

Valley Drive Train[®]



RELIABLE

DURABLE

PRECISE

EASY-TO-USE

RESPONSIVE

Now Valley has Gearbox Choices

Valley Gearbox... Built to Last

Largest capacity rubber diaphragm — expands with heat and pressure to minimize water condensation.

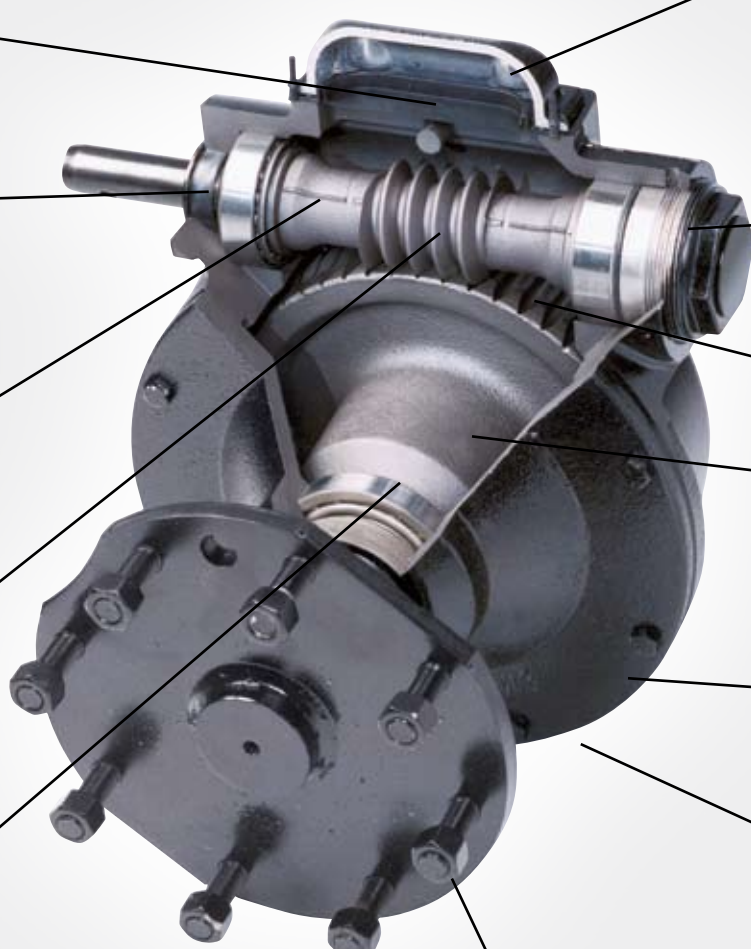
Input and output bearings — American made and case hardened to provide the highest quality and load rating available in the industry to insure long trouble-free life.

Worm gear — high strength ductile iron provides significantly longer wear life than steel when combined with a cast iron bull gear.

Tooth design — industry exclusive 25° tooth angle provides 40% longer life and better reliability in tough conditions compared to normal 14 1/2° tooth designs.

Largest bull gear neck and keyway — for strength in critical load-bearing area.

All these factors add up to one thing — the best quality gearbox in the industry, giving you long, trouble-free economical equipment life.



Expansion chamber — cap made of noncorrosive cast aluminum; rubber diaphragm allows oil to expand and contract during operation. Vented cap prevents pressure buildup, prevents seal from leaking.

Threaded endcap — allows accurate bearing preload, to increase bearing life.

52:1 gear ratio — full recessed tooth design keeps oil engaged between gears.

Bull gear — high strength cast iron provides the highest load capacity in the industry and longest life. Optional bronze gear is available for extreme conditions.

Multi-viscosity gearbox oil — exceeds 85w140 GL5 oil for long gear wear under extreme load conditions.

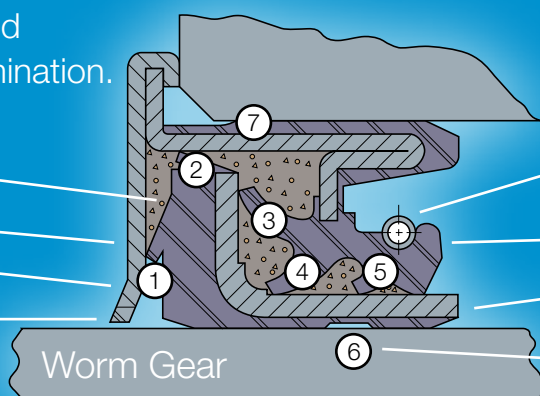
Heaviest gearbox housing — more material in high stress areas. Designed to distribute loads more evenly.

