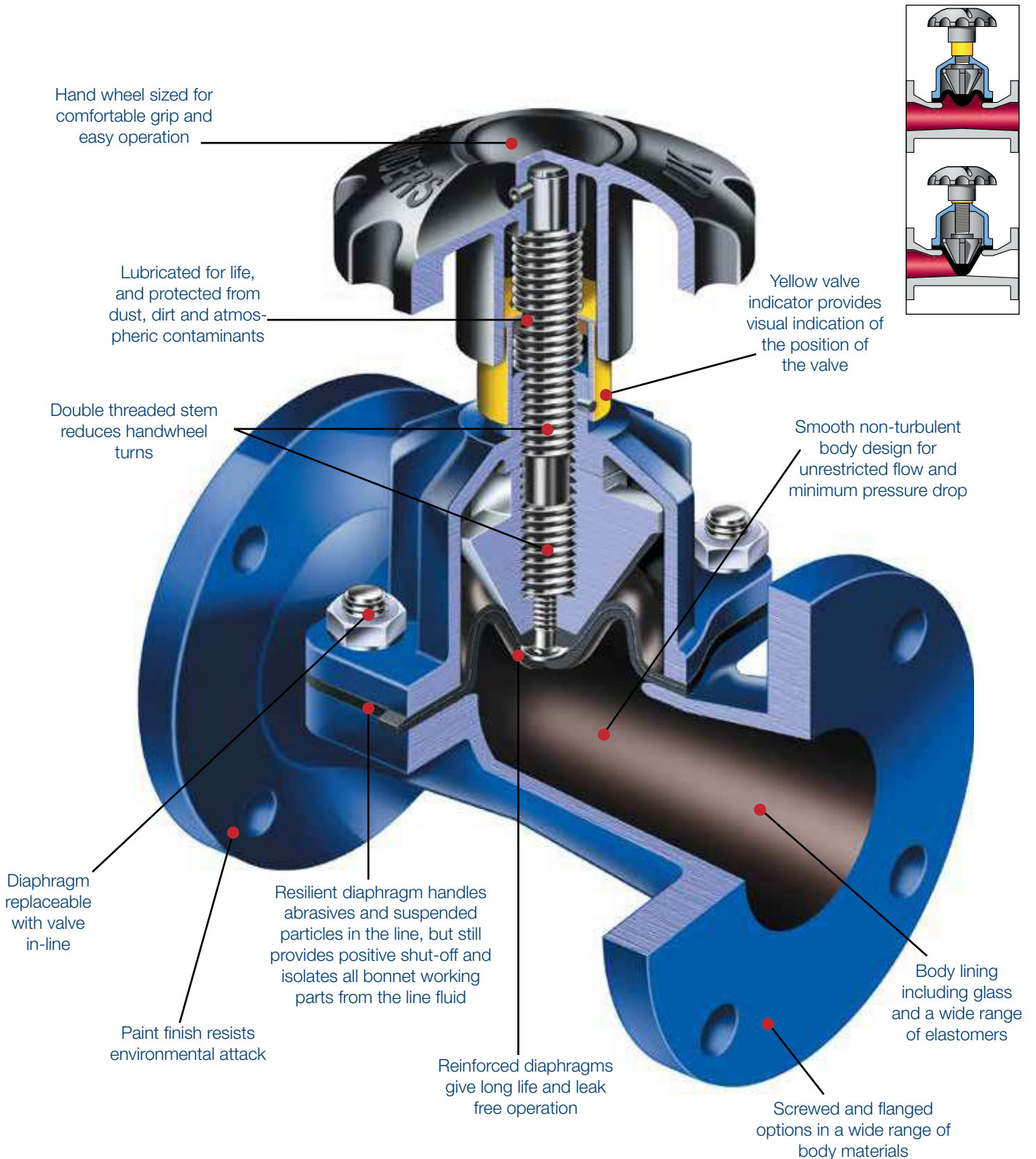




DIAPHRAGM VALVE KB/B TYPE

Saunders® KB and B Design





DIAPHRAGM VALVE KB/B TYPE

LINED AND UNLINED OPTIONS:

Saunders® full bore KB type diaphragm valves, with their smooth non-turbulent body design, have proven to be outstanding in resisting the erosion effect of abrasive media, providing low pressure drop and high flow characteristics.

