



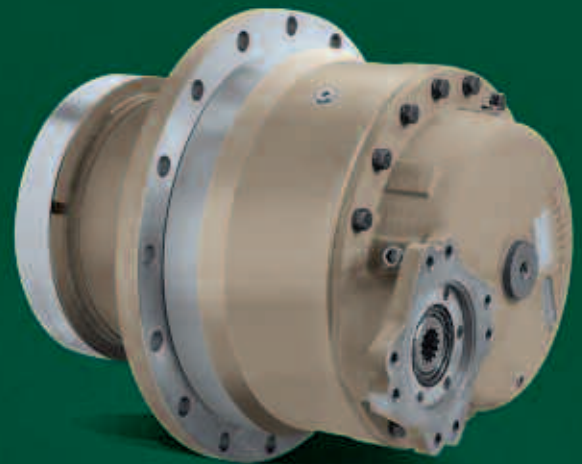
JOHN DEERE

Planetary Gear Drives

Funk™ Drivetrain Components



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



BEYOND THE BOUNDARIES

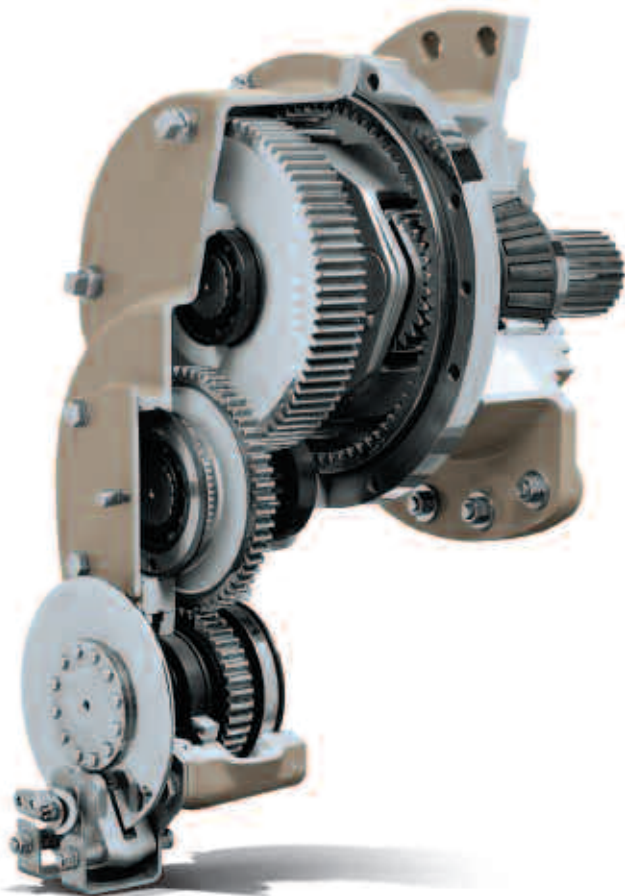
Your source for flexible and reliable planetary drives

Five dependable models offered with three output configurations — speed reducer, swing drive, 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 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	12,880 (9500) ⁴	8135 (6000)	3.27 – 117:1	2800	14,287 (31,500)	27 (36)	100 – 181 (220 – 400)
	F12R	16,948 (12,500)	10,168 (7500)	7.3 – 119:1	2800	14,287 (31,500)	35 (48)	91 – 122 (200 – 270)
	F25R	33,895 (25,000)	18,710 (13,800)	7.5 – 122:1	2800	28,570 (63,000)	71 (95)	215 – 263 (475 – 580)
	P65R	88,127 (65,000)	56,944 (42,000)	51 – 179:1	4000	–	138 (185)	392 – 455 (864 – 1004)
	P120R	162,696 (120,000)	88,127 (65,000)	64 – 194:1	4000	–	168 (225)	643 – 658 (1417 – 1450)
Swing	F12S	10,168 (7500)	–	7.3 – 119:1	2800	20,862 (46,000)	35 (48)	104 – 136 (230 – 300)
	F25S	18,710 (13,800)	–	7.5 – 122:1	2800	28,570 (63,000)	71 (95)	286 – 322 (630 – 710)
	P65S	58,299 (43,000)	–	51 – 179:1	4000	40,816 (90,000)	138 (185)	656 – 720 (1447 – 1587)
	P120S	108,464 (80,000)	–	64 – 194:1	4000	68,027 (150,000)	168 (225)	915 – 942 (2017 – 2077)
Track	P65T	88,127 (65,000)	56,944 (42,000)	51 – 179:1	4000	49,887 (110,000)	138 (185)	580 – 644 (1279 – 1419)
	P120T	162,696 (120,000)	88,127 (65,000)	64 – 194:1	4000	104,308 (230,000)	168 (225)	912 – 927 (2011 – 2044)

