



Oil -Gas

OH2
Chemical process pump

Model

FS-ZE50-4450

((4-P03 AB))

SR.NO. FS-ZE 19811025

EBARA pumps Europe S.P.A
SEDE LEGALE
38023 CLES (TN)- italy -via Campo Sportivo ,30 Telefono +39 0463 660411
PART. IVA IT 01234660221
R.E.A.N. 124581 TRENTO

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Oil-Gas

4-PO3 A/B

| | |
|--------------------------------|----------------------------|
| Requested flow rate | 105.68 m ³ /h |
| Requested developed head | 166.5 m |
| Pumped medium | total naphtha |
| Temperature | 40.0 °C |
| Fluid density | 672.91 kg/m ³ |
| Fluid viscosity (cP) | 1.89 |
| Vapour pressure | 1.62 kg/cm ² a |
| Suction pressure max. | 1.09 kg/cm ² g |
| Efficiency | 50.00% |
| Power Absorbed | 90 |
| Pump speed of rotation | 2900rpm |
| NPSH required | 5m |
| Discharge press. | 11.1 kg/cm ² .g |
| Stuffing box press. | VTA |
| Shutoff head | 191m |
| Shutoff pressure | 13kg/cm ² |
| Differential pressure | 10.01 kg/cm ² |
| NPSH available | 10.32 m |
| Ratio Q/Q _{bep} | 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



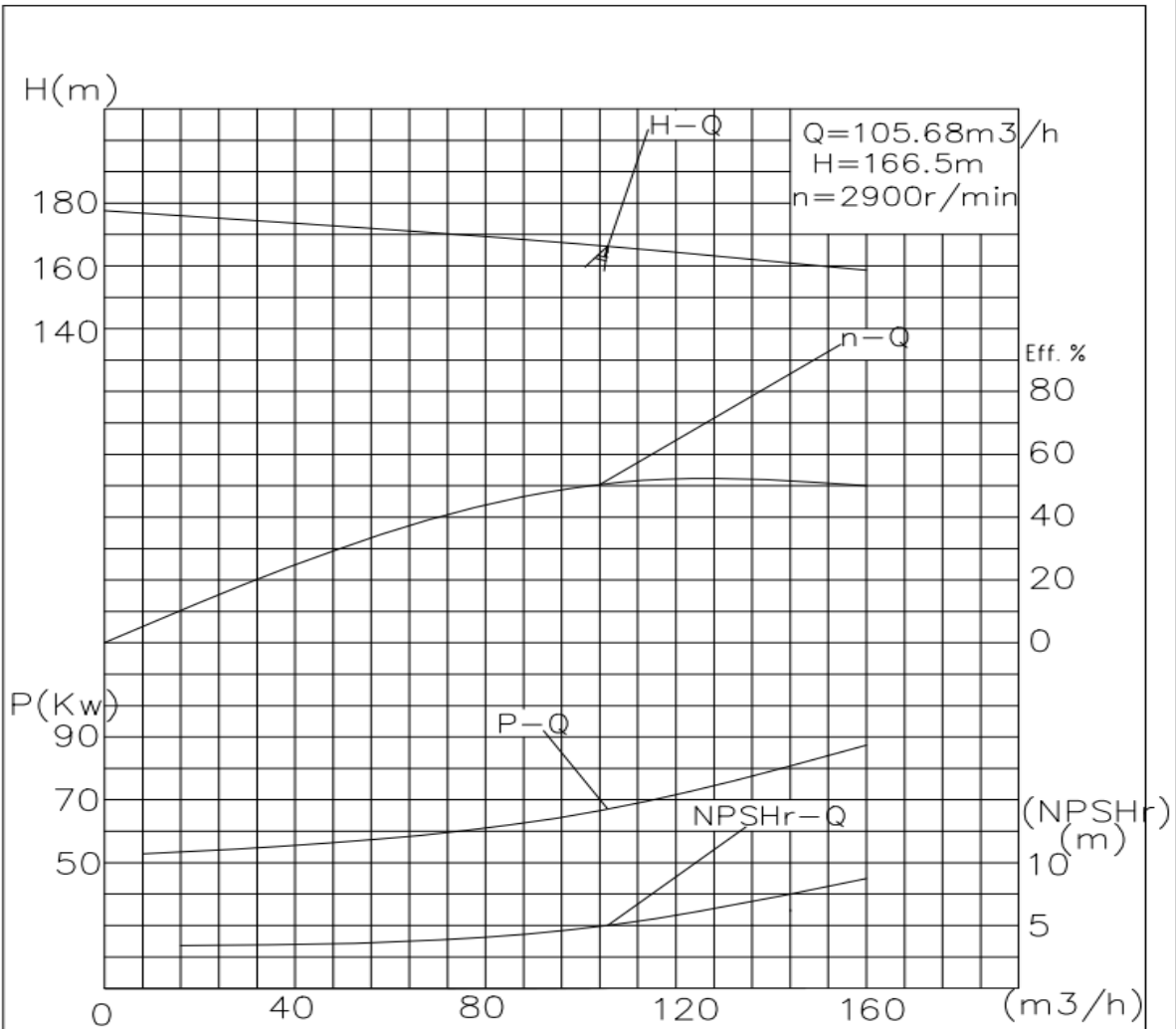
| | |
|--|--------------------------------------|
| User Name : | |
| Device Name : | |
| 4-PO3 A/B | Quantity : 1 |
| Equipment Name: Chemical Process Pumps | Pump Manufacturer : Ebara oil-Gas |
| Pump Model:FS-ZE50-4450 | |

