

INGERSOLL-RAND
AIR COMPRESSORS

Air Center

Ingersoll-Rand Company
2020 Polymer Drive
P.O. Box 23265 (37422)
Chattanooga, TN 37421
(615) 855-0383
FAX: (615) 894-6849

JOB:

Sofix Corporation

ITEM:

Marley Cooling Tower, Series NC,
Model NC-212 (2 Cell) Induced Draft
Crossflow, Factory Assembled.

Design: 1080 GPM @ 100 Degrees HW,
85 degree CW, 78 Degree WB.

Two (2) 2 Speed, 1 Wind, TEFC, 15HP,
3 Phase, 60 Cycle, 460 Volt Motors -
Outside The Airstream.

HC Flow Control Valves.

10" Bottom Outlet, Hole & Bolt Circle
Piping Plan IID2 W/Trash Screen.

2-Cell OSHA Approved Ladder & Handrail
W/7' Ladder Extension.

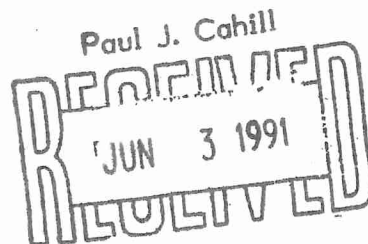
Extended Lube Lines W/Dip Stick.

Geareducer Drive.

5-Year Warranty On Mechanical Equipment
With The Exception Of The Motor.

Encls:

Bulletin #NC-90
Warranty #APWARR-3
Drawing #90-41693
 #90-41680
 #89-41276
 #89-41278
 #89-41284
 #55-31422



DURIRON PUMP DATA SHEET

QUOTE NO.: A002702		DATE QUOTED: 10/25/90		DATE REQ'D: / /	
CUSTOMER ORDER NO.:		ITEM NO. FOR NAMEPLATE		ORDER NO.	
		U-6051A/B		2	
CUSTOMER: SOFIX		LIQUID PUMPED & CONCENTRATION - COOLING WATER			
DESTINATION: SOFIX		% SOLIDS AND DESCRIPTION			
PUMP SERIES & ALLOY:		TEMP./SUCTION PRESSURE			
2K6X4-13A/125 RV DCI		0.00 / 0.00			
CASING ALLOY: DCI		S.G./VISCOSITY (CP)			
TAP I: TAP II:		1.00 / 0.00			
TAP III: TAP IV:		700.00 70 PSI			
JACKET - FULL: PART: THERM:		PERFORMANCE GPM			
OTHER:		TDH - REQ'D./OFF'D. (FT)			
		162.00 / 162.00			
		NPSH - AVAIL./REQ'D. (FT)			
		0.00 / 5.00			
		BHP - OP. COND./MAX.			
		43.000 / 58.000			
		CURVE NUMBER			
		M1118125BV			
		IMPELLER DIA. - OFF'D./MAX.			
		12.625 / 13.000			
REAR COVER ALLOY: DCI		STUFFING BOX - STD: X OVERSIZE: TYPE:			
TAP V: 1/4" TAP VI: TAP VII:		FOR BUT LESS SEAL: AND/OR TEMPORARY LIP SEAL:			
JACKET - S. BOX: RCP: THERMONIZED:		PACKED - STD: SPECIAL:			
OTHER:		SEAL MFR.: DURA TYPE: RO SGL: X			
IN LINE SBA #:		CODE: EU5KFVV DBL: TAN:			
IMPELLER ALLOY: DCI		INT: X EXT: MTD: UN-MTD: X			
SPECIAL GASKET:					
SEALMATIC REPELLER ALLOY:		SINGLE OR INNER DOUBLE OUTER			
SIZE: TYPE: RPM:		SEAL RING TUNG-CAR			
SHAFT: STEEL		SEAT CARBON			
HOOK SLEEVE:		SEAT MTG. O-RING			
BEARING HOUSING ADAPTOR ALLOY: CI		SHAFT PKG. VITON			
BEARING HOUSING ALLOY CI		METAL PARTS 316 SS			
COOLED: OIL MIST: GREASE:		SET SCREW & SPRINGS 316 SS			
SEALED: SWINGAWAY FOOT:		GLAND/F. FLG. ALLOY: 316 SS BY: DURA			
OTHER:		FLUSH: X V&D: WITH: BUSHING			
BASE NO.:54 MAT.: STEEL		OTHER SPECIALS:			
304 SS BASIN: DRIP LIP:		SEAT PINNED HORIZ.: VERT.: ANGLE:			
STILT: STILT ALLOY:		THROTTLE BUSHING IN BOX:			
OTHER:		LIP SEAL IN BOX:			
CPLG. MFR.: WOODS SIZE: SC8/10H					
NON-SPACER: SPACER: X					
CPLG. GUARD: X MAT.: STEEL					
BYPASS LINE TAP TO TAP					
STD. TFE/					
API PLAN: MAT.:					
PIPE: TUBING: SIZE:					
SPECIAL PAINT:		DRIVER DATA			
TESTS - WIT. NON WIT.		MOTOR: X TURB: OTHER:			
HYDRO (PARTS ONLY)		HP/RPM:60.00/1750 FRAME: 364T TYPE: TEFC			
PERFORMANCE		PH/HZ/VOLTS:3/60/230/460 MFR.: RELIANCE			
NPSH		SPECIAL:			
CERTIFIED NOISE LEVEL		TAG OR MARK:			
		FURN. BY CUST.: MTD. BY CUST.:			
		DURCO: X DURCO: X			
TOTAL UNIT \$ 3504.00					
NET					

