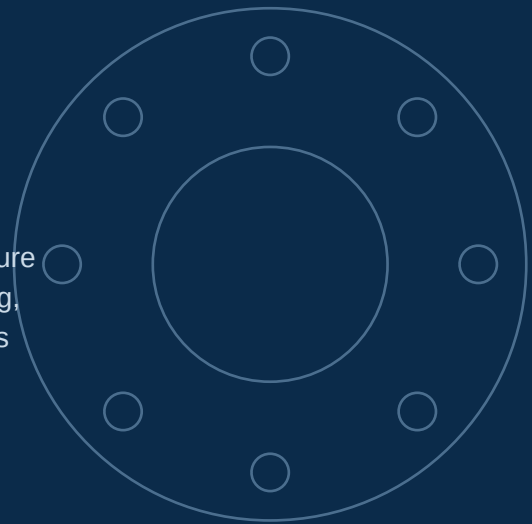


PRODUCT FAMILY BROCHURE

Nozzles

Two distinct nozzle lines: ASME vessel connections for pressure equipment, and engineered spray nozzles for cooling, washing, coating and process injection. Each line is specified against its own standards and application criteria.



DOCUMENT
Family brochure

FAMILY	Nozzles
PRODUCT TYPES	15
RANGE PAGES	3
REVISION	Rev. 04
ISSUED	15 September 2026

Nozzles

Vessel penetrations and precision spray nozzles for process and utility duty.

Two distinct nozzle lines: ASME vessel connections for pressure equipment, and engineered spray nozzles for cooling, washing, coating and process injection. Each line is specified against its own standards and application criteria.

RANGE PAGES

ITEM	VALUE
Vessel Nozzles	ASME pressure-vessel penetrations for inlet, outlet, instrument, manway and cleanout service.
Spray Nozzles — Spray Patterns	Hollow cone, full cone, flat fan and spiral anti-clogging nozzles for controlled fluid distribution.
Spray Nozzles — Applications	Fine mist, tank cleaning and air atomizing nozzles for cooling, washing and process injection.

STANDARDS

- ASME Section VIII Div. 1
- ASME B16.5
- ASTM A106 / A182
- ASME B16.20
- ASTM A516 / A105
- ASTM A234 / A182
- ASME B1.20.1
- ASTM A312 / A182

MATERIALS

ASTM A106-B · ASTM A182 F304L · ASTM A182 F316L · ASTM A516-70 · ASTM A105 · ASTM A234 WPB · ASTM A312 TP304L · ASTM A312 TP316L · ASTM A312 TP316 · 316L stainless steel · Brass · PTFE · Carbide insert · Ceramic · Hardened alloy insert · Titanium · Carbide inserts · Carbide

Ordering and technical support

sales@belvantaglobal.com · +1 (713) 555-0140 · www.belvantaglobal.com

1200 Industrial Parkway, Houston, TX 77032, United States

Quotations are prepared against the released specification. Certified drawings are issued with the order.

PRODUCT TYPES

The family brochure is supported by type-level datasheets and range drawings.

Flush Nozzle

ASME Section VIII Div. 1

Flanged vessel connection with a bore flush to the internal shell surface.

- Bore flush with internal shell surface
 - Minimizes product hold-up and cleaning dead spots
 - Flanged, butt-weld or threaded connection
-

Manway Nozzle

ASME Section VIII Div. 1

Large-diameter access opening with cover, davit and sealing arrangement.

- Large-diameter access opening
 - Bolted, hinged or quick-access cover
 - Davit arm for cover handling
-

Pressure Vessel Nozzle

ASME Section VIII Div. 1

General-purpose flanged or welded penetration for pressure-vessel service.

- Reinforcement calculated to ASME VIII
 - Flanged, butt-weld or socket-weld connection
 - Available with thermal sleeves
-

Hillside Nozzle

ASME Section VIII Div. 1

Angled penetration for connections that must follow a shell contour or flow path.

- Angled penetration to suit shell geometry
 - Contoured saddle or pad for weld fit
 - Common 15°, 30°, 45° and 60° orientations
-

Instrument Nozzle

ASME Section VIII Div. 1

Small-bore connection for pressure, temperature and level instruments.

