



2014 BTME



Golf Irrigation



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Introducing the future of Golf course sprinklers...
推出高尔夫球场未来喷头...

The INFINITY™ Series
with SMART ACCESS™

INFINITY™ 系列
帶 SMART ACCESS™

Exclusively from
独家产品来自



INFINITY™ Series w/ SMART ACCESS™



SMART ACCESS™ compartment 隔间

- **Protective enclosure for internal components**
对内部组件进行保护
- **Eliminates buried wire splices and ground faults**
防水接头无需地埋，意外接地可能性减小
- **Prevents grass growth in selector area**
防止草茎侵入压力调节机构
- **Minimizes exposure to soil and moisture**
隔离了土壤和潮气
- **Provides pilot valve drainage 12.5 cm below grade**
控制阀的水从12.5厘米下方流出
- **Provides protection against frost heave damage**
减少霜冻破坏
- **Provides cover pry notch**
预留开口方便打开顶盖
- **Provides protection for the wire service loop**
预留的线圈得到保护
- ***And whatever the future holds, this head is ready!***
无论将来有什么，INFINITY 已经准备好了!

INFINITY™ Series w/ SMART ACCESS™



Unique Features 独家性能

- **All components accessible from the top**
所有组件顶部维护
- **No digging or unsightly turf repair scars**
无需挖掘或是难看的草坪伤痕
- **No buried wire splices or ground faults**
接头无需地埋或是存在接地隐患
- **Pilot valve removable with water "ON"**
控制阀门维护而无需关闭隔离阀门
- **Customizable marker**
定制码标
- **Replaceable cover**
可更换的顶盖
- **Increased labor efficiency**
提升的工作效率
- **Improved course conditions**
提升高尔夫条件
- **Lower long term cost of ownership**
更低的长期拥有成本



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Looks can be a bit deceiving...
看起具有一些欺骗性...



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Same body height
同样的壳体高度



40mm



25mm





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Same diameter as 40mm

Same compartment and cover on 25mm and 40mm models

40mm 壳体顶面尺寸一样

25mm和40mm 壳体尺寸一样





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Five Activation Types 5项可选配

- 1 - Standard solenoid (DT)
标准电磁线圈 (DT)
- 2 - Spike Guard solenoid (800S)
Spike Guard 2万伏防雷线圈 (800S)
- 3 - Nickel plated Spike Guard solenoid (N)
镀镍型Spike Guard 2万伏防雷线圈 (N)
- 4 - DC Latching solenoid (DL)
直流闭锁线圈 (DL)
- 5 - Integrated GDC module w/ DCL (I)
集成GDC 模块带直流闭锁线圈 (I)



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Six Base Models 6个基本款

- INF34 25mm Full circle, Dual trajectory
INF34 25mm 全圆, 双仰角
- INF35 25mm Part circle; Dual trajectory
INF35 25mm 可调, 双仰角
- INF35 25mm Part circle; 24 pos. Tru-Jectory
INF35 25mm 可调, 24 仰角
- INF54 40mm Full circle, Dual trajectory
INF54 40mm 全圆, 双仰角
- INF55 40mm Part circle, Dual trajectory
INF55 40mm 可调, 双仰角
- INF55 40mm Part circle, 24 pos. Tru-Jectory
INF55 40mm 可调, 24 仰角



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Part circles with two trajectory options

- Dual trajectory – 2 positions (standard)
- TruJectory – 24 position

可调喷头关于主喷嘴的仰角选项

- 双仰角 – 2 个位置(标准)
- 多个仰角 – 24 个位置



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- **ACME threads only**
仅ACME 螺纹
- **Ratcheting riser on all part circle models**
所有可调喷头都配有棘齿轮功能
- **Effluent models available**
提供污水型号



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Nozzle Performance 喷嘴性能

- Full circle models same as DT34/834S and DT54/854S
全圆型号与 DT34 和DT54一致
- Part circle models with dual trajectory same as DT35/DT55
角度可调带双仰角与DT35/DT55一致
- Part circle models with 24 position Tru-jjectory same as 835S/855S
带24个仰角的喷嘴性能和835S/855S一致



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SMART ACCESS™ cover

SMART ACCESS™ 顶盖

- Removable to access components
可快速拆除
- Replaceable if damaged
如损坏可以更换
- Provides operational warnings
提供操作警告
- Provides marker access
可刻编码





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Marker Alignment

码标放置

Aligned down the fairway

与球道垂直

Cart
path
球车
道

与球车道平行

Aligned from the cart path





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Marker Options

码标选项

- Marker supplied can be engraved and painted by supplier of choice

预置的码标可以雕刻，也可以印刷

- Premium marker can be ordered from Toro with laser engraved graphics and markings. Durability field testing now, details to follow