Longest output shaft (steel) — exclusive to Valley gearboxes. Provides extra clearance between the gearbox and wheel flange, reducing mud buildup, resulting in reduced seal damage and extended gearbox life. Special offset rims position the tire back close to the gearbox to minimize bearing loads... another Valley exclusive.

Patented Input and Output Seals - Valley Gearbox Only

7 barriers keep dirt out and protects against contamination.

- Grease-packed for extended life
- Steel housing for protection
- External seal lip keeps contamination out
- No contact with shaft



Valley seals have four times the life of competitive cartridge seals based on independent tests. That means reduced maintenance cost and down time.

- Spring-loaded for positive contact to keep oil in
- Primary seal keeps oil in
- Seal sleeve turns with shaft— reduces wear and extends life of seal and shaft.
- Positive seal against shaft

VS-7000 Gearbox – 7000 series

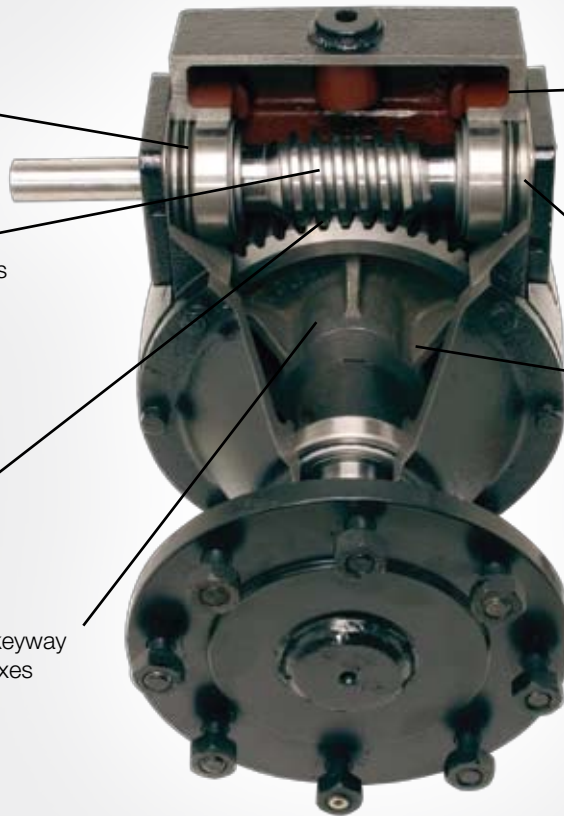
Input and output bearings — Chinese through-hardened bearings.

Worm gear — high strength ductile iron provides significantly longer wear life than steel when combined with a cast iron bull gear.

Tooth Design — 14 1/2° tooth angle

Shorter bull gear neck and keyway matching non-Valley gearboxes

*Only available on 7000 series
Available in US and Canada only



Expansion chamber — large open volume to minimize internal pressure changes with temperature changes.

Shims used to set bearing preload.

52:1 gear ratio — full recessed tooth design keeps oil engaged between gears.

Long output shaft — exclusive to Valley gearboxes. Provides extra clearance between the gearbox and wheel flange, reducing mud buildup, resulting in reduced seal damage and extended gearbox life. Special offset rims position the tire back close to the gearbox to minimize bearing loads...another Valley exclusive.

Gearbox Comparison

Gearbox Features	Valley Gearbox Benefits	VS-7000 Benefits
Superior design	Three times the life of competitive gearboxes based upon independent tests	Longer life than non-Valley
Ductile worm	Reduce wear compared to steel	Reduce wear compared to steel
Stronger bull gear	20% higher torque capacity based on independent tests	Comparable to non-Valley
Longer output shaft	Increases mud and crop clearance, reducing chance of seal damage	Increases mud and crop clearance, reducing chance of seal damage
Special offset rims	Positions tire close to gearbox to minimize bearing loads for longer life	Positions tire close to gearbox to minimize bearing loads for longer life
Case hardened American bearings	Industries highest load rating for longer life Input and output bearings	Chinese through-hardened resulting in lower rating – Comparable to non-Valley
Heaviest gearbox housing	More material in high stressed areas to handle extreme operating conditions	Comparable to non-Valley
Bronze bull gear option	Provides additional load capabilities with hardened steel worm for extreme operating conditions or extends life under less severe conditions	Not available

Drive Units for Every Application

Choose a drive unit to fit your application when purchasing a new pivot or buy a conversion package to retrofit existing drive units.

