

JACOBS ENGINEERING
CHEVRON PHILLIPS CHEMICAL CO.
P6PC RESTRUCTURING PROJECT, PASADENA, TX
CUSTOMER PO: 688K5560-JH000803
JOB NO.: 68-8K55-30
PUMP SERIAL NO.: 1104-1050
EQUIPMENT TAG: 67-5096 RL2 JACKET WATER
PUMP MODEL: 3K10X8-14RV M3
FLOWSERVE ORDER: 008-80332

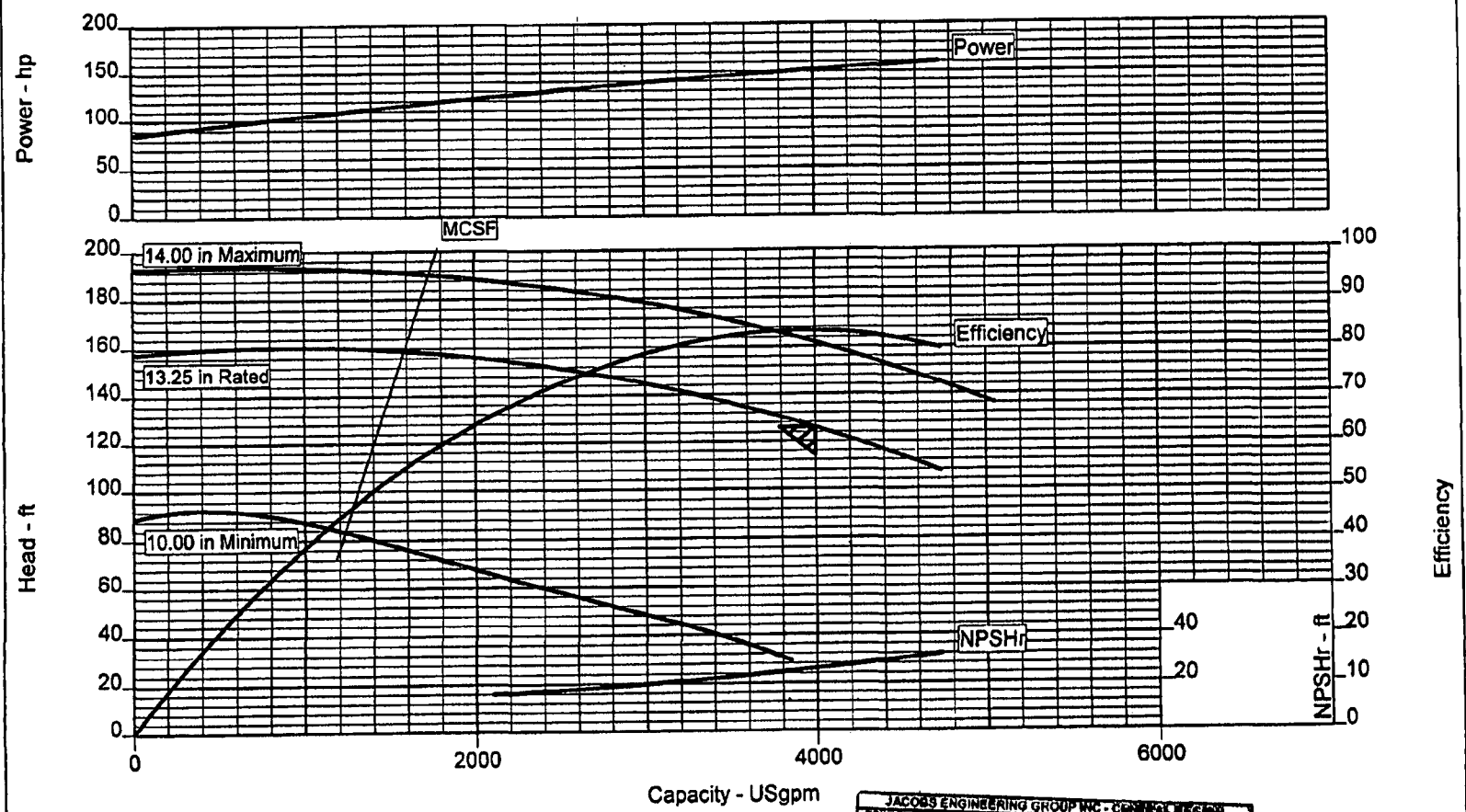


Capacity : 4000.0 USgpm Specific gravity : 0.992
Head : 126.00 ft Pump speed : 1780 rpm

Pump size & type : 3K10x8-14RV M3 ST
Based on curve no. : M118415AV
Number of stages : 1

