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Kirloskar Canned Motor Pump (CAN 220) at Nuclear Power Corporation of India Ltd., Tavanore.
**DESCRIPTION**

- **Delivery size**: up to 250 mm
- **Capacity**: up to 1000 m³/hr
- **Head**: up to 135 m
- **Temperature**: -40°C to +270°C
- **Working Pressure**: up to 120 Kg/cm²
- **Speed**: 3000 RPM (Syn), 1500 RPM (Syn)
- **Voltage**: 415V, 50 Hz 3 Phase

**APPLICATION**

The high reliability of these pumps makes them suitable for pumping of toxic, hazardous liquids, high temperature, high pressure services in nuclear power plant, Lithium Bromide circulation in refrigeration plant, Ammonia transfer in fertilizer plants, refineries, chemical and pharmaceutical industries and other process industries for handling toxic, hazardous or expensive fluids.

**SPECIAL FEATURES**

- No seal-no leakage
- No coupling-no alignment and no vibration problem
- No repeated lubrication of bearing and no contamination of liquid
- Double discharge bearings
- Small and compact design resulting in saving in installation space
- Easy maintenance without loss of life
- Extremely low noise level
- Absolute safety from risks of fire, explosion and leakage
- Automatic thrust balancing
- Vacuum tight construction prevents air contamination of process liquids

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**CONSTRUCTIONAL FEATURES**

KBL Canned Motor Pumps are developed, based on the technical know-how from Nikkiso Co.Ltd., Japan. Canned Motor Pump is a centrifugal pump with pump and hermetically sealed electric motor mounted on a single shaft thus eliminating the requirement of mechanical seal or any other sealing device. Entire rotating assembly is immersed in the liquid, and motor and rotor are isolated from the pumped liquid with corrosion resistant, non-magnetic liner and sleeve. A part of the pumped liquid is passed through the motor, for cooling of motor and lubricating the bearing.

**Casing**

Aerodynamical and top centre line delivery. Smooth hydraulic passages for high efficiency. Volute type casing connected to liner disc and adapters plate.

**Impeller**

Sleek stainless steel blade accurately machined and ground. It is supported by ceramic / carbon graphite sleeve bearings in motor which are lubricated by pumped liquid. A return passage for circulating liquid for cooling motor and bearing lubrication available through the shaft.

**Direction of Rotation**

Counter clockwise from driving end.

**Design Basis**

- 2-pole, 4-pole, 415V, 50 Hz, Class of insulation F, H or C.
- Flame-proof and explosion proof construction with built-in safety devices available.

**Materials of Construction**

- **Casing**: Stainless Steel, CF3M, CF8M
- **Impeller/ Auxiliary Impeller**: Stainless Steel, CF3M, CF8M
- **Sliding Liner**: Hardened, KONICLON, SS316L
- **Rotor Sleeve**: Hardened, KONICLON, SS316L
- **Bearing**: Ceramic, Carbon graphite
- **Thrust Washer**: Tungsten Carbide, SS316L with NiCoCr/Ceramic coating
- **Shaft Sleeves**: Tungsten Carbide, SS316L with NiCoCr/Ceramic coating
**DESCRIPTION**

**RANGE**
- **Delivery size**: up to 250 mm
- **Capacity**: up to 1000 m/hr
- **Head**: up to 135 m
- **Temperature**: -40°C to +270°C
- **Working Pressure**: up to 120 Kg/cm²
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**SPECIAL FEATURES**
- No seal-no leakage
- No coupling-no alignment and no vibration problem
- No expensive fabrication of bearing and shaft contamination of coolant
- Rotationally balanced, tight, high efficiency, compact design, small size, easy maintenance, extending service life
- Absolute tightness from casing for drums, tanks, and high efficiency for reciprocating pumps

**CONSTRUCTIONAL FEATURES**
- **KBL Canned Motor Pumps** are developed, based on the technical know-how from Nikkiso Co., Ltd., Japan.
- Canned Motor Pump is a centrifugal pump with pump and hermetically sealed electric motor mounted on a single shaft thus eliminating the requirement of mechanical seal or other sealing device. Entire rotating assembly is immersed in the liquid and motor shaft and rotor are isolated from the pumped liquid with corrosion resistant, non-magnetic liner and sleeve. A part of the pumped liquid is by-passed through the motor, for cooling & motor and eliminating the bearing.

