

Quick reference chart

Product	Valve	Rotary		Reciprocating		Static
	Pressure MPa (psi)	Shaft Speed m/s (fpm)	Pressure MPa (psi)	Rod Speed m/s (fpm)	Pressure MPa (psi)	Pressure MPa (psi)
PTFE-based						
Lionpak® 2100	25 (3626)	4 (787)	1 (145)	0.5 (98)	5 (725)	n/a
Lionpak® 2101	25 (3626)	4 (787)	1 (145)	0.5 (98)	5 (725)	n/a
Lionpak® 2200	15 (2175)	10 (1969)	2.5 (363)	1 (197)	10 (1450)	n/a
Lionpak® 2201	15 (2175)	10 (1969)	2.5 (363)	1 (197)	10 (1450)	n/a
Lionpak® 2300	8 (1160)	22 (4331)	1 (145)	1 (197)	8 (1160)	n/a
Lionpak® 2302	8 (1160)	22 (4331)	1 (145)	1 (197)	8 (1160)	n/a
Lionpak® 2303	12 (1740)	17.5 (3445)	2 (290)	2 (394)	8 (1160)	n/a
Lionpak® 2500	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2501	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2502	25 (3626)	20 (3937)	2 (290)	2 (394)	20 (2900)†	n/a
Lionpak® 2503	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2504	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 2505	30 (4351)	n/a	n/a	n/a	n/a	n/a
Aramid-based						
Lionpak® 3200	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	15 (2175)	n/a
Lionpak® 3202	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	15 (2175)	n/a
Lionpak® 3301	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	15 (2175)	n/a
Lionpak® 3302	15 (2175)	20 (3937)	2.5 (363)	1.5 (295)	10 (1450)	n/a
Graphite/Carbon-based						
Lionpak® 5100	25 (3626)	25 (4921)	2.5 (363)	n/a	n/a	n/a
Lionpak® 5101	10 (1450)	20 (3937)	3.5 (508)	n/a	n/a	n/a
Lionpak® 5102	Consult	20 (3937)	25 (3626)	n/a	n/a	n/a
Lionpak® 5103	Consult	20 (3937)	25 (3626)	n/a	n/a	n/a
Lionpak® 5200	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5201	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5202	30 (4351)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5300	15 (2175)	n/a	n/a	n/a	n/a	n/a
Lionpak® 5301	20 (2900)	20 (3937)	2 (290)	2 (394)	15 (2175)‡	n/a
Lionpak® 5302	25 (3626)	20 (3937)	2 (290)	2 (394)	10 (1450)	n/a
Lionpak® 5303	20 (2900)	20 (3937)	2 (290)	2 (394)	15 (2175)‡	n/a
Lionpak® 5304	20 (2900)	20 (3937)	2 (290)	2 (394)	15 (2175)‡	n/a
Lionpak® 5501	25 (3626)	Consult	Consult	n/a	n/a	n/a
Lionpak® 5503	25 (3626)	Consult	Consult	n/a	n/a	n/a
Lionpak® 5504	25 (3626)	Consult	Consult	n/a	n/a	n/a
Lionpak® 5505	25 (3626)	n/a	n/a	n/a	n/a	n/a

Key	
1	+450°C (+930°F) oxidising conditions, +550°C (+1202°F) steam, +850°C (+1562°F) non-oxidising
2	+450°C (+842°F) oxidising conditions, +550°C (+1022°F) steam
3	+500°C (+930°F) oxidising conditions, +650°C (+1202°F) steam, +1000°C (+1832°F) non-oxidising
4	+1000°C (+1832°F) constant, +1100°C (+2012°F) intermittent
5	+450°C (+930°F) oxidising conditions, +650°C (+1202°F) steam, +1000°C (+1832°F) non-oxidising

