3450 rpm
 Dia: 8.25 in
 Impeller: 10HXH-1C
 Ns: 3731
 Nss: 8860
 Suction: 8 in
 Discharge: RI 8"
 Bowl size: 9.6 in
 Max lateral: ---
 Thrust K factor: 10.3 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

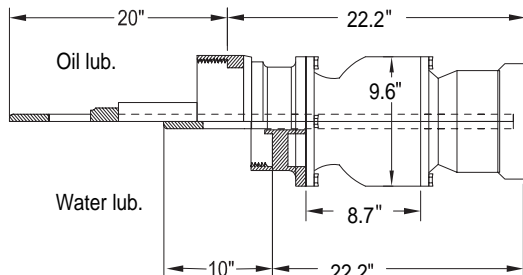
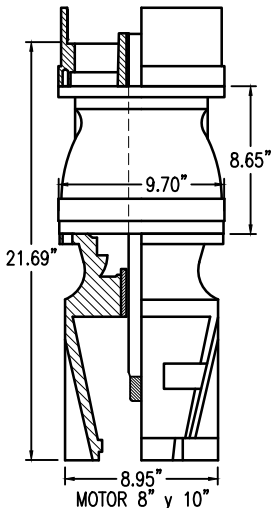
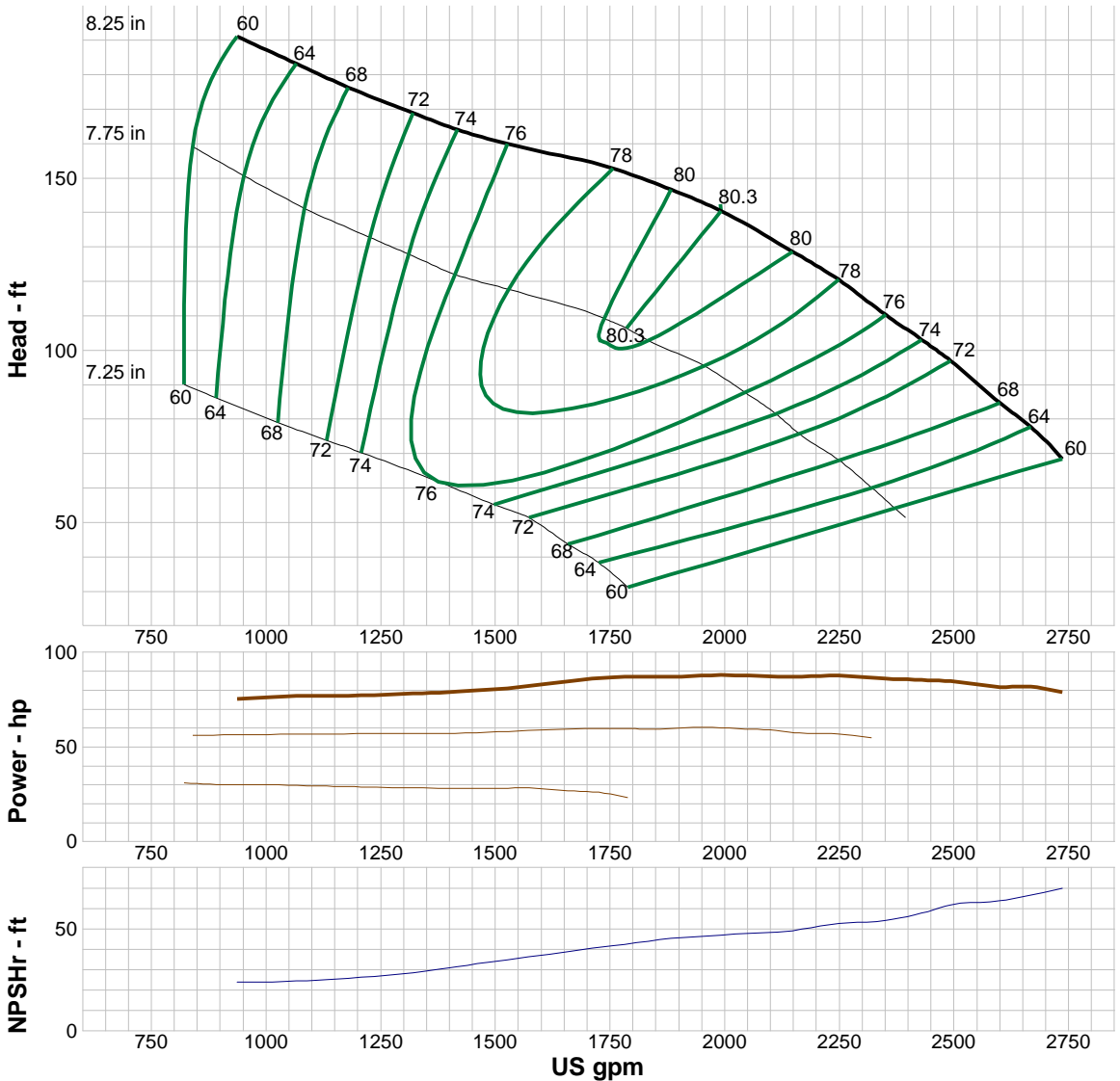
Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 100 hp
 Speed: 3600
 Frame: 405TS

