

## Pump Performance Datasheet

Customer :	Quote Number / ID :	1141840
Customer ref. / PO :	Model :	20953-2P-30HP LCSE
Tag Number : Hurley Engineerin	Stages :	1
Service : HYDONIC	Based on curve number :	RC2215-SS-8.13 Rev 0
Quantity : 1	Basic model number :	-
	Date last saved :	03/29/2020 11:57 PM

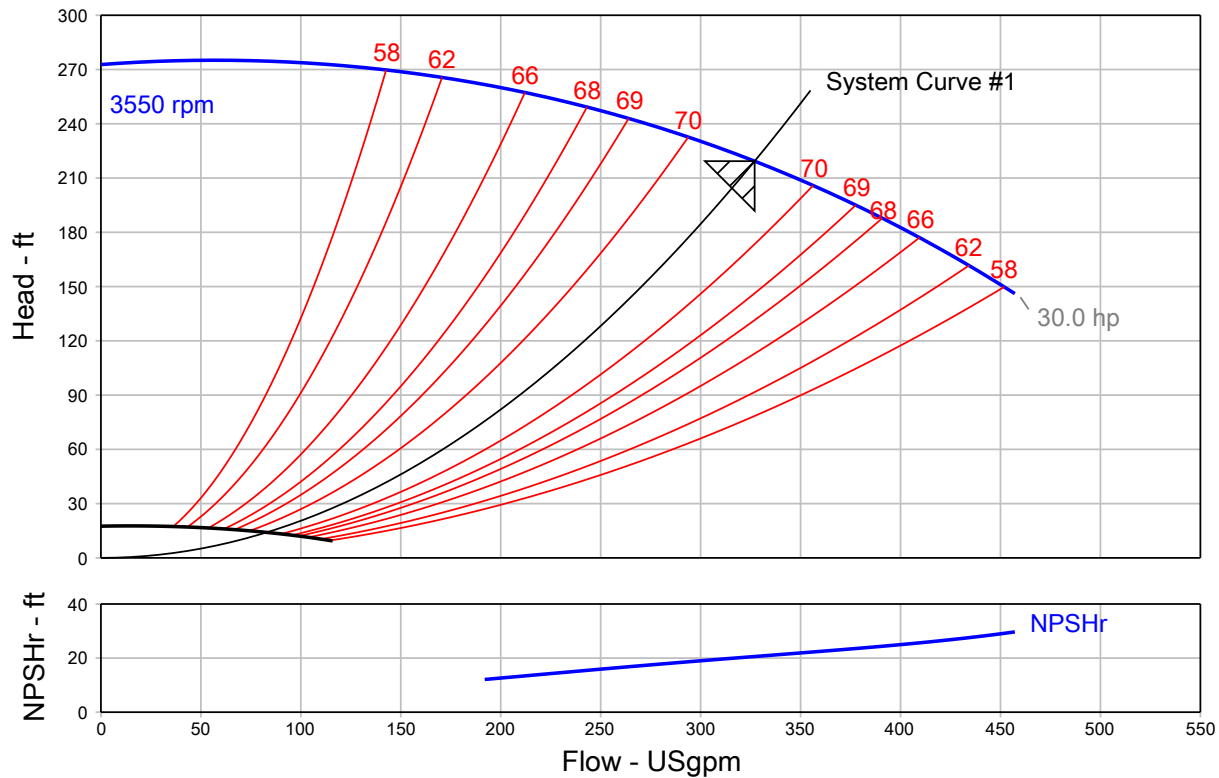
Operating Conditions		Liquid	
Flow, rated	: 327.0 USgpm	Liquid type	: Cold Water
Differential head / pressure, rated (requested)	: 219.3 ft	Additional liquid description	:
Differential head / pressure, rated (actual)	: 219.3 ft	Solids diameter, max	: 0.00 in
Suction pressure, rated / max	: 0.00 / 0.00 psi.g	Solids concentration, by volume	: 0.00 %
NPSH available, rated	: Ample	Temperature, max	: 68.00 deg F
Frequency	: 60 Hz	Fluid density, rated / max	: 1.000 / 1.000 SG
		Viscosity, rated	: 1.00 cP
		Vapor pressure, rated	: 0.34 psi.a

Performance		Material	
Speed, rated	: 3550 rpm	Material selected	: Cast Iron
Speed, maximum	: 3550 rpm		
Speed, minimum	: 900 rpm		
Impeller diameter, rated	: 8.13 in		
Efficiency	: 70.44 %		
NPSH required / margin required	: 20.58 / 0.00 ft		
nq (imp. eye flow) / S (imp. eye flow)	: 22 / 128 Metric units		
MCSF	: 170.4 USgpm		
Head maximum, rated speed	: 275.1 ft		
Head rise to shutoff	: 24.35 %		
Flow, best eff. point	: 327.0 USgpm		
Flow ratio, rated / BEP	: 100.00 %		
Speed ratio (rated / max)	: 100.00 %		
Head ratio (rated speed / max speed)	: 100.00 %		
Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010]	: 1.00 / 1.00 / 1.00 / 1.00		
Selection status	: Acceptable		

