

PCA Ion Exchange Membranes: Technical Data Sheet



	Standard Series				End membranes		Organic Anion Series		
	PC SA	PC AV	PC SK	PC MV	PC SC	PC MF	PC 100 D	PC 200 D	PC 400 D
Code for ED Cell packages	#3 (-1--)	#38 (-8--)	#20 (1---)	#41 (2---)	#58(----)	#61(----)	#8 (-2--)	#9 (-3--)	#10 (-4--)
General use	standard desalination	standard desalination	standard desalination	standard desalination	End membrane	End membrane (fluorinated)	small organic anions	medium organic anions	large organic anions
Membrane type	strongly alkaline	strongly alkaline	strongly acidic	strongly acidic	strongly acidic	strongly acidic	strongly alkaline	strongly alkaline	strongly alkaline
	ammonium	ammonium	sulfonic acid	sulfonic acid	sulfonic acid	sulfonic acid	ammonium	ammonium	ammonium
Transference number KCl (0.1 / 0.5 N) ^{a)} Acid (0.7/3 N) ^{b)}	>0,95	>0.96	>0,95	>0.96	>0.94	>0.95	>0.94	>0,91 > 0.9 ^{c)}	>0,86
Resistance / Ω cm ²	~ 1.8	~ 2.5	~ 2.5	~ 3	~ 9	~ 1-3	~ 5	~ 2	~ 10
Water content (wt%)	~ 14		~ 9				~ 50	~ 40	~ 48
Ion exch. capacity Strong basic (meq·g ⁻¹): Weak basic (meq·g ⁻¹):	n/a		3 n/a				ca 1.2 ca 0.7	ca 1.24 ca 0.56	ca 0.66 ca 0.35
Burst strength / kg·cm ⁻²	4-5	4	4-5	4	15	10	4 - 5	4 - 5	4 - 5
Maximum operating Temperature / °C	60	40	50	40	40	65	50	50	40
Thickness / μ m	180-220	130	160-200	130	400	440	180-220	180-220	160-200
Reinforcement ^{d)}	Polyester	PVC	Polyester	PVC	PVC	PTFE	Polyester	Polyester	Polyester
Ionic form as shipped	Cl ⁻	Cl ⁻	Na ⁺	Na ⁺	Na ⁺	H ⁺	Cl ⁻	Cl ⁻	Cl ⁻

^{a)} calculated from potentiometric measurements ^{b)} observed current efficiencies ^{c)} Gluconate

^{d)} Optional reinforcements: Polyamide, Polyetheretherketone (only for some types available)

* adjusted to customer requirements

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	Mineral Acid Series				Monovalent selective Series				Non-reinforced	
	PC Acid 60	PC Acid 100	PC AV 100	PC Acid 100 PK	PC MVA	PC FH	PC MVK	PC VK	PC SFA	PC SFC
Code for ED Cell packages	#1 (-6--)	#2 (-7--)	#59 (-0--)	#65 (-R--)	#56 (-P--)	#34 (8--)	#57 (N--)	#63 (R--)	#6 (-F--)	#7 (F --)
General use	monovalent acid (HCl/ HNO ₃ / HF)	sulphuric acid	mineral acids	sulphuric acid	Monovalent anion selective	Proton selective	Monovalent cation selective	Monovalent cation selective	low cost	low cost
Membrane type	strongly alkaline	strongly alkaline	strongly alkaline	strongly alkaline	strongly alkaline	strongly acidic	strongly acidic	strongly acidic	strongly alkaline	strongly acidic
	ammonium	ammonium	ammonium	ammonium	ammonium	sulfonic acid	sulfonic acid	sulfonic acid	ammonium	sulfonic acid
Transference number KCl (0.1 / 0.5 N) ^{a)} Acid (0.7/3 N) ^{b)}	>0.95 0.55	0.41	>0.95		>0.97		>0,97		>0,95	>0,94
Resistance / Ω cm ²	~ 2		~5-20 (acid)		~ 20	~ 0.3			~ 1	~1
Water content (wt%)	~ 17	~ 19							~ 24	~ 21
Ion exch. capacity Strong basic (meq.g ⁻¹): Weak basic (meq.g ⁻¹):	ca 1.14 ca 0.45	ca 0.57 ca 0.37							n/a	n/a
Burst strength /kg.cm ⁻²	4 - 5	4 - 5	2		2	2	3		--	--
Maximum operating Temperature / °C	60	40	40	60	40	40	40	45	60	50
Thickness / μm	160-200	160-200	130	80	110	150	100	180	50-120*	15-50*
Reinforcement ^{d)}	Polyester	Polyester	PVC	PEEK	PVC	Polysulfone	PVC	Polyester	none	none
Ionic form as shipped	Cl ⁻	Cl ⁻	Cl ⁻	Cl ⁻	Cl ⁻	H ⁺	Na ⁺	Na ⁺	Cl ⁻	Na ⁺

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Available Membrane Sizes:

Standard:	250 x 250 mm	0,82 x 0,82 ft
	500 x 500 mm	1,64 x 1,64 ft
	1000 x 500 mm	3,29 x 1,64 ft

Others: on request

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