



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

Name:

Date: 11/6/2017

**Pump:**

Size: 6MFX 1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve: ETTBDEB  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:

Speed: 1760 rpm  
 Dia: -1.#IND in  
 Impeller: 6MFX 1A  
 Ns: 8676  
 Nss: 41062  
 Suction: 7.72 in  
 Discharge: 7.72 in  
 Bowl size: 7.7 in  
 Max lateral: ---  
 Thrust K factor: 11 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

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 321 psi g  
 Sphere size: 1 in

Power: ---  
 Eye area: ---

**---- Data Point ----**

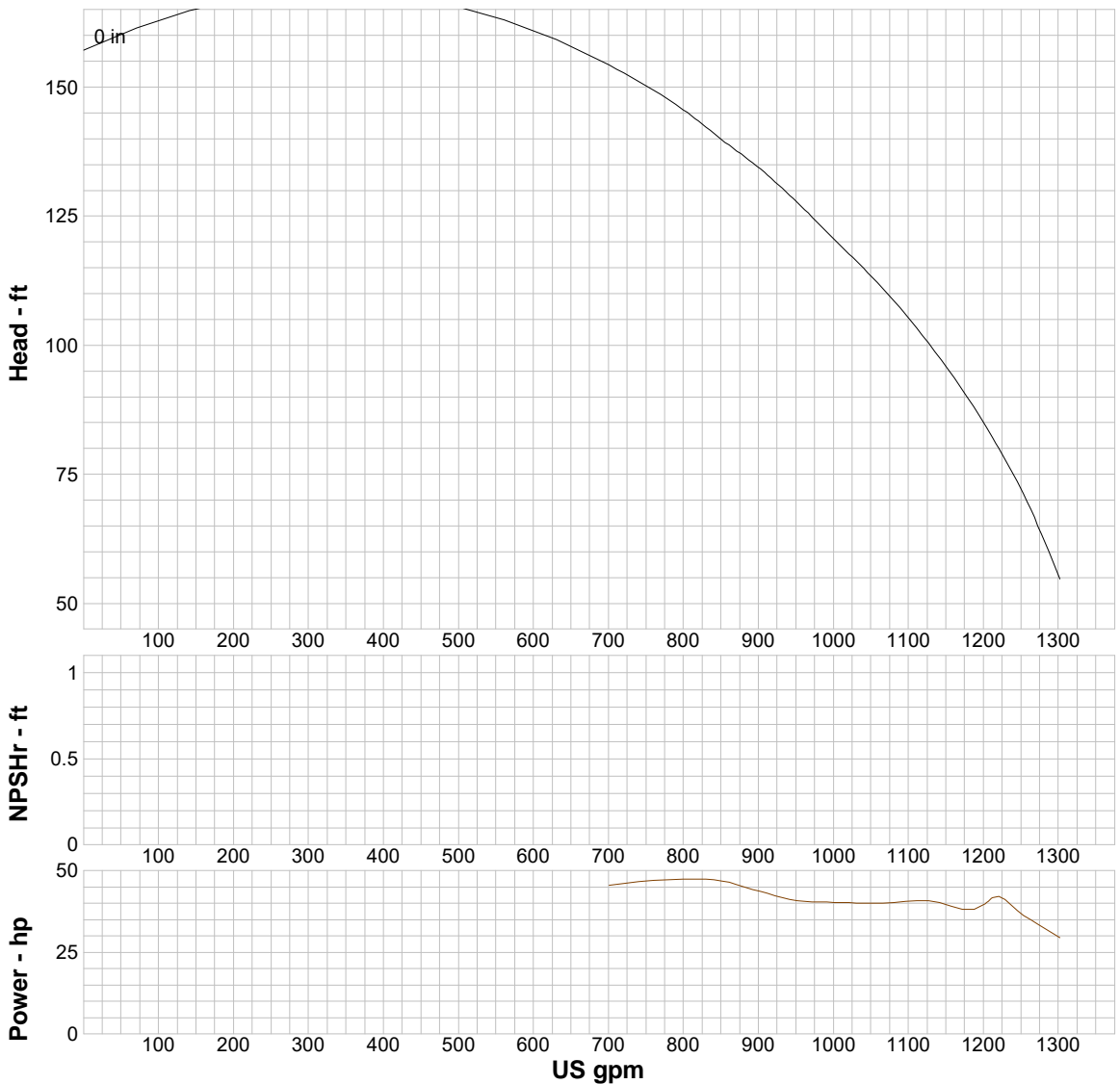
Flow: 799 US gpm  
 Head: ---  
 Eff: --- %  
 Power: ---  
 NPSHr: ---

**---- Design Curve ----**

Shutoff head: 0 ft  
 Shutoff dP: 0 psi  
 Min flow: 450 US gpm  
 BEP: --- %  
 NOL power: ---

**--Additional Data--**

Std. Shaft Diameter: 1 3/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: 0.5  
 One Stage Water Lub. WT-LB: 117.7  
 One Stage Oil Lub. WT-LB: 128.4  
 Add Stage WT-LB: 53  
 Impeller Weight: 8.9  
 Min. Submergence: 15 "



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
0	1760	---	---	---	---
0	1760	---	---	---	---
0	1760	---	---	---	---
0	1760	---	---	---	---
0	1760	---	---	---	---



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

Name:

Date: 9/28/2017

**Pump:**

Size: 8MFW  
 Type: LINE MFX Speed: 1760 rpm  
 Synch speed: 1800 rpm Dia: 5.44 in  
 Curve: Impeller: 8MFW-1A  
 Specific Speeds: Ns: 6305  
 Nss: 5208  
 Dimensions: Suction: 12  
 Discharge: ---  
 Vertical Turbine: Bowl size: 12 in  
 Max lateral: ---  
 Thrust K factor: 14 lb/ft

**Pump Limits:**

Temperature: 167 °F Power: ---  
 Pressure: --- Eye area: ---  
 Sphere size: 1.3

**Search Criteria:**

Flow: --- Head: ---

**Fluid:**

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

**Motor:**

Standard: NEMA Size: 15 hp  
 Enclosure: TEFC Speed: 1800  
 Frame: 254T  
 Sizing criteria: Max Power on Design Curve

**---- Data Point ----**

Flow: 1270 US gpm  
 Head: 21.4 ft  
 Eff: 81.5%  
 Power: 8.42 hp  
 NPSHr: 27.6 ft

**---- Design Curve ----**

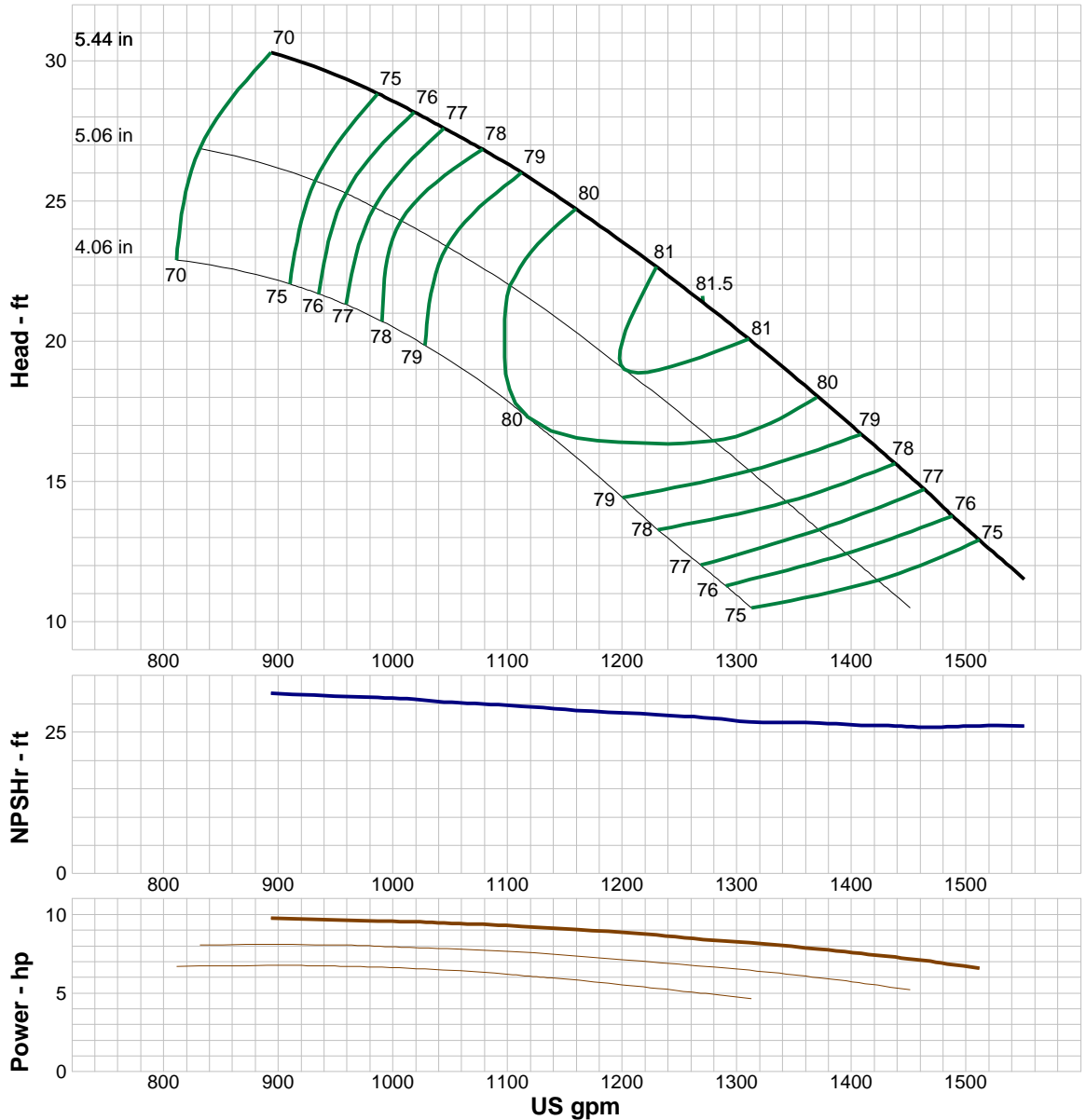
Shutoff head: 33 ft  
 Shutoff dP: 14.3 psi  
 Min flow: 572 US gpm  
 BEP: 81.5% @ 1270 US gpm  
 NOL power:  
 10.4 hp @ 572 US gpm

**-- Max Curve --**

Max power:  
 10.4 hp @ 572 US gpm

**--Additional Data--**

Std. Shaft Diameter:1  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:88.4  
 One Stage Oil Lub. WT-LB:90.6  
 Add Stage WT-LB:76.8  
 Impeller Weight:N/A  
 Min. Submergence:15 "



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
1488	1760	13.8	76	6.81	26
1240	1760	22.3	81.1	8.62	28
992	1760	28.7	75.2	9.57	31.1
744	1760	32.6	62	10.1	33
496	1760	---	---	---	---



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

Name:

Date: 9/19/2017

**Pump:**

Size: 8MFX 1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve: ETTBDED  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1760 rpm  
 Line: 37°  
 Impeller: 8MFX 1A  
 Ns: 7252  
 Nss: 68588  
 Suction: 14 in  
 Discharge: ---  
 Bowl size: 12 in  
 Max lateral: ---  
 Thrust K factor: 17.6 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: 1800  
 Frame: 284T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 100 psi g  
 Sphere size: 1.5  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 2499 US gpm  
 Head: 25.6 ft  
 Eff: 80%  
 Power: 20.2 hp  
 NPSHr: ---

**---- Design Curve ----**

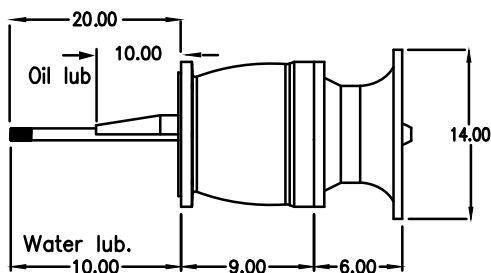
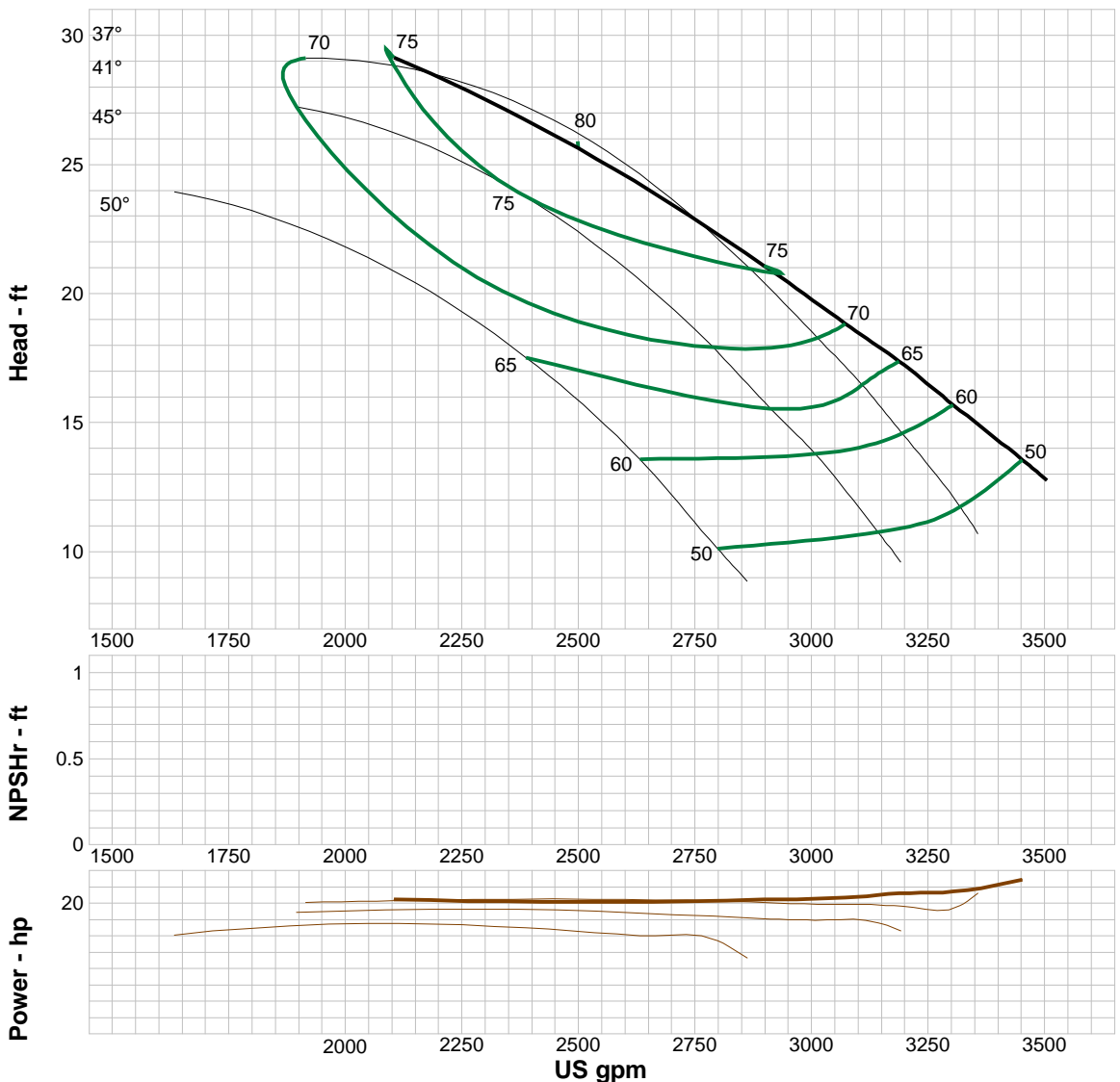
Shutoff head: 31.9 ft  
 Shutoff dP: 13.8 psi  
 Min flow: 1256 US gpm  
 BEP: 80% @ 2499 US gpm  
 NOL power:  
 24.1 hp @ 3491 US gpm

**-- Max Curve --**

Max power:  
 24.1 hp @ 3491 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: 0.5  
 One Stage Water Lub. WT-LB: 143  
 One Stage Oil Lub. WT-LB: 152.9  
 Add Stage WT-LB: 105.3  
 Impeller Weight: 10.6 lb  
 Min. Submergence: 15"



PARA PASOS ADICIONALES SUMAR 3.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3364	1760	14.8	55.9	22.6	---
2803	1760	22.2	76.2	20.5	---
2242	1760	27.9	76.8	20.5	---
1682	1760	32.9	69.7	21.1	---
1121	1760	---	---	---	---



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

Name:

Date: 9/19/2017

**Pump:**

Size: 10 MFX1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve: ETTBDEF  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1760 rpm  
 Line: 49°  
 Impeller: 10MFX-1A  
 Ns: 6629  
 Nss: 6596  
 Suction: 14.23 in  
 Discharge: ---  
 Bowl size: 13.5 in  
 Max lateral: ---  
 Thrust K factor: 25 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: 1800  
 Frame: 324T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 100 psi g  
 Sphere size: 1.6 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 3023 US gpm  
 Head: 30 ft  
 Eff: 75.3%  
 Power: 30.4 hp  
 NPSHr: ---