Pressure Data	
Maximum working pressure	: 119.1 psi.g
Maximum allowable working pressure	: 175.0 psi.g
Maximum allowable suction pressure	: 175.0 psi.g
Hydrostatic test pressure	: 263.0 psi.g

Driver & Power Data (@Max density)	
Motor sizing specification	: Max power (non-overloading)
Margin over specification	: 0.00 %
Service factor	: 1.00 (used)
Power, hydraulic	: 18.11 hp
Rated power (based on duty point)	: 25.71 hp
Max power (non-overloading)	: 29.81 hp
Nameplate motor rating	: 30.00 hp / 22.37 kW (Fixed)

Energy Indexes	
PEI (VL)	: 0.49
ER (VL)	: 51



## Grundfos Series LCSE - Split Coupled End Suction Pump with Integrated VFD

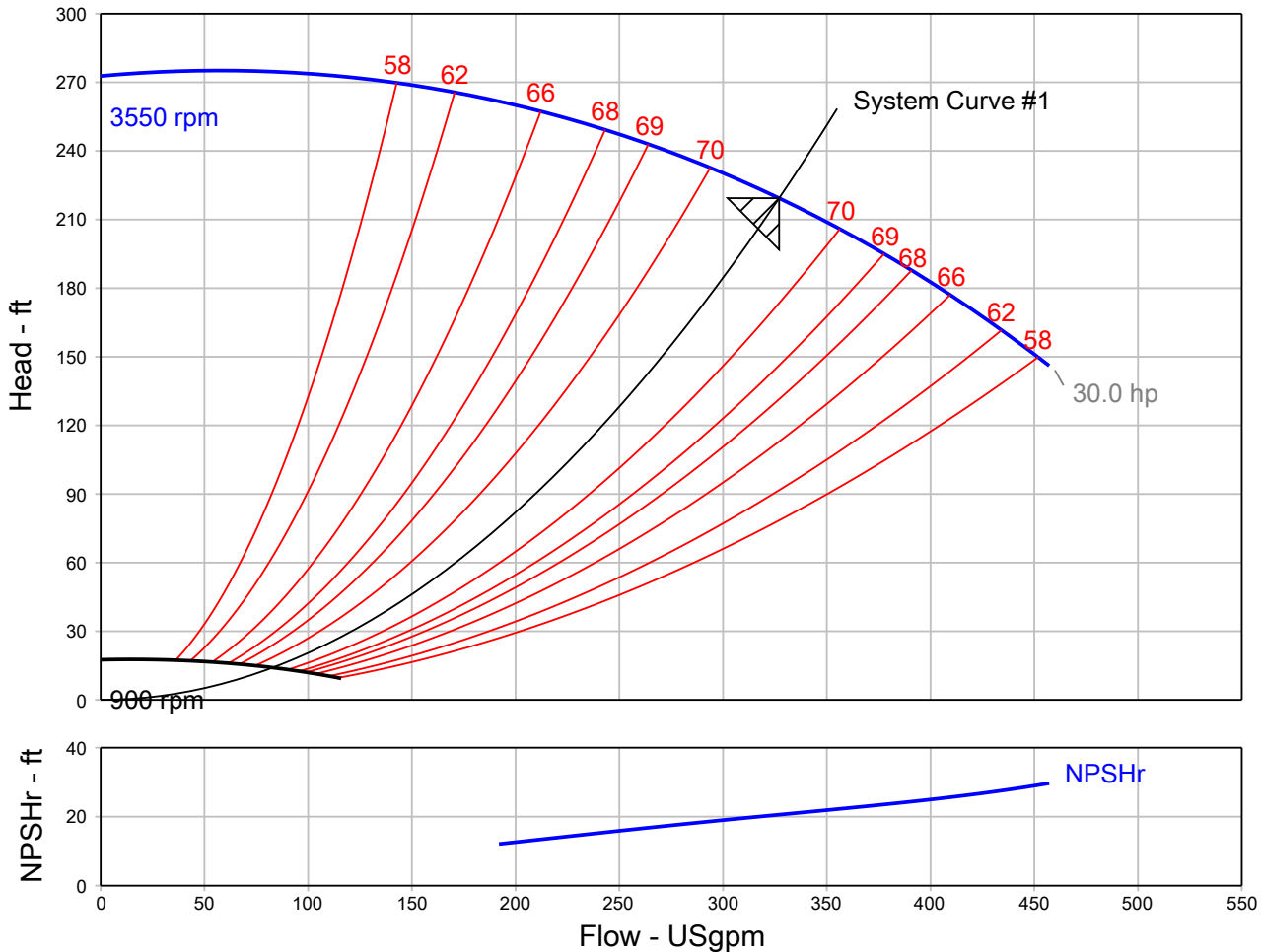
QUOTE NUMBER / ID 1141840	UNIT TAG Hurley Engineerin	QUANTITY 1
	SERVICE HYDONIC	
REPRESENTATIVE	SUBMITTED BY	DATE
ENGINEER	APPROVED BY	DATE
CONTRACTOR	ORDER #	DATE



