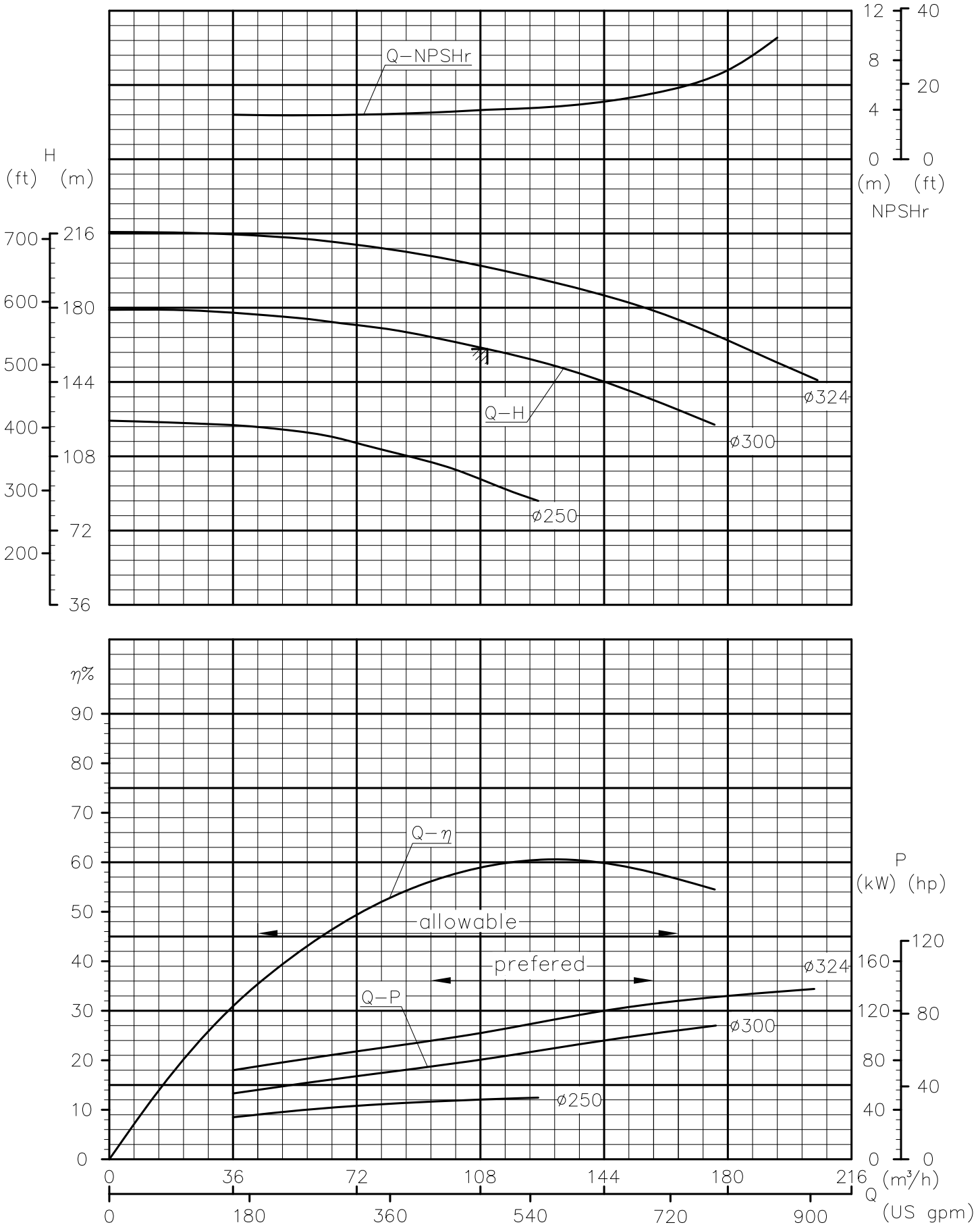
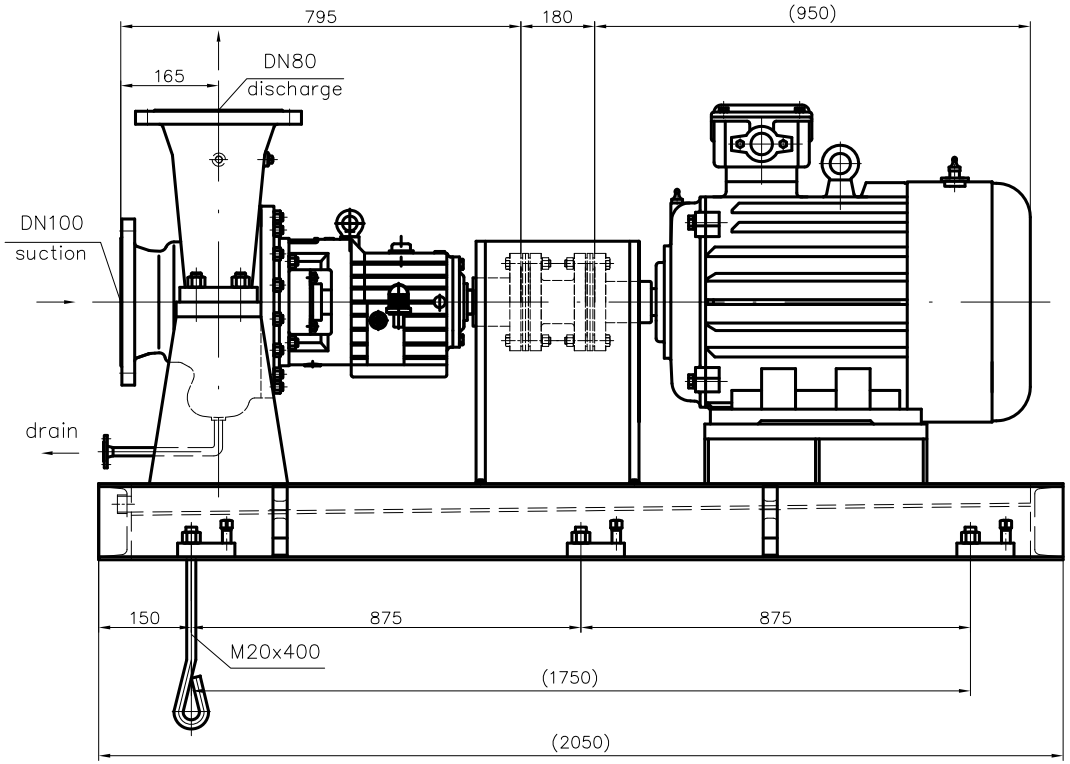
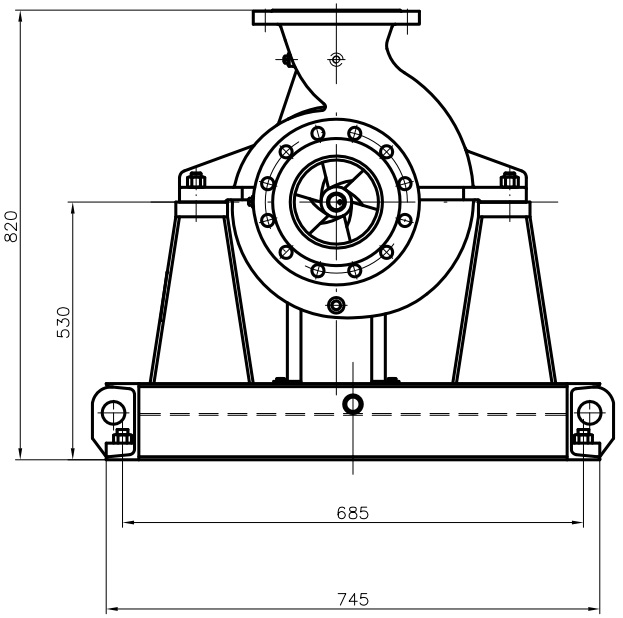
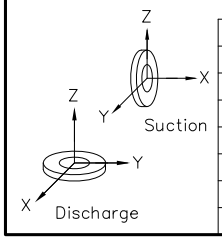
方大泵业 FONDA PUMP	Customer: CanDyne Pump Services Inc.		Capacity(m^3/h): 109.9
	Project: TBA		Head(m): 160
	Service: TBA		NPSHr(m): 3.7
Pump Model: SCP100-80-315	Item no.: 4132	Liquid: Prod. Water	Efficiency(%): 59
	Density(kg/m^3): 1000	Viscosity: 1.31 cp	Power(KW): 81.2
API610 OH2 Speed: 3550r/min	Temp.: 104 F	Other: N/A	Impeller Dia(mm): 300