UNLINED BODIES:

Material	Connec-tion	Standard	Material grade	Size	Temperature
Cast Iron	Screwed	BS EN1561	GJL-250	½"-2" DN15-DN50	14°F~347°F -10°C~175°C
	Flanged			½"-14" DN15-DN350	
SG Iron	Screwed	BS EN1563	GJS-450-10	¼"-2" DN8-DN50	14°F~347°F -10°C~175°C
	Flanged		GJS-400-18 ¹	½"-14" DN15-DN350	
Gun Metal	Screwed	BS EN1982	CC491K-GS	½"-2" DN15-DN50	-22°F~347°F -30°C~175°C
	Flanged		CC492K-GS	½"-4" DN15-DN100	
Stainless Steel	Flanged	BS EN10283	1.4408 ²	½"-10" DN15-DN250	-22°F~347°F -30°C~175°C

1 For some sizes GJS-400-18-LT grade is available with a low temperature limit of 20°C (-4°F).

2 Replaces the standard BS3100 316C16.

* Please contact us for information on comparable/equivalent material grades. Standard material grade fasteners: Stainless steel fasteners - All stainless steel, plastic lined and glass lined valves. Aluminium Bronze fasteners - Gunmetal flanged valves. Carbon Steel fasteners - All remaining valves. Special material grade fasteners available upon request.

The flexible diaphragms ensure consistent leak tightness even when solids, powders and dry media are present. The wide range of lining materials make the valve suitable for many corrosive/abrasive applications up to a maximum pressure of 10 bar (145 psi).

LINED OPTIONS - FLANGED BODIES ONLY:

RUBBER LINING OPTIONS			
Lining	Body Material	Size	Temperature
Butyl (Isobutylene Isoprene)	Cast Iron	1"-14" DN25-DN350	14°F to 230°F -10°C to 110°C
	SG Iron		-22°F to 230°F -30°C to 110°C
	Cast Steel		
Neoprene (Polychloroprene)	Cast Iron	1"-14" DN25-DN350	14°F to 221°F -10°C to 105°C
	SG Iron		-22°F to 221°F -30°C to 105°C
	Cast Steel		
Hard Natural Rubber (Ebonite)	Cast Iron	1"-14" DN25-DN350	14°F to 185°F -10°C to 85°C
	SG Iron		-22°F to 185°F -30°C to 85°C
	Cast Steel		
SRL (Soft Natural Rubber)	Cast Iron	1"-14" DN25-DN350	14°F to 185°F -10°C to 85°C
	SG Iron		-22°F to 185°F -30°C to 85°C
	Cast Steel		

GLASS LINING OPTION			
Lining	Body Material	Size	Temperature
Cast Iron	Cast Iron	½" - 6" DN15-DN150	14°F to 347°F -10°C to 175°C

GLASS LINING:

Used in many different applications, including strong acids, salts and halogenated gases. Superior corrosion and abrasion resistance within a wide range of temperatures and concentrations. Note that glass is not suitable for applications where thermal cycling occurs. (Blue)

RUBBER LINING:

» Butyl - Isobutylene Isoprene

Great for corrosive and abrasive slurries, and acidic slurries. Additional applications are salts in water, dilute acids and alkalis, and lime. WRAS approved. (Black)

