

Adsorption dryer PDAD

FESTO



Characteristics

At a glance

Cold-regenerating adsorption dryer with defined pressure dew point and high flow rate for decentralised compressed air drying. Adsorption dryers are always required when pressure dew points of less than -20°C need to be reliably achieved.

- Defined fixed pressure dew point -40°C or -70°C (with reduced flow rate)
- Integrated filtering of oil and particulates
- High flow rate performance of up to 2400 l/min
- Selectable voltage for electrical connection

The air flow is filtered in the pre-filter supplied, a micro filter with a grade of filtration of $0.01\ \mu\text{m}$. It protects the drying agent from interfering dirt and oil particles. The adsorption dryer has two (four in the PDAD-100) cartridges filled with drying agent.

The damp compressed air flows alternately through one of the two cartridges, whereby the water is deposited on the surface of the drying agent. After a preset time, the air flow is switched to the other cartridge and some of the dried air (purge air) is used to regenerate the drying agent in the first cartridge. The purge air escapes into the atmosphere.

Note: The drying agent has a service life of 12000 operating hours. The average purge air requirement at nominal conditions (7 bar/ 25°C) is approx. 17%. If the dryer is used under different operating conditions, the ratio of input air/purge air could change, as purge air consumption depends only on the input pressure and not on the output flow rate used. It is therefore necessary to adjust the purge air volume to different input pressures by replacing the air gun nozzle (air gun nozzle set with 3 air gun nozzles ADNA)

Type code

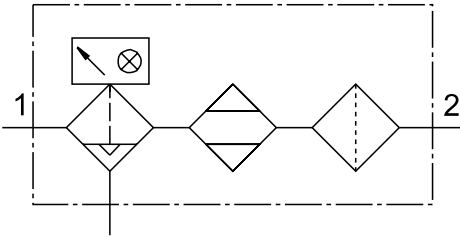
001	Series	
PDAD	Adsorption dryer	

002	Dryer version	
F9	Nominal flow rate 90 l/min	
F13	Nominal flow rate 130 l/min	
F22	Nominal flow rate 220 l/min	
F51	Nominal flow rate 510 l/min	
F73	Nominal flow rate 730 l/min	
F100	Nominal flow rate 1000 l/min	

003	Pneumatic connection	
G12	G1/2	
G38	G3/8	

Datasheet

General technical data



Dryer version	Nominal flow rate 90 l/min	Nominal flow rate 130 l/min	Nominal flow rate 220 l/min	Nominal flow rate 510 l/min	Nominal flow rate 730 l/min	Nominal flow rate 1000 l/min
Pneumatic connection, port 1	G3/8				G1/2	
Pneumatic connection, port 2	G3/8				G1/2	
Design	Cold regenerating adsorption dryer					
Type of mounting	With accessories					
Mounting position	Vertical, Horizontal					
Pressure dew point	-40°C					
Pressure dewpoint with reduced cross-section	-70°C					
Air purity class at output	Compressed air to ISO 8573-1:2010 [2:1:2] at -70°C Compressed air to ISO 8573-1:2010 [2:2:2] at -40°C					
Pollution degree	2					

Electrical data

Electrical connection 1, function	Power supply AC
Electrical connection 1, connection type	Socket
Electrical connection 1, connector system	Plug pattern type C to industry standard, 9.4 mm
Electrical connection 1, number of connections/cores	3
Electrical connection 1, used connections/cores	2
Electrical connection 2, function	Power supply DC
Electrical connection 2, connection type	Socket
Electrical connection 2, connector system	Plug pattern type C to industry standard, 9.4 mm
Electrical connection 2, number of connections/cores	4
Electrical connection 2, used connections/cores	2
Power consumption at 24VDC	9.6 W
Power consumption at 230 VAC	16 VA
Degree of protection	IP65
Protection class	II
Overvoltage category	II

