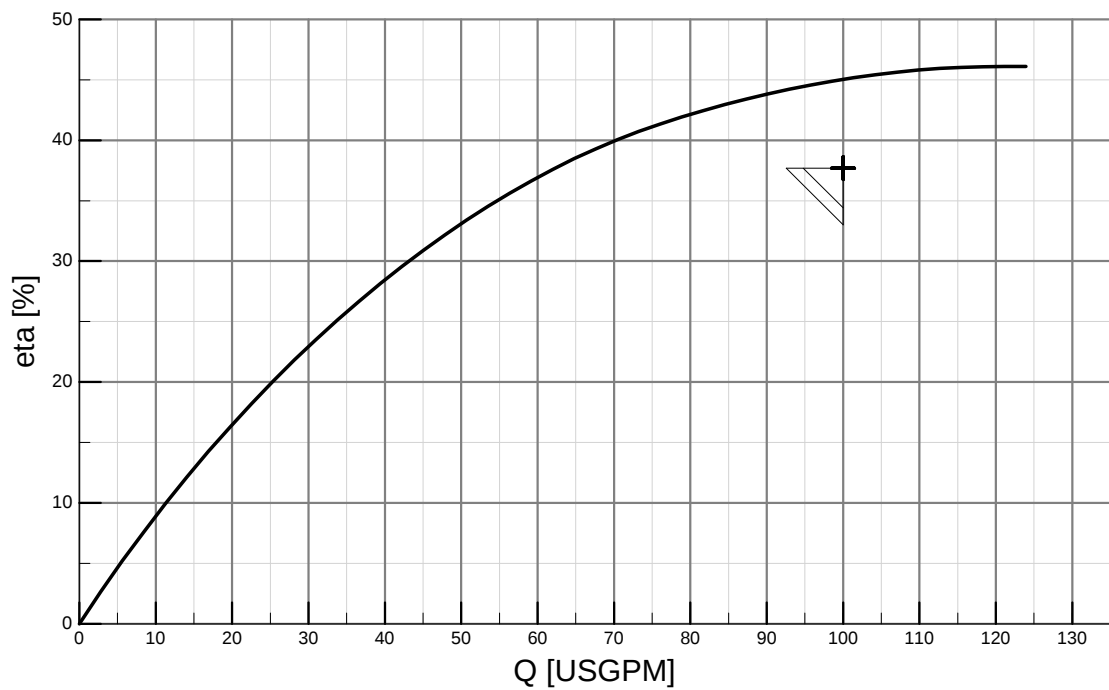
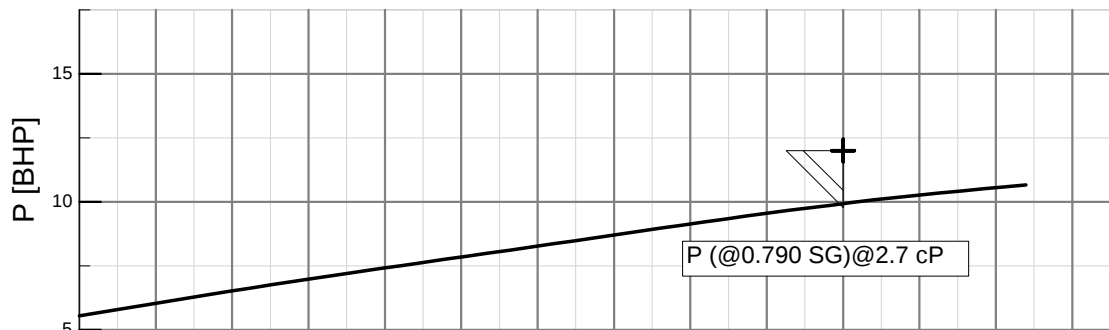
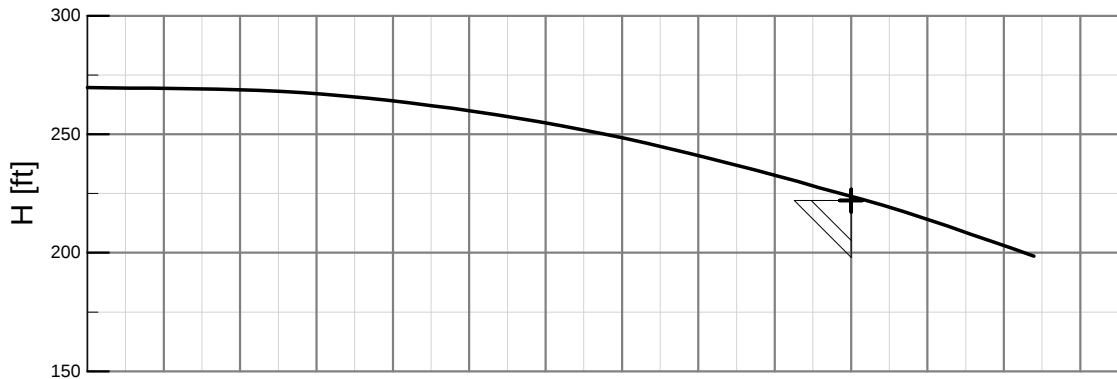


SULZER		Tipo: 1.5x3x8-1 OHH		No. de Orden: 100488873-0010-02	
		Type		Order No.	
Reporte de prueba 131/23		Item Cliente No.: 18-P-1823 B		No. de Serie: 656618	
Test Report No.		Client's Item No.		Sulzer Serial. No.:	
		Cliente/Destino: AIR PRODUCTS AND CHEMICALS		Curva de prueba: M-13606	
		Client/Destination		Test Curve:	
Datos de punto de operación Data at guarantee point		Drive / Motor: 1-ML-94		No / Nr.: 1-ML-94	
Q _N 100.0 USGPM		1st gear drive / 1. Getriebe:		No / Nr.:	
H _N 222.0 ft		2st gear drive / 2. Getriebe:		No / Nr.:	
P _N 11.5 BHP					
η _N 38.5 %		Tacometro Tachometer		PEPPERL+FLUSCHS	
λ _N 0.79 SG		Medidor de potencia Power measuring		SIEMENS	
n _N 3520 rpm		Medidor de flujo Pump capacity meter		MicroMoution 0-300 GPM Loop3	
NPSH 5.5 ft		Medidor de Ps Inlet pressure meter		Rosemount -14.2-150PSI Suct Loop3	
g _N 160.0 °F		Medidor de Pd Outlet pressure meter		Rosemount 0-300 PSI Disch Loop 3	
Diametros de succion y descarga p _s / p _d		Sensor Temp. de liquido Temp.sensing test liquid		TEMP LOOP 3	
3 1.5 in in					
Presión Barométrica: mean barometric press.		No. De Pasos No. Stages 1		Dia.Maximo Impulsor Imp. Max Dia. 8.2 in	
11.21 p.s.i.		No. De Venas No. Vanes 5		Dia.Impulsor Prueba Imp. Test Dia. 8.2 in	
		Modelo Impulsor 113OHH-02			
Measurement no.		Lecturas No.		1 2 3 4 5 6 7	
Motor speed Velocidad de Motor		n _M rpm		3571.1 3570.8 3573.3 3573.8 3574.9 3576.4 3582.0	
Pump speed Velocidad de Bomba		n _P rpm		3571.1 3570.8 3573.3 3573.8 3574.9 3576.4 3582.0	
Outlet pressure Presión de Descarga		p _d p.s.i.		115.87 128.19 133.24 137.81 149.98 160.31 160.89	
Inlet pressure Presión de Succión		p _s p.s.i.		23.4 25.4 26.1 27.9 28.6 31.6 30.8	
Seal chamber pressure Presión en camara del sello		p ₁ p.s.i.		74.0 82.52 85.91 89.25 96.27 104.51 102.76	
Velocity head difference Hv Dif. de velocidades		(v ₂ ² -v ₁ ²)/2g ft		6.109 4.427 3.721 3.294 1.497 0.279 0.000	
Pressure head outlet Presión de carga de salida		H _d ft		268.20 296.71 308.39 318.95 347.10 371.00 372.37	
Pressure head inlet Presión de carga de entrada		H _s ft		54.27 58.67 60.45 64.61 66.14 73.15 71.22	
Pump head Carga total		H ft		221.50 243.92 253.12 259.09 283.92 299.60 302.61	
Pump capacity Capacidad de la Bomba		Q USGPM		130.88 111.41 102.14 96.10 64.79 27.97 0.00	
Efficiency Eficiencia		η %		46.11 45.53 44.67 43.94 37.37 20.75 0.00	
Electric power Potencia Electrica		P _{el} BHP		17.97 17.10 16.60 16.27 14.28 11.99 10.00	
Motor efficiency Eficiencia de motor		η _{Mot} %		88.17 87.97 87.86 87.78 86.86 84.88 83.16	
Motor power output Potencia de salida del Motor		P _{Mot} BHP		15.84 15.04 14.59 14.28 12.41 10.18 8.32	
Pump input P Entrada a la Bomba		P BHP		15.84 15.04 14.59 14.28 12.41 10.18 8.32	
Values converted to n _N and i stages		Valores corregidos n _N = 3520.0			
Efficiency Eficiencia		η %		46.11 45.53 44.67 43.94 37.37 20.75 0.00	
Pump capacity Capacidad de la Bomba		Q USGPM		123.93 105.51 96.66 90.93 61.28 26.45 0.00	
Pump head Carga Din. Tot.		H ft		198.62 218.76 226.68 231.97 254.05 267.85 269.69	
Pump input at p _N P Entrada a Bomba p _N		P BHP		10.67 10.13 9.80 9.59 8.32 6.82 5.55	
Probado por: Tested by Fecha: Date Atestiguado por: Witnessed by Fecha: Date		Observaciones: Remarks Temperatura de Soporte: Bearing temperature:		TRIM AFTER TO TEST TO: 7.93 in 108.6 °F Brg Hsg DE	
REV A		RATED POINT			
F-BP-001					