QUOTATION DATA SHEET

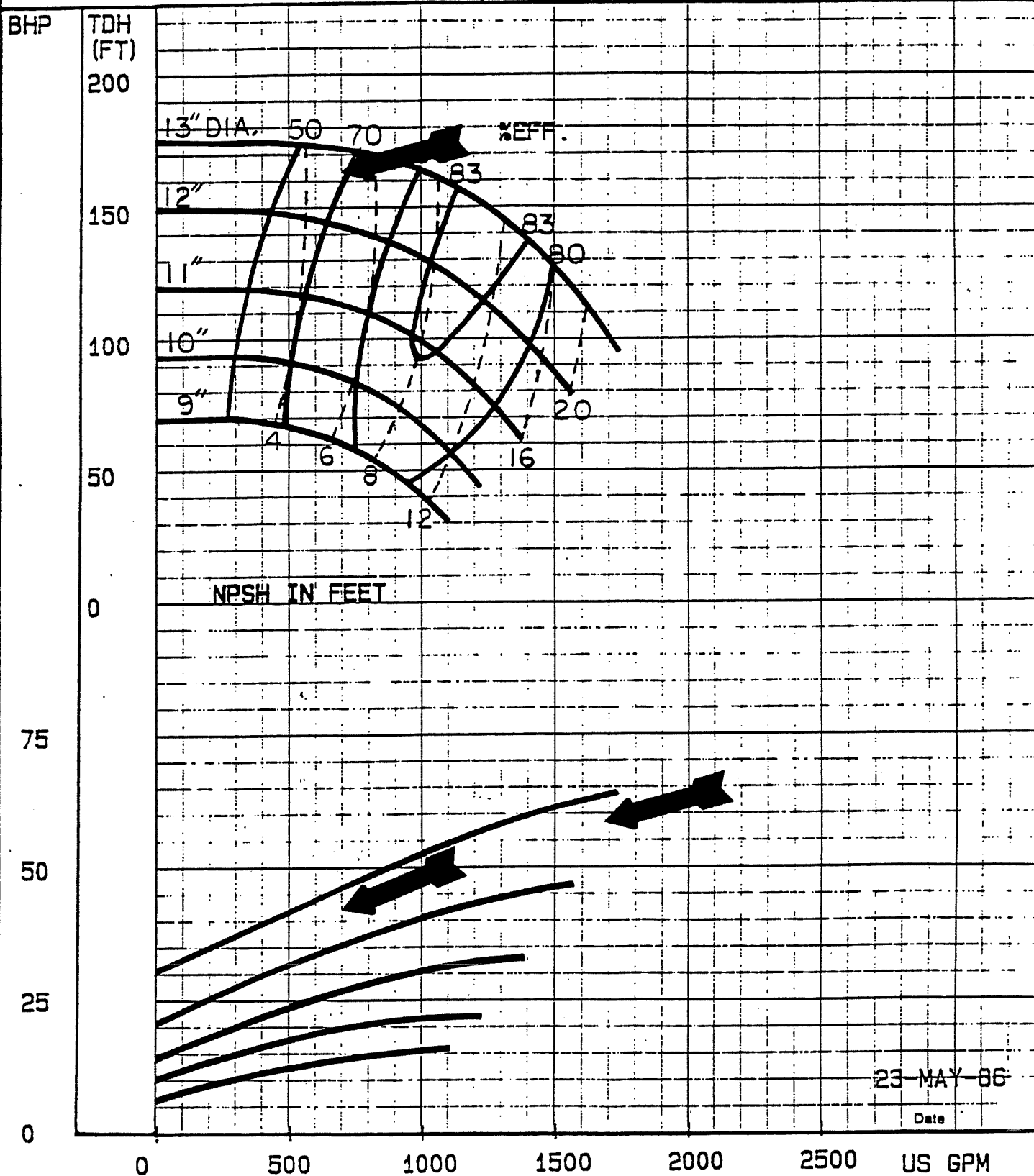
THE DURIRON COMPANY, INC.

