|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ОЛ на центробежный нефтяной насос по API 610 (аналог ГОСТ 32601-2013).Questionnaire for centrifugal oil pump according to API (analog GOST 32601-2013)** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Заказчик / *Client* | | |  | | | | | | | | | | | Позиция / *Item* | | | | |  | | | | | | | | | | | | | Количество / *Quantity* | | | | | | | | | | | |  | |
| Объект / *Site* | | |  | | | | | | | | | | | Назначение насоса / *Service* | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | |
| Режим работы, ч/год / *Operating conditions, h/y* | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | |
| **1.** | **Параметры / *Parameters*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1.1** | **Расход, м3/час** / *Rated flow, m3/h* | | | | | | | | | |  | | | | | | **1.1.1** | | | | | **Расход мин. / макс., м3/час** / *Flow min/max, m3/h* | | | | | | | | | | | | | | | | | | |  | | | | |
| **1.2** | **Напор, м столба жидкости** / *Head, m liquid column* | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **1.3** | **Давление на входе, кгс/см2 изб.** / *Inlet pressure, kgf/cm2 g* | | | | | | | | | |  | | | | | | **1.3.1** | | | | | **Давление на входе (максимальное), кгс/см2 изб.** /*Inlet pressure (maximum), kgf/cm2* | | | | | | | | | | | | | | | | | | | |  | | | |
| **1.4** | **Давление на выходе, кгс/см2 изб.** /*Outlet pressure, kgf/cm2 g* | | | | | | | | | |  | | | | | | **1.5** | | | | | **Кавитационный запас системы, м** / *NPSHa, m* | | | | | | | | | | | | | | | | | | | | |  | | |
|  |  | | | | | | | | | |  | | | | | | **1.6** | | | | | **Макс. давление на закрытую задвижку, кгс/см2** / *Max. shut-off pressure, kgf/cm2* | | | | | | | | | | | | | | | | | | | | |  | | |
| **2.** | **Перекачиваемая среда / *Medium pumped*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **2.1** | **Состав** / *Composition* | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **2.2** | **Содержание твердых частиц** / *Particulate content* | | | | | | |  | | | | | | | | | **2.2.1** | | | **Размер частиц, мм** / *Particulate dimensions, mm* | | | | | | | | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | **2.2.2** | | | **Твердость частиц** / *Particulate hardness* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **2.3** | **Температура среды (tср.),°C** / *Medium temperature (tm), °C* | | | | | **мин.** / *min.* | | | | | |  | | | | | | **норм.** / *norm* | |  | | | | | | | | | | | | | **макс.** / *max.* | | | | | | |  | | | | | |
| **2.4** | **Плотность при tср., кг/м3** / *Density @ tm, kg/m3* | | | | |  | | | | | | | | | | | **2.4.1** | | | **Плотность при 20°C, кг/м3** / *Density @ 20°C,kg/m3* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **2.5** | **Вязкость при tср., сСт** / *Viscosity @ tm, cSt* | | | | |  | | | | | | | | | | | **2.5.1** | | | **Вязкость при 20°C, сСт** / *Viscosity @ 20°C, cSt* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **2.6** | **Давление паров при tср., кгс/см2, абс.** / *Vapour pressure @ tm, kgf/cm2, abs.* | | | | |  | | | | | | | | | | | **2.6.1** | | | **Давление паров при 20°C, кгс/см2, абс.** / *Vapour pressure @ tm, kgf/cm2, abs.* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **2.7** | **Удельная теплоемкость, ккал/кг\*К** / *Specific heat, kcal/kg\*K* | | | | |  | | | | | | | | | | | **2.8** | | | **pH** | | | | | | | | |  | | | | | | | | | | | | | | | | |
| **2.9** | **Полимеразация, кристаллизация** / *Polymerization, crystallization* | | | | |  | | | | | | | | | | | **2.9.1** | | | **Другая температура, °C** / *Other temperature, °C* | | | | | | | | | | |  | | | | | | | | | | | | | | |
| **2.10** | **Коррозионность** / *Corrodibility* | | | | |  | | | | | | | | | | | **2.11** | | | | **Агрессивные компоненты** / *Aggressive agents* | | | | | | | | | | | | | | | | |  | | | | | | | |
| **2.12** | **Взрывоопасность по ГОСТ Р 51330.11-99** / *Explosion hazard in accordance with GOST R 51330.11-99* | | | | |  | | | | | | | | | | | **2.13** | | | | **Класс зоны по ГОСТ Р 51330.9-99** / *Zone class in accordance with GOST R 51330.9-99* | | | | | | | | | | | | | | | | |  | | | | | | | |
| **3.** | **Тип насоса / *Pump Type*** | | | | | |  | | | | | | | | | | **3.1** | | | | **Применимые стандарты** / *Applicable standards* | | | | | | | | | | | | | | | | |  | | | | | | | |
| **3.2** | **Конструктивные особенности насоса** / *Pump type* | | |  | | | | | **Горизонтальное положение** / *Horizontal location* | | | | | | | | | | | | | | |  | | | | **Вертикальное положение** / *Vertical location* | | | | | | | | | | | | | | | | | |
|  | | | | | **Консольная конструкция** / *Overhung* | | | | | | | | | | | | | | |  | | | | **Двухопорная конструкция** / *Between bearings* | | | | | | | | | | | | | | | | | |
|  | | | | | **Погружной насос** / *Submersible pump* | | | | | | | | | | | | | | |  | | | | **Полупогружной насос** / *Semisubmersible pump* | | | | | | | | | | | | | | | | | |
| **Замечания /** *Remarks* | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **4.** | **Тип уплотнения насоса / *Pump sealing type*** | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **4.1** | **Применимые стандарты** / *Applicable standards* | | | | | | | | |  | | | | | | | | | | | | | | | **4.2** | | **Тип уплотнения** / *Sealing type* | | | | | | | | | | | |  | | | | | | |
