PNUEDRI Compressed Air Dryer

DME012 - DME080

Engineering Data Sheet

Description

Parker domnick hunter desiccant dryers are designed to remove moisture vapour from compressed air. Providing pressure dewpoints of -40°C (-40°F) or -70°C (-100°F) at specified conditions.

The dryers comprise of extruded aluminium columns. Each column contains twin chambers filled with desiccant material that dries the compressed air as it passes through. One chamber is operational (drying), whilst the opposite chamber is regenerating by Pressure Swing Adsorption (PSA).

Pressure Swing Adsorption (PSA)

A small amount of the dried compressed air is used to regenerate the spent desiccant bed. Dried air at line pressure is expanded to atmospheric pressure through the regenerating column.

Dewpoint Dependent Switching (DDS)

If DDS is fitted, this will adjust the dryer's cycle in line with the moisture loading placed upon it, by constantly monitoring the processed air moisture content. Also available as a retrofit to all dryer models.

Technical Specification

This specification is valid when the equipment is located, installed, operated, and maintained as specified within this user guide.

Stated flows are for operation at 7 bar g (102 psi g) with reference to 20ºC (68ºF), 1 bar (a) (14.5 psi), 0% relative humidity. For flows at other conditions, apply the correction factors shown.

Model	Pipe Size	m^3/min	m^3/hr	cfm
DME012	3/4”	0.68	40.8	24
DME015	3/4”	0.91	54.6	32
DME020	3/4”	1.19	71.4	42
DME025	3/4”	1.5	90	53
DME030	3/4”	1.84	110.4	65
DME040	3/4”	2.49	149	88
DME050	1”	3	180	106
DME060	1”	3.68	220.8	130
DME080	1”	4.98	298.8	176

Correction Factors

Minimum Drying Capacity = Inlet Flow Requirement x CFT x CFP

Temperature Correction Factor (CFT)

Max Inlet Temperature	ºC	25	30	35	40	45	50
	ºF	77	86	95	104	113	122
	CFT	1.00	1.00	1.00	1.03	1.14	1.37

Pressure Correction Factor (CFP)

Min Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	58	73	87	102	116	131	145	160	174	189	203	218	232
	CFP	1.59	1.33	1.14	1.00	0.88	0.80	0.72	0.67	0.61	0.57	0.53	0.50	0.47

Minimum Operating Pressure	4 bar g
	58 psi g
Maximum Operating Pressure DME012 - DME040	16 bar g
	232 psi g
Maximum Operating Pressure DME050 - DME080	13 bar g
	190 psi g
Minimum Operating Temperature	5°C
	41°F
Maximum Inlet Air Temperature	50°C
	122°F
Maximum Ambient Air Temperature	55°C
	131°F
Noise Level	<75 dB(A)
Standard Electrical Supply	230 V 1ph 50 Hz
Optional Electrical Supply	110 V 1ph 60 Hz
Nominal Dewpoint	-40°C
	-40°F
Optional Dewpoint	-70°C
	-100°F
Nominal ISO 8573.1 : 2010 Classification	Class 2 Water
Optional ISO 8573.1 : 2010 Classification	Class 1 Water
Standard Thread Connections	BSPP
Optional Thread Connections	NPT

Approvals	
CRN	OH0373.9C (DME012 - DME040)
	OH0372.9C (DME050 - DME080)
CSA-US	173682 (LR56310)

Caution

Before continuing with the installation and commissioning of this equipment:

Ensure that it is correctly sized for the inlet pressure, taking into consideration the pressure drop caused by the valves, pipes and filters within the system. Allowance should be made for purge air loss. The dryer should be typically sized at 1 bar (14 psi/0.1MPa) below nominal compressor output pressure.

The purge air flow is factory set for 6 bar g (87 psi g) minimum system pressure. Should the minimum supply pressure be higher or lower than this figure the purge air flow must be reset in order to maintain the specified dewpoint. Please contact your local Parker domnick hunter office for assistance.

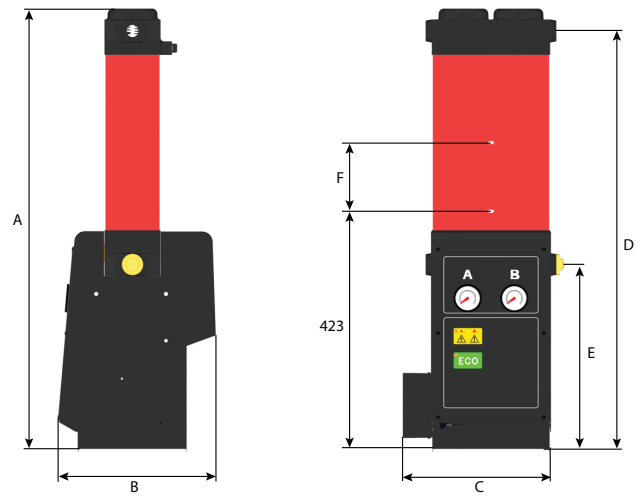
Ensure that it is correctly sized for inlet temperature to meet the dewpoint specified.

-40°C (-40°F) or -70°C (-100°F).

