



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

Name:

Date: 10/16/2017

Pump:

Size: 8PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 1800 rpm
 Curve: ETPBGEB
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1760 rpm
 Line: 19
 Impeller: 8PO-1X
 Ns: 13463
 Nss: 6381
 Suction: 13.4 in
 Discharge: ---
 Bowl size: 23 in
 Max lateral: ---
 Thrust K factor: 26 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: 1800
 Frame: 254T

Pump Limits:

Temperature: 167 °F
 Pressure: 75 psi g
 Sphere size: 1.8 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 1778 US gpm
 Head: 10.5 ft
 Eff: 72.3%
 Power: 6.54 hp
 NPSHr: ---

---- Design Curve ----

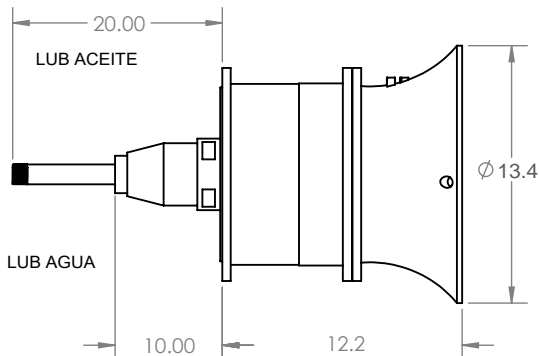
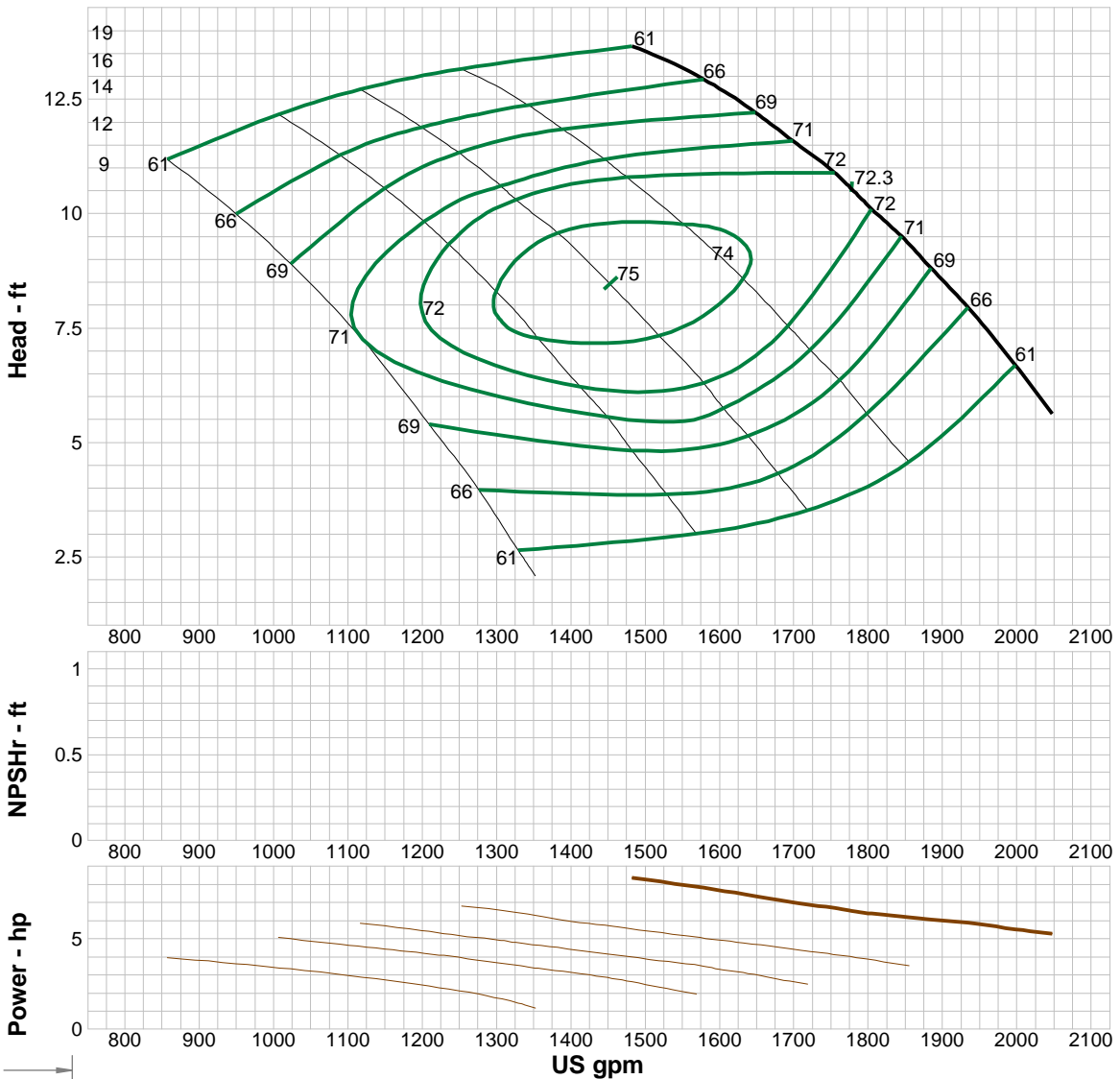
Shutoff head: 14.1 ft
 Shutoff dP: 6.11 psi
 Min flow: 725 US gpm
 BEP: 72.3% @ 1778 US gpm
 NOL power:
 12.8 hp @ 725 US gpm

-- Max Curve --

Max power:
 12.8 hp @ 725 US gpm

--Additional Data--

Std. Shaft Diameter:1"
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:51
 One Stage Oil Lub. WT-LB:52
 Add Stage WT-LB:29
 Impeller Weight:12lb
 Min. Submergence:23"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1966	1760	7.31	63.5	5.7	---
1638	1760	12.3	68.6	7.43	---
1310	1760	14.9	52.1	9.38	---
983	1760	17.4	35.2	11.3	---
655	1760	---	---	---	---



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

Name:

Date: 10/16/2017

Pump:

Size: 10PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 1200 rpm
 Curve: ETPBGEF-12
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1160 rpm
 Line: 19
 Impeller: 10PO-1X
 Ns: 13709
 Nss: 3973
 Suction: 20.3 in
 Discharge: ---
 Bowl size: 13.25 in
 Max lateral: 1.2 in
 Thrust K factor: 32 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: 1200
 Frame: 284T

Pump Limits:

Temperature: 167 °F
 Pressure: 75 psi g
 Sphere size: 2.25 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 2313 US gpm
 Head: 7.38 ft
 Eff: 75.3%
 Power: 5.72 hp
 NPSHr: ---

---- Design Curve ----

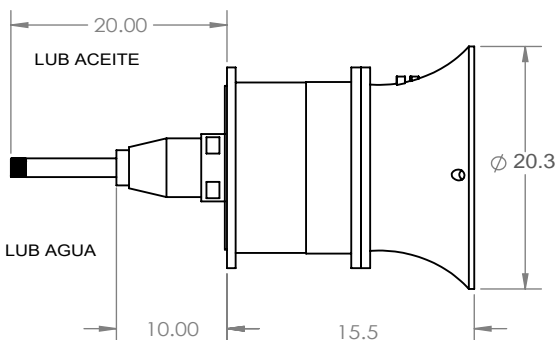
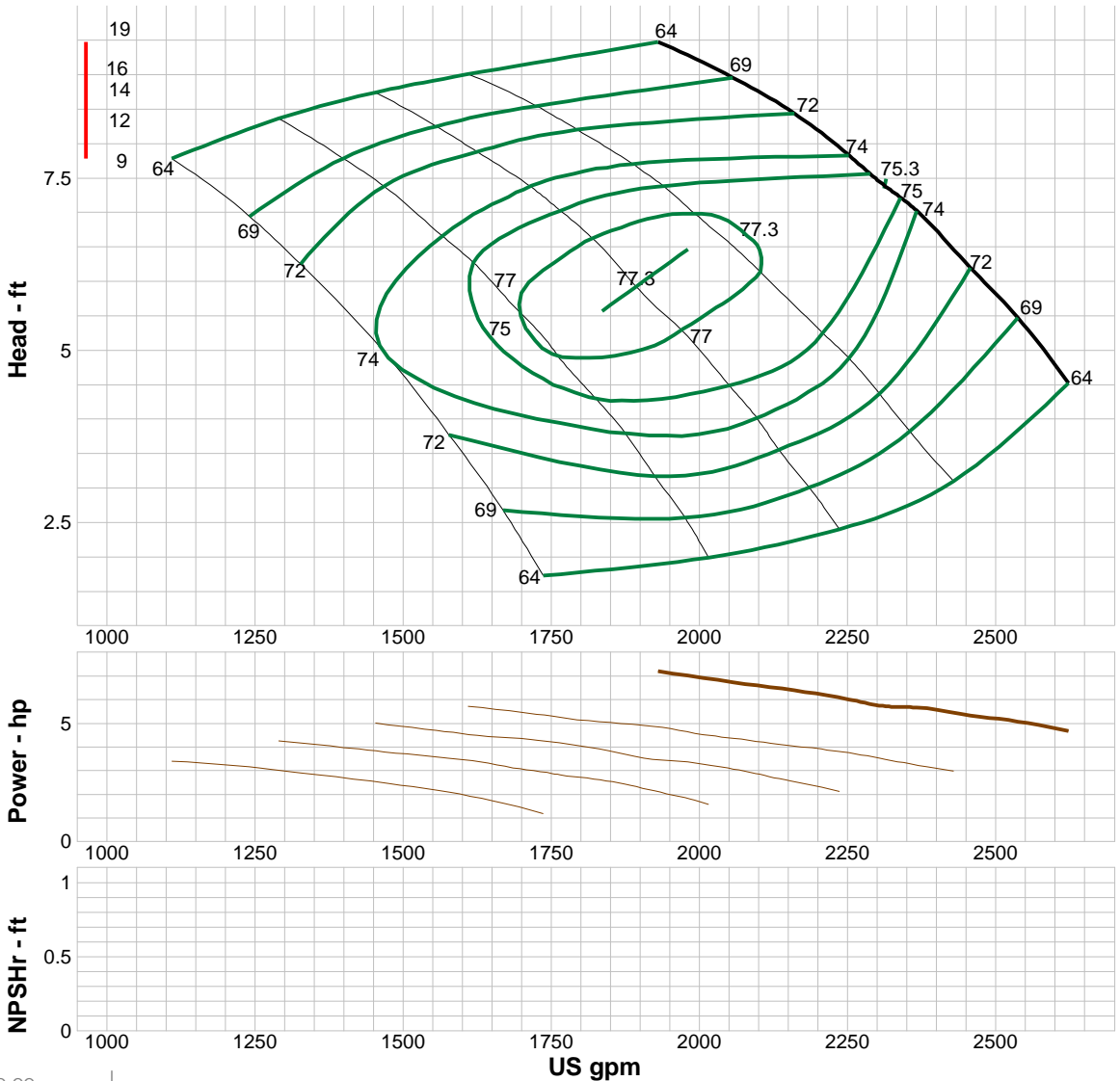
Shutoff head: 10.4 ft
 Shutoff dP: 4.52 psi
 Min flow: 964 US gpm
 BEP: 75.3% @ 2313 US gpm
 NOL power:
 10.8 hp @ 964 US gpm

