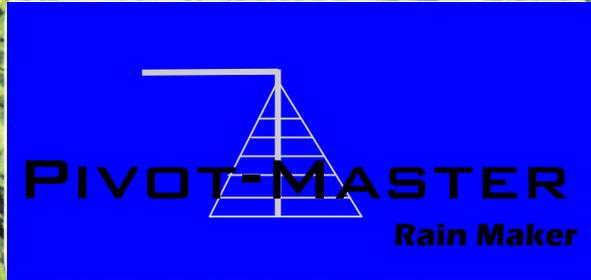


Irrigation Systems Guide



PIVOT-MASTER, THE BEST CHOICE FOR YOUR CROP

Food is our concern

The aim of irrigation is to produce food the most efficient way and using every drop of water for this purpose. Wright Rain is concerned with the present scarcity of food and water and aims to offer ever more efficient irrigation solutions.

Pivot-Master is a highly effective large area irrigation system, which increases the yield per area irrigated. The initial investment is returned manifold during its life span. Wright Rain have participated in several projects sponsored by international organisations like FAO and UN (programme food for oil).

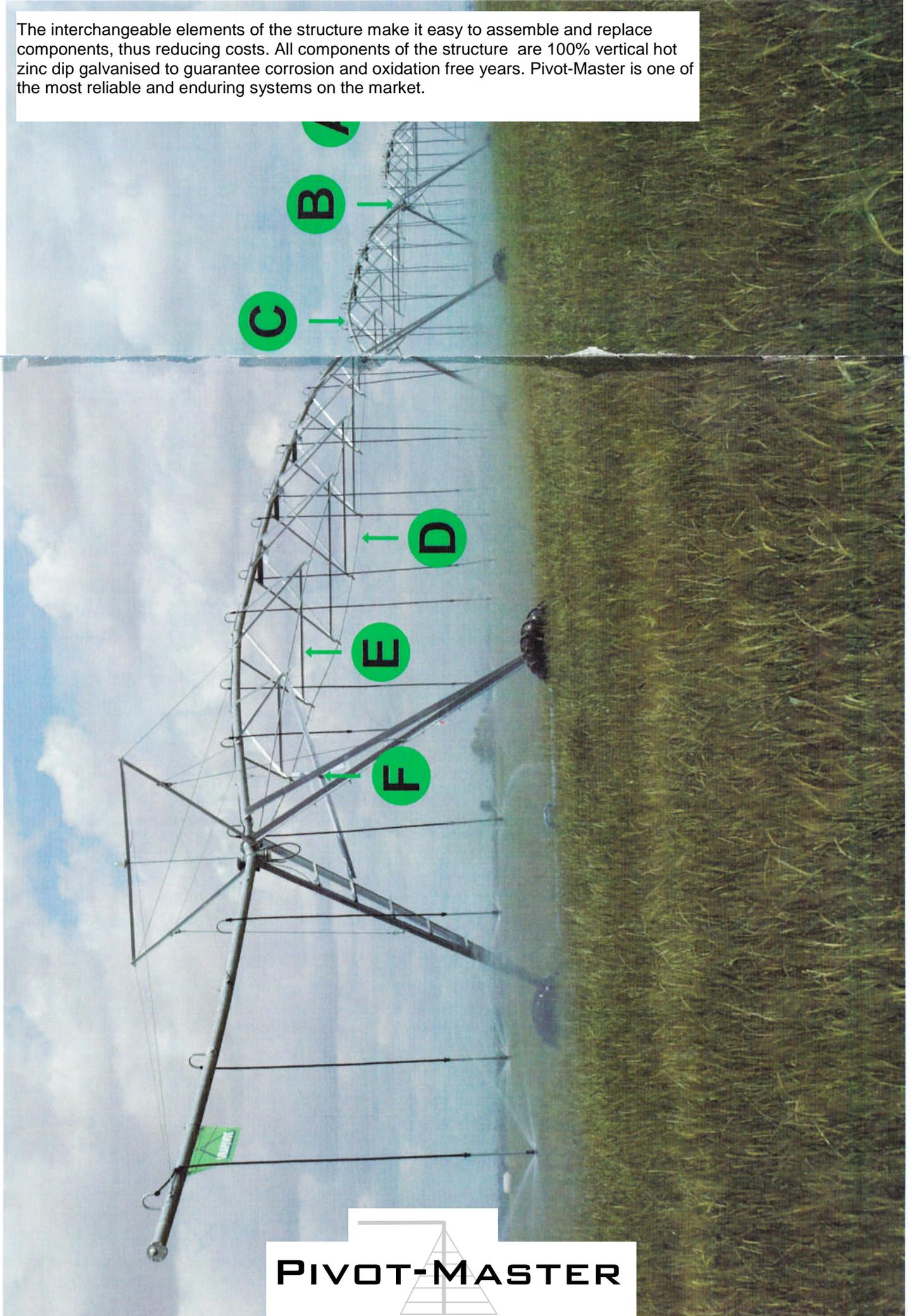


Advantages of Pivot-Master

- Enhanced productivity by:
 - optimising crop irrigation.
 - reaching even water distribution (nearly 90%)
 - achieving perfect control
- Less travel saves time and money. At present, it is the most efficient irrigation system in the world. It is automatic, can be programmed and requires no staff.
- Assisting the customer. Our passion is listening to the customers and learning from their suggestions. We offer technical assistance for installation and maintenance. The presence of the authorised dealer from project to installation and right to the after sales service give you an additional advantage.
- Guaranty your profit, season after season. Pivot-Master systems are produced following strict manufacturing methods and correctly maintained by your distributor assure you a minimum life span of 20 years.
- Your crop is secured and under control. The revolutionary WRPocket system controls your pivot simply and fast from PDA or PC at every moment.

STRUCTURE

