KFBD – SKF
FLUID COUPLING FOR INTERNAL COMBUSTION ENGINES
Applying TRANSFLUID
Fluid Couplings in your Drive Line

Transfluid Fluid Couplings are used on all types of industrial equipment driven by internal combustion engines up to 2300 kW. By transmitting power through a fluid, they improve overall performance and protect both driving and driven machine.

Figure 1 shows the typical performance available from a Fluid Coupling when used with an internal combustion engine. The curved sloping lines represent the torque capacity of Fluid Coupling for various values of slip and input speeds. The relatively flat curve is the engine torque. The points at which the curves intersect, indicate per cent of slip in the coupling output. Since slip represents loss of speed between input and output member and since Fluid Coupling transmits torque at a 1:1 ratio, output speed and output power can be readily calculated. Performance characteristics are easily determined by superimposing the engine torque curve on the torque capacity curve of the selected Coupling.

From the performance curve it can be noted that at 100% of governed speed, slip is 1.5% As the load on the Coupling output member increases, it demands more torque, forcing the engine to decelerate so that it can supply this extra torque. A slower input speed to the Coupling will result in a higher slip. If still greater loads are applied, the Coupling output member will eventually stall with the engine being pull down in speed until its torque curve intersects the 100% slip curve of the Coupling.

Note that 100% slip should not occur until the engine has developed peak torque. This is a highly desirable characteristics, since it permits the engine to deliver maximum torque without stalling and also permits rapid acceleration to normal load speeds. In addition to transmitting power smoothly and without shocks the Coupling has other advantages related to engine operation. Especially important is the fact that the engine can always be started under low load conditions.

Figure 2 shows the fluid couplings power capacity against input engine speed. It is a quick selection chart where slip values are not mentioned. For an application specific calculation ask Transfluid or local distributor.
THE ADVANTAGES OF FLUID COUPLINGS

When you drive through a Transfluid Coupling you profit by these Basic Benefits

1. Frees engine during heavy starts
   During heavy starts and sudden running load increases, engine stalling is prevented. The Fluid Coupling simply “slips” while the engine smoothly picks up the load.

2. Provides cushioned drive
   Mechanical connection is eliminated; power and torque are transmitted entirely by the mass and velocity of the fluid. The result is a smooth, sustained flow of power without the shocks and strains which, with mechanical drives, reduce equipment life.

3. Prevents transmission of shock loads
   Fluid Couplings protect both driving and driven equipment by smoothing out shock loads and preventing them from impacting the drive line.

4. Assures damping effect
   Torsional vibrations from engine are drastically dampened by Fluid Couplings allowing longer life of entire transmission line.

5. Transmits full input torque
   The patented Transfluid Circuit design always delivers output torque equal to input torque. The engine can operate at the maximum torque-rpm, even when the driven equipment is stalled.

6. Improves load distribution on compounded drives
   With Fluid Couplings, engines no longer “fight” each other when a common drive is driven in parallel. Each engine is free to seek its own operating speed, while the Fluid Couplings balance the load requirements at each point of operation.

HFR or PTO CLUTCH with KSD

KRU

KRBD

Fluid couplings - 1907
SKF type installation requires specific design. Please contact our technical department for certified prints and instructions.