-- Max Curve --

Max power:
 10.8 hp @ 964 US gpm

--Additional Data--

Std. Shaft Diameter: 1 3/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:92
 One Stage Oil Lub. WT-LB:95
 Add Stage WT-LB:48
 Impeller Weight:16 lb
 Min. Submergence:30"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2516	1160	5.66	69.8	5.14	---
2097	1160	8.75	70.2	6.6	---
1678	1160	10.5	54.1	8.15	---
1258	1160	12.2	37.5	9.71	---
839	1160	---	---	---	---



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

Name:

Date: 10/16/2017

Pump:

Size: 10PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 1800 rpm
 Curve: ETPBGEF
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1760 rpm
 Line: 19
 Impeller: 10PO-1X
 Ns: 13945
 Nss: 7362
 Suction: 20.3 in
 Discharge: ---
 Bowl size: 13.25 in
 Max lateral: 1.2 in
 Thrust K factor: 32 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: 1800
 Frame: 326T

Pump Limits:

Temperature: 167 °F
 Pressure: 75 psi g
 Sphere size: 2.25 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 3590 US gpm
 Head: 17.8 ft
 Eff: 75.3%
 Power: 21.4 hp
 NPSHr: ---

---- Design Curve ----

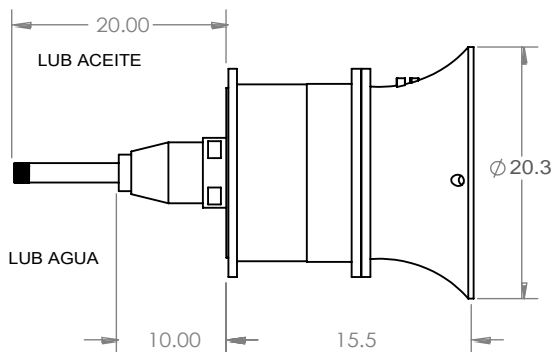
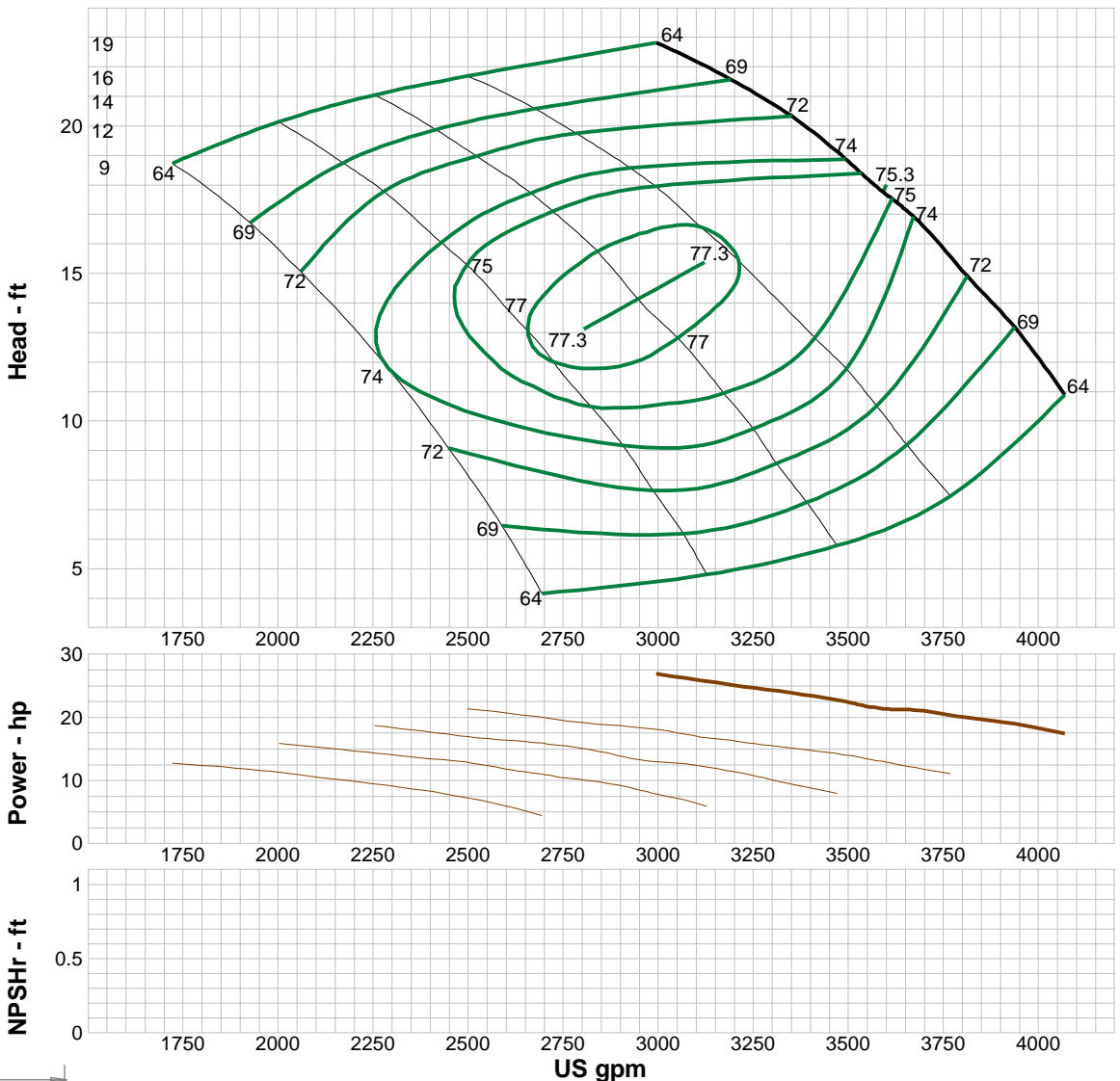
Shutoff head: 25.1 ft
 Shutoff dP: 10.9 psi
 Min flow: 964 US gpm
 BEP: 75.3% @ 3590 US gpm
 NOL power:
 45.2 hp @ 1438 US gpm

-- Max Curve --

Max power:
 45.2 hp @ 1438 US gpm

--Additional Data--

Std. Shaft Diameter: 1 3/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:92
 One Stage Oil Lub. WT-LB:95
 Add Stage WT-LB:48
 Impeller Weight:16 lb
 Min. Submergence:30"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3905	1760	13.6	69.7	19.2	---
3254	1760	21.1	70.2	24.7	---
2603	1760	25.3	54.1	30.4	---
1952	1760	29.4	37.5	36.3	---
1302	1760	33.5	21	42.1	---



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

Name:

Date: 10/17/2017

Pump:

Size: 12PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 1200 rpm
 Curve: ETPBGEH-12
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1160 rpm
 Line: 19
 Impeller: 12PO-1X
 Ns: 13207
 Nss: 4669
 Suction: 24.6 in
 Discharge: ---
 Bowl size: 16.66 in
 Max lateral: 0.38 in
 Thrust K factor: 48 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: 30 hp
 Speed: 1200
 Frame: 326T

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 2.875 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 4382 US gpm
 Head: 10.7 ft
 Eff: 79.3%
 Power: 14.9 hp
 NPSHr: ---

---- Design Curve ----

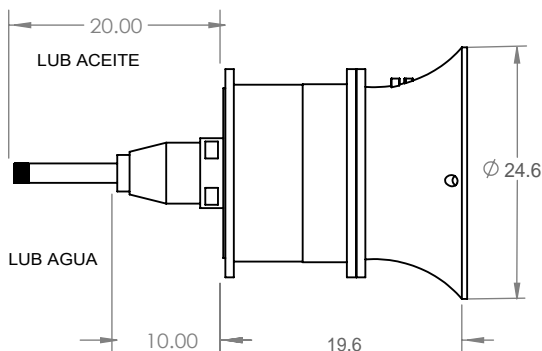
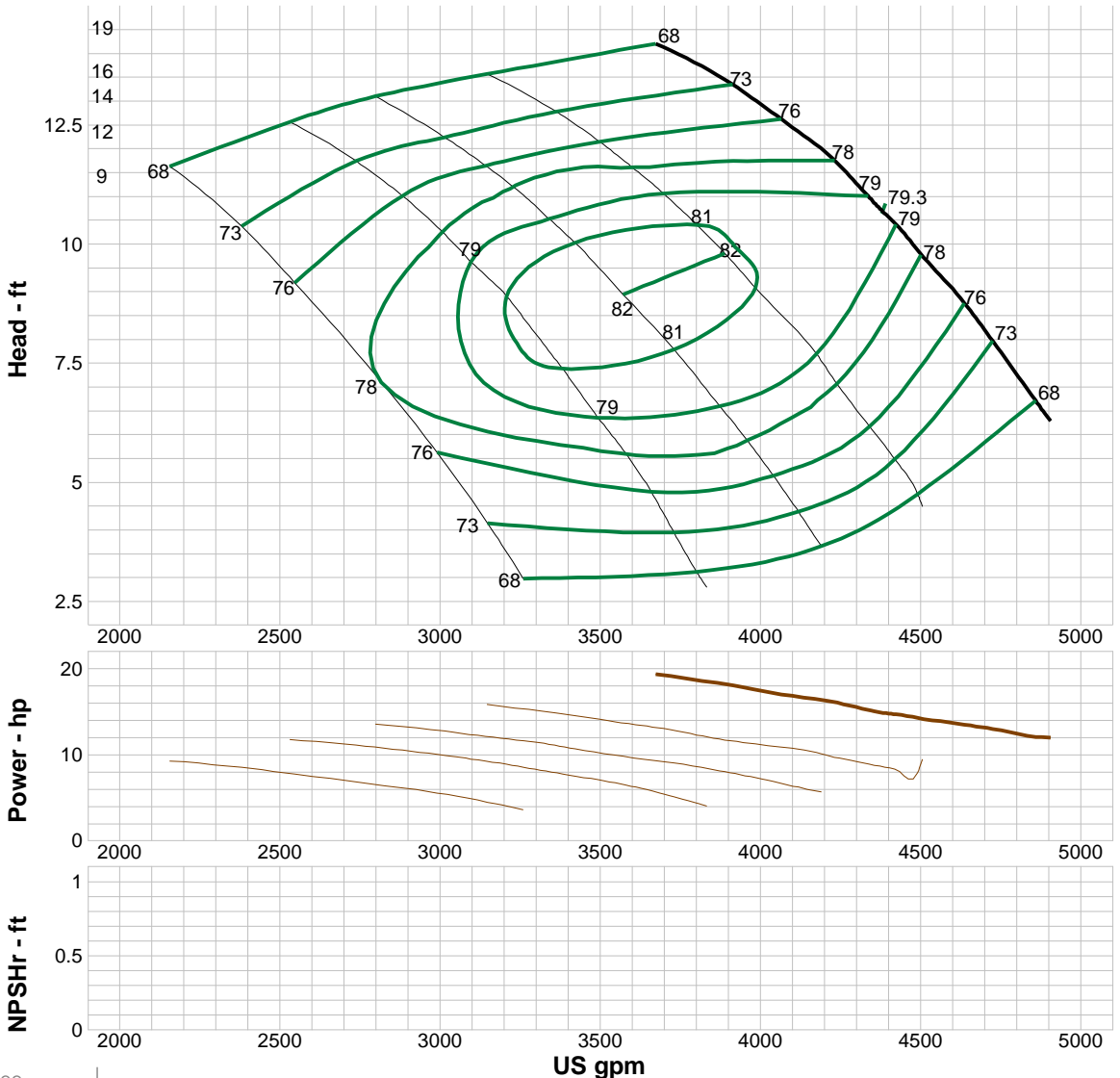
Shutoff head: 15.7 ft
 Shutoff dP: 6.78 psi
 Min flow: 1750 US gpm
 BEP: 79.3% @ 4382 US gpm
 NOL power:
 29.8 hp @ 1750 US gpm

