

# PNEUDRI MIDiplus

## Heatless (PSA) Regeneration High Efficiency Compressed Air Dryers



Compressed air contamination problems can be simply avoided by installing a Parker domnick hunter PNEUDRI MIDiplus High Efficiency Compressed Air Dryer package fitted with OIL-X EVOLUTION filtration. The packages are suitable for use with any compressor type and are suited to point of use applications.

Compressed air purification equipment must deliver uncompromising performance and reliability whilst providing the right balance of air quality with the lowest cost of operation. Many manufacturers offer products for the filtration and purification of contaminated compressed air, which are often selected only upon their initial purchase cost, with little or no regard for the air quality they provide, the cost of operation throughout their life or indeed their environmental impact. When purchasing purification equipment, delivered air quality, the overall cost of ownership and the equipment's environmental impact must always be considered.



### The Parker domnick hunter Design Philosophy

Parker domnick hunter has been supplying industry with high efficiency filtration and purification products since 1963. Our philosophy 'Designed for Air Quality & Energy Efficiency' ensures products that not only provide the user with clean, high quality compressed air, but also with low lifetime costs and reduced CO<sub>2</sub> emissions.



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### Benefits:

- PNEUDRI dryers provide efficient removal of water vapour from compressed air
- Delivered air quality is in accordance with ISO 8573-1:2001, the international standard for compressed air quality
- Improves production efficiency and reduces maintenance costs and downtime
- Pressure Dewpoint's of -70°C & -40°C (ISO 8573-1 :2001 Classes 1 & 2) are available
- Unlike refrigeration dryers, the -40°C & -70°C pressure dewpoint's offered by PNEUDRI not only eliminates corrosion, it also inhibits the growth of micro-organisms
- Ideal for both compressor room and point of use applications
- Low noise level <75 db (A)
- Compared to traditional twin tower dryer designs, PNEUDRI's unique modular construction and snowstorm filling of the adsorbent desiccant material provides:-
  - Consistent dewpoint performance
  - A smaller, more compact and lightweight dryer
  - Simple to install and easy to maintain
  - Fully corrosion protected inside and out
  - Approvals to International Standards (PED, CSA/UL/CRN)
  - Eliminates the need for costly annual pressure vessel inspections
  - 10 year guarantee on pressure envelope
- Optional Energy Management System available



## Dryer Performance

Dryer Models	Dewpoint (Standard)		ISO 8573-1:2001 Classification (standard)	Dewpoint (Option 1)		ISO 8573-1:2001 Classification (Option 1)
	°C	°F		°C	°F	
DME	-40	-40	Class 2	-70	-100	Class 1
DMOP	-40	-40	Class 2	-70	-100	Class 1

## Product Selection

Stated flows are for operation at 7 bar g (100 psi g) with reference to 20°C, 1 bar a, 0% relative water vapour pressure. For flows at other pressures, apply the correction factors shown.

Model	PIPE SIZE	L/S	m <sup>3</sup> /min	m <sup>3</sup> /hr	cfm
DME012	G 1/2	11	0.68	41	24
DME015	G 1/2	15	0.91	55	32
DME020	G 1/2	20	1.19	71	42
DME025	G 1/2	25	1.50	90	53
DME030	G 1/2	31	1.84	110	65
DME040	G 3/4	42	2.49	149	88
DME050	G 1	50	3.01	180	106
DME060	G 1	61	3.69	221	130
DME080	G 1	83	4.99	299	176

## Correction Factor

Temperature Correction Factor CFT							
Maximum Inlet Temperature	°C	25	30	35	40	45	50
	°F	77	86	95	104	113	122
	CFT	1.00	1.00	1.00	1.04	1.14	1.37

Pressure Correction Factor CFP														
Minimum Inlet Pressure	bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	58	73	87	100	116	131	145	160	174	189	203	218	232
	CFP	1.60	1.33	1.14	1.00	0.89	0.80	0.73	0.67	0.62	0.57	0.54	0.5	0.47

Dewpoint Correction Factor CFD			
Required Dewpoint	PDP °C	-40	-70
	PDP °F	-40	-100
	CFD	1.00	1.43

## Dryer Selection

To correctly select a dryer model, the flow rate of the dryer must be adjusted for the minimum operating pressure and, maximum operational temperature of the system. If the dewpoint required is different to the standard dewpoint of the dryer then the flow rate must also be adjusted for the required outlet dewpoint.