| **4.3** | **План промывки** / *Flushing plans* | | | | | | | | |  | | | | | | | | | | | | | | | **4.4** | | **Затворная жидкость** / *Buffer or Barrier liquid* | | | | | | | | | | | |  | | | | | | |
| **Замечания /** *Remarks* | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **5.** | **Привод / *Driven by*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **5.1** | **Тип привода** / *Driver type* | | |  | | | | | **Электродвигатель** / *Electric motor* | | | | | | | |  | | | **Дизель** / *Diesel* | | | | | | | |  | | **Турбина** / *Turbine* | | | |  | | | | | | | **ЧРП** / *Variable frequency drive* | | | | |
|  | **В случае привода от электродвигателя:** / *In case of electric motor driven:* | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **5.2** | **Частота, Гц** / *Frequency, Hz* | | |  | | | | | | | | | | | | | **5.5** | | | **Класс изоляции** / *Insulation Class* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **5.3** | **Количество фаз** / *Phases* | | |  | | | | | | | | | | | | | **5.6** | | | **Класс защиты** / *Safety Class* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **5.4** | **Напряжение, В** / *Voltage, V* | | |  | | | | | | | | | | | | | **5.7** | | | **Взрывозащита** / *Implosion Protection* | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **5.8** | **Частота** | | |  | | | | | | | | | | | | | **5.9** | | | **Номинальный ток** | | | | | | | | | | | | | | | | | | | | |  | | | | |
| **Замечания /** *Remarks* | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **6.** | **Муфта /** *Coupling* | | |  | | | | | **с проставком** / *with spacer* | | | | | | | |  | | | **без проставка** / *without spacer* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Замечания /** *Remarks* | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **7.** | **Фундаментная плита /** *Baseplate* | | |  | | | | | **да** / *yes* | | | | | | | |  | | | **нет** / *no* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Замечания /** *Remarks* | | |  | | | | | | | | | | | | | | **8.** | | | **Требуемые КИП /** *Required instrumentations* | | | | | | | | | | | | | | |  | | | | | | | | | | |
| **9.** | | **Расположение /** *Location* | |  | | | | | **наружное** / *outdoor* | | | | | | | |  | | | **в помещении** / *indoor* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | **под навесом** / *under shed* | | | | | | | |  | | | **без навеса** / *without shed* | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | **с отоплением** / *with heating* | | | | | | | |  | | | **без отопления** / *without heating* | | | | | | | | | | | | | | | | | | | | | | | | | |
| **9.1** | | **Температура окружающей среды, °C** / *Ambient temperature, °C* | | **минимум:** / *minimum:* | | | | | | | | | | |  | | | | | **9** | | | | | | **Температура траспортировки, хранения, °C** /  *Transportation and storage temperature, °C* | | | | | | | | | | **абсолютный минимум:** / *absolute minimum:* | | | | | | | | |  |
| **максимум:** / *maximum:* | | | | | | | | | | |  | | | | | **средняя наиболее холодной 5-дневки:** / *5 cold days average:* | | | | | | | | |  |
| **9** | | **Относительная влажность, %** / R*elative humidity, %* | | **минимум:** / *minimum:* | | | | | | | | | | |  | | | | | **абсолютный максимум:** / *absolute maximum:* | | | | | | | | |  |
| **максимум:** / *maximum:* | | | | | | | | | | |  | | | | | **10.** | | | | | | **Запасные части для одного насоса / *Spare parts per on pump*** | | | | | | | | | |  | | | | | | | | |  |
| **11.** | | **Контроль качества и испытания / *QA inspection and testing*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **11.1** | |  | | | | | | | | | | | | **БЕЗ ЗАКАЗЧИКА / *NON-WITNESSED*** | | | | | | | | | | **C ЗАКАЗЧИКОМ / *WITNESSED*** | | | | | | | | | | | | | **С НАБЛЮДАТЕЛЕМ / *OBSERVE*** | | | | | | | | |
| **11.2** | | **Гидростатические испытания** / *Hydrostatic test* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.3** | | **Снятие рабочей характеристики** / *Performance test* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.4** | | **Кавитационный запас насоса** / *NPSH* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.5** | | **Испытания агрегата в сборе** / *Complete unit test* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.6** | | **Определение уровня шума** / *Sound level test* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.7** | | **Другие испытания:** / *Other tests:* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.8** | | **Другие испытания:** / *Others tests:* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **11.9** | | **Другие испытания:** / *Other tests:* | | | | | | | | | | | |  | | | | | | | | | |  | | | | | | | | | | | | |  | | | | | | | | |
| **Замечания /** *Remarks* | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **12.** | **Условия поставки / *Delivery terms*** | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **13.** | **Дополнительные требования / *Additional Requirements*** | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **14.** | **Примечания / *Notes*** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Контактное лицо / *Contact Person*** | | | |  | | | | | | | | | | | | | **Телефон / *Phone*** | | | | | |  | | | | | | | | | | | | | | |  | | | | | | | |