高级码标可以从Toro 订购，只需要提供图像和码标数值。正在进行场地测试，会提供更多的细节





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Body, 40mm and 25mm models 壳体，40毫米，25毫米型号

Continuous stainless steel communication tube

- **Eliminates body drilling**
无需对壳体钻孔
- **Eliminates fitting installation**
减少了连接件
- **Eliminates external tubing and potential damage**
减少外露的信号管和可能的伤害
- **Eliminates tube retainer**
无需信号管固定装置
- **Eliminates potential debris contamination**
减少潜在的异物损伤



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INFINITY™ Series w/ SMART ACCESS™



Body, 40mm and 25mm models 壳体

40mm 和 25mm 型号壳体

Same Great Features as the 800S/DT Series

与 800S/DT 系列具有相同的特征

- **Accepts existing conversion assemblies**
匹配现有的转换总成
- **Accepts existing valve assembly**
匹配现有的阀门
- **Accepts existing snap rings**
匹配现有的卡环
- **Accepts existing rock screen**
匹配现有的砂石滤网
- **Stainless steel valve seat**
不锈钢阀座
- **Body debris traps**
壳体杂物收集



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Access from the top 顶部维护

- **Remove single screw
单颗螺丝**
- **Use pry notch to remove cover
空隙便于移除顶盖**





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Remove the marker
可移除的码标





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Two accessory kits; Satellite or GDC systems
两套组件; 分控箱或是GDC

- **Satellite system kit includes**
分控箱系统组件
 - **2 UL approved wire splice kits**
2 UL 认证的防水接头
 - **2 additional cover screws**
2 额外的顶盖螺丝
- **GDC system kit includes**
GDC 系统组件包括
 - **2 UL approved wire splice kits**
2 UL 认可的防水接头组件
 - **2 additional cover screws**
2 额外的顶盖螺丝
 - **2 additional address labels**
2 额外的地址标签





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Wiring接头



- **No buried wire splices; no ground faults**
无需地埋，没有接地隐患
- **Space provided for two supplied splices**
提供两只防水接头
- **Space provided for two GDC cable connections**
GDC 线缆接线空间
- **Space provided for satellite field wiring**
分控箱接地空间
- **Spare screw in compartment**
额外的螺丝



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GDC module removal GDC 模块可移除

- No retention mechanism needed
没有保持机构
- Pull module up and out of compartment channels
沿滑轨提升

GDC module installation GDC 模块安装

- Align module with compartment channels and slide into place
对其滑轨装入

Address label installed on GDC module

GDC 模块上贴有地址编码



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Pilot valve removal with water ON!

控制阀移除时无需关闭闸阀!

- **Single screw retention**
单个螺丝固定
- **Removable under pressure**
在压力下可拆除
- **Pilot valve moves up as screw is loosened**
螺丝松开，控制阀弹起
- **CHECK FLOW™ check ball seats preventing valve operation**
止溢阀球升起防止喷头弹起
- **Minimal force required to remove**
很小的力量就可以移除
- **Solenoid removal**
可移除螺线圈
- **Pressure adjustment**
压力调节



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Activation with pilot valve removed

在控制阀拆除的情况下对喷头进行测试

- Using allen tool push check ball down
用T字杆压下止溢阀球
- Sprinkler will operate and water will flow out the pressure regulation port in the body.
喷头将弹起，控制水将流入壳体下方。



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Activation with pilot valve removed

在控制阀拆除的情况下对喷头进行测试

- Remove solenoid from pilot valve and re-insert by hand

从控制导阀上移除螺线圈并且用手插入

- Sprinkler will operate and water will flow out the solenoid area of the pilot valve.

喷头将工作，并且水从螺线圈区域留出



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Pilot valve Installation

控制导阀安装

- Align pilot valve housing with compartment channels
对其滑轨
- Place screw through pilot valve housing and into post
插入螺丝
- Thread screw in forcing p.v. down
旋紧螺丝
- CHECK FLOW™ check ball is unseated reconnecting water from valve
止溢阀球下移，水流接通
- Minimal force required to install
很小的力量就可以安装
- NO time wasted turning off laterals!
无需浪费时间去关闭支管阀



TORO

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INFINITY™ Series w/ SMART ACCESS™