**---- Design Curve ----**

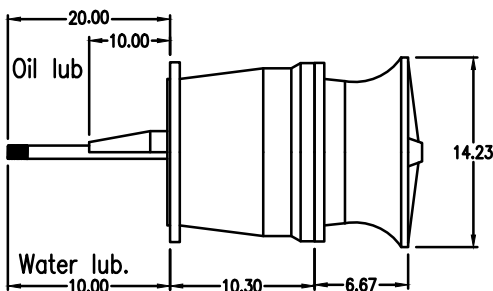
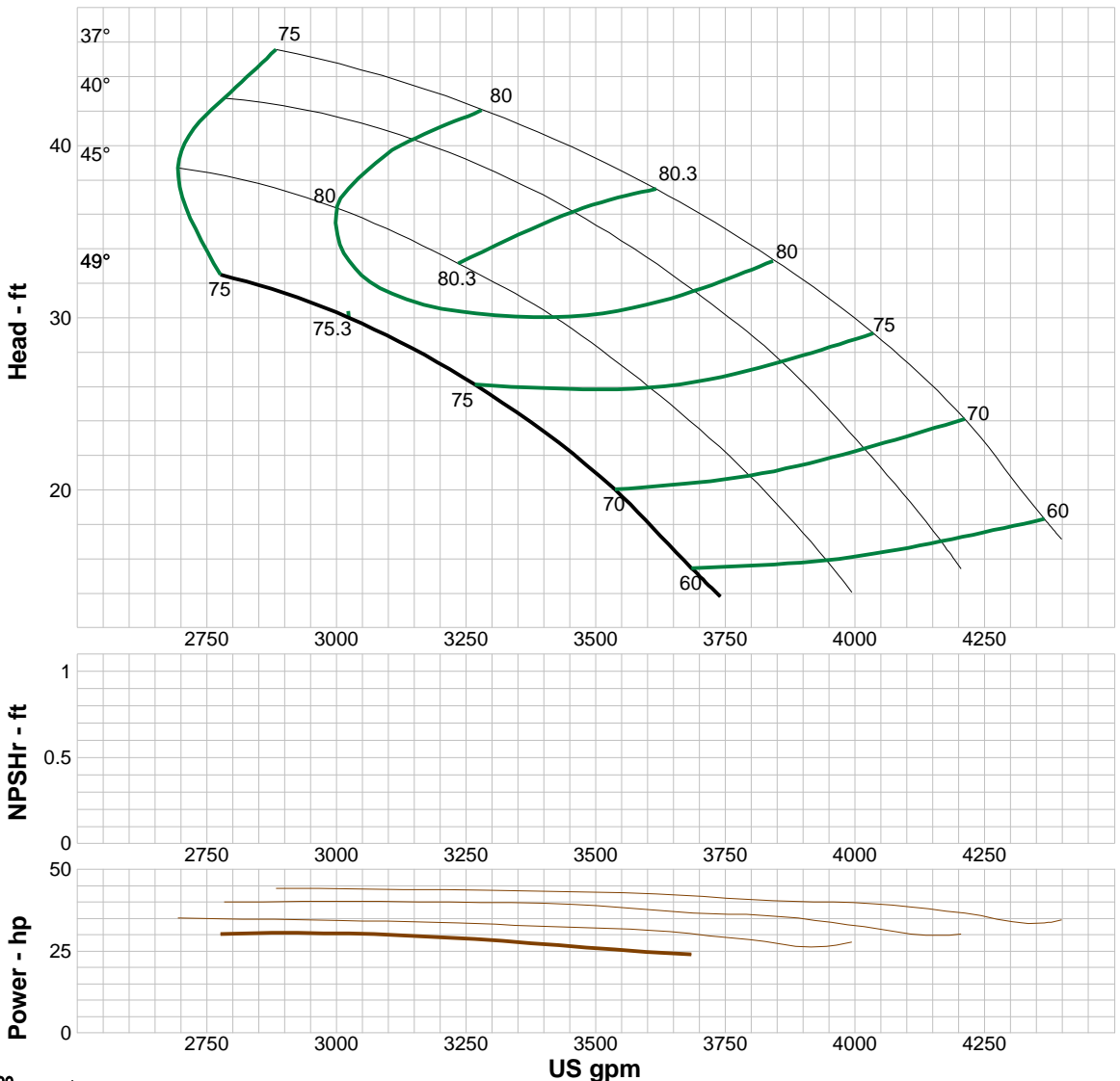
Shutoff head: 34.1 ft  
 Shutoff dP: 14.8 psi  
 Min flow: 1481 US gpm  
 BEP: 75.3% @ 3023 US gpm  
 NOL power:  
 30.4 hp @ 3023 US gpm

**-- Max Curve --**

Max power:  
 30.4 hp @ 3023 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 3/16"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: N/A  
 One Stage Water Lub. WT-LB:180.5  
 One Stage Oil Lub. WT-LB: 192.5  
 Add Stage WT-LB: 139.1  
 Impeller Weight: 17.9 lb  
 Min. Submergence: 21"



PARA PASOS ADICIONALES SUMAR 3.24"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3589	1760	18.4	66.4	25	---
2991	1760	30.3	75.3	30.4	---
2393	1760	36.3	74.5	30.3	---
1795	1760	42.4	73.8	30.2	---
1196	1760	---	---	---	---



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

Name:

Date: 9/28/2017

**Pump:**

Size: 10MFW 1A  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve:  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1760 rpm  
 Dia: 6.8 in  
 Impeller: 10MFW 1A  
 Ns: 5989  
 Nss: 9807  
 Suction: 14 in  
 Discharge: ---  
 Bowl size: 14 in  
 Max lateral: ---  
 Thrust K factor: 21 lb/ft

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 100 psi g  
 Sphere size: ---  
 Power: ---  
 Eye area: ---

**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: 1800  
 Frame: 324T

**---- Data Point ----**

Flow: 2405 US gpm  
 Head: 35.3 ft  
 Eff: 82.5%  
 Power: 26 hp  
 NPSHr: 18.2 ft

**---- Design Curve ----**

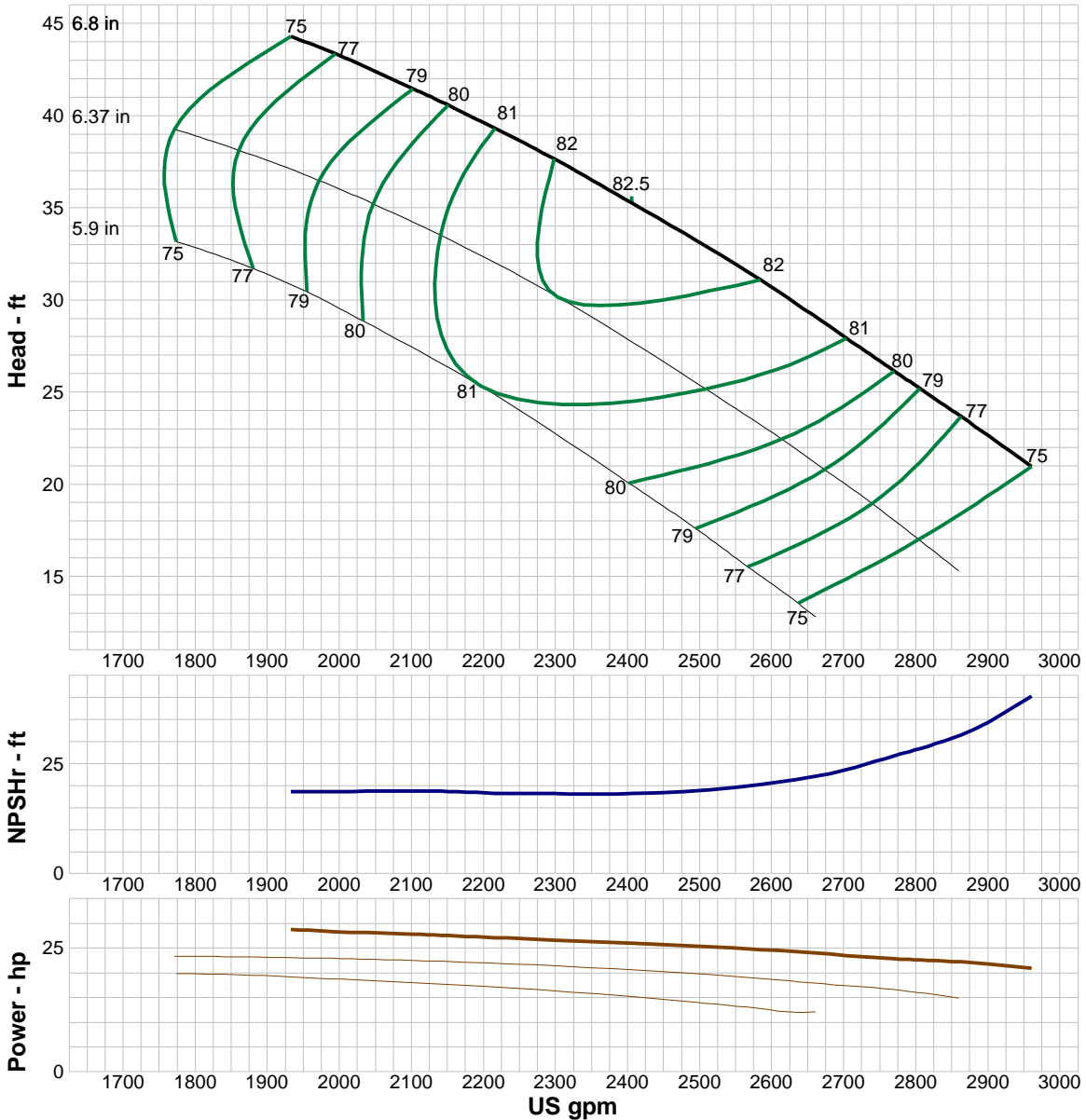
Shutoff head: 53 ft  
 Shutoff dP: 23 psi  
 Min flow: 1081 US gpm  
 BEP: 82.5% @ 2405 US gpm  
 NOL power:  
 35.2 hp @ 1081 US gpm

**-- Max Curve --**

Max power:  
 35.2 hp @ 1081 US gpm

**--Additional Data--**

Std. Shaft Diameter: 1 1/2  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:186.7  
 One Stage Oil Lub. WT-LB:191.8  
 Add Stage WT-LB:141.4  
 Impeller Weight:N/A  
 Min. Submergence:25"



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
2842	1760	24.2	77.7	22.3	30.4
2368	1760	36.1	82.3	26.2	18.2
1894	1760	44.9	73.8	29.1	18.7
1421	1760	52.1	58.6	32.6	18.7
947	1760	---	---	---	---



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

Name:

Date: 9/19/2017

**Pump:**

Size: 12 MFX-1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1200 rpm  
 Curve: ETTBDEH-12  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1200 rpm  
 Dia: 8.5 in  
 Impeller: 12MFX 1A  
 Ns: 4883  
 Nss: 9341  
 Suction: 16.68 in  
 Discharge: ---  
 Bowl size: 15.1 in  
 Max lateral: ---  
 Thrust K factor: 23 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: 150 psi g  
 Sphere size: 1.6 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 2664 US gpm  
 Head: 30.7 ft  
 Eff: 81.5%  
 Power: 25.4 hp  
 NPSHr: 13.3 ft

**---- Design Curve ----**

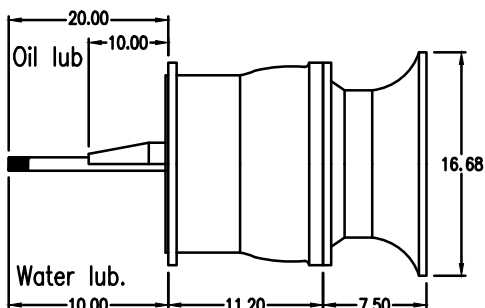
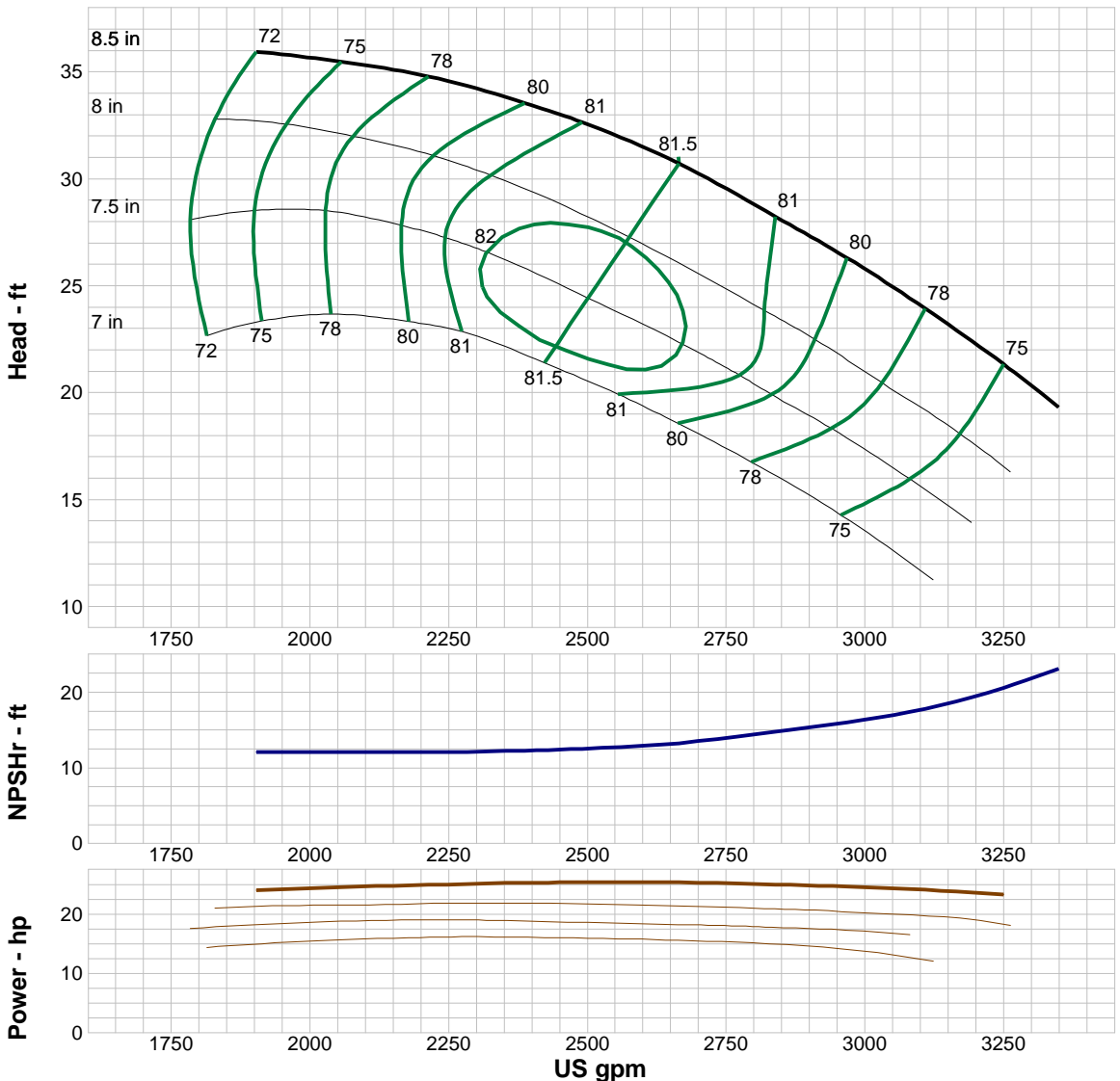
Shutoff head: 36.2 ft  
 Shutoff dP: 15.7 psi  
 Min flow: 1172 US gpm  
 BEP: 81.5% @ 2664 US gpm  
 NOL power:  
 25.4 hp @ 2664 US gpm

**-- Max Curve --**

Max power:  
 25.4 hp @ 2664 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 1/2  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:199.85  
 One Stage Oil Lub. WT-LB:222.51  
 Add Stage WT-LB:163.1  
 Impeller Weight: 33.1lb  
 Min. Submergence:15 "



PARA PASOS ADICIONALES SUMAR 4.08" AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3215	1200	22	75.7	23.5	19.9
2679	1200	30.5	81.5	25.3	13.4
2143	1200	35.1	76.7	24.8	12.1
1607	1200	36.8	66.2	22.9	12.1
1072	1200	---	---	---	---





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

Name:

Date: 9/19/2017

**Pump:**

Size: 12MFX-2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1200 rpm  
 Curve: ETTBEEH-12  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1200 rpm  
 Dia: 8.5 in  
 Impeller: 12MFX 2A  
 Ns: 4993  
 Nss: 7461  
 Suction: 16.68 in  
 Discharge: ---  
 Bowl size: 15.1 in  
 Max lateral: ---  
 Thrust K factor: 23 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: 1200  
 Frame: 364T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 150 psi g  
 Sphere size: 1.6 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 2953 US gpm  
 Head: 33.3 ft  
 Eff: 81%  
 Power: 30.6 hp  
 NPSHr: 18.6 ft

