TRANSFLUID

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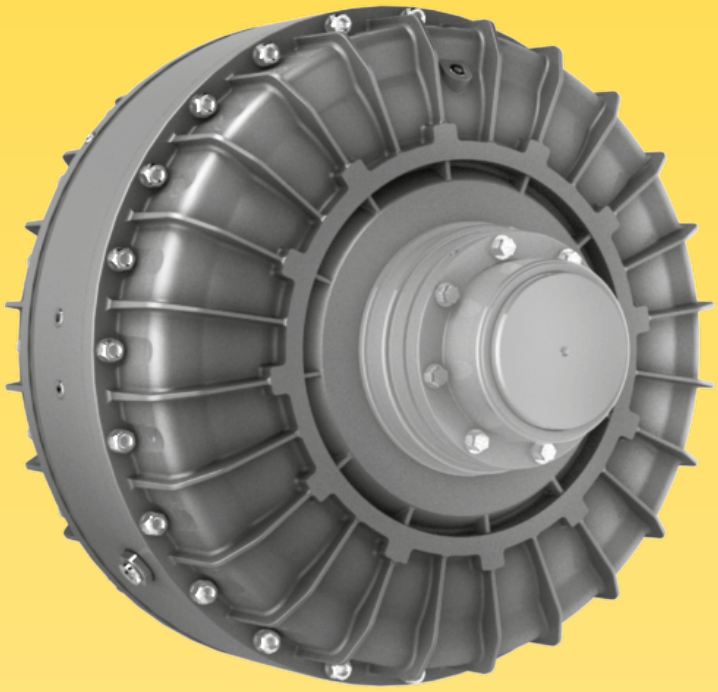
CERTIFIED ISO 9001

# TRANSFLUID®

## industrial & marine



## KX

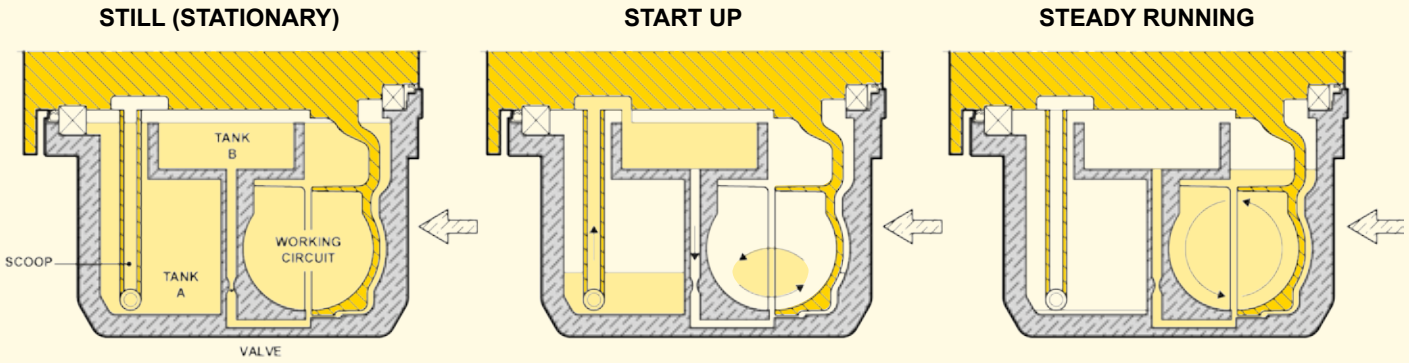
FLUID COUPLINGS KX SERIES

# FLUID COUPLINGS
# KX series

## 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.

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 absorbtion by the electric motor, virtually isolating the effect of the inertia of driven machine



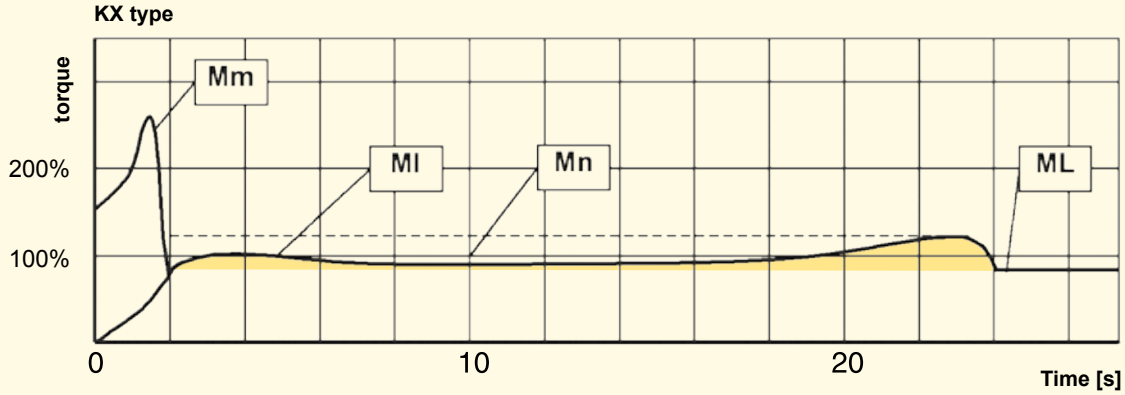

The fluid quantity in the working circuit is less than in traditional constant fill fluid couplings, as the fluid level is much lower than the rotating axis.