¹Maximum input speed related to ratio and maximum output speed.

²Maximum radial load placed at optimum load position.

³Weight varies with configuration and ratio selected.

⁴Requires tapered roller planet bearings (not available with all ratios).

⁵Actual ratio is dependent on the drive configuration.

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, swing 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, swing, and track drive applications.

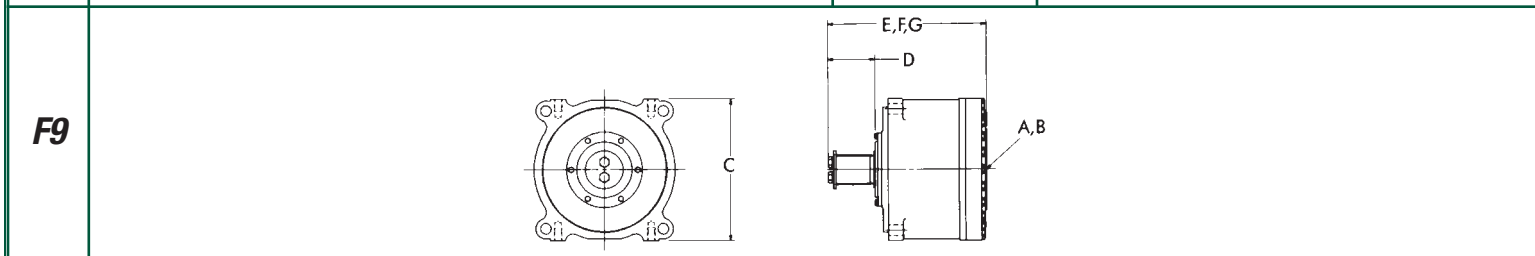
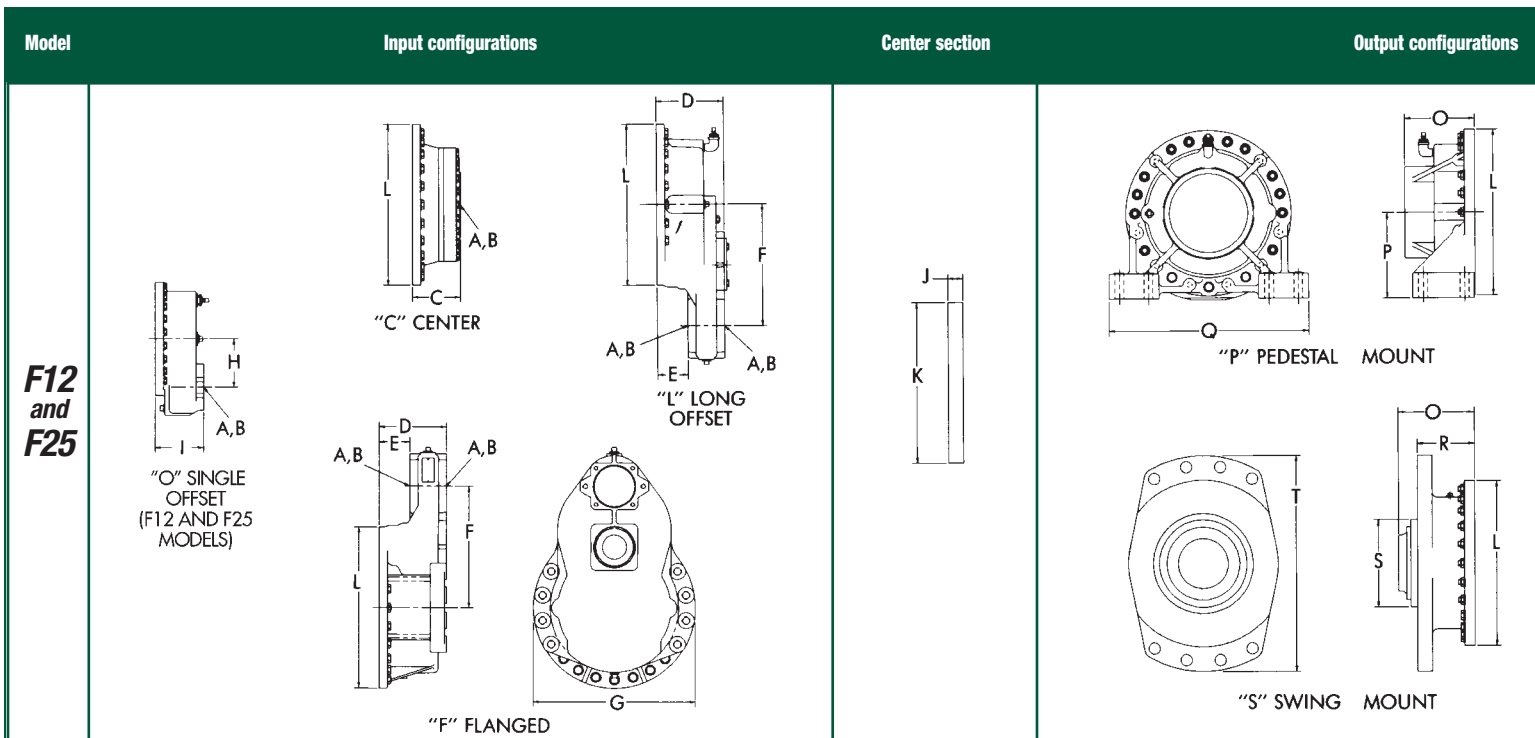
Our regional distributor network will assist you in analyzing our planetary gear drives and selecting the one that best fits the needs of your application.

