# Technical order confirmation

| | |
|---|---|
| Customer: | **ProXES USA -** |
| Project: | **MK 250** |
| Quote No.: | **174763-3** |
| Order No. Customer: | |
| Product No. FrymaKoruma: | **103527** |
| Equipment ID: | **-** |
| Year of Construction: | **2019** |

The Technical Order Confirmation is including the following documents:

| | |
|---|---|
| **Execution description:** | **Page 2-4** |
| **Execution Layout:** | **ENG-142762** |
| **Execution PI Diagram:** | **ENG-142756** |

**Information:**

**Differences** between **Quote 174763-3** and **Technical order confirmation** are marked with **"(Rev.##)".**

**Project changes** after the confirmation of the **Technical order confirmation** will be listed in the "List of Change Management" and in the "Logbook Meeting Minutes"

**FrymaKoruma Corundum Stone Mill Type MK 250 IP cast body design**

| No. | Description |
|---|---|
| **1000** | **Product inlet** |
| 1013 | Product inlet connection: hopper 50 litre with protective grating |
| 1014 | Product feeding: cylindrical feed screw<br>Motor capacity: 1,1 kW |
| add | With frequency inverter *for feed screw* |
| | *Remark*<br>*For disassembly of hopper with feed screw lifting gear required (customer side)* |
| **2000** | **Grinding Area, Grinding Tool**<br>Tool execution: grinding stones without groove<br>Hardness: hard O (standard) |
| 2010 | Rotor grain: 20<br>Stator grain: 36<br>Material rotor and stator: corundum (ceramic)<br>Pre cutter: with integrated feed impeller |
| 2006 | Increased pump performance: by installed pump impeller/centrifugal disc |
| **3000** | **Tempering of grinding area** |
| 3001 | Tempering of grinding area: Machine housing with double jacket (6bar) |
| **4000** | **Grinding gap adjustment**<br>Particle size regulation: by stepless, axial grinding gap adjustment of the stator<br>Handling: manual<br>Repeatability: by analogue gauge |
| **5000** | **Optimized seal technology** |
| 5001 | Maximum allowable pressure at product inlet: 4 bar<br>Maximum allowable pressure at product outlet: 3 bar<br>Sealing: double acting mechanical seal type 110<br>Material product side: tungsten carbide / tungsten carbide<br>Material atmosphere side: tungsten carbide / carbon |
| 5003 | Sealing liquid connection for double acting mechanical seal (open system, sealing media provided by operator) |

basic equipment:
- inlet: stop valve, flow switch, pressure control valve, manometer (with glycerine filling)
- outlet: flow control valve

Remark:
- at the contact points of the sliding surfaces each mechanical seal secretes a minimal amount of sealing media into the product. Therefore, the sealing media has to be compatible with the product, clean, lubricating, free from solids and harmless.
- the selection of the sealing media is the responsibility of the operating company
- without any other information from the operating company, the functionality of the measuring system is designed for a media of water or water/glycerine (80%/20%). Other sealing medias have to be approved by FrymaKoruma.
- if desired FrymaKoruma can offer a sealing liquid system with a closed circuit as an option
- In case of an open system, there is a risk that product may enter the barrier medium if the pressure ratio is incorrectly regulated. This can endanger people and environment if the product carries risk for health and / or the environment.

**6000 High performance main drive**
Execution: AC motor with (PTC) thermistor probe
Capacity: ~~22~~ **30** kW with terminal box **(Rev.00)**
Motor efficiency: according Regulation (EC) No 640/2009 (valid for all motors)
Speed: 3000 rpm (50Hz)

**7000 Product outlet**
7011 Product outlet connection: DN 100 with screwing and bow 90°
Product outlet position: at the lowest point of the housing for optimal drain

**8000 Installation**
8004 Vertical installation of the mill on base frame
Execution: cast iron foot on fan cover

Material base frame: AISI304 (1.4301)
Surface finish base frame: glass bead blasted
Welded joint base frame: not polished
The machine is installed on machine feet

**9000 Electrical equipment**
9005 Operating voltage: 460 Volt, 3 Phase, N, PE
Frequency: 60 Hz
9002 Control cabinet
Installation of machine control cabinet MCC: delivered attached at base frame
Material machine control cabinet: AISI304 (1.4301)
Wiring: connection cables between machine and machine control cabinet are included
9802 Speed adjustment for main drive
600-3600 rpm
Frequency inverter for main drive: integrated in machine control cabinet MCC, inclusive parameterisation and wiring.
9004 Electrical components with UL mark of conformity

**10000 Automation**
10001 Control: push buttons instead of control panel
Control elements: On / off buttons, main switch, emergency-stop
Indication: digital indication for current power consumption

**11000 Accessories**
Two (2) additional sets:
11020 Additional:
Tool execution: grinding stones without groove
Hardness: hard O (standard)
Rotor grain: 20
Stator grain: 20
Material rotor and stator: corundum (ceramic)

Two (2) additional sets:
11031 Additional set of grinding stones:
Tool execution: grinding stones without groove
Hardness: hard O (standard)
Rotor grain: 36
Stator grain: 46
Material rotor and stator: corundum (ceramic)

**12000 Material, surface, characteristics**
Material of product contacting parts: 1.4408, 1.4571, AISI 316L (1.4404, 1.4435)
Material of product contacting elastomeres: EPDM

Surface of piping:
Average peak to valley height inside: Ra ≤ 0.8 µm
Welded joint: Ra ≤ 1.6 µm
Welded joint outside: not polished

Surface of grinding area:
Average peak to valley height inside: Ra ≤ 0.8 µm
Average peak to valley height outside: Ra ≤ 3.2 µm
Welded joint outside: not polished

Protection type (general): IP55
Varnish steel parts: RAL 9001 (cream white)

**13000 Mechanical interface**
13001 Fittings: TriClamp ISO 2852/O.D. (inch)
Fittings of media piping: ISO 7-1

**14000 Documentation**
Instruction manual Mill: 2 x CD in English
External documentation: English or German
Inscription: English

**16000 Additional customer support**
**16001 FAT (Factory Acceptance Test)**

Consisting of:
- Checking of scope of supply
- Checking of specification against scope of supply
- Checking of documentation
- Machine test (functional test and test with water)

Number of days: **0,5**

Additional working time and further expenses will be charged according to actual costs and FK service rates.