SULZER		1er Paso 1st Stage	Series Series	No. Or 100488873-0010-02	
Curva de prueba M-13606 Test Curve		Impulsor Impeller	0-104203671...	Sulzer Comm.Nr.	
Cliente Customer AIR PRODUCTS AND CHEMICALS		Modelo Pattern	113OHH-02	Tipo Type 1.5x3x8-1 OHH	
Orden Compra SM00001022		Difusor Diffuser	0-104203662...		
No. Identif. Ident No. 18-P-1823 B		Modelo Pattern	114OHH-02		
No. Serie. Item No. 656618		D2 Diseño. D2 design. $\varnothing 7.93$ in	Venas Vane $\varnothing 7.93$ in	No. Vanes: 5	Reporte No. Test Report No. 131/23
Nombre Name Brandon Arias		D2 min. D2 min. $\varnothing 6.50$ in			Fecha dated ..
Fecha Date 2023-06-15		D2 max. D2 max. $\varnothing 8.20$ in			n= 3520 1/min. i= 1 Stufen Stages
					DN _s 3 in DN _d 2 in



100488873-0010-02

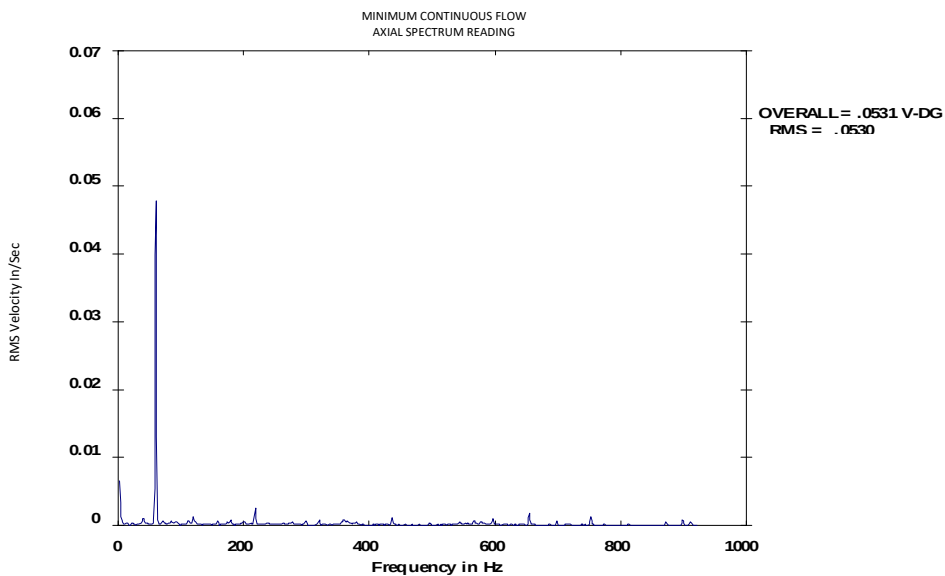
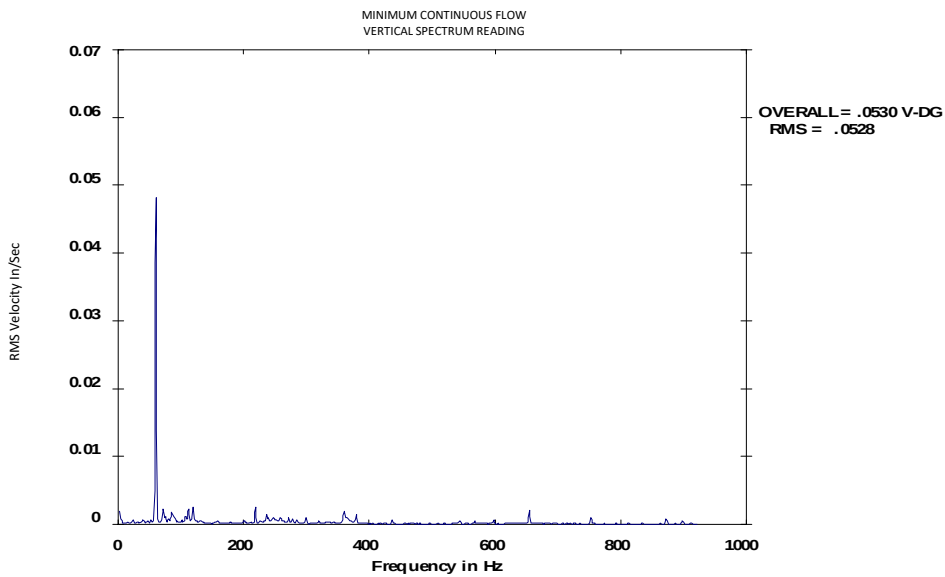
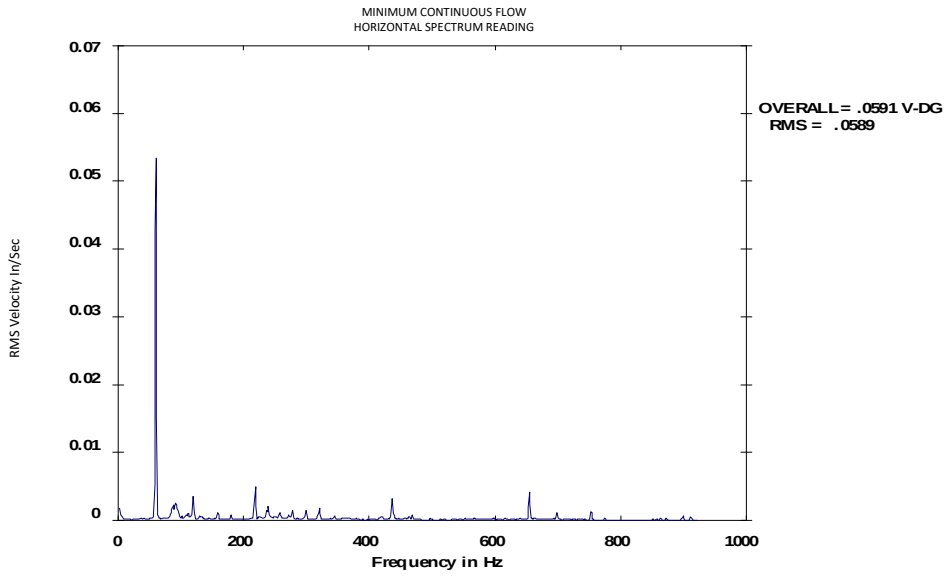
1.5x3x8-1 OHH

26.45 USGPM

3576 RPM

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F-BP-004

SULZER CONFIDENTIAL

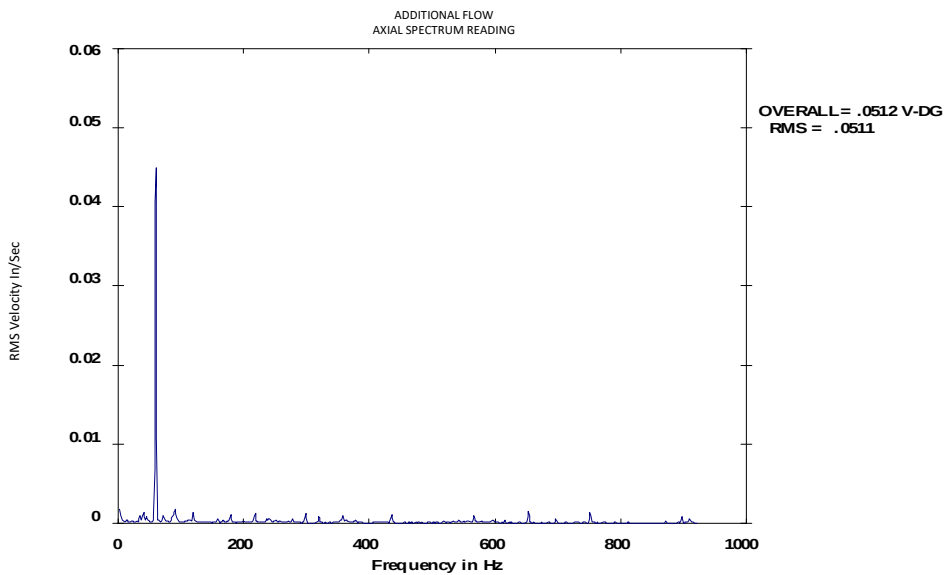
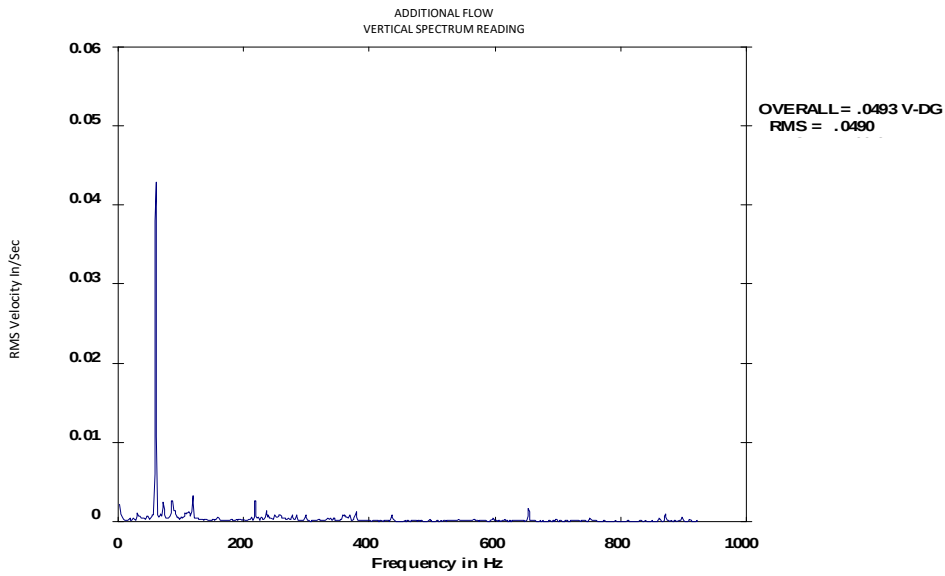
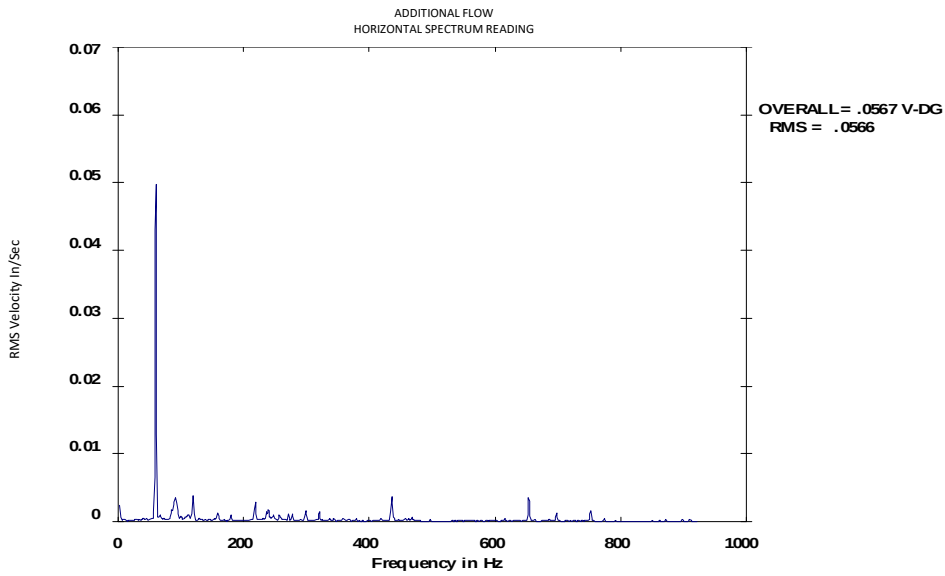
100488873-0010-02