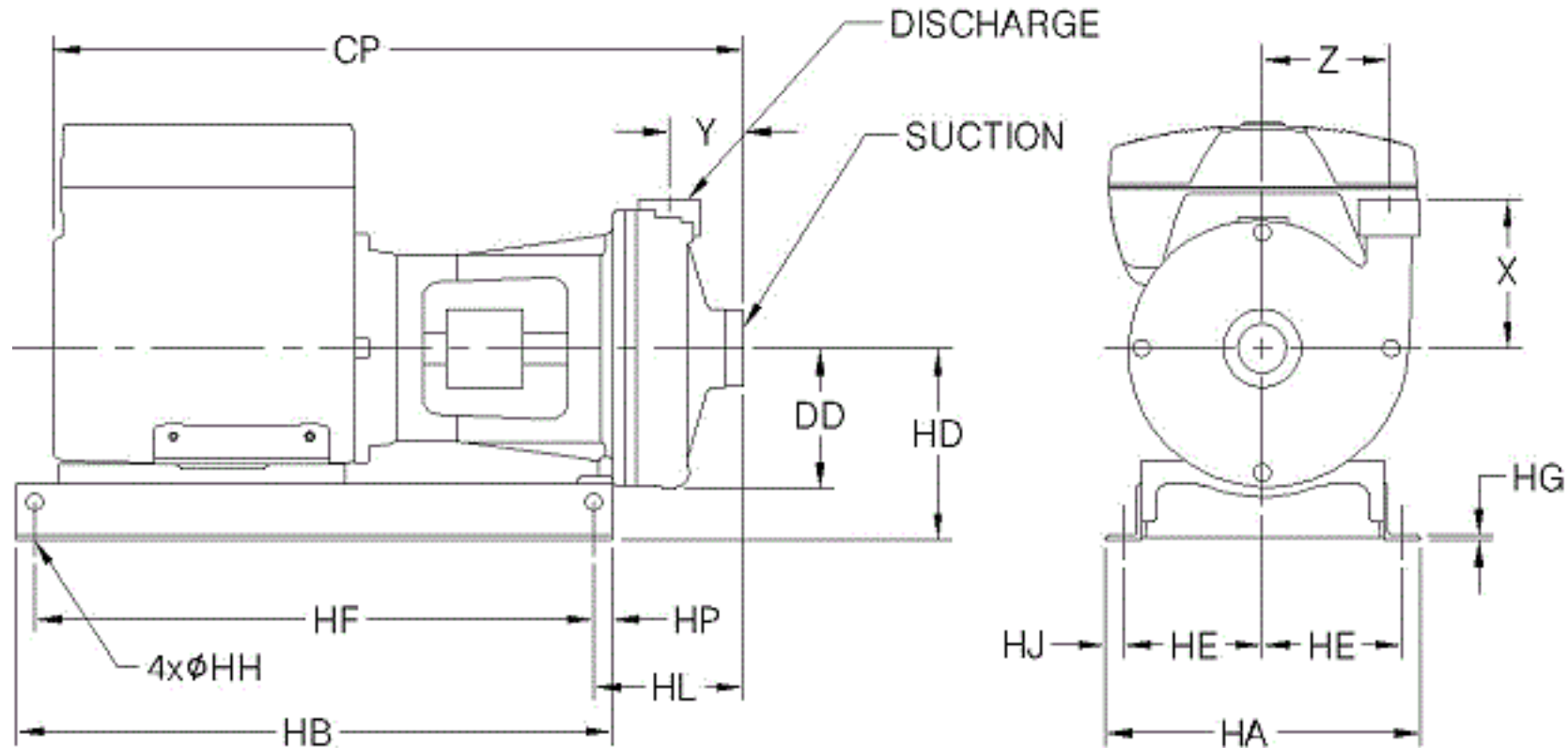
**LCSE 20953-2P-30HP**  
**3530 rpm**

Part Number N/A

Conditions of Service		Pump Data		Motor Data	
Flow	327.0 USgpm	Impeller Diameter	8.13 in	Motor HP	30 HP
Head	219.3 ft	Efficiency	70.44 %	BHP	25.71
Liquid	Cold Water	Suction	2.5 in.	Enclosure	TEFC
Temperature	68.00 deg F	Discharge	2 in.	Voltage	460 V
NPSHr	20.58 ft	PEI (VL)	0.49	Phase	3 Phase
Viscosity	1.00 cP	ER (VL)	51	Cycle	60
Specific Gravity	1.000 SG			Frame Size	286TSC



