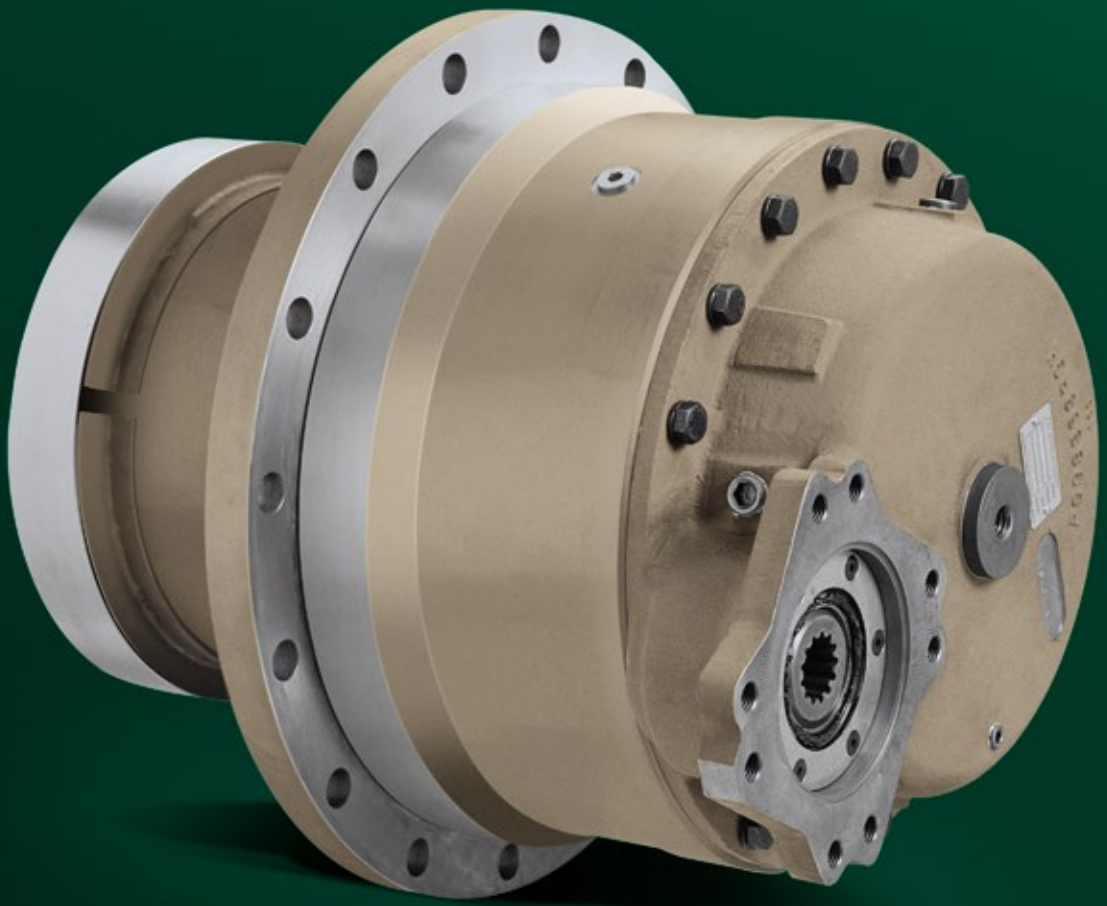
Planetary Gear Drives

Funk Drivetrain Components

JOHN DEERE

When your success revolves on reliability, turn to high-torque planetary drives



Your source for flexible and reliable planetary drives

Five dependable models offered with two output configurations — speed reducer and track drive

We offer a complete line of Funk™ planetary gear drives for OEMs in the ag, construction, manufacturing, marine, mining, and petroleum industries.

Applications for these durable drives include conveyers, cranes, crawlers, excavators, road rollers, track vehicles, winches, and many others.

- Maximum input power up to 168 kW (225 hp)
- Intermittent output torque up to 162,696 Nm (120,000 lb-ft)
- Continuous output torque up to 88,127 Nm (65,000 lb-ft)
- Ratios available from 3.27 to 194:1 (depending on model selected)

Planetary gear drive options

Choose from a wide selection of planetary gear drives to meet the needs of your design. Each series provides unique benefits that have been developed through years of design research and practical application.