DAYTON, OHIO

DURCOPUMP PERFORMANCE
CHARACTERISTICS

EYE AREA 29 SQ. IN.
MAX. SPHERE 1-1/32 IN.
IMP. PATT. SEMI-OPEN
STD- A80

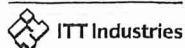
DURCO MARK III
2K6X4-13A
SPEED 1780 RPM
CURVE NO. MIII8125BV



23 MAY 86

Date

Goulds Pumps



TENCARVA MACHINERY

Sofix Corp

Client: Sofix Corp.

INQ NO: Williams 11-18-05

Proposal No: RW05-11-21 01

Item No: ITEM 001

Tencarva Machinery Co.
P.O. Box 22486
Chattanooga, TN 37422
Phone (423) 892-8928
FAX (423) 892-8929
rwalker@tencarva.com

November 21, 2005

Attn: Howard Williams

MODEL:3196 MTX SIZE: 3x4-13 QTY: 1

w/11.5

Operating conditions

SERVICE Brine Circulation Pump
LIQUID Brine, SP.GR 1.080, Viscosity 30.000 cp
CAPACITY Rated 300.0 gpm
HEAD 145.0 (ft)

Performance at 1775 RPM

PUBLISHED EFFY 59.0% (CDS)
RATED EFFY 51.0% with contract seal
RATED POWER 23.3 hp (incl. Mech. seal drag 0.22). (Run out 37.4 hp)
NPSHR 4.3 ft (available NPSH is 30.0 ft)
DISCH PRESSURE(R) 68.7 psi g (70.7 psi g @ Shut off)
PERF. CURVE 2335-4 (Rotation CW viewed from coupling end)
SHUT OFF HEAD 151.1 ft
MIN. FLOW Continuous Stable: 148.6 gpm Hydraulic: 148.6 gpm Thermal: N/A

PRICES in USD

Pump Unit	7,045
Driver	1,096
Boxing	
Testing	
Freight	
Accessories	
Total 1 Unit	8,141

Materials

CONSTRUCTION Ductile iron
CASING Ductile iron (max.casing.pres. @ rated temp. 250.0 psi g)
ST.BOX COVER Ductile iron
IMPELLER Ductile iron - Open (11.5000 in rated, max=13.0000 in, min=9.0000 in)
CASING GASKETS Aramid Fiber with EPDM Rubber
IMPELLER O-RING Teflon
SHAFT MATERIAL 316SS
SHAFT SLEEVE 316SS
LUBRICATION Flood oil
SEAL CHAMBER Big bore
GLAND 316SS Flush quench and drain
BEARINGS SKF 6309 (Inboard) SKF 5309 A/C3 (Outboard)
COUPLING T.B. Wood's - SC 8
COUPLING GUARD Carbon steel
BASEPLATE Cast iron camber top D00057A