	Suction	Discharge	Unit
FX	1780	1070	N
FY	1420	890	
FZ	1160	1330	
FR	2560	1930	
MX	1330	950	N.m
MY	680	470	
MZ	1000	720	
MR	1800	1280	

SPECIFICATION:
PUMP(Kg): 230

Model: SCP100-80-315				Item no.: 4132		Outline Dimensions and Installation
Prepare:	Xu Zhang	Check:	Zhongtian Zhang	Mark:	Weight	Scale
Review:	Dawei Jiang	Approve:	HY Zhang	S		
Standard:	API 610					
		Date:	2014.07.24	Page: 1/1		

方大泵业 FONDA PUMP

方大泵业 FONDA PUMP

Centrifugal Pump Data Sheet

JOB NO. **FD14J61558** ITEM No(s). **4132**

REQ./ SPEC NO. **TBA** / **TBA**

PURCH. ORDER NO. **N/A** DATE **2014.07.24**

ENQUIRY NO. **FD14E23670** BY **HY Zhang**

Centrifugal pump, process data sheet — SI units **Manufacturer: Fonda Pump**

APPLICABLE TO: ● PROPOSAL ○ PURCHASE ◯ AS BUILT

FOR **CanDyne Pump Services Inc.** UNIT **1**

SITE **TBA** SREVICE **Produced Water**

NOTES : INFORMATION BELOW TO BE COMPLETED: ○ BY PURCHASER ■ BY MANUFACTURER ◯ BY MANUFACTURER OR PURCHASER

● DATA SHEETS

	ITEM NO.	ATTACHED	ITEM NO.	ATTACHED	ITEM NO.	ATTACHED
PUMP	**4132**	●		○		○
MOTOR		○		○		○
GEAR		○		○		○
TURBINE		○		○		○

REVISIONS

NO.	DATE	BY
1		
2		
3		
4		
5		

APPLICABLE OVERLAY STANDARD(S) : API 610,TENTH EDITION,OCTOBER 2004

● OPERATING CONDITIONS (5.1.3)

FLOW, NORMAL **-** (m^3/h) RATED **109.9** (m^3/h)

OTHER

SUCTION PRESSURE MAX /RATED **-** (KPag)

DISCHARGE PRESSURE **-** (KPag)

DIFFERENTIAL PRESSURE **-** (KPag)

DIFF. HEAD **160** (m) NPSHA **-** (m)

PROCESS VARIATIONS (5.1.4)

STARTING CONDITIONS (5.1.4)

SERVICE: ○ CONT ○ INTERMITTENT (STARTS/DAY)

○ PARALLEL OPERATION REQ'D (5.1.13)

○ SITE DATA (5.1.3)

LOCATION: (5.1.30)

○ INDOOR ○ HEATED ○ OUTDOOR ○ UNHEATED

○ ELECTRICAL AREA CLASSIFICATION (5.1.24 / 6.1.4)

CL GR DIV

○ WINTERIZATION REQ'D ○ TROPICALIZATION REQ'D

SITE DATA (5.1.30)

○ ALTITUDE (m) BAROMETER (MPa)

○ RANGE OF AMBIENT TEMPS: MIN./MAX. / (°C)

○ RELATIVE HUMIDITY: MIN./MAX. / (%)

UNUSUAL CONDITIONS: (5.1.30) ○ DUST ○ FUMES

○ OTHER

○ DRIVER TYPE

○ INDUCTION MOTOR ○ STEAM TURBINE ○ GEAR

○ OTHER

○ MOTOR DRIVER (6.1.1 / 6.1.4)

◯ MANUFACTURER

■ **110** (kw) ■ **3550** (r/min)

□ FRAME ◯ ENCLOSURE

■ HORIZONTAL ◯ VERTICAL ◯ SERVICE FACTOR

■ VOLTS / PHASE / HERTZ / /

○ TYPE

○ MINIMUM STARTING VOLTAGE (6.1.5)

■ INSULATION ■ TEMP. RISE

◯ FULL LOAD AMPS

◯ LOCKED ROTOR AMPS

◯ STARTING METHOD

◯ LUBE

BEARINGS (TYPE / NUMBER) :

□ RADIAL /

□ THRUST /

□ VERTICAL THRUST CAPACITY

UP (N) DOWN (N)

● LIQUID (5.1.3)

LIQUID TYPE OR NAME **Produced Water**

○ Toxic ○ FLAMMABLE ○ (5.1.5)