PUMP TAG No.:	67-5096
PUMP SAP No.:	10533690
MOTOR TAG No.:	30-5096
MOTOR SAP No.:	10533691

CURVES ARE APPROXIMATE. PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS, CAPACITY, HEAD, AND EFFICIENCY.
MCSF PROVIDES MECHANICAL PROTECTION ONLY. MINIMUM THERMAL FLOW MUST BE CALCULATED FOR THE SPECIFIC FLUID AND OPERATING CONDITIONS

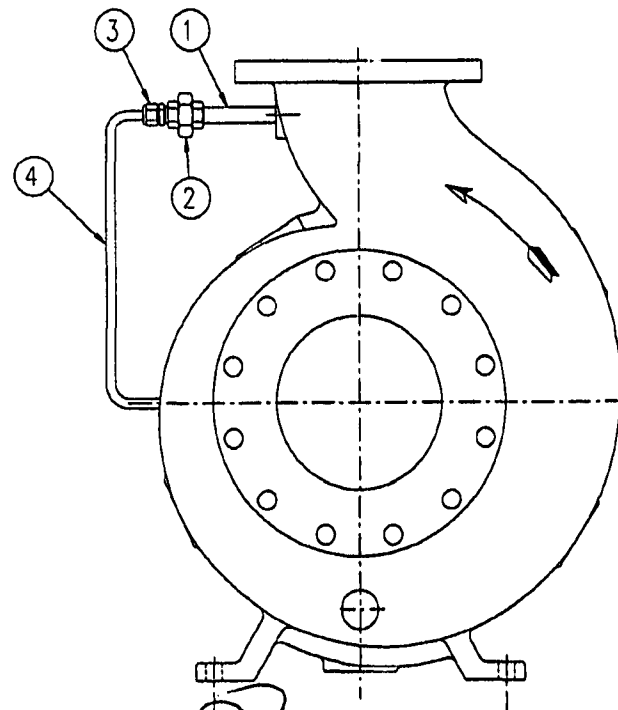
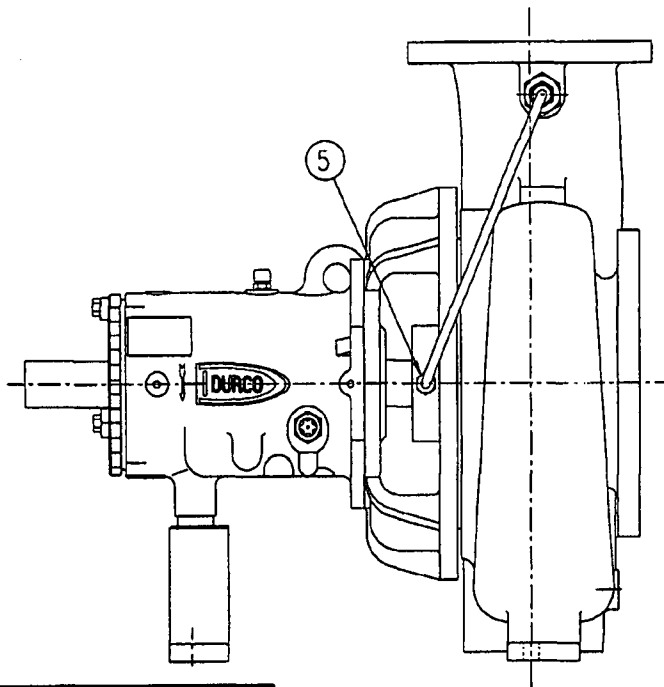


118-02

JACOBS ENGINEERING GROUP INC. - CHEVRON DIVISION
PROJECT NO. 688K5560-JH000803
JOB NO. 68-8K55-30
PUMP SERIAL NO. 1104-1050
EQUIPMENT TAG 67-5096
PUMP MODEL 3K10X8-14RV M3
FLOWSERVE ORDER 008-80332
DATE 3/2/05
TIME 10:00 AM
BY [Signature]
NO COMMENTS
ALL COMMENTS NOTED - REVISE, RESUBMIT, PROCEED WITH FABRICATION
O C. UNACCEPTABLE - DO NOT PROCEED WITH FABRICATION
O R. FOR INFORMATION ONLY
Review of this drawing by Jacobs Engineering Group does not relieve the supplier of his responsibility to supply the materials in accordance with the procurement documents.

DRAWING NO. BP4704CS REV.

