|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| INFORMATION AND INSPECTION  **ИНФОРМАЦИЯ И КОНТРОЛЬ**  **1.Basic Data Основные данные** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Тип  Type | | | Предприятие-изготовитель  Manufacture | | | Заводской номер  Serial No | Год изготовления  Manufacture date | | | | Номинальная  Мощность КВт  Rated power, kW | | | | | | Номинальное напря жение, В  Rated Voltage V | | | | | Номинальный  ток, А  Rated current, A | | | | | | | | | | Частота вращения об/мин  RPM | | | |
| --- | | | --- | | | --- | --- | | | | --- | | | | | | --- | | | | | --- | | | | | | | | | | --- | | | |
| **DESCRIPTION OF CHECK**  **ОПИСАНИЕ ПРОВЕРКИ** | | | | | | | | | | | | | | **Confirm the following:**  **Подтвердите следующее:** | | | | | | | | | | | | | | | | | | | Conclusion  Заключение | | |
| 1.1 | Ensure earthing conforms  Проверить соответствие заземления | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 1.2 | Confirm motor protection and control are checked.  Проверить, что защита электрического двигателя проверен | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 1.3 | Confirm that the protection relay setting corresponds to the motor current rating.  Подтвердить, что уставки реле защиты соответствуют номинальному значению тока для данного двигателя | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \_\_ | | |
| 1.4 | Confirm motor, heater and associated equipment has been isolated and locked off.  Подтвердить, что электродвигатель и соответст. оборудование отключено и изолировано | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \_\_ | | |
| 1.5 | Confirm repair of motor are complete.  Подтвердить завершение ремонта электродвигателя | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **2. Test Results Результаты испытаний** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.1 | Сопротивление постоянному току обмоток электродвигателя.  DC resistance of the motor windings | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Обозначение выводов обмотки Windings feeders symbols | | | | | | | | | Сопротивление, измеренное при  t = 23 0С, Ом  Resistance, tested at  t = 23 0C, Ohm | | | | | | | | | | | Сопротивление по заводским  данным при t = 23 0С, Ом  Resistance, as per manufacturers data at t = 23 0C, Ohm | | | | | | | | | | | | | | |
| U1-U2 | | | | | | | | | --- | | | | | | | | | | | \_\_ | | | | | | | | | | | | | | |
| V1-V2 | | | | | | | | | --- | | | | | | | | | | | \_\_ | | | | | | | | | | | | | | |
| W1-W2 | | | | | | | | | --- | | | | | | | | | | | \_\_ | | | | | | | | | | | | | | |
| 2.2 | Испытание изоляции.Insulation test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.1 | Сопротивление изоляции обмоток.  Windings insulation resistance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Обозначение  Выводов Обмотки  Tested winding. | | | | | | | Сопротивление изоляции,  измеренное при 23 0С, МОм  Insulation resistance, at 23 0 C, MOhm | | | | | | | | | | | | | | | | | | Кабс | | | | | | | | | |
| R15 | | | | | | | R60 | | | | | | | | | | |
| (U1, V1, W1) ∩ E | | | | | | | --- | | | | | | | --- | | | | | | | | | | | --- | | | | | | | | | |
|  | | | | | | |  | | | | | | |  | | | | | | | | | | |  | | | | | | | | | |
| 2.2.2 | Изоляция обмотки статора испытана напряжением --- переменного/постоянного тока в течение 1 мин.  Stator windings insulation was tested at --- AC/DC for 1 minutes. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.2.3 | Сопротивление изоляции нагреватепь МОм  Heater insulation resistance Mohm | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Элемент к земле МОм  Element to earth | | | | | | | | | | | | | | Элемент к обмотке МОм  Element to winding | | | | | | | | | | | | | | | | | | | | |
| --- | | | | | | | | | | | | | | --- | | | | | | | | | | | | | | | | | | | | |
| 2.2.4 | Проверить правильность повторного подключения всего оборудования.  Ensure all equipment is re-connected correctly. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | | | | |
| 2.2.5 | Сопротивление изоляции подшипников не менее МОм.  Bearing insulation resistance is \_\_\_\_\_\_\_\_ Mohms | | | | | | | | | | | | | | | | | | | | | | | | | | | | | N/A | | | | | |
| 2.3 | Полярность выводов обмоток соответствует заводской маркировке.  Windings feeder polarity correspond to manufacturer's marking. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | | | | |
| **3. Дополнительные испытания и проверки**  **Additional tests and checks** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **DESCRIPTION OF CHECK**  **ОПИСАНИЕ ПРОВЕРКИ** | | | | | | | | | | | | | | **Confirm the following:**  **Подтвердите следующее:** | | | | | | | | | | | | | | | | | | | Conclusion  Заключение | | |
| 3.1 | | Убедиться, что муфта электродвигателя надежно разъединена  Выполнить обкатку при разъединенной муфте в течение 60 минут  Ensure motor has been safely uncoupled.  Perform uncoupled no load run for a period of 60 mins | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Acceptable | | |
| Проконтролировать и подтвердить, что результаты испытания соответствуют нормативам  Monitor and confirm the following test results are acceptable. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Пусковой ток Амперы A/B/C  Starting current Amps A/B/C | | | | | | |  | | | | | | | Voltage AB/BC/AC  Напряжение AB/BC/AC | | | | | | | | | | |  | | | | | | | | |