**Grundfos Series LCSE - Split Coupled End Suction Pump with Integrated VFD**



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Units	Frame	Suct	Disch	CP	DD	HA	HB	HD	HE	HF	HG	HH	HJ	HL	HP	X	Y	Z
inches	286TSC	2.5	2	42.00	6.70	17.00	32.00	10.25	7.50	30.00	0.25	0.63	1.00	7.05	1.00	6.00	3.75	5.75

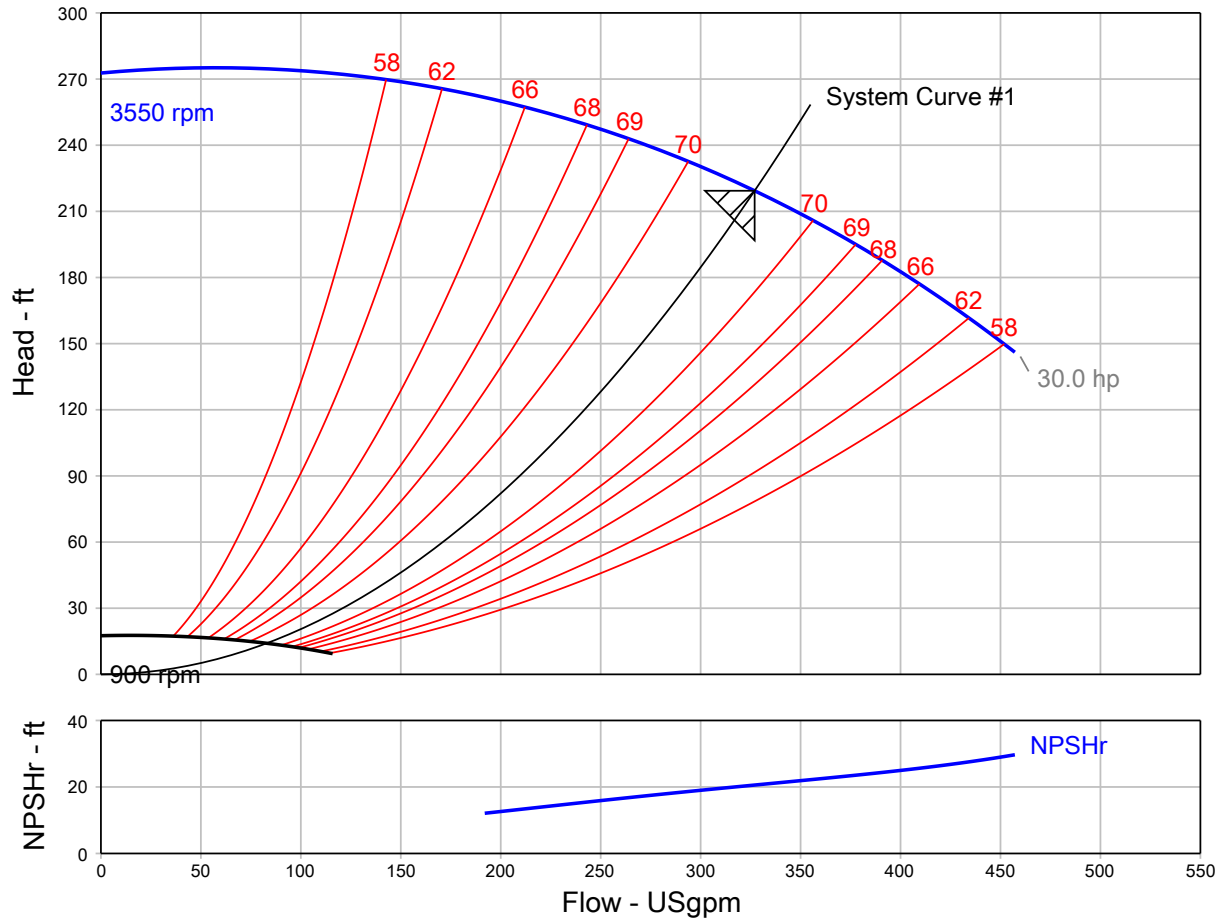
**Grundfos Series LCSE - Split Coupled End Suction Pump with Integrated VFD**

