

# Technical parameters and product compatibility

	Valve packing						Pump packing													Pump packing trapezoidal							Special packing						
Type	A19 / A190X	A33 / A22	A37	A44 / A441	A66	A99	P1 / P1P	P2P	P8 / P14	P9	P10	P12	P18	P20	P24	P50	P56	P60	P63	TP1	TP3	TP7	TP30	TP31	TP55	TP619	S4	S6 / S6 SI	S12K / TP12	S26K	S43K		
Materials of Construction	PTFE	Carbon / Graphite	eGraphite Inconel / PTFE	eGraphite / Inconel reinforced	eGraphite / Inconel Matrix	eGraphite / Inconel Matrix	ePTFE / Graphite	P-Aramid / PTFE	Ramie / PTFE Synth / PTFE	Novoloid PTFE	PTFE / Graphite	ePTFE / Graphite / Aramid	Graphite / ePTFE / Graphite	Carbon / PTFE	PreOx Garn / PTFE	Carbon / PTFE / Graphite	Carbon / PTFE / eGraphite	eGraphite / Carbon	M-Aramid / ePTFE	ePTFE / Graphite	M-Aramid / PTFE	P-Aramid / PTFE	Carbon / PTFE	M-Aramid ePTFE / Graphite	eGraphite / Carbon	PTFE / ePTFE heat conductive	ePTFE / Graphite	PTFE	ePTFE / Graphite / Aramid Aramid	PTFE / Aramid	ePTFE / Graphite / Aramid Aramid		
Run In Lubricant	-	-	-	-	-	-	Silicon	PPS	Paraffin	PPS	Paraffin	Silicon	Silicon	PPS	Paraffin	Paraffin	-	-	Silicon	Silicon	Silicon	Paraffin	Paraffin	Silicon	-	Silicon	-	Para. / Silicon	Silicon	Para. / Silicon	Paraffin		
Density [g/cm³]	1.65 / 1.80	1.15 / 1.0	1.35	1.15 / 1.20	1.15	1.45	1.50	1.25	1.25 / 1.30	1.35	1.65	1.45	1.50	1.45	1.30	1.15	1.00	1.00	1.55	1.50	1.40	1.20	1.45	1.50	1.10	1.80	1.35	1.70	1.40 / 1.50	1.50	1.35		
Pressure Rotating [bar]	-	-	-	20	-	-	25	25	15	20	25	25	25	30	15	20	25	25	20	25	25	25	30	25	25	20	30	15	25	25	-		
Pressure Static [bar]	500	300	300	300	500	500	150	100	100	100	150	150	150	100	150	100	100	300	100	100	100	100	100	150	300	100	500	100	250	250	500		
Pressure Reciprocating [bar]	250	-	-	-	-	-	250	100	100	60	250	250	250	100	250	100	100	65	100	250	100	100	100	150	65	100	800	100	500	500	1,500		
Speed Rotating [m/s]	2	15 / 20	-	20	-	-	25 / 20	20	12	15	20	20	25	25	16	20	30	30	20	25	20	20	25	20	30	20	8	10	20	20	-		
Speed Reciprocating [m/s]	1.5	-	-	-	-	-	2	2	1.5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	1.5	3	2	3			
pH	0-14	1-14	0-14	0-14	0-14	0-14	0-14	2-12	4-11	1-13	0-14	2-12	0-14	2-12	0-14	2-12	2-12	0-14	1-13	0-14	1-13	2-12	2-12	1-13	0-14	1-14	0-14	0-14	2-12	2-12	2-12		
T min [°C]	-200	-40	-200	-200	-200	-200	-100	-50	-50	-50	-50	-100	-100	-50	-50	-50	-50	-200	-100	-100	-100	-50	-50	-100	-200	-100	-200	-50 / -100	-100	-50 / -100	-50		
T max [°C]	+280	+550* / +650*	+300	+400 (500**)	+650 (450 <sup>1</sup> )	+650 (450 <sup>1</sup> )	+280	+280	+140	+280	+280	+280	+280	+300	+200	+280	+280	+550 (400 <sup>1</sup> )	+280	+280	+280	+250	+300	+280	+400 (550**)	+280	+280	+280	+280	+280	+280		
Product compatibility																																	
Water	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Sewage	●	○	○	○	○	○	●	●	●		●	●	●	●	●	●	○	●	●	●	●	○	●	○	●	○	●	●	●	●	●	●	
Hot Water	●	●	●	●	●	●	●	○		○	●	○	●	●	●	●	●	○		●	○	○	●	○	●	○	○	○	○	○	○	○	
Steam [<280 °C]	○	●	●	●	●	●	○						○	○	○	○	○	●							○	○	○	○	○	○	○	○	
Steam [<550 °C]		○ / ●		●** / ●	●	●												○							○								
Abrasive Products								●	●	○		●		●	●	●		●			●	●	●	●		○							
Food, Pharmaceutical FDA	○ / ● FDA				●	●	○	○		○	○	○	○		○			○			○	○	○		○	● FDA	○	○ / ● FDA	○ / -	○	○	○	
Oxygen BAM	- / ● BAM	- / ● BAM			● BAM	● BAM																			● BAM		● BAM						
Diluted Acids	●	●			●	●	●	○		●	●	○	●	○	○	○	○	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	
Concentrated Acids	●	○	○	○	○	○	●			○	●		●		●			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Diluted Alkaline, Salt Solutions	●	●			●	●	●	○	○	●	●	○	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Concentrated Alkaline	●	○	○	○	○	○	●			○	●		●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Heat Transfer Oil	○	○	○	○	○	○	●	○		○	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Lubricants, Grease	●	○	○	○	○	○	●	○	○	●	●	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Solvent, Hydrocarbons API	●	○	○	○	○	● API	○				○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Adhesive, Bitumen	○						○	●			○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Paint (Silicon oil free)	●	○	○	○	○	○		●	○	○	○		○	○	○	○	○	○				●	○	○	○	○	○	○	○	○	○	○	

Not all max. values can be used at the same time. ● = recommended ○ = resistand (\*) in steam (\*\*) in steam in combination with bullrings made of style A33, A66 and A99 (1) in oxidizing atmosphere  
 ● BAM - approval for oxygen ● API - API 622 and API 589 certification ● FDA - FDA conformity and food approvals 1935:2004, 10/2011