-- Max Curve --

Max power:
 29.8 hp @ 1750 US gpm

--Additional Data--

Std. Shaft Diameter: 1 1/2
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:137
 One Stage Oil Lub. WT-LB:142
 Add Stage WT-LB:76
 Impeller Weight:24 lb
 Min. Submergence:36



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
4709	1160	8.1	73.5	13.1	---
3924	1160	13.3	73.2	18	---
3139	1160	16.1	56.9	22.3	---
2354	1160	18.9	40.6	26.5	---
1570	1160	---	---	---	---



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

Name:

Date: 10/16/2017

Pump:

Size: 14PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 900 rpm
 Curve: ETPBGEJ-90
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 890 rpm
 Line: 19
 Impeller: 14PO-1X
 Ns: 13618
 Nss: 3490
 Suction: 24 in
 Discharge: ---
 Bowl size: 18.95 in
 Max lateral: 0.51 in
 Thrust K factor: 66 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: 900
 Frame: 326T

Pump Limits:

Temperature: 167 °F
 Pressure: 75 psi g
 Sphere size: 3.375 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 5260 US gpm
 Head: 8.73 ft
 Eff: 80.3%
 Power: 14.4 hp
 NPSHr: ---

---- Design Curve ----

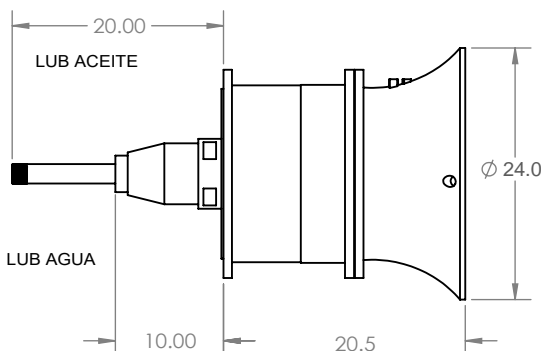
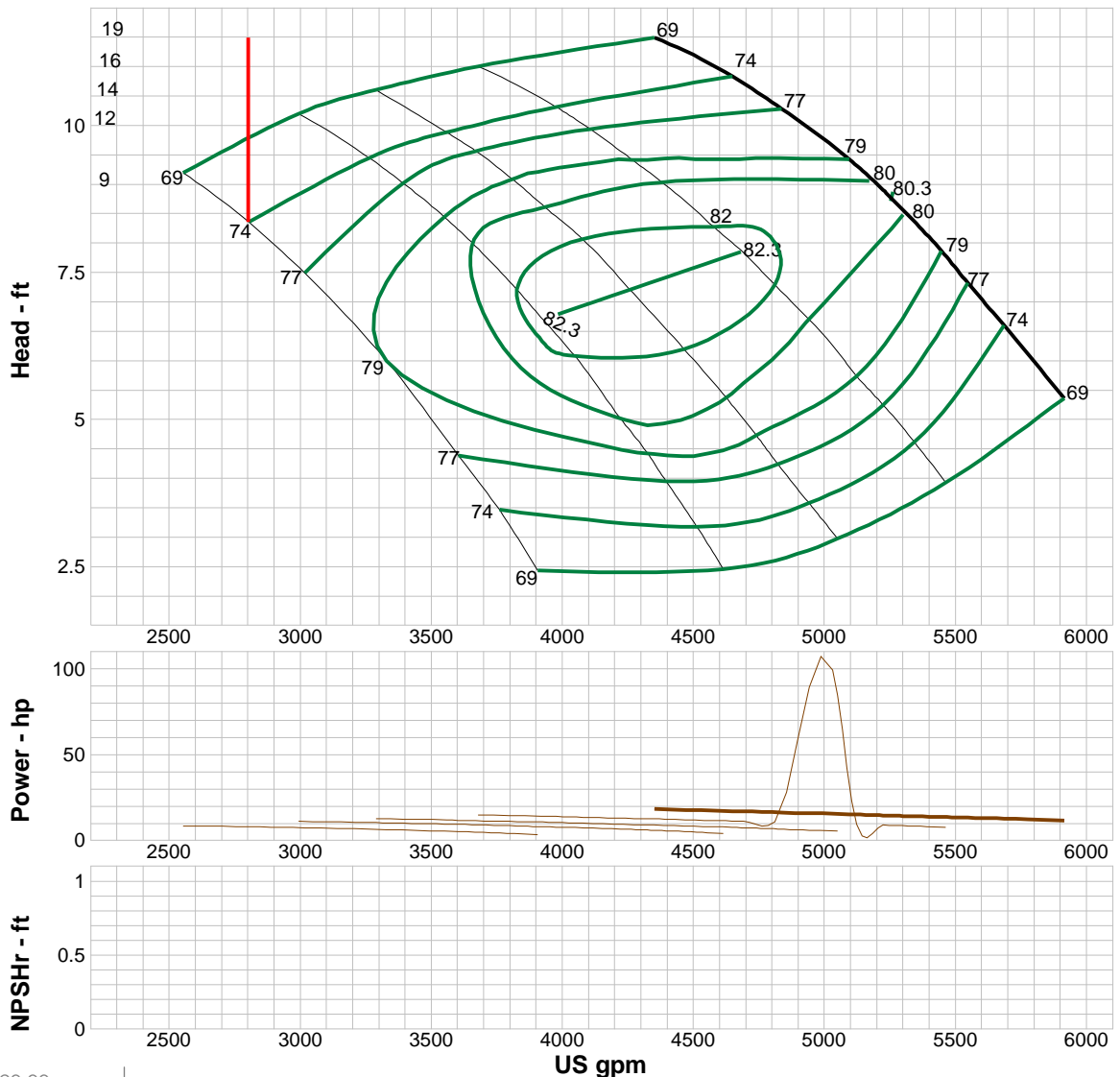
Shutoff head: 12.5 ft
 Shutoff dP: 5.4 psi
 Min flow: 2800 US gpm
 BEP: 80.3% @ 5260 US gpm
 NOL power:
 24.1 hp @ 2088 US gpm

-- Max Curve --

Max power:
 24.1 hp @ 2088 US gpm

--Additional Data--

Std. Shaft Diameter: 1 11/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:178
 One Stage Oil Lub. WT-LB:184
 Add Stage WT-LB:109
 Impeller Weight:40 lb
 Min. Submergence:41



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
5676	890	6.64	74.2	12.8	---
4730	890	10.6	75.3	16.8	---
3784	890	12.7	59.5	20.4	---
2838	890	14.8	43.7	23.9	---
1892	890	---	---	---	---



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

Name:

Date: 10/17/2017

Pump:

Size: 14PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 1200 rpm
 Curve: ETPBGEJ-12
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1170 rpm
 Line: 19
 Impeller: 14PO-1X
 Ns: 13580
 Nss: 5404
 Suction: 24 in
 Discharge: ---
 Bowl size: 18.95 in
 Max lateral: 0.51 in
 Thrust K factor: 66 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: 1200
 Frame: 405T

Pump Limits:

Temperature: 167 °F
 Pressure: 75 psi g
 Sphere size: 3.375 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 6915 US gpm
 Head: 15.1 ft
 Eff: 80.3%
 Power: 32.8 hp
 NPSHr: ---

---- Design Curve ----

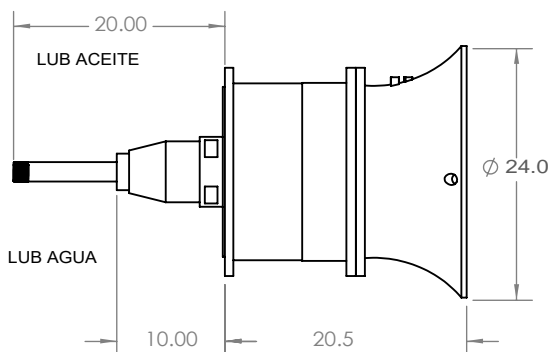
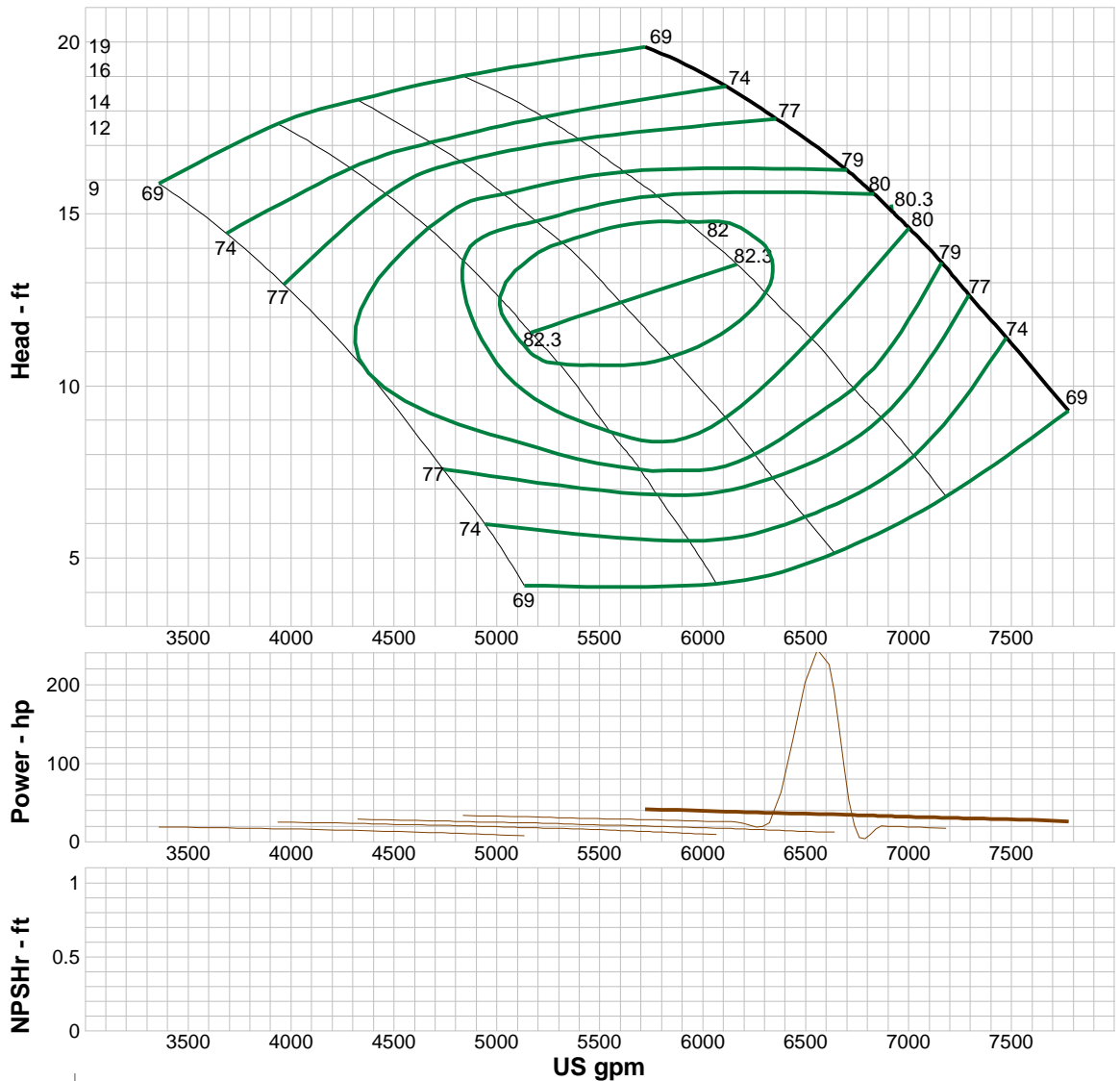
Shutoff head: 21.6 ft
 Shutoff dP: 9.33 psi
 Min flow: 2800 US gpm
 BEP: 80.3% @ 6915 US gpm
 NOL power:
 60.4 hp @ 2800 US gpm