The interchangeable elements of the structure make it easy to assemble and replace components, thus reducing costs. All components of the structure are 100% vertical hot zinc dip galvanised to guarantee corrosion and oxidation free years. Pivot-Master is one of the most reliable and enduring systems on the market.



PIVOT-MASTER

A Pivot-Master Centre Pivot is the best investment for your business

The Pivot-Master is long lasting, helps to save water and reduces operating costs and wages considerably over a long period. Pivot-Master System has a high reliability and is a sure way to obtain high benefits from the field.



HEAVY DUTY PIVOT POINT STRUC-

The robust structure of the pivot point consists of strong angular galvanised feet and highly resistant cross bars make together a solid basis capable to absorb the loads created by the longest systems.

The height of the Pivot-Master pivot point is in between 3,8m (standard model) and 5m (model for high crops like sugar cane).

PIVOT-MASTER COLLECTOR RING

Placed on the top of the pivot point, it keeps the electric energy out of the central water flow, receiving the 380v from the main panel and redistributing it to the panel of each tower.

The collector ring is protected against humidity by a corrosion resistant polyester cover.



TRUSS RODS AND ANGLES

The unique truss rod design of the Pivot-Master Distributes the load evenly and offers major Support and durability.

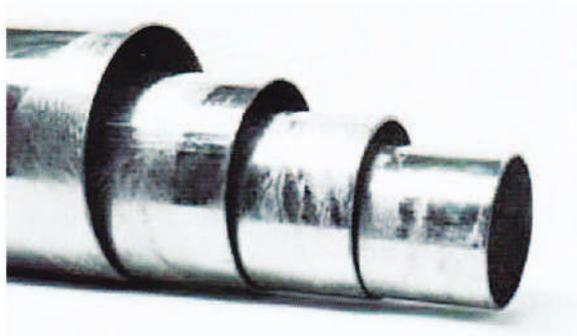
The truss rods heads forged and non welded, follow an specific induction magnetic manufacturing process, getting alveolus resistant shape and reducing weak points of the towers.

HIGH RESISTANCE GALVANISED PIPE

The Pivot-Master system is equipped with galvanised pipes of 3mm wall thickness (4mm in models URA8 and URA8,5), this is not common on other models on the market; this gives additional resistance, durability and stability to every tower. We offer the option to use stainless steel pipes in case of high corrosive waters.