Pump Limits:

Temperature: 167 °F
 Pressure: 450 psi g
 Sphere size: 0.875 in
 Power: 173 hp
 Eye area: 19.4 in²

---- Data Point ----	
Flow:	1991 US gpm
Head:	140 ft
Eff:	80.3%
Power:	88 hp
NPSHr:	47.1 ft
---- Design Curve ----	
Shutoff head:	252 ft
Shutoff dP:	109 psi
Min flow:	200 US gpm
BEP:	80.3% @ 1991 US gpm
NOL power:	88 hp @ 1991 US gpm
-- Max Curve --	
Max power:	88 hp @ 1991 US gpm
--Additional Data--	
Std. Shaft Diameter :	1 1/2 "
Max. Shaft Diameter:	C.F.
Opt. Lateral Setting:	0.125 "
Std. Lateral:	0.47 "
One Stage Subm. WT-LB:	169.9
One Stage Water Lub. WT-LB:	155.6
One Stage Oil Lub. WT-LB:	162.4
Add Stage WT-LB:	63.1
Impeller Weight:	15.8 lb
Min. Submergence:	106 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2626	3450	81.9	66.4	81.7	64.8
2188	3450	125	79.2	87.4	50.7
1750	3450	153	78	86.7	41.6
1313	3450	169	71.8	78.1	28.5
875	3450	195	58.1	74.4	23.7



Company: Empresas Suarez S.A. de C.V.

Name:

Date: 8/16/2017

Pump:

Size: 11WL-1C (1 stage)
 Type: LINE W_60 Hz
 Synch speed: 3600 rpm
 Curve: ETWBAEG-36
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 3500 rpm
 Dia: 8.13 in
 Impeller: 11WL-1C
 Ns: 1912
 Nss: 7057
 Suction: 8 in
 Discharge: RI 8" R110"
 Bowl size: 11 in
 Max lateral: ---
 Thrust K factor: 7.1 lb/ft

Search Criteria:

Flow: --- Head: ---

Fluid:

Water
 SG: 1
 Viscosity: 0.9946 cP
 NPSHa: ---
 Temperature: 68 °F
 Vapor pressure: 0.3391 psi a
 Atm pressure: 14.7 psi a

Motor:

Standard: NEMA
 Enclosure: TEFC
 Sizing criteria: Max Power on Design Curve
 Size: 100 hp
 Speed: 3600
 Frame: 405TS

Pump Limits:

Temperature: 167 °F
 Pressure: 380 psi g
 Sphere size: 0.5 in
 Power: 126 hp
 Eye area: 15.6 in²