» Neoprene - Polychloroprene

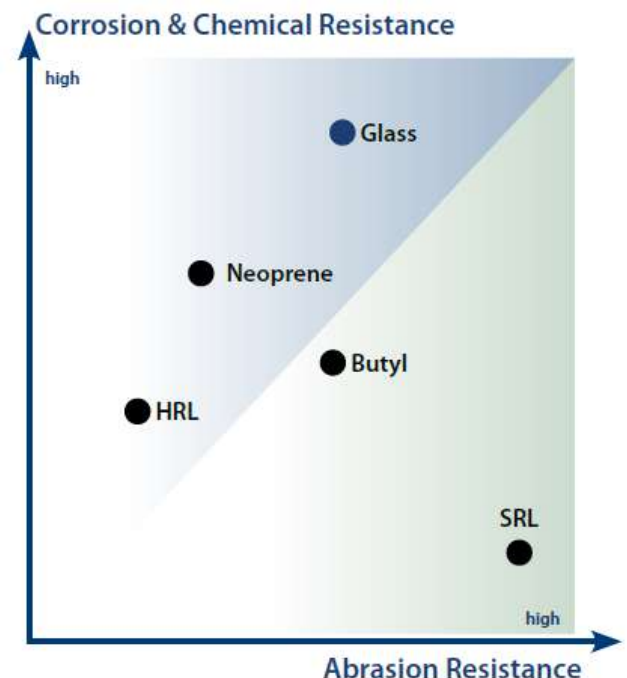
Perfect solution for a combination of abrasive slurries containing hydrocarbons, sludge oils and also sea water. (Black)

» HRL- Hard Natural Rubber (Ebonite)

Used for salts in water, diluted acids, de-ionised water, plating solutions and potable water. HRL has better chemical resistance than SRL. (Black)

» SRL - Soft Natural Rubber

High abrasion resistance on powders, abrasive slurries, clays, coal dust, dry fertilizers, gypsum, as well as titanium dioxide and sewage. (Brown)



* The temperature ranges are given for general reference purposes only. Service conditions, such as media being handled and concentration of solids will determine the highest possible working temperature. Additionally, the performance of the valve will also depend on the diaphragm material.

The nominal bore thicknesses of Saunders® linings range from 1 to 5.5 mm, depending on lining material and valve size: glass 1 mm, rubber 2-4.5 mm and plastic 4-5.5 mm.



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Many factors can accelerate the aging of polymer compounds. Temperature and abrasion have a significant impact on the effect of chemicals on rubber compounds. At Saunders®, we are proud of our core competence, the in-house manufacture of Saunders® diaphragms. Our expertise in polymer science assures the best range of diaphragms to suit the most challenging duties with total security. This explains why Saunders® diaphragms are a synonym of longer life, reduced maintenance and higher plant operating efficiencies.

RUBBER DIAPHRAGM			
Diaphragm	Composition	Size	Temperature
226	FKM (Fluoroelastomer)	1/2" to 12" DN15-DN300	23°F to 302°F -5°C to 150°C
425	EPM (Ethylene Propylene)	All Sizes	-40°F to 226°F -40°C to 130°C
AA	Natural Rubber	All Sizes	-40°F to 194°F -40°C to 90°C
HT	Neoprene (Polychloroprene)	All Sizes	-22°F to 212°F -30°C to 100°C
237	CSM (Chlorosulfonated Polyethylene)	All Sizes	14°F to 212°F -10°C to 100°C
300	Butyl (Isobutylene Isoprene)	All Sizes	-40°F to 266°F -40°C to 130°C
C	Nitrile (Butadiene Acrylonitrile)	All Sizes	-4°F to 212°F -20°C to 100°C
XA	EPDM (Ethylene Propylene Diene)	All Sizes	-40°F to 266°F -40°C to 130°C

RUBBER DIAPHRAGM:

»**226:** Great solution for hydrogen at high temperature, concentrated acids, aromatic solvents, low concentrated chlorine solutions, ozone, unleaded petroleum.