**---- Design Curve ----**

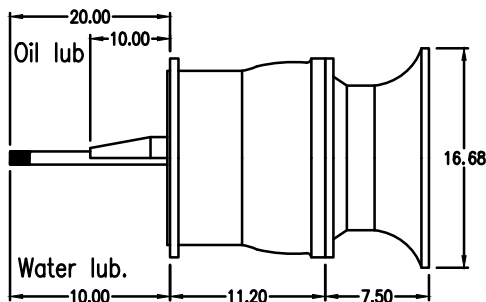
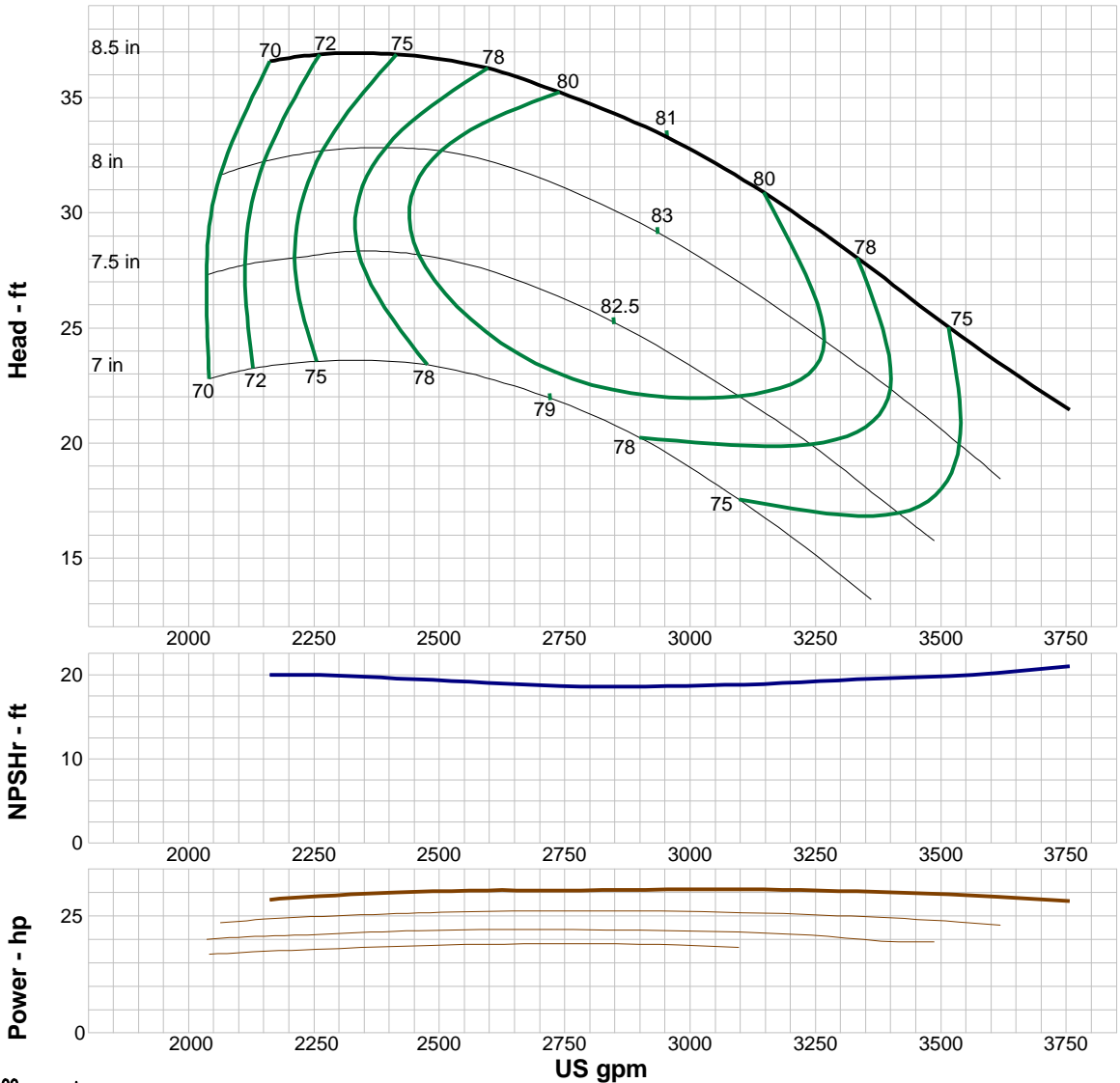
Shutoff head: 35.1 ft  
 Shutoff dP: 15.2 psi  
 Min flow: 1374 US gpm  
 BEP: 81% @ 2953 US gpm  
 NOL power:  
 30.7 hp @ 3145 US gpm

**-- Max Curve --**

Max power:  
 30.7 hp @ 3145 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 1/2"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: 0.5"  
 One Stage Water Lub. WT-LB:199.85  
 One Stage Oil Lub. WT-LB:222.5  
 Add Stage WT-LB:163.1  
 Impeller Weight: 33.1lb  
 Min. Submergence: 15"



PARA PASOS ADICIONALES SUMAR 4.08"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
3605	1200	23.7	73.9	29.1	20.3
3004	1200	32.7	80.7	30.7	18.7
2403	1200	36.9	74.8	29.9	19.6
1802	1200	35.5	62.7	25.9	20
1202	1200	---	---	---	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1



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

Name:

Date: 9/19/2017

**Pump:**

Size: 12 MFX-1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve: ETTBDEH  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1760 rpm  
 Dia: 8.5 in  
 Impeller: 12MFX 1A  
 Ns: 4883  
 Nss: 9341  
 Suction: 16.68 in  
 Discharge: ---  
 Bowl size: 15.1 in  
 Max lateral: ---  
 Thrust K factor: 23 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: 1800  
 Frame: 405T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 150 psi g  
 Sphere size: 1.6 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 3907 US gpm  
 Head: 66.1 ft  
 Eff: 81.5%  
 Power: 80 hp  
 NPSHr: 24.5 ft

**---- Design Curve ----**

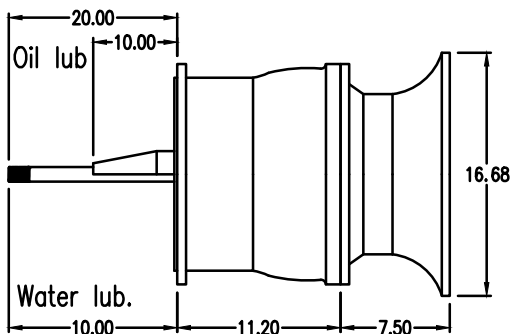
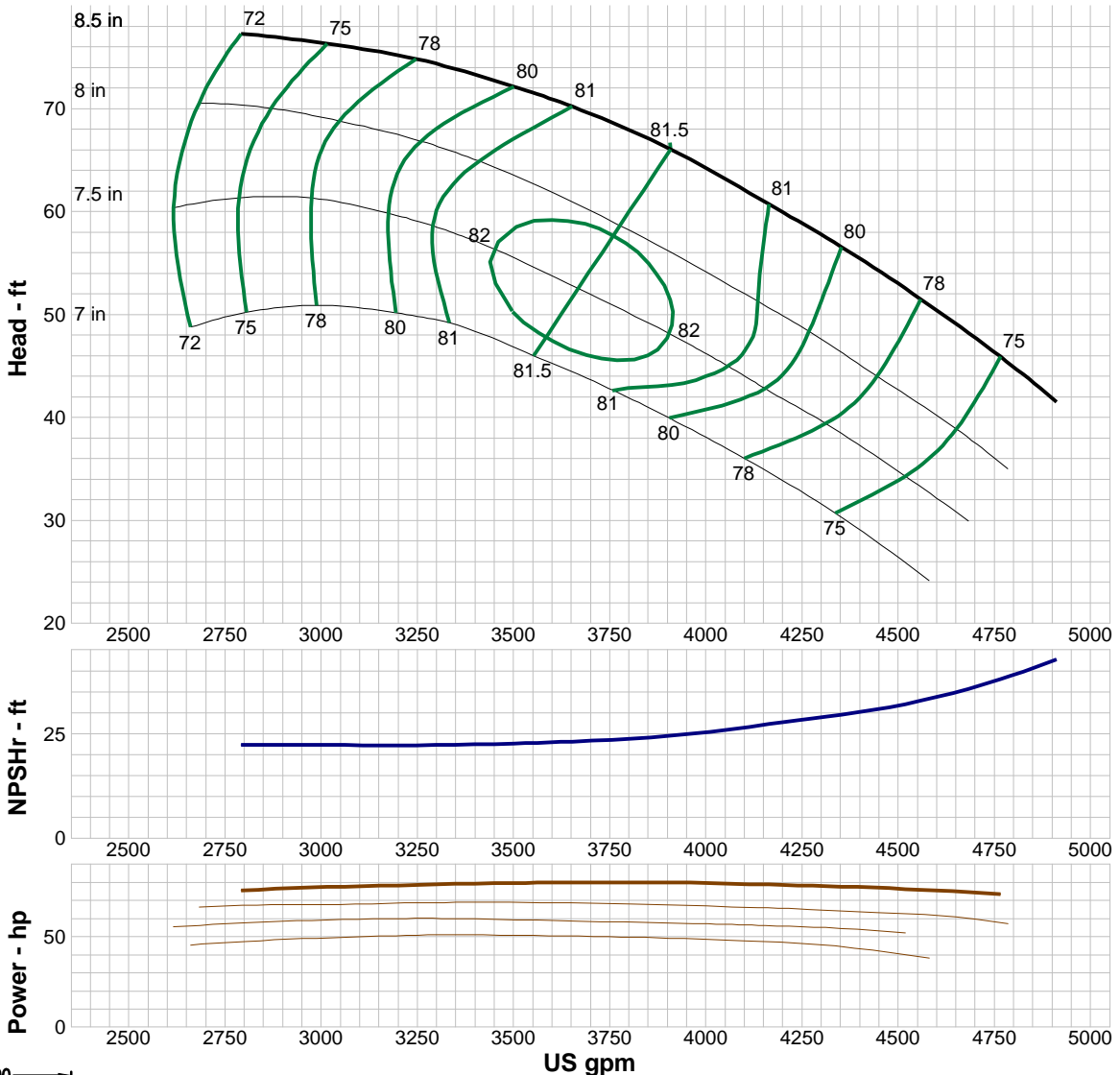
Shutoff head: 77.8 ft  
 Shutoff dP: 33.7 psi  
 Min flow: 1748 US gpm  
 BEP: 81.5% @ 3907 US gpm  
 NOL power:  
 80 hp @ 3907 US gpm

**-- Max Curve --**

Max power:  
 80 hp @ 3907 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 1/2"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: 0.5  
 One Stage Water Lub. WT-LB: 199.9  
 One Stage Oil Lub. WT-LB: 222.5  
 Add Stage WT-LB: 163.1  
 Impeller Weight: 33.1lb  
 Min. Submergence: 33"



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
4715	1760	47.3	75.7	74.2	36.7
3929	1760	65.6	81.5	79.9	24.7
3143	1760	75.5	76.7	78.1	22.3
2357	1760	79.2	66.2	72.1	22.4
1572	1760	---	---	---	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1





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

Name:

Date: 9/19/2017

**Pump:**

Size: 12MFX-2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve: ETTBEEH  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1760 rpm  
 Dia: 8.5 in  
 Impeller: 12MFX 2A  
 Ns: 4993  
 Nss: 7461  
 Suction: 16.68 in  
 Discharge: ---  
 Bowl size: 15.1 in  
 Max lateral: ---  
 Thrust K factor: 23 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: 1800  
 Frame: 405T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 150 psi g  
 Sphere size: 1.6 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 4331 US gpm  
 Head: 71.6 ft  
 Eff: 81%  
 Power: 96.7 hp  
 NPSHr: 34.4 ft

**---- Design Curve ----**

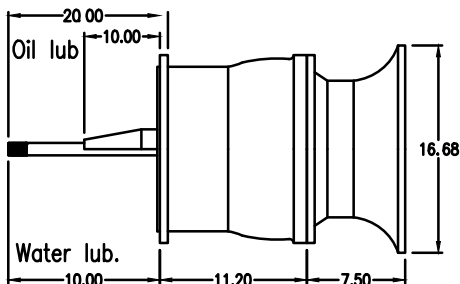
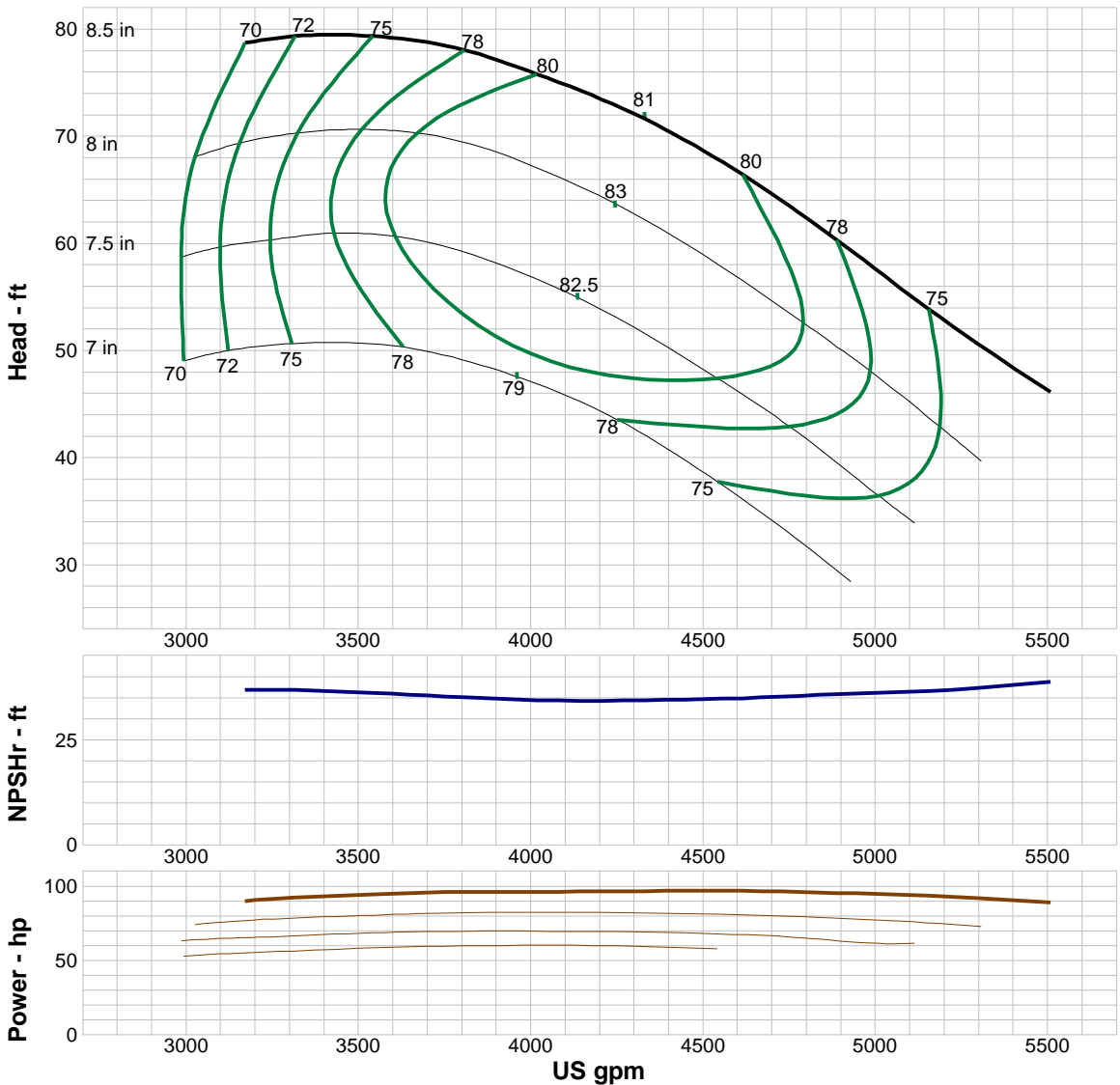
Shutoff head: 75.5 ft  
 Shutoff dP: 32.7 psi  
 Min flow: 2049 US gpm  
 BEP: 81% @ 4331 US gpm  
 NOL power:  
 96.8 hp @ 4613 US gpm

**-- Max Curve --**

Max power:  
 96.8 hp @ 4613 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 1/2"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: 0.5"  
 One Stage Water Lub. WT-LB:199.9  
 One Stage Oil Lub. WT-LB:222.5  
 Add Stage WT-LB: 163.1  
 Impeller Weight: 33.1 lb  
 Min. Submergence: 33"



PARA PASOS ADICIONALES SUMAR 4.08"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
5287	1760	51	73.9	91.8	37.4
4406	1760	70.2	80.7	96.7	34.5
3525	1760	79.4	74.8	94.4	36.1
2644	1760	76.4	62.8	81.8	36.8
1762	1760	---	---	---	---



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

Name:

Date: 9/28/2017

**Pump:**  
 Size: 12 MFW 1A  
 Type: LINE MFX  
 Synch speed: 1800 rpm  
 Curve:  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:

Speed: 1760 rpm  
 Dia: 8.19 in  
 Impeller: 12 MFW 1A  
 Ns: 6105  
 Nss: 9812  
 Suction: 16.89 in  
 Discharge: ---  
 Bowl size: 17 in  
 Max lateral: ---  
 Thrust K factor: 31 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: 1800  
 Frame: 365T

