



**Oil -Gas**

**OH2**  
**Chemical process pump**

**Model**

**FS-ZE50-4450**

**((4-P03 AB))**

**SR.NO. FS-ZE 19811026**

EBARA pumps Europe S.P.A  
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R.E.A.N. 124581 TRENTO

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Oil-Gas

## 4-PO3 A/B

Requested flow rate	105.68 m <sup>3</sup> /h
Requested developed head	166.5 m
Pumped medium	total naphtha
Temperature	40.0 °C
Fluid density	672.91 kg/m <sup>3</sup>
Fluid viscosity (cP)	1.89
Vapour pressure	1.62 kg/cm <sup>2</sup> a
Suction pressure max.	1.09 kg/cm <sup>2</sup> g
Efficiency	50.00%
Power Absorbed	90
Pump speed of rotation	2900rpm
NPSH required	5m
Discharge press.	11.1 kg/cm <sup>2</sup> .g
Stuffing box press.	VTA
Shutoff head	191m
Shutoff pressure	13kg/cm <sup>2</sup>
Differential pressure	10.01 kg/cm <sup>2</sup>
NPSH available	10.32 m
Ratio Q/Qbep	94.00%
Max. power on curve	87KW
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 11
Bearing bracket size	No. 4 bearing box
Coupling Manufacturer	EBARA
Coupling type	Diaphragm coupling
Spacer length	180mm
Driver type	Electric Motor
Drive standard mech.	3-phase Electric Motor
Motor const. type	YBX3-280M-2-90KW
Motor speed	2985
Frequency	50 Hz
Rated voltage	380
Rated power P2	90KW
Type of protection	EEx de IIB T3
Motor enclosure	IP55
Volute casing (102)	Cast Steel
Casing cover (161)	Cast Steel
Shaft (210)	2Cr13
Impeller (230)	Cast Steel

EBARA pumps Europe S.P.A



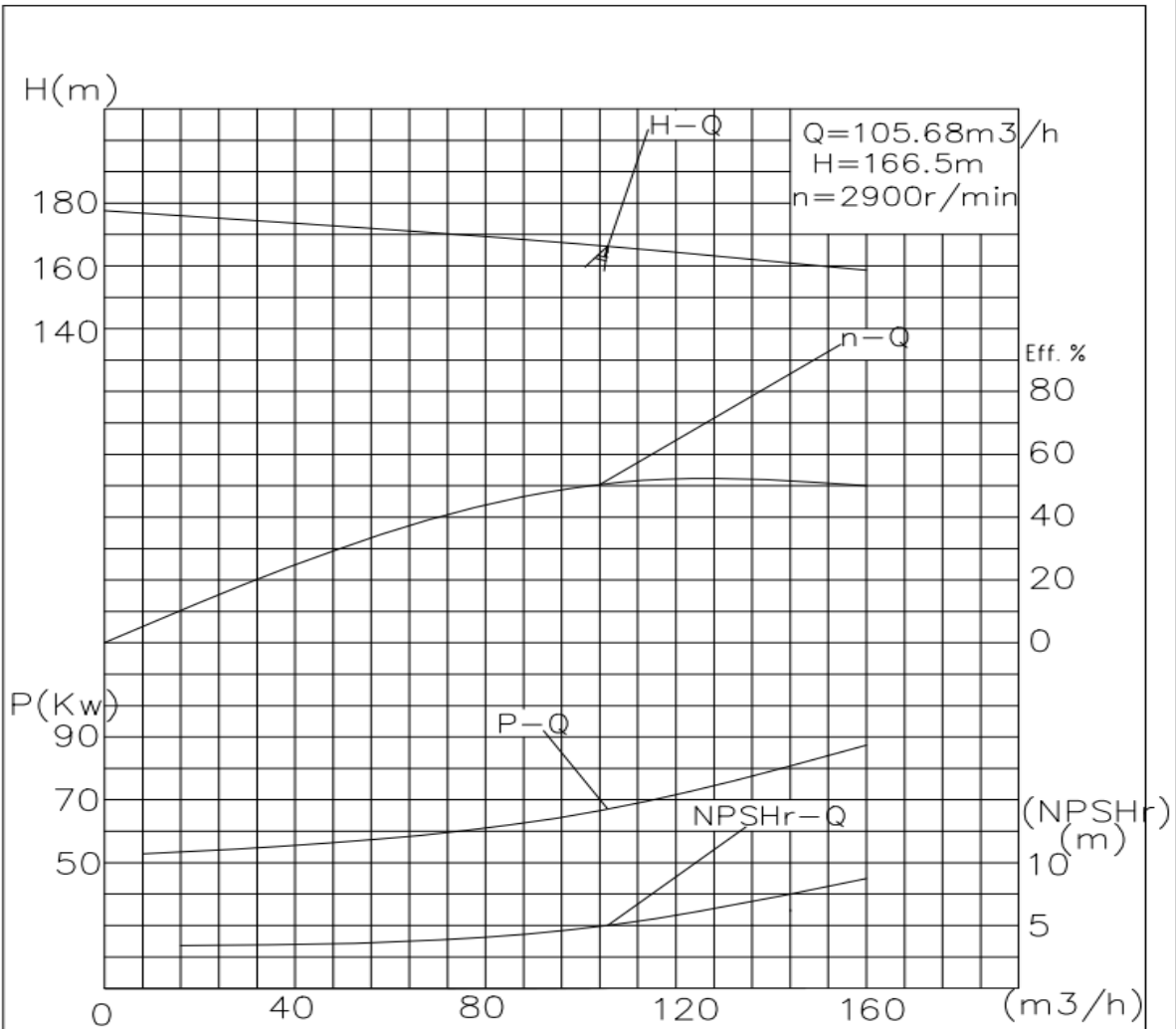
User Name :	
Device Name :	
4-PO3 A/B	Quantity : 1
Equipment Name: Chemical Process Pumps	Pump Manufacturer : Ebara oil-Gas
Pump Model:FS-ZE50-4450	

