

شماره پیمان: ۰۵۳-۰۲۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP							شماره صفحه: ۱ از ۱۴
	نسخه	سریال	نوع مدرک	رشته	تجهیزات	صادر کننده	بسته کاری	
	V00	0001	DS	ME	120	KP	GCS	

طرح نگهداشت و افزایش تولید ۲۷ مخزن

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP

نگهداشت و افزایش تولید میدان نفتی بینک

V00	Nov-2024	IFA	KP	M.Fakharian	M.Sadeghian	
Rev.	Date	Purpose of Issue / Status	Prepared by:	Checked by:	Approved by:	CLIENT Approval

status:

IFA: Issued For Approval

AFC: Approved For Construction

IFI: Issued For Information



NISOC

شماره پیمان:

۰۵۳-۰۲۳-۹۱۸۴

نگهداشت و افزایش تولید میدان نفتی بینک

سطح الارض و ابنیه تحت الارض

خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک

(قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)





DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP

نسخه	سریال	نوع موتور	رشته	تسهیلات	صادر کننده	بسته کاری	پروژه
V00	0001	DS	ME	120	KP	GCS	BK

شماره صفحه: ۱۴ از ۱۴

REVISION RECORD SHEET

page	00	01	02	03	04	05	06	page	00	01	02	03	04	05
1	x							65						
2	x							66						
3	x							67						
4	x							68						
5	x							69						
6	x							70						
7	x							71						
8	x							72						
9	x							73						
10	x							74						
11	x							75						
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13	x							77						
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61								125						
62								126						
63								127						
64								128						

 <p>NISOC</p>	<p>نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد ۰۰۲۳_۰۰-BK-HD-GCS-CO)</p>																															
شماره پیمان: ۰۵۳-۰۷۳-۹۱۸۴	<table border="1"> <tr> <th colspan="8">DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP</th> </tr> <tr> <th>نسخه</th> <th>سریال</th> <th>نوع موتور</th> <th>رشته</th> <th>تجهیزات</th> <th>صادر کننده</th> <th>بسته کاری</th> <th>پروژه</th> </tr> <tr> <td>V00</td> <td>0001</td> <td>DS</td> <td>ME</td> <td>120</td> <td>KP</td> <td>GCS</td> <td>BK</td> </tr> </table>							DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP								نسخه	سریال	نوع موتور	رشته	تجهیزات	صادر کننده	بسته کاری	پروژه	V00	0001	DS	ME	120	KP	GCS	BK	شماره صفحه: ۱۴ از ۳
DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP																																
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V00	0001	DS	ME	120	KP	GCS	BK																									
<p align="center">GENERAL NOTES</p>																																
<ol style="list-style-type: none"> Vendor shall fill in the blanks and return the completed data sheet along with Diesel data sheet with his proposal. Vendor shall submit ITP (Inspection & Testing Plan) with his proposal. Vendor is requested to confirm the material, or propose appropriate alternative. For Instrumentation, Project specification 'Specification For Instrument and Control of package Unit System (PU)' Doc. No. BK-GNRAL-PEDCO-000-IN-SP-0004. shall be followed. Instead of mechanical seal, vendor shall advise the suitable Packing specification. NPSH test shall be done & witnessed if the margin of NPSHr & NPSHa is less than 1. The Tie-in flanges shall conform to ASME B-16.1. Pump drain shall be terminated at skid edge with flange connection and valved. Supplier to indicate which minimum flow pumps can achieve. Nozzle loads shall be 2 times the loads shown in API 610 11th Edition. The Suction line size is 12" and discharge line is 10" . Air release valve shall be considered by vendor . As the pump jobsite environmental condition is fummy and dusty, any required protection for pumps, panels and electrical parts (in accordance with IPS-E-EL-100) in this regard shall be considered by pump manufacturer. Ultrasonic Test shall be performed for forged shaft. Couplings shall be dry, flexible and spacer type. A local control panel shall be considered by vendor to be located next to the pumps as per "Specification For Fire Water Pumps", Doc. No. BK-GCS-PEDCO-120-ME-SP-0005'. Alarm and trip shall be specified for diesel control based on NFPA 20. Pump LCP shall be designed to manage all required monitoring and control signals , as minimum in accordance with "P&ID For Fire Water Network", Doc.No.BK-GCS-PEDCO-120-SA-PI-0001. The electrical characteristics of panels shall be specified by vendor such as: - The power demand of control panel. - The number of control panel. Fuel daily tank shall be sized for 8 hours and all instruments such as level transmitter with HH/LL Alarm and etc. are in vendor's scope of supply. Diesel engine shall be tested at 110% rated speed in mechanical running test also the maximum speed of diesel engines shall be 2300 RPM. pressure sensing lines are in the vendor's scope of supply. The sparate power & control panels for main pump diesel engine shall be considered by vendor. Therefore required single line, wiring diagram and etc. shall be specified by vendor. Design pressure is 15.4 barg also as per NFPA 20 standard the hydrotest pressure shall not be less than 17.24 barg. Estimated BHP at rated capacity is 199.2 kW by considering 65% efficiency. The pumps shall furnish not less than 150% of rated capacity at not less than 65% of rated head. 								<p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Packing is confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Pump is self vent</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p> <p>KPC : Confirmed</p>																								
<div style="border: 2px solid red; padding: 10px; margin-top: 20px;"> <p>1- set point of pressure sensing line shall be specified</p> <p>2- allowable leakage of packing shall be specified</p> </div>																																



نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض
خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک
(قرارداد ۵۱۵۰۰۰۰۲۰۰۳۰۰۰-BK-HD-GCS-CO)



شماره پیمان:

• 03-07-91AE

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP

شماره صفحه: ۴ از ۱۴

نسخه	سریال	نوع مدرک	رشته	تسهیلات	صادرکننده	بسته کاری	پروژه
V00	0001	DS	ME	120	KP	GCS	BK

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 B (Sheet 1 of 6)

CLIENT: National Iranian South Oil Company (NISOC)

PROJECT TITLE: BINAK Gas Compressor Station

JOB NUMBER:

EQUIPMENT NUMBER: P-2301 B

EQUIPMENT SERVICE: Fire Water Pumps - Diesel Engine Driven

SERIAL NUMBER:

REQ. / SPEC NO. : BK-GCS-PEDCO-120-ME-SP-0005

PURCH ORDER NO.

Cells coloured thus

contain drop-down options


contain calculated values based on input data; do not change.

identify a cross referenced paragraph in the document note, and may also contain a drop down list

When you have completed the DS, highlight the whole page format cells pattern none
Delete these notes on completion


COMMENTS:

DATA SHEETS								
ITEM No.		ATT	ITEM No.		ATT	ITEM No.		ATT
PUMP MOTOR GEAR TURBINE	P-2301 B		YES					



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نگهداشت و افزایش تولید میدان نفتی بینک
سطح الارض و ابنیه تحت الارض
خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک
(قرارداد ۰۰۲۳-۰۰۰۰-BK-HD-GCS-CO)



HIRGAN ENERGY
شرکت توسعه و پیمانکاری
Kalaye Pump Co.

شماره پیمان: ۰۵۳-۰۰۷۳-۹۱۸۴

DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP

پروژه	بسته کاری	صادر کننده	تجهیزات	رشته	نوع مدرک	سریال	نسخه
BK	GCS	KP	120	ME	DS	0001	V00

شماره صفحه: ۵ از ۱۴

CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 B (Sheet 2 of 6)

APPLICABLE TO: **PROPOSAL**

FOR: **NISOC**

SITE: **BINAK Gas Compressor Station**

NO. REQ: **1**

MANUFACTURER: **KALAYE PUMP CO.**

APPLICABLE NTL/INTNL STANDARD: **NFPA20 (2019) & IPS-M-PM-125**

UNIT: **Fire Water Pumps - Diesel Engine Driven**

SERVICE: **BB1**

TYPE: **BB1 (V.T.C) KPSPF 150-570**

MODEL: **BB1 (V.T.C) KPSPF 150-570**

No. STAGES: **1**

SERIAL NO.:

LIQUID CHARACTERISTICS

	Units	Maximum	Minimum	Note
LIQUID TYPE OR NAME :		Water		Max & min values refer only to the property listed
VAPOR PRESSURE :	bara	0.0087	0.1219	
DENSITY :	kg/m³	997		
SPECIFIC HEAT :	kJ/kgC	4.186		
VISCOSITY :	cP	1		

OPERATING CONDITIONS (6.1.2)

	Units	Maximum	Rated	Normal	Min
NPSH _a Datum:		C.L. Impeller			
PUMPING TEMPERATURE :	°C	50			5
FLOW :	m³/hr		454.20		
DISCHARGE PRESSURE (6.3.2) :	barg		10.4		
SUCTION PRESSURE :	barg	0.83	0.81		0.08
DIFFERENTIAL PRESSURE :	bar		10.3		
DIFFERENTIAL HEAD :	m		105.0		
NPSH _a :	m		8.8		
HYDRAULIC POWER:	KW		129.50		

SITE AND UTILITY DATA

LOCATION: **OUTDOOR**

MOUNTED AT: **ROOF**

ELECTRIC AREA CLASSIFICATION: **EQ'D**

GROUP: **SAFE**

SITE DATA :

ELEVATION (MSL) : **12.5** m

RANGE OF DESIGN TEMPS: MIN / MAX **5** / **85** °C

RELATIVE HUMIDITY: MIN / MAX **0** / **100** % (@ 25.6 °C)

UNUSUAL CONDITIONS: **NA**

UTILITY CONDITIONS :

ELECTRICITY :	AUXILIARY	HEATING	CONTROL	SHUTDOWN
VOLTAGE	400			
PHASE	3			
HERTZ	50			

COOLING WATER :

	RETURN	DESIGN
TEMP		
PRESS.		
SOURCE		

COOLING WATER CHLORIDE CONCENTRATION:

INSTRUMENT AIR : **kg**

STEAM

	DRIVERS	
TEMP		
PRESS.		

PERFORMANCE

PROPOSAL CURVE NO. KPSPF 150-570	RPM 1490
As Tested Curve No.	KPSPF 15
IMPELLER DIA.: RATED 530 MAX. 585 MIN. 450	
RATED POWER 180.5 Kw	EFFICIENCY 72
RATED CURVE BEP FLOW (at rated impeller dia)	489
MIN FLOW :	15
PREFERRED OPERATING REGION (6.1.11)	342 to 681
ALLOWABLE OPERATING REGION	146 to 681
MAX HEAD @ RATED IMPELLER	120 m
MAX POWER @ RATED IMPELLER	241 kW
NPSH ₃ AT RATED FLOW :	3.5 m
CL PUMP TO U/S BASEPLATE	5.3 m
NPSH MARGIN AT RATED FLOW :	5.3 m
SPECIFIC SPEED (6.1.9)	8498
SUCTION SPECIFIC SPEED LIMIT	110 (dBA) @ 1 m
SUCTION SPECIFIC SPEED	110 (dBA) @ 1 m
MAX. ALLOW. SOUND PRESS. LEVEL REQ'D (6.1.14)	110 (dBA) @ 1 m
EST MAX SOUND PRESS. LEVEL	
MAX. SOUND POWER LEVEL REQ'D (6.1.14)	
EST MAX SOUND POWER LEVEL	

DRIVER (7.1.5) (NOTE 22)

DIESEL ENGINE	NO
NO	NO
VOLVO	308 KW
1490	
@Site Condition	
Nominal RPM	
RATED LOAD RPM	
FRAME OR MODEL	
ORIENTATION	HORIZONTAL
THRUST	
STARTING METHOD	
SEE DRIVER DATA SHEET	

Hirgan shall specified site condition

KPC: Noted

Vendor to specify model of diesel and related catalogue shall be submitted

KPC:TAD1341GE

Ns and Nss limitation shall be specified @ Qbep of max impller diameter

KPC:Confirmed

NSS(m3/h,m,rpm)=8498

NS (rpm, m3/h,m)=867

It shall be open valve

KPC: Confirmed

Recheck Nss or clarify how did you reach to it?