Sealing Method

MECHANICAL SEAL

John Crane - 5610Q - XF(55)1XO(58)H (Carbon vs Silicon Carbide with Fluoroelastomer) - (Cartridge - Single)

Casing connections

Casing drain tapped

Flanges

150# flat face

Liquid end features

Impeller balance holes

Impeller balanced to ISO 1940 G6.3

Frame features

Ductile iron frame adapter

Labyrinth oil seals -Inpro VBXX-D

Testing

Non witnessed casing hydrostatic-test

Painting

Goulds Blue water reducible coating (Strathmore).

Warranty

3 Year Standard Warranty (All the components, manufactured by ITT Goulds pumps, in the liquid end and power end are covered).

Driver : Electric motor Manufacturer : Pump mfg's Choice

FURNISHED BY	Pump mfg	MOUNTED BY	Pump mfg
RATING	25.0 hp (18.6 KW)	ENCLOSURE	TEFC Premium Efficiency
PHASE/FREQ/VOLTS	3/60 Hz/230/460	SPEED	1800 RPM
INSULATION/SF	F/1.15	FRAME	284T

Weights and Measurements

TOTAL NET UNIT WEIGHT / VOLUME	890.0 lb / 14.7 ft ³
TOTAL GROSS UNIT WEIGHT / GROSS VOLUME	1,017.0 lb / 25.4 ft ³

Program Version 1.13.0.0

Our offer does not include specific review and incorporation of any Statutory or Regulatory Requirements and the offer is limited to the requirements of the design specifications. Should any Statutory or Regulatory requirements need to be reviewed and incorporated then the Customer is responsible to identify those and provide copies for review and revision of our offer.

Our quotation is offered in accordance with our comments and exceptions identified in our proposal.

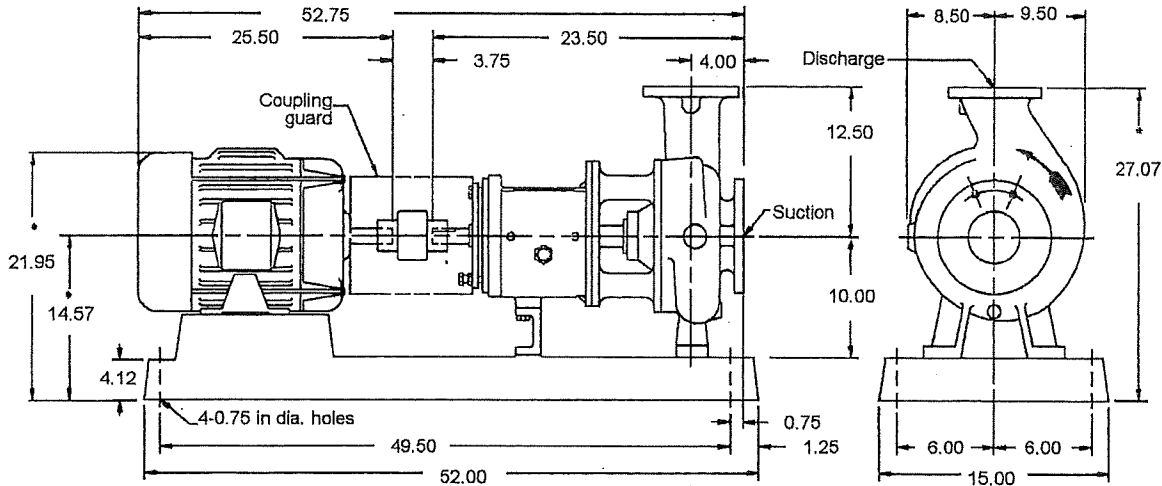
Are you aware of PumpSmart Process Systems?

PumpSmart is a system that utilizes a standard process pump in conjunction with ITT Industries' unique and patented PumpSmart Control System and Software. The software, which resides on the controller microprocessor chip, allows the pump to monitor and react to any system condition.

