

FDA Diaphragms – Rubber Grades

HC4 Diaphragm Valves

HC4/021/01/09.03

Grade Designation	E4 (EPDM)	300 (IIR)
Characteristics	<p>White EPDM compound, sulphur cured.</p> <p>Minimum Tensile strength = 7.6 MPa</p> <p>Hardness = 70-76° IRHD</p> <p>Elongation = 500% min</p> <p>Specific Gravity = 1.32</p>	<p>Isobutylene/Isoprene elastomer. Resin cured. Excellent resistance to water based (aqueous) media, salts, dilute acids and alkalis. Lowest permeability of all elastomers. Carbon black reinforced diaphragm.</p> <p>Min. Tensile Strength = 12MPa</p> <p>Hardness = 62-68° IRHD</p> <p>Elongation = 300-550%</p>
Size Range	0.25" - 8.00"	Type AFP: 0.25" - 8.00" Type A: 0.25" - 8.00"
Temperature Range	-40 °F to 248°F (-40 °C to 120 °C) Limited periods at 265°F (130 °C)	-22°F to 266°F (-30°C to 130°C)
Method of Attachment	0.25"-0.75" (DN8-20)-button 1.00"-8.00" (DN25-200)-screw	0.25"-0.75" (DN8-20)-button 1.00"-8.00" (DN25-200)-screw
Max. Intermittent Steam Temperature Recommended	266°F (130°C)	284°F (140°C)
Max. Constant Steam Temperature Recommended	257°F (125°C)	266°F (130°C)
Comments	White elastomers are regarded as being physically less strong than black reinforced grades. Popular in brewing and food industries.	WRC approved for potable water, Reference No. 9507519

Grade Designation	425 (EPM)	E3 (EPM)
Characteristics	Ethylene Propylene co-monomer. Carbon Black reinforced, and peroxide cured. Minimum Tensile strength = 12 MPa Hardness = 61-67° IRHD Elongation = 475% min. Specific Gravity = 1.2	Ethylene Propylene co-monomer. Carbon Black reinforced, and peroxide cured, with post cure in air-circulating oven for 144 hours @ 240°F (127° C), then washed in a detergent to FDA specifications. Minimum Tensile strength = 12 MPa Hardness = 61-67° IRHD Elongation = 475% min. Specific Gravity = 1.2
Size Range	0.25" - 8.00"	0.25" - 8.00"
Temperature Range	-40°F to 285°F (-40°C to 140°C). Limited periods at 302°F (150°C)	-40°F to 285°F (-40°C to 140°C)
Method of Attachment	Screw Type (4 bolt) Button Type Screw Type	Screw Type (4 bolt) Button Type Screw Type
Max. Intermittent Steam Temperature Recommended	295°F (145°C)	302°F (150°C)
Max. Constant Steam Temperature Recommended	265°F (130°C)	265°F (130°C)
Comments	Used in Biotech and pharmaceutical industries on aqueous media. Good resistance to steam and CIP fluids, chlorinated caustic and dilute acids. Approved to USP Class V and VI Fully Traceable to EN10204 3.1b FDA conforming and certified ADCF (animal derivative component free).	Post curing reduces the levels of extractables and volatiles in the elastomer to meet the most stringent requirements set by biotechnology manufacturers. Approved to USP Class V and VI Fully Traceable to EN10204 3.1b FDA conforming and certified ADCF (animal derivative component free).

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