Whether you need reducer drives or track drives, you can count on Funk planetary gear drives to deliver durability, performance, and superior engineering. Our drive designs include various ratios of input gear reduction sets, along with single and multiple combinations of center-section planetary gears that drive power through output arrangements to accommodate your reducer and track drive applications.

Our regional distributor network will assist you in analyzing our planetary gear drives and selecting the one that best fits the needs of your application.

NOTE: All data and specifications are subject to change without notice or obligation. Application and installation are subject to review.

Planetary drive specifications

Drive type	Series model	Output torque Nm (lb-ft)		Ratio range[5]	Max input speed rpm[1]	Max radial load kgf (lb)[2]	Max input power kW (hp)	Approx. weight kg (lb)[3]
		Intermittent	Continuous					
Speed reducer	F9R F12R F25R	12,880 (9500)[4] 16,948 (12,500) 33,895 (25,000)	8135 (6000) 10,168 (7500) 18,710 (13,800)	3.27 – 117:1 7.3 – 119:1 7.5 – 122:1	2800 2800 2800	14,287 (31,500) 14,287 (31,500) 28,570 (63,000)	27 (36) 35 (48) 71 (95)	100 – 181 (220 – 400) 91 – 122 (200 – 270) 215 – 263 (475 – 580)
Track	P65T P120T	88,127 (65,000) 162,696 (120,000)	56,944 (42,000) 88,127 (65,000)	51 – 179:1 64 – 194:1	4000 4000	49,887 (110,000) 104,308 (230,000)	138 (185) 168 (225)	580 – 644 (1279 – 1419) 912 – 927 (2011 – 2044)

[1]Maximum input speed related to ratio and maximum output speed.
[2]Maximum radial load placed at optimum load position.
[3]Weight varies with configuration and ratio selected.
[4]Requires tapered roller planet bearings (not available with all ratios).
[5]Actual ratio is dependent on the drive configuration.

⚠ WARNING VEHICLE RUNAWAY HAZARD This transmission is not a braking system. Install transmission only if there is a braking system capable of stopping vehicle with dead engine, disengaged transmission, or loss of hydrostatic retardation. Otherwise, vehicle may roll freely, resulting in loss of control or serious or fatal injury.

Proven off-highway performance

Your equipment deserves nothing less

Staying true to the John Deere commitment, Funk drivetrain components incorporate over 150 years of off-highway vehicle experience.

Our continued promise is to provide you with an array of robust designs to meet your demanding OEM needs. When you choose a Funk planetary gear drive, you know you are getting the best combination of performance, reliability, and durability.

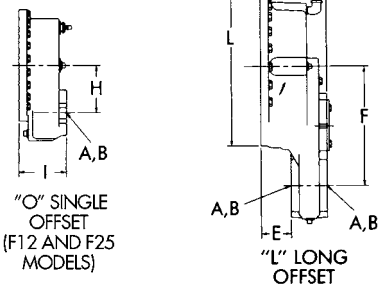
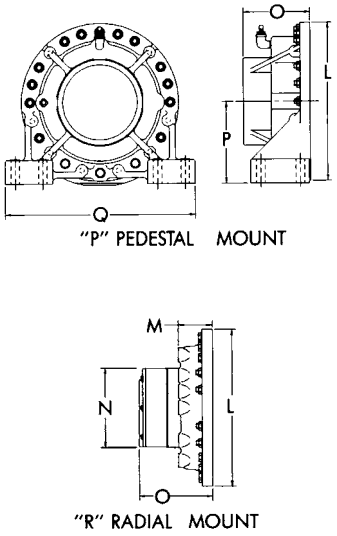
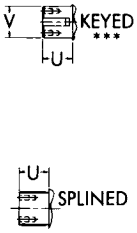
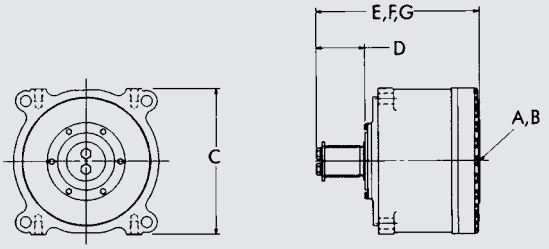
Our application engineers are ready to assist you in selecting the options that best fit your needs. We also offer dedicated OEM service and long-term aftermarket support.