-- Max Curve --

Max power:
 60.4 hp @ 2800 US gpm

--Additional Data--

Std. Shaft Diameter: 1 11/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB: 178
 One Stage Oil Lub. WT-LB: 184
 Add Stage WT-LB: 109
 Impeller Weight: 40 lb
 Min. Submergence: 41



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
7462	1170	11.5	74.2	29.1	---
6218	1170	18.3	75.3	38.2	---
4974	1170	22	59.5	46.4	---
3731	1170	25.6	43.7	54.4	---
2487	1170	---	---	---	---



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

Name:

Date: 10/17/2017

Pump:

Size: 16PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 900 rpm
 Curve: ETPBGEL-90
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 880 rpm
 Line: 19
 Impeller: 16PO-1X
 Ns: 13365
 Nss:3944
 Suction: 25.25 in
 Discharge: ---
 Bowl size: 20.9 in
 Max lateral: ---
 Thrust K factor: 86 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: 900
 Frame: 404T

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 4 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 7786 US gpm
 Head: 11.4 ft
 Eff: 81.3%
 Power: 27.5 hp
 NPSHr: ---

---- Design Curve ----

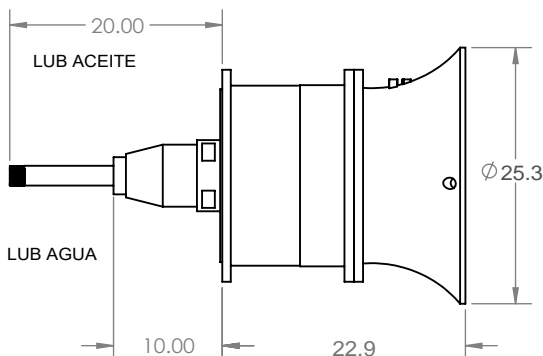
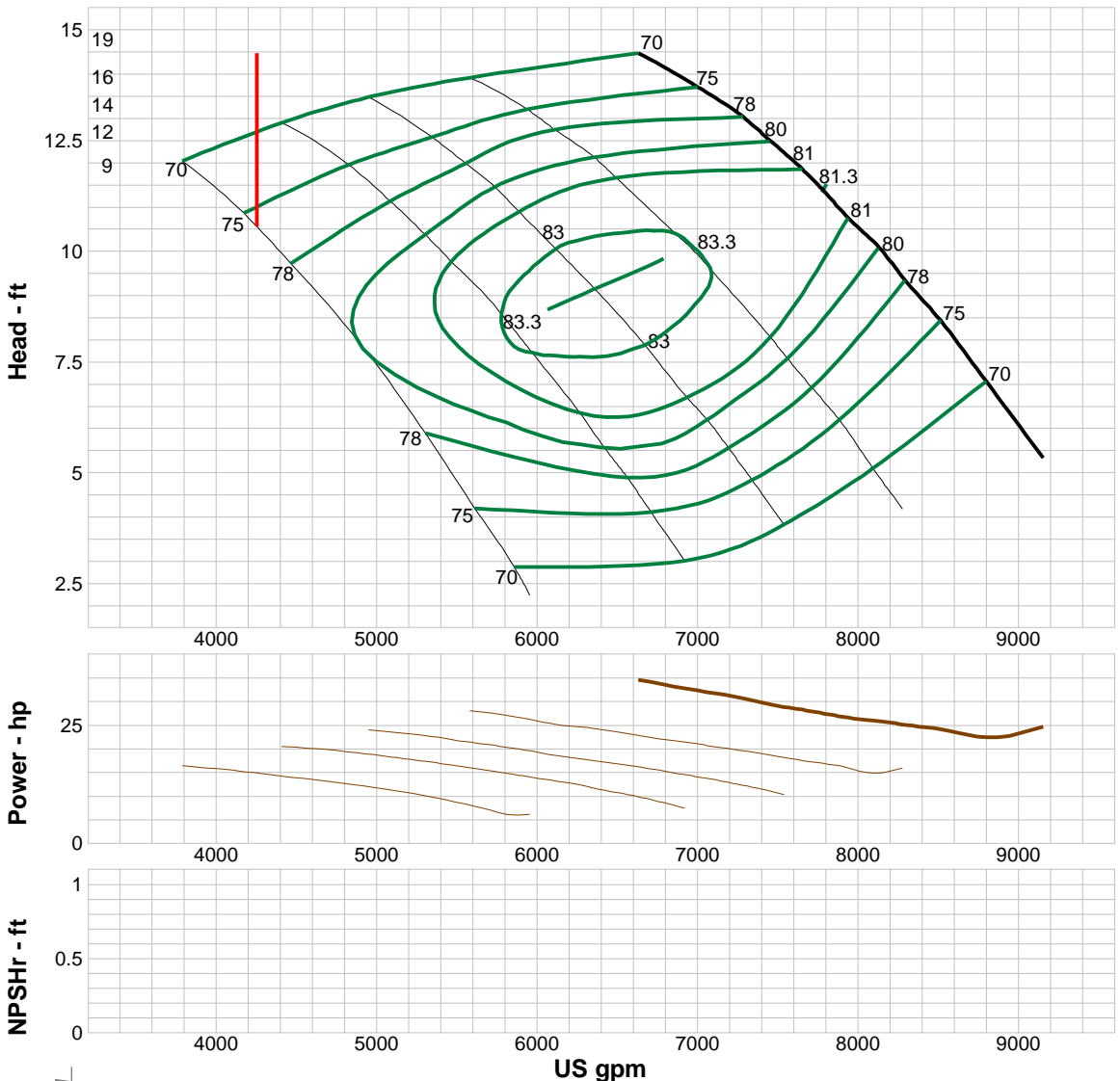
Shutoff head: 16.7 ft
 Shutoff dP: 7.23 psi
 Min flow: 4250 US gpm
 BEP: 81.3% @ 7786 US gpm
 NOL power:
 49.5 hp @ 3169 US gpm

-- Max Curve --

Max power:
 49.5 hp @ 3169 US gpm

--Additional Data--

Std. Shaft Diameter:1 11/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:216
 One Stage Oil Lub. WT-LB:222
 Add Stage WT-LB:127
 Impeller Weight:59 lb
 Min. Submergence:46



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
8786	880	7.12	70.2	22.5	---
7322	880	12.9	78.5	30.4	---
5858	880	16.1	59.6	39.4	---
4393	880	19.1	39.8	48.6	---
2929	880	---	---	---	---



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

Name:

Date: 10/17/2017

Pump:

Size: 16PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 1200 rpm
 Curve: ETPBGEL-12
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 1180 rpm
 Line: 19
 Impeller: 16PO-1X
 Ns: 13442
 Nss: 6159
 Suction: 25.25 in
 Discharge: ---
 Bowl size: 20.9 in
 Max lateral: ---
 Thrust K factor: 86 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: 150 hp
 Speed: 1200
 Frame: 447T

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 4 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 10441 US gpm
 Head: 20.4 ft
 Eff: 81.3%
 Power: 66.2 hp
 NPSHr: ---

---- Design Curve ----

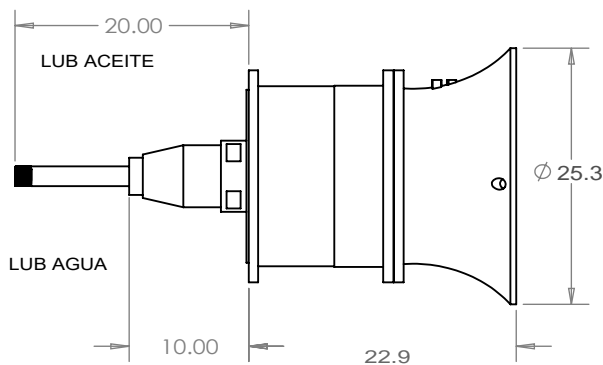
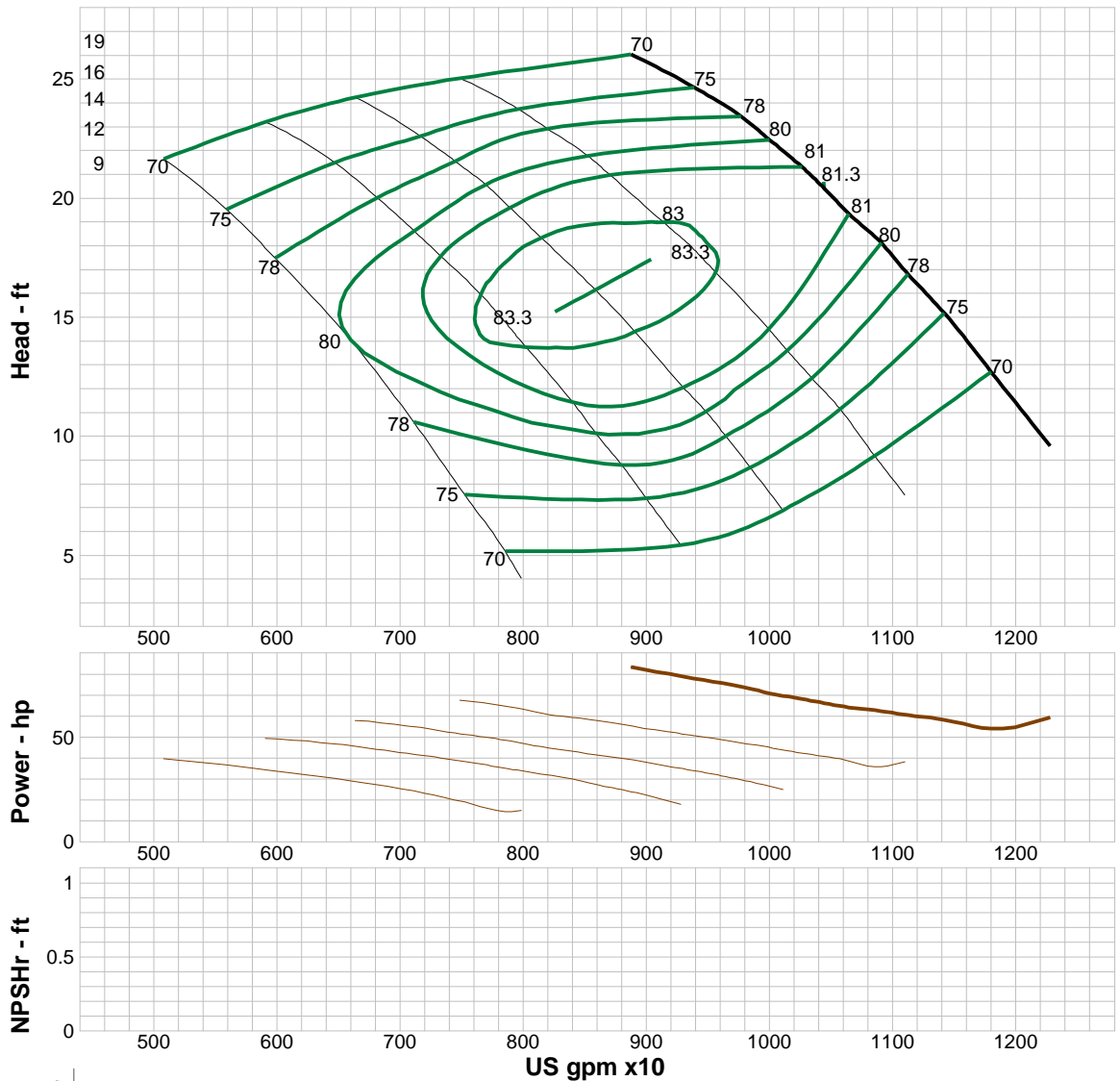
Shutoff head: 30 ft
 Shutoff dP: 13 psi
 Min flow: 4250 US gpm
 BEP: 81.3% @ 10441 US gpm
 NOL power:
 132 hp @ 4250 US gpm