Datasheet

Operating and environmental conditions

Inlet pressure 1	4 ... 16 bar
Operating medium	Compressed air to ISO 8573-1:2010 [6:-:4]
Note on operating and pilot medium	Lubricated operation not possible, No water in liquid form
Ambient temperature	5 ... 50°C
Media temperature	2 ... 50°C
Storage temperature	-20 ... 60°C
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress
CE mark (see declaration of conformity) ²⁾	In accordance with EU Pressure Equipment Directive, To EU EMC Directive, To EU Low Voltage Directive
CE marking (see declaration of conformity) ³⁾	to UK Pressure Equipment Regulations, To UK instructions for EMC, To UK regulations for electrical equipment
KC mark	KC-EMV

1) Further information www.festo.com/x/topic/crc

2) Further information www.festo.com/catalogue/pdad → Support/Downloads. EMC: if the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

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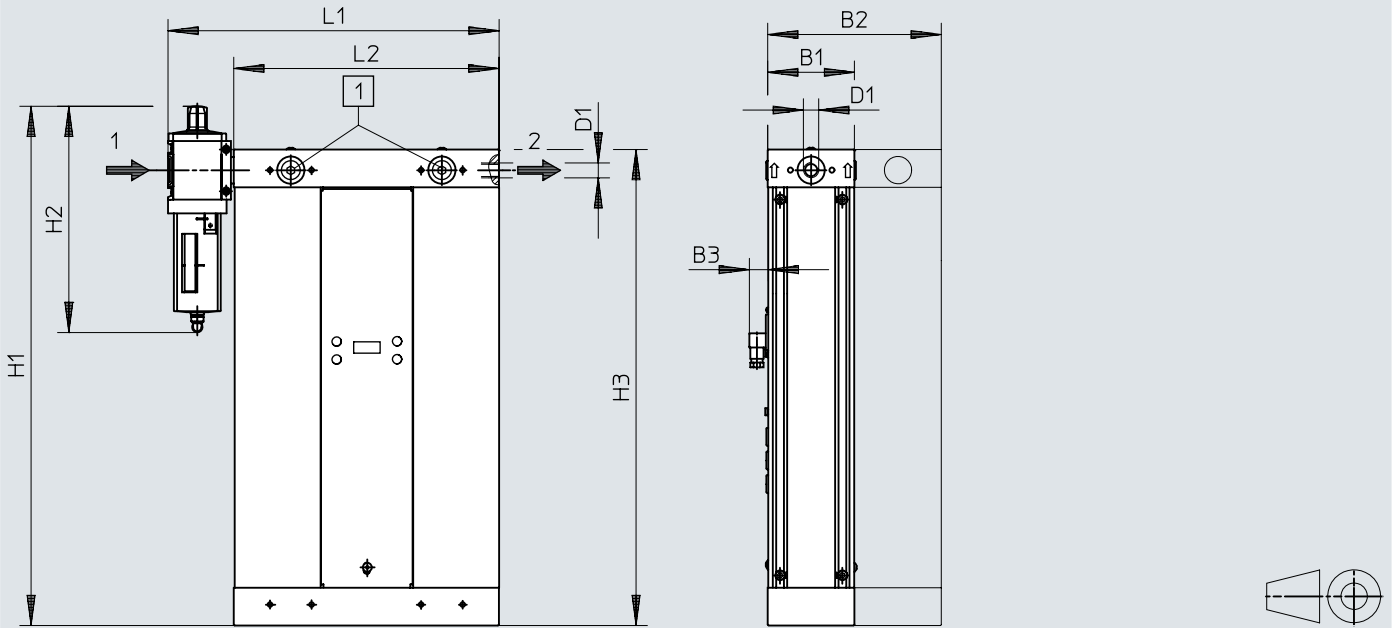
Materials

Material housing	Wrought aluminium alloy
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Dimensions