TAP 3 = 1/2" NPT (DISCHARGE)
TAP 8 = 3/8" NPT (SEAL GLAND)
TUBING = 1/2", .065" WALL



PUMP TAG No.:	67-5096
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MOTOR TAG No.:	30-5096
MOTOR SAP No.:	10533691

JACOBS ENGINEERING
CHEVRON PHILLIPS CHEMICAL CO.
P6PC RESTRUCTURING PROJECT, PASADENA, TX
CUSTOMER PO: 688K6580-HH000603
JOB NO.: 68-BK68-30
PUMP SERIAL NO.: 1104-1050
EQUIPMENT TAG: 67-5096 RL2 JACKET WATER
PUMP MODEL: 3K10X8-14RV MNC
FLOWSERVE ORDER: 008-80332

JACOBS ENGINEERING GROUP INC - CENTRAL REGION		
PROJECT NO. 68-BK68-30	P.O. NO. HH000603	SERIAL NO. 11
SIGNATURE <i>[Signature]</i>	DATE 3/21/05	ITEM NO. 67-5096
REVISIONS		
1	ASSEMBLY NOTED - REVISE, RE-COUNT, RE-POSSIBLE WITH FABRICATION	SUSPENSE DATE 3/21/05
D R FOR INFORMATION ONLY		
Review of this drawing by Jacobs Engineering Group does not relieve the supplier of his responsibility to supply the materials in accordance with the procurement documents.		

GENERAL TOLERANCES
PER ISO 2768

PATTERN	MACHINE ALTER FROM
CASTING DWG	MATERIAL
HYDRAULIC DWG	WEIGHT

REV.	QTY.	MTL	PART No.	DESCRIPTION
5	1			FITTING - 1/2" TUBE x 3/8" (M) NPT
4	1			TUBE - 1/2", .065" WALL
3	1			FITTING - 1/2" TUBE x 1/2" (M) NPT
2	1			UNION - 1/2" NPT x 1/2" (M) ORIFICE
1	1			NIPPLE - 1/2", SCH 80 x 6.00" LONG



STATUS OF APPROVAL
APPROVED

DRAWN BY SEM	DATE 11/19/04
CHECKED BY TDH	DATE 11/23/04
APPROVED BY JC	DATE 11/23/04

FLOWSERVE Pump Division
Chesapeake Operation

DWG TITLE **BYPASS PLAN 7311**
MARK 3 - GROUP 3, 1/2" TUBE

SIZE A3	DRAWING NO. BP4704CS	REV.
FILE CAD:		
SCALE: NTS	UNITS: USC	SHEET NO. 1 of 1

DRAWING NO. J050803321304 REV. 2

GENERAL NOTES:

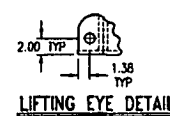
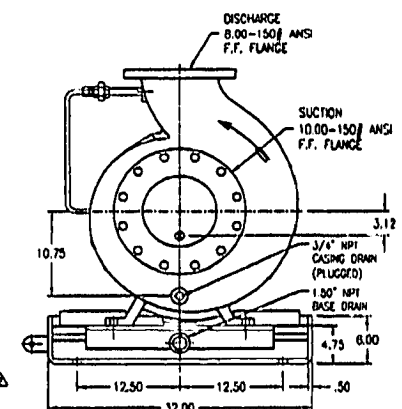
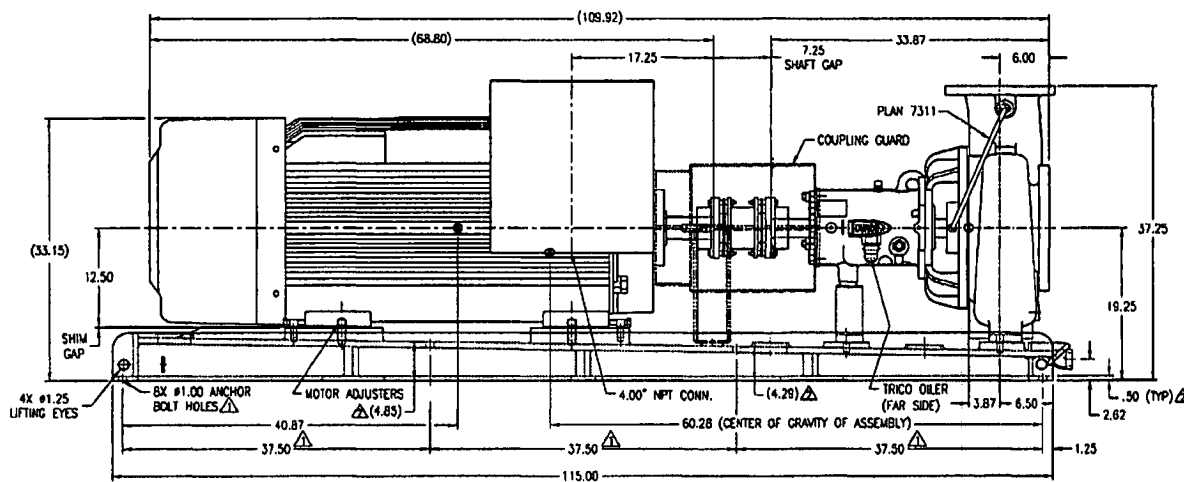
1. CONSULT INSTRUCTION BOOK BEFORE INSTALLING PUMP.
2. ALL DIMENSIONS GIVEN IN INCHES AND WEIGHTS IN POUNDS.
3. ALL PIPE TAPS ARE STANDARD N.P.T. THREADS.
4. ALL HOLES IN FLANGES STRADDLE CENTERLINES.
5. ALLOW .25" FOR VARIATION OF FOUNDATION BOLT HOLES.
6. STANDARD TOLERANCE FOR CUSTOMERS PIPE CONNECTIONS ARE AS FOLLOWS:
A. $\pm .25"$ ON ALL (2) PLACE DECIMAL DIMENSIONS
B. $\pm 1.00"$ ON ANY FLUSH, DRAIN OR COOLING PIPING FLANGE LOCATION DIMENSIONS
C. OR AS SPECIFIED FOR SPECIFIC DIMENSIONS ON THE GENERAL ARRANGEMENT.
7. FOUNDATION BOLTS AND PIPING SHOULD NOT BE SET RIGIDLY UNTIL RECEIPT OF EQUIPMENT.
8. ALLOW .75" UNDER BASEPLATE FOR GROUTING.