<b>QUOTE NUMBER / ID 1141840</b>	<b>UNIT TAG Hurley Engineerin</b>	<b>LCSE 20953-2P-30HP</b>
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<b>MATERIALS OF CONSTRUCTION</b>			
<b>PART</b>	<b>MATERIAL</b>	<b>PART</b>	<b>MATERIAL</b>
Rotation Options	Clockwise	Impeller Washer	S.S., AISI-303
Base/Stand Type	Steel Base / Cast Iron	Impeller Key	Steel, AISI 1045
Bushing	Vesconite	Coupling Options	Rigid Aluminum Axially Split Coupling
Wear Ring Material	Vesconite	Pump Coatings	Standard Paint
Seal Type	Type 21	Seal Material	Ceramic/Carbon/Buna
O-Rings	Buna N	Casing	Cast Iron, ASTM-A48, CL 30
Backplate/Seal Plate	Cast Iron, ASTM-A48, CL 30	Seal Flush Options	External Flush, plastic tubing
Gaskets	Vegetable Fiber	Motor Bracket	Cast Iron, ASTM-A48, CL 30
Casing Bolts	Steel, Grade 5	Impeller	Stainless Steel, AISI-304
Impeller Cap Screw	S.S., AISI-303		

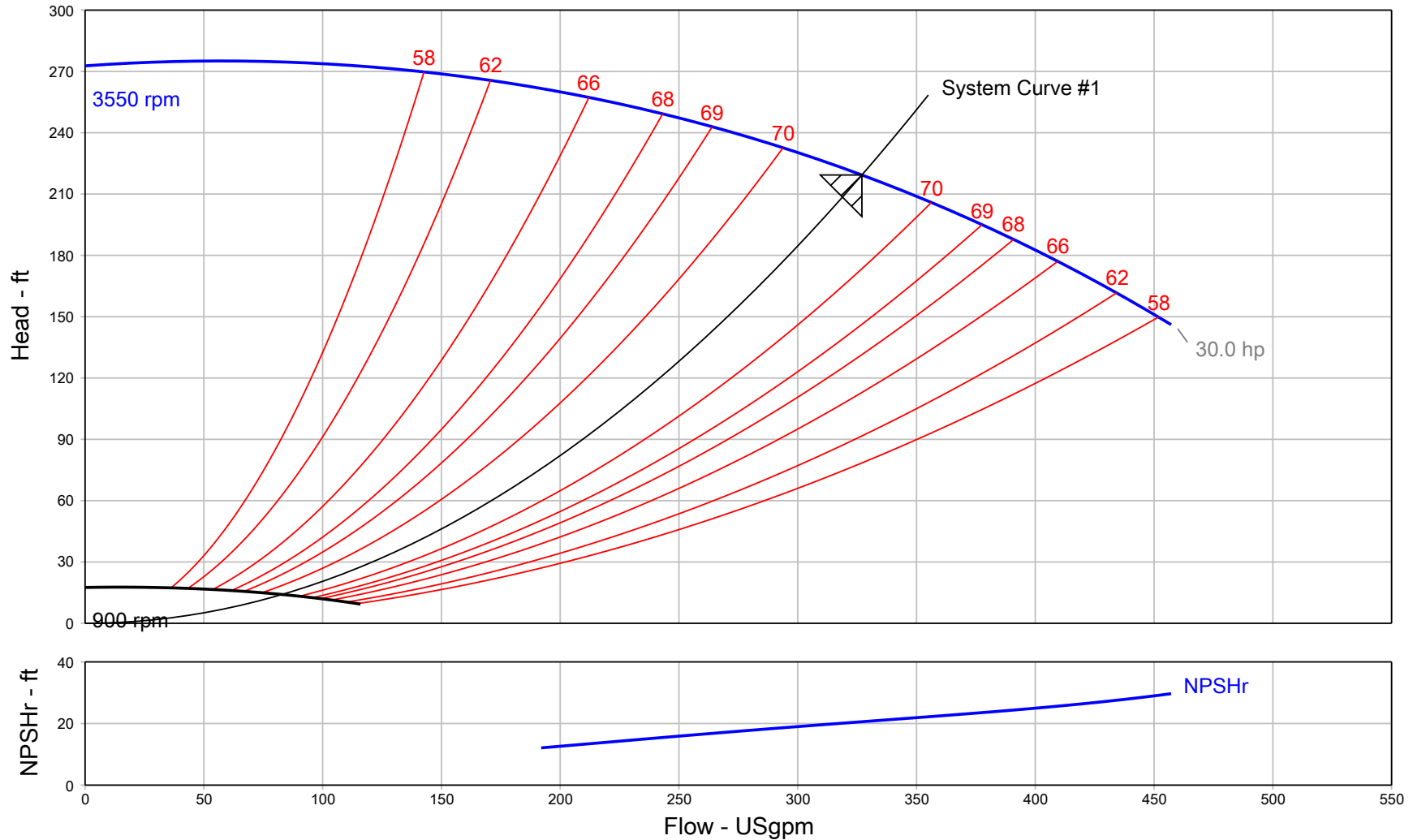
\* All materials based on STANDARD configuration

