

Flange Spray Shields

Fabric and 316 stainless safety spray shields for flanges, valves and expansion joints • all flange sizes and ratings

A flanged joint in acid or caustic service is where a leak shows first. A spray shield catches the spray, turns it into a drip or carries it off through a drain, and buys maintenance the time to isolate the line. Drake Specialties shields fit every flange on a lined system and the valves, expansion joints and unions between them.

Fabric shields

Clear PTFE	PTFE-coated glass cloth with a clear FEP center strip for inspection; to 400 °F. Optional PTFE drain nipple. The usual choice on lined pipe in acid and caustic service.
Solid PTFE	Standard: reinforced PTFE-coated glass cloth, fire resistant. Premium: highest PTFE content, for extreme service; also as an economy single-ply. All to 450 °F, with a pH-indicating patch. 100 % woven PTFE, no glass cloth, to 500 °F.
Polypropylene	Solid woven polypropylene; to 200 °F. Indicating patch; a clear-center model is available. The fabric Drake's guide gives for hydrofluoric acid.
PVC	Reinforced multi-layer vinyl, safety orange (other colors to order); to 170 °F. Clear-center and all-clear models; color-changing leak patch.
Polyethylene	3-ply transparent polyethylene; to 170 °F. Leak-indicating patch.
Leak patch	Replaceable pH-indicating patch on solid-cloth shields: toward red for an acid leak, toward green for an alkali. Replace the patch and refit the shield.
Closure	Hook-and-loop and a draw cord; one person, no tools.



Clear PTFE flange shield: FEP window for inspection, PTFE drain nipple below.

Why a shield

- Contains a flange spray-out before it reaches anyone
- Drain nipple carries a caught leak to a safe place instead of leaving the flange in it
- Clear window or pH patch shows the leak without opening the shield
- Chemical, UV and weather resistant; PTFE fire resistant
- Reusable: replace the patch, refit the shield
- Helps meet OSHA, EPA and insurer expectations for flange protection in corrosive service

Source: Drake Specialties flange shield pages, drakespec.com, and fabric spray shield brochure, 2019 edition.

Chemical resistance guide • maximum shield temperature, °F

Medium	Polyethylene	PVC	Polypropylene	Clear PTFE	PTFE	316 stainless
Ammonia	170	170	200	200	450	500+
Ethylene dichloride	n/r	n/r	75	75	450	500+
Hydrochloric acid, to 35 %	140	140	200	400	450	500+
Hydrofluoric acid, to 85 %	75	75	200	n/r *	n/r *	500+
Nitric acid, to 30 %	150	150	150	300	450	500+
Oleum	n/r	n/r	n/r	75	450	500+
Sodium hydroxide, to 50 %	170	170	200	300	450	500+
Sulfuric acid, to 30 %	170	170	200	300	450	500+

Shield exposure limits, not a piping material guide; other media, send the chemical, concentration and temperature. n/r = not recommended. * HF attacks the glass cloth under the PTFE: use polypropylene or 316 stainless. Source: Drake Specialties fabric spray shield brochure, 2019 edition.

Flange Spray Shields

316 stainless shields, flange band protectors and ordering

316 stainless shields

Style I	Layered stainless netting absorbs and disperses the spray around the flange; lockable, adjustable quick-latch closure, no tools. Widths 2" and 2¾"; flanges only.
Style II	Wider shield with overlapping, slotted side edges that block lateral spray and spacer rods that break up the pressure; two hose clamps per shield, optional safety pin. For valves, fittings and custom fits.
Valve shields	Style II shields for ball, butterfly, plug and check valves and for gate and globe bonnets, with handle or handwheel operation kept. Optional drain nipple for drain, vent and spill-recovery connection; optional anti-spray screen and gasket liners.
Material	316 stainless steel, 24 gauge; 304 to order.
Rating	Both styles to 2000 °F and 3000 psi. The choice for steam, flammables, high temperature and high pressure.
Sizes	All sizes and ratings of flanges, including square and oval flanges.

Source: Drake Specialties metal spray shield brochure, 2019 edition.

Flange band protectors

What they do	Seal the flange internals against moisture, chemicals, salt water, acid rain, sand and debris, so flange faces, studs and gaskets do not corrode. They are corrosion protection, not spray shields, and are not safety devices.
Construction	316 stainless or Kydex band, 2" or 3" wide, closed by a stainless worm-gear clamp; closed-cell elastomer liner (EPDM or PTFE to order); grease injection fitting, vent plug, optional 5 psi relief valve.
Temperature	Elastomer liner to 230 °F operating; EPDM to 270 °F; PTFE to 500 °F.
System	Used with Drake nut and bolt protection caps and corrosion-inhibitor grease.

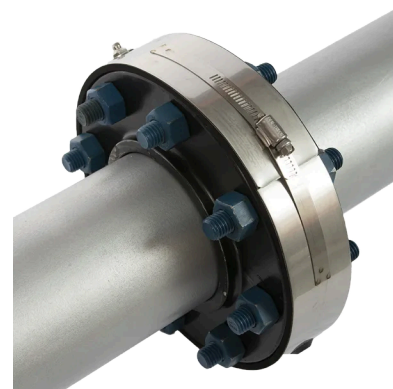
Source: Drake Specialties flange band protector brochure, 2019 edition.



Style I: layered stainless netting, lockable quick-latch closure, no tools.



Style II: overlapping slotted edges, two hose clamps, optional drain nipple.



Flange band protector: stainless band, worm-gear clamp, grease fitting.

Flange Spray Shields

Shields for every joint, and how to order

Shields for every joint

Flange shields	Fabric or 316 stainless, for every flange size and rating; the shield most lined piping systems need, at every bolted joint in acid or caustic service.
Valve shields	For ball, check, butterfly, gate, globe, plug, diaphragm and control valves, with the handle or handwheel still usable; bonnet shields let gate and globe stems travel.
Expansion joint shields	Fit rubber, stainless and PTFE bellows of any make and allow the lateral movement; clear PTFE is the choice for watching the bellows.
Fitting and union shields	Elbows, tees, unions and couplings, including hammer unions.
Pipe end covers	Vinyl or PTFE fabric covers with a draw cord for safety relief valve and rupture disc vent outlets, straight or angled cuts, any pipe diameter.
Specialty covers	Standard and custom shields and covers for actuators, pumps, camlocks, gauges and instruments.

Source: Drake Specialties fabric and metal spray shield brochures, 2019 editions.

What to tell us

- **Flanges:** size and rating
- **Valves:** size, rating, type, make and model, and whether flanged, socket-weld or threaded
- **Expansion joints:** size, make and model, number of convolutions or overall length
- **Fittings:** size and type (elbow, tee, union, coupling)
- **Fabric:** name it, or give the chemical, concentration and maximum temperature and we will pick it
- **Options:** drain nipple, clear window, pH patch, color

Order from LinedPipe.Com

Shields are quoted line by line with the pipe, fittings and valves they protect, on the same quote. (251)

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Drake Specialties LLC, Lafayette, Louisiana

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Confirm sizes and ratings with the order acknowledgement.