Temperatures		pH	Media									
Min °C (°F)	Max °C (°F)	pH Range	Steam	Gases	Process Water	Potable Water	Strong Acids	Caustic Alkalis	Oils	Solvents	Oxygen	
PTFE-based												
-100 (-148)	+250 (+482)	0-14	✓	✓	✓	✓	✓	✓	✓	✓	X	
-100 (-148)	+250 (+482)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-100 (-148)	+250 (+482)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	
-100 (-148)	+250 (+482)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	✓	✓	✓	✓	✓	X	
-100 (-148)	+250 (+482)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+260 (+500)	2-13	✓	✓	✓	✓	X	X	✓	✓	X	
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	
-100 (-148)	+250 (+482)	3-14	X	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+260 (+500)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	
Aramid-based												
-50 (-58)	+250 (+482)	2-13	✓	✓	✓	✓	X	X	✓	✓	X	
-50 (-58)	+250 (+482)	2-12	✓	✓	✓	X	X	X	✓	✓	X	
-50 (-58)	+250 (+482)	1-13	✓	✓	✓	X	X	X	✓	✓	X	
-50 (-58)	+285 (+545)	0-13	✓	✓	✓	X	X	X	✓	✓	X	
Graphite/Carbon-based												
-200 (-328)	+450 (+842) ¹	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+450 (+842) ²	1-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+450 (+842) ²	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+450 (+842) ²	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+450 (+842) ⁵	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+450 (+842) ²	1-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+450 (+842) ²	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+550 (+1022)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+450 (+842)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+450 (+842)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+350 (+662)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-100 (-148)	+260 (+500)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+500 (+932) ³	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+500 (+932) ³	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+500 (+932) ³	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	
-200 (-328)	+350 (+662)	0-14	✓	✓	✓	X	✓	✓	✓	✓	X	

Key	
‡	May be suitable for higher pressures on certain reciprocating duties: please consult James Walker
Consult	Dependent on application; consult James Walker
n/a	Not applicable
✓	Suitable for application
X	Not suitable for application

Operating limits quoted in this publication are not an indication that these values can be applied simultaneously, particularly when operating near to the extreme limits. Please contact James Walker if you need further guidance on the suitability of any product for your specific application.

This brochure is supported by further detailed product data sheets and product fitting instructions which are available to download from the James Walker website at www.jameswalker.biz

Quick reference chart

Product	Valve	Rotary		Reciprocating		Static
	Pressure MPa (psi)	Shaft Speed m/s (fpm)	Pressure MPa (psi)	Rod Speed m/s (fpm)	Pressure MPa (psi)	Pressure MPa (psi)
Special fibre-based						
Lionpak® 9100	10 (1450)	20 (3937)	2.5 (363)	1 (197)	10 (1450)	n/a
Lionpak® 9101	10 (1450)	10 (1969)	2 (290)	n/a	n/a	Consult
Lionpak® 9102	10 (1450)	10 (1969)	2 (290)	n/a	n/a	Consult
Lionpak® 9500	25 (3626)	17.5 (3445)	2 (290)	2 (394)	25 (3626)	n/a
Lionpak® 9501	10 (1450)	3 (591)	1 (145)	1 (197)	10 (1450)	n/a
Lionpak® 9600	n/a	n/a	n/a	n/a	n/a	Consult
Lionpak® 9601	n/a	n/a	n/a	n/a	n/a	Consult
Lionpak® 9602	8 (1160)	10 (1969)	2 (290)	n/a	n/a	Consult
Lionpak® 9603	n/a	n/a	n/a	n/a	n/a	Consult
Lionpak® 9605	n/a	n/a	n/a	n/a	n/a	0.5 (73)
Fugitive emission packing						
Supagraf® Premier	25 (3626)*	n/a	n/a	n/a	n/a	n/a
Supagraf® Control	25 (3626)	n/a	n/a	n/a	n/a	n/a
Supagraf® Premipak	25 (3626)	n/a	n/a	n/a	n/a	n/a
Supagraf® OX	25 (3626) ⁶	n/a	n/a	n/a	n/a	n/a
Static/tank lid seal						
Tankatite® 250	n/a	n/a	n/a	n/a	n/a	0.05 (7)
Tankatite® 440	n/a	n/a	n/a	n/a	n/a	0.07 (10)
Tankatite® 660	n/a	n/a	n/a	n/a	n/a	0.06 (9)
Tankatite® 880 ACR	n/a	n/a	n/a	n/a	n/a	0.2 (29)
Tankatite® 880 Super	n/a	n/a	n/a	n/a	n/a	0.2 (29)
TorrLid® 162B	n/a	n/a	n/a	n/a	n/a	0.9 (131)
TorrLid® 297	n/a	n/a	n/a	n/a	n/a	0.9 (131)