- Obtain the minimum operating pressure, maximum inlet temperature and maximum compressed air flow rate at the inlet of the dryer. Obtain the outlet dewpoint required.
- Select correction factor for maximum inlet temperature from the CFT Table (always round up e.g. for 37°C use 40°C correction factor)
- Select correction factor for minimum inlet pressure from the CFP table (always round down e.g. for 5.3 bar use 5 bar correction factor)
- Select correction factor for required outlet dewpoint from the CFD table
- Calculate minimum drying capacity  
Minimum Drying Capacity = Compressed Air Flow x CFT x CFP x CFD
- Using the minimum drying capacity, select a dryer model from the flow rate tables above (dryer selected must have a flow rate equal to or greater than the minimum drying capacity)

If the minimum drying capacity exceeds the maximum values of the models shown within the tables, please contact Parker domnick hunter for advice regarding larger multi-banked dryers.

## Technical Data

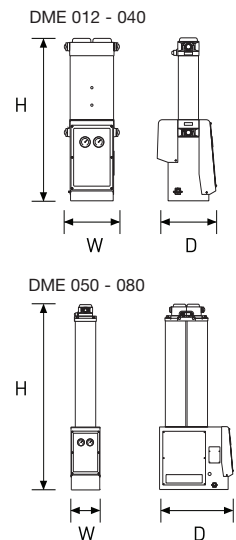
Dryer Models	Min Operating Pressure		Max Operating Pressure		Min Operating Temperature		Max Operating Temperature		Max Ambient Temperature		Electrical Supply (Standard)	Electrical Supply (Optional)	Thread Connection	Noise Level dB(A)
	bar g	psi g	bar g	psi g	°C	°F	°C	°F	°C	°F				
DME012 - DME040	4	58	16	232	2	35	50	122	55	131	230V 1ph 50/60Hz	110V 1ph 50/60Hz	BSP or NPT	<75
DME050 - DME080	4	58	13	190	2	35	50	122	55	131	230V 1ph 50/60Hz	110V 1ph 50/60Hz	BSP or NPT	<75
DMOP	4	58	13	190	2	35	50	122	55	131	N/A	N/A	BSP or NPT	<75

## Controller Options

Controller Options	Function								
	Power On Indication	Fault Indication	Display Fault Condition Values	Service Interval Indication	Service Countdown Timers	Configurable Alarm Settings	Remote Volt Free Alarm contacts	Filter Service Timer	DDS Energy Management System
DME (Electronic control)	•	•					•		
DME DDS	•	•					•		•
DMOP									

## Weights and Dimensions

Model	Port Size Inlet / Outlet	Dimensions						Weight	
		Height (H)		Width (W)		Depth (D)		kg	lbs
		mm	ins	mm	ins	mm	ins		
DME012	G 3/4	837	33.0	284	11.2	302	11.9	32	70
DME015	G 3/4	1003	39.5	284	11.2	302	11.9	37	81
DME020	G 3/4	1168	46.0	284	11.2	302	11.9	42	92
DME025	G 3/4	1333	52.5	284	11.2	302	11.9	47	103
DME030	G 3/4	1499	59.0	284	11.2	302	11.9	52	114
DME040	G 3/4	1747	68.8	284	11.2	302	11.9	60	132
DME050	G 1	1433	56.4	220	8.7	566	22.3	80	176
DME060	G 1	1599	63.0	220	8.7	566	22.3	90	198
DME080	G 1	1847	72.7	220	8.7	566	22.3	104	229



### Important Note

Adsorption dryers are designed to remove water vapour from compressed air. For optimum performance and to deliver air quality in accordance with ISO 8573-1:2001, liquid water, oil and solid particulate must be first be removed using Parker domnick hunter OIL-X EVOLUTION Grade AO, AA filters. Grade AR filters should also be fitted to the outlet of the dryer for solid particulate removal.

## Recommended Filtration

For Dryer Model	Filter Pipe Size (R = BSPT)	Inlet General Purpose Pre-filter	Inlet High Efficiency Filter	Outlet Dust Filter
DME012	R 3/4	AO020DBFX	AA020DBFX	AR020DBMX
DME015	R 3/4	AO020DBFX	AA020DBFX	AR020DBMX
DME020	R 3/4	AO020DBFX	AA020DBFX	AR020DBMX
DME025	R 3/4	AO020DBFX	AA020DBFX	AR020DBMX
DME030	R 3/4	AO020DBFX	AA020DBFX	AR020DBMX
DME040	R 3/4	AO025DBFX	AA025DBFX	AR025DBMX
DME050	R 1	AO025EBFX	AA025EBFX	AR025EBMX
DME060	R 1	AO030EBFX	AA030EBFX	AR030EBMX
DME080	R 1	AO030EBFX	AA030EBFX	AR030EBMX