<table>
<thead>
<tr>
<th>Size</th>
<th>A</th>
<th>B</th>
<th>Nr.</th>
<th>Ø</th>
<th>D</th>
<th>S</th>
<th>T</th>
<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>295</td>
<td>280</td>
<td>12</td>
<td>9</td>
<td>253</td>
<td>13</td>
<td>222</td>
<td>42</td>
<td>142</td>
<td>47</td>
<td>52.5</td>
<td>261</td>
<td>2.2</td>
</tr>
<tr>
<td>11</td>
<td>325</td>
<td>311</td>
<td>12</td>
<td>9</td>
<td>284</td>
<td>13</td>
<td>252</td>
<td>47</td>
<td>164</td>
<td>52.5</td>
<td>59.5</td>
<td>292</td>
<td>2.2</td>
</tr>
<tr>
<td>12</td>
<td>370</td>
<td>356</td>
<td>20</td>
<td>9</td>
<td>328</td>
<td>13</td>
<td>290</td>
<td>53</td>
<td>177</td>
<td>59</td>
<td>64</td>
<td>338</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>398</td>
<td>384</td>
<td>20</td>
<td>9</td>
<td>356</td>
<td>15</td>
<td>320</td>
<td>56</td>
<td>198</td>
<td>64</td>
<td>69</td>
<td>364</td>
<td>2.8</td>
</tr>
<tr>
<td>15</td>
<td>460</td>
<td>440</td>
<td>24</td>
<td>11</td>
<td>406</td>
<td>17</td>
<td>365</td>
<td>63</td>
<td>230</td>
<td>73</td>
<td>83</td>
<td>418</td>
<td>4.3</td>
</tr>
<tr>
<td>17</td>
<td>520</td>
<td>500</td>
<td>24</td>
<td>11</td>
<td>465</td>
<td>18</td>
<td>420</td>
<td>70</td>
<td>240</td>
<td>82</td>
<td>85</td>
<td>477</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Dimensions (mm)

Note: Dimensions can be changed without notice.
FOR 15 KFBD: KEY ACCORDING TO USAS SQUARE B17.1.67; SHAFT THREADED HOLE 3/4" - 10-UNC.
FOR 17-19-21-24 KFBD: KEY ACCORDING TO DIN 6885; SHAFT THREADED HOLE DIN 332

(1) WEIGHT REFERS TO KFBD LARGER FLYWHEEL SIZE AND WITHOUT OIL TEMPERATURE SWITCH IS AVAILABLE AS OPTIONAL. IT DETECTS THE SURROUNDING AIR TEMPERATURE RELATED TO THE FLUID COUPLING OIL TEMPERATURE. IT IS ADJUSTABLE ACCORDING TO AMBIENT TEMPERATURE (REFER TO TF5941-O).

DIMENSIONS CAN BE CHANGED WITHOUT NOTICE
**Dimensions (mm)**

<table>
<thead>
<tr>
<th>D max</th>
<th>J max</th>
<th>A</th>
<th>C</th>
<th>L</th>
<th>SAE J620 flywheel size</th>
<th>SAE J617 housing size</th>
<th>Weight (kg) (1)</th>
<th>OIL (l) max</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>65</td>
<td>460</td>
<td>205</td>
<td>123</td>
<td>flywheel</td>
<td>3 - 2 - 1</td>
<td>63</td>
<td>7.65</td>
</tr>
<tr>
<td>17</td>
<td>80</td>
<td>520</td>
<td>223</td>
<td>113</td>
<td>size</td>
<td>2 - 1</td>
<td>81</td>
<td>11.7</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>565</td>
<td></td>
<td></td>
<td>11½ - 14</td>
<td>2 - 1</td>
<td>88</td>
<td>14.2</td>
</tr>
<tr>
<td>21</td>
<td>90 - 100</td>
<td>620</td>
<td>260 - 295</td>
<td>109 ± 5</td>
<td>14 - 16</td>
<td>1 - 0</td>
<td>114</td>
<td>19</td>
</tr>
<tr>
<td>24</td>
<td>710</td>
<td>125 ± 6</td>
<td>14 - 16</td>
<td>1 - 0</td>
<td>139</td>
<td>28.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>120</td>
<td>210</td>
<td>780</td>
<td>297</td>
<td>14 - 16 - 18</td>
<td>-</td>
<td>208</td>
<td>42</td>
</tr>
<tr>
<td>29</td>
<td>135</td>
<td>240</td>
<td>860</td>
<td>326</td>
<td>14 - 16 - 18</td>
<td>-</td>
<td>261</td>
<td>55</td>
</tr>
<tr>
<td>34</td>
<td>150</td>
<td>265</td>
<td>1000</td>
<td>387</td>
<td>150 ± 5</td>
<td>18 - 21</td>
<td>-</td>
<td>410</td>
</tr>
</tbody>
</table>

**Notes:**
- STANDARD KEYWAY AS PER DIN 6885/1
- REDUCED DEPTH KEYWAY AS PER DIN 6885/2
- (1) WEIGHT REFERS TO KRDA LARGER FLYWHEEL SIZE AND WITHOUT OIL

