# LEAFLET for Horae

Stand-alone CE approved Motor-Drive-System´s (MDS) for drive of any STR (Stirred-Tank-Reactor), SUB (Single-Use-Bioreactor), SUF (Single-Use-Fermenter).

**Horae product:**
- MDS (Motor-Drive-System) able to drive one brushless AC servo motor for all SUB sizes and up to 50 litre, and SUF up to 30 litre at 0 - 2,000 rpm.
- MDS is further designed to communicate internally via build-in touch display and externally via Modbus/TCP. Hereby RPM, delivered Amp, etc available for on-line display and for data logging
- Drive of SUF, SUB, STR equipped with HPD (Head-Plate-Drive) via ID39-B adapter
- Drive of MST, Magnetic-Stirrer-Table from www.CerCell.com via ID39-B adapter

**Specification**
- Designed for drive of one Kollmorgen servo motor with build-in resolver. Models such as:
    - AKM22C, 22E, 23F, 24F - rated at 180 watt at 2,000 RPM
    - AKM31E, 32H, 33H - rated at 400 watt at 2,000 RPM
- Kollmorgen driver: KO-AKD-P00306-NACC
- Build-in noise damping
- Both metric and inch/NEMA mount (BN, EN) based AKM 2 and 3 frame servo motors are supported.
- Operates on external power supply: 1 x 120-240 VAC - 1.2 KVA supply – 240 VAC/5 amp
- Output: 240 VAC, 0-1,000 Hz, 3 phase, 1 amp at 240 VAC input
- Communication internal: ABB touch sensitive display
- Communication external: TCP/IP ModBus
- CE marked and IP 51 rated



*Illustration show the stand-alone and compact Horae servo motor drive unit and accessories.*

**Cronus-PCS**       www.cronus-pcs.com

**Front panel - manual control**
ABB touch display CP620 panel size 4.3"
Language: UK English
Units shown: ISO
Programming options:
- RPM, from 1-2,000 in 1 rpm steps, max 2,000 RPM
- acceleration ramp, rpm per second
- deceleration ramp, rpm per second
- rotation direction, CW or CCW
- start and stop

Read out, real time information
- RPM, 1 step accuracy, damping factor
- ampere usage, 0.1 step accuracy

Connections:
- Dual EPIC cable connection from front panel sockets allow freely any desired cable length. One orange cable for power to the motor and one green cable resolver signal return from the motor.
- Standard IEC supply socket with build-in fuse, 1 x 110-240 VAC 50-60 Hz
- RJ45/patch cable socket

**Cronus automated control**
Horae may be connected to Cronus open platform and controlled by various software packages.

**Standard setup:**
- One Horae in Hephaestus U3 cabinet, dim: W230, D230, H150 mm, weight 6.8 kilo, AISI 304
- One Kollmorgen AKM servo motor with ID39-B adapter, ZN21 sprocket, SP21 rubber coupling
- One set of two cables (power and signal) length 1.5 meter
- No power supply cable

**Available from august 2015 on www.cronus-pcs.com**

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