Dimensions – with pre-filter and connecting kit

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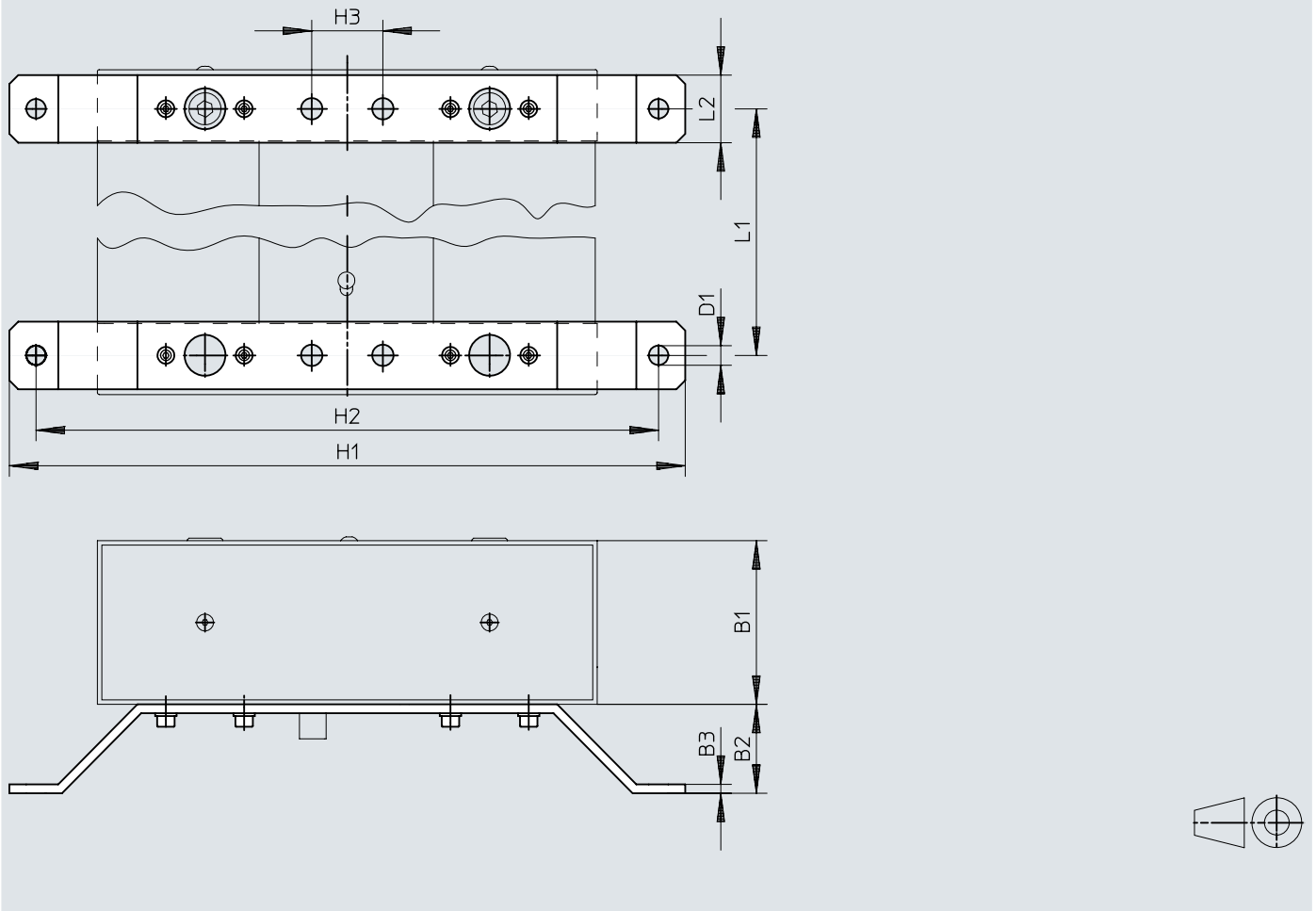
[1] Blanking plug

	B1	B2	B3	D1	H1	H2	H3	L1	L2
PDAD-09	~92	–	~20	G3/8	~491	~240	~445	~351	~281
PDAD-13	~92	–	~20	G3/8	~550	~240	~504	~351	~281
PDAD-22	~92	–	~20	G3/8	~681	~240	~635	~351	~281
PDAD-51	~92	–	~20	G3/8	~1111	~240	~1065	~351	~281
PDAD-73	~92	–	~20	G1/2	~1506	~360	~1460	~351	~281
PDAD-100	–	~184	~20	G1/2	~1111	~360	~1065	~351	~281

