

# PCO2

## SISTEMA DE BARREIRAS DO CO2



As unidades de PCO2 funcionam como dispositivos de "Proteção de Incidentes de Qualidade", que conferem eficiência à qualidade do CO2 por 12 meses contra os seguintes contaminantes potenciais:

- Benzeno
- Tolueno
- Xileno
- Ciclo-hexano
- Acetaldeído
- 2-Butanona
- Dimetil éter
- Acetato de etila
- Acetato de Isopentilo
- Sulfeto de hidrogênio
- Metilisobutilcetona
- Etanol
- Metanol
- Dióxido de enchofre
- Estireno
- COS
- Água

Contaminantes potenciais no CO2 podem ser impurezas residuais oriundas da fonte do gás ou acidentalmente introduzidas durante o transporte, distribuição e armazenamento.

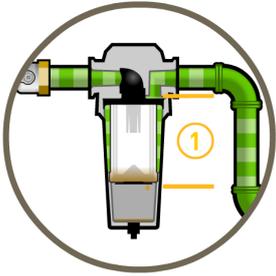
## BENEFÍCIOS

- Qualidade garantida do dióxido de carbono - Eficaz na remoção de uma combinação de impurezas e contaminantes potenciais
- Proteção contra impurezas conhecidas por alterações no sabor de bebidas - Ajuda a evitar a deterioração do produto protegendo a reputação dos engarrafadores.
- Garante que o dióxido de carbono atenda às especificações e diretrizes da indústria de bebidas eliminando os contaminantes fora do padrão de qualidade exigida.

## CARACTERÍSTICAS

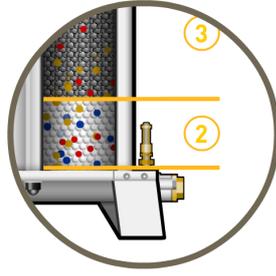
- Purificação abrangente em seis estágios.
- Instalação simples.
- Design compacto.
- Baixa manutenção.
- Baixa queda de pressão.
- Atende aos padrões ISBT.
- Materiais construtivos inspecionados por empresas independentes em conformidade com o Código 21 CFR.

# ESTÁGIOS DE FUNCIONAMENTO



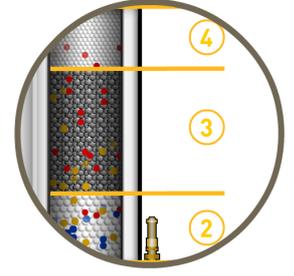
## Stage 1

0.01 micron particle filtration  
Removal of non-volatile organic residue (NVOR) and other contaminants down to 0.01 ppm