To see the value we can add to your equipment, call us today at 1-800-533-6446.

The power of a worldwide support network

With John Deere, you never have far to go to find expert assistance and advice. The more than 4,000 service locations throughout the world give you peace of mind that you can get service when and where you need it.

F series input-output options

Model	Input configurations	Center section	Output configurations	Output shafts
F12 and F25				
F9				

Model	Outputs	Inputs	Dimensions					
			A standard	B* optional	C	D	E	F	G
F9	R	C	SAE "C" 1/2" - 13 UNC 4 PLCS. ON 162 (6.375) B.C.D.	SAE "D" 3/4" - 10 UNC 4 PLCS. ON 228.6 (9.000) B.C.D.	356 (14.0)	95.3 (3.75)	One stage W/SAE "D" PAD 378 (14.88) W/SAE "C" PAD 387 (15.25)	Two stage W/SAE "D" PAD 460 (18.13) W/SAE "C" PAD 470 (18.5)	Three stage W/SAE "D" PAD 543 (21.38) W/SAE "C" PAD 552 (21.75)
F12	R	L, O	SAE "C" 1/2" - 13 UNC 4 PLCS. ON 162 (6.375) B.C.D.	SAE "B" 1/2" - 13 UNC 4 PLCS. ON 127 (5.000) B.C.D.	—	181 (7.13)	76 (3.00)	305 (12.0)	—
F25	P, R	L, O	SAE "C" 1/2" - 13 UNC 4 PLCS. ON 162 (6.375) B.C.D.	SAE "D" 3/4" - 10 UNC 4 PLCS. ON 228.6 (9.000) B.C.D.	—	204 (8.02)	90 (3.53)	381 (15.0)	—

Product information

F9 model

Output rotation — same as input on all models
Gear ratios:
One-stage — 3.27:1, 4.89:1
Two-stage — 10.7:1, 16.0:1, 23.9:1
Three-stage — 35.0:1, 52.3:1, 78.2:1, 116.9:1
Hydraulic motor mounting — SAE "B," "C," or "D" 2- or 4-bolt
Input spline — 13T, 16/32P 14T, 12/24P 13T, 8/16P, 30° P.A.
Output shaft — splined — 23T, 8/16P, 30° P.A.
Output shaft — keyed — 3" (nom.) dia. 5/8" key width

F12 model

"O" input configuration

Output rotation — opposite input
Gear ratios — 7.34:1, 10.76:1, 13.15:1, 24.14:1
Hydraulic motor mounting — SAE "B" 2- or 4-bolt or SAE "C" 4-bolt
Input spline — 13T, 16/32P 14T, 12/24P, 30° P.A.
Output shaft — splined — 29T, 8/16P, 30° P.A.

"L" input configurations

Output rotation — same as input
Gear ratios — 19.73:1, 28.94:1, 36.22:1, 44.25:1, 53.12:1, 64.95:1, 81.22:1, 119.21:1
Hydraulic motor mounting — SAE "B" or "C," 2- or 4-bolt
Input spline — 13T, 16/32P 14T, 12/24P, 30° P.A.
Output shaft — splined — 29T, 8/16P, 30° P.A.

F25 model

"O" input configuration

Output rotation — opposite input
Gear ratios — 7.50:1, 11.07:1, 13.75:1, 16.43:1, 20.00:1, 24.67:1
Hydraulic motor mounting — SAE "C" or "D," 4-bolt
Input spline — 14T, 12/24P 13T, 8/16P, 30° P.A.
Output shaft — splined — 33T, 8/16P, 30° P.A.
Output shaft — keyed — 4" (nom.) dia. 1" key width

"L" input configuration

Output rotation — same as input
Gear ratios — 37.00:1, 54.61:1, 81.05:1, 121.67:1
Hydraulic motor mounting — SAE "C" 2- or 4-bolt or SAE "D" 4-bolt
Input spline — 14T, 12/24P 13T, 8/16P, 30° P.A.
Output shaft — splined — 33T, 8/16P, 30° P.A.
Output shaft — keyed — 4" (nom.) dia. 1" key width