**Pump Performance Curve**



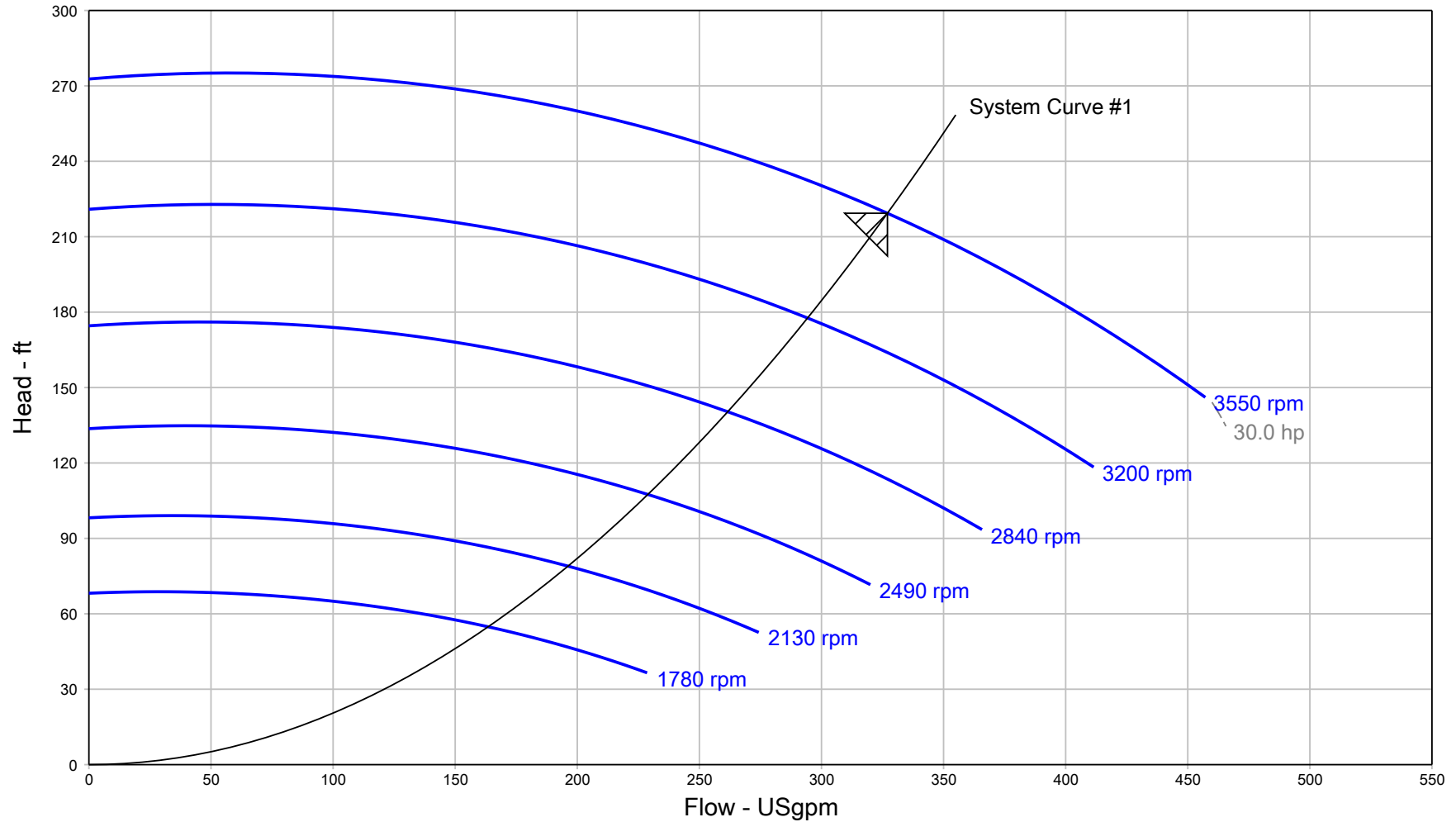
Customer :	Model :	20953-2P-30HP LCSE
Customer ref. / PO :	Stages :	1
Tag Number : Hurley Engineerin	Speed, rated :	3550 rpm
Service : HYDONIC	Based on curve number :	RC2215-SS-8.13 Rev 0
Quantity : 1	Efficiency :	70.44 %
Quote Number / ID : 1141840	Rated power (based on duty point) :	25.71 hp
Date last saved : 03/29/2020 11:57 PM	NPSH required :	20.58 ft
Flow, rated : 327.0 USgpm	Viscosity :	1.00 cP
Differential head / pressure, rated : 219.3 ft	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010] :	1.00 / 1.00 / 1.00 / 1.00
Fluid density, rated / max : 1.000 / 1.000 SG	Impeller diameter, rated :	8.13 in
	PEI (VL) :	0.49
	ER (VL) :	51