## Stage 2

Removal of water vapour and partial removal of hydrocarbons

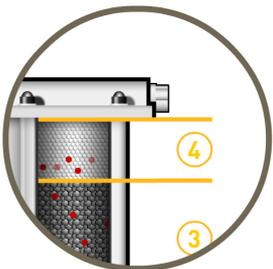
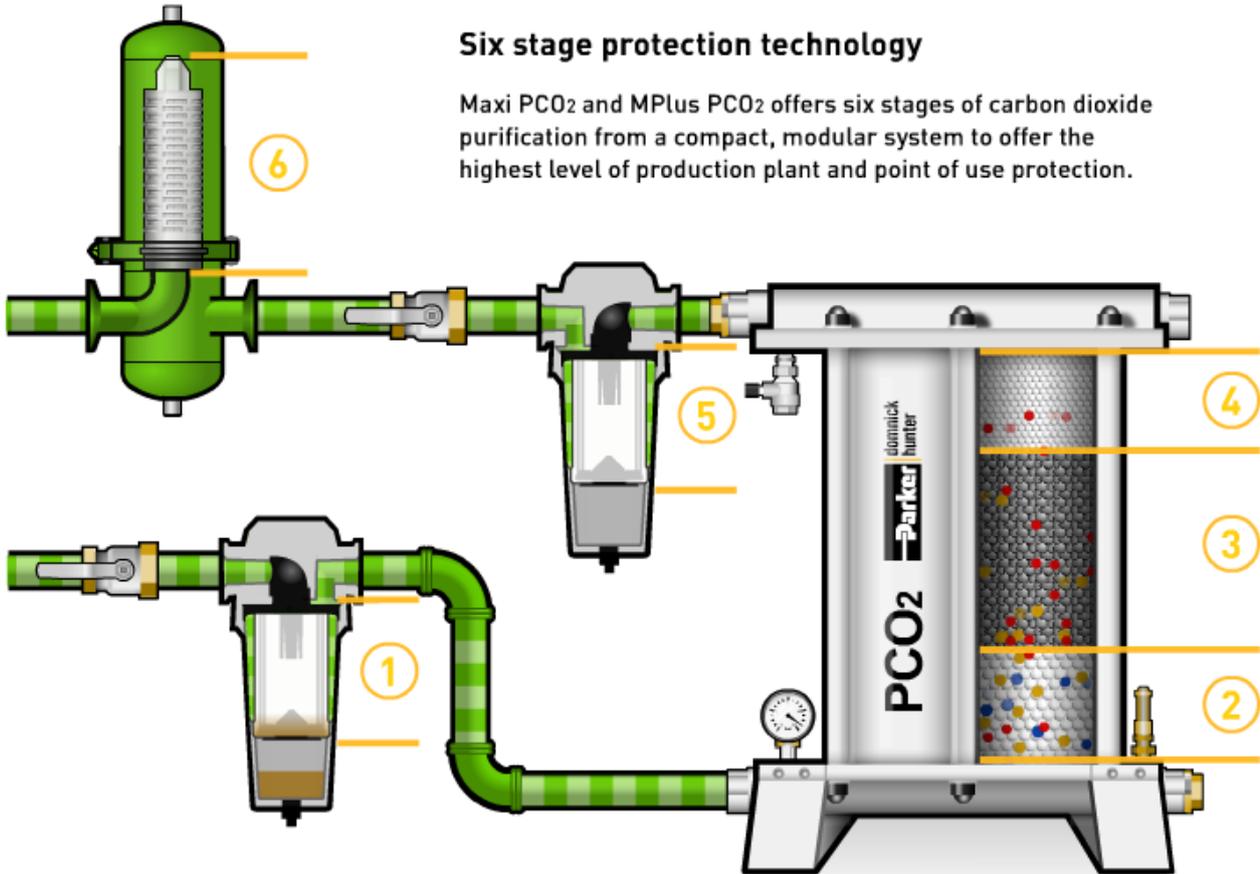


## Stage 3

Primary removal of aromatic hydrocarbons (Benzene, Toluene etc and Acetaldehyde)

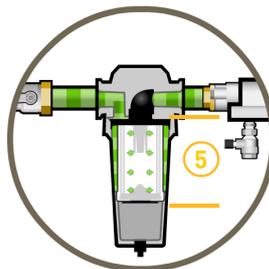
## Six stage protection technology

Maxi PCO<sub>2</sub> and MPlus PCO<sub>2</sub> offers six stages of carbon dioxide purification from a compact, modular system to offer the highest level of production plant and point of use protection.



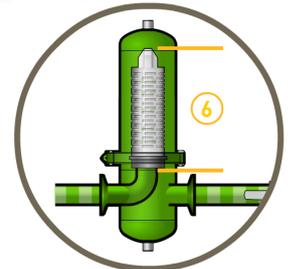
## Stage 4

Removal of sulphur compounds (COS, H<sub>2</sub>S, DMS etc)