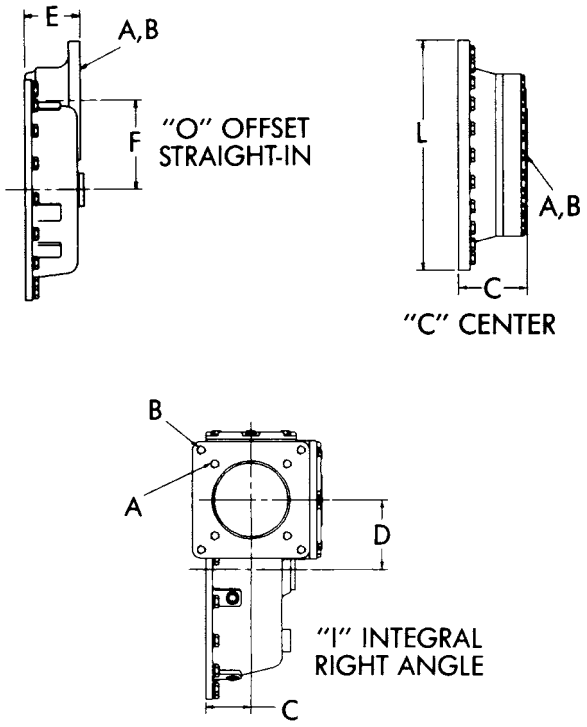
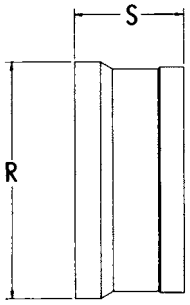
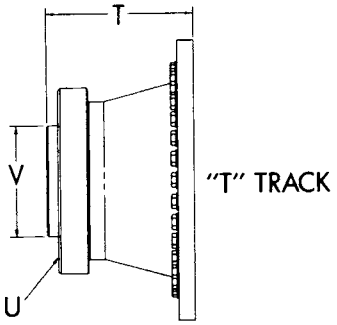
Lubrication

Splash lubrication
Recommended lubricant — EP gear oil meeting MIL-L-2105C or API classification GL5

* NOTE: Optional input pads may alter dimensions shown. Two-bolt SAE mounting pads available on some styles.

H	I	J	K	L	M	N	O	P	Q	V
152 (6.0)	151 (5.94)	12.7 (0.5)	356 (14.0)	356 (14.0)	81 (3.18)	191 (7.5)	182 (7.18)	—	—	—
191 (7.5)	154 (6.06)	45 (1.77)	479 (18.88)	502 (19.75)	102 (4.0)	254 (10.0)	229 (9.0)	260 (10.25)	562 (22.12)	101.55/101.52 (3.998/3.997)

P series input-output options

Model	Input configurations	Center section	Output configurations
P65 and P120			

Model	Outputs	Inputs	Dimensions										
			A	B	C	D	E	F	R	S	T	U	V
P65	T	I, O	SAE "D" 3/4 - 10 UNC 4 PLCS. ON 228.6 (9.00) B.C.D.	SAE "E" 3/4 - 10 UNC 4 PLCS. ON 317.5 (12.50) B.C.D.	108 (4.25)	142 (5.59)	124 (4.88)	142 (5.59)	533.4 (21.00)	244.6 (9.63)	333.5 (13.13)	1 1/4 - 7 UNC 18 PLCS. ON 350 (13.779) B.C.D.	250 (9.85)
P120	T	I, O, C	SAE "D" 3/4 - 10 UNC 4 PLCS. ON 228.6 (9.00) B.C.D.	SAE "E" 3/4 - 10 UNC 4 PLCS. ON 317.5 (12.50) B.C.D.	102 (4.00)	"I" 156.5 (6.16) / "K" 184.2 (7.25)	232 (9.13)	251.84 (9.91)	596.4 (23.48)	279.4 (11.00)	424 (16.7)	7/8 - 9 UNC 32 PLCS. ON 495 (19.50) B.C.D.	431.8 (17.00)

Product information

P65 model
Hydraulic motor mounting — SAE “D” or “E” 4-bolt
Input spline — 13T 8/16 30° P.A.
“S” output spline — 56T 8/16 30° P.A.

P120 model
Hydraulic motor mounting — SAE “D” or “E” 4-bolt
Input spline — 13T 8/16 30° P.A.
“S” output spline — 60T 8/16 30° P.A.