**DIMENSIONS CAN BE CHANGED WITHOUT NOTICE**
## STANDARD OR REVERSE MOUNTING

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>POWER RANGE kW</th>
<th>TYPE</th>
<th>IN LINE</th>
<th>SIDE LOAD</th>
<th>TYPICAL APPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKFC-SKFU</td>
<td>15 - 260</td>
<td>F</td>
<td>•</td>
<td>•</td>
<td>farm and airport tractor,</td>
</tr>
<tr>
<td>SKFE</td>
<td></td>
<td>F</td>
<td>•</td>
<td>•</td>
<td>lift truck, dumper, loader,</td>
</tr>
<tr>
<td>KRBD-KRDA</td>
<td>15-1300</td>
<td>E+F</td>
<td>•</td>
<td>•</td>
<td>road roller, concrete mixer,</td>
</tr>
<tr>
<td>KRU</td>
<td></td>
<td>F</td>
<td>•</td>
<td>•</td>
<td>fire truck, snow vehicle,</td>
</tr>
<tr>
<td>KFBD</td>
<td>45-600</td>
<td>E+F</td>
<td>•</td>
<td>•</td>
<td>road sweeping machine,</td>
</tr>
<tr>
<td>HFR</td>
<td>50-1300</td>
<td>C dis</td>
<td>•</td>
<td>•</td>
<td>centrifugal pump, gear pump</td>
</tr>
<tr>
<td>HFR+KR or KSD</td>
<td>50-700</td>
<td>C dis</td>
<td>•</td>
<td>•</td>
<td>vane pump, reciprocating</td>
</tr>
<tr>
<td>HFO</td>
<td></td>
<td>C dis</td>
<td>•</td>
<td>•</td>
<td>pump, centrifugal and</td>
</tr>
<tr>
<td>HFP+KSD</td>
<td>50-700</td>
<td>C dis</td>
<td>•</td>
<td>•</td>
<td>volumetric compressor,</td>
</tr>
<tr>
<td>RBD</td>
<td>30-1000</td>
<td>E</td>
<td>•</td>
<td>•</td>
<td>fan, blower, chiller,</td>
</tr>
<tr>
<td>PF RBD</td>
<td>80-700</td>
<td>E</td>
<td>•</td>
<td>•</td>
<td>wood chipper, stone crusher,</td>
</tr>
<tr>
<td>KPTO</td>
<td>65-1000</td>
<td>E+F dis</td>
<td>•</td>
<td>•</td>
<td>shredder, grinder, mill,</td>
</tr>
<tr>
<td>KPTB</td>
<td>65-1700</td>
<td>E+F dis</td>
<td>•</td>
<td>•</td>
<td>dredge pump, marine</td>
</tr>
<tr>
<td>KSL</td>
<td>200-3500</td>
<td>E+F dis</td>
<td>•</td>
<td>•</td>
<td>propeller, bow thruster,</td>
</tr>
<tr>
<td>MPD-SPD</td>
<td>27-1300</td>
<td>E+G</td>
<td>•</td>
<td>•</td>
<td>water jet, generating set</td>
</tr>
<tr>
<td>REVERMATIC</td>
<td>30-70</td>
<td>P</td>
<td>1 forw -1rev</td>
<td>•</td>
<td>drilling machine</td>
</tr>
<tr>
<td>RANFERMATIC</td>
<td>30-95</td>
<td>P</td>
<td>3 forw -1rev 2 forw -2rev 2 forw -1rev</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>F</th>
<th>Fluid coupling</th>
<th>G</th>
<th>Gear drive</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Clutch</td>
<td>P</td>
<td>Powershift transmission</td>
</tr>
<tr>
<td>E</td>
<td>Elastic coupling</td>
<td>dis</td>
<td>Disconnectable</td>
</tr>
</tbody>
</table>
SALES NETWORK

EUROPE

AUSTRIA
ASC GMBH
4470 Enns

BELGIUM - LUXEMBURG
TRANSFLUID FRANCE s.a.r.l.
38110 Rotheroit
Ph. +33 9 76635310
Fax +33 4 26007995
tffrance@transfluid.eu