**Pump Performance Curve**



Project name : LCSE Project NC	Tag Number : Hurley Engineerin	Flow, rated : 327.0 USgpm
Consulting engineer :	Service : HYDONIC	Differential head / pressure, rated : 219.3 ft
Customer :	Model : 20953-2P-30HP LCSE	Rated power (based on duty point) : 25.71 hp
Customer ref. / PO :	Quantity : 1	Max power (non-overloading) : 29.81 hp
Quote Number / ID : 1141840	Quoted By (Sales Office) : HURLEY ENGINEERING COMPANY	Efficiency : 70.44 %
Date last saved : 03/29/2020 11:57 PM	Quoted By (Sales Engineer) : Steven Leingang	Impeller diameter, rated : 8.13 in
Based on curve number : RC2215-SS-8.13 Rev 0	Stages : 1	PEI (VL) : 0.49
	Speed, rated : 3550 rpm	ER (VL) : 51

**Multi-Speed Performance Curve**



Project name : LCSE Project NC	Tag Number : Hurley Engineerin	Speed, rated : 3550 rpm
Consulting engineer :	Service : HYDONIC	Flow, rated : 327.0 USgpm
Customer :	Model : 20953-2P-30HP LCSE	Differential head / pressure, rated : 219.3 ft
Customer ref. / PO :	Quantity : 1	Fluid density, rated / max : 1.000 / 1.000 SG
Quote Number / ID : 1141840	Quoted By (Sales Office) : HURLEY ENGINEERING COMPANY	Viscosity : 1.00 cP
Date last saved : 03/29/2020 11:57 PM	Quoted By (Sales Engineer) : Steven Leingang	Cq/Ch/Ce/Cn [ANSI/HI 9.6.7-2010] : 1.00 / 1.00 / 1.00 / 1.00
	Stages : 1	Based on curve number : RC2215-SS-8.13 Rev 0

**Construction Datasheet**

Project name	: LCSE Project NC	Tag Number	: Hurley Engineerin
Consulting engineer	:	Service	: HYDONIC
Customer	: HURLEY ENGINEERING COMPANY	Model	: 20953-2P-30HP LCSE
Customer ref. / PO	:	Quantity	: 1
Quote Number / ID	: 1141840	Quoted By (Sales Office)	: HURLEY ENGINEERING COMPANY
Date last saved	: 03/29/2020 11:57 PM	Quoted By (Sales Engineer)	: Steven Leingang

Construction				Motor Information	
Nozzle	Size (in.)	Nozzle Configuration	Pos'n	Manufacturer	: Grundfos MLE
Suction	2.5	NPS	-	Frame Size	: 286TSC
Discharge	2	NPS	-	Power	: 30.00 hp

Orientation / Configuration	: Horizontal	RPM	: 3600 rpm
Rotation	: Clockwise	Enclosure	: TEFC
Wear Ring Configuration	: Single - Case	Operating Power Supply	: 460/3/60
Discharge Elbow Size	: -	Efficiency	: Premium
Subplate	: -	Service factor	: 1.15
Sump Depth (feet)	: -	Motor Application	: Suitable for Variable Speed Drive
Bearing Frame	: -	Motor Options/Accessories	: -
Bearing Frame Foot	: -	Cord Length (feet)	: -

Materials	
Case	: Cast Iron, ASTM A48 - Class 30
Motor Bracket	: Cast Iron, ASTM-A48, CL 30
Impeller	: Stainless Steel, AISI-304 (H304)
Impeller Cap Screw and Washer	: Stainless Steel, AISI-303
Impeller Key	: Stainless Steel, AISI 316
Case wear ring	: Vesconite

Baseplate, Coupling and Guard	
Baseplate	: Welded Steel Fabrication
Drip Pan	: No drip pan
Coupling	: Rigid, Axial Split Coupling (aluminum) RASC4
Guard	: OSHA Approved

Seal & Packing Construction	
Sealing Method	: Single Seal, Type 21
Seal Material	: Buna Carbon Ceramic SS-Spring and Hardware
Packing Gland	: -
Lantern Ring	: -
Recirculation Lines	: Nylon Tubing with Brass Fittings

