



Oil –Gas

OH2

Chemical process pump

Model

FS-ZE150-4400

4-P09 BT

SR.NO. FS-ZE19811001

Steam Turbine

EBARA pumps Europe S.P.A
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PART. IVA IT 01234660221
R.E.A.N. 124581 TRENTO

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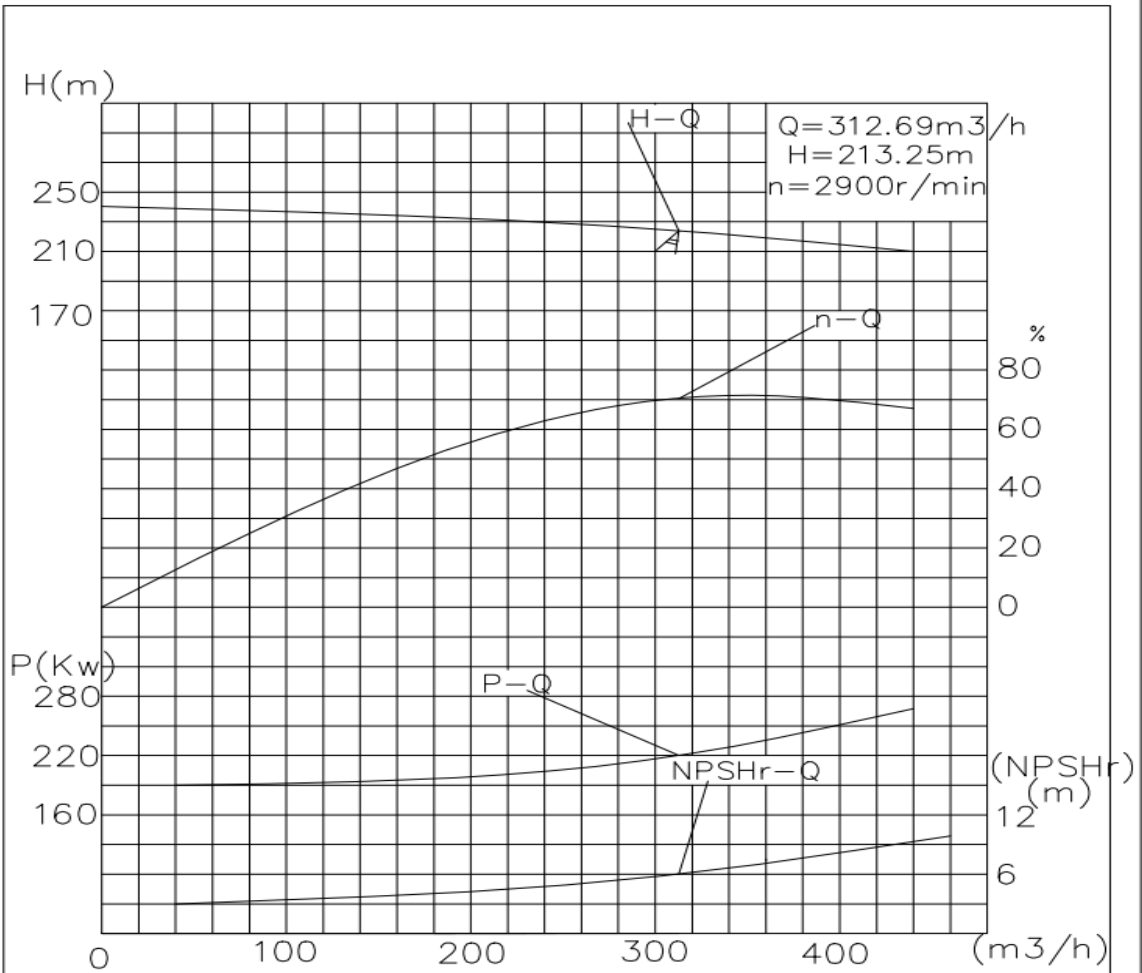
User Name :	
Device Name :	
4-P09BT	Quantity : 1
Equipment Name: Chemical Process Pumps	Pump Manufacturer : Ebara oil-Gas
Pump Model:FS-ZE150-4400	

