**DESCRIPTION**

The KX is a fluid coupling with a special patented fluid circuit designed to start up large inertia machines driven by electric motors. The circuit includes two internal tanks connected by two scoops allowing bidirectional motor operation.

**MAIN FEATURES**

- starting stall torque below 50% of the electric motor nominal torque
- starting torque limitation also below nominal torque
- dynamically balanced
- two versions: KXG with gear couplings and KXD with maintenance free disc couplings. Both designs allow the fluid coupling removal without moving the electric motor or the driven machine avoiding the realignment
- the bearings are greased for life and additionally protected by two double seals
- all rotating seals and O-rings are in viton
- the coupling can work either with oil or water (or glycol)
- KX fluid couplings with ATEX certification for gas and dust explosion protection
- a steel body design suitable for underground mines is available
- the coupling has the external impeller working as driver (outer wheel drive); only horizontal installation is possible
- the fluid filling operation is quite easy and apart from some particular cases, it is not required to change fluid during the commissioning: the starting time can be optimized by changing the externally adjustable valves
- both brake disc or drum can be mounted upon request
- KX fluid coupling is very suitable for driving machines having large powers and inertias: typical applications are mills and belt conveyors

The reduced fluid quantity in the working circuit allows low starting torque. During input rotation the scoop transfers the fluid from tank A to tank B and then, through an adjustable valve for start up time regulation, to the working circuit.

At steady running, the working circuit is completely filled with fluid for minimum slip.

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**DIAGRAMS**

The scoop works like a differential pump transferring fluid from one chamber to the other and finally into the coupling working fluid circuit through external adjustable valves. This double passage allows a long starting time with very low starting torque and current absorption by the electric motor, virtually isolating the effect of the inertia of driven machine.

The fluid quantity in the working circuit is less than in traditional constant fill fluid couplings, as the fluid level is much lower than the rotating axis.
THE ADVANTAGES OF FLUID COUPLINGS

**SELECTION TABLE**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>1800 rpm kW</th>
<th>1500 rpm kW</th>
<th>1200 rpm kW</th>
<th>1000 rpm kW</th>
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<tbody>
<tr>
<td></td>
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<td>HP</td>
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<table>
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<tr>
<th>CENTER OF GRAVITY</th>
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<tbody>
<tr>
<td>KXG</td>
</tr>
<tr>
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<tr>
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<tr>
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</tr>
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<table>
<thead>
<tr>
<th>MOMENT OF INERTIA J (WR²)</th>
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<tbody>
<tr>
<td>a</td>
</tr>
<tr>
<td>0.299</td>
</tr>
<tr>
<td>0.978</td>
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<tr>
<td>3.233</td>
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<td>4.163</td>
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</table>

- **g** = Total weight, including fluid (max fill)
- **a** = Internal element - **b** = external element
- **d** - **e** = half flexible coupling (output)
- **d1** - **e1** = half flexible coupling (input)

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**Dimensions are subject to alteration without notice**

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**Fluid couplings KX series - 1907**
OTHER TRANSFLUID PRODUCTS

FLUID COUPLING
K SERIES
Oil or water constant fill
Up to 2500 kW

FLUID COUPLING
KSL SERIES
Start up and variable speed drive
Up to 4000 kW

FLUID COUPLING
KPT SERIES
Start up and variable speed drive
Up to 1700 kW

FLEXIBLE COUPLING
BM-B3M SERIES
Up to 33100 Nm

DISC AND DRUM BRAKE
NBG-TFDS SERIES
Up to 19000 Nm

PNEUMATIC CLUTCH
TP SERIES
Up to 11500 Nm

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