»**300:** Chemicals, diluted acids and alkalis, drinking water. Additional abrasive applications like phosphoric acid in low concentration. FDA, USP and WRAS approved¹.

»**HT:** Suitable for abrasive slurries containing hydrocarbons.

»**425:** Salts in water, acids and alkalis, ozone, water, intermittent steam. Great solution for food and beverages applications. FDA and USP approved¹.

»**237:** The best solution for sodium hypochlorite. Great with strong acids and low concentration chlorine gas. It is also oil resistant.

»**XA:** Specifically designed for both abrasive and corrosive applications such as phosphoric acid, metal treatment and mining applications.

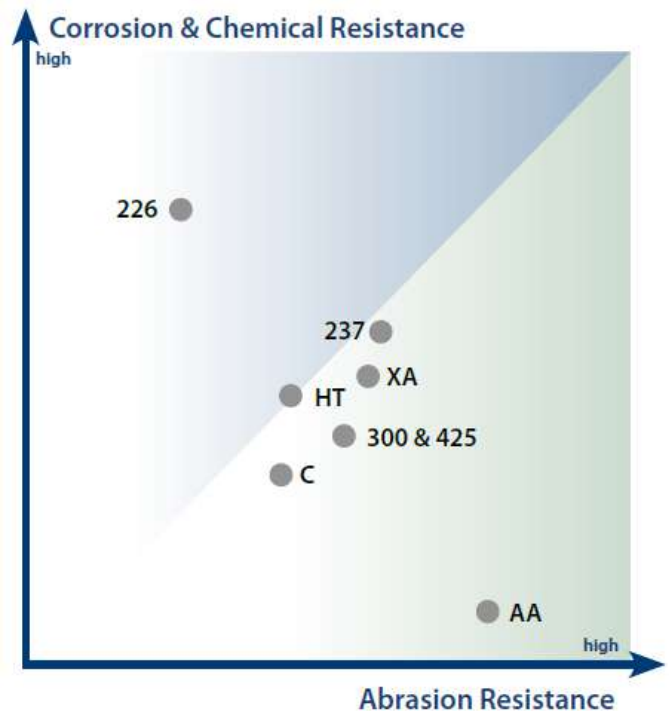
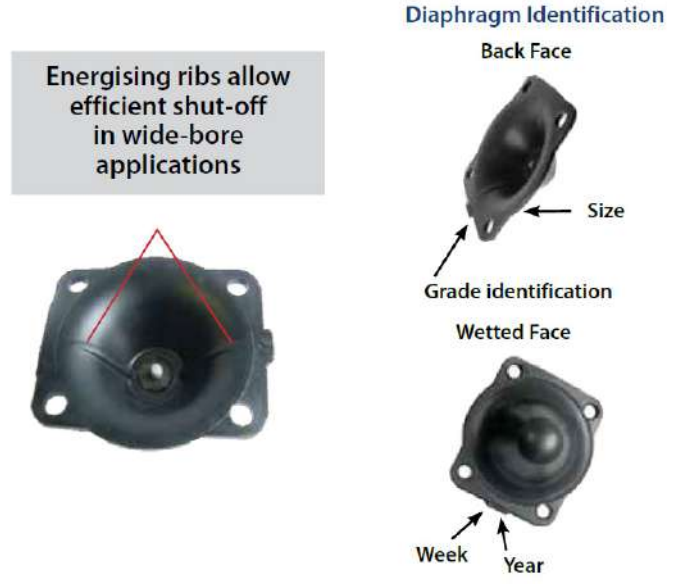
»**C:** Lubricating oil, cutting oils, paraffin, animal and vegetable oils and aviation kerosene at low temperatures.

»**AA:** Excellent choice on abrasive applications such as slurries. The diaphragm has a light brown colour, and is sulfur cured.

¹ FDA - Food and Drug Administration

USP - United States Pharmacopeia

WRAS - Water Regulations Advisory Schemestainless steel bayonet fitment.