- Small-bore instrument connection
 - Threaded, flanged or socket-weld termination
 - Thermowell and coupling options
-

PRODUCT TYPES

The family brochure is supported by type-level datasheets and range drawings.

Self-Reinforced Nozzle

ASME Section VIII Div. 1

Heavy-wall nozzle that provides reinforcement without a separate pad.

- Reinforcement integral to the nozzle wall
 - No separate pad or saddle
 - Reduced weld length and inspection burden
-

Shell Connection Nozzle

ASME Section VIII Div. 1

Nozzle with an integral pad for shell connections in stainless and alloy equipment.

- Integral reinforcement pad
 - Contoured to the shell outside diameter
 - Reduced crevice risk in corrosive service
-

Tangential Nozzle

ASME Section VIII Div. 1

Nozzle oriented tangentially to the shell for swirl, mixing or separation duty.

- Tangential orientation for swirl and mixing
 - 15° and 30° entry angles available
 - Butt-weld or flanged termination
-

Hollow Cone Nozzle

ISO 9001 manufacturing

Ring-shaped spray pattern for cooling, washing and gas scrubbing.

- Ring-shaped spray pattern
 - Fine droplets with low impact
 - 1/8–1 in connections
-

Full Cone Nozzle

ISO 9001 manufacturing

Solid-cone spray for uniform coverage and higher impact.

- Solid-cone spray pattern
 - Uniform coverage with higher impact
 - Large free passage for clog resistance
-

PRODUCT TYPES

The family brochure is supported by type-level datasheets and range drawings.

Flat Fan Nozzle

ISO 9001 manufacturing

Fan-shaped spray for linear coverage, coating and washing.

- Fan-shaped pattern for linear coverage
 - 25°–110° spray angles
 - Uniform distribution across the fan
-

Spiral Anti-Clogging Nozzle

ISO 9001 manufacturing

Open spiral design that resists clogging in dirty or fibrous service.

- Open spiral flow path resists clogging
 - Large free passage
 - Uniform full-cone coverage
-

Fine Mist Nozzle

ISO 9001 manufacturing

Small-droplet nozzle for cooling, humidification and odour control.

- 20–100 micron droplet range
 - 316SS and titanium wetted parts
 - Low flow rates from 0.02 L/min
-

Tank Cleaning Nozzle

ISO 9001 manufacturing

Rotating or fixed spray head for vessel and tank interior cleaning.

- 360° coverage with rotating head
 - High-impact jet for residue removal
 - 316L and carbide construction
-

Air Atomizing Nozzle

ISO 9001 manufacturing

Compressed-air-assisted nozzle for fine atomization of viscous fluids.

- External or internal mixing
 - Fine atomization at low liquid pressure
 - Adjustable air and liquid flow
-

ORDERING AND DOCUMENTATION

Every order is confirmed against the released specification. The documentation package can include material certificates, dimensional inspection records, pressure test reports and NDE records. Project-specific drawings and certificates are issued against the order.

RANGE AT A GLANCE

PRODUCT TYPE	PRIMARY STANDARD	RANGE PAGE
Flush Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Manway Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Pressure Vessel Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Hillside Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Instrument Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Self-Reinforced Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Shell Connection Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Tangential Nozzle	ASME Section VIII Div. 1	Vessel Nozzles
Hollow Cone Nozzle	ISO 9001 manufacturing	Spray Nozzles — Spray Patterns
Full Cone Nozzle	ISO 9001 manufacturing	Spray Nozzles — Spray Patterns
Flat Fan Nozzle	ISO 9001 manufacturing	Spray Nozzles — Spray Patterns
Spiral Anti-Clogging Nozzle	ISO 9001 manufacturing	Spray Nozzles — Spray Patterns
Fine Mist Nozzle	ISO 9001 manufacturing	Spray Nozzles — Applications
Tank Cleaning Nozzle	ISO 9001 manufacturing	Spray Nozzles — Applications
Air Atomizing Nozzle	ISO 9001 manufacturing	Spray Nozzles — Applications

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