**CASING**
- Axial or top center line delivery. Suction and hydraulic passages for high efficiency. Volute type casing connected to liner disc and adapter plate.

**IMPELLER**
- Designed with aerodynamic and axial balanced. Radial balance of Impeller achieved by means of automatic thrust balance arrangement. Axial bearing for bearing lubrication and seal cooling is also available.

**SHAFT**
- Stainless steel shaft accurately machined and ground. It is supported by ceramic / carbon graphite sleeve bearings in lower which are lubricated by pumped liquid. A return passage for circulating liquid for cooling, motor and bearing lubrication available through the shaft.

**DIRECTION OF ROTATION**
- Clockwise viewed from driving end.
- **2/4 pole, 3 phase, 415V, 50 Hz, Class of insulation F, H or C. Flame-proof and explosion proof construction with built-in safety for more available.**

**ENGLISH BRIEF**
- **Standard**: Based on API 682-6, 6-C classes of insulation F, H or C. Flame-proof and explosion proof construction with built-in safety for more available.

**MATERIAL OF CONSTRUCTION**
- **Casing**: Stainless Steel, CF8M, CF3M
- **Impeller/ Auxiliary Impeller**: Stainless Steel, CF8M, CF3M
- **Slotted Liner**: Hastelloy, INCONEL, SS316L
- **Rotor Sleeve**: Hastelloy, INCONEL, SS316L
- **Bearing**: Ceramic, Carbon graphite
- **Thrust Washer**: Tungsten Carbide, SS316L with HCR / Ceramic coating
- **Shaft Sleeves**: Tungsten Carbide, SS316L with HCR / Ceramic coating

**IMPRESSING LIVES**
- KBL Canned Motor Pumps are developed, based on the technical know-how from Nikkiso Co., Ltd., Japan.
- Canned Motor Pump is a centrifugal pump with pump and hermetically sealed electric motor mounted on a single shaft thus eliminating the requirement of mechanical seal or other sealing device. Entire rotating assembly is immersed in the liquid and motor shaft and rotor are isolated from the pumped liquid with corrosion resistant, non-magnetic liner and sleeve. A part of the pumped liquid is by-passed through the motor, for cooling & motor and eliminating the bearing.
### GENERAL DIMENSIONS / MOUNTING DETAILS

**Pump Motor SUC DEL A B E F G K R H P**

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<th>Model</th>
<th>Motor Rating (KW)</th>
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<th>4 Pole</th>
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Note: All dimensions are in mm.
For Normal Temperature Applications

For High Temperature Applications
GENERAL DIMENSIONS

CAN 220 Pump

Note: All dimensions are in mm

GENERAL DIMENSIONS

CAN 2.4 Pump

Note: All dimensions are in mm
FAMILY CURVES

KCS Pumps at 1450 RPM

KCS Pumps at 2900 RPM

Family Curve of Non-Seal CAN Pump at 2900 rpm
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KIRLOSKAR BROTHERS LIMITED
STUDIO MARS PVT. LTD
KCS 072400

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Phone: (020) 2444 0770 Fax: (020) 2427 0879

WORKS:
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Phone: (02346) 222301 to 222305 Fax: (02346) 222311

INSTALLATIONS

Kirloskar Canned Motor Pump (CAN 220) at Nuclear Power Corporation of India Ltd., Tarapore
KIRLOSKAR BROTHERS LIMITED

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KIRLOSKAR CANNED MOTOR PUMPS
TYPE - RCS / CAN

KIRLOSKAR BROTHERS LIMITED