	MIN.	NORMAL	MAX.
PUMPING TEMP (°F)		**104.0**	
VAPOUR PRESS . (PSIa)		**1.07**	
RELATIVE DENSITY (SG):		**1**	
VISCOSITY (cP)		**1.310**	

SPECIFIC HEAT, C_P (kj/kg .k)

○ CHLORIDE CONCENTRATION (6.5.2.4) (mg/kg)

○ H_2S CONCENTRATION (mol fraction) WET (5.12.1.12c)

○ CORROSIVE / EROSIVE AGENT (5.12.1.9)

MATERIALS (5.12.1.1)

● ANNEX H CLASS (5.12.1.1) **S-6**

○ MIN DESIGN METAL TEMP (5.12.4.1) (°C)

○ REDUCED HARDNESS MATERIALS REQ'D (5.12.1.12)

■ BARREL/CASE **Carbon Steel** IMPELLER **12%CHR**

■ CASE/IMPELLER WEAR RINGS **12%CHR Hardened**

■ SHAFT **AISI 4140**

□ DIFFUSERS

● PERFORMANCE

PROPOSAL CURVE NO. **SCP100-80-315** ■ **3550** (r/min)

■ IMPELLER DIA RATED **300** MAX. **324** MIN. **250** (mm)

■ IMPELLER TYPE **CLOSED**

■ RATED POWER **81.2** (kw) EFFICIENCY **59** (%)

■ MINIMUM CONTINUOUS FLOW : **43.2** (m^3/h)

THERMAL (m^3/h) STABLE (m^3/h)

■ PREFERRED OPER. REGION **93.6** TO **158.4** (m^3/h)

■ ALLOWABLE OPER. REGION **43.2** TO **165.6** (m^3/h)

■ MAX. HEAD @ RATED IMPELLER **180** (m)

■ MAX. POWER @ RATED IMPELLER **107** (kw)

■ NPSHR AT RATED FLOW **3.7** (m) (5.1.10)

◯ MAX SUCTION SPECIFIC SPEED : (5.1.11)

◯ MAX . SOUND PRESS LEVEL REQ'D (dBA) (5.1.16)

◯ EST MAX. SOUND PRESS LEVEL (dBA) (5.1.16)

◯ EST MAX. SOUND POWER LEVEL (dBA) (5.1.16)

○ UTILITY CONDITIONS (5.1.3)

ELECTRICITY	VOLTAGE	PHASE	HERTZ
DRIVERS			
HEATING			

SYSTEM VOLTAGE DIP ○ 80% ○ OTHER (6.1.5)

STEAM	MAX. PRESS.	MAX. TEMP	MIN. PRESS.	MIN. TEMP
DRIVERS				
HEATING				

COOLING WATER: (5.1.19) SOURCE

SUPPLY TEMP. (°C) MAX. RETURN TEMP. (°C)

NORM. PRESS. (MPa) DESIGN PRESS. (MPa)

MIN. RET. PRESS. (MPa) MAX. ALLOW. D.P. (MPa)

CHLORIDE CONCENTRATION : (mg/kg)

方大泵业 FONDA PUMP

Centrifugal Pump Data Sheet

JOB NO. **FD14J61558** ITEM No(s). **4132**
REQ./ SPEC NO. **TBA** / **TBA**
PURCH. ORDER NO. **N/A** DATE **2014.07.24**
ENQUIRY NO. **FD14E23670** BY **HY Zhang**

Centrifugal pump data sheet — Overhung (Type OH) — SI units

CONSTRUCTION

ROTATION : (VIEWED FROM COUPLING END) ■ CW ☐ CCW

PUMP TYPE : (4.1)

■ OH2 ◯ OH3 ◯ OH6 ◯ OTHER

CASING MOUNTING :

■ CENTERLINE ◯ IN-LINE ☐ OTHER

CASING TYPE :

☐ SINGLE VOLUTE ■ MULTIPLE VOLUTE ☐ DIFFUSER

CASE PRESSURE RATING :

◯ OH6 PUMP SUCTION REGION DESIGNED FOR MAWP (5.3.6)

■ MAX. ALLOWABLE WORKING PRESSURE **2** (MPa)

@ **104** (^{O}F)

■ HYDRO TEST PRESSURE **3** (MPa)