1.5x3x8-1 OHH

61.28 USGPM

3574 RPM

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F-BP-004

SULZER CONFIDENTIAL

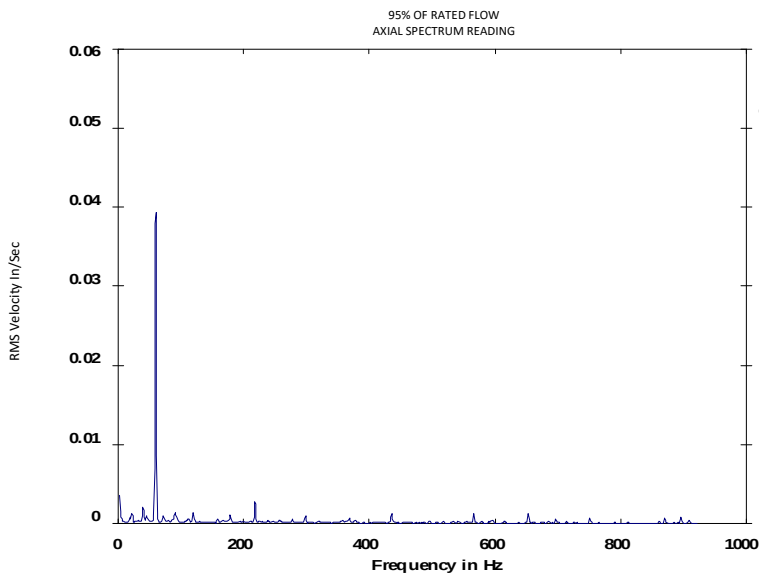
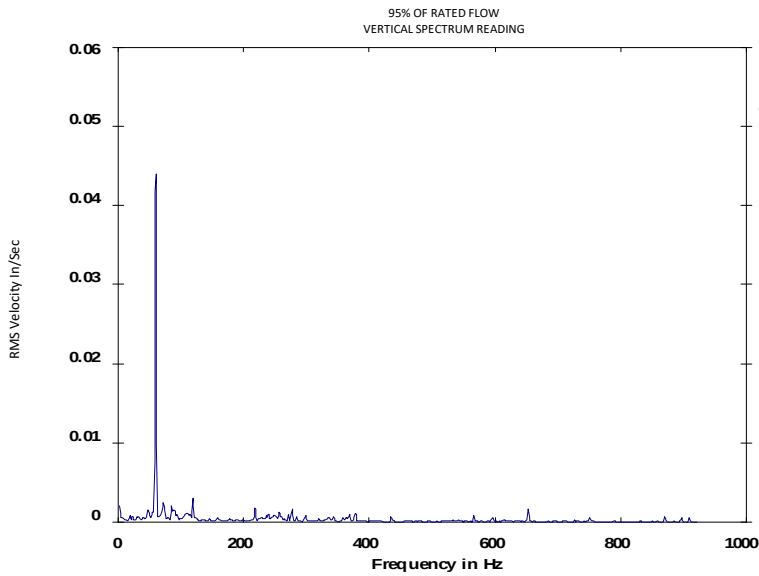
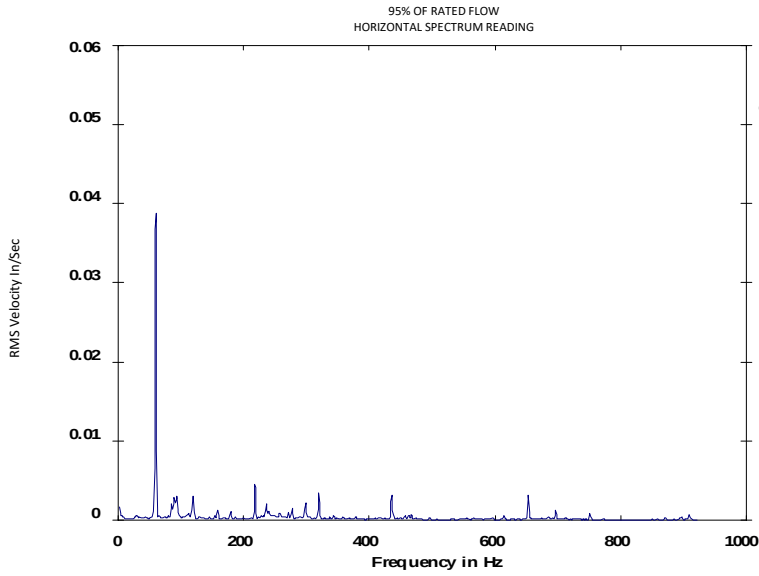
100488873-0010-02

1.5x3x8-1 OHH

90.93 USGPM

3573 RPM

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F-BP-004

SULZER CONFIDENTIAL

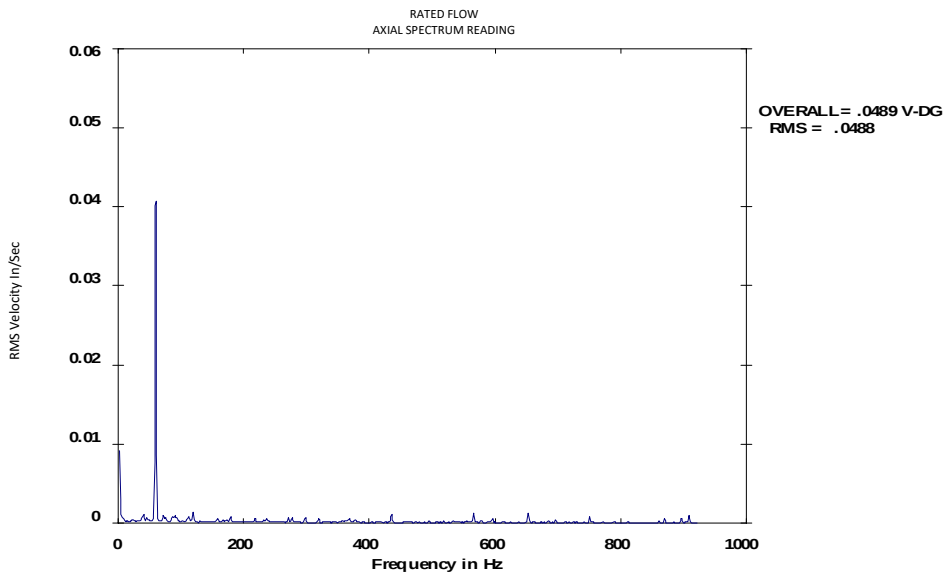
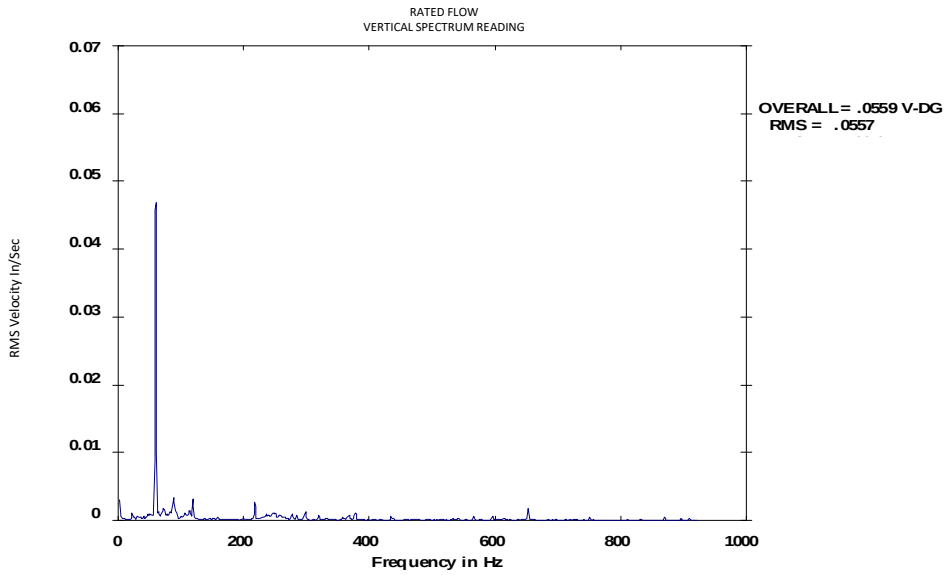
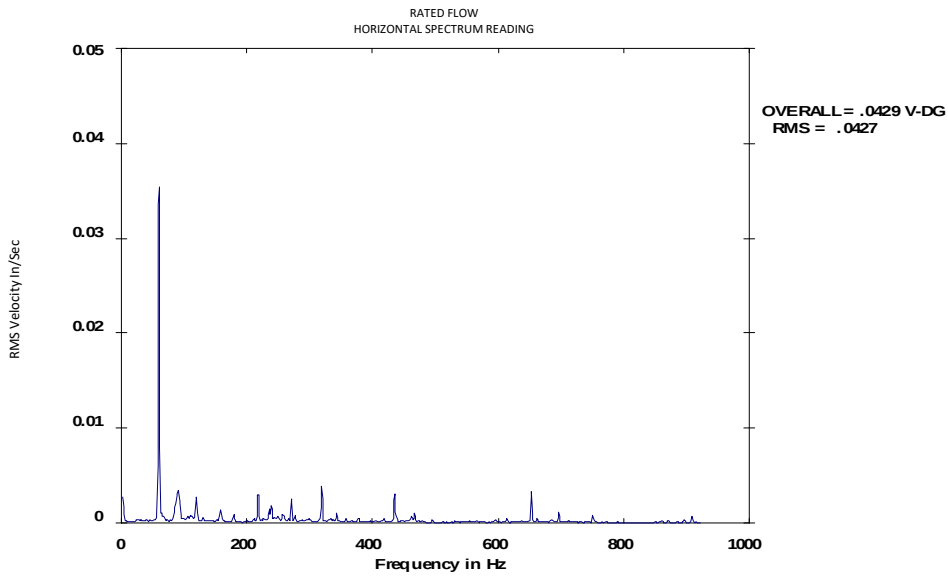
100488873-0010-02