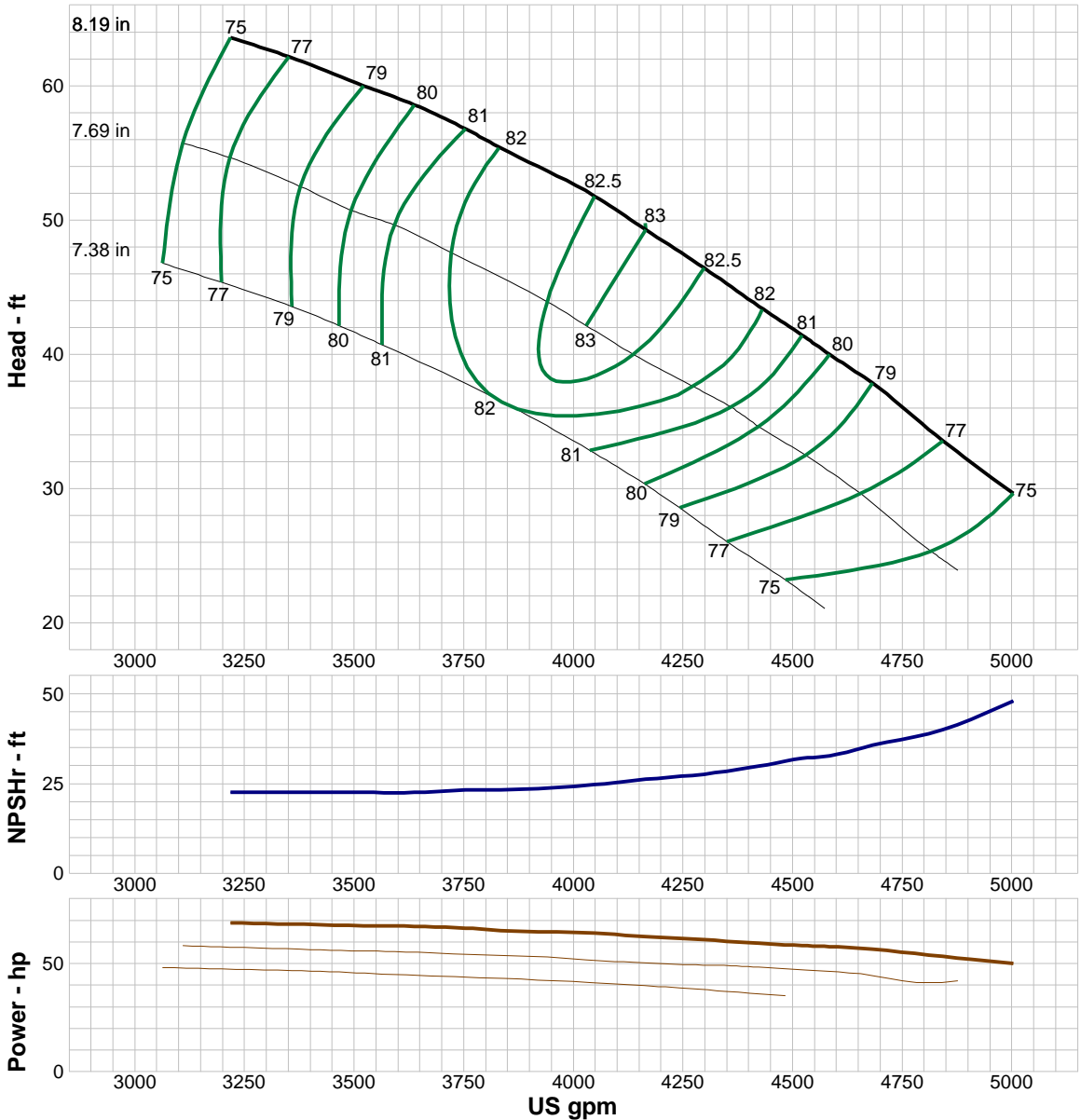
**Pump Limits:**  
 Temperature: 167 °F  
 Pressure: ---  
 Sphere size: ---  
 Power: ---  
 Eye area: ---

**---- Data Point ----**  
 Flow: 4164 US gpm  
 Head: 49.3 ft  
 Eff: 83%  
 Power: 62.4 hp  
 NPSHr: 26.2 ft

**---- Design Curve ----**  
 Shutoff head: 77.5 ft  
 Shutoff dP: 33.5 psi  
 Min flow: 1874 US gpm  
 BEP: 83% @ 4164 US gpm  
 NOL power:  
 74.5 hp @ 1874 US gpm

**-- Max Curve --**  
 Max power:  
 74.5 hp @ 1874 US gpm

**--Additional Data--**  
 Std. Shaft Diameter: 1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral: 0.5  
 One Stage Water Lub. WT-LB: 523.3  
 One Stage Oil Lub. WT-LB: 529.6  
 Add Stage WT-LB: 414.2  
 Impeller Weight: N/A  
 Min. Submergence: 25 "



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
4802	1760	34.6	77.5	54.1	38.9
4002	1760	52.5	82.4	64.4	24.4
3202	1760	63.7	74.8	68.9	22.5
2401	1760	72.3	62.8	72.3	22.5
1601	1760	---	---	---	---



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

Name:

Date: 9/26/2017

**Pump:**

Size: 16MFX 1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 700 rpm  
 Curve: ETTBDEL-70  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 705 rpm  
 Line: 11°  
 Impeller: 16MFX 1A  
 Ns: 9451  
 Nss: 27499  
 Suction: 22.5 in  
 Discharge: ---  
 Bowl size: 20.9 in  
 Max lateral: ---  
 Thrust K factor: 92.2 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: 150 psi g  
 Sphere size: 2 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 6359 US gpm  
 Head: 11.9 ft  
 Eff: 80.3%  
 Power: 23.7 hp  
 NPSHr: ---

**---- Design Curve ----**

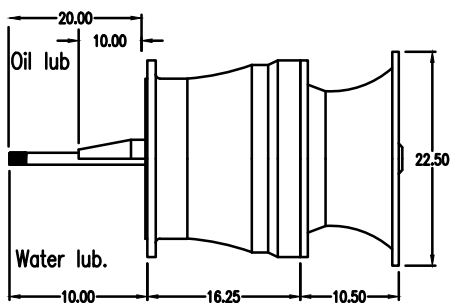
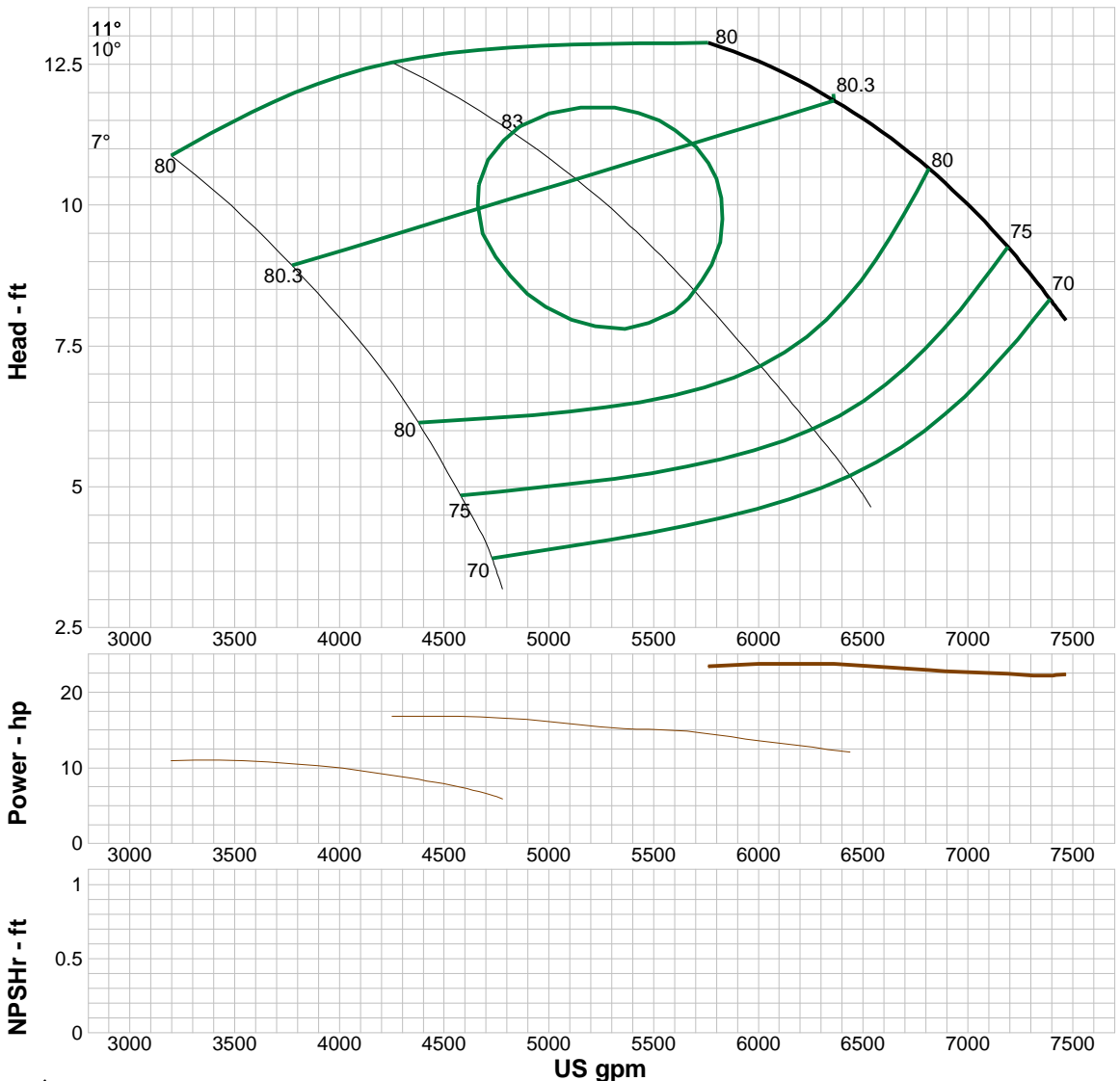
Shutoff head: 13.2 ft  
 Shutoff dP: 5.69 psi  
 Min flow: 2403 US gpm  
 BEP: 80.3% @ 6359 US gpm  
 NOL power:  
 23.7 hp @ 6359 US gpm

**-- Max Curve --**

Max power:  
 23.7 hp @ 6359 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:535.4  
 One Stage Oil Lub. WT-LB: 563.8  
 Add Stage WT-LB:427.9  
 Impeller Weight:53.4 lb  
 Min. Submergence:78



PARA PASOS ADICIONALES SUMAR 4.05°  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
7166	705	9.34	75.3	22.4	---
5972	705	12.5	80.1	23.5	---
4778	705	14.5	79.5	22.9	---
3583	705	16.6	78.9	22.3	---
2389	705	---	---	---	---



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

Name:

Date: 9/20/2017

**Pump:**

Size: 16MFX 1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 900 rpm  
 Curve: ETTBDEL-90  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 880 rpm  
 Line: 11°  
 Impeller: 16MFX 1A  
 Ns: 9451  
 Nss: 27499  
 Suction: 22.5 in  
 Discharge: ---  
 Bowl size: 20.9 in  
 Max lateral: ---  
 Thrust K factor: 92.2 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: 150 psi g  
 Sphere size: 2 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 7938 US gpm  
 Head: 18.5 ft  
 Eff: 80.3%  
 Power: 46.1 hp  
 NPSHr: ---

**---- Design Curve ----**

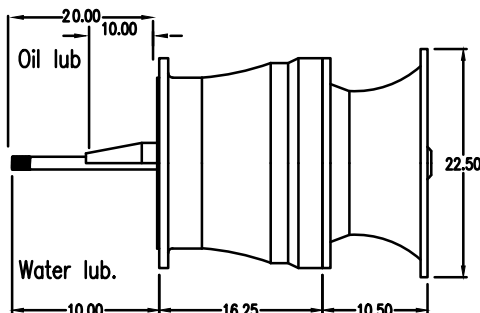
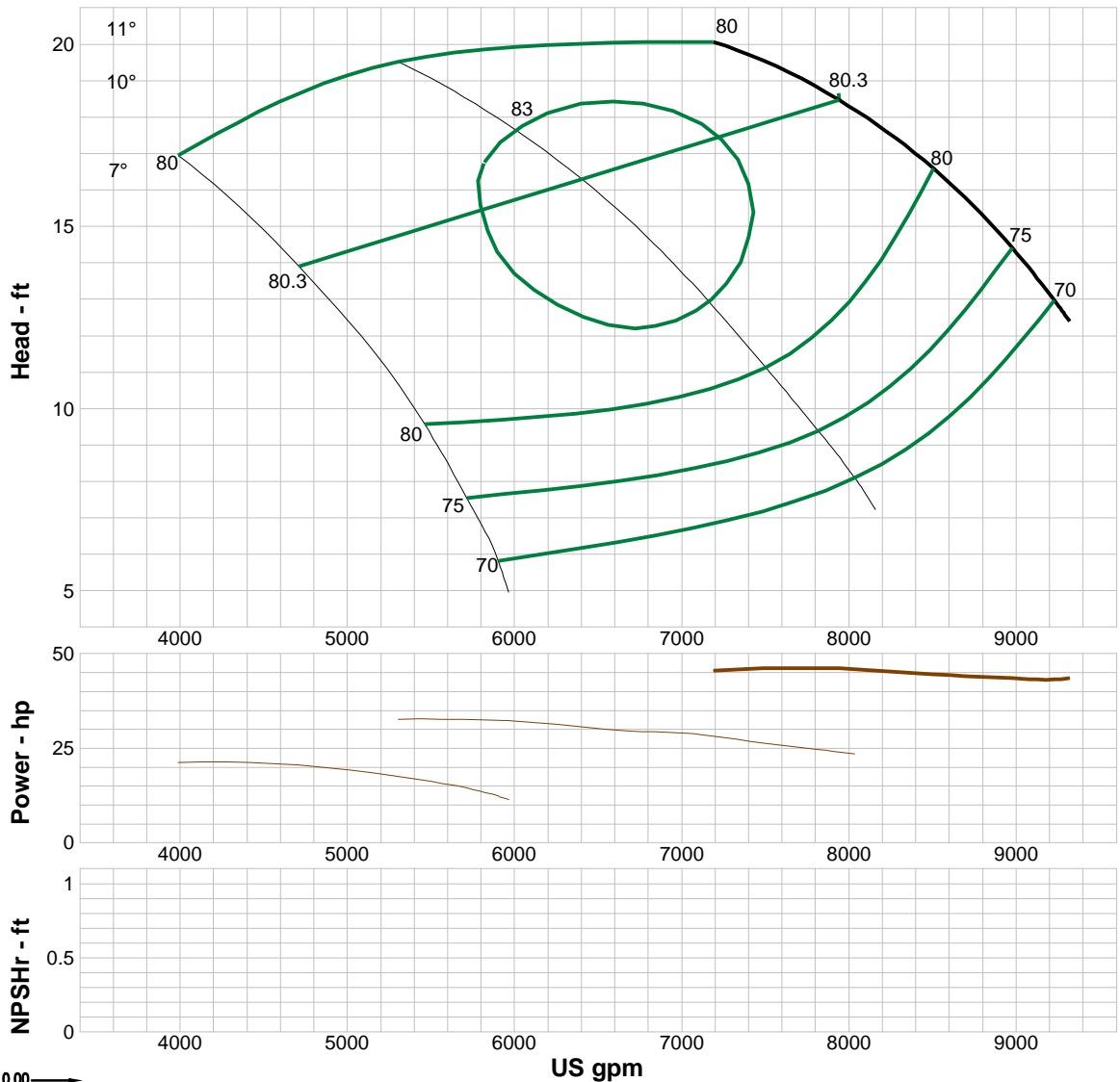
Shutoff head: 20.5 ft  
 Shutoff dP: 8.87 psi  
 Min flow: 3020 US gpm  
 BEP: 80.3% @ 7938 US gpm  
 NOL power:  
 46.1 hp @ 7938 US gpm

**-- Max Curve --**

Max power:  
 46.1 hp @ 7938 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:535.4  
 One Stage Oil Lub. WT-LB:563.8  
 Add Stage WT-LB:427.9  
 Impeller Weight:53.4lb  
 Min. Submergence: 43"



PARA PASOS ADICIONALES SUMAR 4.05"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
8946	880	14.5	75.3	43.6	---
7455	880	19.5	80.1	45.7	---
5964	880	22.7	79.5	44.5	---
4473	880	25.8	78.9	43.4	---
2982	880	---	---	---	---



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

Name:

Date: 9/19/2017

**Pump:**

Size: 16MFX 1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1200 rpm  
 Curve: ETTBDEL-12  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1180 rpm  
 Line: 11°  
 Impeller: 16MFX 1A  
 Ns: 9451  
 Nss: 27499  
 Suction: 22.5 in  
 Discharge: ---  
 Bowl size: 20.9 in  
 Max lateral: ---  
 Thrust K factor: 92.2 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: 1200  
 Frame: 445T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 150 psi g  
 Sphere size: 2 in  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 10644 US gpm  
 Head: 33.2 ft  
 Eff: 80.3%  
 Power: 111 hp  
 NPSHr: ---

**---- Design Curve ----**

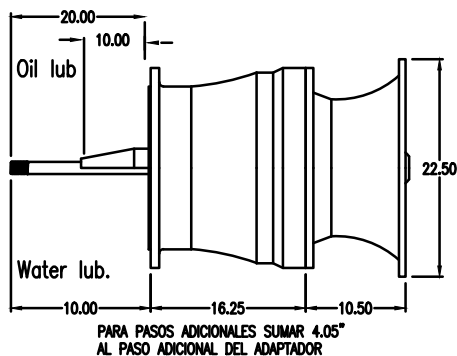
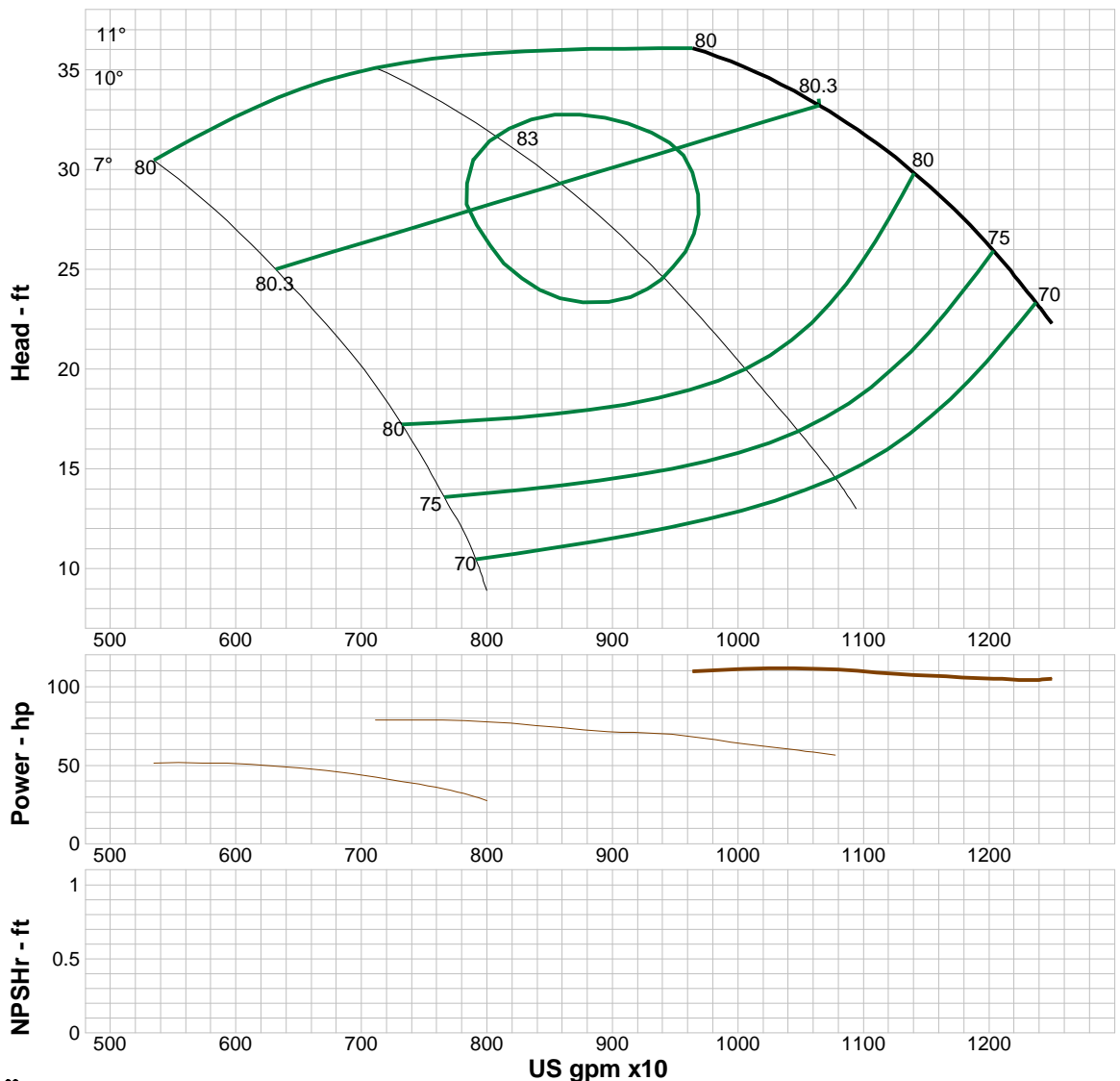
Shutoff head: 36.9 ft  
 Shutoff dP: 16 psi  
 Min flow: 4050 US gpm  
 BEP: 80.3% @ 10644 US gpm  
 NOL power:  
 111 hp @ 10644 US gpm