Working Conditions		Material(s)	
Flow rate: 312.69	m ³ /h	Pump body: Cast steel	Impeller: Cast steel
Inlet gauge pressure: (rated/maximum)	MPa.G	Shaft: 2Cr13	
Outlet gauge pressure:	MPa.G	Mechanical seal flushing plan: PLAN23+53B	
Lift(H,m) 213.25 m	(NPSH)a : 4.76 m	Bearing: SKF	Brand: SKF
Usage : <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> intermittent(Number of starts/per day)		Coupling: 250	
Medium			
Name: light gas oil			
Working temperature:348.01°C			
Medium density:834.64kg/m ³			
Viscosity (CP): 4.7			
H ₂ S (Hydrogen Sulfide) Concentration (PPM)		Medium Characteristics: <input type="checkbox"/> Corrosive <input type="checkbox"/> Abrasive <input type="checkbox"/> Toxic	
Pump performance and structure			
Pump speed of rotation:2985rpm	Efficiency: 70 %	Shaft power: 220kW	
Impeller diameter (rated): 380mm		Impeller diameter (maximum): 400 mm	
Impeller diameter (minimum): 350 mm			

MCSF:150m ³ /h NPSH: 6m						
Maximum head at rated diameter: 235m						
From rated head to shutoff head: 93%			Head ratio (rated/maximum): 97%			
Flow rate (Best Efficiency Point, BEP): 330m ³ /h			Flow ratio (rated/BEP): 87 %			
Installation form: <input type="checkbox"/> Vertical <input checked="" type="checkbox"/> Horizontal						
Impeller form: <input checked="" type="checkbox"/> Closed <input type="checkbox"/> Open <input type="checkbox"/> Semi-open						
Pump Casing Split: Axial <input checked="" type="checkbox"/> Radial						
Pump casing type: <input checked="" type="checkbox"/> Single volute <input type="checkbox"/> Double volute <input type="checkbox"/> Guide casing (guide vane)						
Flange standard: GB9111.1-2000	caliber mm	Flange pressure rating	Sealing Face Type	Orientation position	Electric Motor	
					Model: <input checked="" type="checkbox"/>	IBM-400-2-280
Suction port	150	5MPa	PF	Horizontal	steam turbine	
Discharge port	150	5MPa	PF	Vertical	Model: <input checked="" type="checkbox"/>	N0.315-0.3
Drain port	/	/	/	/	steam turbine	
Pump casing design pressure: 5 MPa		Pump Casing Hydrostatic Test: 7.5 MPa		Rated power: 315kW	Maximum power:	
Maximum working pressure: 2.4MPa		Maximum permissible suction pressure:2.6MPa Maximum permissible working pressure: 5MPa				
Bearing type: <input type="checkbox"/> Sliding bearing <input checked="" type="checkbox"/> Radial rolling						
Bearing Lubrication: <input checked="" type="checkbox"/> Oil Bath/Grease <input checked="" type="checkbox"/> Oil Slinger						