-- Max Curve --

Max power:
 132 hp @ 4250 US gpm

--Additional Data--

Std. Shaft Diameter: 1 11/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:216
 One Stage Oil Lub. WT-LB:222
 Add Stage WT-LB:127
 Impeller Weight:59 lb
 Min. Submergence:46"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
11783	1180	12.8	70.2	54.2	---
9819	1180	23.2	78.5	73.3	---
7855	1180	28.8	60.1	94	---
5891	1180	34	40.9	115	---
3928	1180	---	---	---	---



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

Name:

Date: 10/17/2017

Pump:

Size: 20PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 600 rpm
 Curve: ETPBGEO-60
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 590 rpm
 Line: 19
 Impeller: 20PO-1X
 Ns: 13051
 Nss:2515
 Suction: 32 in
 Discharge:---
 Bowl size: 25.75 in
 Max lateral: 0.198 in
 Thrust K factor: 135 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: ---
 Enclosure: ---
 Sizing criteria: Max Power on Design Curve

 Speed: ---
 Frame: ---

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 4.875 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 9994 US gpm
 Head: 8.04 ft
 Eff: 81.3%
 Power: 25 hp
 NPSHr: ---

---- Design Curve ----

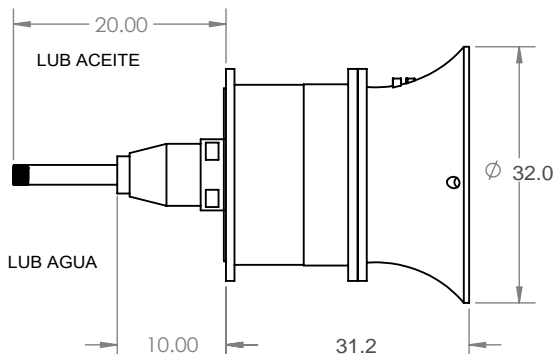
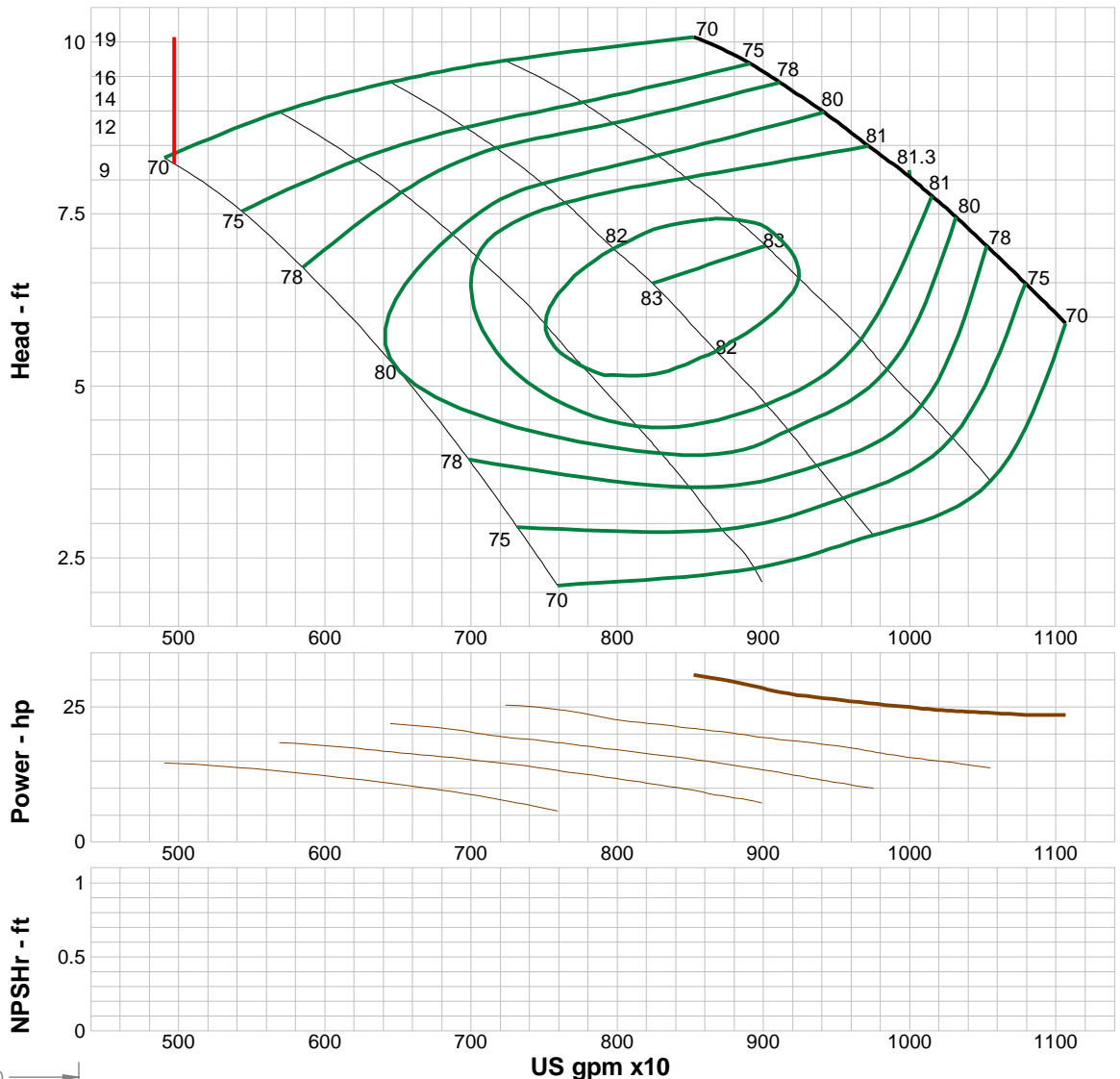
Shutoff head: 10.8 ft
 Shutoff dP: 4.68 psi
 Min flow: 4967 US gpm
 BEP: 81.3% @ 9994 US gpm
 NOL power:
 48.6 hp @ 4187 US gpm

-- Max Curve --

Max power:
 48.6 hp @ 4187 US gpm

--Additional Data--

Std. Shaft Diameter:1 15/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:400
 One Stage Oil Lub. WT-LB:407
 Add Stage WT-LB:246
 Impeller Weight:97 lb
 Min. Submergence:59



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
10621	590	6.83	76.9	23.8	---
8851	590	9.74	74.3	29.3	---
7081	590	11.5	51.5	38.1	---
5311	590	13.3	28.6	46.9	---
3540	590	---	---	---	---



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

Name:

Date: 10/19/2017

Pump:

Size: 20PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 700 rpm
 Curve: ETPBGEO-70
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 700 rpm
 Line: 19
 Impeller: 20PO-1X
 Ns: 13162
 Nss: 3277
 Suction: 32 in
 Discharge: ---
 Bowl size: 25.75 in
 Max lateral: 0.198 in
 Thrust K factor: 135 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: ---
 Enclosure: ---
 Sizing criteria: Max Power on Design Curve

 Speed: ---
 Frame: ---

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 4.875 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 12039 US gpm
 Head: 11 ft
 Eff: 81.3%
 Power: 41 hp
 NPSHr: ---

