



domnick hunter

FILTRATION > the clear liquid or gas obtained after filtration.
verb (filtrated, filtrating) tr & intr to filter. filtration noun.
ETYMOLOGY: 17c. from Latin filtrare to filter.

FILTRATION - PURIFICATION - SEPARATION

PURIFICATION > 1. to make or become pure. 2. to cleanse
something of contaminating or harmful substances. 3. to rid
something of intrusive elements.

ETYMOLOGY: 14c. from Latin purificare, from purus pure.

SEPARATION > 1. the
2. the state or process
of line where there is
that separates.
ETYMOLOGY: 15c.



PNEUDRI MIDiplus

High Efficiency Compressed Air Dryers

www.domnickhunter.com

Air contains Water, Oil and Dirt

The Problem

Compressed air is an essential power source that is widely used throughout industry. This safe, powerful and reliable utility can be the most important part of your production process. However, your compressed air will contain water, dirt, wear particles, bacteria and even degraded lubricating oil which all mix together to form an unwanted abrasive sludge.

This sludge, often acidic, rapidly wears pneumatic machinery, blocks valves and orifices causing high maintenance and costly air leaks. It also corrodes piping systems and can bring your production process to an extremely expensive standstill!

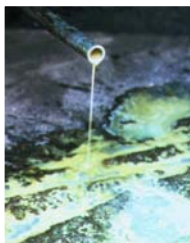
The Solution

All of these costly problems can be simply avoided by installing a domnick hunter PNEUDRI MIDIplus High Efficiency Compressed Air Dryer package fitted with OIL-Xplus filtration. The packages are suitable for use with any compressor type and are suited to point of use applications.

PNEUDRI totally cleans and dries compressed air down to -40°C (-40°F) dp as standard - (ISO8573.1 Class 1.2.1). For critical applications, PNEUDRI can be supplied with a dewpoint of -70°C (-100°F) dp (ISO8573.1 Class 1.1.1). Based on well proven designs and principles, PNEUDRI embodies true innovation and excellent value for money. Technically superior yet simple by design, PNEUDRI leads the way in compressed air drying.



Corrosion



Unwanted Abrasive Sludge



Damaged Tools

How PNEUDRI works

PNEUDRI comprises of a high tensile extruded aluminium column containing twin chambers filled with desiccant material which dries the compressed air as it passes through. One chamber is operational (drying), whilst the opposite chamber is regenerating using the Pressure Swing Adsorption (PSA) method of drying.

A small amount of the dried compressed air is used to regenerate the saturated desiccant bed by expanding air from line pressure to atmospheric pressure, removing the moisture adsorbed by the desiccant material, and therefore regenerating the dryer.

Dewpoint Dependent Switching (DDS) Energy Management System

Up to 80% of compressed air dryer energy can be saved by selecting the Dewpoint Dependent Switching option. By directly monitoring the outlet air quality (dewpoint) of the dryer, the system can automatically extend the 'drying period' beyond a normally fixed time cycle if the on-line drying chamber has adsorptive capacity remaining.

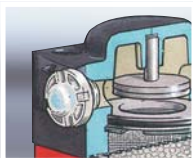
As compressed air systems rarely operate at full rated capacity all of the time, (e.g. during shiftwork and periods of low demand), the energy management system can provide considerable savings.

DURING THIS EXTENDED PERIOD OF ENERGY FREE DRYING, NO PURGE AIR ENERGY IS CONSUMED FOR REGENERATION.

This compact energy management system can be specified with any PNEUDRI MIDIplus compressed air dryer package, and may also be retrofitted.



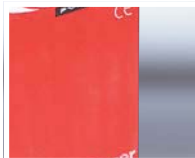
PNEUDRI MIDiplus DME Range



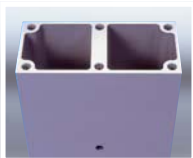
High visibility moisture indicators



High efficiency OIL-Xplus pre-and after filtration



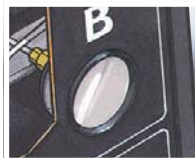
Corrosion protected by alocrom and epoxy painting



High tensile extruded aluminium construction



Snow Storm filled to prevent fluidisation and channelling



Pressure gauges provide constant system status



Reliable high performance electronic controls



Acoustic shroud lowers noise, and can be piped away



Optional energy saving Dewpoint Dependent Switching

The benefits

- **Dewpoint performance**
Clean dry compressed air prevents corrosion and damage
- **Point of use applications**
Only dry the air you need
- **Compact and space saving design**
Ideal for use with light industrial compressors
- **Improve plant efficiency**
Protect process and finished product
- **Simple to install and easy to maintain**
- **Economic to operate**
- **Approved to International Standards**
Award winning design in accordance with ASME VIII Div1.
Approved to PED, CSA/UL/CRN.

