

FLUX DRIVE *SmartCOUPLING*[™]

FOR INLINE APPLICATIONS



A Protective Coupling with Cushioned-Start & Energy Saving Capabilities Utilizing Flux Drive SmartPOWER™ Adjustment

Flux Drive's patented permanent-magnet induction rotor technology has been applied to an affordable and easy-to-install 'cushioned-start' coupling for inline applications - the [SmartCOUPLING™ \(FSC-IL\)](#). **Finally, a coupling that protects your equipment AND delivers "GREEN" energy savings performance!**

Designed as a drop-in replacement for grid, gear, elastomeric, and other flexible couplings, the [SmartCOUPLING™](#) transfers torque across an air gap by means of magnetic induction - completely isolating a motor from the driven load. Excessive vibration and torsional forces are nearly eliminated, reducing expensive downtime from failed bearings, damaged seals, or broken shafts.

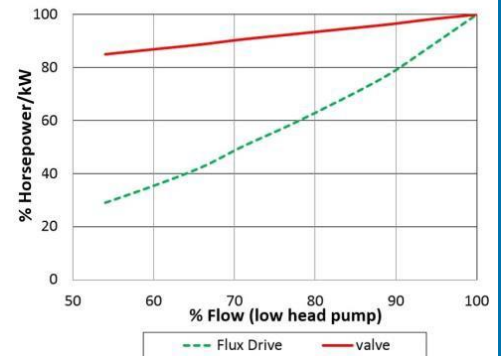
The cushioned start feature also limits locked-rotor current (amps) during start-up, potentially reducing costly utility demand (kW) charges. Eliminating the physical shock from across-the-line starts also helps protect components on high starting-torque applications such as conveyors, compressors, and positive displacement pumps and blowers.

For variable torque applications such as most pumps, fans, and blowers, the FSC also provides long-term energy savings (kWh). Simple SmartPOWER™ adjustment spacers can be inserted to decrease the magnetic coupling effect, allowing operators to reduce load speed by up to 50% on 1800rpm applications. Since the FSC follows the Laws of Affinity on centrifugal loads, **trimming the load speed by just 10% could result in over 20% energy (kWh) savings on oversized pump and blower applications!**

Benefits

- Ability to reduce load speed & save energy with SmartPOWER™ adjustment
- Zero vibration across air gap extends the life of seals, bearings & other components
- Soft-start and over-torque protection
- Runs with shaft misalignment and allows for thermal shaft growth
- No replacement components to purchase
- Reduced noise and cavitation/turbulence
- Lower motor & load operating temperatures
- Replaces need for impeller trimming and compensates for long-term impeller wear
- Torque transfer that **Never Wears Out!**

Centrifugal Pump Energy Consumption



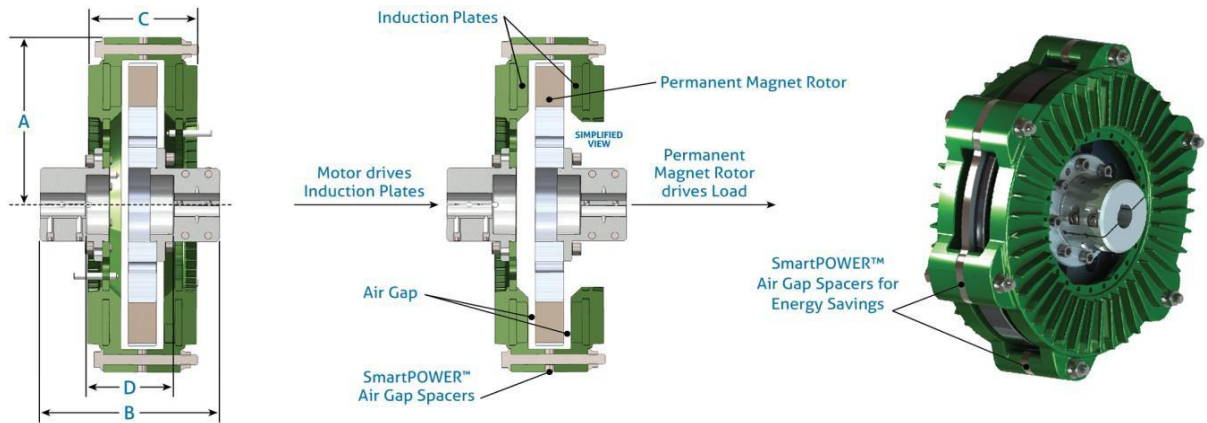
SmartPOWER™
Air Gap Spacers for
Energy Savings



Air Gap Tolerates Misalignment



The [SmartCOUPLING™](#) allows axial, parallel and angular misalignment up to .100" (or more with air gap spacers installed) with no loss of power!