---- Design Curve ----

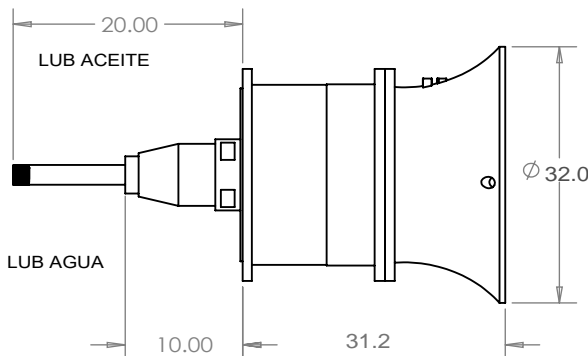
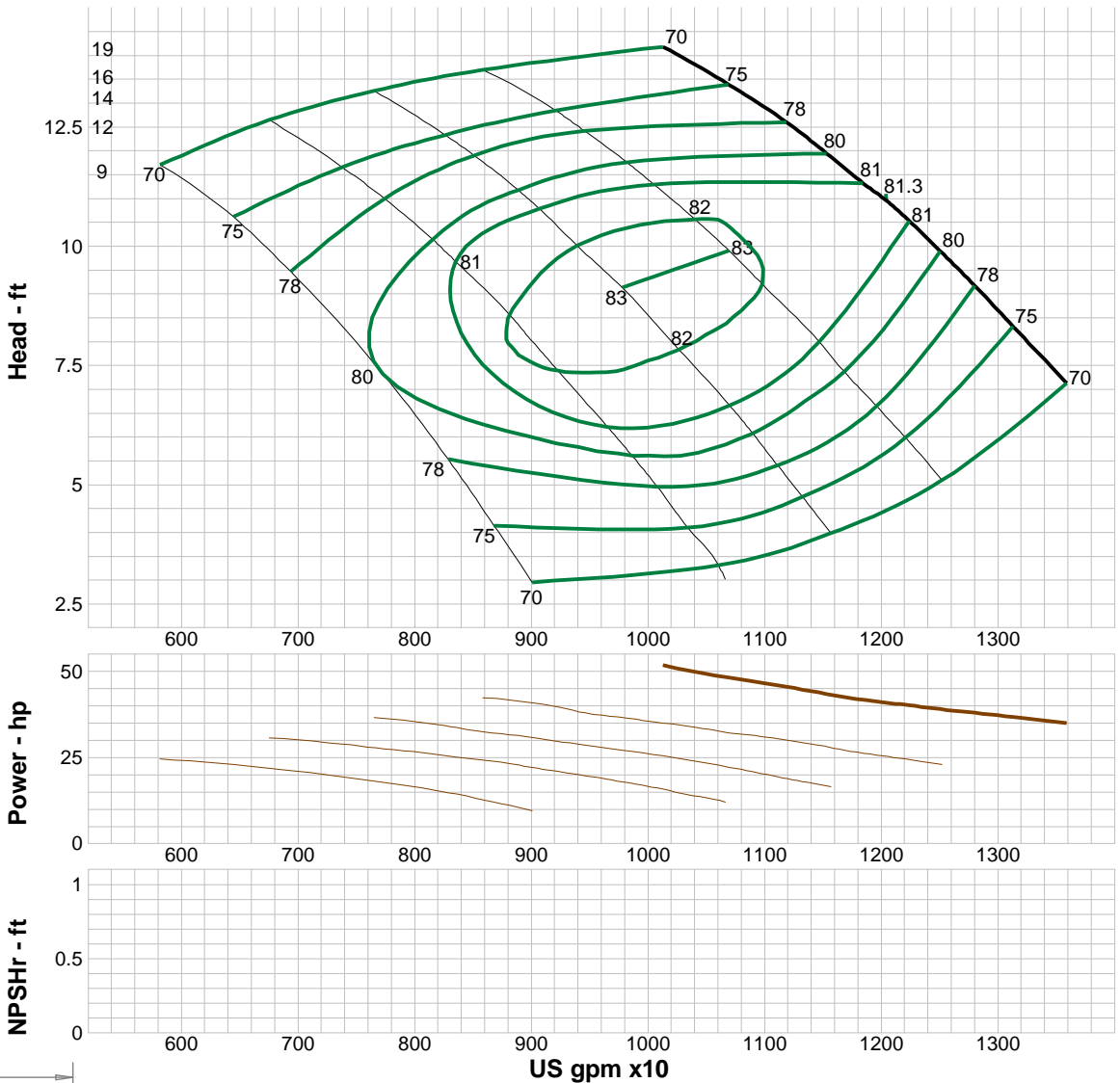
Shutoff head: 15 ft
 Shutoff dP: 6.47 psi
 Min flow: 4967 US gpm
 BEP: 81.3% @ 12039 US gpm
 NOL power:
 84.9 hp @ 4967 US gpm

-- Max Curve --

Max power:
 84.9 hp @ 4967 US gpm

--Additional Data--

Std. Shaft Diameter: 1 15/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:400
 One Stage Oil Lub. WT-LB:407
 Add Stage WT-LB:246
 Impeller Weight:97 lb
 Min. Submergence:59"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
13044	700	8.53	75.7	37.1	---
10870	700	13.1	76.1	47.2	---
8696	700	16.2	57.3	61	---
6522	700	19.2	38	74.9	---
4348	700	---	---	---	---



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

Name:

Date: 10/16/2017

Pump:

Size: 20PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 900 rpm
 Curve: ETPBGEO-90
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 900 rpm
 Line: 19
 Impeller: 20PO-1X
 Ns: 13256
 Nss:4603
 Suction: 32 in
 Discharge: ---
 Bowl size: 25.75 in
 Max lateral: 0.198 in
 Thrust K factor: 135 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: 200 hp
 Speed: 900
 Frame: 449T

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 4.875 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 15479 US gpm
 Head: 18.1 ft
 Eff: 81.3%
 Power: 87.1 hp
 NPSHr: ---

---- Design Curve ----

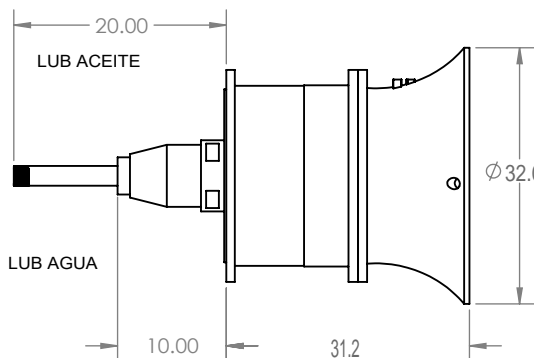
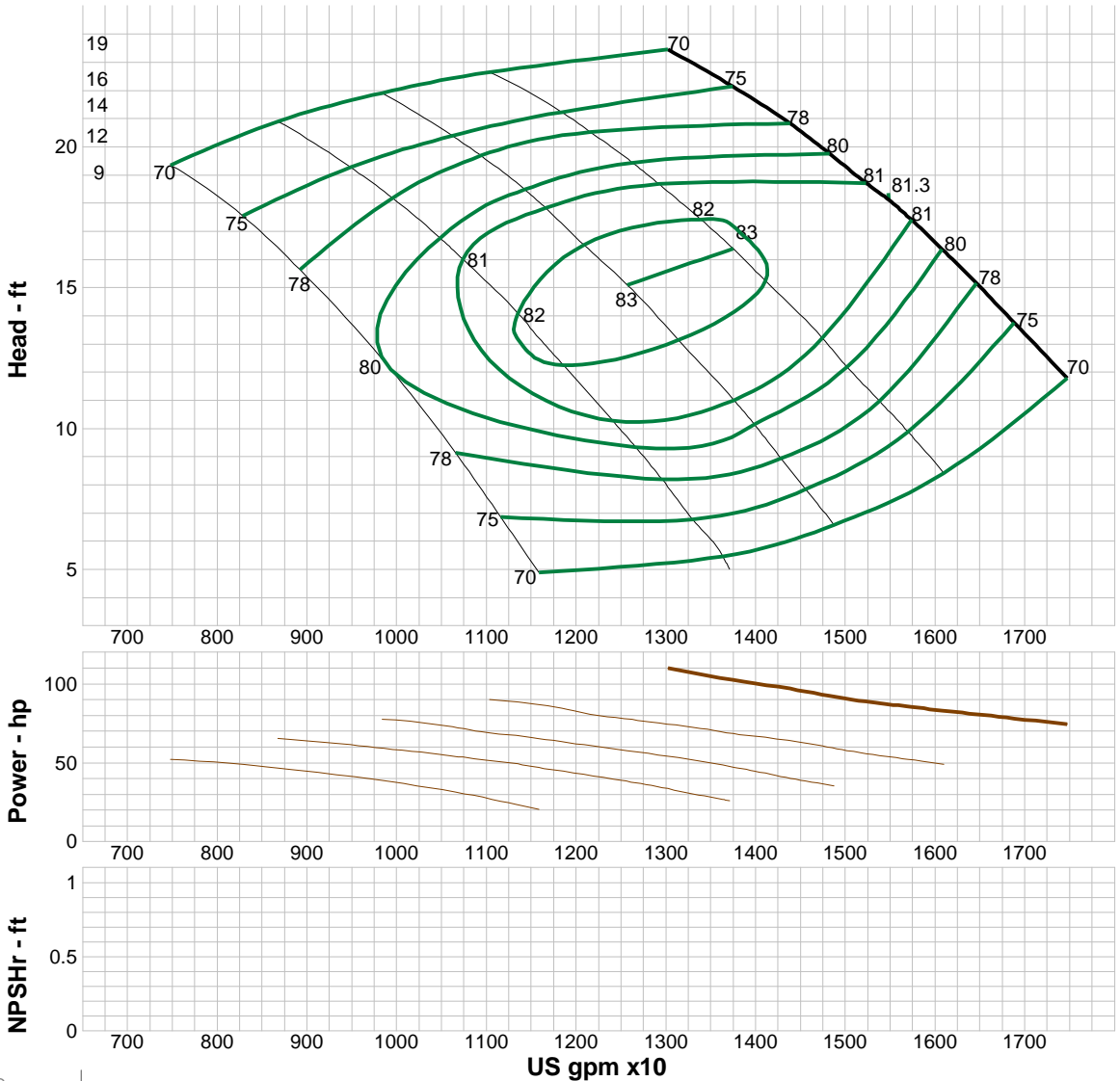
Shutoff head: 24.7 ft
 Shutoff dP: 10.7 psi
 Min flow: 4967 US gpm
 BEP: 81.3% @ 15479 US gpm
 NOL power:
 196 hp @ 6200US gpm

-- Max Curve --

Max power:
 196 hp @ 6200 US gpm

--Additional Data--

Std. Shaft Diameter: 1 15/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:400
 One Stage Oil Lub. WT-LB:407
 Add Stage WT-LB:246
 Impeller Weight:97 lb
 Min. Submergence:59"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
16770	900	14.1	75.8	78.8	---
13975	900	21.7	76.1	100	---
11180	900	26.8	57.3	130	---
8385	900	31.8	38	159	---
5590	900	36.8	18.6	189	---



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

Name:

Date: 10/17/2017

Pump:

Size: 24PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 600 rpm
 Curve: ETPBGES-60
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 590 rpm
 Line: 19
 Impeller: 24PO-1X
 Ns: 13529
 Nss:2808
 Suction: 42 in
 Discharge: ---
 Bowl size: 42 in
 Max lateral: ---
 Thrust K factor: 194 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: ---
 Enclosure: ---
 Sizing criteria: Max Power on Design Curve

 Speed: ---
 Frame: ---

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 5.875 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 17577 US gpm
 Head: 11.2 ft
 Eff: 81.3%
 Power: 61.2 hp
 NPSHr: ---