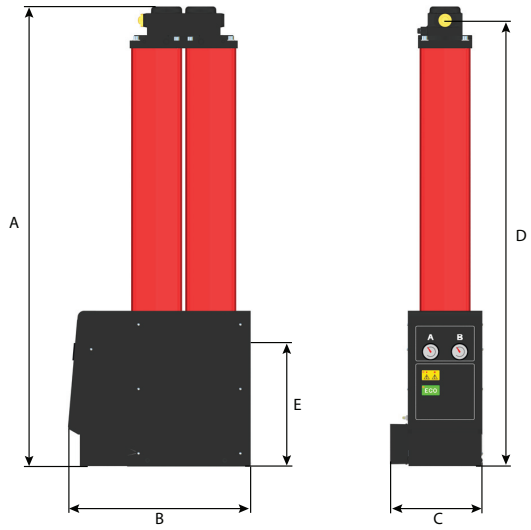
Ensure that the electrical supply voltage and frequency meet the requirements detailed within this specification and on the equipment rating plate.

Dimensions

DME012 - DME040



DME050 - DME080



Model	A mm (inches)	B mm (inches)	C mm (inches)	D mm (inches)	E mm (inches)	F mm (inches)	Weight Kg (lbs)
DME012	837 (32.9)	302 (11.9)	283 (11.1)	794 (31.26)	352 (13.86)	90 (3.5)	34 (75)
DME015	1003 (39.5)	302 (11.9)	283 (11.1)	960 (37.8)	352 (13.86)	173 (6.8)	39 (86)
DME020	1168 (46.0)	302 (11.9)	283 (11.1)	1125 (44.29)	352 (13.86)	255 (10.0)	44 (97)
DME025	1333 (52.5)	302 (11.9)	283 (11.1)	1290 (50.79)	352 (13.86)	338 (13.3)	49 (108)
DME030	1499 (59.0)	302 (11.9)	283 (11.1)	1456 (57.32)	352 (13.86)	421 (16.6)	54 (119)
DME040	1747 (68.8)	302 (11.9)	283 (11.1)	1456 (57.32)	352 (13.86)	545 (21.5)	60 (132)
DME050	1433 (56.4)	566 (22.3)	277 (10.9)	1389 (54.69)	395 (15.55)	N/A	86 (189)
DME060	1599 (62.9)	566 (22.3)	277 (10.9)	1555 (61.22)	395 (15.55)	N/A	97 (213)
DME080	1847 (72.7)	566 (22.3)	277 (10.9)	1803 (70.98)	395 (15.55)	N/A	111 (244)

Note: Weights include filters but are not shown in the diagram.

Servicing

The recommended service procedures identified in table 5.2 and all other repair and calibration work should be undertaken by a **Parker *domnick hunter*** trained, qualified and approved engineer.

Cleaning

Clean the equipment with a damp cloth only and avoid excessive moisture around any electrical sockets. If required you may use a mild detergent, however do not use abrasives or solvents as they may damage the warning labels on the equipment.

Service Intervals

Description Of Maintenance Required		Typical Recommended Maintenance Interval					
Component	**Operation**	**Daily**	**Weekly**	**3-month**	**6-month**	**12-month**	**36-month**
Dryer	Check POWER ON indicator is illuminated.	✓					
Dryer	Check STATUS / FAULT indicators located on the controller.	✓					
Dryer	Check for air leaks.		✓				
Dryer	Check the pressure gauges during purging for excessive back pressure.			✓			
Dryer	Check the condition of electrical supply cables and conduits.			✓			
Dryer	Check for cyclic operation.				✓		
Filtration	Check Drain operation			✓			
Dryer	Replace the active exhaust silencers **Recommended Service A**					🔧	
Filtration	Replace the inlet, outlet and control air filters, and service drains. **Recommended Service B**					🔧	
Dryer	Replace / Calibrate dewpoint transmitter (DDS Units only). **Recommended Service C**					🔧	
Dryer	Replace the valve seats and seals. **Recommended Service D**						🔧
Dryer	Replace the Desiccant. **Recommended Service E**						🔧