KPC: NSS & NS Calculation based on Qbep of max impeller diameter

Q(m3/h):560/2=280

H(m):120


NPSHr(m):4.2

Speed(rpm):1490



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(قرارداد ۰۰۲۳-۰۰-۰۰ BK-HD-GCS-CO)



HIRGAN ENERGY
کالایه پمپ Co.

by considering of material is it correct to use RF?
KPC:Confirmed

according to API 610 ; MAWP shall be at least 20 barg
KPC:MAWP is 15 bar (according to NFPA20)

شماره صفحه: ۱ از ۱۴

to be specified KPC:22.5 bar

to be specified completely. KPC:Noted

Coupling Manufacturer & model shall be specified KPC:Noted

Gr. 60-40-15 is not correct.it shall be corrected.
KPC:GGG40(A536 60-40-18)

case wear ring to be specified KPC:Bronze (C95200)

to be specified KPC:Noted




KPC:AMB



KPC:Colossus FLEXIBLE SPACER TYPE



KPC:GGG40(A536 60-40-18)

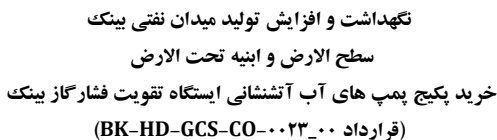
KPC:Coupling Guard

KPC:PARTIAL TOP DECKING

 NISOC	نگهداشت و افزایش تولید میدان نفتی بینک سطح الارض و ابنیه تحت الارض خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک (قرارداد ۰۰۲۳-۰۰-۰۵۳-۰۰-۹۱۸۴)							 																									
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	BK	GCS	KP	120	ME	DS	0001	V00																									
CENTRIFUGAL PUMP DATA SHEET (SI UNIT) - P-2301 B (Sheet 6 of 6)																																	
PRESSURE VESSEL DESIGN CODE REFERENCES																																	
THESE REFERENCES MUST BE LISTED BY THE MANUFACTURER																																	
CASTING FACTORS USED IN DESIGN (TABLE 3)																																	
SOURCE OF MATERIAL PROPERTIES																																	
WELDING AND REPAIRS (NOTE 12)																																	
THESE REFERENCES MUST BE LISTED BY THE PURCHASER. (DEFAULT TO TABLE 11 IF NO PURCHASER PREFERENCE IS STATED)																																	
ALTERNATE WELDING CODES AND STANDARDS																																	
WELDING REQUIREMENT (APPLICABLE CODE OR STANDARD)																																	
WELDER/OPERATOR QUALIFICATION																																	
WELDING PROCEDURE QUALIFICATION																																	
NON-PRESSURE RETAINING STRUCTURAL WELDING SUCH AS BASEPLATES OR SUPPORTS																																	
MAGNETIC PARTICLE OR LIQUID PENETRANT EXAMINATION OF PLATE EDGES																																	
POSTWELD HEAT TREATMENT																																	
POSTWELD HEAT TREATMENT OF CASING FABRICATION WELDS																																	
MATERIAL INSPECTION																																	
THESE REFERENCES MUST BE LISTED BY THE PURCHASER																																	
ALTERNATIVE MATERIAL INSPECTIONS AND ACCEPTANCE CRITERIA (SEE TABLE 15) (8.2.2.5)																																	
DEFAULT TO TABLE 14																																	
YES																																	
<table><thead><tr><th>TYPE OF INSPECTION</th><th>METHOD</th><th>FOR FABRICATIONS</th><th>FOR CASTINGS</th></tr></thead><tbody><tr><td>RADIOGRAPHY</td><td></td><td></td><td></td></tr><tr><td>ULTRASONIC INSPECTION</td><td></td><td></td><td></td></tr><tr><td>MAGNETIC PARTICLE INSPECTION</td><td></td><td></td><td></td></tr><tr><td>LIQUID PENETRANT INSPECTION</td><td></td><td></td><td></td></tr><tr><td>VISUAL INSPECTION (all surfaces)</td><td></td><td></td><td></td></tr></tbody></table>										TYPE OF INSPECTION	METHOD	FOR FABRICATIONS	FOR CASTINGS	RADIOGRAPHY				ULTRASONIC INSPECTION				MAGNETIC PARTICLE INSPECTION				LIQUID PENETRANT INSPECTION				VISUAL INSPECTION (all surfaces)			
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REMARKS :																																	