MODEL	DIAMETER PIPE Ø	IRRIGATED AREA	SPAN LENGTH	AVAILABLE OVERHANGS	MIN/MAX HEIGHT OVER GROUND	TYRES
URA4	4 1/2" (11.43 cm)	Up to 30 ha	30.62 to 60.82 m	6.6, 12.66, 18.66, 24.66m	2.9 - 4.11m	11.2x24 (standard) 14.9x24 (Option)
URA5	5 9/16" (14.1 cm)	Up to 45 ha	34.45 to 61.30 m	6.7, 13.4, 20.10, 26.8m	2.87 - 4.11m	14.9x24 (high flotation)
URA6	6 5/8" (16.8 cm)	Up to 85 ha	34.45 to 61.3 m	6.7, 13.4, 20.10, 26.8m	2.20 - 4.22m	14.9x24 (High Flotation) 16.9x24 (Super High Flotation)
URA8	8" (20.3 cm)	Up to 150 ha	30.91 to 54.91 m	6.7, 13.4, 20.10, 26.8m	2.87 - 4.52m	14.9x24 (High Flotation) 16.9x24 (Super High Flotation)

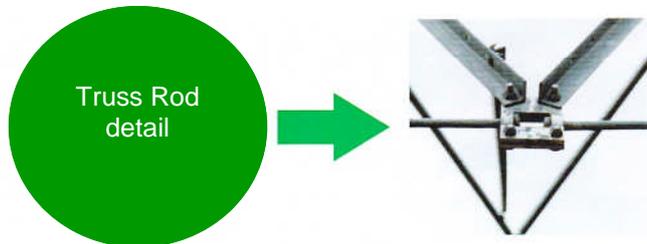
There is an extra model using pipes of 8-5/8" (219 mm) for the largest systems; this model works with same specifications as Ura8 model



TRUSS RODS AND ANGLES

The unique truss rod design of the Pivot-Master Distributes the load evenly and offers major Support and durability.

The truss rods heads forged and non welded, follow an specific induction magnetic manufacturing process, getting alveolus resistant shape and reducing weak points of the towers.



Detail of the tubular drop counterweight which avoids the oscillation caused by the wind.

TYRES

Wright Rain offers a wide range in accordance with the size of the unit and depending on the characteristics and kind of soil to cultivate.

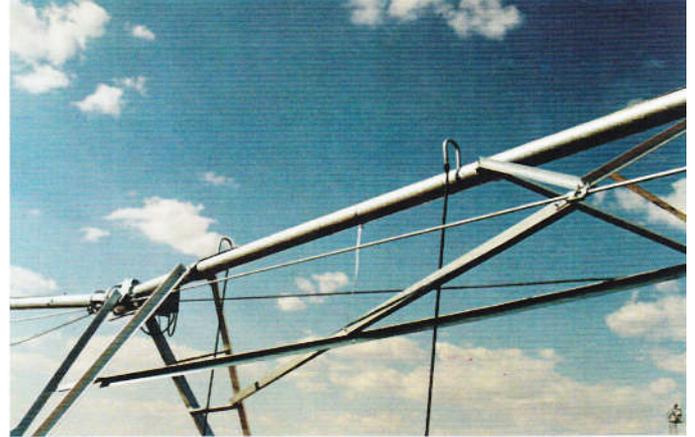
Tyre Sizes:

- Standard (11,2 x 24y 11,2 x 38)
- High Flotation (14,9 x 24)
- Super High Flotation (16,9 x 24)



CROSS STABILISER ANGLES

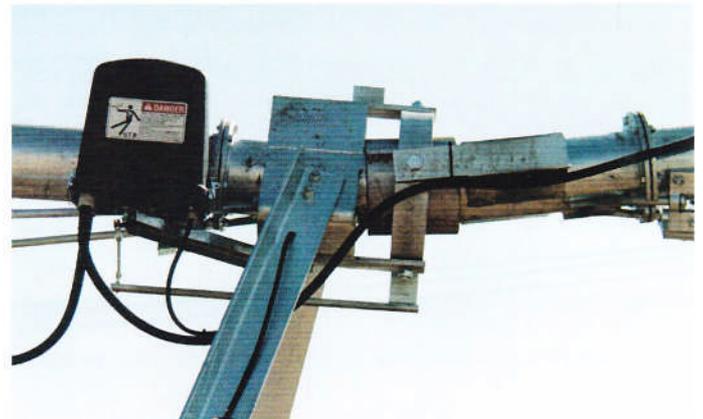
Of optimum design, increases the structural stability
And absorbs the torsion produced by uneven soils.