1.5x3x8-1 OHH

96.66 USGPM

3573 RPM

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F-BP-004

SULZER CONFIDENTIAL

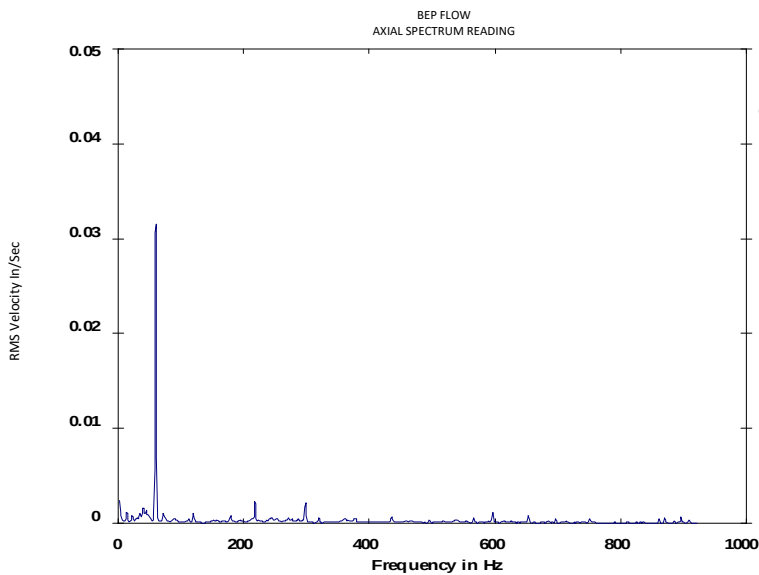
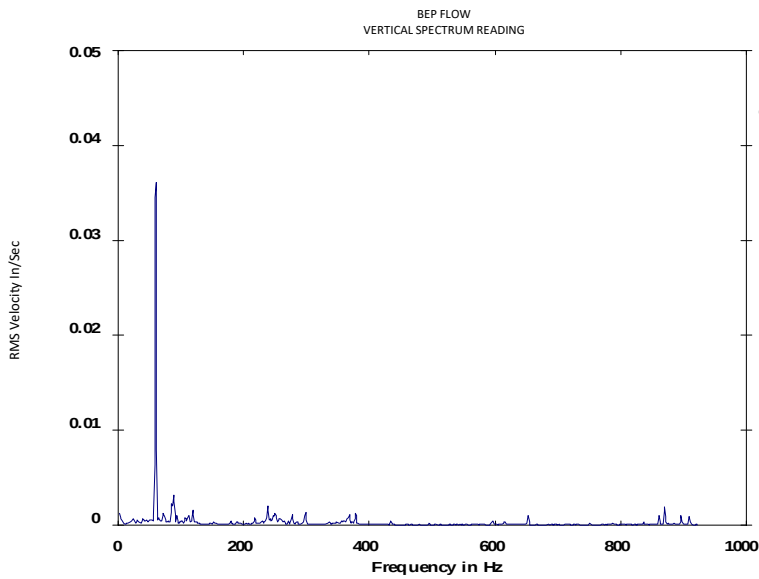
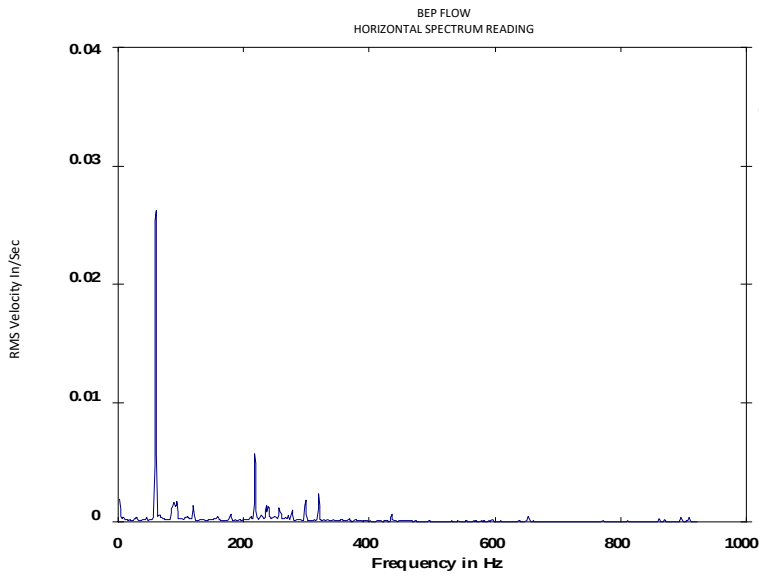
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1.5x3x8-1 OHH

105.51 USGPM

3570 RPM

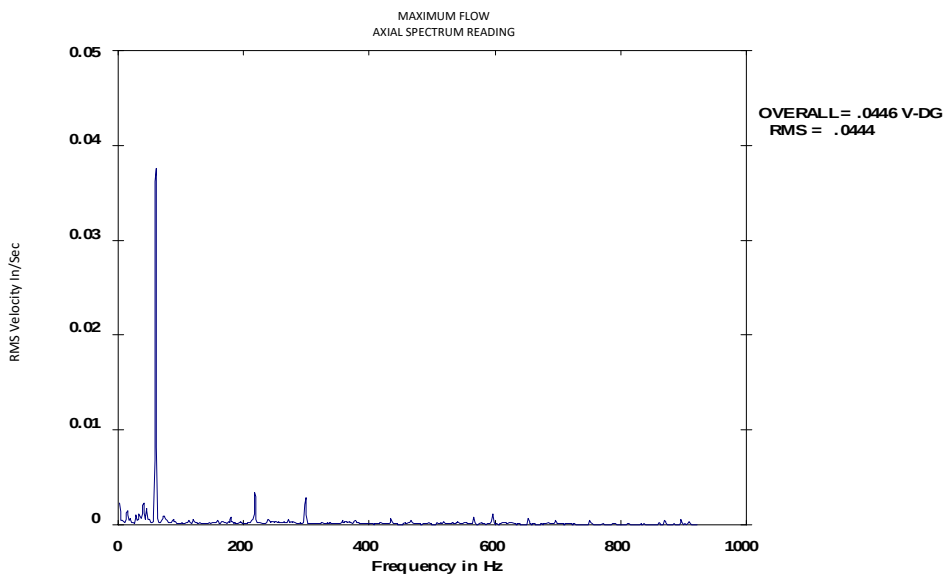
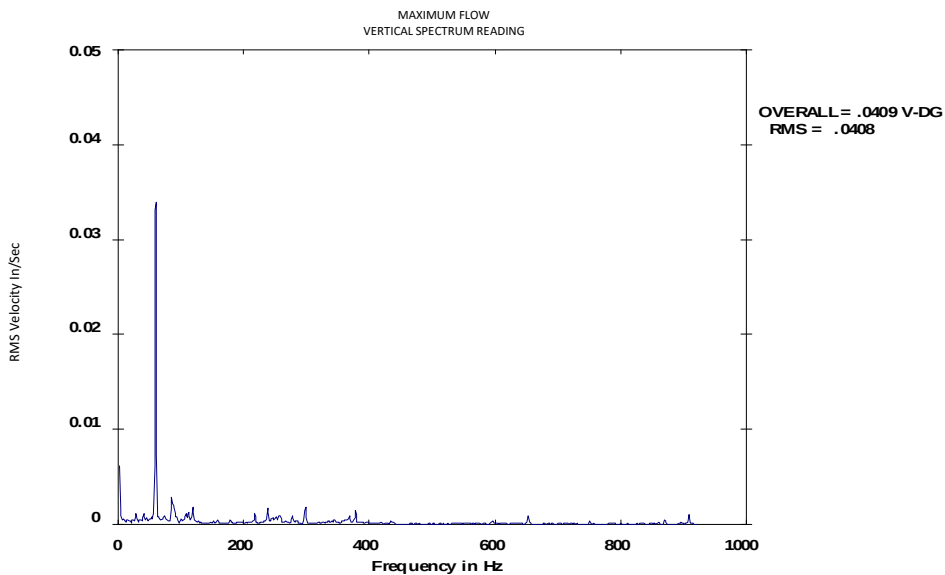
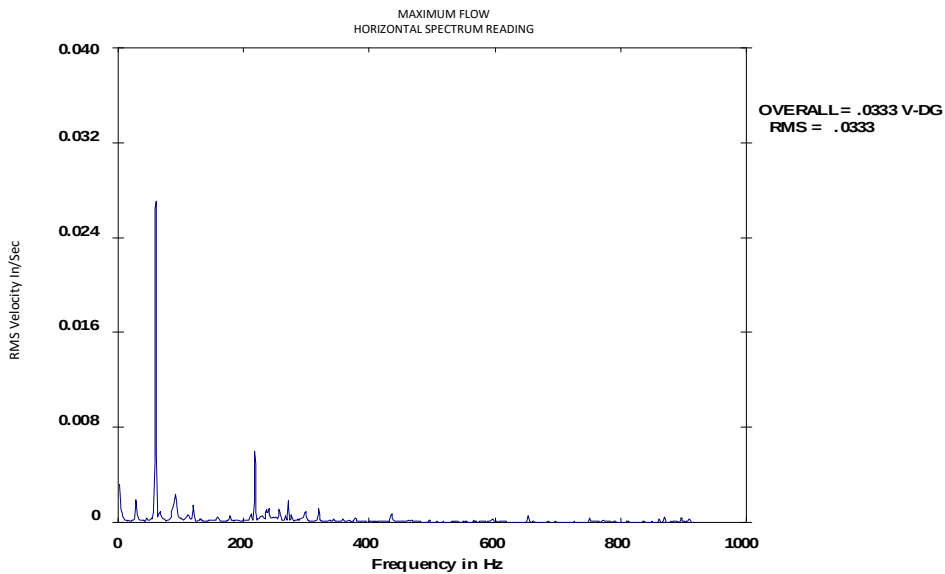
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F-BP-004