| Время минуты  Time mins | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Внешняя температура  Ambient temp | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Current Amp (Phase A)  Ток Амперы (Фаза А) | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Current Amp (Phase B)  Ток Амперы (Фаза B) | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Current Amp (Phase C)  Ток Амперы (Фаза C) | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Speed and Frequency  Частота вращения | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Температура подшипника ведомого привода  Bearing temp (NDE) | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Температура подшипника ведущего привода  Bearing temp (DE) | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Температура рамки  Frame temp | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Температура желтой фазы  Yellow phase temp | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Температура зеленой фазы  Green phase temp | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| Температура красной фазы  Red phase temp | | | | | | | --- | | | --- | | | | --- | | | --- | | | | --- | | | | | | --- | | | | | --- | |
| In conjunction with the mechanical group, monitor the motor vibrations and attach a set of readings to this checklist.  По согласованию с механиками, следует отслеживать значения вибрации и прилагать листок наблюдения к данной ведомости проверки. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.2 | | Убедиться, что все болты в исправном состоянии и на правильных позициях.  Ensure all bolts are correct and in place. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 3.4 | Убедиться, что против конденсатный нагреватель функционирует.  Ensure anti-condensation heater is functioning. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 3.5 | Ensure temperature element are installed accordingly.  Убедиться, что температурный элемент установлено соответствунно. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 3.6 | Ensure grease are installed.  Убедиться, что смазка нанесена. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 3.7 | Ensure that balancing of rotor are complete.  Убедиться, что ротор сбалансировано. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| 3.8 | Ensure motor are painted.  Убедиться, что электродвигатель покрашена. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OK | | |
| Заключение:  Conclusion: Acceptable! | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Испытания производили  Tests performed by (подпись) (фамилия)  (Signature) (Name) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USED FOR MEASURE/ ИСПОЛЬЗУЕМЫЕ ОБОРУДОВАНИЯ ДЛЯ ИЗМЕРЕНИЯ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Приложение к протоколу (МЭК 60034)**  **Appendix to protocol (IEC 60034)**  n 2.1 Измерение сопротивления обмоток производится у электродвигателей напряжением 3 кВ и выше и у электродвигателей мощностью 300 кВт и более.  Значение сопротивлений различных фаз обмоток не должны отличаться от заводских или друг от друга более чем на 2 %.  This test covers motors of 3kV and above rated at 300kW and above.  Winding resistance readings should not vary from the manufacturer's data, or from each other, by more than 2%.  n 2.2.1 Измерение сопротивления изоляции производится мегаомметром на напряжение 2500 В.  Электродвигатели на напряжение выше 1000 В и мощностью до 5000 кВт. Измеренное отношение изоляции при R60/R15 не ниже 1,2.  Мощностью выше 5000 кВт R60/R15 не ниже 1,3 при температуре обмотки + 10 - 30 0С.  Perform the insulation resistance tests using a 2500V Megger.  For motors 1000V and over rated at up to 5000kW the ratio R60/R15 shall be not less than 1.2.  For motors rated above 5000kW the ratio R60/R15 shall be not less than 1.3 at the winding temperature  t = +100C to +300C.  Наименьшие допустимые значения изоляции обмоток электродвигателей:  The minimum acceptable values of the motor winding insulation are: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | температура обмотки  winding temperature | | | | | | | | | | | 10 | | | 20 | | 30 | | | | | 40 | | | 50 | | | 60 | | | | 75 | |
| R изоляции  Мом  Insulation Resistance Mohm | | | | номинальное напряжение электродвигателя 3,15кВ For 3.15kV motors | | | | | | | | | | | 30 | | | 20 | | 15 | | | | | 10 | | | 7 | | | 5 | | | | 3 | |
| номинальное напряжение электродвигателя 6,3кВ For 6.3kV motors. | | | | | | | | | | | 60 | | | 40 | | 30 | | | | | 20 | | | 15 | | | 10 | | | | 6 | |
| номинальное напряжение электродвигателя 10,5кВ For 10.5kV motors | | | | | | | | | | | 100 | | | 70 | | 50 | | | | | 35 | | | 25 | | | 17 | | | | 10 | |
| п.2.2.2.Величина испытательного напряжения обмотки статора в зависимости от номинального напряжения электродвигателя:  The value of the test voltage for stator windings shall be:  50 Гц DC  1. 3,3 кВ - 0,8 (2Uном + 1) 8  3,3 kV - 0,8 (2Urated + 1) 8  2. до 6,6 кВ - 0,8х2 Uном +1 15  up to 6,6kV - 0,8х2 Urated +1 15    3. выше 6,6 кВ до 10 кВ - 0,8 (2Uном + 1) 21  From 6,6 кВ to 10kV - 0,8 (2Urated + 1) 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | Completed By Заполнил | | | | | | | | Approved By Одобрено | | | | | | | | | | | Accepted by Принято  Client Заказчиком | | | | | | | | | | | | |
| Job Title  Должность | | | | |  | | | | | | | |  | | | | | | | | | | |  | | | | | | | | | | | | |
| Signature  Подпись: | | | | |  | | | | | | | |  | | | | | | | | | | |  | | | | | | | | | | | | |
| Print Name:  Разборчиво | | | | |  | | | | | | | |  | | | | | | | | | | |  | | | | | | | | | | | | |
| Date:  Дата: | | | | |  | | | | | | | |  | | | | | | | | | | |  | | | | | | | | | | | | |