SPAN JOINT

- **MAXIMUM FLEXIBILITY:**

The articulated WR-pivot joint permits independent movement of each span and avoids torsions effecting the system, even on slopes of up to 30%.

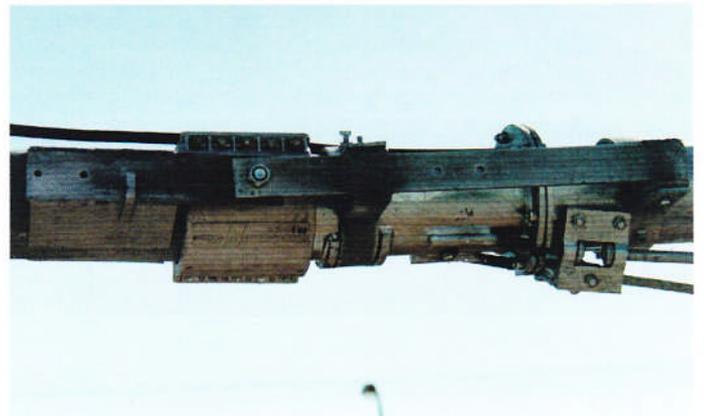


- **NO FLOW RESTRICTIONS:**

All components are of easy access from outside.

- **SECURITY SYSTEM:**

The sleeve and aluminium brackets are designed to break in case of alignment problems, producing a drop of water pressure in the system and stopping automatically the pivot.



- **EXTRA PROTECTION:**

The aluminium brackets holding the rubber sleeve protects the hydraulic joint.

- **EASY MAINTENANCE:**

The joint rubber sleeve can be changed without using a crane.

GEAR BOXES

HIGHER ROTATION SPEED:

The 3/4 HP centre drive is capable of 43rpm (the fastest speed available on the market in its category).

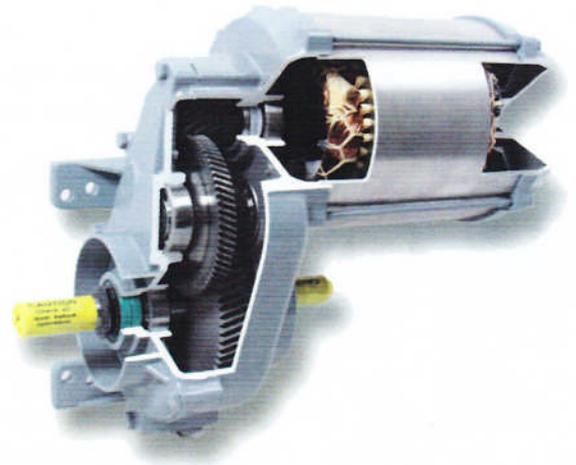
The gearboxes are tested to work in the hardest conditions assuring a high performance.

EASY MAINTENANCE:

Rotator and stator can be replaced separately.

Aluminium motor cover:

Improving the motor refrigeration.



HIGH SPEED MOTOR OPTION

- 86rpm at 60 HZ; 1½ HP.
 - 72rpm at 50 HZ; 1½ HP.
- Reduced the rotation speed by 50%.

MEDIUM SPEED MOTOR OPTION

- 57rpm at 60 HZ.
 - 47rpm at 50HZ.
- Reduces the rotation speed by 25%.

HEAVY DURTY WORM WHEEL GEARBOX

The sealed wheel gearbox develops an important torque force, resulting in a major resistance and durability on even the most difficult and uneven soils.

- The shaft size of 2-¼" offers high resistance
 - The inner expansion chamber avoids condensation.
- The oversized bearing increase the life span of the unit.



MAIN PANEL

The electronic main panel is designed to work in the most severe climatic conditions, but also easy to use.

MAIN PANEL OPTIONS

- The metal enclosure is water and humidity proof.
- The panel has an LED screen to make the start and the control of the unit easy.
- The standard control panel includes a low pressure stopping device and lightning protection.