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		BK	GCS	KP	120	ME	DS	0001	V00		
Diesel Engine Data Sheet For Fire Water Pump - P-2301 B (SI UNIT) (1 of 4)											
SERVICE: FOR: SITE: NO. REQUIRED:						MANUFACTURER: MODEL NO: TYPE:					
Fire Water Pumps - Diesel Engine Driven NISOC BINAK Gas Compressor Station 1						VOLVO TAD 1341					
						catalogue to be submitted KPC: Please refer to the attached file.					
						REMARKS					
(Note 1)											
OPERATING CONDITIONS											
DIESEL ENGINE MANUFACTURER											
ISO POWER (ISO 3046)						kW 308					
ISO SPEED						rpm 1490					
SITE CONTINUOUS RATED POWER						kW 275					
SITE CONTINUOUS RATED SPEED						rpm 1490					
OVERLOAD SITE POWER						kW					
OVERLOAD SPEED						rpm					
OVERLOAD DURATION						h					
DIRECTION OF ROTATION (FROM CPLG)						CW/CCW CCW					
SPEED RANGE						±% rpm					
IDLE SPEED						rpm 900					
LOADING TIME						s 10					
PERFORMANCE											
% OF MAX CONT SITE POWER											
FUEL SPECIFIC CONSUMPTION						g/kWh					
TOLERANCE						%					
SPEED						rpm (NOTE 20)					
LOAD ACCEPTANCE RATING						% 1 step					
ENGINE DATA											
CYCLE:- 2 STROKE/4 STROKE						4 STROKE REQUIRED					
NUMBER OF CYLINDERS						KPC:Confirmed					
IN-LINE/V FORM											
BORE/STROKE						mm					
CAPACITY						liters					
BMEP (RATED)											
PISTON SPEED						m/s					
COOLING SYSTEM: AIR/WATER						CLOSED SYSTEM (Air fan & Radiator)					
TURBOCHARGER:-						KPC:Confirmed					
SINGLE OR SERIES											
INTERCOOLER						CA or CW					
EMISSIONS											
No _x EMISSION						g/kWh					
CO EMISSION						g/kWh					
CO ₂ EMISSION						g/kWh					
STARTING SYSTEM											
AIR:-											
NUMBER OF TANKS											
PRESSURE						Barg / Kpag					
CAPACITY						m ³					
NO. OF STARTS W/OUT REFILLING											
STARTING SYSTEM											
ELECTRICAL:-						YES					
NO. OF BATTERIES						2 set including 20 cells with 200 ampere hour capacity at least (Dual charger equal to 100% of power)					
						KPC:2 set including 40 cells with 100 ampere hour capacity					
TYPE						Nickel - Cadmium					
TOTAL CAPACITY						Ah					
STARTING CIRCUIT											
STARTING MOTOR											