---- Design Curve ----

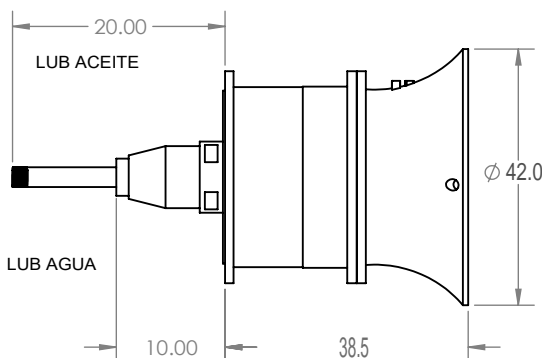
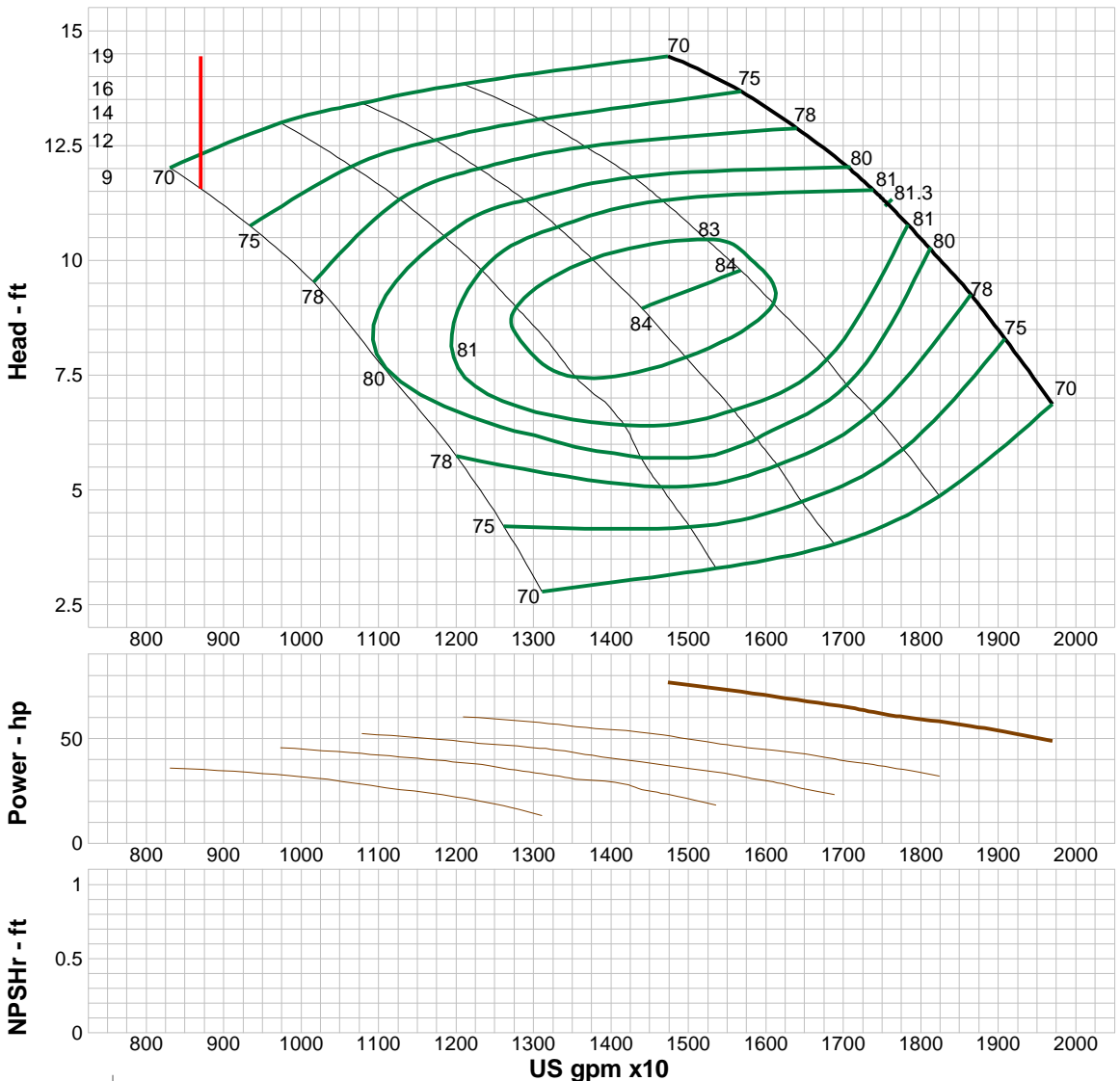
Shutoff head: 15.5 ft
 Shutoff dP: 6.72 psi
 Min flow: 8700 US gpm
 BEP: 81.3% @ 17577 US gpm
 NOL power:
 106 hp @ 7333 US gpm

-- Max Curve --

Max power:
 106 hp @ 7333 US gpm

--Additional Data--

Std. Shaft Diameter: 2 3/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:617
 One Stage Oil Lub. WT-LB:626
 Add Stage WT-LB:469
 Impeller Weight:226 lb
 Min. Submergence:74"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
18905	590	8.67	76.2	54.3	---
15754	590	13.6	75.3	71.7	---
12603	590	16.2	58.7	87.2	---
9452	590	18.8	42	103	---
6302	590	---	---	---	---



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

Name:

Date: 10/17/2017

Pump:

Size: 24PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 700 rpm
 Curve: ETPBGES-70
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 700 rpm
 Line: 19
 Impeller: 24PO-1X
 Ns: 13645
 Nss: 3660
 Suction: 42 in
 Discharge: ---
 Bowl size: 42 in
 Max lateral: ---
 Thrust K factor: 194 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: ---
 Enclosure: ---
 Sizing criteria: Max Power on Design Curve

 Speed: ---
 Frame: ---

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 5.875 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 17577 US gpm
 Head: 11.2 ft
 Eff: 81.3%
 Power: 61.2 hp
 NPSHr: ---

---- Design Curve ----

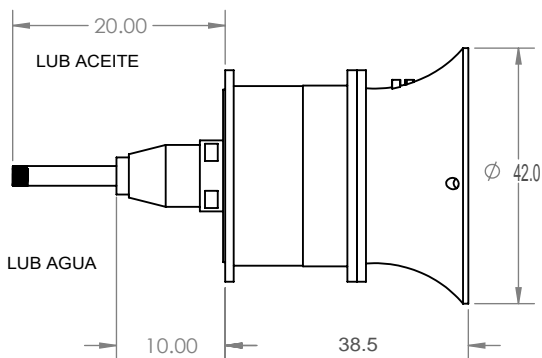
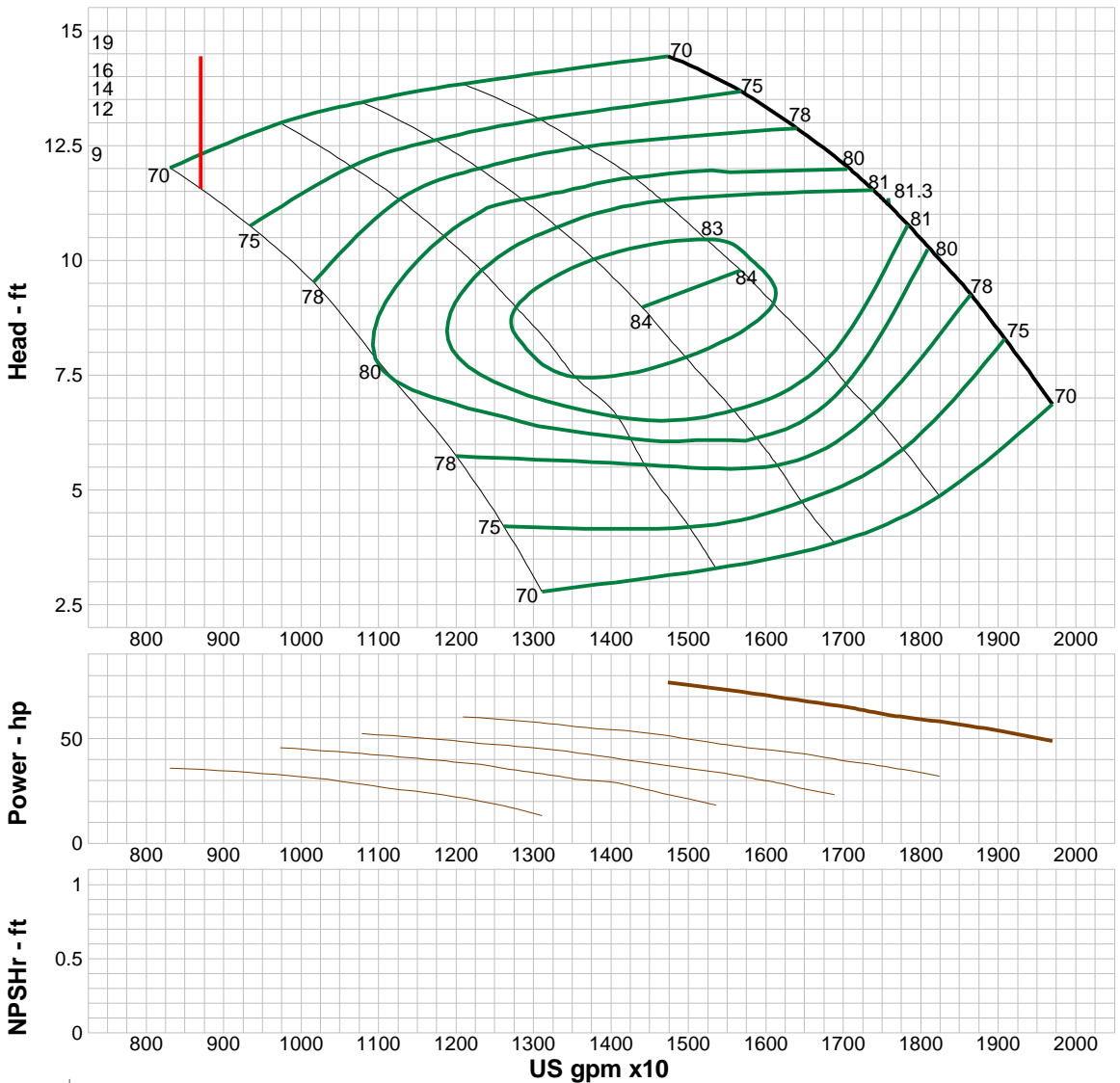
Shutoff head: 15.5 ft
 Shutoff dP: 6.72 psi
 Min flow: 8700 US gpm
 BEP: 81.3% @ 17577 US gpm
 NOL power:
 106 hp @ 8700 US gpm

-- Max Curve --

Max power:
 106 hp @ 8700 US gpm

--Additional Data--

Std. Shaft Diameter: 1 11/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB: 617
 One Stage Oil Lub. WT-LB: 626
 Add Stage WT-LB: 469
 Impeller Weight: 226 lb
 Min. Submergence: 74"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
18905	700	8.67	76.2	54.3	---
15754	700	13.6	75.3	71.7	---
12603	700	16.2	58.7	87.2	---
9452	700	18.8	42	103	---
6302	700	---	---	---	---



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

Name:

Date: 10/19/2017

Pump:

Size: 30PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 514 rpm
 Curve: ETPBGEA-50
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 500 rpm
 Line: 19
 Impeller: 30PO-1X
 Ns: 13120
 Nss: 2779
 Suction: 50 in
 Discharge: ---
 Bowl size: -- in
 Max lateral: 0.3 in
 Thrust K factor: 304 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: ---
 Enclosure: ---
 Sizing criteria: Max Power on Design Curve

 Speed: ---
 Frame: ---

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 7.25 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 29958 US gpm
 Head: 13.1 ft
 Eff: 81.3%
 Power: 122 hp
 NPSHr: ---