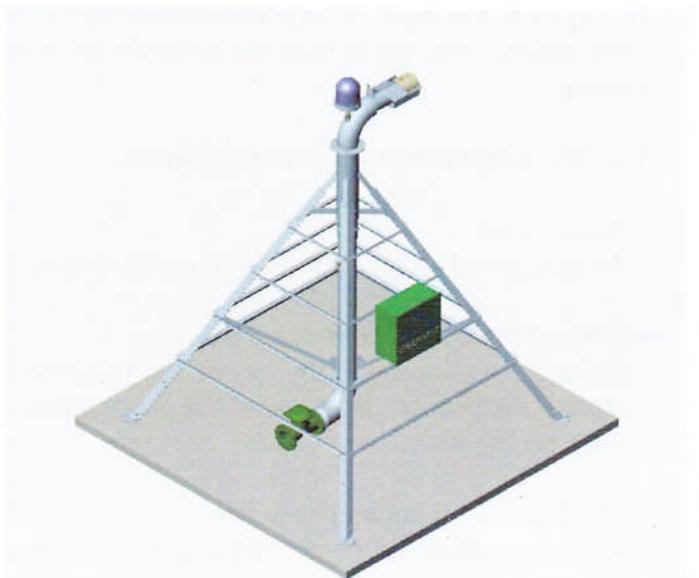
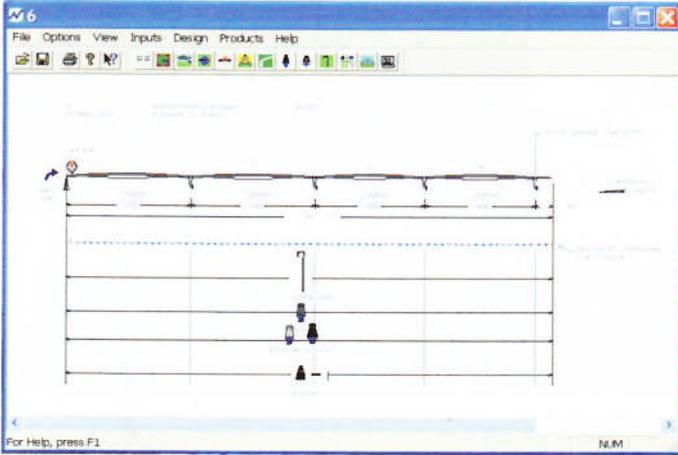
URA-POCKET SYSTEM

The system has been designed to control and supervise the centre pivot through PDA (pocket pc). We deliver the software for easy installation in PC, PDA or similar.

The new panel offers you , three options:

- **Basic Panel:**
All options of an electronic panel, but on a LCD touch screen.
- **Without PDA. With collector control.**
All basic operations of the previous electronic panel, but in addition showing on the panel display the present position of the programme, permitting you to stop at any place on the field.
- **With PDA. With collector control:**
All the previous but permitting to programme any move on PDA. This automatic device permits supervising the pivot on PDA screen permanently from the distance, to control its position on the field and to see it's programmed action at every moment.





WE MAKE SURE YOUR MACHINES ARE ALWAYS IN OPTIMUM WORKING CONDITIONS

The designing of adequate irrigation applying equipment is the last step to make sure your machine is in optimum working condition. The engineering department of Wright Rain analyse the soil, topography and crop of the field to offer you the most suitable irrigation equipment.



Wright Rain

DEALER: SUPPORT AND SERVICE

PIVOT-MASTER
Rain Maker

Your dealer, your most reliable partner

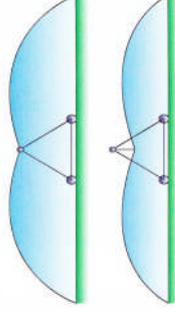
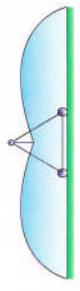
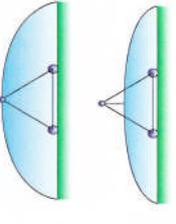
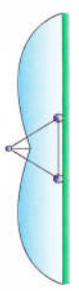
Your Pivot-Master dealer is at your disposal before, during and after the study of your irrigation project. His commitment is to keep your system in adequate maintenance and working conditions regardless of the model.

