



Oil -Gas

OH2

Chemical process pump

Model

FS-ZE50-4450

((4-P07 AB))

SR.NO. FS-ZE 19811021

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

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Oil- Gas

4-P07 A/B

| | |
|--------------------------------|-----------------------------|
| Requested flow rate | 68.84 m ³ /h |
| Requested developed head | 247.29 m |
| Pumped medium | light gas oil |
| Temperature | 250.54 ° C |
| Fluid density | 644.92 kg/m ³ |
| Fluid viscosity (cP) | 0.25 |
| Vapour pressure | 2.66 kg/cm ² a |
| Suction pressure max. | 1.63 kg/cm ² g |
| Efficiency | 45.00% |
| Power Absorbed | 90 |
| Pump speed of rotation | 2900rpm |
| NPSH required | 4m |
| Discharge press. | 6.14 kg/cm ² . g |
| Stuffing box press. | VTA |
| Shutoff head | 284m |
| Shutoff pressure | 18kg/cm ² |
| Differential pressure | 4.52 kg/cm ² |
| NPSH available | 3.69 m |
| Ratio Q/Q _{bep} | 93.00% |
| Max. power on curve | 88KW |
| low for continuous stab | VTA |
| Suction Flange Size & Rating | DN100 5MPa |
| Discharge Flange Size & Rating | DN50 5MPa |
| Shaft seal | As Per API 682 |
| Shaft seal manufacture | EBARA |
| Sealing plan | API plan 23+61 (VTC) |
| 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 | IBM-280M-2-90 |
| 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



Oil -Gas

User Name :

Device Name :

4-P07 A/B

Quantity : 1

Equipment Name: Chemical Process Pumps

Pump Manufacturer :

Ebara oil-Gas

Pump Model:FSZE50-4450

| Working Conditions | Material(s) |
|--------------------|-------------|
|--------------------|-------------|

| | | | |
|------------------|------|-----------------------|----------------------|
| Flow rate: 68.84 | m3/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+61 | |
|------------------------|-------|--|--|

| | | | |
|---------------------|-------------------|--------------|------------|
| Lift(H, m) 247.29 m | (NPSH) a : 3.69 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:250.54°C

Medium density:644.921kg/m3

Viscosity (CP): 0.25

| | |
|--|--|
| H2S (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: 45 % | Shaft power: 70kW |
|--------------------------------|------------------|-------------------|

| | |
|----------------------------------|-------------------------------------|
| Impeller diameter (rated): 400mm | Impeller diameter (maximum): 450 mm |
|----------------------------------|-------------------------------------|

Impeller diameter (minimum): 380 mm

MCSF:34m3/h NPSH: 4m

Maximum head at rated diameter: 258 m

| | |
|--------------------------------------|---------------------------------|
| From rated head to shutoff head: 95% | Head ratio (rated/maximum): 96% |
|--------------------------------------|---------------------------------|

| | |
|--|------------------------------|
| Flow rate (Best Efficiency Point, BEP): 75m3/h | Flow ratio (rated/BEP): 92 % |
|--|------------------------------|