| Working Conditions | | Material(s) | |
|--|-------------------|--|----------------------|
| Flow rate: 105.68 | m 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: 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 ³ | | | |
| Viscosity (CP): 1.89 | | | |
| 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: 55 % | Shaft power: 66kW | |
| Impeller diameter (rated): 400mm | | Impeller diameter (maximum): 450 mm | |
| Impeller diameter (minimum): 380 mm | | | |

| | | | | | | | |
|---|---------------|---|-------------------|---------------------------------|--|----------------------------|------------------------|
| MCSF:50m ³ /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 ³ /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 | | | | | | | |



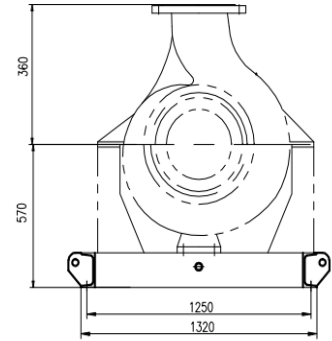
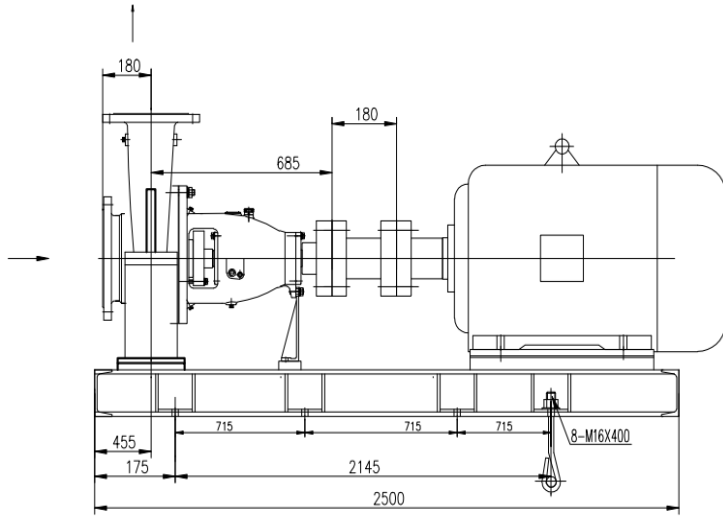
Oil -Gas



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|-----------|-------------------------------------|---------------|--------|-----------|---|--|
| 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> |

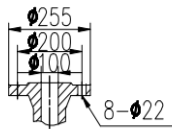


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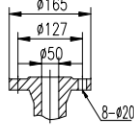
Imported flange

5MPa



Outlet flange

5MPa



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|-----------|-------------------------------------|---------------|--------|-----------|---|---|
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