PROGNOST®-NT
Machine Protection and Diagnostics for Predictive Maintenance
Confidence.

PROGNOST Systems provides the highest level of confidence. Our system is proven reliable and supports many global players in the refining, gas, and petrochemical industry for more than 30 years. Our team of experts is available 24/7 to provide consultations and system support.
PROGNOST®-NT Overview

Total Machine Protection and Analysis
Detect component failures at the earliest possible stage and limit the consequence of serious failures to protect personnel, environment, and assets.
PROGNOST®-SILver is a signal acquisition system designed for SIL 3 Machine Protection of all Rotating Equipment. Protection is based on vibration and other critical parameters such as dynamic rod/shaft position and dynamic pressure.

Signal plausibility checks help prevent false alarms and warnings
Specialized signal processing avoids false warnings caused by broken wires, loose sensors, and other electrical failures.

Automatic 10-minute ring buffer for detailed root cause analyses (RCA)
Continuously recorded uncompressed signal data of all connected sensors (hardwired and DCS connected) are available for detailed root cause analyses. This ring buffer is automatically saved in case of an alarm, at every start/stop, or can be user initiated.

Early Failure Detection
PROGNOST®-NT automatically recognizes changing machine operating conditions and adjusts the monitoring thresholds to avoid false warnings caused by variables such as changing pressure, speed, and vibration during different phases of production.

Reliable and useful piston rod position
Conventional monitoring methods use piston rod position measurements for wear monitoring purposes only. PROGNOST®-NT uses the dynamic piston rod position for a more reliable rider ring wear calculation and to monitor the mechanical condition of the piston rod, piston and crosshead connections.

Automated p-V diagram analyses
PROGNOST®-NT processes the online p-V diagram with dedicated analyses to optimize machinery performance and to detect leaks, such as suction/discharge valves, packing, or piston rings. Further, the system calculates dynamic piston rod loads to provide an early warning of overload.

Pattern recognition with fully integrated diagnostic database
Each PROGNOST®-NT system automatically generates and saves new damage patterns when component failures occur. All major failures are analyzed and integrated as failure patterns into the default systems’ diagnostic database, along with more than 150 patterns derived from millions of operating hours.
Designed for all your monitoring tasks

PROGNOST®-SILver
SIL 3 Machine Protection system
• Accurate, intelligent, and powerful machinery analyses and protection based on 30 years of experience
• Proven reliable with installations worldwide on all types of critical rotating equipment
• Global customer support and sales network
• 24/7 customer support capability
• Made in Germany

PROGNOST®-NT system in cabinet
• Online condition monitoring
• SIL 3 machine protection
• Automated diagnostics
• Failure pattern database for clear text messages
• Ring buffer
CENTRIFUGAL EQUIPMENT
188 analyses and views

Process data
Components
Trigger (Rotation speed)
Fundament Velocity
  RMS 36 segments
  Absolute Peak 36 segments
  Single RMS
  Amplitude spectrum - 180°
    Turn frequency
    0 - 200 Hz
    1 - 10 kHz
    FFT Peak
    FFT Peak position
  Turn frequency
    Non harmonic band RMS
    Non harmonic band Peak
1. Integration
  RMS
  Peak to Peak
  Single absolute maximum
Drive power
  Peak to Peak
  Single RMS
  Single arith. average
Bearing 1
  Components
  Process data
  Shaft vibration Bearing 1
    Shaft Orbit
    Peak to Peak
    Maximum displacement Sm
    Greatest value So
    Least value Su
    Static shaft position
    RMS
    Maximum shaft displacement Smax
    Angle of max. shaft displacement
    Vibration range Sppm
    Amplitude spectrum
    Orbit center displacement
    Orbit displacement angle
  Bearing 1 vertical vibration
    Single absolute maximum
    Single RMS
    Amplitude spectrum
    1 - 10 x Turn frequency
    0 - 200 Hz
    1 kHz - 10 kHz
    FFT Peak
    FFT Peak position
  Power spectrum
    1, Integration
    Amplitude spectrum
    0.5 - 10 x Turn frequency
  Bearing 1 axial vibration
    Single absolute maximum
    Single RMS
    Amplitude spectrum

Online shaft orbit
Filtering of shaft orbit
FFT phasing of orbit
PROGNOST® Cloud Dashboard

Information instead of data
Let our experience help you!

The PROGNOST® Cloud Dashboard delivers the knowledge of more than 30 years experience in machine monitoring to you.

Benefit from our in-house vibration analyst expertise and the in-depth machinery comprehension demonstrated by our PROGNOST®-NT systems performing hundreds of analyses in realtime.

All this knowledge has been used to create the PROGNOST® Cloud Dashboard. Informative, customizable, worldwide and easy to use.
Modular software for varying degrees of protection and analysis needs
Protection Analyses
Visualizes and saves online and trend data to provide all information required for precise root cause analyses.

Early Failure Detection
Detects developing damage at an early stage while accounting for changing operating conditions to avoid false alarms.

Wear Monitoring
Provides wear trend plots for critical components, such as rider rings or packings.

Performance Optimization
Evaluates the efficiency of a compressor and its sealing elements with automated p-V diagram analyses.

Lubrication Monitoring
Monitors the flow rate of every individual lubrication point by trend analysis.

Process Data Analyses
Incorporates both inputs and outputs between the PRONGOST®-NT System and the DCS connection in order to have a comprehensive overview of all machinery values which can be trended over time.

Component Tracking
A tool for planning and tracking maintenance activities along with real-time component lifetime information.