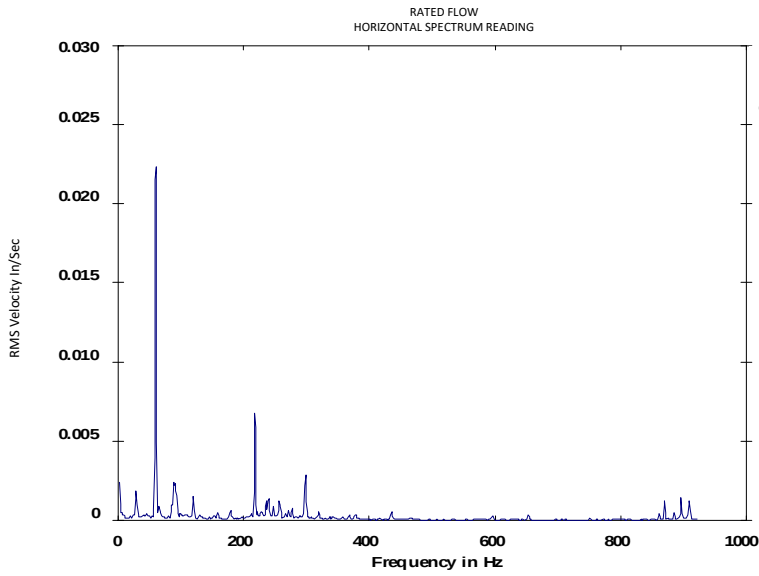
SULZER CONFIDENTIAL

100488873-0010-02
1.5x3x8-1 OHH
123.93 USGPM
3571 RPM



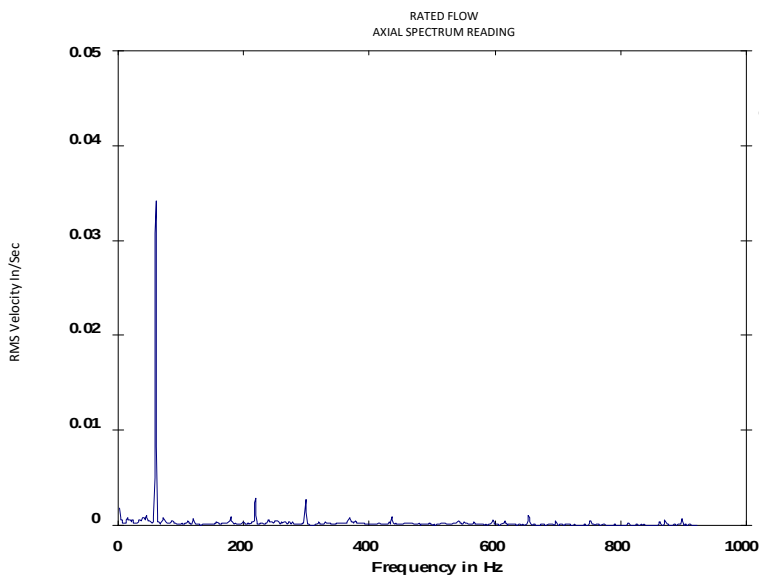
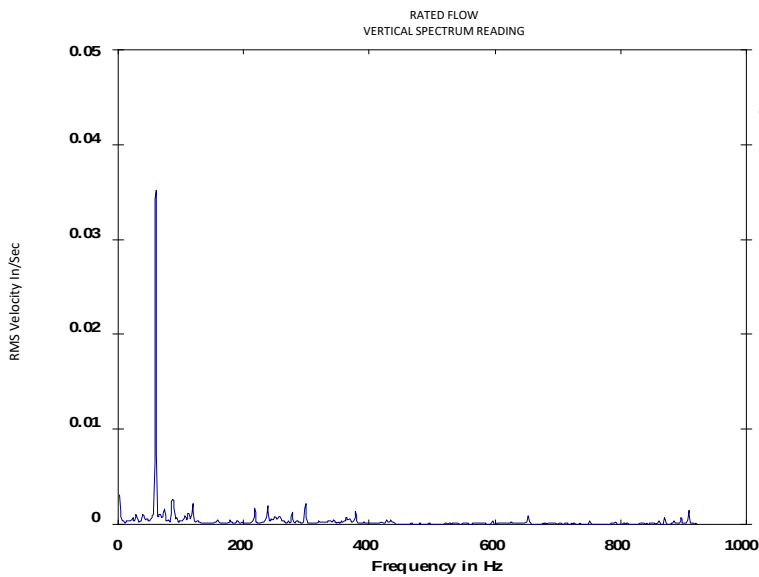
F-BP-004

100488873-0010-02
1.5x3x8-1 OHH
96.66 USGPM
3573 RPM



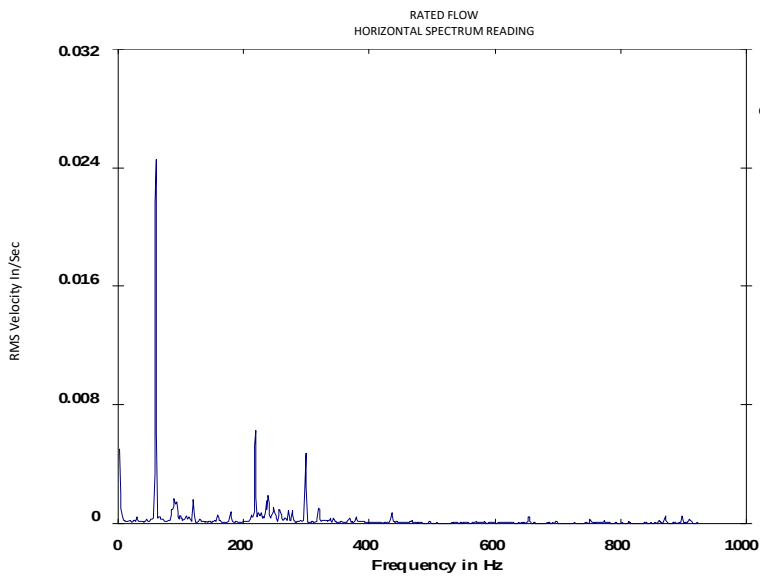
MECHANICAL RUN AT 14:00 HRS

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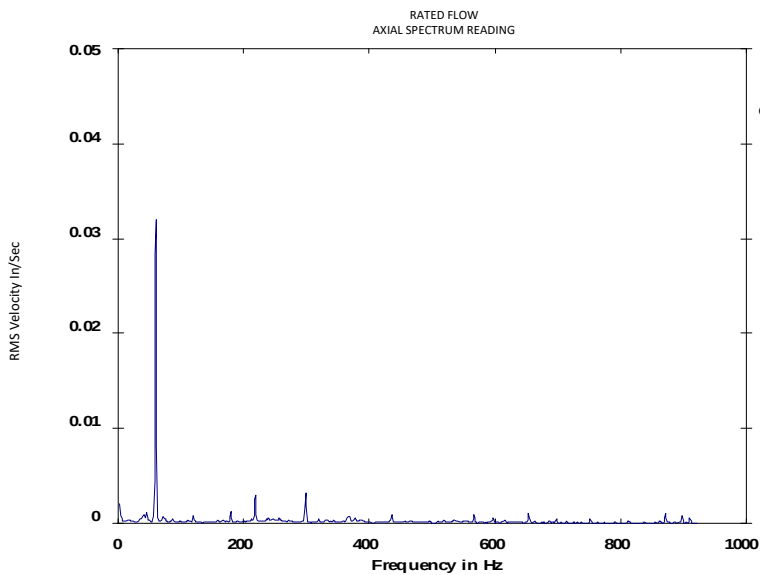
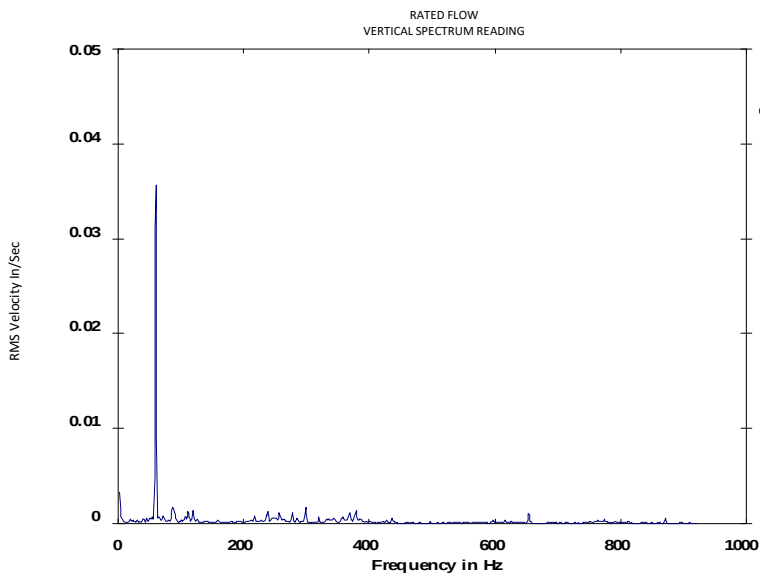
F-BP-004