**-- Max Curve --**

Max power:  
 111 hp @ 10644 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:535.4  
 One Stage Oil Lub. WT-LB: 563.8  
 Add Stage WT-LB:427.9  
 Impeller Weight:53.4 lb  
 Min. Submergence:78



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
11995	1180	26.2	75.3	105	---
9996	1180	35	80.1	110	---
7997	1180	40.7	79.5	107	---
5998	1180	46.4	78.9	105	---
3998	1180	---	---	---	---



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

Name:

Date: 9/26/2017

**Pump:**

Size: 16MFX 2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 700 rpm  
 Curve: ETTBEEL-70  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 705 rpm  
 Line: 19°  
 Impeller: 16 MFX 2A  
 Ns:7451  
 Nss: 19068  
 Suction: ---  
 Discharge: ---  
 Bowl size: 20.9  
 Max lateral: ---  
 Thrust K factor: 92.2 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: ---  
 Sphere size: 2.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 6440 US gpm  
 Head: 16.2 ft  
 Eff: 80.3%  
 Power: 32.9 hp  
 NPSHr: ---

**---- Design Curve ----**

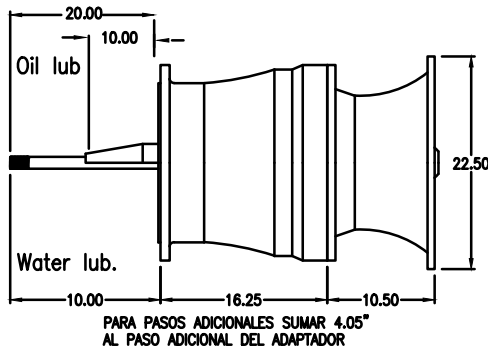
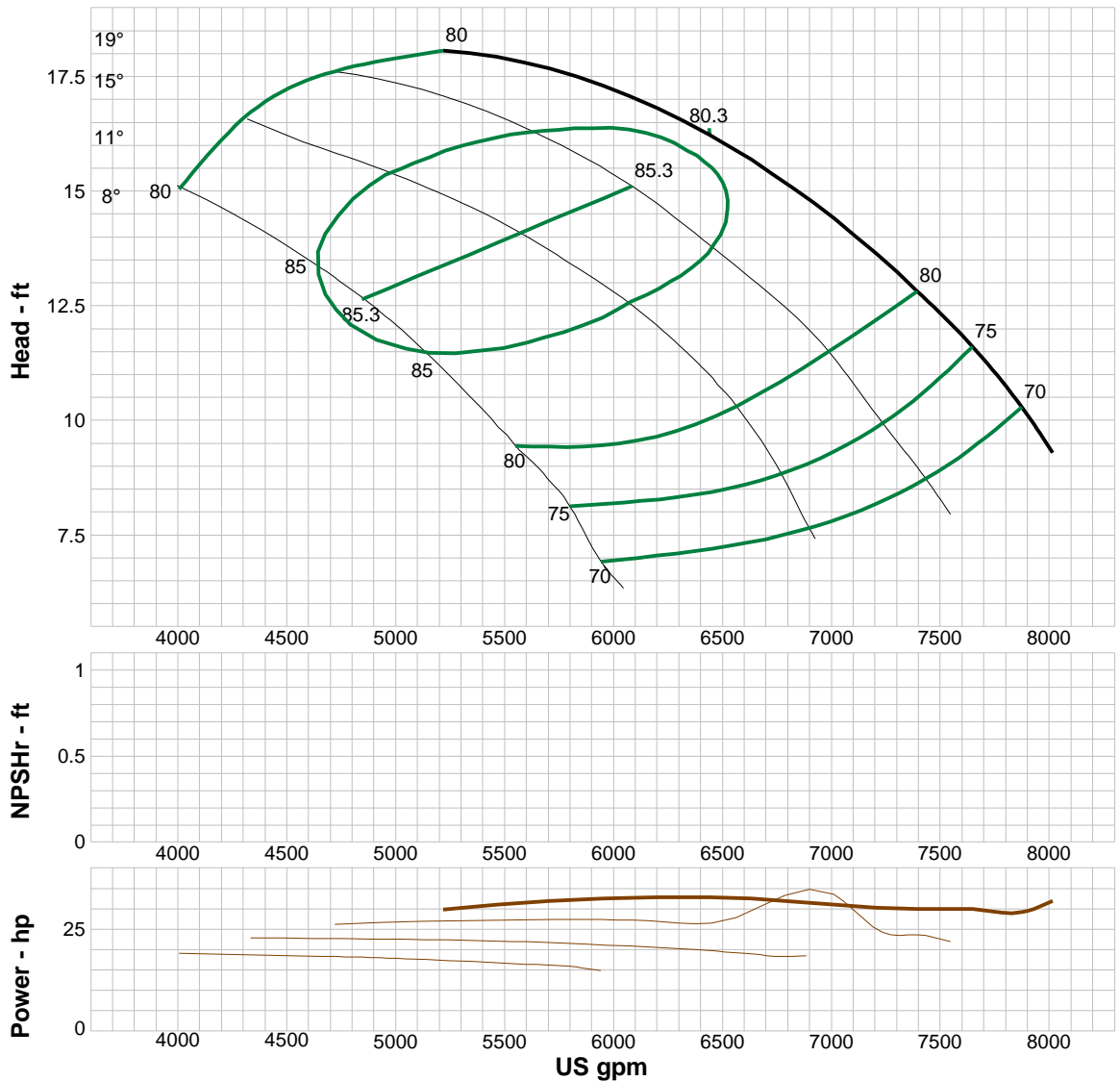
Shutoff head: 18.3 ft  
 Shutoff dP: 7.91 psi  
 Min flow: 2470 US gpm  
 BEP: 80.3% @ 6440 US gpm  
 NOL power:  
 32.9 hp @ 6440 US gpm

**-- Max Curve --**

Max power:  
 32.9 hp @ 6440 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB: 535.4  
 One Stage Oil Lub. WT-LB:563.8  
 Add Stage WT-LB:427.9  
 Impeller Weight: 53.4lb  
 Min. Submergence:28"



**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
7692	705	11.3	74	29.7	---
6410	705	16.3	80.3	32.8	---
5128	705	18.2	80	29.5	---
3846	705	20.1	79.7	26.3	---
2564	705	22.1	79.4	23	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1





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

Name:

Date: 9/20/2017

**Pump:**

Size: 16MFX 2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 900 rpm  
 Curve: ETTBEEL-90  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 880 rpm  
 Line: 19°  
 Impeller: 16 MFX 2A  
 Ns: 7 451  
 Nss: 19 068  
 Suction:  
 Discharge: ---  
 Bowl size: 20.9  
 Max lateral: ---  
 Thrust K factor: 92.2 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: 900  
 Frame: 445T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 150 psi g  
 Sphere size: 2.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 8039 US gpm  
 Head: 25.3 ft  
 Eff: 80.3%  
 Power: 63.9 hp  
 NPSHr: ---

**---- Design Curve ----**

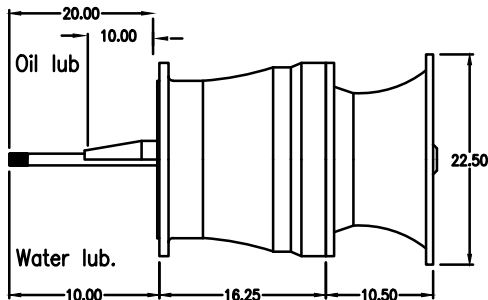
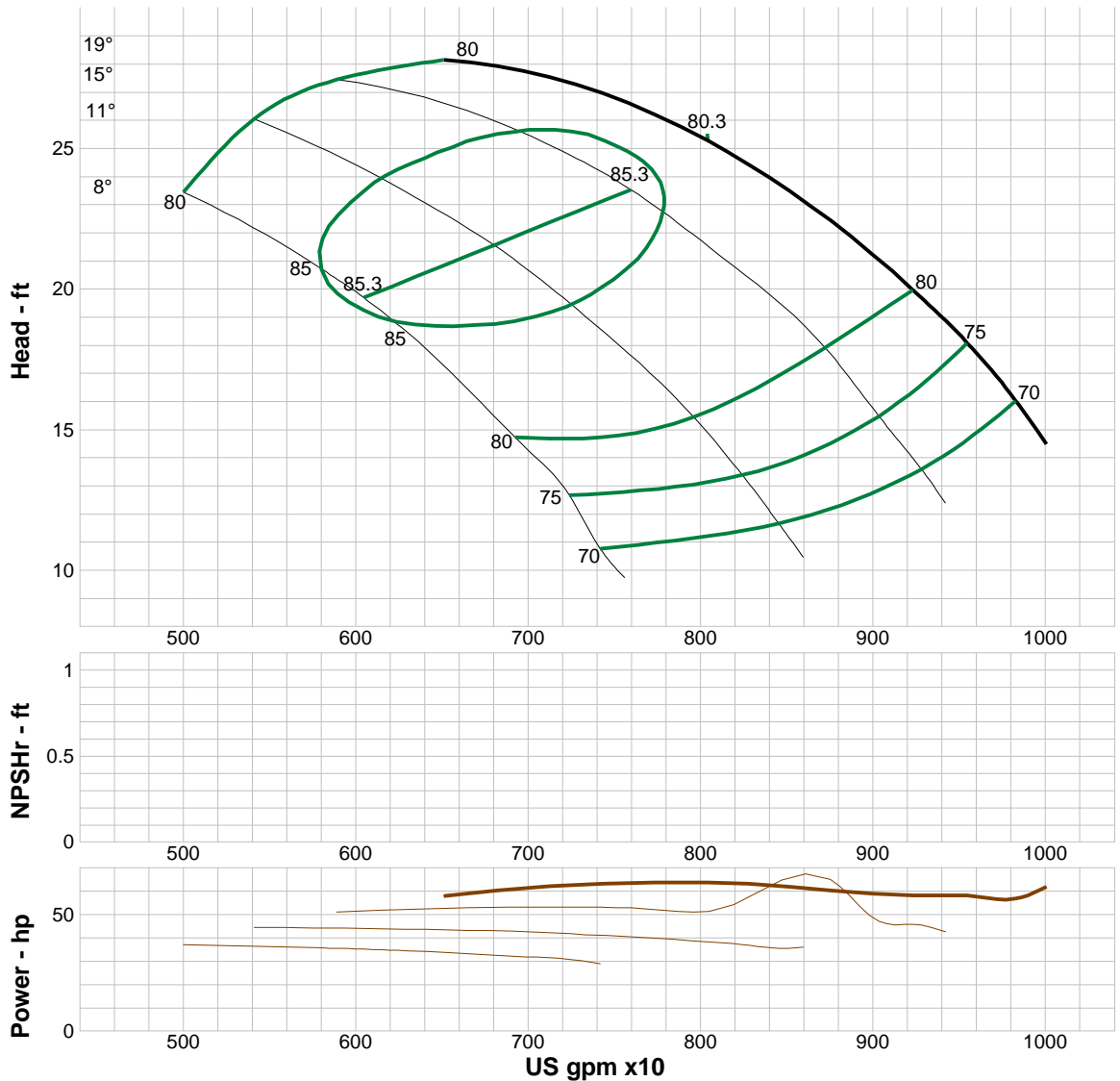
Shutoff head: 28.5 ft  
 Shutoff dP: 12.3 psi  
 Min flow: 3105 US gpm  
 BEP: 80.3% @ 8039 US gpm  
 NOL power:  
 63.9 hp @ 8039 US gpm

**-- Max Curve --**

Max power:  
 63.9 hp @ 8039 US gpm

**--Additional Data--**

Std. Shaft Diameter : 1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB: 535.4  
 One Stage Oil Lub. WT-LB:563.8  
 Add Stage WT-LB:427.9  
 Impeller Weight:53.4lb  
 Min. Submergence: 43"



PARA PASOS ADICIONALES SUMAR 4.05"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
9601	880	17.7	74	57.8	---
8001	880	25.3	80.3	63.8	---
6401	880	28.4	80	57.4	---
4801	880	31.4	79.7	51.1	---
3200	880	34.4	79.4	44.8	---



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

Name:

Date: 9/20/2017

**Pump:**

Size: 16MFX 2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 1200 rpm  
 Curve: ETTBEEL-12  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 1180 rpm  
 Line: 19°  
 Impeller: 16 MFX 2A  
 Ns: 7451  
 Nss:19068  
 Suction: 22.50  
 Discharge: ---  
 Bowl size: 20.9  
 Max lateral: 150  
 Thrust K factor: 92.2 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: 1200  
 Frame: 447T

**Pump Limits:**

Temperature: 167 °F  
 Pressure: 150 psi g  
 Sphere size: 2.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 10779 US gpm  
 Head: 45.4 ft  
 Eff: 80.3%  
 Power: 154 hp  
 NPSHr: ---

**---- Design Curve ----**

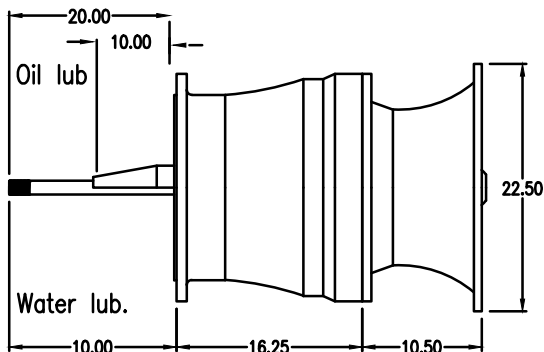
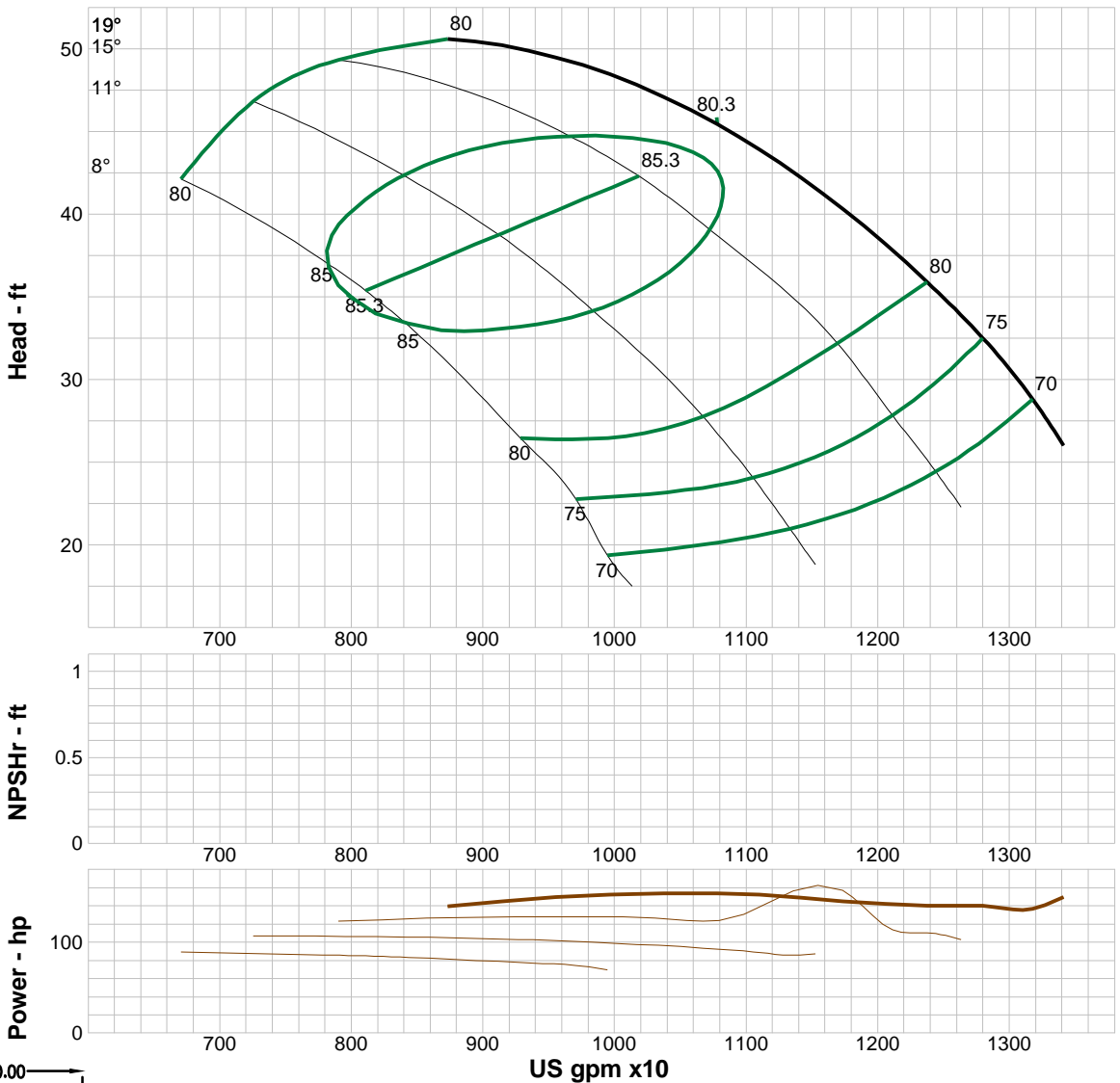
Shutoff head: 51.2 ft  
 Shutoff dP: 22.2 psi  
 Min flow: 4164 US gpm  
 BEP: 80.3% @ 10779 US gpm  
 NOL power:  
 154 hp @ 10779 US gpm