INF = INFINITY™ Series

INF^{ab-cde-f(g)(h)}

a

3 = 25mm; 5 = 40mm

3 = 25mm; 5 = 40mm

b

4 = Full circle; 5 = Part/Full circle

4 = 全圆; 5 = 可调

-

c

3 = 25mm nozzle set; 5 = 40mm nozzle set

3 = 25mm 喷嘴组; 5 = 40mm 喷嘴组

d

0-7 nozzles, 25mm; 1-9 nozzles, 40mm

1 = 0-7 喷嘴, 25mm; 1-9 喷嘴, 40mm

e

Pressure setting; 5=3.4; 6=4.5; 8=5.5; 1=6.9

6 = 压力设置; 5=3,4; 6=4,5; 8=5,5; 1=6,9 bar

-

f

= Activation type, 1-5

1 = 控制方式, 1-5

g

6 = TruJectory (*optional*)

6 = 24个仰角

h

7 = Effluent (*optional*)

7 = 污水



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- **Conversion assemblies available**
可以提供噴芯总成
- **Riser-less bodies available**
可提供不帶噴芯的壳体



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INFINITY™ Series w/ SMART ACCESS™



Full Circle Conversions with dual trajectory

- INF34-3134 25mm FC w/ 31-34 nozzles
- INF34-3537 25mm FC w/ 35-37 nozzles
- INF54-5154 40mm FC w/ 51-54 nozzles
- INF54-5558 40mm FC w/ 55-58 nozzles
- INF54-59 40mm FC w/ 59 nozzle
- Add "E" to the end for effluent models

全圆喷芯总成带双仰角

- INF34-3134 25mm FC 带 31-34 喷嘴
- INF34-3537 25mm FC 带 35-37 喷嘴
- INF54-5154 40mm FC 带 51-54 喷嘴
- INF54-5558 40mm FC 带 55-58 喷嘴
- INF54-59 40mm FC 带 59 喷嘴
- 尾部加 "E" 适用于污水型



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INFINITY™ Series w/ SMART ACCESS™



Part Circle Conversions with dual trajectory

- INF35-3134 25mm PC w/ 31-34 nozzles
- INF35-3537 25mm PC w/ 35-37 nozzles
- INF55-5154 40mm PC w/ 51-54 nozzles
- INF55-5558 40mm PC w/ 55-58 nozzles
- INF55-59 40mm PC w/ 59 nozzle
- Add "E" to the end for effluent models

可调喷芯总成带双仰角

- INF35-3134 25mm PC 带 31-34 喷嘴
- INF35-3537 25mm PC 带 35-37 喷嘴
- INF55-5154 40mm PC 带 51-54 喷嘴
- INF55-5558 40mm PC 带 55-58 喷嘴
- INF55-59 40mm PC 带 59 喷嘴
- 尾部加 "E" 适用于污水型



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INFINITY™ Series w/ SMART ACCESS™



Part Circle Conversions with Tru-Jectory

- INF35-3134-6 25mm PC w/ 31-34 nozzles
- INF35-3537-6 25mm PC w/ 35-37 nozzles
- INF55-5154-6 40mm PC w/ 51-54 nozzles
- INF55-5558-6 40mm PC w/ 55-58 nozzles
- INF55-59-6 40mm PC w/ 59 nozzle
- Add "E" to the end for effluent models

可调喷芯总成带24个仰角

- INF35-3134-6 25mm PC 带 31-34 喷嘴
- INF35-3537-6 25mm PC 带 35-37 喷嘴
- INF55-5154-6 40mm PC 带 51-54 喷嘴
- INF55-5558-6 40mm PC 带 55-58 喷嘴
- INF55-59-6 40mm PC 带 59 喷嘴
- 尾部加 "E" 适用于污水型



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Riser-less bodies

- INF30-1 25mm body assy. w/ Standard solenoid
- INF30-2 25mm body assy. w/ SPIKE GUARD solenoid
- INF30-3 25mm body assy. w/ Nickel SG solenoid
- INF30-4 25mm body assy. w/ DC latching solenoid
- INF30-5 25mm body assy. w/ DC latching solenoid
- INF50-1 40mm body assy. w/ Standard solenoid
- INF50-2 40mm body assy. w/ SPIKE GUARD solenoid
- INF50-3 40mm body assy. w/ Nickel SG solenoid
- INF50-4 40mm body assy. w/ DC latching solenoid
- INF50-5 40mm body assy. w/ DC latching solenoid

不带喷芯的壳体

- INF30-1 25mm壳体总成带标准线圈
- INF30-2 25mm壳体总成带SPIKE GUARD线圈
- INF30-3 25mm壳体总成带SPIKE GUARD镀镍线圈
- INF30-4 25mm壳体总成带直流闭锁线圈
- INF30-5 25mm壳体总成带直流闭锁线圈
- INF50-1 40mm壳体总成带SPIKE GUARD线圈
- INF50-2 40mm壳体总成带标准线圈
- INF50-3 40mm壳体总成带SPIKE GUARD镀镍线圈
- INF50-4 40mm壳体总成带直流闭锁线圈
- INF50-5 40mm壳体总成带直流闭锁线圈