---- Design Curve ----

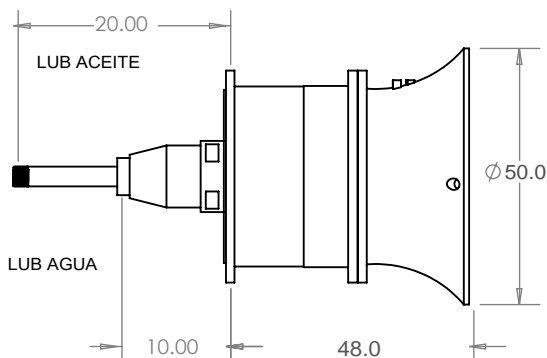
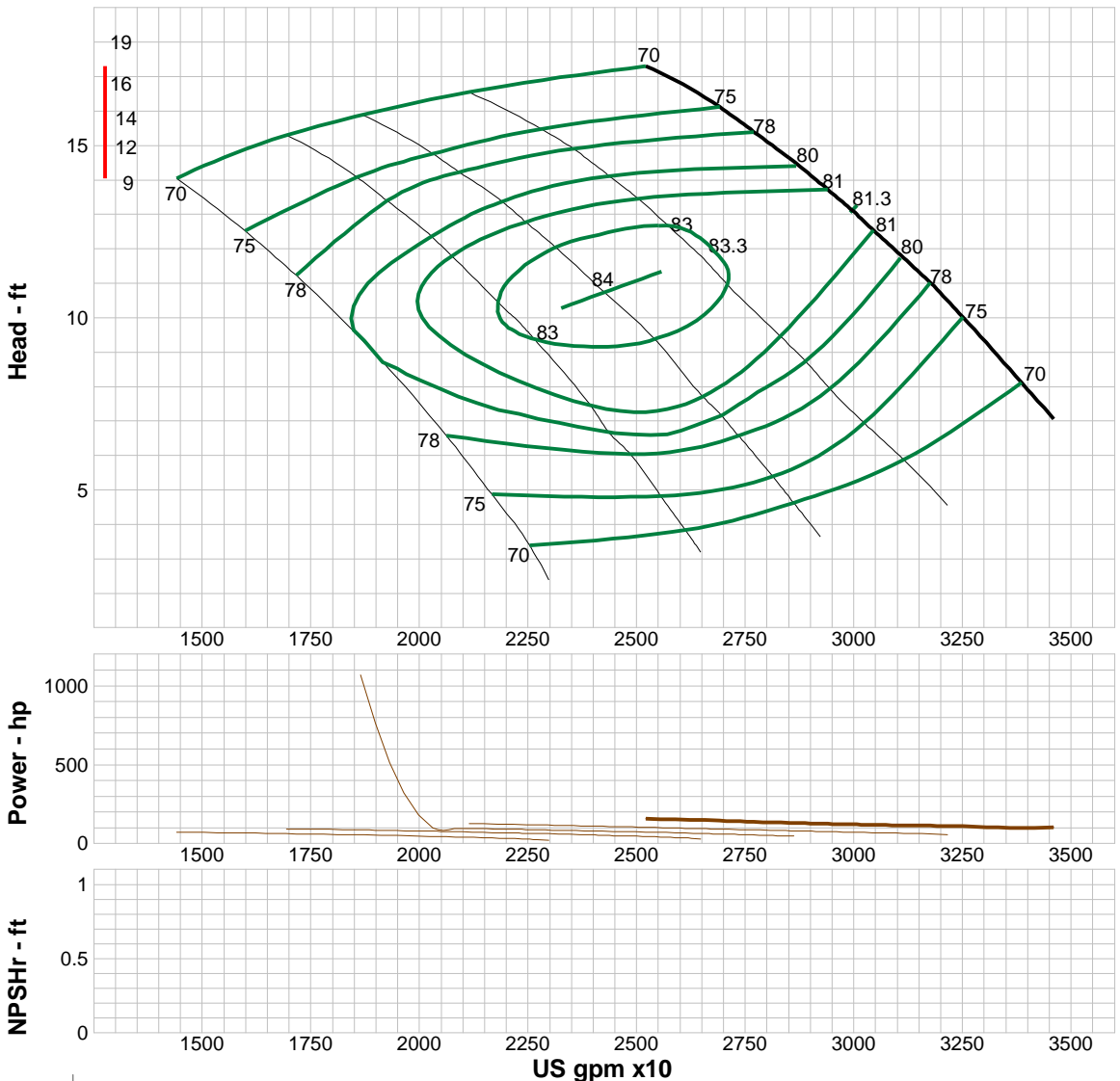
Shutoff head: 18.2 ft
 Shutoff dP: 7.87 psi
 Min flow: 12752 US gpm
 BEP: 81.3% @ 29958 US gpm
 NOL power:
 239 hp @ 12752 US gpm

-- Max Curve --

Max power:
 239 hp @ 12752 US gpm

--Additional Data--

Std. Shaft Diameter: 2 3/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:1111
 One Stage Oil Lub. WT-LB:1121
 Add Stage WT-LB:862
 Impeller Weight:351 lb
 Min. Submergence:88"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
33208	514	9.02	72.4	104	---
27673	514	15.4	78	138	---
22138	514	19.4	61	177	---
16604	514	23.3	44.8	214	---
11069	514	---	---	---	---

Selected from catalog: LINEA PO.60.19.10..backup.backup Vers: 1



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

Name:

Date: 10/19/2017

Pump:

Size: 30PO-1X (1 stage)
 Type: LINEA PO
 Synch speed: 600 rpm
 Curve: ETPBGEA-60
 Specific Speeds:
 Dimensions:
 Vertical Turbine:
 Speed: 590 rpm
 Line: 19
 Impeller: 30PO-1X
 Ns: 13120
 Nss: 3562
 Suction: 50 in
 Discharge: ---
 Bowl size: -- in
 Max lateral: 0.3 in
 Thrust K factor: 304 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: ---
 Enclosure: ---
 Sizing criteria: Max Power on Design Curve

 Speed: ---
 Frame: ---

Pump Limits:

Temperature: 167 °F
 Pressure: 70 psi g
 Sphere size: 7.25 in
 Power: ---
 Eye area: ---

---- Data Point ----

Flow: 34387 US gpm
 Head: 17.3 ft
 Eff: 81.3%
 Power: 185 hp
 NPSHr: ---

---- Design Curve ----

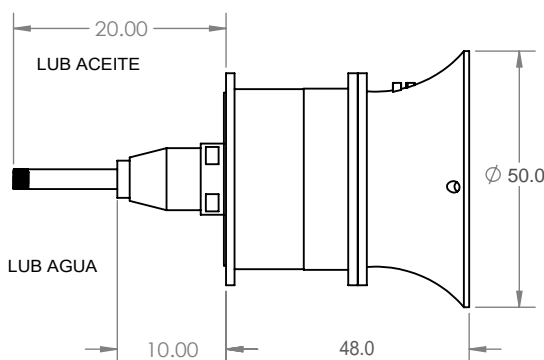
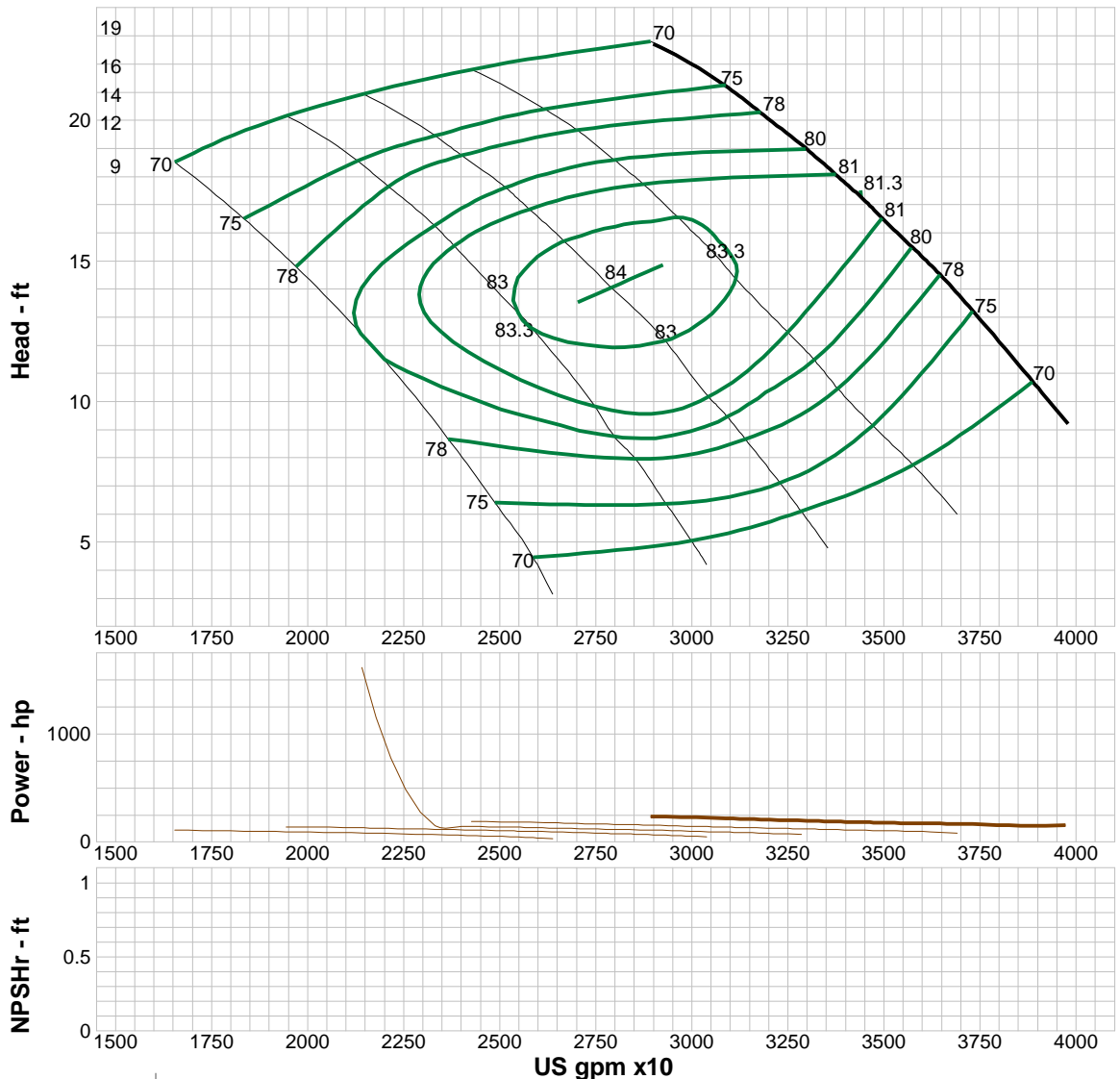
Shutoff head: 24 ft
 Shutoff dP: 10.4 psi
 Min flow: 12752 US gpm
 BEP: 81.3% @ 34387 US gpm
 NOL power:
 378 hp @ 15048 US gpm

-- Max Curve --

Max power:
 378 hp @ 15048 US gpm

--Additional Data--

Std. Shaft Diameter: 2 3/16
 Max. Shaft Diameter: C.F.
 Opt. Lateral Setting:
 Std. Lateral:
 One Stage Subm. WT-LB:
 One Stage Water Lub. WT-LB:1111
 One Stage Oil Lub. WT-LB:1121
 Add Stage WT-LB:862
 Impeller Weight:351 lb
 Min. Submergence:88"



Performance Evaluation:

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
38118	590	11.9	72.4	158	---
31765	590	20.3	78	209	---
25412	590	25.6	61	268	---
19059	590	30.6	44.8	324	---
12706	590	---	---	---	---