Features	Benefits
Valley® Standard 2-Wheel Drive	
Wide wheel base	Improved span stability on rolling ground and windy conditions
Four drive braces on each side	Improves span alignment when crossing deep ridges. Balances the loads
Wide range of tire sizes	Traction and floatation options to match your field conditions
Valley 3-Wheel Drive	
Three driven tires	More traction to help prevent stuck drive units
Heavy duty base beam	Strength to support center tire on ridges
Available with all Valley tires	Traction and floatation options to match your field conditions
Base beam only option	Purchase base beam with new machine for low cost upgrade if needed
Conversion packages	Retrofit existing Valley drive units
Valley Articulating 4-Wheel Drive - Valley exclusive.	
Four wheel drive	All four tires are driven providing better traction and less down time
Articulating drive beams	All four tires maintain contact with the ground for consistent traction and floatation
Four tires on the ground	Half the weight per tire for improved floatation, reduced soil compaction and reduced wheel rut depth
Available with all Valley tires	Traction and floatation options to match your field conditions
Two center drives	Reduced motor load for longer life
Adaptable to tracks	Can add tracks in the future with minimal effort
Conversion packages	Retrofit existing Valley drive units



2-Wheel



3-Wheel

Select the best option for

Drive	Traction (Prevent Getting Stuck)
2-Wheel	Good
3-Wheel	Better
4-Wheel Articulating	Best
Tracked Drive	Best
4-Wheel Articulating Tracked Drive	Best



Track Option



Articulating 4-Wheel

Features	Benefits
Valley Track Drive - <i>Valley exclusive.</i>	
Track drive unit	Distributes weight over a wider area than tire options - minimizing ground pressure
Lower ground pressure	Minimize soil compaction and rut depth
Increased traction	Helps prevent stuck drive units
Heavy duty steel tracks	Long life, same width as 14.9 X 24 tire
Heavy duty base beam	Strength to support center tire on ridges
Base beam only option	Purchase base beam with new machine for low cost upgrade if needed in the future
Conversion packages	Retrofit existing Valley drive units
Valley Articulating Track Drive - <i>Valley exclusive.</i>	
Tracked drive unit with longer wheel base	Increased track length for more floatation base
Lowest ground pressure	Minimum soil compaction
Maximum floatation available	Minimum rut depths
Articulating drive beams	Both tracks maintain contact with the ground and can follow sudden changes in field terrain
Increased traction	Spend less time dealing with stuck drive units
Heavy duty steel tracks	Long life, same width as a 14.9 X 24 tire
Two center drives	Reduces motor load for longer life
Conversion packages	Retrofit existing Valley drive units