All P series models

Rotation
Output rotation — same as input on “I” input configurations
Output rotation — opposite input on “O” input configurations

Gear ratios
Consult your nearest John Deere Power Systems distributor for available ratios.

Lubrication
Splash lubrication
Recommended lubricant — EP gear oil
meeting MIL-L-2105C or API classification GL5

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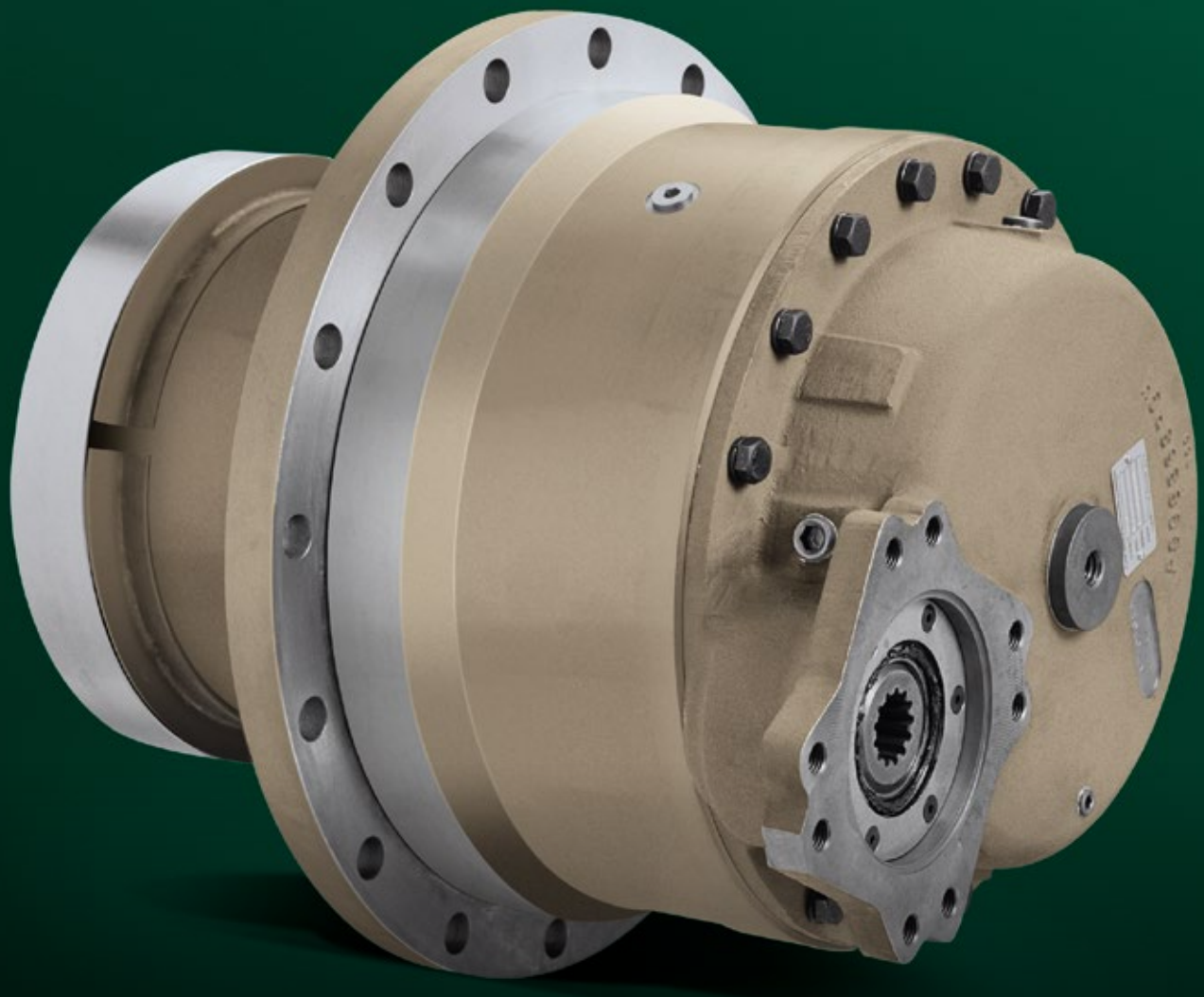

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