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



⚠ 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.

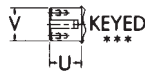
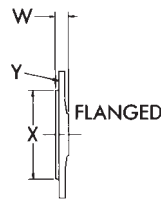
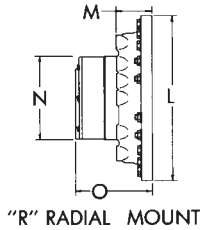
F series input-output options



Model	Outputs	Inputs	Dimensions — mm (in)													
F9	R	C	A Standard	B* Optional	C	D	E	F	G	* NOTE: Optional input pads may alter dimensions shown. Two-bolt SAE mounting pads available on some styles. ** One pad blocked on "O" single offset input configuration. *** Not available on F12 models.						
			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.			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, S	F, 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)	368 (14.5)	152 (6.0)	151 (5.94)	12.7 (0.5)	356 (14.0)	356 (14.0)	81 (3.18)	191 (7.5)
F25	P, R, S	C, D, F 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.	Two Stage 168 (6.63) Three Stage 237 (9.31)	204 (8.02)	90 (3.53)	381 (15.0)	508 (20.0)	191 (7.5)	154 (6.06)	45 (1.77)	479 (18.88)	502 (19.75)	102 (4.0)	254 (10.0)

Output shafts

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" and "F" input configurations

Output rotation – opposite 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" and "F" input configurations

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

"C" input configuration

Output rotation – same as input

Gear ratios – 16.35:1, 24.45:1

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 – 33T, ⁸/₁₆P, 30° P.A.