Articulating Track Drive

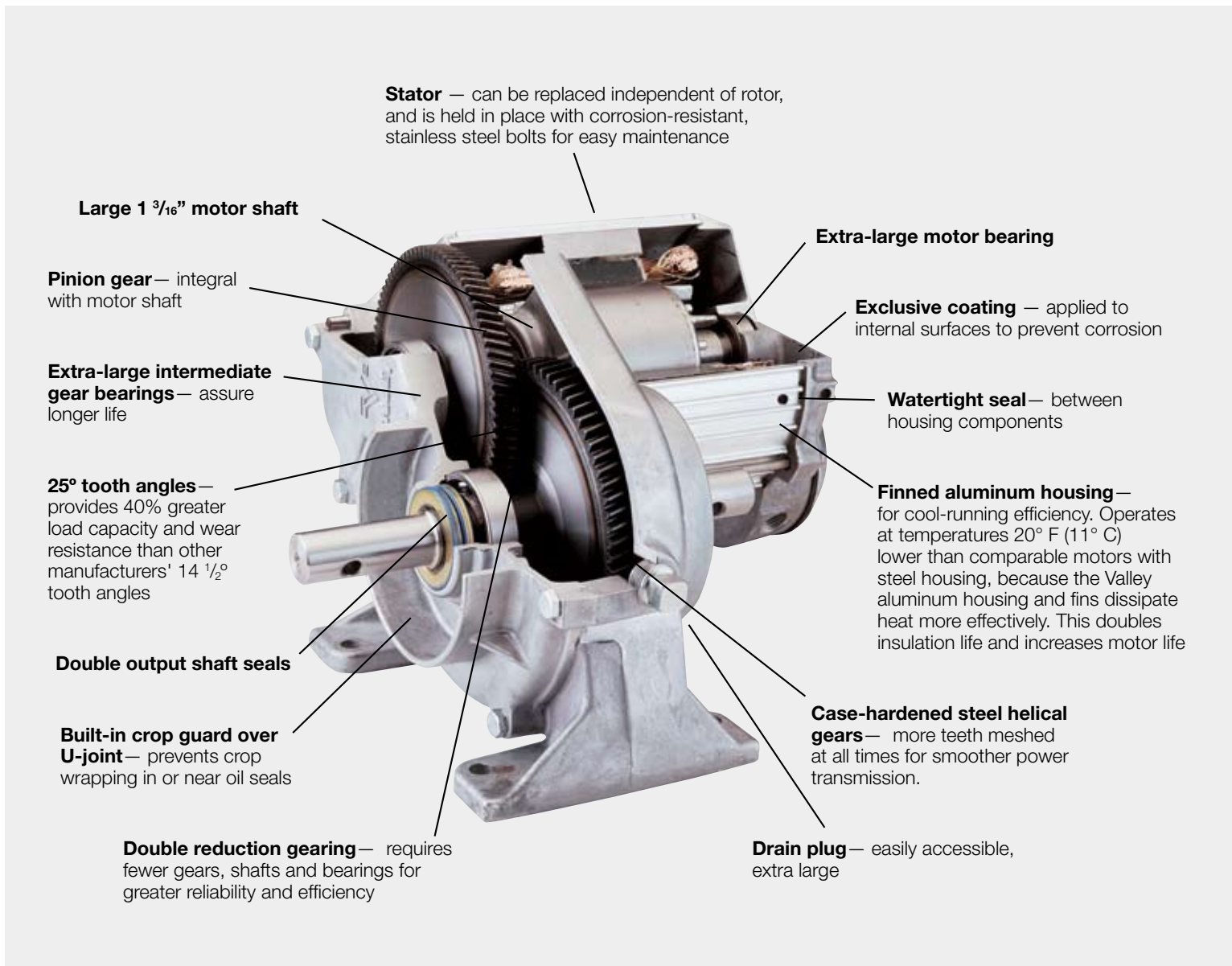
your given field situation.

Flotation (Reduce Wheel Rut)	Rough Ground Capabilities	Series Availability
Good	Best	7000* and 8000
Good	Better	8000 Only
Better	Best	8000 Only
Best	Good	8000 Only
Best	Best	8000 Only

*7000 series only available in US and Canada

Valley Center Drive...

engineered for reliability



Valley® Center Drive...

engineered for reliable service. The Valley® Center Drive is built stronger, lasts longer and uses less energy than other irrigation drive motors. The standard-speed motor has the lowest power requirements in the industry. The high-speed option significantly reduces rotation time.

Center Drive Features	Center Drive Benefits
Steel gears	Provide more strength than powdered metal
Aluminum finned housing	Runs 20° F cooler for a longer motor life. No paint to chip, scratch or corrode
Internally vented junction box	Prevents moisture and contaminants from corroding the wire connections
Crop guard	Protects shaft seals for extended life
Integral pinion gear	Eliminates coupler, improves reliability
Helical gears	More tooth contact than spur gears, providing more torque capacity and quieter operation
Special motor windings for high-torque applications	40% higher operating torque than the competition



In the Valley tradition of continuously improving our products, the center drive has been designed to be the most reliable and energy efficient unit available today.