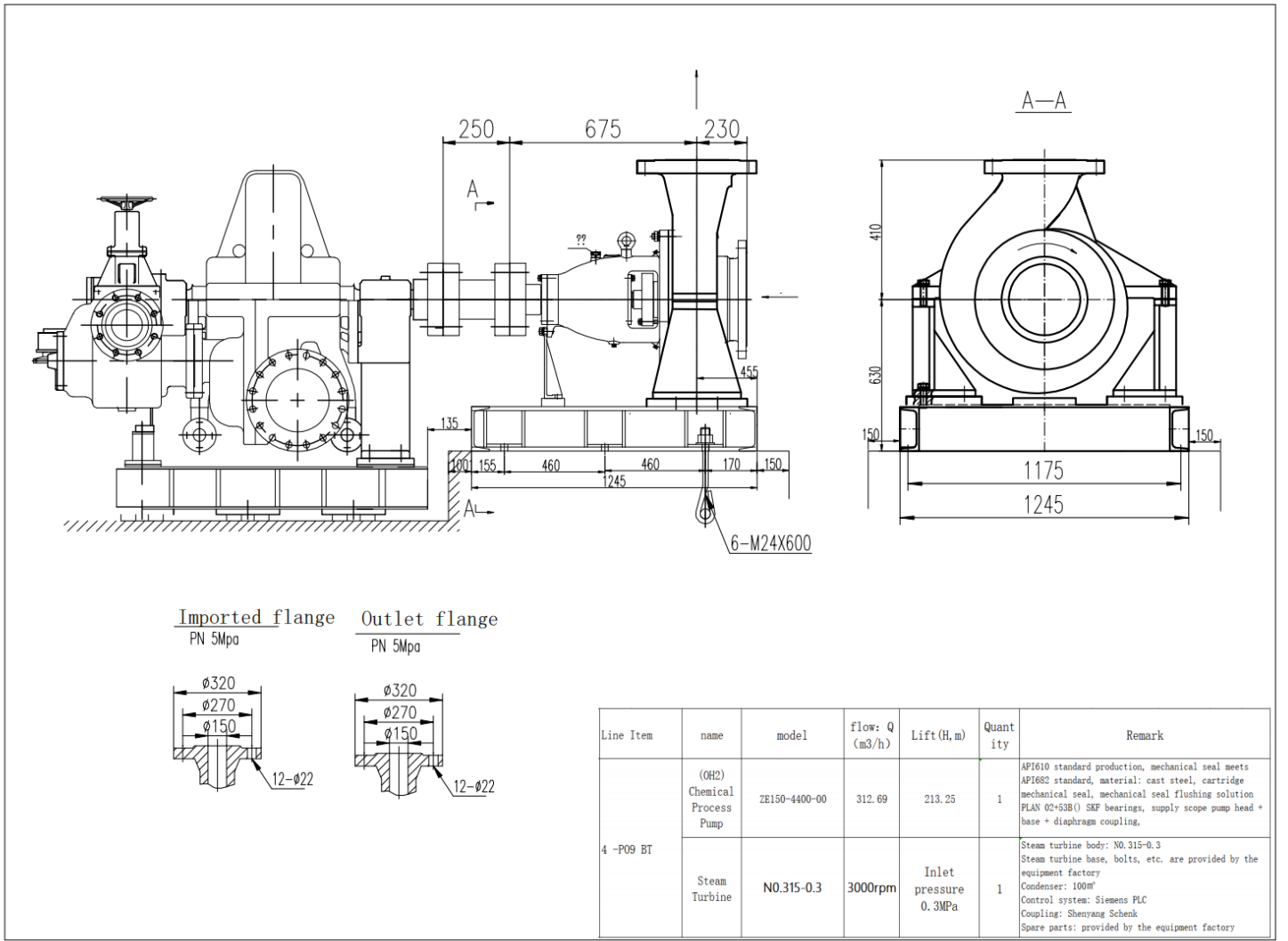
Oil - Gas



Line Item	name	model	flow: Q (m3/h)	Lift (H, m)	Quantity	Remark
4 -P09 BT	(OH2) Chemical Process Pump	ZE150-4400-00	312.69	213.25	1	API610 standard production, mechanical seal meets API682 standard, material: cast steel, cartridge mechanical seal, mechanical seal flushing solution PLAN 02+53B() SKF bearings, supply scope pump head + base + diaphragm coupling,
	Steam Turbine	N0.315-0.3	3000rpm	Inlet pressure 0.3MPa	1	Steam turbine body: N0.315-0.3 Steam turbine base, bolts, etc. are provided by the equipment factory Condenser: 100m' Control system: Siemens PLC Coupling: Shenyang Schenk Spare parts: provided by the equipment factory



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Requested flow rate	312.69 m ³ /h
Requested developed head	213.25 m
Pumped medium	Atm Residue
Temperature	348.01 °C
Fluid density	834.64 kg/m ³
Fluid viscosity (cP)	4.7
Vapors pressure	2.57 kg/cm ² a
Suction pressure max.	1.537 kg/cm ² g
Efficiency	70.00%
Power Absorbed	0
Pump speed of rotation	2900rpm
NPSH required	6m
Discharge press.	7.14 bar.g
Stuffing box press.	VTA
Shutoff head	245m
Shutoff pressure	19kg/cm ²
Differential pressure	5.6 bar
NPSH available	4.76 m
Ratio Q/Qbep	94.00%
Max. power on curve	275KW
low for continuous stab	VTA
Suction Flange Size & Rating	DN150 5MPa
Discharge Flange Size & Rating	DN150 5MPa
Shaft seal	As Per API 682
Shaft seal manufacture	EBARA
Sealing plan	API plan 23 (VTC)
Bearing bracket size	No. 4 bearing box
Coupling Manufacturer	EBARA
Coupling type	Diaphragm coupling
Spacer length	250mm
Driver type	Steam Turbine
Drive standard mech.	VTA
Motor const. type	VTA
Motor speed	VTA
Frequency	50 Hz

Rated voltage	Note 8
Rated power P2	Note 8
Volute casing (102)	Cast Steel
Casing cover (161)	Cast Steel
Shaft (210)	2Cr13
Impeller (230)	Cast Steel