Output shaft – keyed – 4" (nom.) dia. 1" key width

Lubrication

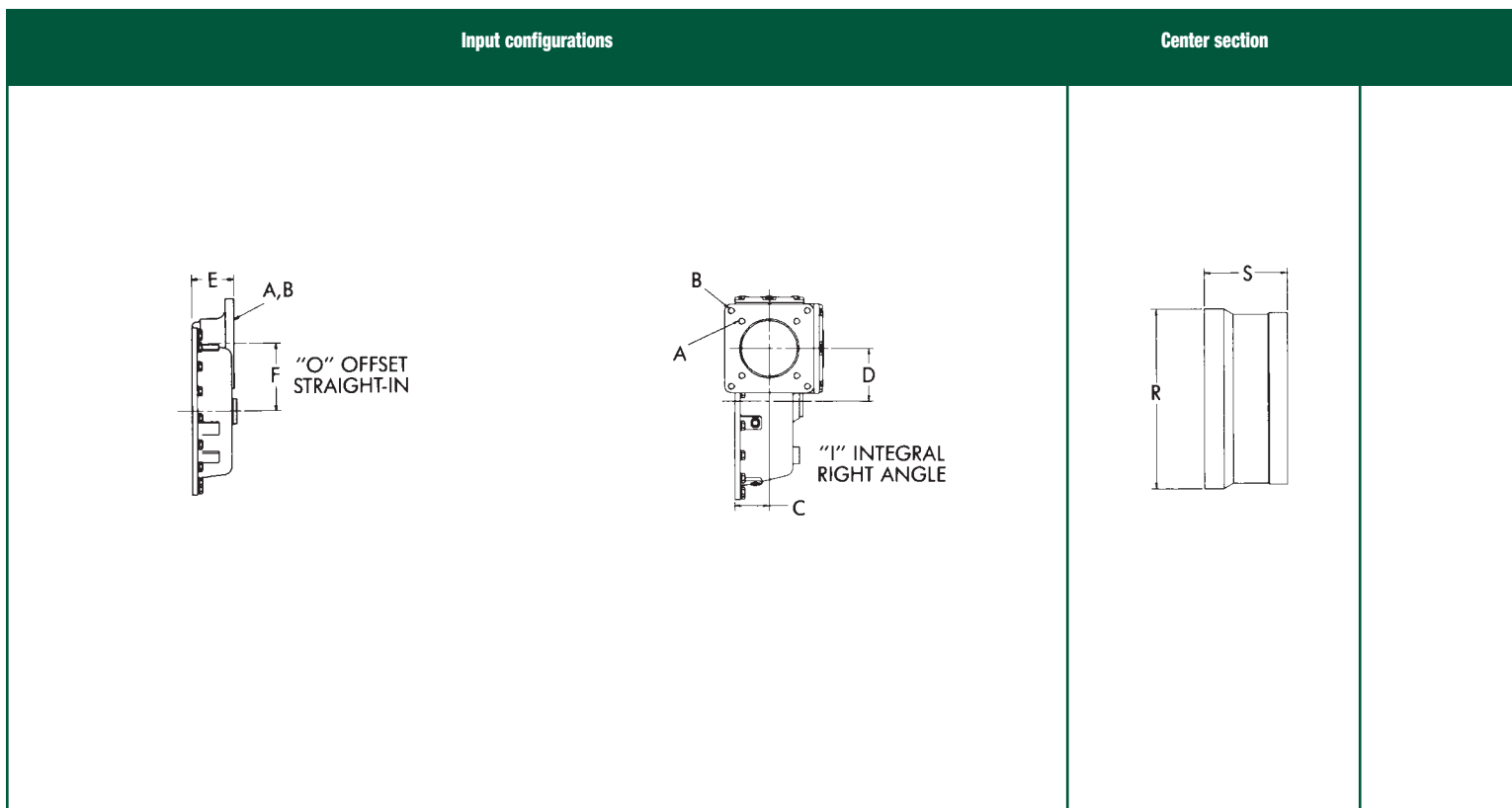
Splash lubrication

Recommended lubricant – EP gear oil meeting

MIL-L-2105C or API classification GL5

O	P	Q	R	S	T	U	V	W	X	Y
182 (7.18)	—	—	132 (5.18)	235 (9.25)	432 (17.0)	95.3 (3.75)	—	37.8 (1.5)	159 (6.25)	20 dia. (.78) 10 holes on 222 (8.75) B.C.D.
229 (9.0)	260 (10.25)	562 (22.12)	168 (6.63)	267 (10.5)	657 (25.88)	95.3 (3.75)	101.55/101.52 (3.998/3.997)	37.8 (1.5)	270 (10.62)	26.2 dia. (1.03) 10 holes on 335 (13.188) B.C.D.

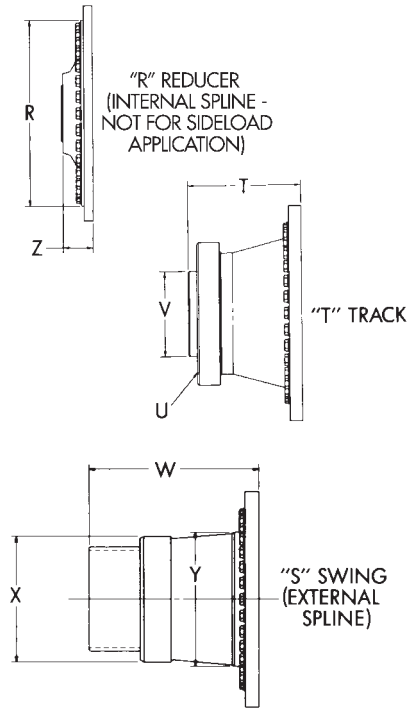
P series input-output options



Model	Outputs	Inputs	Dimensions — mm (in) * May vary with some ratios								
			A	B	C	D	E	F	R	S*	T
P65	R, S, T	C, 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)	Center 533.4 (21.00) "R" 546.1 (21.50)	244.6 (9.63)	333.5 (13.13)
			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)	156.5 (6.16)	590.6 (23.25)	279.4 (11.00)	424 (16.7)

Output configurations

Product information



P65 model

Hydraulic motor mounting – SAE "D" or "E" 4-bolt
 Input spline – 13T ⁸/₁₆ 30° P.A.
 "R" output spline – 42T 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.
 "R" output spline – 48T 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 "T" 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

U	V	W	X	Y	Z
1 1/4 - 7 UNC 18 PLGS. ON 350 (13.779) B.C.D.	250 (9.85)	526 (20.72)	368 (14.50)	393.7 (15.50)	93 (3.66)
7/8 - 9 UNC 32 PLGS. ON 495 (19.50) B.C.D.	431.8 (17.00)	574.5 (22.62)	381 (15.00)	406.4 (16.00)	140 (5.50)

For additional information, contact:

John Deere Power Systems
3801 West Ridgeway Avenue
P.O. Box 5100
Waterloo, IA 50704-5100
Phone: +1 800 533 6446 (U.S.)
Phone: +1 319 292 6060 (Canada)
Fax: +1 319 292 5075
E-mail: jdpower@JohnDeere.com

John Deere Power Systems
Doornelei, 24
2018 Antwerpen
Belgium
Phone: +32 3 238 89 69
Fax: +32 3 248 54 98

Want more information?

For additional information on Funk drivetrain components, please request our brochures.



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.