Field and Accelerated Test Results

- The Valley center drive averages three times the life of competitive center drives.
- 40% higher torque rating than competition
- Highest efficiency available
- Lowest power consumption available

Valley offers a wide selection of center drive options to match your farming practices.

VS-7000 – Center Drive Choice*

The VS-7000 center drive offers the performance you have come to expect from Valley but at a lower price point. The VS-7000 is similar to the original Valley center drive except for the corrosion resistant painted steel housing.



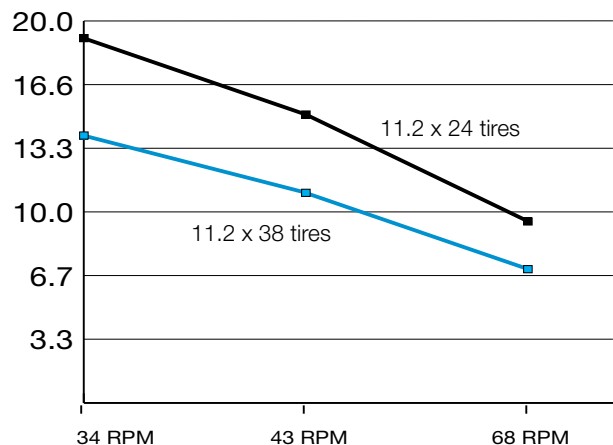
- Same performance specifications
- Same helical gearbox
- Same amp draw
- Same torque rating

* Not available on the 8000 series. Only available in US & Canada

Center Drive Application Guide	
Model	Recommendations
34 RPM	Standard quarter mile machines where chemigation will not be used. Lowest power requirement in the industry means savings on installation wire size
68 RPM	Long machines or when chemigation will be applied. Reduces time required to apply chemicals and move the pivot
43 RPM	Replacement for non-Valley machines Not available for US 7000 series

The time to complete a revolution for a seven tower Valley pivot can be varied as follows:

Rotation time in hours



Floatation

According to the tire manufactures, floatation is the ability of a tire to resist sinking into the soil and creating a rut. The old foot print area (square inches) as a measure of floatation can be misleading because it only applies at the rated tire load and rated tire pressure under specific soil conditions. The best measure of floatation is ground pressure which is defined as the tire's inflated pressure plus 2 PSI. The lower the tire pressure, the greater the ground contact area and therefore the lower the ground pressure. For a given load, the larger the tire size, the lower the required pressure to carry that load. Wider tires also provide a wider track which can reduce the amount of soil pushed out of the wheel track decreasing rut depths.

Valley Exclusive Tire Rim

11.2 X 38" Rims



Valley



Competitor

Extra backup plate added to provide significantly longer life under all field conditions.

Thinner rim resulting in less strength.

Available as an option on 7000 series

Summary of Valley® Floatation Options

Option	Ground pressure	Traction	Comments
11.2 x 24	38 PSI	GOOD	Recommended for sandy soils and limited operating hours
11.2 X 38	27 PSI	GOOD	Maximum base beam clearance and narrow wheel track
14.9 X 24	22 PSI	GOOD	Increased base beam clearance, a wider, shallower wheel track
16.9 X 24	22 PSI	GOOD	Increased base beam clearance, a wider, shallower wheel track
18.4 X 26	18 PSI	GOOD	Maximum base beam clearance, a wider, shallower wheel track
3-Wheel Drive	Variable	VERY GOOD	Three driven tires provide increased traction; recommend with 11.2 X 38 tires
Artic. 4-Wheel	17 PSI	BETTER	Articulating four wheel drive keeps all four wheels on the ground
Track Drive	9.3 PSI	BEST	Lowest cost tracked option with excellent floatation and traction. Not for operating over terraces or short ditches
Articulating Track Drive	5.5 PSI	BEST	Articulating four wheel drive keeps all four wheels on the ground

New Tire Options

Features	Benefits
Full size tractor tire	Thicker, longer lugs than the competitor's "irrigation specials" for improved traction
Wide range of tire sizes	Ability to match your traction and floatation needs

Recapped Tire Options

Features	Benefits
Steel valve stem	Lasts longer than rubber valve stems
12 & 14 ply side walls	Last longer than new tires - resist punctures
Deeper lugs	Provides improved traction



See your local authorized Valley Dealer for complete details.

Conserving Resources. Improving Life.

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