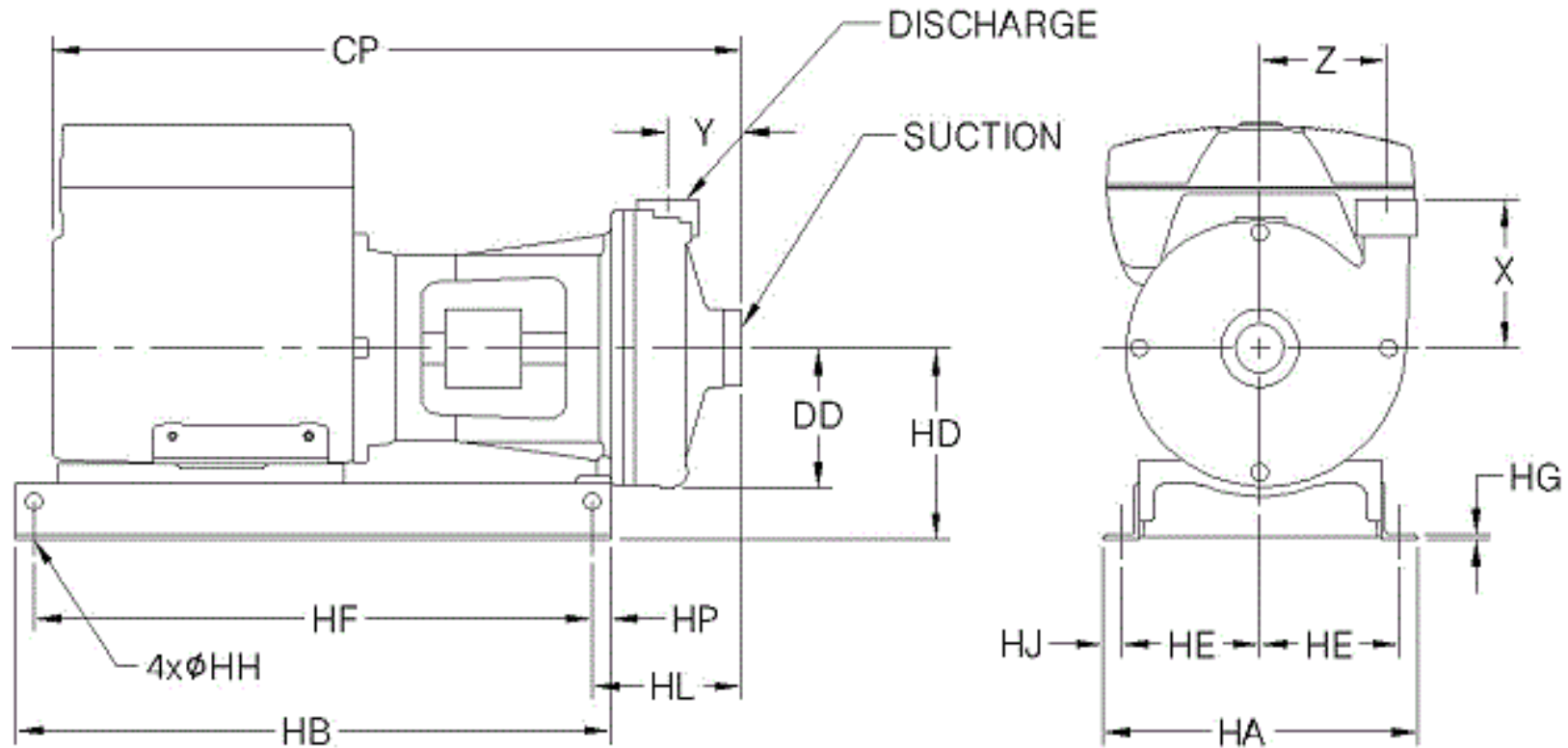
Weights (Approx.)	
Pump	: 75.00 lb
Baseplate	: 61.00 lb
Driver	: 366.0 lb
Estimated Shipping gross weight	: 502.0 lb

Impeller wear ring	: -
Pump Shaft	: Stainless Steel, AISI-303
Sleeve	: -
Line Shaft	: -
Column	: -
Discharge Pipe	: -
Discharge Elbow	: -
Suction Elbow	: -
Subplate	: -
Hardware	: Steel, Grade 5
O Rings	: Buna N
Pump Coatings	: Standard Manufacturer's Paint



## General Arrangement

Project name	: LCSE Project NC	Tag Number	: Hurley Engineerin
Consulting engineer	:	Service	: HYDONIC
Customer	: HURLEY ENGINEERING COMPANY	Model	: 20953-2P-30HP LCSE
Customer ref. / PO	:	Quantity of pumps	: 1
Quote Number / ID	: 1141840	Quoted By (Sales Office)	: HURLEY ENGINEERING COMPANY
Date last saved	: 03/29/2020 11:57 PM	Quoted By (Sales Engineer)	: Steven Leingang



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Units	Frame	Suct(in)	Disch(in)	CP	DD	HA	HB	HD	HE	HF	HG	HH	HJ	HL	HP	X	Y	Z	Weight ea
inches	286TSC	2.5	2	42.00	6.70	17.00	32.00	10.25	7.50	30.00	0.25	0.63	1.00	7.05	1.00	6.00	3.75	5.75	502.0

Conditions of Service				Motor Data			
Flow: 327.0 USgpm	Fluid: Cold Water	HP: 30	Encl: TEFC	Phase: 3	Efficiency: Premium		
TDH: 219.3 ft	Temp.: 68.00 deg F	RPM: 3530 rpm	Hz: 60	Voltage: 460	S.F.: 1.15		