Installation form: Vertical Horizontal

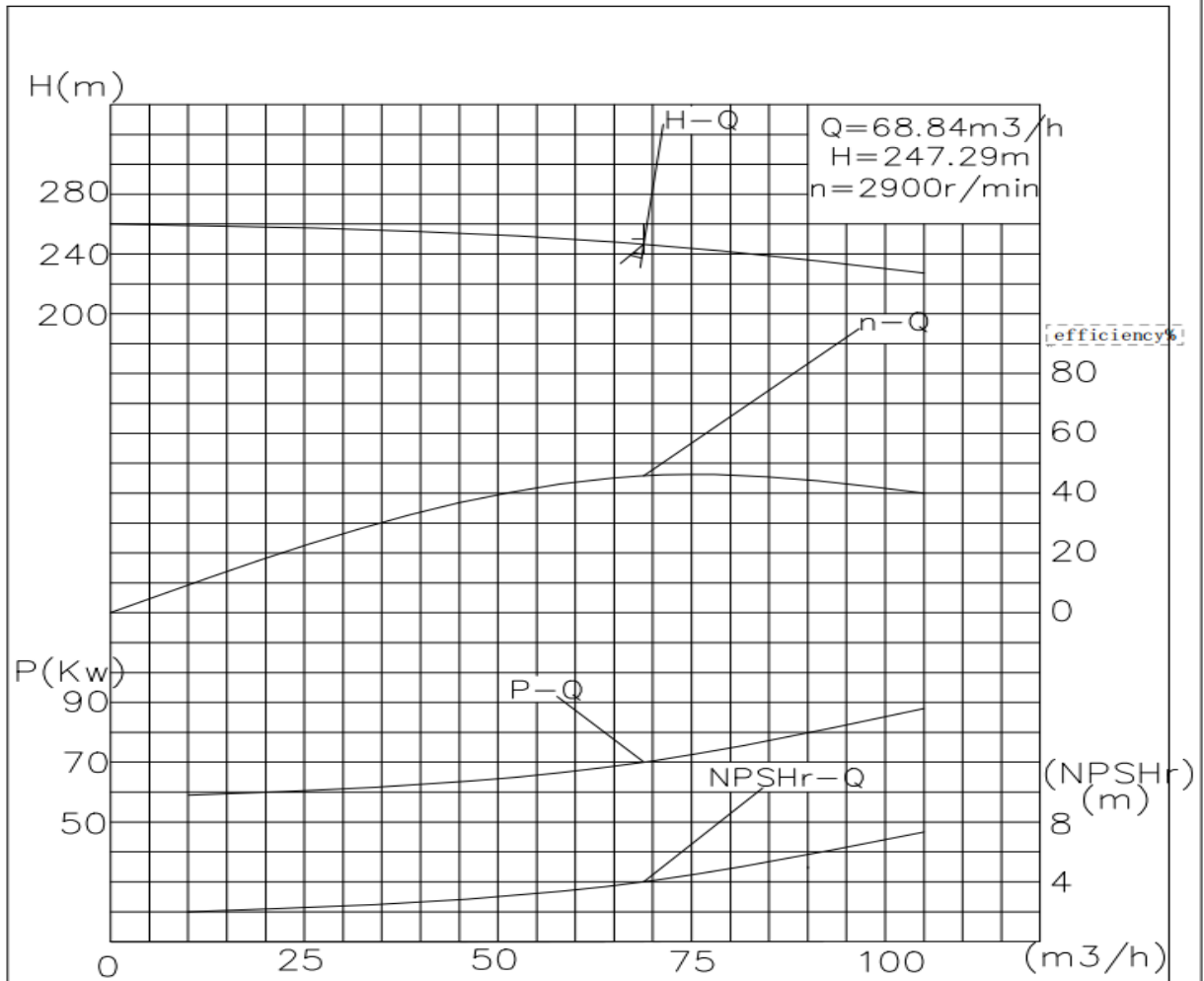
Impeller form: Closed Open Semi-open

Pump Casing Split: Axial 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 | RF | Horizontal | Explosion-Proof High-Voltage Motor | | |
| Discharge port | 50 | 5MPa | RF | 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: 2.6MP | | Maximum permissible suction pressure:2.4MPa 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 | | | | | | | |



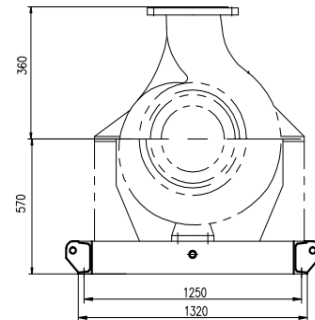
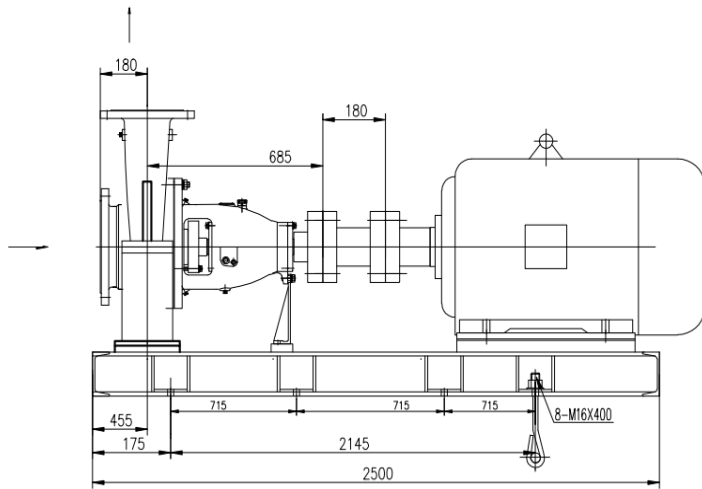
Oil - Gas



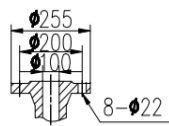
| | | | | | | |
|-----------|--------------------------------------|---------------|-------|-----------|---|--|
| 4-P07 A/B | (OH2) Chemical Process Pump | FSZE50-4450 | 68.84 | 247.29 | 2 | API610 standard production, mechanical seal meets API682 standard, material: cast steel, cartridge mechanical seal, mechanical seal flushing plan PLAN 23+61 () SKF bearings, supply scope pump head + base + diaphragm coupling. |
| | Explosion -proof motor | IBM-280M-2-90 | 90KW | 2985r/min | 2 | "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 " |



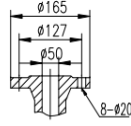
Oil -Gas



Imported flange
5MPa



Outlet flange
5MPa



| | | | | | | |
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