Twist & Dry®

Twist & Dry Component System

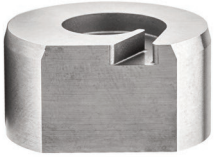
The Twist & Dry® series of nozzles was designed and developed for the spray drying industry, with the dryer operator specifically in mind. The patented locking system locks the swirl and orifice components into place prior to installation on the spray lance, eliminating many of the hassles associated with replacing wear parts and allowing for easier installs. Through continuous development and innovation, BETE offers solutions for high pressure, high temperature, and abrasive media applications.

DESIGN FEATURES

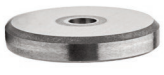
- Product consistency
- Premium tungsten carbide disc available for extended wear life
- Hand tighten - no special tools required for assembly
- Easy to maintain
- Clog-resistant design
- 218SS body for anti-galling

SPRAY SET-UPS

The spray angle and flow rate of a Twist and Dry assembly is determined by the swirl and orifice combination. The Twist & Dry series has almost 1,000 different combinations of swirl and orifice discs to provide flow rates and spray angles that best to fit your needs. To locate the right swirl and orifice combination refer to the following TD/TD-K and TDL pages.



TD swirl disc



TD orifice disc

TD Series

The original TD series features BETE's innovative and patented locking lug feature, single piece thick swirl component, clog-resistant design, and multiple carrier options to provide ease of installation, operation, and maintenance.

- BETE's patented lug design
- Clog-resistant design

TDL Series

The TDL series offers a compact nozzle design that is ideal for small-scale applications and pilot testing.

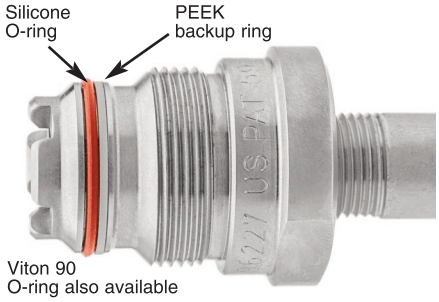
- BETE's patented lug design
- Small-scale applications
- Pilot testing

TDL Assembly

TD-K High Pressure Design

The TD-K series incorporates a PEEK back-up ring and optional Duplex carrier to allow for operation in high-pressure applications. Higher operating pressures can help increase yield, saving time and money. The TD series includes:

- TD-7K: rated for 485 bar
- TD-10K: rated for 690 bar



Side View: TD-K body with PEEK backup ring

Tungsten Carbide Options	
Pro Grade	Suitable for most general spray drying applications
Premium Grade	Superior wear resistance for extremely abrasive spray media

High Temperature (HT) Design

The HT set-up utilizes a special body design and carrier #7 to replace the traditional O-ring seals with metal gaskets, allowing for operation at high temperatures.

- HT rated for 485 bar at 427 °C
- No O-rings

HT Assembly

TD/TD-K Drip Pro Check Valve

The TD Drip Pro check valve's patented design offers a high-flow solution to reduce drips which can lead to scorched particles and ruined product.

- Fits standard BETE carriers
- Replaces standard TD/TD-K bodies (except HT set-up)
- Drip-free operation
- Easy to assemble

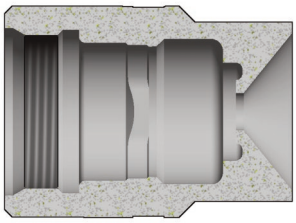
Drip Pro Check Valve

Same day shipping for wear parts!

SPECIAL PURPOSE

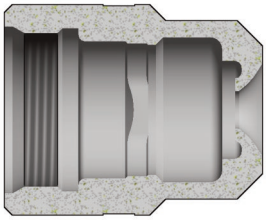
TO ORDER: specify pipe size, connection type, nozzle number, and material. **413-772-0846**

Talk to one of our engineers; we're here to help you find the right solution for your application.
413-772-0846



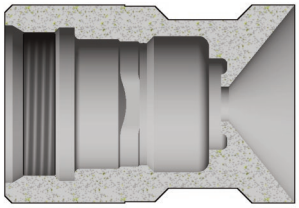
Durable Beard-Deterring

Carrier 1 (CI1) (shown)
Carrier 11 (CI11) - without lug



Standard Carrier

Carrier 2 (CI2) (shown)
Carrier 5 (CI5) - without lug



Knife Edge Anti-Bearding

Carrier 10 (CI10) (shown)
Carrier 12 (CI12) - without lug

To Order: Spray Set-up Number

¼ TD 2 - 025 - CI1 - 7K – 45 – CVB – B

pipe size
add **xx-BW** if Butt Weld
(include pipe schedule where xx)

series

swirl number

orifice

carrier style
omit for standard carrier (model #2)
or if using HT set-up (HT body and carrier #7)

pressure
omit for TD/TDL or if using HT set-up (HT body and carrier #7)
7K see Material Selection Guide
includes PEEK backup ring
10K see Material Selection Guide
includes PEEK backup ring and Duplex 2205 carrier material

temperature
omit if temperature is less than or equal to 400 °F (204 °C)
45 if temperature is greater than 400 °F (204 °C)
and less than or equal to 450 °F (232 °C);
includes Silicone O-ring and PTFE CV seal if applicable
HT if temperature is greater than 450 °F (232 °C)
and less than or equal to 800 °F (427 °C);
max pressure 7000 psi (485 bar)

check valve
omit if no check valve is needed
or using HT body
CVB for 30 psi (2 bar) cracking pressure
CVC for 75 psi (5 bar) cracking pressure

connection type
omit if NPT or Butt Weld
B if BSP

Twist & Dry Material Selection Guide

Pressure		Temperature			
psi	bar	up to 302 °F (150 °C)	up to 400 °F (204 °C)	up to 450 °F (232 °C)	up to 800 °F (427 °C)
10,000	690	**10K Set-up** Viton O-ring w/ PEEK Backup Ring Carrier in Duplex 2205	**10K Set-up** Viton O-ring w/ PEEK Backup Ring Carrier in Duplex 2205	**10K Set-up** Silicone O-ring w/ PEEK Backup Ring Carrier in Duplex 2205	
7,000	485	**7K Set-up** Viton O-ring w/ PEEK Backup Ring	**7K Set-up** Viton O-ring w/ PEEK Backup Ring	**7K Set-up** Silicone O-ring w/ PEEK Backup Ring	**HT Set-up** Metal Gaskets High Temperature Body Carrier #7
5,000	345	**TD/TDL Set-up** Viton O-ring			
3,500	240		**TD/TDL Set-up** Viton O-ring		
800	55			**TD/TDL Set-up** Silicone O-ring	

SPECIAL PURPOSE

CALL 413-772-0846
Call for the name of your nearest BETE representative.