Dimensions

Dimensions – Wall mounting kit ABMW

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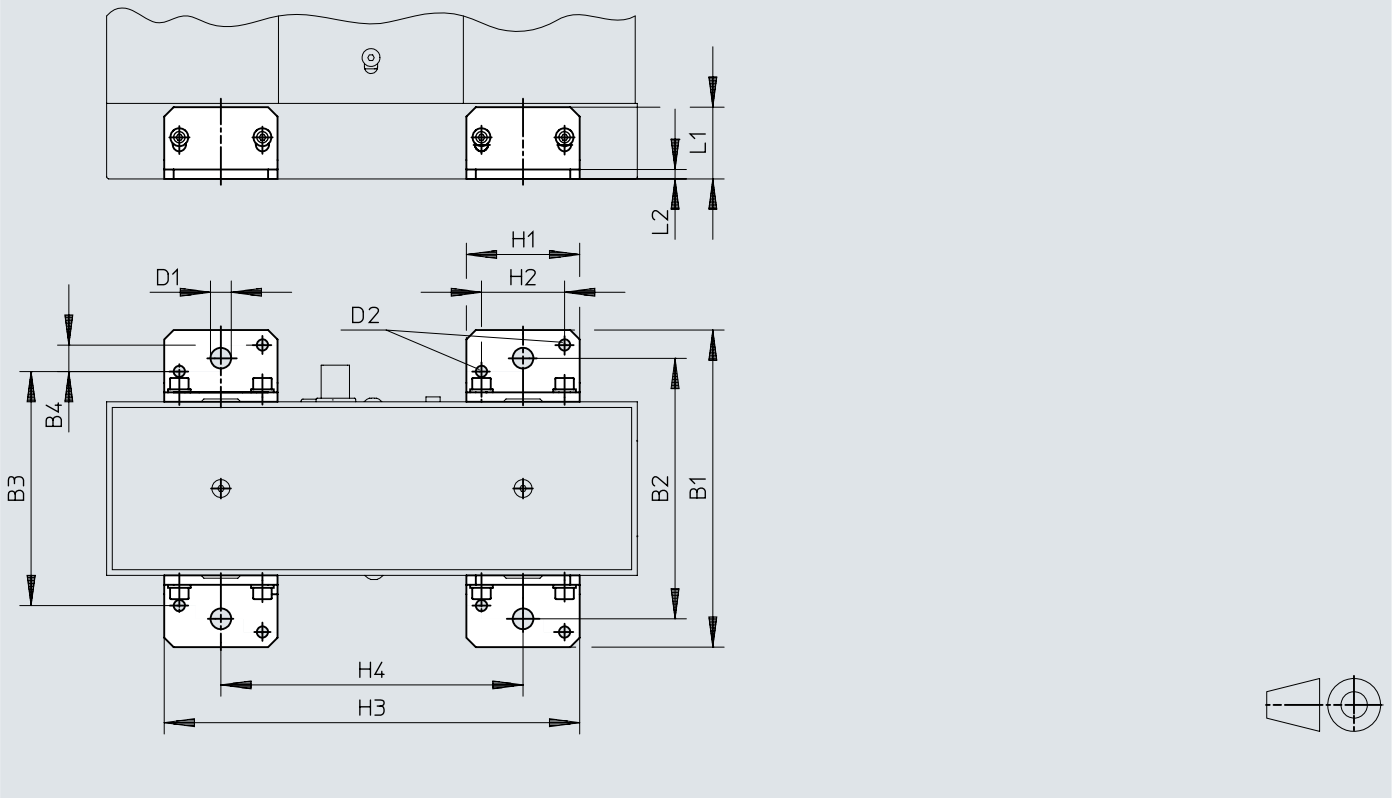


		B1	B2	B3	D1 ∅	H1	H2	H3	L1	L2
ABMW-PDAD	PDAD-09	92	50	5	11	380	350	40	401	38
	PDAD-13	92	50	5	11	380	350	40	460	38
	PDAD-22	92	50	5	11	380	350	40	591	38
	PDAD-51	92	50	5	11	380	350	40	1021	38
	PDAD-73	92	50	5	11	380	350	40	1416	38
	PDAD-100	184	50	5	11	380	350	40	1021	38

