

Technical parameters and product compatibility



	Valve packing						Pump packing										Pump packing trapezoidal										Special packing					
Type	A19 / A190X	A33 / A22	A37	A44 / A44I	A66	A99	P1 / P1P / P1X	P2P	P8 E	P9/P9 Gold	P10	P12	P20	P52	P56	P58	P60	TP1	TP3	TP7	TP16	TP18	TP30	TP31	TP55	TP63	TP619	S4	S6 / S6 SI	S12K / TP12	S26K	S43K
Materials of Construction	PTFE / PTFE	Carbon / Graphite	exp. Graphite Inconel / PTFE	exp. Graphite / Inconel verstärkt	exp. Graphite / Inconel Matrix	exp. Graphite / Inconel Matrix	ePTFE / Graphite	P-Aramid / PTFE	Ramie / PTFE	Novoloid / PTFE, Polyimid / PTFE	PTFE / Graphite	ePTFE / Graphite / Aramid	Carbon / PTFE	Synth. / PTFE / Graphite	Carbon / PTFE / exp. Graphite	Synth. / PTFE	exp. Graphite / Carbon	ePTFE / Graphite	M-Aramid / PTFE	P-Aramid / PTFE	PTFE / ePTFE / Graphit	Graphite / ePTFE / Graphite	Carbon / PTFE	M-Aramid ePTFE / Graphite	exp. Graphite / Carbon	M-Aramid / ePTFE	PTFE / ePTFE heat conductive	ePTFE / Graphite	PTFE	ePTFE / Graphite / Aramid Aramid	PTFE / Aramid	ePTFE / Graphite / Aramid Aramid
Run-In Lubricant	-	-	-	-	-	-	Silicon	PPS	Paraffin	PPS/Silicon	Paraffin	Silicon	PPS	Paraffin	-	Paraffin	-	Silicon	Silicon	Paraffin	Silicon	Silicon	Paraffin	Silicon	-	Silicon	Silicon	-	Para / Silicon	Silicon	Para / Silicon	Paraffin
Density [g/cm³]	1.60 / 1.85	1.10 / 1.05	1.30	1.20 / 1.20	1.15	1.35	1.55 / 1.53 / 1.60	1.25	1.35	1.35 / 1.38	1.65	1.50	1.48	1.35	1.10	1.35	1.00	1.55	1.40	1.23	1.65	1.55	1.50	1.55	1.08	1.55	1.75	1.35	1.70 / 1.90	1.55 / 1.50	1.45	1.35
Pressure Rotating [bar]	-	-	-	20	-	-	25	25	15	20	25	25	30	20	25	20	20	25	25	25	25	25	30	25	25	20	20	30	15	25	25	-
Pressure Static [bar]	500	300	300	300	500	500	150	100	100	100	150	150	100	150	100	150	300	100	100	100	250	150	100	150	300	100	100	500	100	250	250	500
Pressure Reciprocating [bar]	250	-	-	-	-	-	250	100	100	60	250	250	100	150	100	150	65	250	100	100	250	250	100	150	100	100	100	800	100	500	500	1500
Speed Rotating [m/s]	2	15 / 20	-	20	-	-	25 / 20	20	12	15	20	20	25	20	30	20	30	25	20	20	20	25	25	20	30	20	20	8	10	20	20	-
Speed Reciprocating [m/s]	1.5	-	-	-	-	-	2	2	1.5	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	3	2	2	3	1.5	3	2	3
pH	0-14	2-12/1-14	0-14	0-14	0-14	0-14	0-14	2-12	4-11	1-13/0-12	0-14	2-12	2-12	5-11	2-12	5-11	0-14	0-14	1-13	2-12	0-14	1-14	2-12	1-13	0-14	1-13	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	-50	-50	-50	-50	-200	-100	-100	-50	-100	-100	-50	-100	-200	-100	-100	-200	-50 / -100	-100	-50 / -100	-50
T max [°C]	+280	+550* / +650*	+300	+550** (400 ¹)	+650* (400 ¹)	+650* (450 ¹)	+280	+280	+140	+280	+280	+280	+300	+180	+280	+140	+550* (400 ¹)	+280	+280	+250	+280	+280	+300	+280	+550* (400 ¹)	+280	+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			● BAM								
Diluted Acids	●	●	●	●	●	●	●	○		●	●	●	●	●	●	○	●	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Concentrated Acids	●	○	○	○	○	○	●		○ / ●	●						○	○	●	○		●	●		○	○	○	○	○	○	○	○	○	○	○	○	
Diluted Alkaline, Salt Solutions	●	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Concentrated Alkaline	●	○ / ●	○	○	○	○	●			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Heat Transfer Oil	○	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Lubricants, Grease	●	○	●	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Solvent, Hydrocarbons API	●	○	●	○	○	● API	○			○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	
Adhesive, Bitumen	○						○	○			○	●	●	○	○	○		○	○	●	○	●	●	○		○		○	○	○	○	○	○	○	○	
PFAS Free						●										●																				
Paint (Silicon oil free)	● / ●	○	○	○	○	○		●	●	○ / -	○		○	○	○	○	○			●								○	○	○	○	○	○	○	○	○

Not all max. values can be used at the same time.
 ● = recommended ○ = resistant (*) 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 EG 1935:2004, EU 10/2011