SULZER CONFIDENTIAL



100488873-0010-02
1.5x3x8-1 OHH
96.66 USGPM
3573 RPM

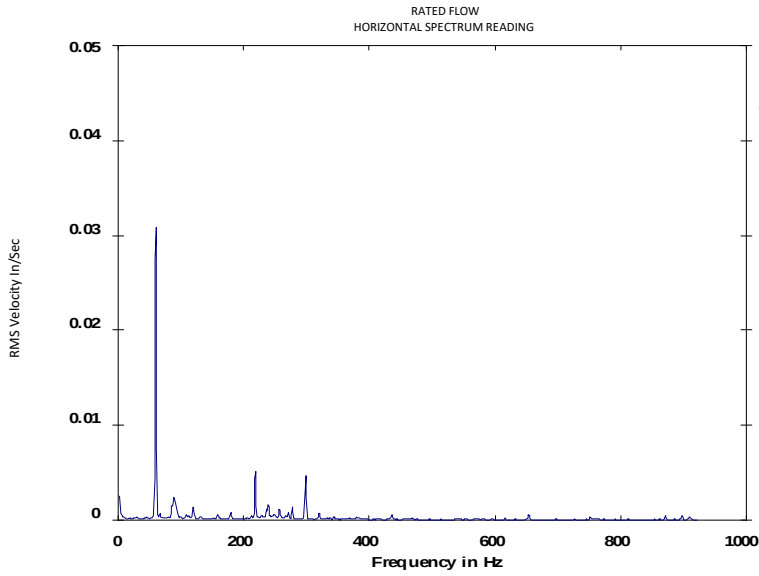
MECHANICAL RUN AT 14:10 HRS



F-BP-004

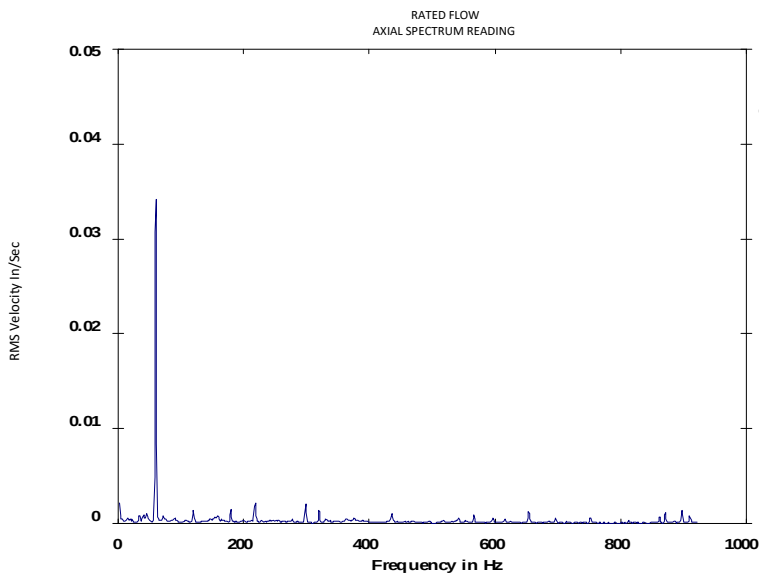
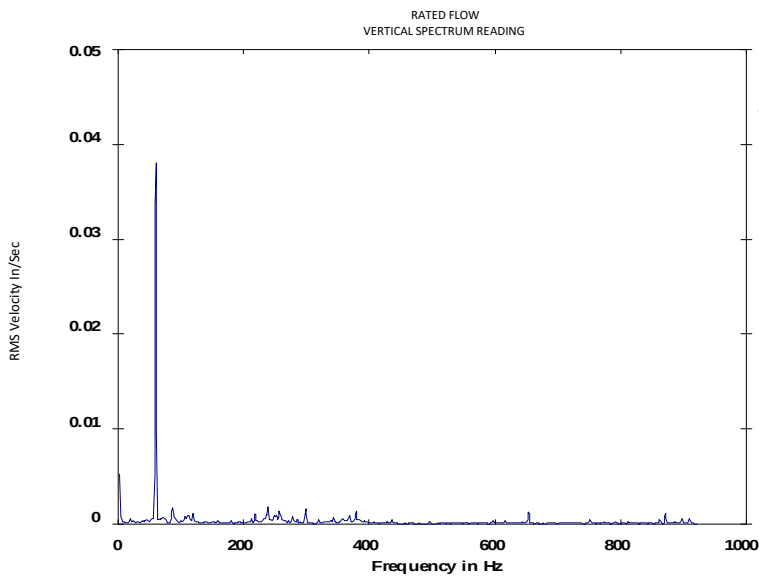
SULZER CONFIDENTIAL

100488873-0010-02
1.5x3x8-1 OHH
96.66 USGPM
3573 RPM



MECHANICAL RUN AT 14:20 HRS

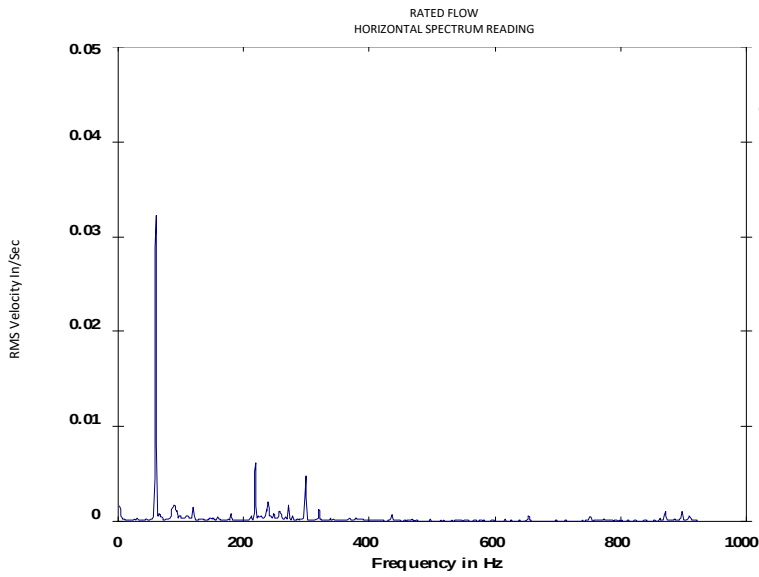
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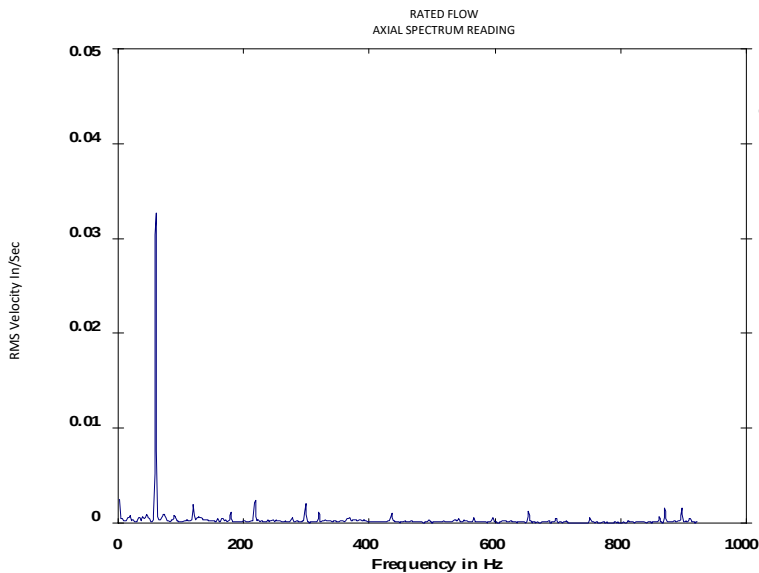
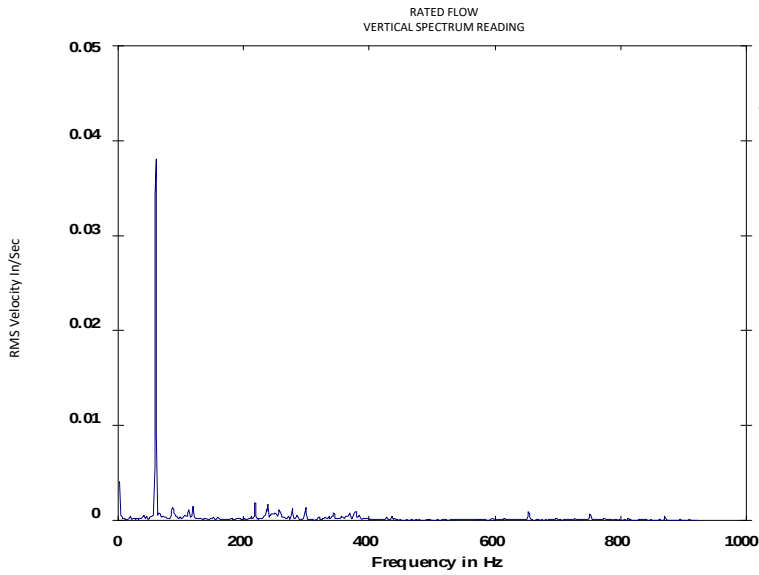
F-BP-004