**-- Max Curve --**

Max power:  
 154 hp @ 10779 US gpm

**--Additional Data--**

Std. Shaft Diameter :1 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:535.4  
 One Stage Oil Lub. WT-LB: 563.8  
 Add Stage WT-LB:427.9  
 Impeller Weight:53.4 lb  
 Min. Submergence:78"



PARA PASOS ADICIONALES SUMAR 4.05"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
12875	1180	31.8	74	139	---
10729	1180	45.6	80.3	154	---
8583	1180	51	80	138	---
6437	1180	56.4	79.7	123	---
4292	1180	61.8	79.4	108	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1



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

Name:

Date: 9/20/2017

**Pump:**

Size: 24MFX-1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 590 rpm  
 Curve: ETTBDES-60  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 600 rpm  
 Dia: 16.375 in  
 Impeller: 24MFX-1A  
 Ns: 6510  
 Nss: 10 178  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 3.3  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 11727 US gpm  
 Head: 22.9 ft  
 Eff: 85.3%  
 Power: 79.7 hp  
 NPSHr: 14.7 ft

**---- Design Curve ----**

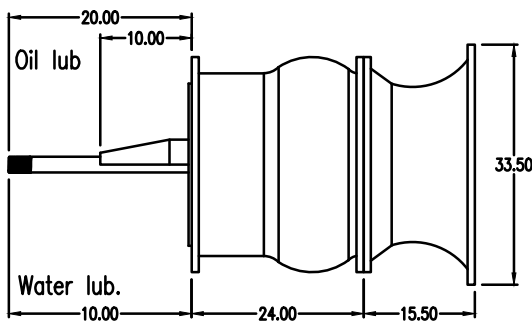
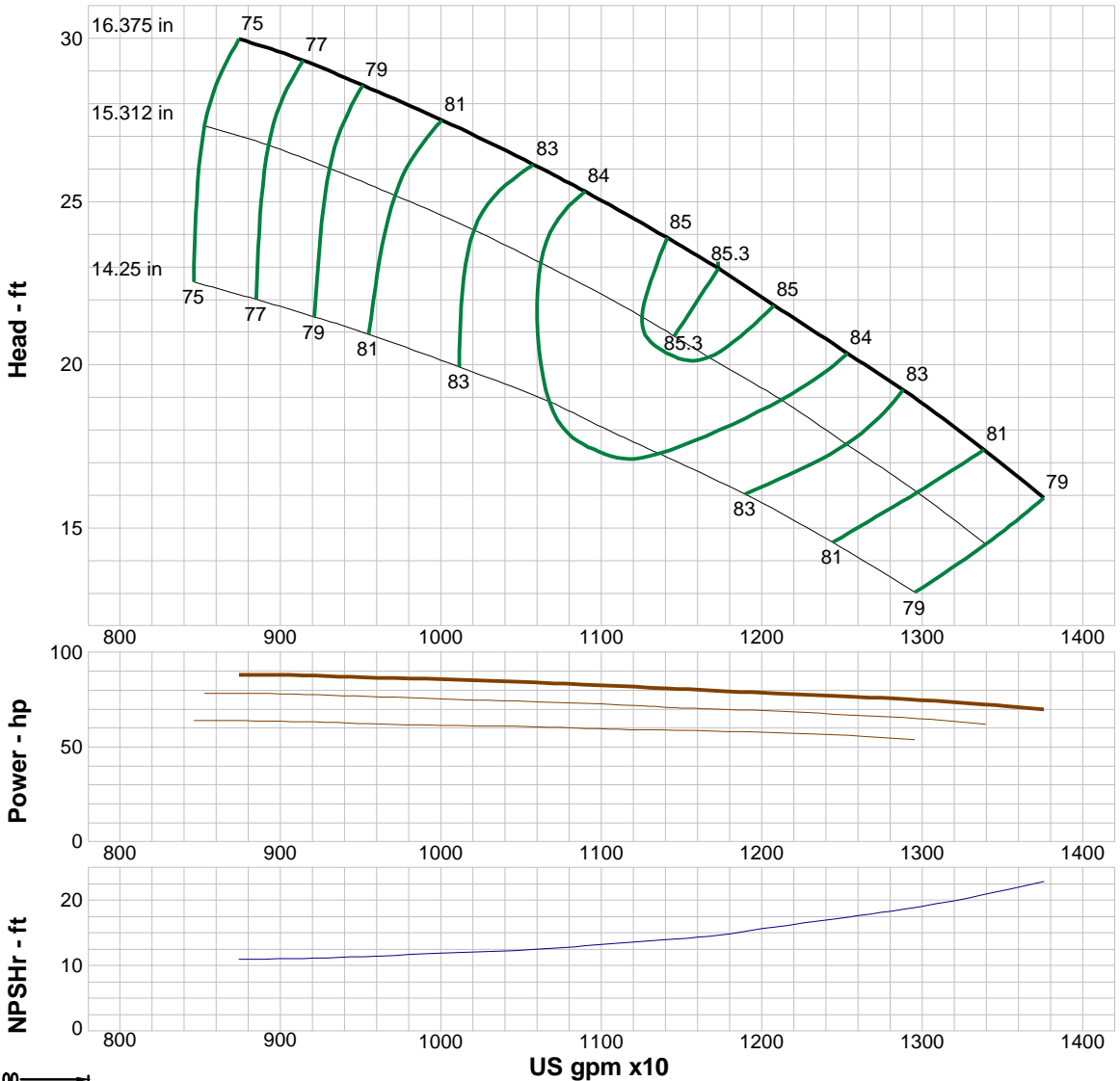
Shutoff head: 39.1 ft  
 Shutoff dP: 16.9 psi  
 Min flow: 4968 US gpm  
 BEP: 85.3% @ 11727 US gpm  
 NOL power:  
 91.2 hp @ 4968 US gpm

**-- Max Curve --**

Max power:  
 91.2 hp @ 4968 US gpm

**--Additional Data--**

Std. Shaft Diameter :2 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.7  
 Add Stage WT-LB:1070.0  
 Impeller Weight:338.7 lb  
 Min. Submergence: 27"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

US gpm x10

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
13205	600	18	81.7	73.5	20.1
11004	600	25	84.2	82.5	13.2
8803	600	29.9	75.3	88.2	11
6602	600	33.5	64.3	89.9	10.2
4402	600	---	---	---	---



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

Name:

Date: 9/26/2017

**Pump:**

Size: 24MFX-1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 700 rpm  
 Curve: ETTBDES-70  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 705 rpm  
 Dia: 16.375 in  
 Impeller: 24MFX-1A  
 Ns: 6232  
 Nss:9744  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 3.3  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 13780 US gpm  
 Head: 31.7 ft  
 Eff: 85.3%  
 Power: 129 hp  
 NPSHr: 19 ft

**---- Design Curve ----**

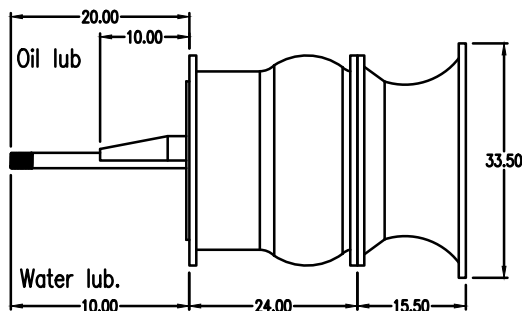
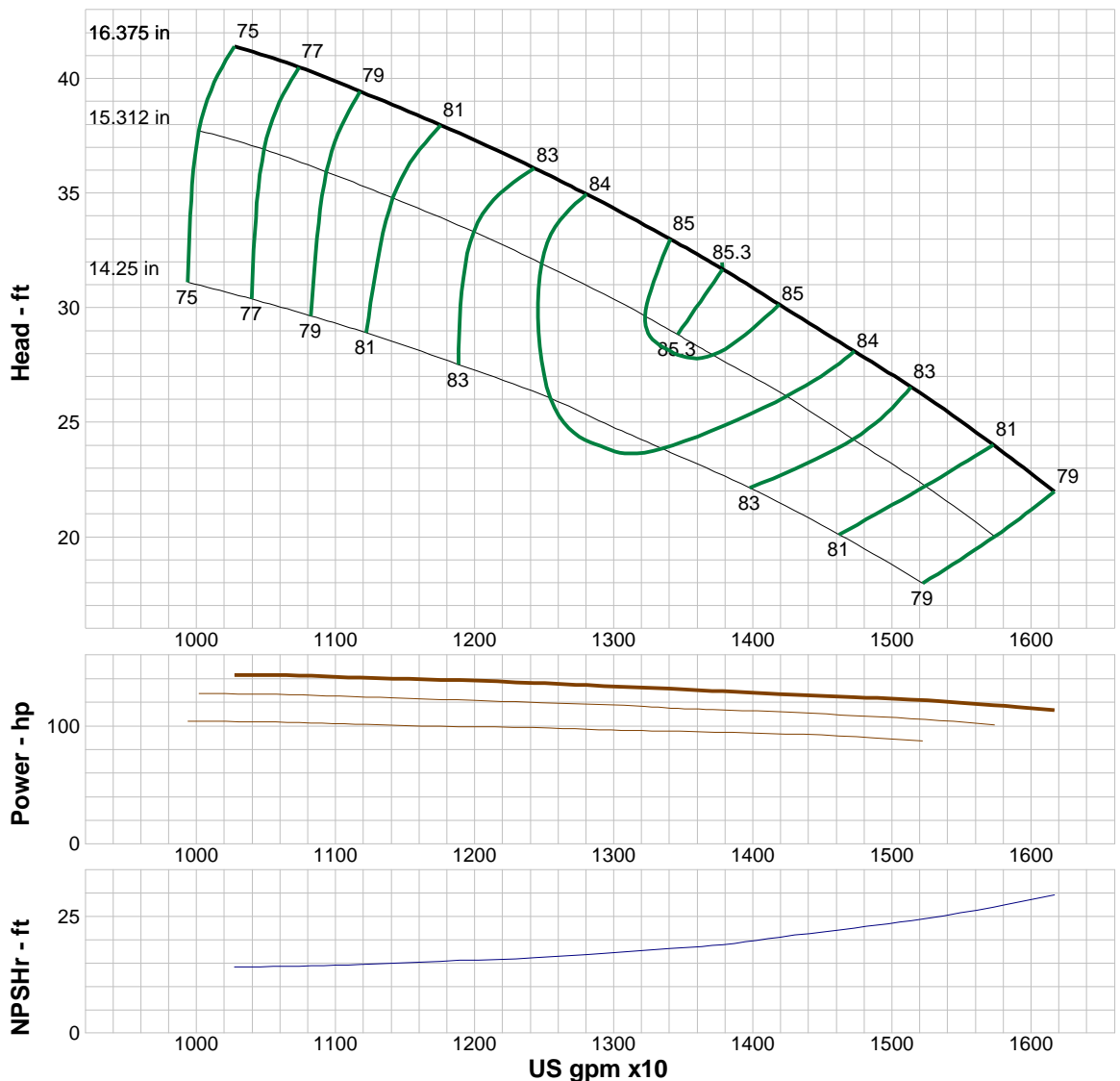
Shutoff head: 54 ft  
 Shutoff dP: 23.4 psi  
 Min flow: 6201 US gpm  
 BEP: 85.3% @ 13780 US gpm  
 NOL power:  
 148 hp @ 6201 US gpm

**-- Max Curve --**

Max power:  
 148 hp @ 6201 US gpm

**--Additional Data--**

Std. Shaft Diameter :2 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.7  
 Add Stage WT-LB:1070.0  
 Impeller Weight:338.7 lb  
 Min. Submergence:38"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
15516	705	24.9	81.7	119	26
12930	705	34.5	84.2	134	17.1
10344	705	41.2	75.3	143	14.2
7758	705	46.2	64.3	146	13.3
5172	705	---	---	---	---



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

Name:

Date: 9/20/2017

**Pump:**

Size: 24MFX-1A (1 stage)  
 Type: LINE MFX  
 Synch speed: 900 rpm  
 Curve: ETTBDES-90  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 880 rpm  
 Dia: 16.375 in  
 Impeller: 24MFX-1A  
 Ns: 6232  
 Nss:9744  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 3.3  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 17200 US gpm  
 Head: 49.4 ft  
 Eff: 85.3%  
 Power: 251 hp  
 NPSHr: 27.1 ft

**---- Design Curve ----**

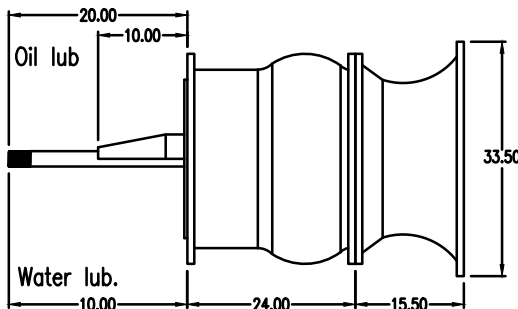
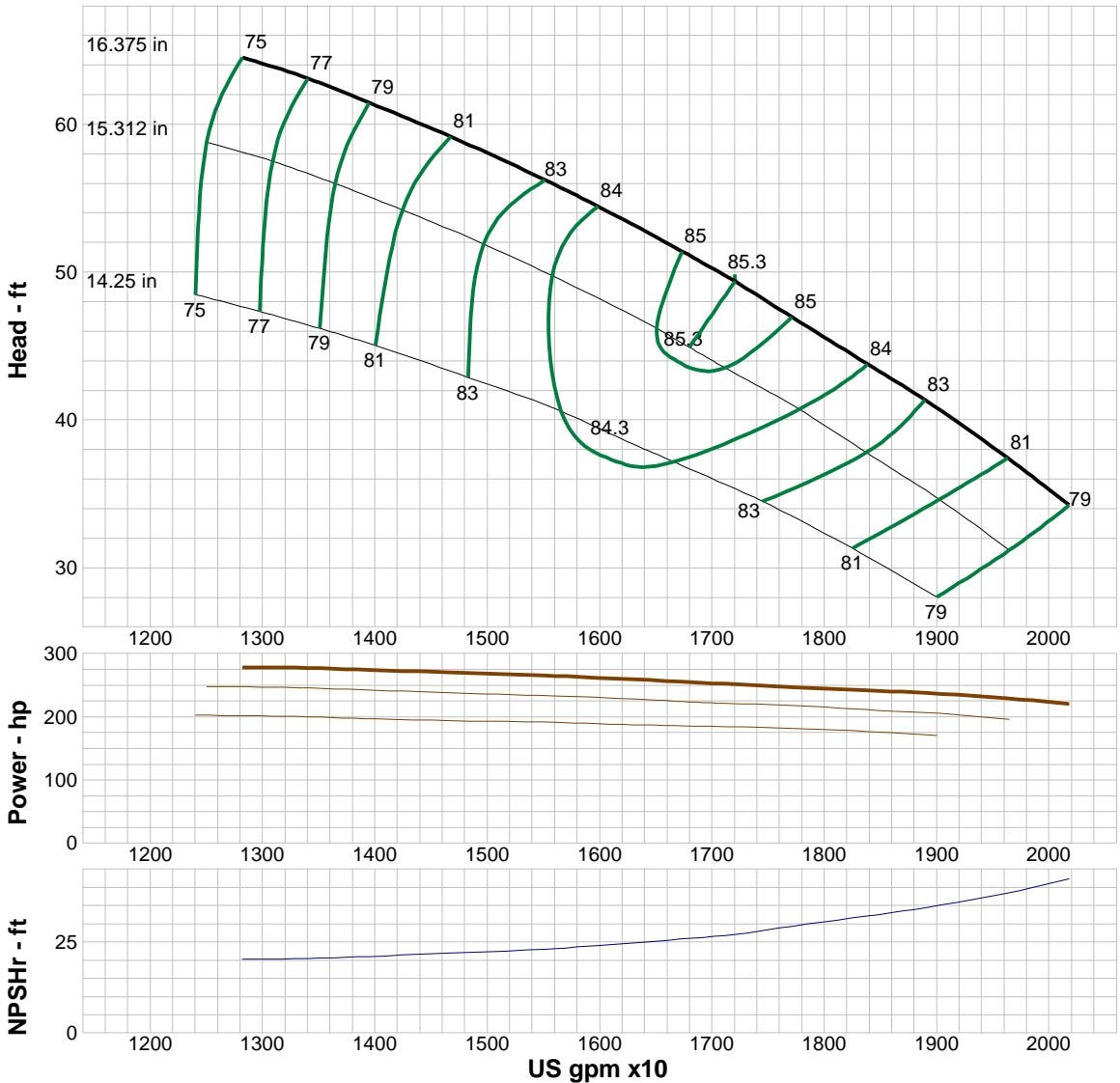
Shutoff head: 84.2 ft  
 Shutoff dP: 36.4 psi  
 Min flow: 7740 US gpm  
 BEP: 85.3% @ 17200 US gpm  
 NOL power:  
 287 hp @ 7740 US gpm