CZECH REPUBLIC
TESPO ENGINEERING s.r.o.
602 00 Brno

DENMARK (Electric appl.)
JENS S. TRANSMISSIONER A/S
DK 2635 Ishøj
Ph. +49 5921 7288808
Fax +49 5921 7288809
tfgermany@transfluid.eu

ENGLAND & IRELAND
MARINE AND INDUSTRIAL TRANS. LTD.
Queensborough Kent me11 5ee

FINLAND (Electric appl.)
OY JENS S. AB
02721 Espoo

FINLAND (Diesel appl.)
TRANS-AUTO AB
151 46 Södertälje

FRANCE
TRANSFLUID FRANCE s.a.r.l.
38110 Rotheroit
Ph. +33 9 76635310
Fax +33 4 26007995
tffrance@transfluid.eu

GERMANY - HOLLAND
TRANSFLUID GERMANY GmbH
D-48529 Nordhorn
Ph. +49 5921 7288808
Fax +49 5921 7288809
tfgermany@transfluid.eu

NORWAY (Diesel appl.)
KGK Norge AS
0664 Oslo

POLAND
SENOMA LTD
PL40-153 Katowice

PORTUGAL
REDVARIO LDA
2735-469 Cacem

RUSSIA - BELARUS - KAZAKHSTAN
TRANSFLUID OOO
143100 Moscow
Ph. +7 495 7762042
Mob. +7 926 8167577
tfussia@transfluid.us

SLOVENIA - BOSNIA - CROATIA
SERBIA
VIA INTERNATIONAL d.o.o.
1341 Kaminik

SPAIN
TECNOTRANS BONFIGLIOI S.A.
08040 Barcelona

SWEDEN - ESTONIA - LATVIA
(Electric appl.)
JENS S. TRANSMISSIONER AB
SE-401-19 Norrkoping

SWEDEN (Diesel appl.)
TRANS-AUTO
SE 151-48 Sodertalje

TURKEY
REMAS
81700 Tuzla Istanbul

AMERICA

ARGENTINA
ACOTEC S.A.
Villa Adelina - Buenos Aires

BRAZIL
SGI PTI
04461-050 Sao Paulo SP
Ph. +55 11 2759-1777
Fax +55 11 2759-1774
tfussia@transfluid.us

AFRICA

ALGERIA - CAMEROON - GUINEA
MAROCCO - MAURITANIA
SENEGAL - TUNISIA
TRANSFLUID FRANCE s.a.r.l.
38110 Rotheroit (France)
Ph. +33 9 76635310
Fax +33 4 26007995
tffrance@transfluid.eu

EGYPT
INTERN. FOR TRADING & AGENCY (ITACO)
Nasr City (Cairo)

SOUTH AFRICA
SUB SAHARAN COUNTRIES
BMG BEARING MAN GROUP
Johannesburg

OCEANIA
NEW ZEALAND
HENLEY ENGINEERING Ltd
Auckland

ASIA

ASIA South East
ATRAN TRANSMISSION PTE LTD
Singapore 608 579

CHINA
TRANSFLUID BEIJING TRADE CO. LTD
101300 Beijing
Ph. +86 10 60423012
Fax +86 10 60423005
ftchina@sina.cn

INDIA
PROTOS ENGINEERING CO. PRIVATE LTD
600002 Tamilnudu Chennai

AFRICA
ALGERIA - CAMEROON - GUINEA
MAROCCO - MAURITANIA
SENEGAL - TUNISIA
TRANSFLUID FRANCE s.a.r.l.
38110 Rotheroit (France)
Ph. +33 9 76635310
Fax +33 4 26007995
tffrance@transfluid.eu

EGYPT
INTERN. FOR TRADING & AGENCY (ITACO)
Nasr City (Cairo)

SOUTH AFRICA
SUB SAHARAN COUNTRIES
BMG BEARING MAN GROUP
Johannesburg

OCEANIA
NEW ZEALAND
HENLEY ENGINEERING Ltd
Auckland

Global web site: www.transfluid.eu
E-commerce web site: www.buy-transfluid.com

TRANSLUID SUBSIDIARIES
◆ REPRESENTATIVE OFFICE
◆ SERVICE CENTER

Local distributor