SULZER CONFIDENTIAL

100488873-0010-02
1.5x3x8-1 OHH
96.66 USGPM
3573 RPM



MECHANICAL RUN AT 14:30 HRS



F-BP-004

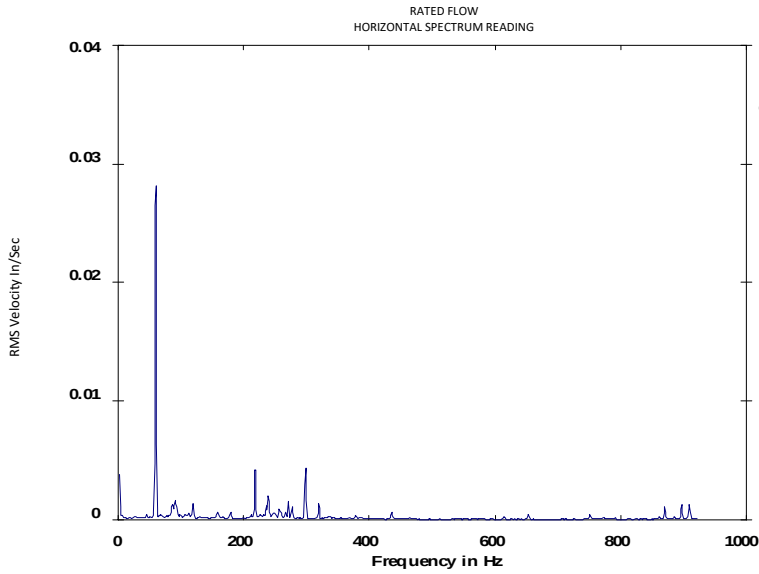
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100488873-0010-02

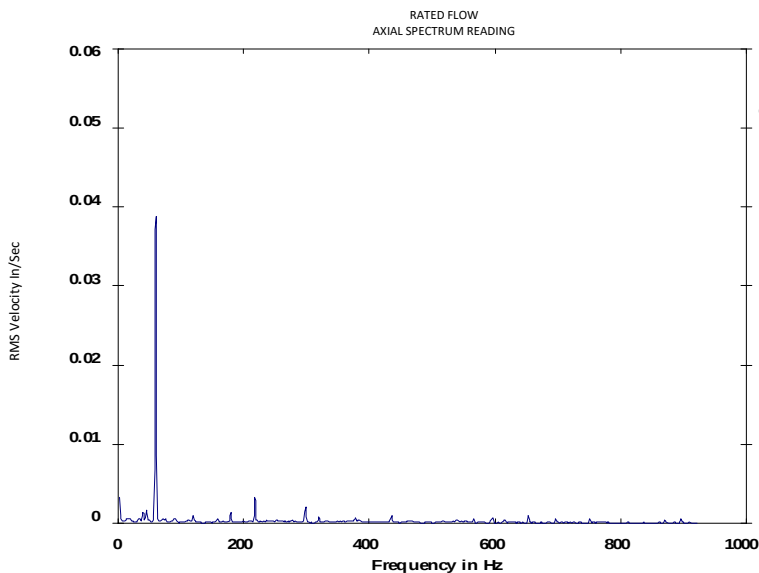
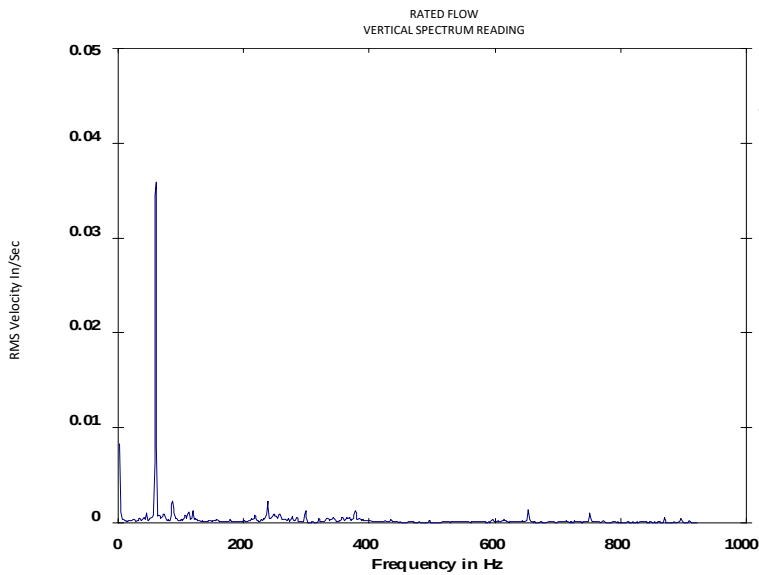
1.5x3x8-1 OHH

96.66 USGPM

3573 RPM



MECHANICAL RUN AT 14:40 HRS



F-BP-004

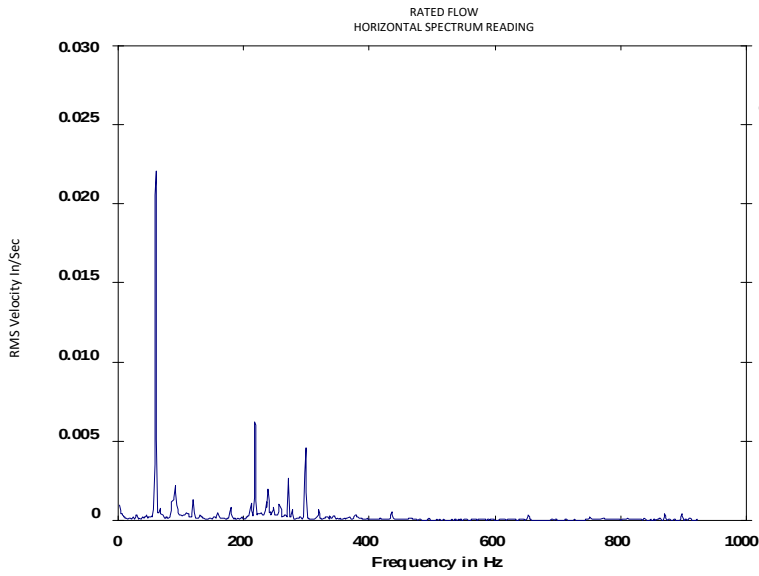
SULZER CONFIDENTIAL

100488873-0010-02

1.5x3x8-1 OHH

96.66 USGPM

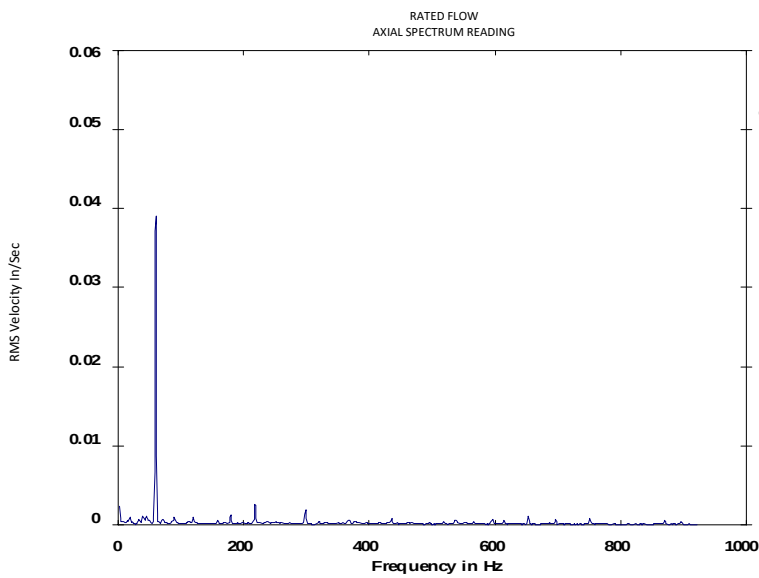
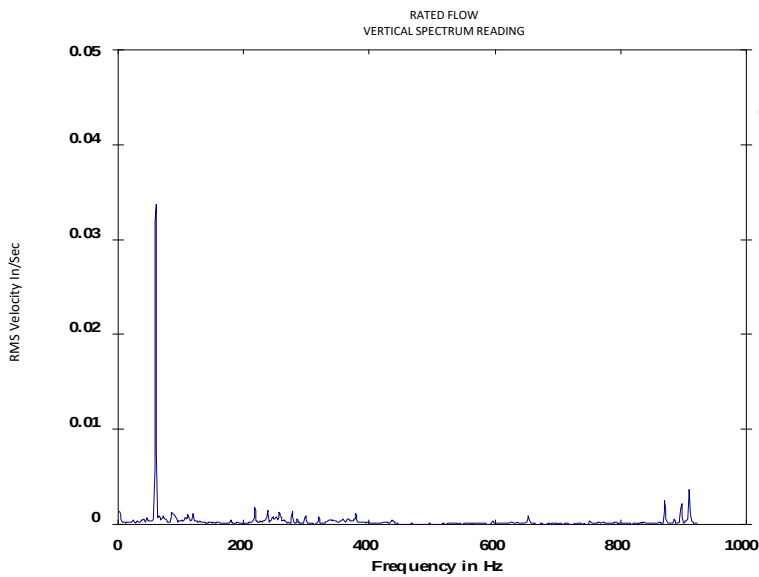
3573 RPM