**-- Max Curve --**

Max power:  
 287 hp @ 7740 US gpm

**--Additional Data--**

Std. Shaft Diameter : 2 11/16"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.7  
 Add Stage WT-LB:1070.0  
 Impeller Weight:338.7 lb  
 Min. Submergence: 59"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
19368	880	38.8	81.7	232	37.1
16140	880	53.8	84.2	260	24.4
12912	880	64.3	75.3	278	20.3
9684	880	72	64.3	284	18.9
6456	880	---	---	---	---



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

Name:

Date: 9/20/2017

**Pump:**

Size: 24MFX-2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 590 rpm  
 Curve: ETTBEEES-60  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 600 rpm  
 Dia: 16.5 in  
 Impeller: 24MFX-2A  
 Ns: 6563  
 Nss: 8939  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size:4.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 13601 US gpm  
 Head: 24.8 ft  
 Eff: 85%  
 Power: 100 hp  
 NPSHr: 2.35 ft

**---- Design Curve ----**

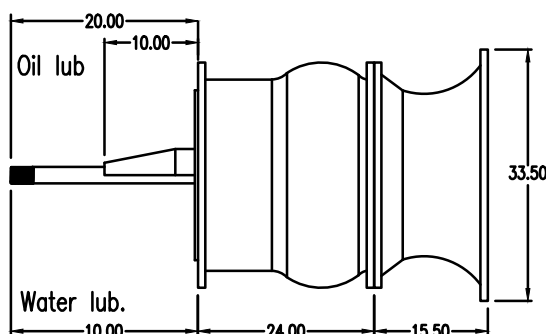
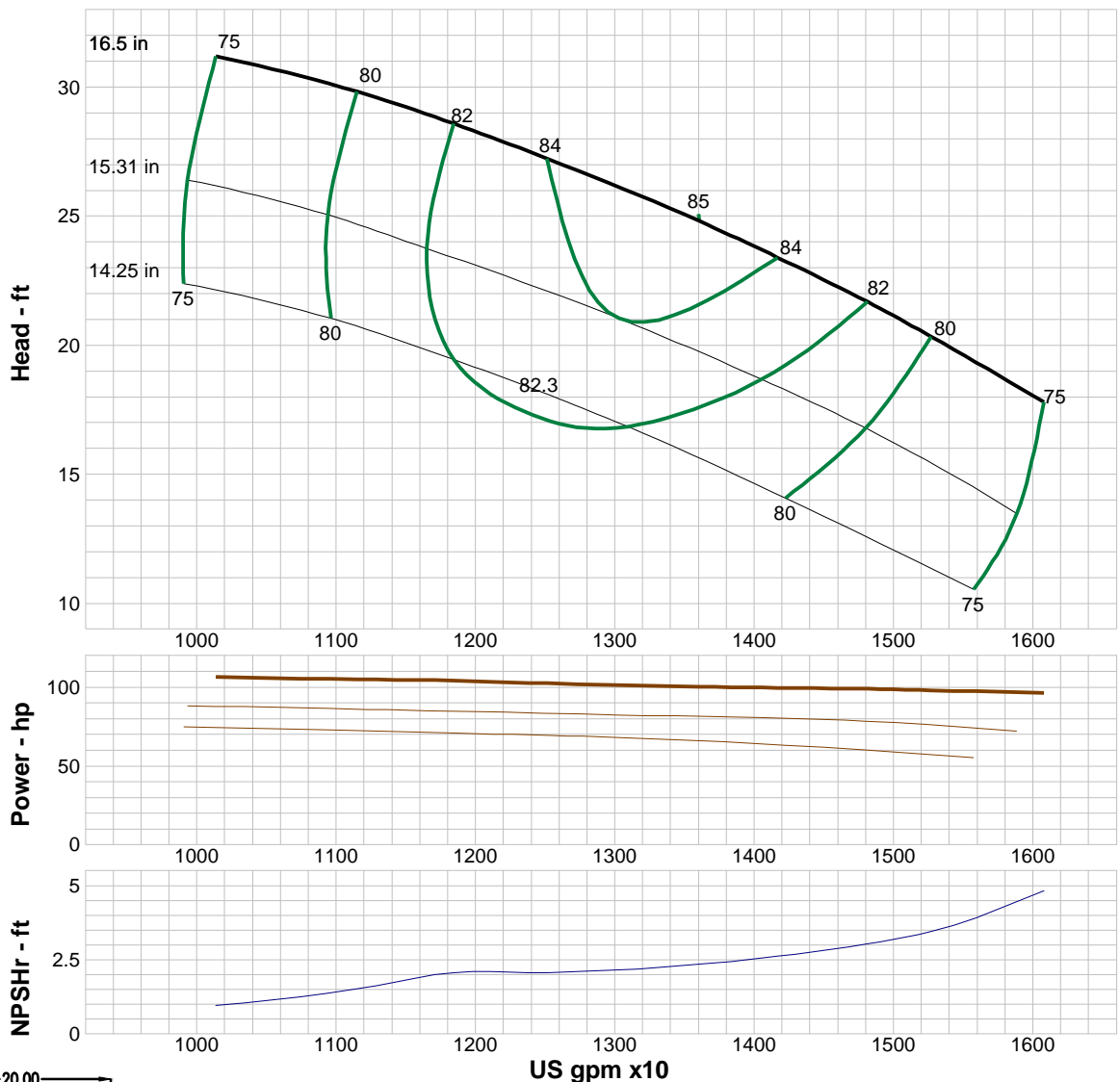
Shutoff head: 34 ft  
 Shutoff dP: 14.7 psi  
 Min flow: 5776 US gpm  
 BEP: 85% @ 13601 US gpm  
 NOL power:  
 113 hp @ 5776 US gpm

**-- Max Curve --**

Max power:  
 113 hp @ 5776 US gpm

**--Additional Data--**

Std. Shaft Diameter :2 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.9  
 Add Stage WT-LB:1070.0  
 Impeller Weight: 338.7lb  
 Min. Submergence:27"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
15432	600	19.8	79	97.6	3.73
12860	600	26.5	84.3	102	2.16
10288	600	31	75.8	106	1.05
7716	600	34.4	63.1	110	-0.35
5144	600	---	---	---	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1





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

Name:

Date: 9/26/2017

**Pump:**

Size: 24MFX-2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 700 rpm  
 Curve: ETTBDES-70  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 705 rpm  
 Dia: 16.5 in  
 Impeller: 24MFX-2A  
 Ns: 6282  
 Nss: 8557  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 4.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 15982 US gpm  
 Head: 34.3 ft  
 Eff: 85%  
 Power: 163 hp  
 NPSHr: 3.04 ft

**---- Design Curve ----**

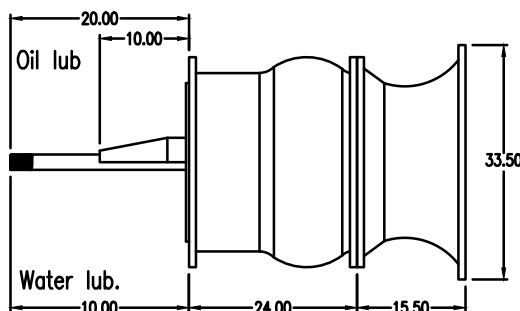
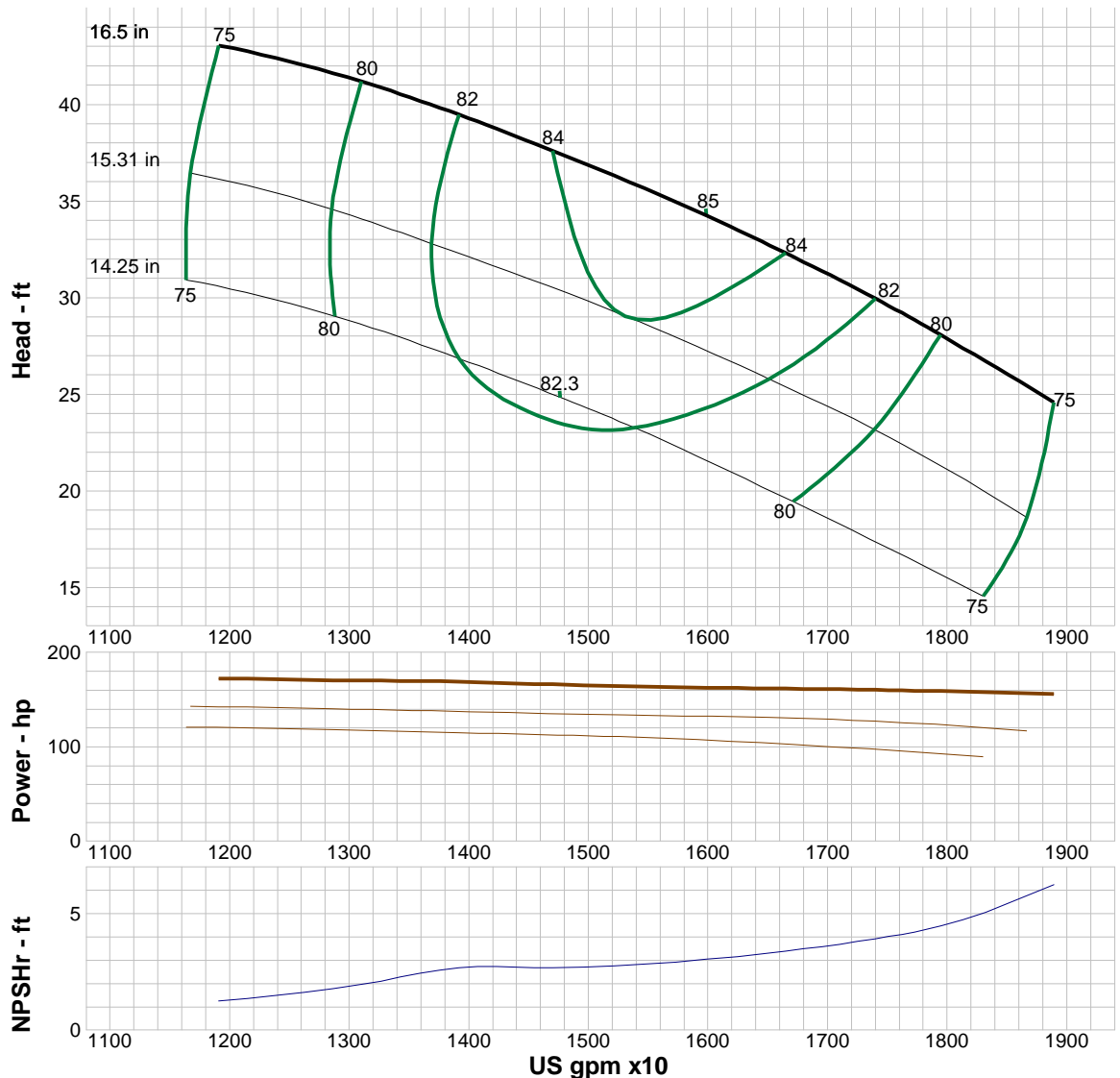
Shutoff head: 46.9 ft  
 Shutoff dP: 20.3 psi  
 Min flow: 7210 US gpm  
 BEP: 85% @ 15982 US gpm  
 NOL power:  
 182 hp @ 7210 US gpm

**-- Max Curve --**

Max power:  
 182 hp @ 7210 US gpm

**--Additional Data--**

Std. Shaft Diameter :2 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.7  
 Add Stage WT-LB:1070.0  
 Impeller Weight:338.7 lb  
 Min. Submergence: 38"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
18133	705	27.4	79	158	4.83
15111	705	36.5	84.3	165	2.8
12089	705	42.8	75.8	172	1.36
9067	705	47.5	63.1	178	-0.452
6044	705	---	---	---	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1



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

Name:

Date: 9/20/2017

**Pump:**

Size: 24MFX-2A (1 stage)  
 Type: LINE MFX  
 Synch speed: 900 rpm  
 Curve: ETTBEEES-90  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 880 rpm  
 Dia: 16.5 in  
 Impeller: 24MFX-2A  
 Ns: 6282  
 Nss: 8557  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 4.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 19949 US gpm  
 Head: 53.4 ft  
 Eff: 85%  
 Power: 316 hp  
 NPSHr: 4.33 ft

**---- Design Curve ----**

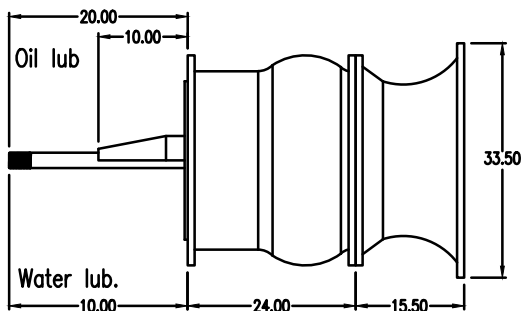
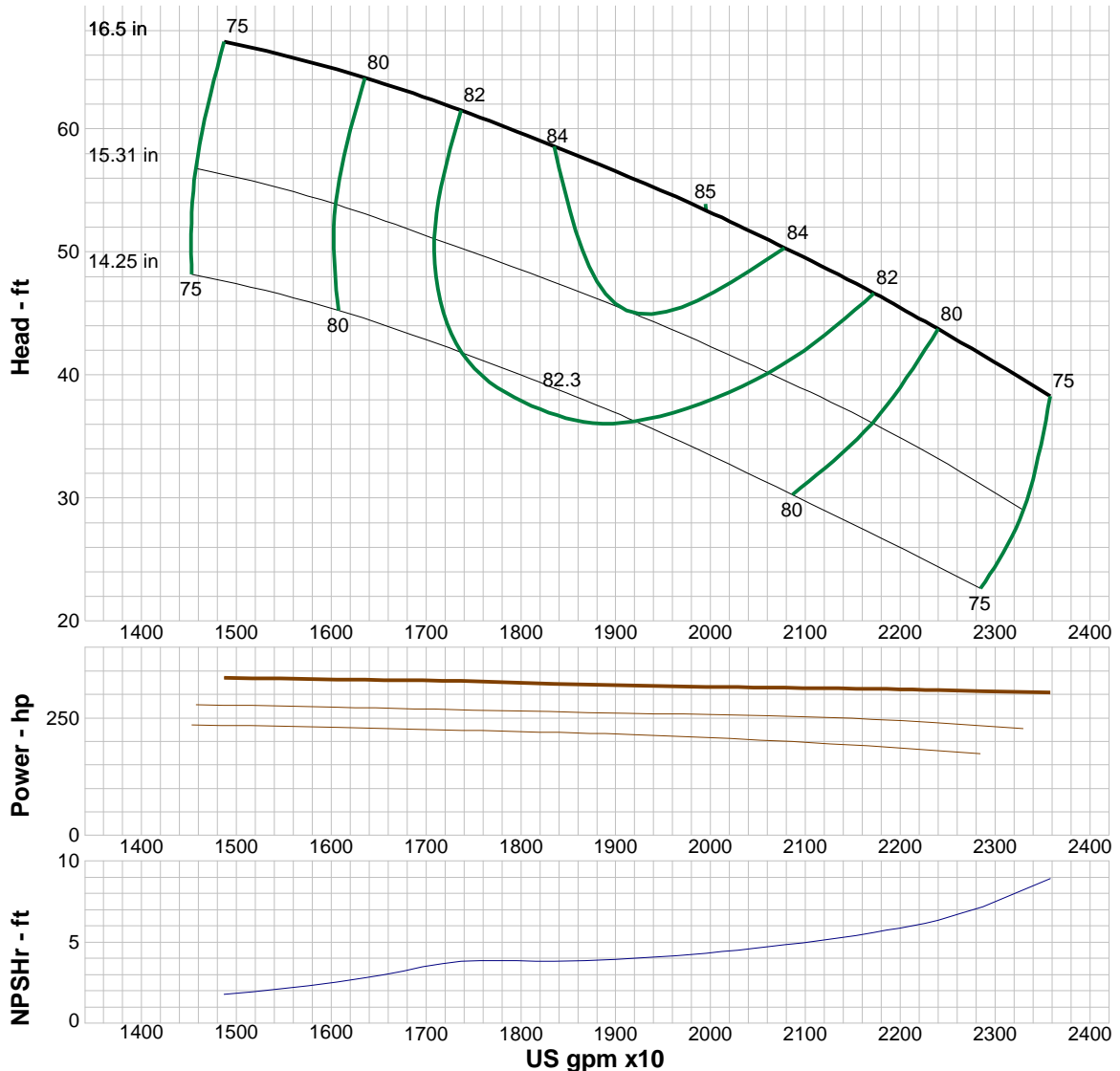
Shutoff head: 73 ft  
 Shutoff dP: 31.6 psi  
 Min flow: 9000 US gpm  
 BEP: 85% @ 19949 US gpm  
 NOL power:  
 354 hp @ 9000 US gpm

**-- Max Curve --**

Max power:  
 354 hp @ 9000 US gpm

**--Additional Data--**

Std. Shaft Diameter : 2 11/16"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.9  
 Add Stage WT-LB:1070.0  
 Impeller Weight: 338.7lb  
 Min. Submergence: 59"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIO AL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
22634	880	42.6	79	308	6.89
18862	880	56.9	84.3	321	3.99
15090	880	66.6	75.8	335	1.94
11317	880	74	63.1	346	-0.645
7545	880	---	---	---	---