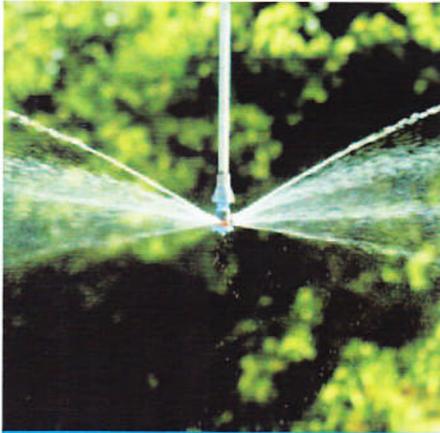
Range of Services:

- Immediate availability of Pivot-Master spare parts. Your dealer supplies you, with the Pivot_master System, high quality spares necessary to maintain your system in excellent working conditions along the life of your machine.
- Service when you need it. Starting with the initial presale planning of the system, up to the maintenance service and emergency repairs on the field, the certified Pivot-Master technician is always at your disposal to keep your system in good working conditions.
- Customer's Guarantee: When purchasing a Pivot-Master system, you receive not only the equipment. You also receive professional knowledge and field demonstrations which keep you up to date on irrigation methods and maintenance technology.
- Certified Support
Your Pivot-Master dealer is an expert irrigation professional and has passed severe capacity tests to obtain his certificate.



PIVOT-MASTER

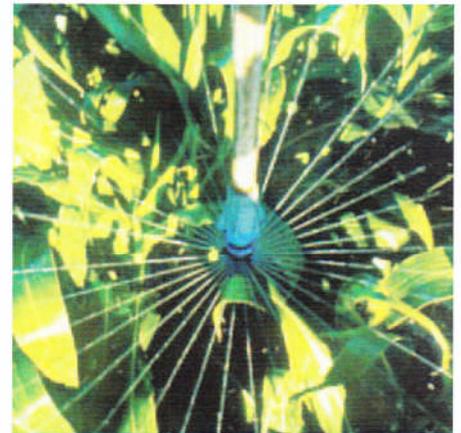
3000 Series		DESCRIPTION	KIND OF NOZZLE	OPERATION RATE	Application rate	Mounting	Relative throw diameter
R	R3000	 <p>The R3000 Rotator features the greatest throw distance available on drop tubes. The wide water pattern from rotating streams equates to lower average application rates, longer soak time and reduced runoff. More overlap from adjacent sprinklers improves uniformity</p>	3TN	15-50 PSI (1-3,4 bar)	LOW	Up top or on drops	 50-74' (15,2-22,6m)
N	N3000	 <p>The S3000 Spinner utilizes a freespinning action to produce a gentle, rain-like water pattern. Designed for more sensitive crops and soils, low instantaneous application rates and reduced droplet kinetic energy help maintain proper soil structure.</p>	3TN	10-15 PSI (0,7-1 bar)	LOW - MEDIUM	On drops	 44-52' (13,4-15,9m)
D	D3000	 <p>The D3000 Sprayhead is a fixed spray designed with future needs in mind. As irrigation requirements change throughout the season, the D3000 features a flip-over cap to change spray patterns. The D3000 is easily convertible to LEPA or other 3000 Series sprinklers. CAN BE ADAPTED TO CONVERT IT TO LEPA.</p>	3TN	6-40 PSI (0,41-2,8 bar)	HIGH	Up top or on drops	 16-40' (4,9-12,2m)
T	T3000	 <p>Developed for the land application of wastewater, the T3000 Trashbuster features an open-architecture body design to pass debris more easily. Available with the 3000 FC, a plugresistant, flow compensating sprinkler package can simplify maintenance.</p>	3TN or 3000 FC	Depends on the sprinkler	LOW - HIGH	Up top or on drops	 Depends on sprinkler



ROTATOR



NUTATOR



SPRAY



TRASHBUSTER



DROPS & NOZZLES



LEPA

PRESSURE REGULATORS

The pressure regulators assure equal water distribution from the centre to the last tower. Available from 0,4 to 3,5kg/cm² (10 to 50 psi) to cover every need. The pressure regulators are precision manufactured and feature a patented dampening system, improved plug resistance with a patented single strut design and extended range.