 <div>NISOC</div>	<div>نگهداشت و افزایش تولید میدان نفتی بینک</div> <div>سطح الارض و ابنیه تحت الارض</div> <div>خرید پکیج پمپ های آب آتشنشانی ایستگاه تقویت فشار گاز بینک</div> <div>(قرارداد ۰۰۲۳-۰۰-BK-HD-GCS-CO)</div>							 <div>Kalaye Pump Co.</div>
شماره پیمان: ۰۵۳-۰۲۳-۹۱۸۴	DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP							شماره صفحه: ۱۲ از ۱۴
	پروژه	بسته کاری	صادر کننده	تهیهات	رشته	نوع مدرک	سریال	
	BK	GCS	KP	120	ME	DS	0001	
Diesel Engine Data Sheet For Fire Water Pump - P-2301 B (SI UNIT) (3 of 4)								
HEATED / UNHEATED UNDER ROOF / PARTIAL SIDES							UNHEATED UNDER ROOF	
AREA CLASSIFICATION STARTING:- LOCAL / REMOTE								
AVAILABLE UTILITIES COOLING WATER:-							FROM FIRE WATER PUMP DISCHARGE	
PRESSURE AVAILABLE PRESSURE DROP TEMPERATURE TEMPERATURE CHANGE			bar g / kPa g bar / kPa °C °C					
INSTRUMENT AIR:-								
PRESSURE TEMPERATURE DEW POINT ELECTRICITY SUPPLY			bar g / kPa g °C °C AC					
FUEL CHARACTERISTICS:- FUEL OIL CLASSIFICATION VISCOSITY TEMPERATURE			cP °C					
OPERATING DURATION IMPURITIES			hrs % weight					
FUEL SYSTEM DAY TANK REQUIRED TANK SUPPLIED BY CAPACITY LOCATION			hrs				YES ENGINE SUPPLIER AS PER NFPA 20 OFF-SKID	
WEIGHTS AND DIMENSIONS HEAVIEST PART FOR ERECTION HEAVIEST PART FOR MAINTENANCE WEIGHT OF ENGINE ONLY WEIGHT OF SET WEIGHT OF CONTROL PANEL HEIGHT UNDER HOOK DIMENSIONS FOR MAINTENANCE								
PAINTING STANDARD/OTHER							IPS-E-TP-100	
INSPECTION AND TESTING MANUFACTURER'S STANDARD OTHER							IPS-M-PM-290	
INSTRUMENTATION			ALARM		SHUTDOWN		IPS-M-PM-290 SECTION 6.8.	
LUBRICATING OIL PRESSURE							Remark: P&ID For Fire Water Network	
FUEL PRESSURE							(No.BK-GCS-PEDCO-120-SA-PI-0001.)	
ENGINE OIL TEMPERATURE							shall be followed.	
FUEL TEMPERATURE								
OVER SPEED								
DIFF PRESS SWITCH ON FILTER								
MANOMETER ON OIL CIRCUIT; DOWNSTREAM OF PUMP DOWNSTREAM OF FILTER								
SIGHT GLASSES ON OIL CIRCUIT								



DATA SHEETS (W/PERFORMANCE CURVE) FOR FIRE WATER MAIN DIESEL PUMP

شماره صفحه: ۱۳ از ۱۴

نسخه	سریال	نوع مدرک	رشته	تهیلات	صادر کننده	بسته کاری	پروژه
V00	0001	DS	ME	120	KP	GCS	BK

Diesel Engine Data Sheet For Fire Water Pump - P-2301 B (SI UNIT) (4 of 4)

ENGINE EXHAUST TURBOCHARGER			
	TE BEFORE/ AFTER COOLER	PI BEFORE/ AFTER COOLER	
CIRCUIT OF:			
RAW WATER	/	/	
FRESH WATER	/	/	
OIL	/	/	
SUPERCHARGING:			
AIRSIDE	/	/	
WATERSIDE	/	/	

REMARKS:

For each pump set one 400V, 3PH/N auxiliary feeder is delivered by purchaser.

All required power for local control panel (230VAC/110VAC/24VDC) shall be convert by vendor as request.

1- Min/Max continues stable flow shall be shown on curve.