PumpSmart

- * Eliminates control valves, flow meters, and recirculation lines.
- * Significantly reduces energy costs.
- * Significantly increases MTBF.

Please contact your local Goulds Pumps representative for details and a demonstration CD-ROM. You may also contact us at www.gouldspumps.com or e-mail pumpsmart@fluids.ittind.com.



Pump specification

SUCT.FLANGE SIZE 4"	DRILLING ANSI 150#	FACING FF	FINISH SERRATED
DISCH.FLANGE SIZE 3"	DRILLING ANSI 150#	FACING FF	FINISH SERRATED
PUMP ROTATION (LOOKING AT PUMP FROM MOTOR)	CW		
TYPE OF LUBRICATION	FLOOD OIL	COOLED	NO
TYPE OF STUFFING BOX	BIG BORE	COOLED	NO
TYPE OF SEALING	MECHANICAL SEAL		

Weights and Measurements

PUMP	350.0 lb
MOTOR/CPLG	370.0/15.0 lb
BASEPLATE	155.0 lb
TOTAL	890.0 lb
GR.VOLUME w/BOX	25.4 ft ³
GR.WEIGHT w/BOX	1,017.0 lb

Motor specification

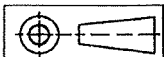
MOTOR BY PUMP MFG	MOUNT BY PUMP MFG	MFG.	PUMP MFG'S CHOICE
FRAME 284T	POWER 25.0 hp	RPM 1800	
PHASE 3	FREQUENCY 60 HZ	VOLTS 230/460	
INSULATION F	S.F. 1.15		
ENCLOSURE TEFC PREMIUM EFFICIENCY			

Notes and References

- MTR DIMENSIONS ARE APPROXIMATE
- INSTALL FOUNDATION BOLTS IN PIPE SLEEVES
- ALLOW FROM 0.75 to 1.50in. FOR GROUTING. SEE INSTRUCTION BOOK FOR DETAILS.
*Tolerance is +0 -0.5
FOR PUMP TAPPED OPENINGS REFER TO DWG.: TRW05-11-21 01 / ITEM 001

Auxiliary specification

COUPLING BY PUMP MFG	CPLG TYPE T.B. WOOD'S SC 8
CPL GUARD BY PUMP MFG.	CPLG GUARD MATL. CARBON STEEL
BASEPLATE CAST IRON CAMBER TOP D00057A	
MECH.SEAL JOHN CRANE 5610Q XF(55)1XO(58)H (CARBON VS SILICON CARBIDE WITH FLUOROELASTOMER)	



All dimensions are in inches.
Drawing is not to scale
Weights (lbs) are approximate

DRAWING IS FOR REFERENCE ONLY.
NOT CERTIFIED FOR CONSTRUCTION UNLESS SIGNED.

Customer: Sofix Corp
Serial No:
Customer P.O. No:
Item No: ITEM 001
End User: Sofix Corp.
Service: Brine Circulation Pump

DRAWING NO RW05-11-21 01/ITEM 001

Model: 3196**Size: 3x4-13****Group: MTX****60Hz****RPM: 1775****Stages: 1**

Job/Inq.No. : Williams 11-18-05

Purchaser : Sofix Corp

End User : Sofix Corp.

Item/Equip.No. : ITEM 001

Service : Brine Circulation Pump

Order No. :

Issued by : Rick Walker

Quotation No. : RW05-11-21 01

Date : 11/21/2005

Certified By :

Operating Conditions

Liquid: Brine

Temp.:

S.G./Visc.: 1.080/30.000 cp

Flow: 300.0 gpm

TDH: 145.0 ft

NPSHa: 30.0 ft

Solid size:

% Solids:

Max. Solids Size: 0.6250 in

Pump Performance

Actual Pump Eff.: 51.0 %

Actual Pump Power: 23.3 hp

Mech. Seal Loss: 0.22 hp

Rated Total Power: 23.3 hp

Imp. Dia. First 1 Stg(s): 11.5000 in

NPSHr: 4.3 ft

Shut off Head: 151.1 ft

Vapor Press:

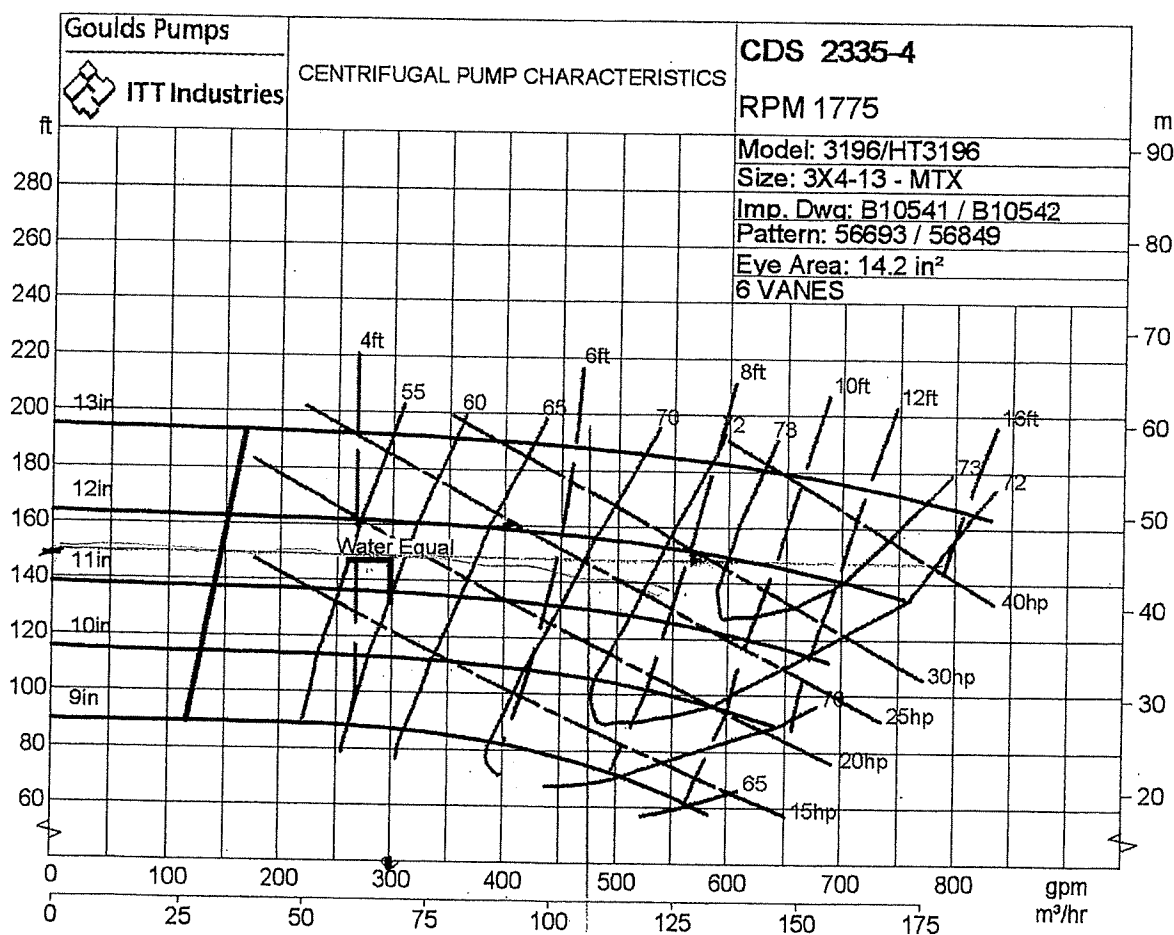
Suction Specific Speed: 9,478 gpm(US) ft

Min. Hydraulic Flow: 148.6 gpm

Min. Thermal Flow: N/A

Non-Overloading Power: 37.2 hp

- Notes:**
1. Power and efficiency losses and Viscous effect are not reflected on the curve below.
 2. Elevated temperature effects on performance are not included.



700 RPM
162'

1750

2K6X4 - 13A / 12S

60 Air