Temperatures		pH	Media									
Min °C (°F)	Max °C (°F)	pH Range	Steam	Gases	Process Water	Potable Water	Strong Acids	Caustic Alkalis	Oils	Solvents	Oxygen	
Special fibre-based												
-50 (-58)	+270 (+518)	1-14	X	✓	✓	X	✓	✓	✓	X	X	
-50 (-58)	+250 (+482)	2-12	X	✓	✓	X	✓	✓	✓	X	X	
-50 (-58)	+250 (+482)	2-12	X	✓	✓	X	✓	✓	✓	X	X	
-30 (-22)	+120 (+248)	4-11	X	✓	✓	X	X	X	✓	X	X	
-40 (-40)	+100 (+212)	5-10	X	X	✓	X	X	X	✓	X	X	
-50 (-58)	+1000 (+1832) ⁴	0-10	X	✓	✓	X	✓	X	✓	✓	X	
-50 (-58)	+1000 (+1832) ⁴	6-10	X	✓	✓	X	✓	X	✓	✓	X	
-50 (-58)	+550 (+1022)	0-14	X	✓	✓	X	✓	X	✓	✓	X	
-50 (-58)	+550 (+1022)	0-13	X	✓	✓	X	✓	X	✓	✓	X	
-10 (+14)	+680 (+1256)	4-10	✓	✓	X	X	X	X	X	X	X	
Fugitive emission packing												
-200 (-328)**	+450 (+842)	1-14	X	✓	X	X	X	X	✓	✓	X	
-200 (-328)**	+350 (+662)	1-14	X	✓	X	X	X	X	✓	✓	X	
-200 (-328)**	+450 (+842)	1-14	X	✓	X	X	X	X	✓	✓	X	
-200 (-328)	+300 (+572) ⁶	0-14	X	✓	X	X	X	X	✓	✓	✓	
Static												
-30 (-22)	+100 (+212)	1-13	X	X	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+120 (+248)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+230 (+446)	0-14	X	X	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+250 (+482)	2-12	X	✓	✓	X	✓	✓	✓	✓	X	
-50 (-58)	+120 (+248)	0-14	X	✓	✓	X	✓	✓	✓	✓	X	
Consult	Consult	Consult	X	✓	X	X	X	X	✓	X	X	
Consult	Consult	Consult	X	✓	X	X	X	X	✓	X	X	

Key	
1	+450°C (+930°F) oxidising conditions, +550°C (+1202°F) steam, +850°C (+1562°F) non-oxidising
2	+450°C (+842°F) oxidising conditions, +550°C (+1022°F) steam
3	+500°C (+930°F) oxidising conditions, +650°C (+1202°F) steam, +1000°C (+1832°F) non-oxidising
4	+1000°C (+1832°F) constant, +1100°C (+2012°F) intermittent
5	+450°C (+930°F) oxidising conditions, +650°C (+1202°F) steam, +1000°C (+1832°F) non-oxidising
6	These values are for use with gaseous oxygen

Key	
‡	May be suitable for higher pressures on certain reciprocating duties: please consult James Walker
Consult	Dependent on application; consult James Walker
n/a	Not applicable
✓	Suitable for application
X	Not suitable for application
**	For low temperature fugitive emissions performance please contact James Walker
*	Consult James Walker for use at higher pressures

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