Dimensions


Dimensions – Foot mounting ABMF

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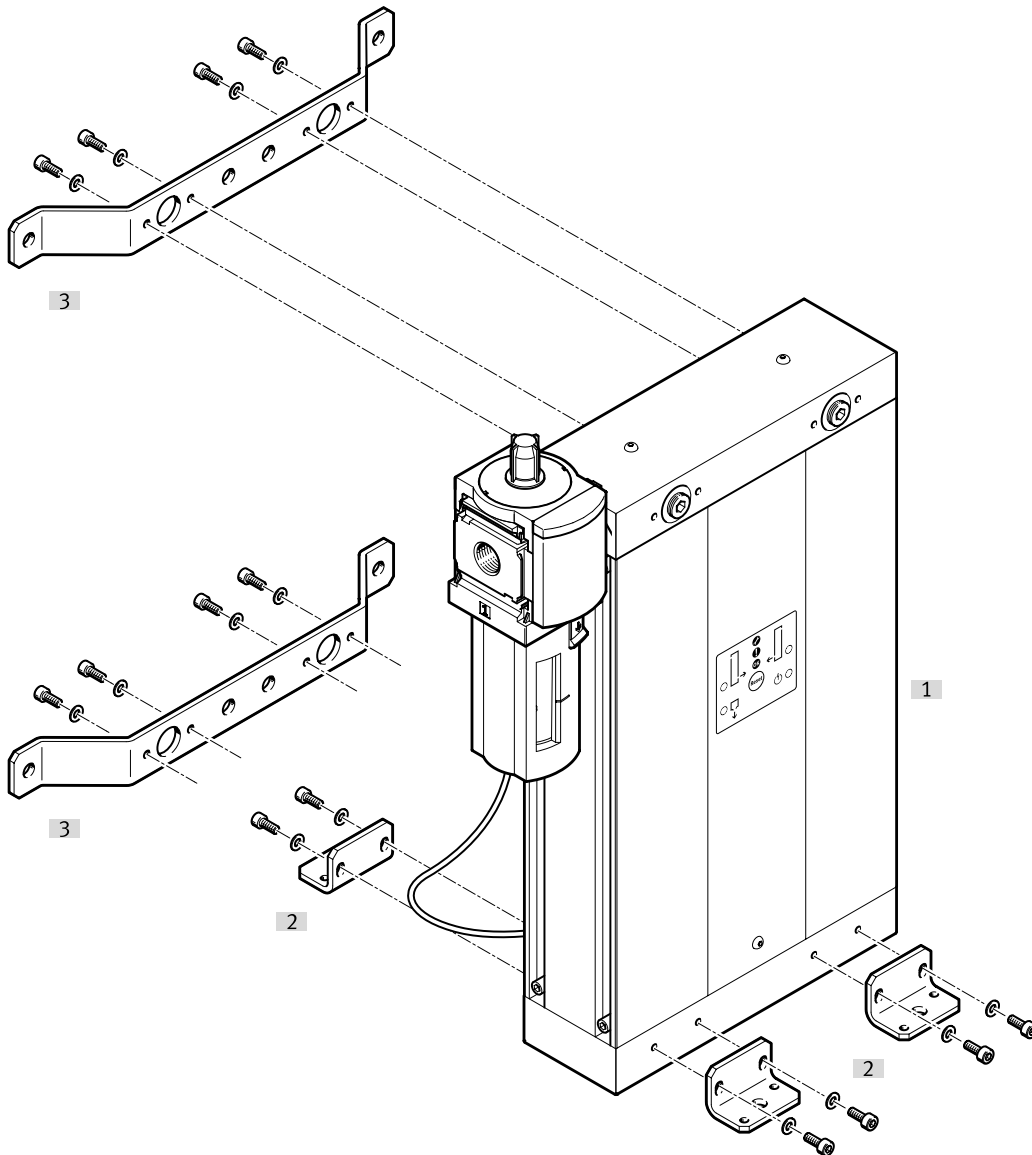
		B1	B2	B3	B4	D1 ∅	D2 ∅	H1	H2	H3	H4	L1	L2
ABMF-PDAD	PDAD-09/13/22/51/73	168	138	124	14	11	6	60	44	220	160	38	5
	PDAD-100	260	230	216	14	11	6	60	44	220	160	38	5