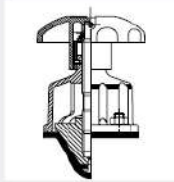




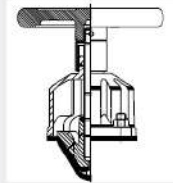
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TOP WORKS:

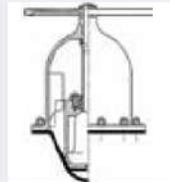
Standard Range



Standard plastic rising handwheel with indicator
DN15 - DN50
½" - 2"



Metal rising handwheel with indicator
DN15 - DN150
2½" - 6"



Standard non-rising handwheel without indicator
DN200 - DN350
8" - 14"

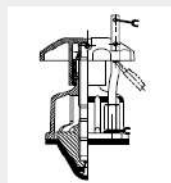


Non-rising handwheel with indicator
DN200 - DN300
8" - 12"

High Performance



Non-rising handwheel (fluoroelastomer sealed)
DN15 - DN300
½" - 12"



Rising handwheel with indicator (simple padlocking)
DN15 - DN150
½" - 6"

Saunders® Actuation



ESM/ES actuators (spring close/spring open/double acting)
DN15 to DN250
½" to 10"

MANUAL VALVES WORKING PRESSURE & TEMPERATURE:

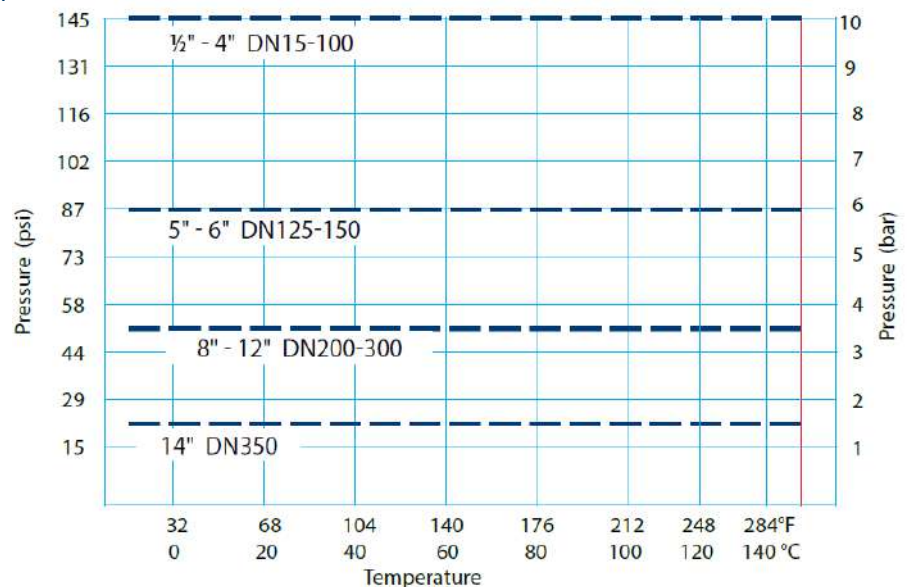
Maximum manual working pressures for Saunders® KB Type Diaphragm valve. For actuated valves, please refer to the appropriate datasheets.

All Saunders® valves are pressure tested in accordance with standard BS EN 12266-1.

- » Shell test: 1.5 times maximum rated working pressure
- » Seat test: 1.1 times maximum rated working pressure

Size (DN)	Pressure (bar)		
	Rising handwheel	Non-Rising handwheel	
15	10	145	-
20	10	145	-
25	10	145	-
32	10	145	-
40	10	145	-
50	10	145	-
65	10	145	-
80	10	145	-
100	10	145	-
125	6	87	-
150	6	87	-
200	-	3.5	51
250	-	3.5	51
300	-	3.5	51
350	-	1.5	22

KB Type Valve Temperature/Pressure Relationship*



* For K Type valves, refer to one size larger KB valve.