Flux Drive Inline *SmartCOUPLING™* Sizing Table (60Hz Markets)

Model / Size	Operating Torque		Locked Rotor Torque (140%)		Horsepower/kW Rating ¹			
	Lb-ft	Nm	Lb-ft	Nm	@ 900 rpm	@ 1200 rpm	@ 1800 rpm	@ 3600 rpm *
FSC-1-45-IL	45	61	63	85	2.5-7.5hp (1.9-5.5kW)	3.0-10hp (2.2-7.5kW)	5-15hp (3.7-11kW)	10-30hp (7.5-22kW)
FSC-2-120-IL	120	163	168	228	10-20hp (7.5-15kW)	15-25hp (11-18.5kW)	20-40hp (15-30kW)	40-75hp (30-55kW)
FSC-3-180-IL	180	244	252	342	25-30hp (18.5-22kW)	30-40hp (22-30kW)	50-60hp (37-45kW)	100-125hp (75-90kW)
FSC-4-300-IL	300	407	420	570	30-50hp (22-37kW)	40-60hp (30-45kW)	75-100hp (55-75kW)	150-200hp (112-150kW)
FSC-4-375-IL	375	508	525	712	50-60hp (37-45kW)	60-75hp (45-55kW)	100-125hp (75-90kW)	200-250hp (150-186kW)
FSC-5-450-IL	450	610	630	854	75hp (55kW)	100hp (75kW)	150hp (112kW)	300hp (224kW)
FSC-5-600-IL	600	814	840	1138	100hp (75kW)	135hp (100kW)	200hp (150kW)	400hp (300kW)
FSC-5-750-IL	750	1017	1050	1424	125hp (90kW)	165hp (125kW)	250hp (186kW)	500hp (373kW)
FSC-5-900-IL	900	1220	1260	1708	150hp (112kW)	200hp (150kW)	300hp (224kW)	600hp (447kW)
FSC-5-1200-IL	1200	1627	1764	2391	200hp (150kW)	275hp (205kW)	400hp (300kW)	800hp (224kW)
FSC-5-1400-IL	1400	1898	1960	2657	240hp (179kW)	300hp (224kW)	480hp (358kW)	950hp (597kW)
FSC-5-1600-IL	1600	2169	2240	3037	275hp (205kW)	350hp (260kW)	550hp (410kW)	1100hp (820kW)

*Consult Flux Drive for 3600rpm applications

Flux Drive Inline *SmartCOUPLING™* Standard Dimensions

Model	Radius (A)		Length w/hubs (B) ²		Length w/o hubs ³ (C)		Standard DBSE Range ⁴ (D)		Maximum DBSE ⁵ (with optional spacers)		Standard Shaft Diameter Range		Total Weight ⁶ (including Hubs)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
FSC-1-IL	4.70	120	6.28	159	3.5	89	.125 – 3.000	3.2 – 76	6.000	152	.875 – 2.125	23 – 53	27	12.3
FSC-2-IL	6.20	157	6.20	157	3.5	89	.125 – 3.000	3.2 – 76	6.000	152	.875 – 2.125	23 – 53	42	19.0
FSC-3-IL	7.30	186	10.80	274	4.2	107	.125 – 3.875	3.2 – 98	6.875	174	1.375 – 3.375	23 – 85	95	43.0
FSC-4 (all models)	8.55	217	11.20	285	3.9	99	.125 – 4.200	3.2 – 107	6.875	174	1.375 – 3.375	23 – 85	104	47.2
FSC-5 (up to 750)	10.00	254	11.20	285	4.8	122	.125 – 4.200	3.2 – 107	8.200	208	1.875 – 3.375	48 – 85	155	70.0
FSC-5 (900-1400)	10.00	254	11.7	297	5.8	147	.125 – 4.750	3.2 – 120	8.500	216	2.00 – 4.750	50 -121	216	98.0
FSC-5 (1600)	10.00	254	12.2	310	6.3	160	.125 – 5.000	3.2 – 127	9.000	229	2.00 – 4.750	50 -121	220	99.8

Notes:

1. FSC selection should be based on actual load horsepower/kW, which may vary substantially from motor nameplate hp/kW.
2. Hubs may be removed & placed on shafts prior to installation, allowing FSC to "drop in" to DBSEs of (C) dimension or larger without moving motor
3. Standard Distance Between Shaft Ends (DBSE) range applies to FSC without optional shaft spacers.
4. Optional 1" and 2" spacers are available and may be combined to allow for DBSEs up to the maximum length listed. Custom spacers are available for greater DBSEs
5. Induction rotor installed on the motor shaft equal approximately 70% of FSC total weight.
6. FSC dimensions and sizing table are subject to change without notice. Inquire at time of order for the latest product information.



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