Ordering data

Order details (with pre-filter, connection kit, power supply socket)						
	Pneumatic connection, port 1	Pneumatic connection, port 2	Dryer version	Product weight	Part no.	Type
	G3/8	G3/8	Nominal flow rate 90 l/min	13000 g	552170	PDAD-09-G3/8
			Nominal flow rate 130 l/min	14000 g	552171	PDAD-13-G3/8
			Nominal flow rate 220 l/min	16500 g	552172	PDAD-22-G3/8
			Nominal flow rate 510 l/min	24000 g	552173	PDAD-51-G3/8
	G1/2	G1/2	Nominal flow rate 730 l/min	31000 g	552174	PDAD-73-G1/2
			Nominal flow rate 1000 l/min	47000 g	552175	PDAD-100-G1/2

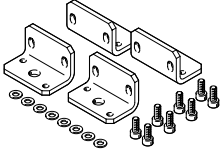
Peripherals

Peripherals overview

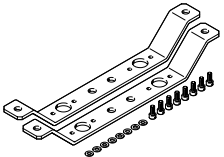


Accessories		→ Page/Internet
Type/order code	Description	
[1] Adsorption dryer PDAD		pdad
[2] Foot mounting ABMF		11
[3] Wall mounting kit ABMW		11

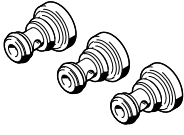
Accessories

Foot mounting ABMF-PDAD					
	Corrosion resistance class CRC ¹⁾	LABS (PWIS) conformity	Part no.	Type	
	2 - Moderate corrosion stress	VDMA24364-B1/B2-L	553755	ABMF-PDAD	

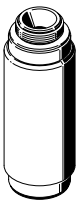
1) More information www.festo.com/x/topic/crc

Wall mounting kit ABMW-PDAD					
	Corrosion resistance class CRC ¹⁾	LABS (PWIS) conformity	Part no.	Type	
	2 - Moderate corrosion stress	VDMA24364-B1/B2-L	553756	ABMW-PDAD	

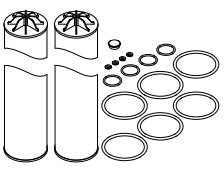
1) More information www.festo.com/x/topic/crc

Air gun nozzle ADNA					
	Description ¹⁾	Material housing	LABS (PWIS) conformity	Part no.	Type
	For type PDAD-09	Brass	VDMA24364-C1-L	553763	ADNA-PDAD-09
	For type PDAD-100			553768	ADNA-PDAD-100
	For type PDAD-22			553765	ADNA-PDAD-22
	For type PDAD-13			553764	ADNA-PDAD-13
	For type PDAD-73			553767	ADNA-PDAD-73
	For type PDAD-51			553766	ADNA-PDAD-51

1) Set consisting of 3 air gun nozzles (6 air gun nozzles for PDAD-100). See additional document for configuration options

Micro-filter cartridge MS6-LFM-A					
	Description ¹⁾	Grade of filtration	LABS (PWIS) conformity	Part no.	Type
	For type PDAD-73/100	0.01 µm	VDMA24364-B1/B2-L	552093	MS6-LFM-A-HF
	For type PDAD-09/13/22/51			532909	MS6-LFM-A

1) For pre-filter

Service kit PDAD-SP					
	Description ¹⁾	Operating pressure	LABS (PWIS) conformity	Part no.	Type
	For type PDAD-100	4 ... 16 bar	VDMA24364-B1/B2-L	553754	PDAD-100-SP-12000
	For type PDAD-22			553751	PDAD-22-SP-12000
	For type PDAD-73			553753	PDAD-73-SP-12000
	For type PDAD-51			553752	PDAD-51-SP-12000
	For type PDAD-09			553749	PDAD-09-SP-12000
	For type PDAD-13			553750	PDAD-13-SP-12000

1) with 2 drying agent cartridges (4 drying agent cartridges in the service kit PDAD-100-SP), sealing rings, plastic discs and a reset disc