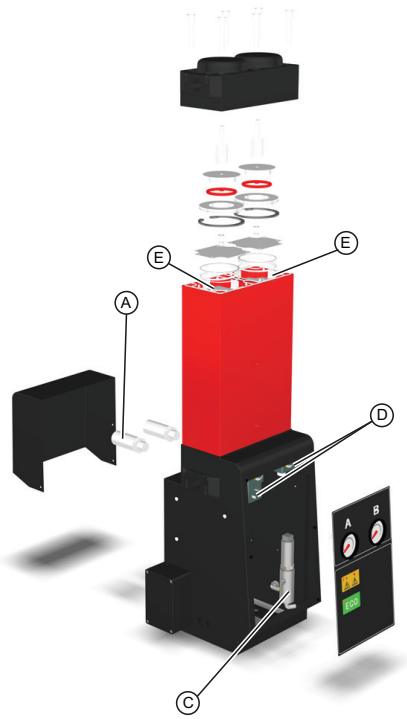
Key: ✓ - Check 🔧 – Replace

Service Kits

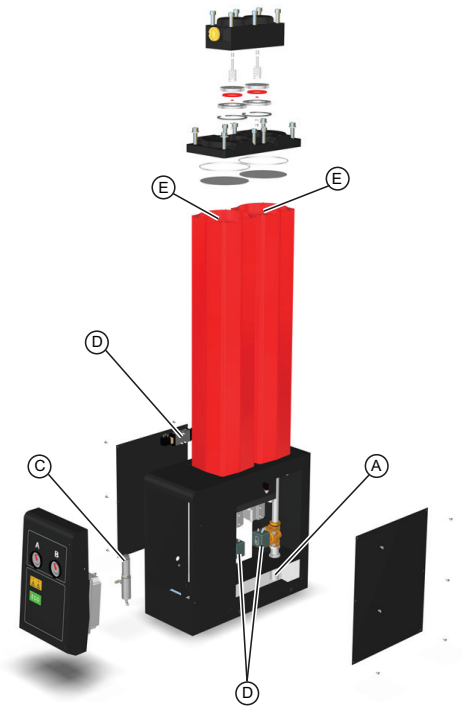
Service Kit	Description	Kit No.	Quantity
A	Kit: Exhaust Silencer Single DME012 - DME080	608330001	1
B	Refer to Filter user guide	171184000	-
C	Kit: Hygrometer Element & Block (S/N: upto 46437)	608203582	1
	Kit: Hygrometer Service (S/N: upto 46438 upto 509651)	608203581	
	Kit: Hygrometer Service (S/N: 50966 onwards)	608203580	
D	Kit: Valve Overhaul DME012 - DME040	608330006	1
	Kit: Valve Overhaul DME050 - DME080	608330007	1
E	AA 11.2 Litre Bag	608203661	See table below
	MS 13X 11.2 Litre Bag	608203662	See table below
	Kit: Column Seals DME012 - DME040	608203733	1
	Kit: Column Seals DME050 - DME080	608330010	1

	DME012		DME015		DME020		DME025		DME030		DME040		DME050		DME060		DME080	
	-40	-70	-40	-70	-40	-70	-40	-70	-40	-70	-40	-70	-40	-70	-40	-70	-40	-70
Dryfill AA	1		1		2		2		2		3		3		4		5	
Dryfill MS 13x		1		1		2		2		2		3		3		4		5
Seals	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

DME012 - DME040



DME050 - DME080



ELEMENTS

Parker filters are designed to produce clean compressed air, gas and liquid to the highest industry standards. To maintain impeccable results, Elements within the filter must be replaced annually.

Choosing the Parker brand means you can be assured that Elements are readily available, affordable and the most energy efficient product of its kind on the market. The elements are also supplied in 100% recyclable packaging. An additional advantage of purchasing Parker Elements is that you will reduce your company's carbon footprint by 190kg. This is the equivalent of a 700 mile flight from Edinburgh to Berlin!
Parker Filter Elements also prove to be highly efficient when used in any leading competitor's filters.

PARTS

Parker Kits make everyday maintenance easy. They are available for all of our products and are simply value-for money. The Parts within the kits support our customers' varied maintenance, repair and overhaul activities.

Additionally, Preventative Maintenance Kits can be purchased for dryers and gas generators. These kits mean our customers dryer's and generator's can be serviced easily to ensure optimum performance.
An extensive range of durable Parker Parts can be obtained within 24 hours to any European, Middle East or African destination.

SPECIALISED SERVICES

Parker Specialist Service Engineers test on-site efficiency measuring many variables including airflow, pressure, temperature, dewpoint and power consumption.

Our team of highly trained experts are the best in the industry. They take into account a range of environmental factors that could affect your system's performance. The results from this Specialist Service are extremely accurate and produce invaluable information.
Importantly, Parker informed recommendations lead to significant savings for our customers, which mean they return time and time again for our advice and products.

M.R.O

Maintenance Repair & Overhaul - Parker Technicians are the industry's finest. Their skills and qualifications are annually approved to keep their product and legislation knowledge fresh and expertise relevant.

With this in mind, Parker offers onsite and on demand servicing to meet customers' unique requirements in a timely and efficient manner.

Parker MRO service ranges from a basic maintenance check covered under product warranty right through to a comprehensive programme, which even puts the onsite application under the microscope.

With customers at the heart of everything Parker does, the MRO service is no exception to this.
Parker Filter Elements also prove to be highly efficient when used in any leading competitor's filters

SUPPORT SERVICES

Parker Support Services are the first port of call for customers in need of help or guidance.

The fact that this team is responsible for the production of User Guides and Manuals gives you an insight into the level and detail of their parts and product knowledge.

Over-the-phone support is just one way in which Parker's extremely knowledgeable team, quickly reduces downtime or resolves product queries.

On some occasions engineers need to be on site to carry out a repair. In these cases, the local engineer will be quickly dispatched to ensure our customers can return to production as soon as possible.
One-to-one training can also be provided by our Support Services team. This has enabled hundreds of Parker distributors to gain an in-depth understanding. Training will also ensure distributors can make timely repairs and easily maintain their customers' products.

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