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

Name:

Date: 9/20/2017

**Pump:**

Size: 24MFX-3A (1 stage)  
 Type: LINE MFX  
 Synch speed: 590 rpm  
 Curve: ETTBFES-60  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 600 rpm  
 Dia: 16.5 in  
 Impeller: 24MFX-3A  
 Ns: 6028  
 Nss: 9171  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 4.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 14687 US gpm  
 Head: 29.4 ft  
 Eff: 85%  
 Power: 128 hp  
 NPSHr: 19.1 ft

**---- Design Curve ----**

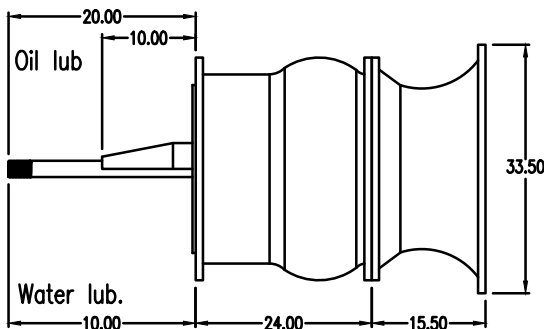
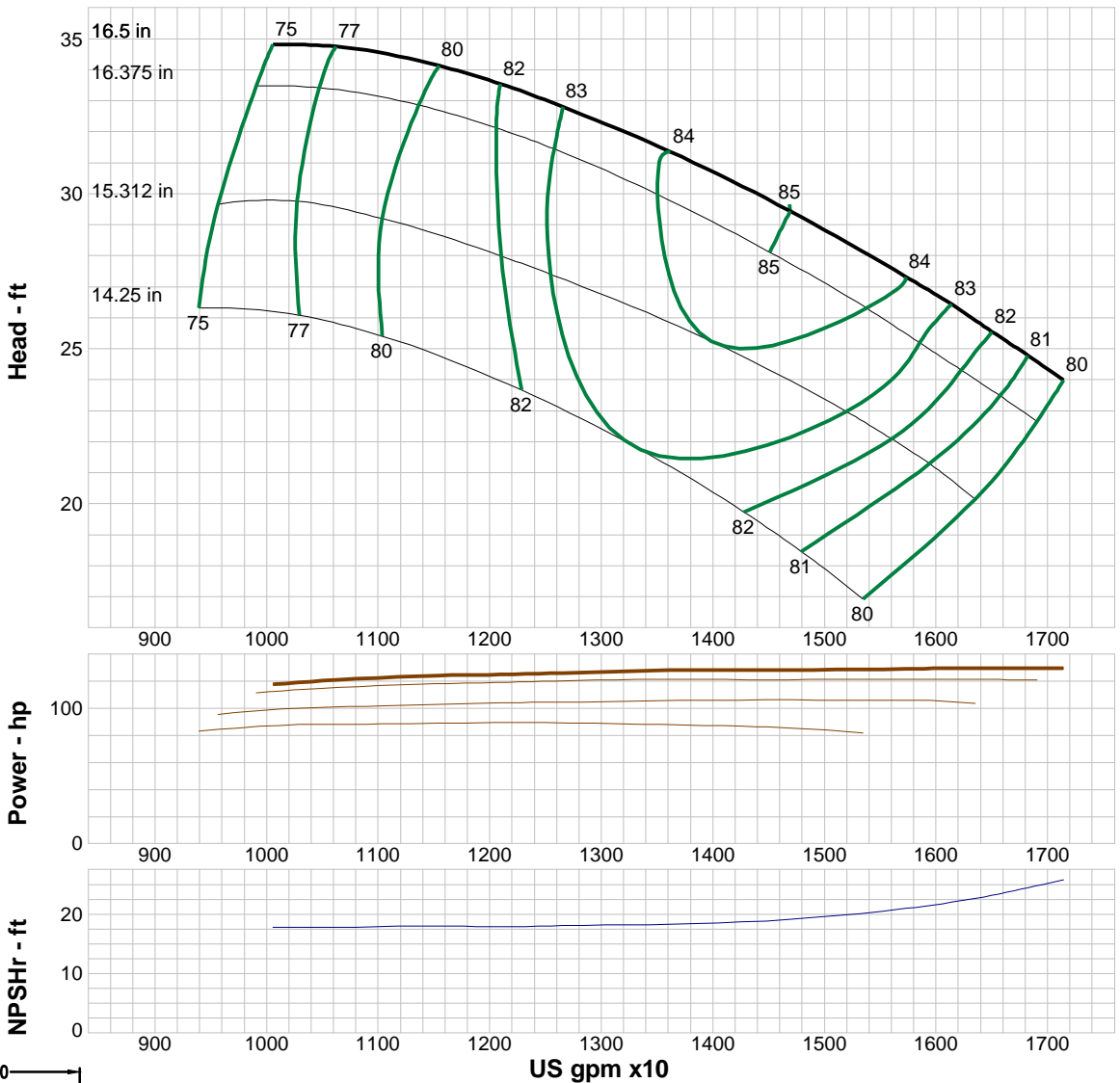
Shutoff head: 37 ft  
 Shutoff dP: 16 psi  
 Min flow: 6210 US gpm  
 BEP: 85% @ 14687 US gpm  
 NOL power:  
 130 hp @ 16819 US gpm

**-- Max Curve --**

Max power:  
 130 hp @ 16819 US gpm

**--Additional Data--**

Std. Shaft Diameter :2 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.9  
 Add Stage WT-LB:1070.0  
 Impeller Weight:338.7lb  
 Min. Submergence:27"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
16454	600	25.7	82.1	130	23
13712	600	31.2	84.1	128	18.4
10970	600	34.5	78.2	122	17.9
8227	600	35	68.5	108	17.8
5485	600	---	---	---	---



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

Name:

Date: 9/26/2017

**Pump:**

Size: 24MFX-3A (1 stage)  
 Type: LINE MFX  
 Synch speed: 700 rpm  
 Curve: ETTBFES-70  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 705 rpm  
 Dia: 16.5 in  
 Impeller: 24MFX-3A  
 Ns: 5700  
 Nss: 8780  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size:4.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 17257 US gpm  
 Head: 40.7 ft  
 Eff: 85%  
 Power: 208 hp  
 NPSHr: 24.8 ft

**---- Design Curve ----**

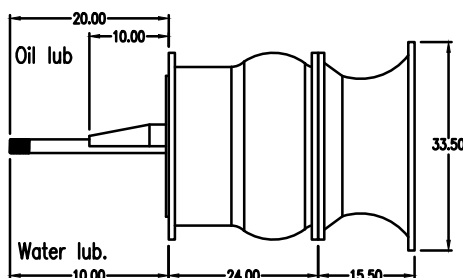
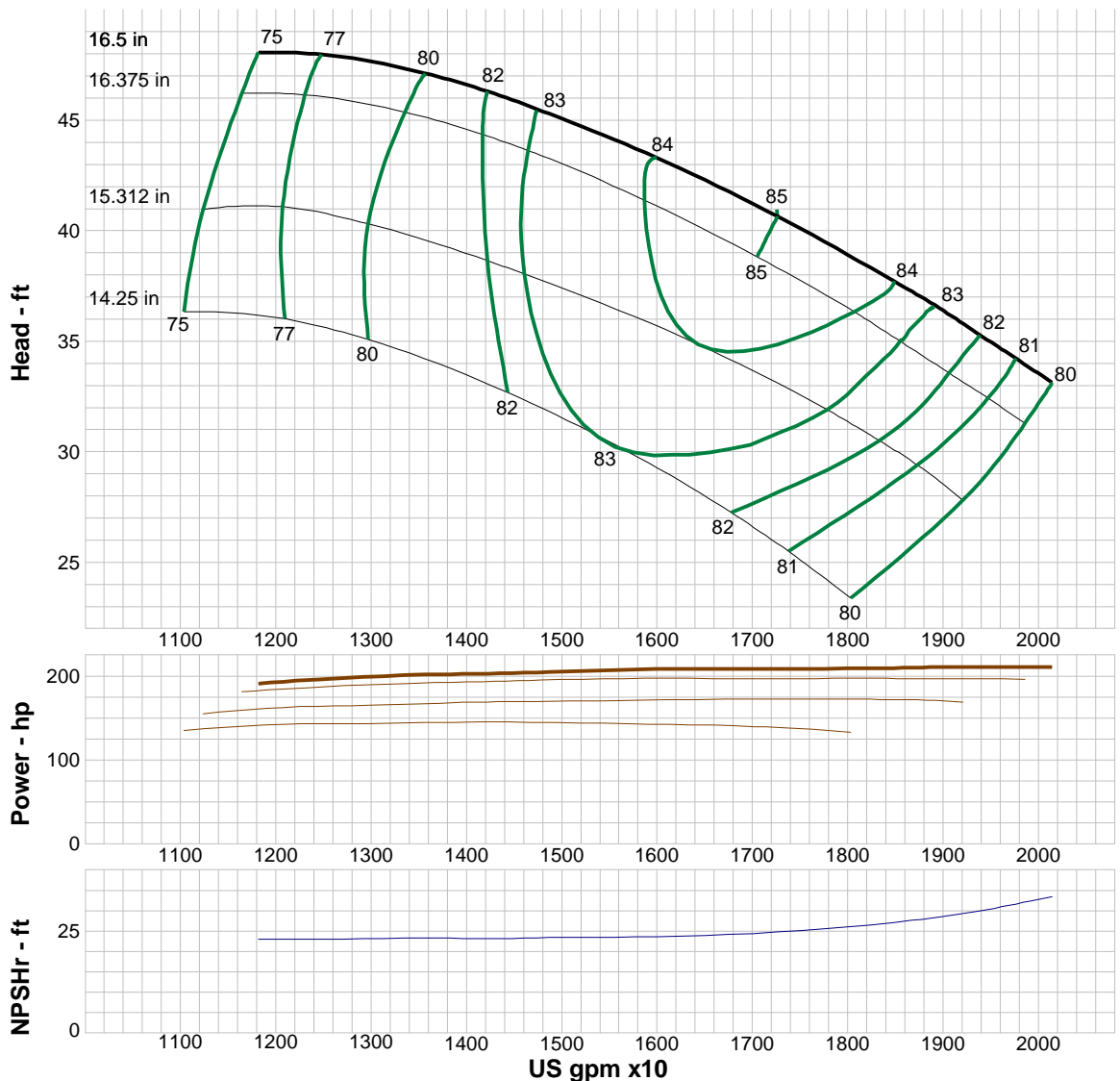
Shutoff head: 51.1 ft  
 Shutoff dP: 22.1 psi  
 Min flow: 7751 US gpm  
 BEP: 85% @ 17257 US gpm  
 NOL power:  
 211 hp @ 19762 US gpm

**-- Max Curve --**

Max power:  
 211 hp @ 19762 US gpm

**--Additional Data--**

Std. Shaft Diameter :2 11/16  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting:0.02  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.7  
 Add Stage WT-LB:1070.0  
 Impeller Weight:338.7 lb  
 Min. Submergence:38"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
19333	705	35.4	82.1	211	29.8
16111	705	43.1	84.1	208	23.8
12889	705	47.7	78.2	198	23.1
9667	705	48.3	68.5	174	23
6444	705	---	---	---	---

Selected from catalog: LINEA MFX.60.18.09.VEL.MIXTAS Vers: 1



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

Name:

Date: 9/20/2017

**Pump:**

Size: 24MFX-3A (1 stage)  
 Type: LINE MFX  
 Synch speed: 900 rpm  
 Curve: ETTBFES-90  
 Specific Speeds:  
 Dimensions:  
 Vertical Turbine:  
 Speed: 880 rpm  
 Dia: 16.5 in  
 Impeller: 24MFX-3A  
 Ns: 5770  
 Nss: 8780  
 Suction: 33.5 in  
 Discharge: 30 in  
 Bowl size: 30 in  
 Max lateral: ---  
 Thrust K factor: 125 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: 120 psi g  
 Sphere size: 4.0  
 Power: ---  
 Eye area: ---

**---- Data Point ----**

Flow: 21540 US gpm  
 Head: 63.3 ft  
 Eff: 85%  
 Power: 405 hp  
 NPSHr: 35.3 ft

**---- Design Curve ----**

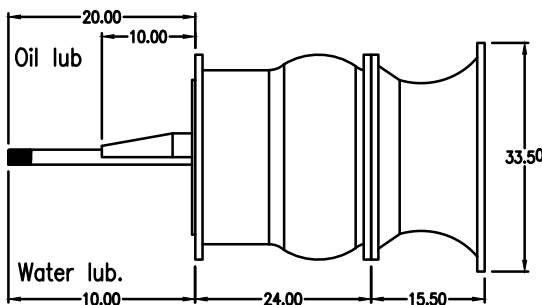
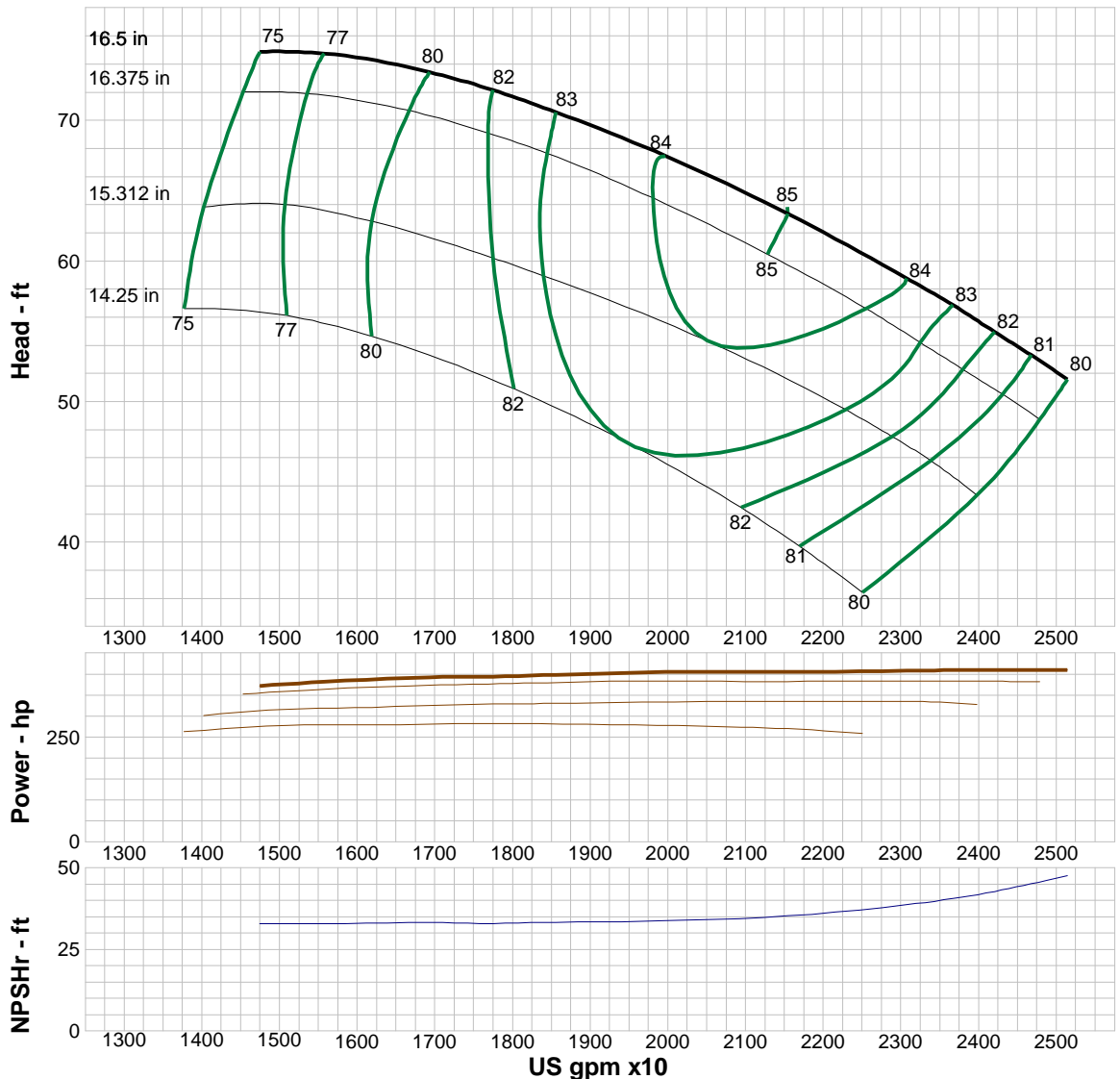
Shutoff head: 79.6 ft  
 Shutoff dP: 34.5 psi  
 Min flow: 9675 US gpm  
 BEP: 85% @ 21540 US gpm  
 NOL power:  
 410 hp @ 24668 US gpm

**-- Max Curve --**

Max power:  
 410 hp @ 24668 US gpm

**--Additional Data--**

Std. Shaft Diameter : 2 11/16"  
 Max. Shaft Diameter: C.F.  
 Opt. Lateral Setting: 0.02"  
 Std. Lateral:0.5  
 One Stage Water Lub. WT-LB:1414.7  
 One Stage Oil Lub. WT-LB:1474.7  
 Add Stage WT-LB:1070.0  
 Impeller Weight: 338.7lb  
 Min. Submergence: 59"



PARA PASOS ADICIONALES SUMAR 10.38"  
 AL PASO ADICIONAL DEL ADAPTADOR

**Performance Evaluation:**

Flow US gpm	Speed rpm	Head ft	Efficiency %	Power hp	NPSHr ft
24133	880	55.2	82.1	410	42.5
20111	880	67.1	84.1	405	33.9
16089	880	74.2	78.2	386	33
12067	880	75.3	68.5	339	32.8
8044	880	---	---	---	---