MECHANICAL RUN AT 14:50 HRS

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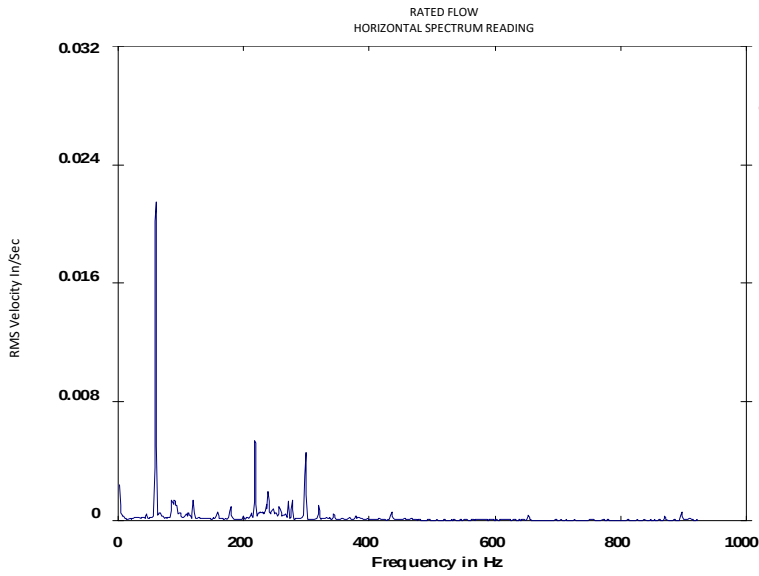
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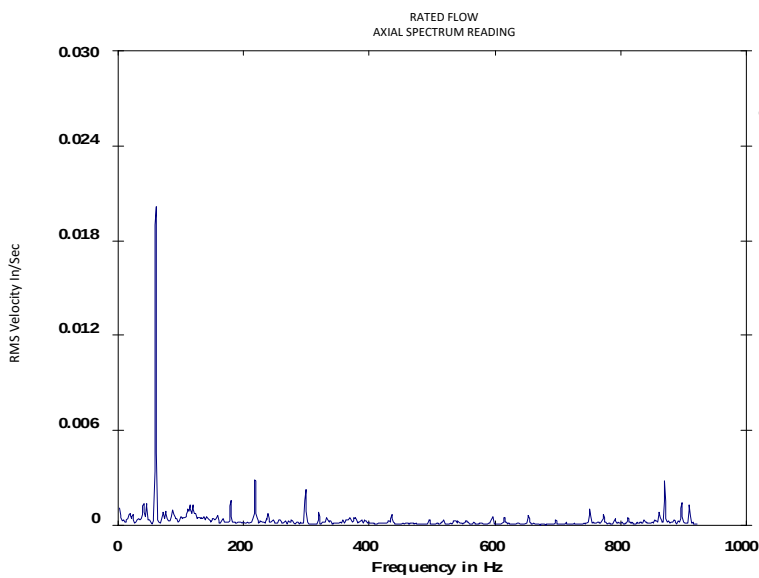
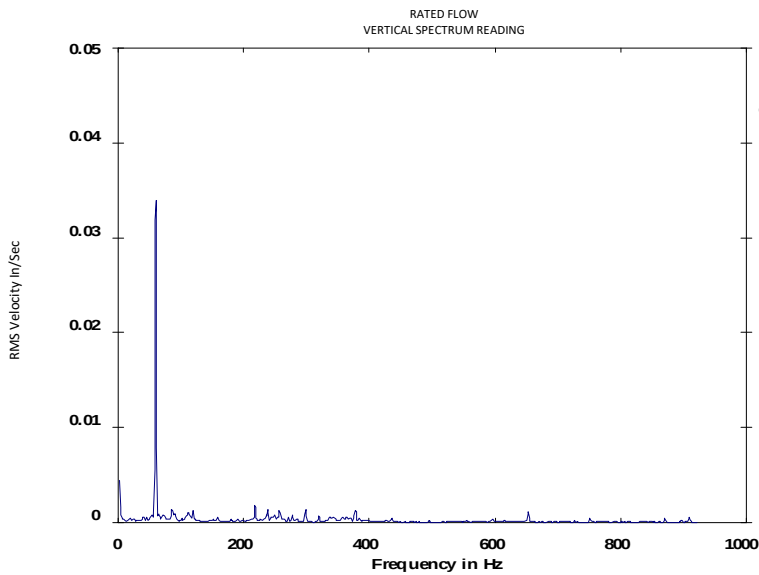
F-BP-004

SULZER CONFIDENTIAL

100488873-0010-02
1.5x3x8-1 OHH
96.66 USGPM
3573 RPM



MECHANICAL RUN AT 15:00 HRS



F-BP-004

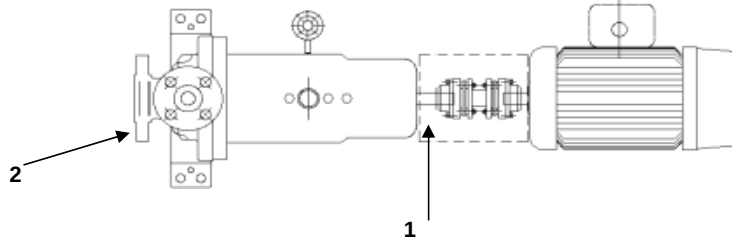
SULZER CONFIDENTIAL

NOISE REFERENCE DATA

SULZER

Tipo:	1.5x3x8-1 OHH	No. De Orden:	100488873-0010-02
Type:		Order Number:	
Item Cliente No:		No. de Serie:	
Client's Item No:	18-P-1823 B	Sulzer Serial. No.:	656618
Cliente/Destino:		Probado por:	
Client/Destination:	AIR PRODUCTS AND CHEMICALS	Tested by:	Brandon Arias

TOP VIEW



NOTE: NOISE DATA TAKEN 1.0m FROM THE PUMP AT LOCATIONS 1 & 2, AND IS FOR INFORMATION ONLY; NO ATTEMPT HAS BEEN MADE TO ISOLATE THE PUMP FROM DE BACKGROUND NOISE.

NOTA: DATOS DE RUIDO TOMADOS A 1.0m DE LA BOMBA EN LOS PUNTOS 1 Y 2, Y SOLO ES PARA INFORMACION, NO SE HA INTENTADO AISLAR LA BOMBA DEL RUIDO DEL AMBIENTE.

			SOUND PRESSURE IN DECIBELS (BY FREQUENCY) PRESION DE SONIDO EN DECIBELES (POR FRECUENCIA)										
LOCATION LOCALIZACION	FLOW FLUJO	dB(A)	16	31.5	63	125	250	500	1000	2000	4000	8000	16000
	USGPM												
1	96.66	83.2	10.7	31.2	65.6	72.6	80.5	76.1	77.6	69.8	67.2	56.6	44.6
2	96.66	86.4	23.7	39.6	51.6	55.0	65.9	79.7	81.7	81.2	73.7	61.8	49.1
BACKGROUND / AMBIENTE		82.7											

F-BP-005

SULZER

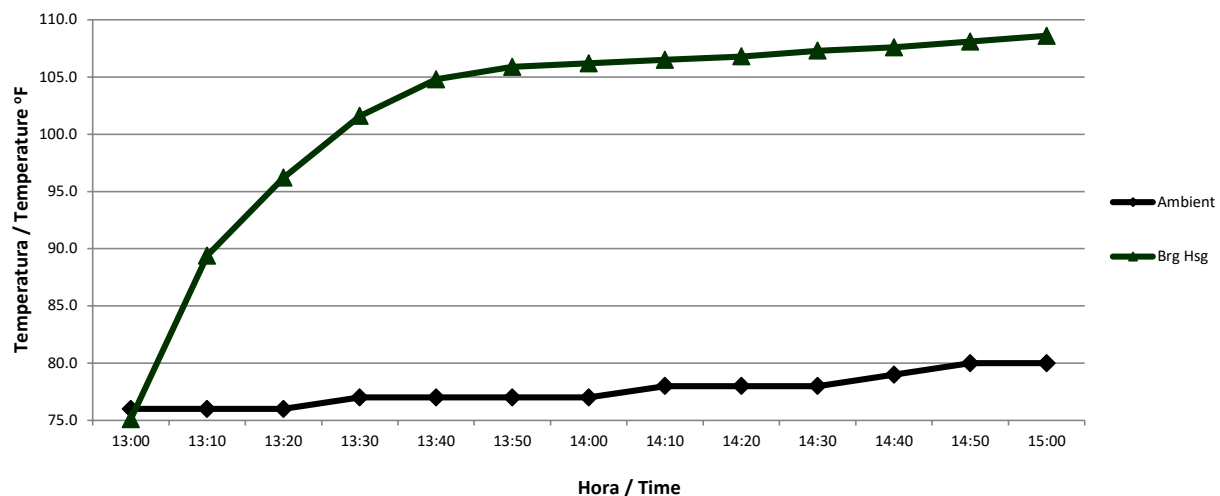
Reporte Prueba No.:
Test Report No.: **131/23**

Tipo: 1.5x3x8-1 OHH
Item Cliente No:
Client's Item No: 18-P-1823 B
Cliente/Destino:
Client/Destination: AIR PRODUCTS AND CHEMICALS

No. de Orden:
Order No: 100488873-0010-02
No. de Serie:
Sulzer Serial. No.: 656618
Curva No:
Curve No: M-13606

Puntos de medición de temperatura		
Temperature Measuring Points		
	Ambiente	Soporte de Rodamiento
	Ambient	Bearing Housing
Hora: Time:	°F	°F
13:00	76.0	75.1
13:10	76.0	89.4
13:20	76.0	96.2
13:30	77.0	101.6
13:40	77.0	104.8
13:50	77.0	105.9
14:00	77.0	106.2
14:10	78.0	106.5
14:20	78.0	106.8
14:30	78.0	107.3
14:40	79.0	107.6
14:50	80.0	108.1
15:00	80.0	108.6

Puntos de medición de temperatura / Temperature Measuring Points



Probado por:
Tested by: Brandon Arias
Fecha:
Date: 15.06.2023

Testificado
por:
Witnessed
by:
Fecha:
Date:

F-BP-006

SULZER CONFIDENTIAL