DROPS

The use of drops is always recommended to minimise the loss of water due to evaporation or wind.

The length of the drop can vary from just under the truss rod down to 50cm over the ground.

At present we offer two different drop models:

- Drops made in polyethylene.
- Drops made in reinforced rubber (can be rolled up)



END GUNS/BOOSTER PUMPS

The use of an end gun increases the irrigated area. A booster pump can be installed if more power is required. Due to its double arm and scoop SR Cannon advances as slowly as it returns, thus reducing considerably the vibration and jerk of the former quick return system, which caused tension and excessive load on the structure.



P85AS

20 GPM-125 GPM
(4,5 m³/h-28,4 m³/h)

SR75

30 GPM-160 GPM
(6,8 m³/h-36,3 m³/h)



SR100

50 GPM-300 GPM
(11,4 m³/h-68,2 m³/h)



PIVOT-MASTER LATERAL SYSTEMS

Lateral move systems are designed to irrigate rectangular lands due to their lateral move. There are three kinds of lateral systems.

DITCH-FED LATERAL PIVOT-MASTER

The ditch-fed lateral system is an efficient solution when irrigating mainly flat areas.

The channel is normally located along the centre of the field or on the edge. The water is pumped into the system through a travelling weir, or a self-cleaning rotating or floating inlets.

Use of a 4 wheel cart. Main pipe available in 4- 1/2" and 6-5/8" diameter.



HOSE-FED LATERAL PIVOT-MASTER

The ditch fed lateral Pivot-MASTER system is the ideal solution to irrigate the maximum area on slopes or when the soil conditions do not permit the use of a channel. Use of a 2 or 4 wheel cart, depending on the size and length of the hose.

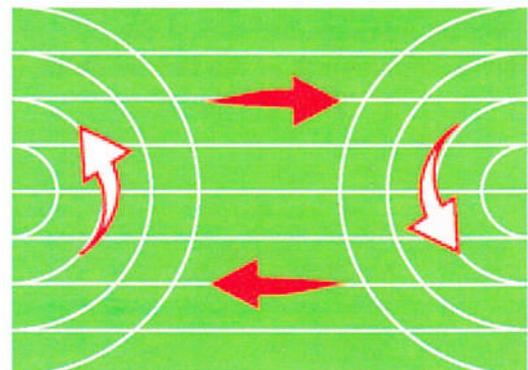
Guidance systems available for hose and ditch fed:

1. Above ground cable line.
2. Furrow guidance system
3. Quill feelers.

PIVOTING LATERAL PIVOT-MASTER

This system in addition to move like a standard lateral model; it can cover the double width when compared to the former lateral model as it can turn 180° when reaching the end of the field.

The pivoting lateral system cart, can be controlled through the guidance system of the hose-fed unit.





Wright Rain



PIVOT-MASTER Rain Maker

MOBILE SYSTEM PIVOT-MASTER

This system is designed to irrigate several areas with only one machine. To move the unit from one field to the other; the gearboxes of each tower are turned 90°.