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A Few Notable Installations 著名项目

- Racine CC – Wisconsin
- Big Canyon GC – California
- Mission Hills CC – California
- Maidstone Club – New York
- Merion GC – Pennsylvania
- Augusta National GC – Georgia

- Olde Hickory CC – Florida
- Riverdale GC – Colorado
- Hyland Hills GC – Colorado



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INFINITY™ Series w/ SMART ACCESS™

Original Model Developed in 2004

200 units field tested for ~9 years

**原型在2004年就开发出来
历经 9 年 200个样品的场地测试**

Field Test Sites测试球场

Toro Headquarters; Minneapolis, MN

Toro Irrigation Division; Riverside, CA

Caves Valley CC, Owings Mill, MD

Ptarmigan CC, Windsor, CO

North shore CC, Chicago, IL

Toledo CC, Toledo, OH

**Original
原型**

**Today
现在**



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INFINITY™ Series w/ SMART ACCESS™

With all the same great features of the 800S and DT Series!
拥有800S和DT 同样出色的性能

Feature 特性

TruJectory – 24 position adjustment from 7°- 30°	24个仰角调节
Dual trajectory – 15° or 25°	双仰角 15度或25度
Ratcheting riser	棘齿轮弹伸体
Nozzle base clutching	喷嘴底座离合
Stainless steel valve seat	不锈钢阀座
Spike Guard solenoid – low watt, high surge	Spike Guard 螺线圈-低功耗，高防雷
Nickel plated Spike Guard solenoid	镀镍 Spike Guard



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INFINITY™ Series w/ SMART ACCESS™

Feature 特性

Industries largest nozzle selection	业界中最多的喷嘴选择
Main nozzle adapter for short radius applications	主喷嘴适配器缩短喷嘴射程
Back nozzle positions standard	标配后喷嘴
Radius reduction screw capable	半径缩减功能
Nozzles threaded in from the front	螺纹结构的喷嘴可从前端卸下
Part and true full circle drive	弧度可调和全圆转子
Shortest end of arc dwell time	短暂边界停留时间



INFINITY™ Series w/ SMART ACCESS™

New Features!!! 新特性

SMART ACCESS™

Marker provided for engraving and painting 码标可以雕刻或是印刷

Laser engraveable marker available 镭射可以提供

Pilot valve serviceable without turning off the water 无需关闭闸阀就可以维修控制阀

Manual operation with pilot valve removed 控制阀移除后可以手动启动喷头

CHECKFLOW™ 止溢阀

New Features!!! 新特性

Continuous Stainless Steel Communications tube 耐久不锈钢信号管

No external tubing 无外露的信号管

Wire splices top accessible 接头顶部维护

Replaceable cover 顶盖可以更换

Future expandability without digging 外来扩展无需挖掘

Field wiring protection 12.5 cm below grade 接头被保护在草面12.5cm 以下

Frost heave protection 冻胀保护



INFINITY™ Series w/ SMART ACCESS™

DT, 800S and INFINITY™ Strategy DT 800S 和 INFINITY 销售策略

With the introduction of the INFINITY™ Series we will continue to offer the DT and 800S and will implement the “Best” strategy as they compare to our competition:

随着 INFINITY 系列的上市，我们将继续提供 DT 和 800S，并执行我们最佳的销售策略

DT = Better than Rain Bird Eagle

800S = Better than DT

INFINITY = Better than anything else in the industry

DT = 比 Eagle 更优秀

800S = 比 DT 更优秀

INFINITY = 比行业中的任何一款产品都更加优秀





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INFINITY™ Series w/ SMART ACCESS™

Sales tools being worked on 销售材料

Toro.com 网站

Sell sheet 销售单页

Testimonials 推荐

Launch video 上市视频

Design details 设计细节

Parts breakouts 零件手册

You Tube videos 视频

Bidding Specifications 投标规格

Installation instructions 安装说明





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INFINITY™ Series w/ SMART ACCESS™

and what does the future hold?

...the possibilities are infinite!

将来未来里面会装入什么?

...可能无限!

The INFINITY™ Series

with SMART ACCESS™

INFINITY™ 系列

带 SMART ACCESS™

Exclusively from

独家产品来自





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INFINITY™ Series w/ SMART ACCESS™





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INFINITY™ Series w/ SMART ACCESS™

Thanks!

谢谢!