## Stage 5

0.01 micron particle filtration



## Stage 6

Point of use VBACE sterile gas membrane. Hi Flow Tetpor II

## REMOÇÃO DE CONTAMINANTES NOS 3 ESTÁGIOS DE PROTEÇÃO.

- ✓✓ Good Adsorption
- ✓ Partial Adsorption
- ✗ No Adsorption

Example Contaminants	Adsorbent Material		
	Stage 2 Adsorbent Activated Alumina	Stage 3 Adsorbent Activated Carbon	Stage 4 Adsorbent Molecular Sieve
Benzene	✓	✓✓	✓
Toulene	✓	✓✓	✓
Xylene	✓	✓✓	✓
Cyclohexane	✓	✓✓	✓
Acetaldehyde	✓	✓✓	✓
2-Butanone	✓	✓	✓
Dimethyl Ether	✓	✓	✓
Isoamyl Acetate	✓	✓✓	✓
Ethyl Acetate	✓	✓✓	✓
Styrene	✓	✓✓	✓
MIBK	✓	✓✓	✓
Ethanol	✗	✓✓	✓
Methanol	✓	✓✓	✓
Water	✓✓	✓	✓
COS	✗	✓	✓✓
H <sub>2</sub> S	✗	✓	✓✓
SO <sub>2</sub>	✗	✓	✓✓

# DADOS TÉCNICOS

## Product Selection

Data is based on 24.1 bar g (350 psi g). For flows at other lower pressures apply the correction factors shown below.

Model	Flow Rate		Quantity Required	Maintenance kit	Number of cartridges
	Kg/h	Lb/h			
PCO2-400	181	400	1	MK-PCO2-400	1
PCO2-800	363	800	1	MK-PCO2-800	2
PCO2-1600	726	1600	1	MK-PCO2-1600	4
PCO2-2400	1089	2400	1	MK-PCO2-2400	6
PCO2-3200	1451	3200	1	MK-PCO2-3200	8
PCO2-4000	1814	4000	1	MK-PCO2-4000	10
PCO2-4800	2177	4800	1	MK-PCO2-4800	12
PCO2-3200 Duplex*	2903	6400	2	MK-PCO2-6400	16 (8 per unit)
PCO2-4000 Duplex*	3628	8000	2	MK-PCO2-8000	20 (10 per unit)
PCO2-4800 Duplex*	4354	9600	2	MK-PCO2-9600	24 (12 per unit)

\*Duplex systems are installed in parallel to double the flow.

All systems are rated at a maximum operating pressure of 24.1 Bar g / 350 psi g.

With the exception of the PCO2-400 which is rated at 20.7 Bar g / 300 psi g.

## Pressure Correction Factors

Inlet Pressure	bar g	3	4	5	6	7	8	9	10	11	12	13
		psi g	44	58	73	87	102	116	130	145	160	174
Correction factor		0.19	0.23	0.28	0.33	0.38	0.42	0.47	0.52	0.57	0.61	0.66

Inlet Pressure	bar g	14	15	16	17	18	19	20	21	22	23	24
		psi g	203	218	232	247	261	275	290	304	319	333
Correction factor		0.71	0.76	0.80	0.85	0.90	0.95	1	1	1	1	1

## Weights and Dimensions

Model	Port Size*	Height (H)		Width (W)		Depth (D)		Clearance**		Weight	
		mm	ins	mm	ins	mm	ins	mm	ins	kg	lbs
PCO2-400	1"	1035	40.8	564	22.2	350	13.7	680	27	75	165
PCO2-800	1 1/2"	1060.7	41.8	632	24.9	450	17.7	680	27	84	185
PCO2-1600	1 1/2"	1060.7	41.8	801	31.5	450	17.7	680	27	128	282
PCO2-2400	1 1/2"	1060.7	41.8	970	39.4	450	17.7	680	27	172	379
PCO2-3200	1 1/2"	1060.7	41.8	1139	44.8	450	17.7	680	27	217	478
PCO2-4000	1 1/2"	1060.7	41.8	1308	51.5	450	17.7	680	27	260	573
PCO2-4800	1 1/2"	1060.7	41.8	1477	58.1	450	17.7	680	27	304	670

\* All systems are supplied as NPT with stainless steel adapters 'NPT to BSP' as standard.

\*\* Clearance required for the removal and servicing of cartridges

## Technical Data

	Unit	PCO2
Max. Operating Pressure	bar g psi g	24.1 350
Min. Operating Temperature	°C °F	-20 -4
Max. Operating Temperature	°C °F	40 104
Inlet CO <sub>2</sub> Quality*		ISBT beverage grade CO <sub>2</sub>

\*PCO2 CO<sub>2</sub> Systems are for gaseous CO<sub>2</sub> only