The 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

## MAIN FEATURES

- Very low stall 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
- 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




Ml : transmitted torque by fluid coupling
Mm : starting torque of the electric motor
..... : accelerating torque
ML : load absorbed torque
Mn : nominal torque at full load

## SELECTION TABLE

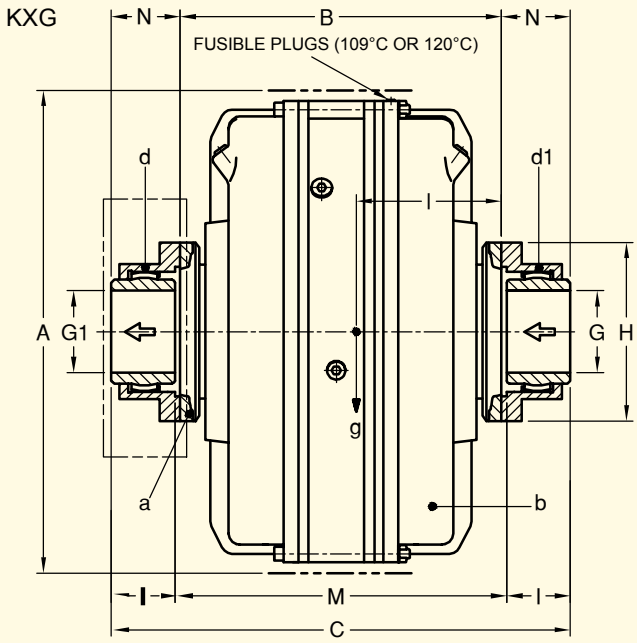
| SIZE | 1800 rpm | | 1500 rpm | | 1200 rpm | | 1000 rpm | |
|---|---|---|---|---|---|---|---|---|
| | kW | HP | kW | HP | kW | HP | kW | HP |
| **15** | 75 | 100 | 55 | 75 | 30 | 40 | 22 | 30 |
| **19** | 160 | 220 | 132 | 180 | 75 | 100 | 45 | 60 |
| **24** | 400 | 544 | 315 | 430 | 200 | 270 | 110 | 150 |
| **27** | 700 | 952 | 510 | 700 | 250 | 340 | 160 | 220 |
| **29** | 1000 | 1360 | 810 | 1100 | 440 | 598 | 320 | 435 |

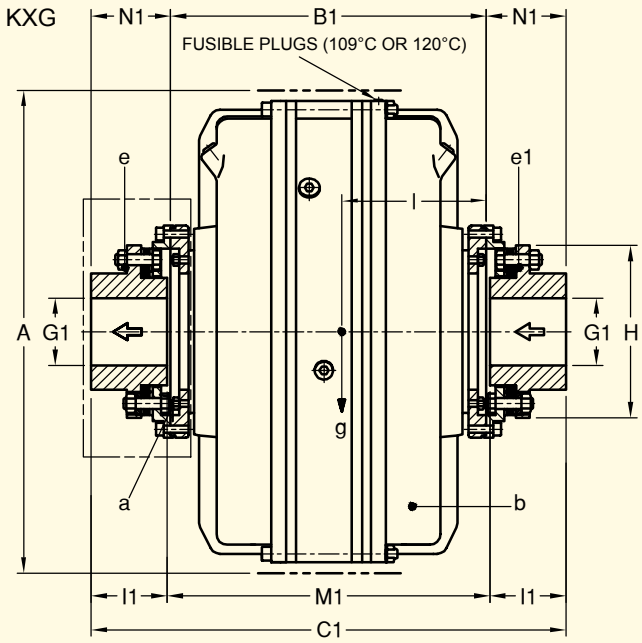
| CENTER OF GRAVITY | | | |
|---|---|---|---|
| KXG | | KXD | |
| g | l | g | l |
| 115 | 155 | 113 | 156 |
| 182 | 188 | 183 | 184 |
| 305 | 222 | 320 | 215 |
| 413 | 270 | 436 | 245 |
| 549 | 288 | 580 | 258 |