■ **NOZZLE CONNECTIONS : (5.4.2)**

	SIZE	FLANGE RATING	FACG	POSITION
SUCTION	**4"**	**150#**	**RF**	**END**
DISCHARGE	**3"**	**150#**	**RF**	**TOP**

PRESSURE CASING AUX. CONNECTIONS : (5.4.3)

	NO.	SIZE (IN)	TYPE
■ DRAIN	**1**	**3/4**	
◯ VENT			
◯ WARM-UP			

◯ MACHINED AND STUDDED CONNECTIONS : (5.4.3.8)

◯ CYLINDRICAL THREADS REQUIRED (5.4.3.3)

ROTOR :

◯ COMPONENT BALANCE TO ISO 1940 G 1.0 (5.9.4.4)

COUPLINGS :(6.2.2)

■ MANUFACTURER _____ ◯ MODEL _____

☐ RATING (kw per100 r/min) _____

■ SPACER LENGTH _____(mm) ◯ SERVICE FACT. _____

◯ COUPLING BALANCED TO ISO 1940-1 G 6.3 (6.2.3)

◯ COUPLING WITH PROPRIETARY CLAMPING DEVICE (6.2.11)

◯ COUPLING PER ISO 14691 (6.2.4)

◯ COUPLING PER ISC10441 (6.2.4)

● COUPLING PER API 671 (6.2.4) ◯ ASME B15.1

● NON SPARK COUPLING GUARD (6.2.14C)

◯ COUPLING GUARD STANDARD PER _____(6.2.14a)

BASEPLATES:

☐ API BASEPLATE NUMBER _____(ANNEX D)

◯ NON-GROUT CONSTRUCTION (6.3.13)

◯ OTHER

MECHANICAL SEAL

Seal Plan: **Plan11**

Manufacturer:**Colossus Group or equivalent**

Notes:

SURFACE PREPARATION AND PAINT

◯ MANUFACTURER'S STANDARD ◯ OTHER SEE BELOW

◯ SPECIFICATION NO. _____

PUMP :

◯ PRIMER _____

◯ FINISH COAT _____

BASEPLATE : (6.3.1.7) _____

◯ PRIMER _____

◯ FINISH COAT _____

◯ DETAILS OF LIFTING DEVICES (6.3.20) _____

SHIPMENT : (7.4.1)

◯ DOMESTIC ◯ EXPORT ◯ EXPORT BOXING REQUIRED

◯ OUTDOOR STORAGE MORE THAN 6 MONTHS

SPARE ROTOR ASSEMBLY PACKAGED FOR :

◯ HORIZONTAL STORAGE ◯ VERTICAL STORAGE

◯ TYPE OF SHIPPING PREPARATION

HEATING AND COOLING

◯ HEATING JACKET REQ'D (5.8.9)

◯ COOLING REQ'D

◯ COOLING WATER PIPING PLAN (6.5.3.1) _____

C.W. PIPING:

◯ PIPE ◯ TUBING: FITTINGS _____

C.W. PIPING MATERIALS:

◯ S.STEEL ◯ C.STEEL ◯ GALVANIZED

COOLING WATER REQUIREMENTS :

☐ BEARING HOUSING _____ (m^3/h)

HEAT EXCHANGER _____ (m^3/h)

TOTAL COOLING WATER _____ (m^3/h)

HEAT MEDIUM : ◯ STEAM ◯ OTHER

HEATING PIPING : ◯ TUBING ◯ PIPE

BEARING AND LUBRICATION

BEARING (TYPE / NUMBER) (5.10.1) :

■ RADIAL **ROLLING** / **1**

■ THRUST **ROLLING** / **2**

LUBRICATION (5.11.3,5.11.4) :

◯ GREASE ● OIL

◯ PURGE OIL MIST ◯ PURE OIL MIST

◯ CONSTANT LEVEL OILER PREFERENCE (5.10.2.2) : _____

◯ OIL VISC. ISO GRADE

INSTRUMENTATION

◯ ACCELEROMETER (6.4.2.1) _____

◯ PROVISION FOR MOUNTING ONLY (5.10.2.11)

◯ FLAT SURFACE REQ'D (5.10.2.12)