---- Data Point ----

Flow: 1368 US gpm
 Head: 221 ft
 Eff: 85.3%
 Power: 89.7 hp
 NPSHr: 29.1 ft

---- Design Curve ----

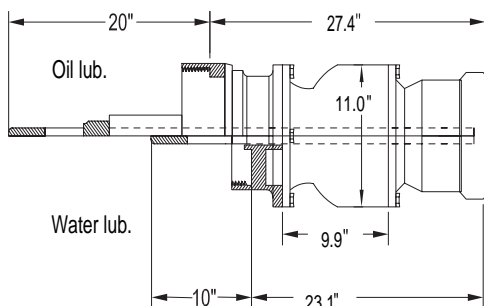
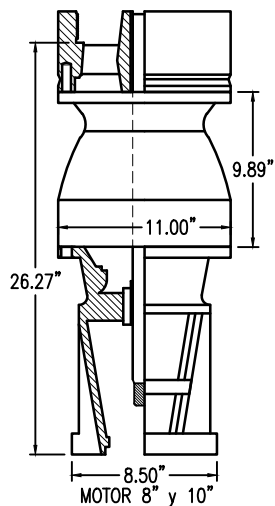
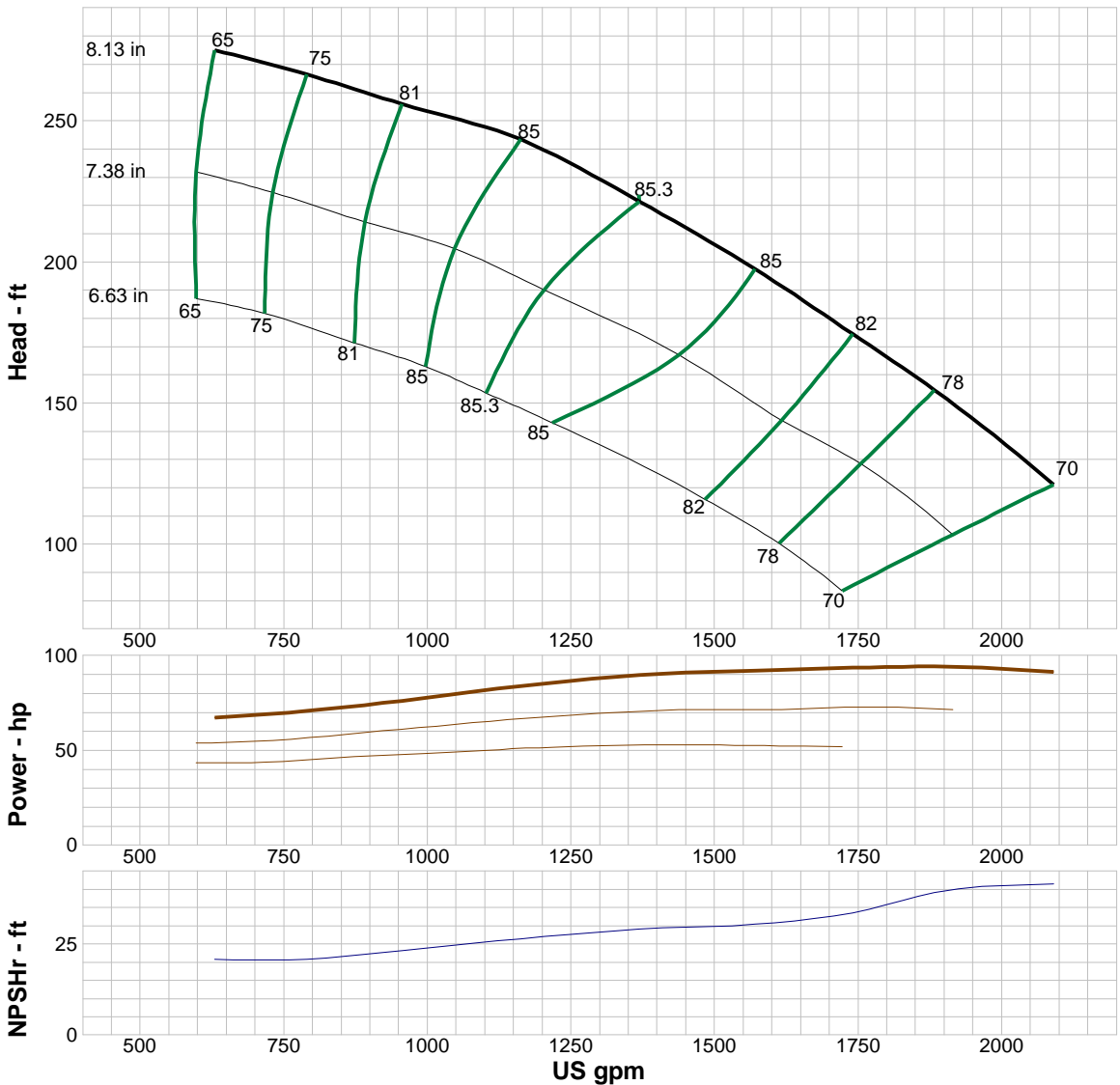
Shutoff head: 314 ft
 Shutoff dP: 136 psi
 Min flow: 118 US gpm
 BEP: 85.3% @ 1368 US gpm
 NOL power:
 94.2 hp @ 1882 US gpm

-- Max Curve --

Max power:
 94.2 hp @ 1882 US gpm

--Additional Data--

Std. Shaft Diameter :1 1/2 "
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:0.25 "
 Std. Lateral:0.54 "
 One Stage Subm. WT-LB: 238.5
 One Stage Water Lub. WT-LB: 272.2
 One Stage Oil Lub. WT-LB: 272.8
 Add Stage WT-LB:100.1
 Impeller Weight:21.9 lb
 Min. Submergence:79 "



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2006	3500	135	73.2	92.5	40.6
1672	3500	184	83.2	92.9	32.3
1338	3500	225	85.3	88.9	28.7
1003	3500	253	81.9	78	24
669	3500	273	67.5	68.1	20.8