Working Conditions		Material(s)	
Flow rate: 105.68	m <sup>3</sup> /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: PLAN11	
Lift(H,m) 166.5 m	(NPSH) : 10.32 m	Bearing: SKF	Brand: SKF
Usage : <input checked="" type="checkbox"/> Continuous <input type="checkbox"/> intermittent(Number of starts/per day)		Coupling: 180	
Medium			
Name: light gas oil			
Working temperature:40°C			
Medium density:672.91kg/m <sup>3</sup>			
Viscosity (CP): 1.89			
H <sub>2</sub> 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: 55 %	Shaft power: 66kW	
Impeller diameter (rated): 400mm		Impeller diameter (maximum): 450 mm	
Impeller diameter (minimum): 380 mm			

MCSF:50m <sup>3</sup> /h    NPSH: 5m							
Maximum head at rated diameter: 172 m							
From rated head to shutoff head: 93%				Head ratio (rated/maximum): 97%			
Flow rate (Best Efficiency Point, BEP): 125m <sup>3</sup> /h				Flow ratio (rated/BEP): 85 %			
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-280M-2-90	
Suction port	100	5MPa	PF	Horizontal	Explosion-Proof High-Voltage Motor		
Discharge port	50	5MPa	PF	Vertical	Rated power: 90kW	Maximum power:	
Drain port	/	/	/	/	Number of Poles: 2	Speed2985 rpm	Frequency: 50 Hz
Pump casing design pressure: 5 MPa		Pump Casing Hydrostatic Test: 7.5 MPa		Voltage: 380 V		Number of phases : 3 PH	Frequency: 50 Hz
Maximum working pressure: 1.8MP		Maximum permissible suction pressure:3.2MPa Maximum permissible working pressure: 5MPa		Protection Rating: IP55		Explosion proof grade: BT4	Insulation grade: F
Bearing type: <input type="checkbox"/> Sliding bearing <input checked="" type="checkbox"/> Radial rolling				Incoming line of junction box:		Method:	Number:
Bearing Lubrication: <input checked="" type="checkbox"/> Oil Bath/Grease <input checked="" type="checkbox"/> Oil Slinger							



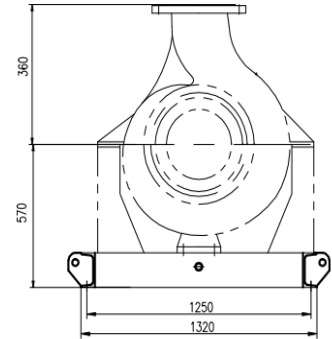
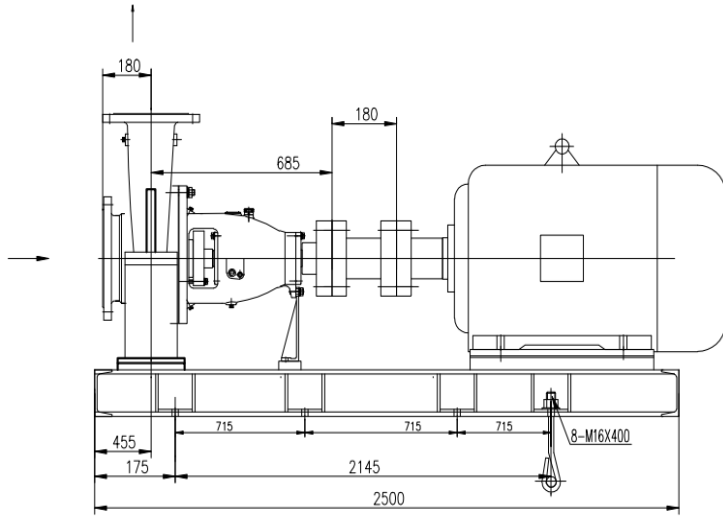
# Oil - Gas



4-P03 A/B	OH2 Chemical Process Pumps	FSZE50-4450	105.68	166.5	2	API610 standard production, mechanical seal meets API682 standard, material: cast steel, cartridge mechanical seal, mechanical seal flushing solution PLAN 11 ( ) SKF bearings, supply scope pump head + base + diaphragm coupling.
	Explosion -proof motor	IBM-280M-2-90	90KW	2985r/min	2	<small>           *Drive standard machine: three-phase motor            Motor model: IBM-280M-2-90            Motor speed: 2985            Frequency: 50 Hz            Rated voltage: 380V            Rated power: 90KW            Protection level: Ex de IIB T3            Motor protection level: IP55         </small>

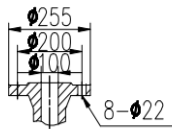


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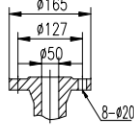
Imported flange

5MPa



Outlet flange

5MPa



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