KPC:Min continues stable flow is 15 m³/h

Max continues stable flow is 681.3 m³/h

2-Efficiency curve shall be added

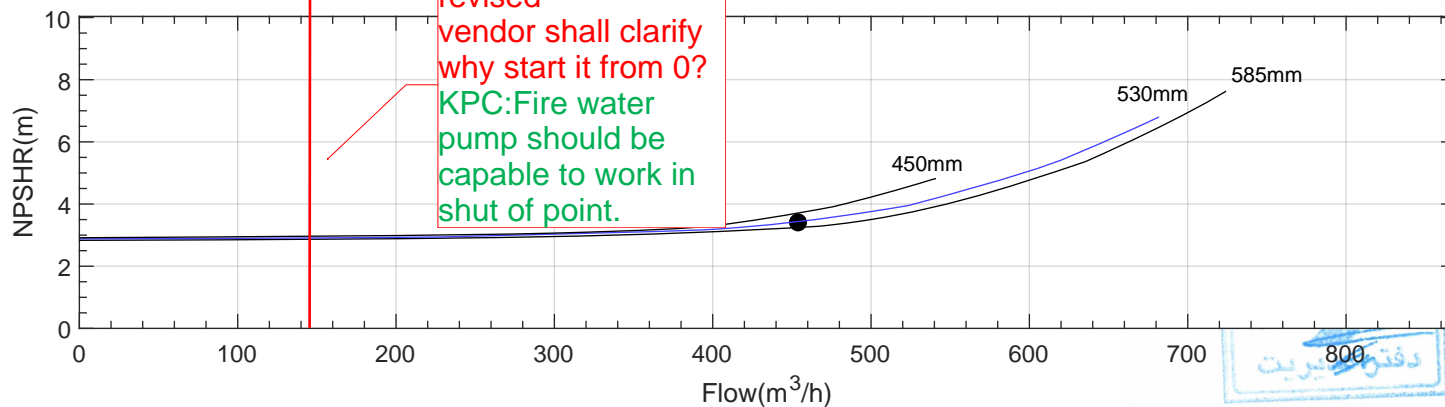
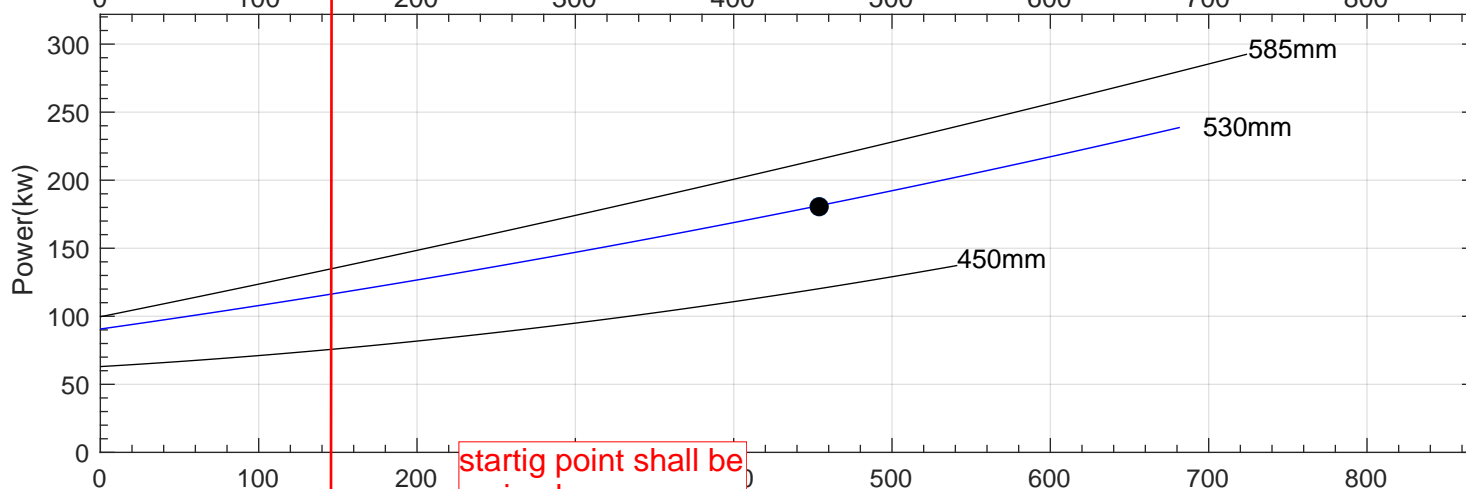
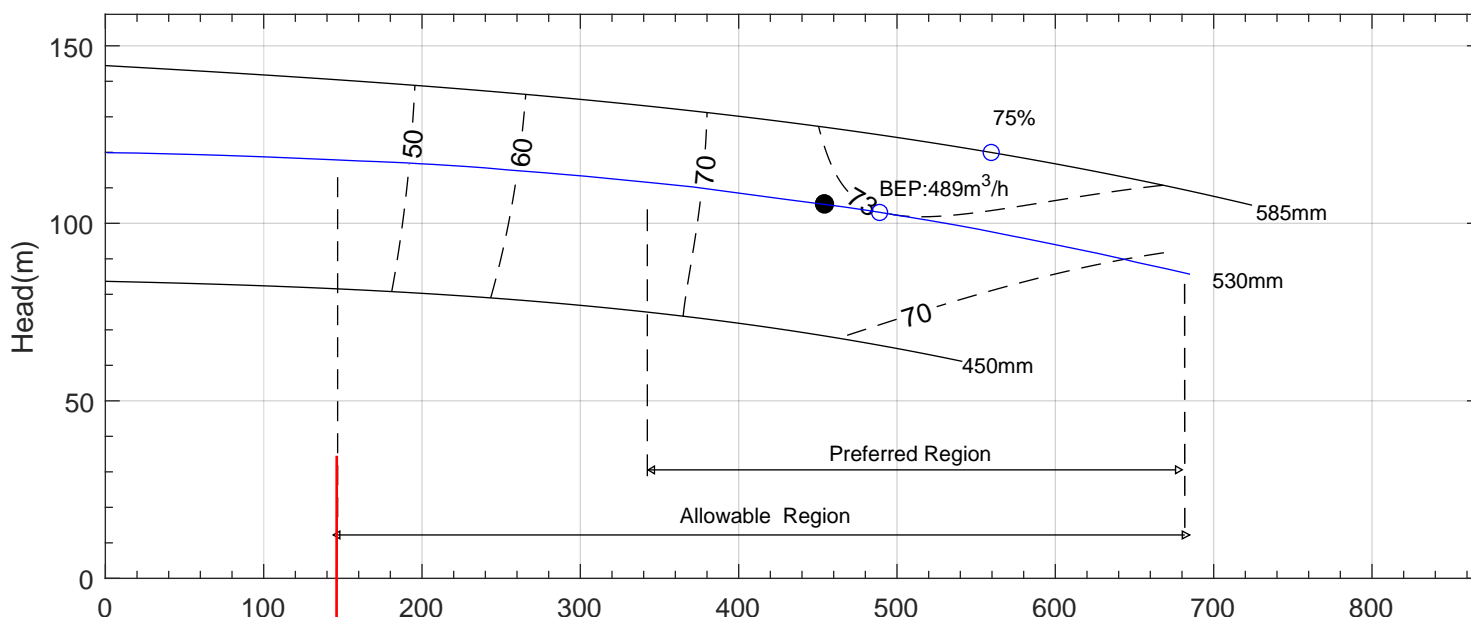
KPC:It is not possible

PUMP CO.

Performance curve



			KPSPF 150-570	Flow, Rated (m ³ /h)	454.2
Liquid	Water	Speed (rpm)	1490	Head (m)	105
Temp. (°C)	-3.5 / 53	Rated Imp.Dia. (mm)	530	Efficiency (%)	72
Density(kg/m ³)	997	Suction Size (Inch)	8	NPSHR (m)	3.5
Viscosity (cp)	1	Disch. Size (Inch)	6	Rated Power (kw)	180.5
NPSHA (m)	8.8	NSS (m ³ /h,m,rpm)	8498	Diesel Power (kw)	308



startig point shall be revised
 vendor shall clarify why start it from 0?
 KPC:Fire water pump should be capable to work in shut of point.