

3-bar Shock Explosion Proof Summary



Jacob Tubing components have been tested and certified for shock explosion ratings up to 3-bar (43psi). Tests were performed by two different, independent institutes, which specialized in system safety. Certificates are available upon request.

PART, 100-300mm dia. w/ Pull-ring connection	THK.	NOTES
Tubes	2mm	50-2000mm lg.
Segments	2mm	5° to 45°
Elbows	2mm	30° to 90°
Laterals	1.5, 2mm	30° to 45°
Conical laterals	1.5mm	30°
T-pieces	1.5mm	
Y-branch, Symmetrical	2mm	60° to 90°
Y-branch, Conical	1.5mm	60°
Cone adaptor	1.5, 2mm	
Inspection sections		With bolted cover design (per drawing 4/78699)
Transition - square (rectangle) to round	2mm	With 8mm thk. flange (per drawing 4/79709)
Non-return valve		For 80-200mm , for housing only
Throttle valve without seal	1.5, 2mm	
Throttle valve with seal	2mm	With special duty inner disc as (per drawing 4/7892a)

PART, 350-800mm dia. w/ DIN flange connection	THK.	NOTES
Tubes, 500-2000mm lg.	2mm	2mm = up to 800mm
Segments, 5° to 45°	2mm	2mm = up to 800mm
Elbows, 30° to 90°	2mm	2mm = up to 800mm
T-pieces	-	2mm = up to 500mm; 3mm = up to 800mm
Laterals, 30° to 45°	-	2mm = up to 500mm; 3mm = up to 630mm
Cone adaptor	-	2mm = up to 630mm; 3mm = up to 800mm
Y-branch, Symmetrical, 60°	-	2mm = up to 500mm; 3mm = up to 800mm
Y-branch, Symmetrical, 90°	-	2mm = up to 500mm; 3mm = up to 800mm

Tubing components with 80mm dia. with 1mm (19 ga.) wall thickness are not rated for 3-bar (45psi) over pressure. However, sample parts were subjected to an in-house 10-bar (145psi) water pressure test, which concluded these parts can be used for 3-bar (45-psi) applications.

To guarantee 3-bar (43psi) application, the following requirements must be maintained:

1. A new u-shaped gasket must be used at each connection when the components are to be re-assembled.
2. The bolts of the pull-rings/flanges have to be tightened with a torque wrench as follows:

FOR PULL-RINGS:	FOR LOOSE DIN FLANGE CONNECTIONS
Bolted style = 25Nm (18.4 lb-ft)	10mm bolts = 40Nm (29.5 lb-ft)
Quick connect style = 10Nm (7.4 lb-ft)	12mm bolts = 60Nm (44.3 lb-ft)

1. Cleaning sections, slip tubes and air regulating gates cannot be provided with this rating.
2. Although 140mm & 224mm dia. segments, including elbows in stainless steel, are only available in 1.5mm (16 ga.) wall thickness and cannot be certified with this rating, in-house testing showed that these components did hold up to the 3 bar (43psi) requirements.