9. RECHECK ALIGNMENT AFTER UNIT REACHES OPERATING CONDITIONS.
10. THE DESIGN OF PIPING SYSTEM, FOUNDATIONS, AND OTHER AREAS OF SYSTEM DESIGN IS THE RESPONSIBILITY OF OTHERS. FLOWSERVE CORPORATION DATA AND COMMENTS ARE OFFERED AS AN AID, BUT FPD CANNOT ASSUME RESPONSIBILITY FOR THE DESIGN AND OPERATION. WE RECOMMEND THAT THE CUSTOMER CONSULT A SPECIALIST SKILLED IN THE DESIGN OF FOUNDATIONS, PIPING, SUMPIS AND RELATED SYSTEMS SO AS TO SUPPLEMENT AND INTERPRET FLOWSERVE CORPORATION INDUSTRIAL PUMP DIVISION INFORMATION AND ENSURE A SUCCESSFUL INSTALLATION.
11. DRIVER DIMENSIONS ARE APPROXIMATE. REFER TO CERTIFIED DRIVER DIMENSIONS DRAWING FOR EXACT DIMENSIONS, IF NEEDED.
12. USE ONLY SIGNED CERTIFIED PRINTS FOR CONSTRUCTION.
13. DIRECTION OF ROTATION SHALL BE EMBOSSED ON CASTING.
14. THIS DRAWING SUPERCEDES WHPROD-V3.1.0.0.

⊙ = CENTER OF GRAVITY

PUMP SAP No. 10533690
MOTOR SAP No. 10533691

REVISIONS		
REV.	DESCRIPTION	DATE
1	ADDED 4 ADDITIONAL ANCHOR BOLT HOLES	11/11/00
2	ADDED 1/4" NPT CASING DRAIN (PLUGGED)	11/11/00



ASSEMBLY CHECKED: [Signature] DATE: 5/4/05
 DESIGNED: [Signature] DATE: 5/4/05
 DRAWN: [Signature] DATE: 5/4/05
 CHECKED: [Signature] DATE: 5/4/05
 APPROVED: [Signature] DATE: 5/4/05



P.O. No.: 080K0300H000003
 USER: JAS00972/SHAWAN
 DATE: 11/11/00
 TITLE: 3K 10x8-14 MARK 3 w/ 500SY FR.
 SERIAL No.: 1114-1050

WEIGHT (APPROX)		COUPLING		DRIVER DATA	
PUMP	889	TYPE	THOMAS	MFR.	SIEMENS
DRIVER	4550	MODEL	SERIES 71	ENCLOSURE	TEFC
BASE	1390	SIZE	350	FRAME	500SY
COUPLING	44	SHAFT CAP		HP	200
CPL. GRD.	15			RPM	1800
TOTAL	6898			CHARACTERISTIC	3/60/4000
				SHAFT DIAMETER	KEYWAY
				2.875	2.874
					.75 x .38

TEMPORARY NOTE
 APPROVAL NOTE IS CUSTOMER
 APPROVAL NOTE IS CUSTOMER

STATUS OF APPROVAL
 CERTIFIED
 DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]
 DATE: 5/4/05

CUSTOMER INFORMATION
 OPERATING CONDITIONS
 DWD TITLE: GENERAL ARRANGEMENT
 3K 10x8-14 MARK 3 w/ 500SY FR.
 SIZE: A2
 DRAWING NO.: J050803321304
 FILE CAD: [Blank]
 SCALE: NTS UNITS: USC SHEET NO. 1 of 2