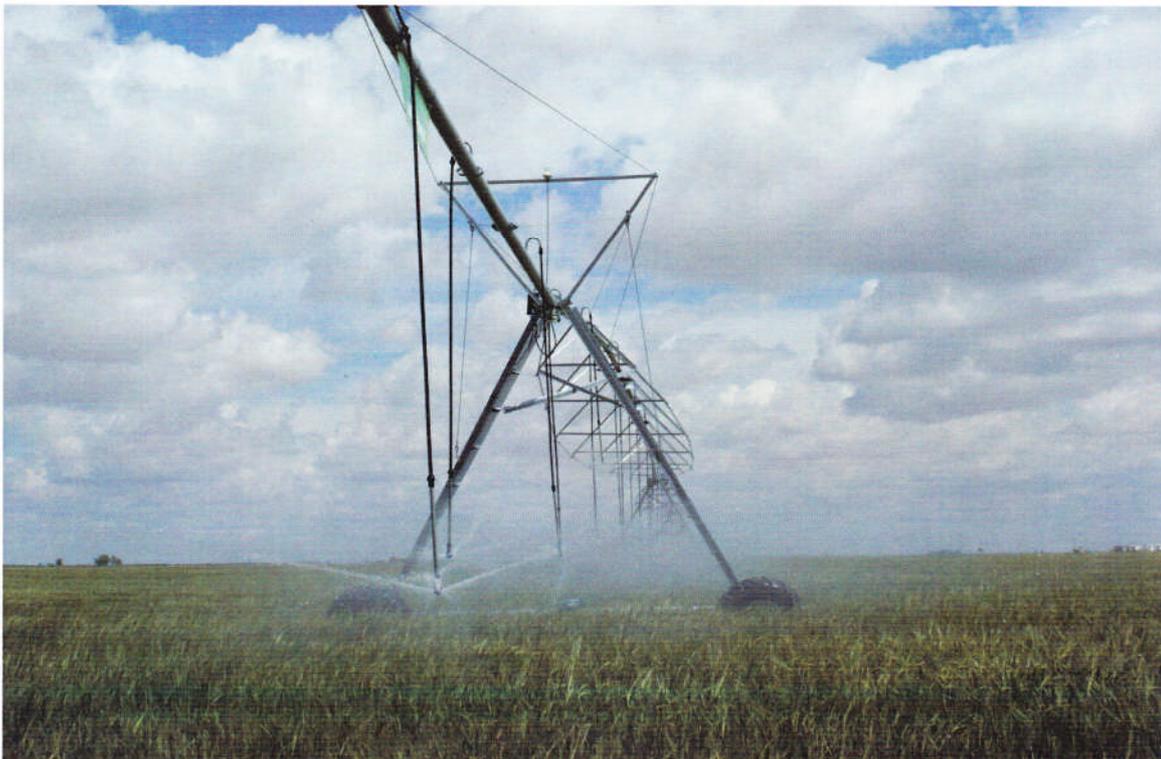
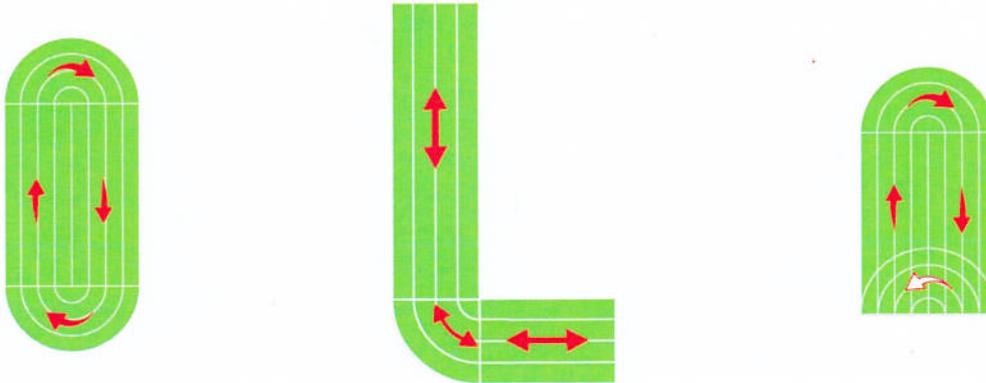
This system is available for diameters 4-1/2" and 6-5/8". There are 2 types:

1. 2 wheels solution (see picture; under 200m)
2. 4 wheels solution: up to 10 towers or 400m.

PIVOT-MASTER HIPPODROME

The hippodrome Pivot-Master is designed to automatically irrigate fields of irregular shapes such as squares, rectangles, trapezium-shaped, etc.

In other words, the system adapts to fields of any shape. The centre of the system is mounted on a cart with 4 robust wheels, leading the water to the intake and bend.





Wright Rain


PIVOT-MASTER
Rain Maker

THE SOLUTION TO IRRIGATE SMALL AREAS (1-30 ha)

ADVANTAGES OF WRA4 SYSTEM

1. Compatible with a wide range of crops.
Carrot, onion, rice, wheat, alfa-alfa, beetroot, corn, sugar cane etc.
2. Different height options from 2,2m to 4, 11m over the ground.
3. Minimal energy consumption.
4. Easy handling and automatic controls.
5. Minimal working pressure required (0,7-1 bar).
6. Adapts to any kind of soil, this system is available with all movements explained under chapter "special systems".




PIVOT-MASTER