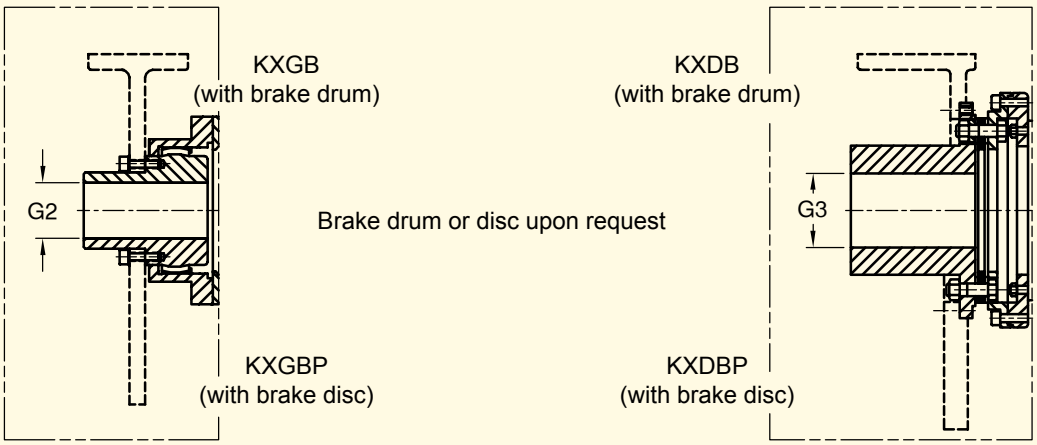
**g** = Total weight, including fluid (max fill)

| MOMENT OF INERTIA J (WR²) | | | | | |
|---|---|---|---|---|---|
| | | KXG | | KXD | |
| a | b | d | $d_1$ | e | $e_1$ |
| 0.299 | 2.863 | 0.091 | 0.121 | 0.091 | 0.102 |
| 0.978 | 3.713 | | | 0.101 | 0.121 |
| 3.233 | 10.346 | 0.145 | 0.375 | 0.210 | 0.173 |
| 4.163 | 19.840 | 0.500 | 0.934 | 0.486 | 0.887 |
| 6.023 | 27.187 | | | | |

**a** = Internal element - b = external element
**d - e** = half flexible coupling (output)
$\mathbf{d_1}$ **-** $\mathbf{e_1}$ = half flexible coupling (input)




| SIZE | G2 | l2 | G3 | 13 | |
|---|---|---|---|---|---|
| | | | | std. | max |
| **15** | 65 | 149.4 | 80 | 150 | 170 |
| **19** | 65 | 149.4 | 95 | 160 | 210 |
| **24** | 90 | 165.1 | 120 | 160 | 240 |
| **27** | 110 | 184.2 | 145 | 180 | 240 |
| **29** | 110 | 184.2 | 145 | 180 | 240 |

### KXG series

| SIZE | A | B | C | G max | H | I | M | N | Gear coupling size |
|---|---|---|---|---|---|---|---|---|---|
| **15** | 500 | 367 | 526 | 95 | 213 | 76 | 374 | 79.5 | 2"½ E.I. |
| **19** | 610 | 435 | 594 | | | | 442 | | |
| **24** | 770 | 506 | 693 | 111 | 240 | 90 | 513 | 93.5 | 3" E.I. |
| **27** | 830 | 626 | 845 | 134 | 280 | 105 | 635 | 109.5 | 3"½ E.I. |
| **29** | 900 | 655 | 874 | | | | 664 | | |

### KXD series

| SIZE | A | $B_1$ | $C_1$ | $G_1$ max | $H_1$ | $I_1$ | $M_1$ | $N_1$ | Disc coupling size |
|---|---|---|---|---|---|---|---|---|---|
| **15** | 490 | 362 | 507 | 75 | 166 | 70 | 367 | 72.5 | 1075 |
| **19** | 595 | 429 | 604 | 90 | 192 | 85 | 434 | 87.5 | 1085 |
| **24** | 745 | 505 | 730 | 115 | 244 | 110 | 510 | 112.5 | 1110 |
| **27** | 810 | 576 | 862 | 135 | 300 | 140 | 582 | 143 | 1140 |
| **29** | 890 | 605 | 891 | | | | 611 | | |

| Weight kg (without fluid) | | Fluid max l |
|---|---|---|
| KXG | KXD | |
| 107 | 105 | 8.5 |
| 168 | 169 | 15.5 |
| 276 | 291 | 32 |
| 371 | 394 | 46 |
| 495 | 526 | 59 |

Dimensions are subject to alteration without notice

TRANSFLUID®
industrial & marine

**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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