Technical Specifications

Flow Range:	24cfm (0.68m ³ /min) to 176cfm (4.98m ³ /min) at 7 bar g (102 psi g)	Maximum Inlet Temperature:	50°C (122°F)
Dewpoint: <small>(if -70°C pdp option required, contact domnick hunter)</small>	-40°C (-40°F) Nominal -70°C (-100°F) Optional	Minimum Inlet Temperature:	5°C (41°F)
Air Quality Class:	ISO 8573.1 Class 1.2.1 Nominal ISO 8573.1 Class 1.1.1 Optional	Controls:	MIDIplus Electronic Control Timer†
Maximum Operating Pressure:	DME012 - 040 16 bar g (232 psi g) DME050 - 080 13 bar g (189 psi g)	Standard Electrical Supply:	230V/1Ph/50 - 60Hz 110V/1Ph/50 - 60Hz
Minimum Operating Pressure:	4 bar g (58 psi g)	Noise Level (Average):	75dB(A)

† Fully pneumatic option available.

Model	Flow Rates* @ 7 bar g (102 psi g)		Dimension A	Weight	Inlet Filter	Outlet Filter	Filter Port Size**
	cfm	m ³ /min	mm (ins)	kg (lbs)			
DME012	24	0.68	837 (32.9")	32 (70)	AA-0030G	AR-0030G	G½-½" NPT
DME015	32	0.91	1003 (39.5")	37 (81)	AA-0030G	AR-0030G	G½-½" NPT
DME020	42	1.19	1168 (46.0")	42 (92)	AA-0030G	AR-0030G	G½-½" NPT
DME025	53	1.5	1333 (52.5")	47 (103)	AA-0030G	AR-0030G	G½-½" NPT
DME030	65	1.84	1499 (59.0")	52 (114)	AA-0030G	AR-0030G	G½-½" NPT
DME040	88	2.49	1747 (68.8")	60 (132)	AA-0058G	AR-0058G	G¾-¾" NPT
DME050	106	3	1433 (56.4")	80 (176)	AA-0080G	AR-0080G	G1-1" NPT
DME060	130	3.68	1599 (62.9")	90 (198)	AA-0080G	AR-0080G	G1-1" NPT
DME080	176	4.98	1847 (72.7")	104 (229)	AA-0080G	AR-0080G	G1-1" NPT

*Referenced to 20°C (68°F) and 1 bar a (14.5 psi a) **BSPP supplied as standard please specify if NPT required.

Correct Dryer Selection

- Select your correction factor for minimum pressure (CFP) to inlet of dryer
(Allow for system pressure losses when determining minimum operating pressure).

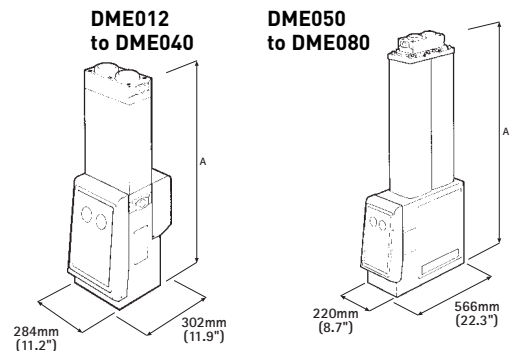
Minimum Pressure to Inlet of Dryer	bar g	4	5	6	7	8	9	10	11	12	13	14	15	16
	psi g	58	73	87	102	116	131	145	160	174	189	203	218	232
Correction Factor (CFP)		0.63	0.75	0.88	1.0	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2.0	2.13

- Select your correction factor for maximum temperature (CFT) to inlet of dryer.

Maximum Temperature to Inlet of Dryer	°C	25	35	40	45	50
	°F	77	95	104	113	122
Correction Factor (CFT)		1.0	1.0	0.97	0.88	0.73

- Calculate dryer capacity required following the equation below.

$$\frac{\text{Inlet flow requirement}}{\text{CFP} \times \text{CFT}} = \text{Dryer capacity requirements}$$



dh, domnick hunter, OIL-X and PNEUDRI are registered trademarks of domnick hunter limited.

domnick hunter limited has a continuous policy of product development and although the Company reserves the right to change specifications, it attempts to keep customers informed of any alterations. This publication is for general information only and customers are requested to contact our Industrial Division Sales Department for detailed information and advice on a products suitability for specific applications. All products are sold subject to the Company's standard conditions of sale.



domnick hunter limited
 Dukesway, Team Valley Trading Estate,
 Gateshead, Tyne and Wear,
 England NE11 0PZ
 Tel: +44 (0)191 402 9000
 Telefax: +44 (0)191 482 6296
<http://www.domnickhunter.com>

www.domnickhunter.com

a member of the domnick hunter group plc



Copyright domnick hunter limited 2003
 Publication Reference: 41 09/03 Rev. 11
 Stock No. 17 400 4441