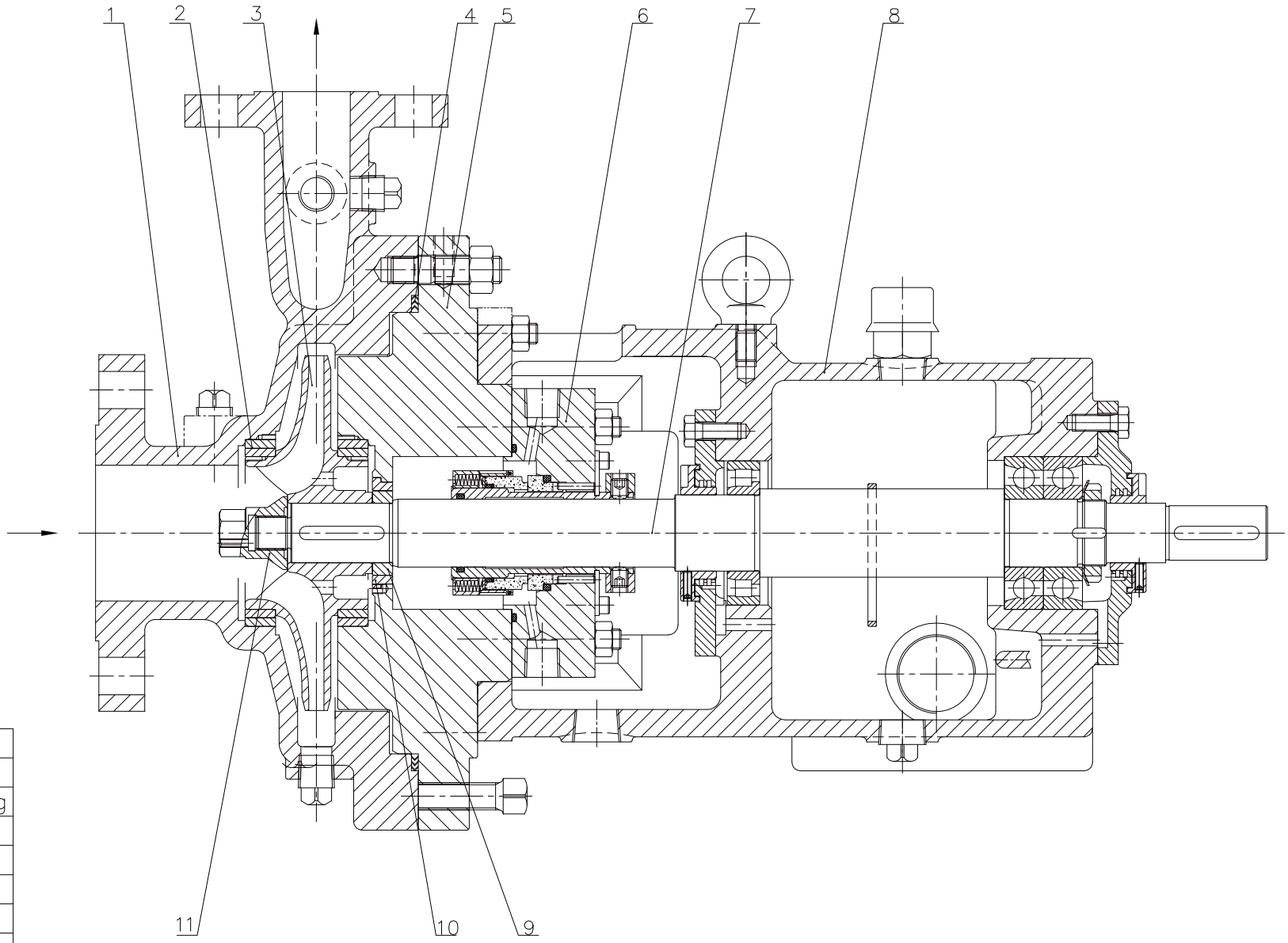
◯ TEMP GAUGES (WITH THERMO WELLS) (8.1.3.6) _____

◯ PRESSURE GAUGE TYPE _____

REMARKS : _____

MASSES (Kg)

PUMP	**230**
BASEPLATE	
DRIVER	
TOTAL	



No.	Description
1	Casing
2	Casing Wear Ring
3	Impeller
4	Gasket
5	Casing
6	Mechanical Seal
7	Shaft
8	Bearing Assembly
9	Shaft Sleeve
10	Throttle Bushing
11	Impeller Nut

Model: SCP-000						Sectional drawing
Prepare:	Lu Ji	Check:	Zhongtian Zhang	Mark:	Weight	Scale
Review:	Dawei Jiang	Approve:		S		
Standard:	API 610					
		Date:		Page: 1/1		

方大泵业 FONDA PUMP